



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

NICHOLAS J. TENNYSON  
SECRETARY

September 08, 2015

**MEMORANDUM TO:** John Thomas, US Army Corps of Engineers  
Cynthia Van der Wiele, US Environmental Protection Agency  
David Wanucha, NCDENR-DWQ/Wetlands  
Marella Buncick, US Fish and Wildlife Service  
Marla Chambers, NC Wildlife Resources Commission  
Renee Gledhill-Earley, NC Dept. of Cultural Resources - SHPO  
Greg Errett, Winston-Salem Urban Area MPO

**FROM:** Karen Reynolds, Project Planning Engineer  
Project Development and Environmental Analysis Unit

**SUBJECT:** **Invitation to Concurrence Point 2A Meeting - Bridging Decisions  
and Alignment Review in Sections A, B & C - Walkertown, Belews  
Creek & Stokesdale**  
R-2577ABC: US 158 (Reidsville Road) Improvements to a multi-lane facility,  
from multi-lanes north of I-40 Business in Forsyth County to US 220 in  
Guilford County, WBS: 37405

Your attendance is requested for the Section 404/NEPA Merger Team Meeting scheduled on Tuesday, September 29, 2015, at 10:00 am in the Highway Division 9 Conference Room, in Winston-Salem.

The purpose of this meeting is to present relevant information to the Merger Team in order to reach concurrence on Point 2A - Bridging Decisions and Alignment Review, in Sections A, B & C of this project; the US 158 Improvements in Walkertown, Belews Creek and Stokesdale. A State Environmental Assessment is proposed for this project. Attached are the following materials for your reference.

Meeting Agenda, Preliminary Impact Tables, Vicinity Map, Environmental Features Map, River Basins Map, Project Corridor Maps, Proposed Typical Sections, Community Characteristics Report Executive Summary, NC Intrastate System Map, Traffic Forecast Sheets and Current Area Project Maps

Please advise me at (919) 707-6038 or via e-mail at [kreynolds@ncdot.gov](mailto:kreynolds@ncdot.gov), of any questions or comments regarding this invitation or the attached meeting materials. Thank you for your attention and preparation. I look forward to working with you and to a productive meeting in Winston-Salem.

Attachments

**NEPA / 404 Merger Team Meeting Agenda**  
**Concurrence Point 2A: Bridging Decisions and Alignment Review**  
**R-2577ABC: US 158 (Reidsville Road), Forsyth & Guilford Counties**  
Walkertown, Belews Creek & Stokesdale Vicinities  
Highway Division 9 Conference Room, Winston-Salem, NC  
September 29, 2015

**TIP Description**

The North Carolina Department of Transportation proposes to widen approximately 18.8 miles of US 158 (Reidsville Road) to a multi-lane facility, from the existing multi-lane section north of I-40 Business in Forsyth County to US 220 in Guilford County. US 158 is designated as a Rural Principal Arterial in the Functional Classification System. This section of US 158 will be designed as a Boulevard, with limited control-of-access along the new location portion in Section C. The project purpose is to improve traffic flow and level-of-service (LOS) along US 158, within the project limits. The project need is to improve existing transportation deficiencies along this section of US 158 that are projected to decline substantially by the Design Year 2035. Additionally, this project is necessary for the protection of the mobility and connectivity functions of the US 158 corridor.

The project will be constructed in three sections. R-2577A begins at the multi-lanes north of I-40 Business / US 421 / NC 150 in Forsyth County and ends at SR 1965 (Belews Creek Road), north of Vance Road in Forsyth County. R-2577B begins at SR 1965 (Belews Creek Road) in Forsyth County and ends just north of SR 2034 (Anthony Road) in Guilford County. R-2577C begins just north of SR 2034 (Anthony Road) in Guilford County and ends at US 220 in Guilford County. The project traverses rolling hills, woodlands, farms, streams and Belews Lake in the Roanoke, Yadkin and Cape Fear River Basins. R-2577C traverses only the Roanoke and the Cape Fear River Basins.

The Merger Team concurred on Point 1, (*Purpose and Need*), on August 14, 2007, to improve the traffic carrying capacity and Level-of-Service (LOS) along US 158 within the project limits, in Forsyth and Guilford Counties. This decision was based on the traffic forecast data which indicated that the projected traffic along this section of US 158 would exceed the capacity of the existing two-lane facility in the Design Year 2035, resulting in deficient Levels of Service.

The revised 2012 LOS was calculated as ranging from a LOS D, with 20,300 vehicles per day (vpd) at the project beginning, to a LOS C, with 5,700 vpd at US 220, the project ending terminus. Truck percentages were the same in both the revised 2012 traffic forecast and the revised 2035 Design Year traffic forecast. Although some fatalities have occurred within the project limits, the crash data rates are below the statewide averages.

By the Design Year 2035, the traffic volumes along US 158 are expected to range from 26,400 vpd, west of SR 2385 (Darrow Road), to 8,800 vpd between SR 2102 (Angel Pardue Road) and the US 220 junction. The truck forecast in 2035 is anticipated to be 5% for Duals and 15% for TT-STs. In 2035, US 158 within the project area is expected to operate from between a LOS D to a LOS C, providing no improvements are constructed. (See Traffic Forecast) These projected deficiencies will cause travel delays, increase the potential for accidents and contribute to the inefficient operation of motor vehicles.

The Merger Team concurred on Point 2 for R-2577C, (*Detailed Study Alternatives Carried Forward*), on February 17, 2009, along US 158 in the Stokesdale vicinity of Guilford County. The four R-2577C alternatives chosen for further study reflected avoiding the historic district in the Town of Stokesdale and new development just south of US 158, in Stokesdale.

The Merger Team concurred on Point 2 for R-2577A & B, (*Detailed Study Alternatives Carried Forward*), on August 21, 2013, along US 158 in Walkertown and Belews Creek in Forsyth County. The alternatives chosen for further study, in the seven segments of R-2577A & B, reflect avoiding impacts to various project area human and natural environment resources. The Merger Team decided on one study alternative per segment, for Segments 4 through 7 in R-2577B, but decided that further study was necessary for two alternatives per segment, in Segments 1 and 2 of R-2577A and for Segment 3, spanning R-2577A and B.

## **1. Meeting Purpose**

Presentation of relevant material to the R-2577ABC Merger Team in order to reach concurrence on Point 2A, “Bridging Decisions and Alignment Review,” for the improvements to US 158 (Reidsville Road) in the Walkertown, Belews Creek and Stokesdale vicinities.

## **2. Merger Status**

Citizens Informational Workshops were held on April 25, 2006, in Stokesdale and on April 27, 2006, in Walkertown. Representatives from NCDOT were available during both workshops to discuss the project with citizens and public officials. Approximately 200 people attended each workshop. Nearly all of the citizens attending these workshops were in favor of improving US 158 to a multilane facility.

Additional Citizens Informational Workshops were held on April 10, 2012, in Stokesdale and on April 17, 2012, in Walkertown. Again, representatives from NCDOT were available during both workshops to discuss the project with citizens and public officials. Approximately 200 people attended each workshop. Nearly all of the citizens attending these workshops were in favor of improving US 158 to a multilane facility. The four study alternatives for Section C (Stokesdale Bypass) were presented during these workshops. The most northerly and southerly bypass study alternatives were favored by most Stokesdale area residents.

Concurrence Point 1: Sections A, B, C	August 14, 2007
Concurrence Point 2: Section C	February 17, 2009
Concurrence Point 2: Sections A & B	August 21, 2013

## **3. Current Project Schedule**

State Environmental Assessment	February 2017
State FONSI (if appropriate)	October 2018
R-2577A Right of Way Acquisition	FY 2023
<i>R-2577A Construction</i>	<i>Post Years</i>
<i>R-2577B Right of Way Acquisition</i>	<i>Post Years</i>
<i>R-2577B Construction</i>	<i>Post Years</i>
<i>R-2577C Right of Way Acquisition</i>	<i>Post Years</i>
<i>R-2577C Construction</i>	<i>Post Years</i>

## **4. Study Corridors and Project Study Alternatives Impacts**

The proposed study areas for R-2577 Sections A & B are 500-foot wide alternative study corridors, with 250 feet on either side of a centerline. The proposed typical section will be a four-lane,

median-divided facility with 12-foot wide travel lanes, paved shoulders and a varying 30-foot to 46-foot wide median. The typical sections are shown on the project study area maps.

The proposed study areas for R-2577, Section C, are 1,200-foot wide alternative corridors, with 600 feet on either side of a centerline. The proposed typical section will be a four-lane, median-divided facility with 12-foot wide travel lanes, paved shoulders and a 46-foot wide median. The typical sections are shown on the project study area maps.

**Section 404 Jurisdictional Areas (“Waters of the United States”)**

**R-2577A & B: Study Segment Alternatives**

The Segment Summary of Impacts and project study corridor map are attached.

Source	Date	Study Segment Alternative	Stream Impacts (Linear Feet)	Wetland Impacts (Acres)	Belews Lake Impacts (Ac)	Relocatees
NRTR	February 2012	Segment 1: North-side widening (A)	1,435	0.00	0.00	40
NRTR	February 2012	Segment 1: South-side widening (A)	1,578	0.00	0.00	44
NRTR	February 2012	Segment 2: North-side widening (A)	790	0.11	0.00	3
NRTR	February 2012	Segment 2: Transitional wideng (A)	585	0.07	0.00	7
NRTR	February 2012	Segment 3: North-side widening (A-B)	1,229	0.02	0.00	11
NRTR	February 2012	Segment 3: South-side widening (A-B)	734	0.01	0.00	20

Impact measurements based on preliminary slopes stake lines.

**R-2577A & B: Segment Alternative Limits**

Section A = 5.3 miles / Section B = 7.5 miles - Total Section A+B Milage = 12.8 miles

Segment	Segment Length	Project Section	Segment Limits
1	3.75 miles	A	<b>Project Beginning:</b> W. of SR 2357 (Old Greensboro Road) to SR 2385 (Darrow Road)
2	0.81 miles	A	SR 2385 (Darrow Road) to NC 66 (Old Hollow Road)
3	2.60 miles	A - B	NC 66 (Old Hollow Road) to W. of SR 2011 (Flat Rock Road)
4	2.65 miles	B	W. of SR 2011 (Flat Rock Road) to SR 1971 (Goodwill Church Road)
5	1.02 miles	B	SR 1971 (Goodwill Church Road) to Peaceful Valley Drive
6	1.04 miles	B	Peaceful Valley Drive to SR 2038 (Coldwater Road)
7	0.93 miles	B	SR 2038 (Coldwater Road) to E. of SR 2034 (Anthony Road): <b>Project Ending Limit</b>

**R-2577C: US 158 Bypass Study Alternatives**

The Summary of Impacts and project study corridor map are attached.

Source	Date	Study Alternative	Stream Impacts (Linear Feet)	Wetland Impacts (Acres)	Relocatees
NRTR	February 2012	<u>Alternative 1B</u>	2,842	1.46	26
NRTR	February 2012	<u>Alternative 2</u>	2,654	1.32	17
NRTR	February 2012	<u>Alternative 2A</u>	2,127	0.05	47
NRTR	February 2012	<u>Alternative 3</u>	1,423	0.39	34

Impact measurements based on preliminary slopes stake lines.

**R-2577C: US 158 Bypass Alternative Limits**

Alternative	Alternative Length	Alternative Location	Alternative Limits
<b>1B</b>	<b>5.7 miles</b>	<i>South</i> of US 158	West of SR 2034 (Anthony Road) to SR 2107 (Ellison Road)
<b>2</b>	<b>5.9 miles</b>	<i>South</i> of US 158	West of SR 2034 (Anthony Road) to SR 2107 (Ellison Road)
<b>2A</b>	<b>5.8 miles</b>	<i>South</i> of US 158	West of SR 2034 (Anthony Road) to SR 2101 (Athens Road)
<b>3</b>	<b>6.3 miles</b>	<i>North</i> of US 158	West of SR 2034 (Anthony Road) to SR 2101 (Athens Road)

**5. Preliminary R-2577ABC Hydraulic Designs for Culvert & Bridge Sites along US 158**

Site	Stream Name & Location	Existing Structure	Proposed Structure	Wetland Rating & Type	Comments
<b>1</b>	<b>Lowery Mill Creek</b> E. of SR 2396 - Old Belews Creek Road	3-Barrel, 7'x10' Bottomless Culvert: C140	Dual Bridges	<b>SEW</b> Best Usage = WS-III	<b>Yadkin River Basin</b> Built: 1928 Rehab: 1955
<b>2</b>	<b>Belews Creek</b> W. of Goodwill Church Road	6-Barrel, 9'x7' Culvert: C144	Dual Bridges	<b>SDR</b> Best Usage = C	<b>Roanoke River Basin</b> Built: 1928 Rehab: 1956
<b>3</b>	<b>Belews Lake</b> PAI 100 - NRTR	Bridge 164	Retain & widen Bridge 164 or build New adjacent bridge	<b>WFN</b> Riparian Rating = 49	<b>Roanoke River Basin</b> Built: 1971 97 feet long

**6. Other Meeting Items**

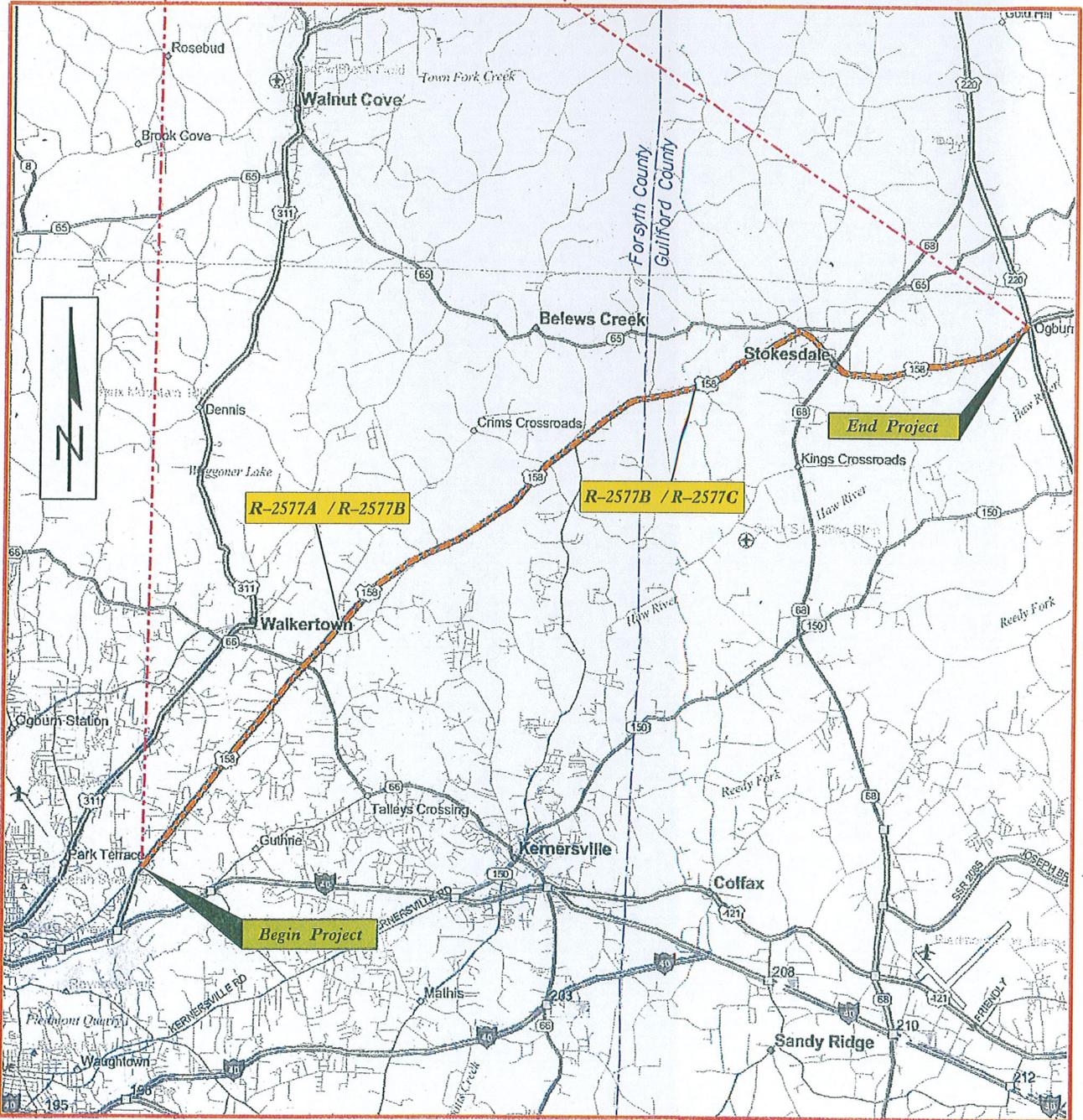
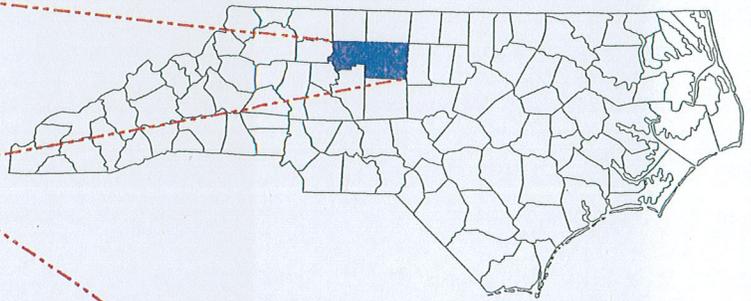
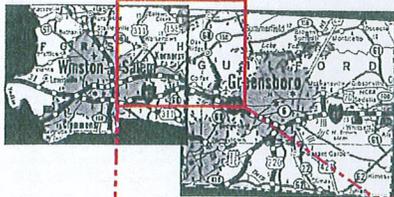
• **Current Area Projects:**

R-2413A+B: Guilford-Rockingham Counties: US 220-NC 68 multi-lane connector on new location, from NC 68 to US 220 and US 220 widening to multi-lanes, from new location to NC 68. Construction is underway.

R-2309AB: Guilford County: US 220, widen to multi-lanes, from SR 2182 (Horsepen Creek Road) to US 220-NC 68 Connector (R-2413C). Construction is underway.

**7. Concurrence Form Signing (*Bridging Decisions and Alignment Review*)**

**8. Summary & Adjournment**



NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PROJECT DEVELOPMENT AND  
ENVIRONMENTAL ANALYSIS BRANCH

**Project Location Map: R-2577**  
US 158 (Reidsville Road) Widening Project  
Forsyth County and Guilford County, NC

R-2577ABC Project Impacts	Segment 1 North (A)	Segment 1 South (A)	Segment 2 North (A)	Segment 2 TW (A)	Segment 3 North (A/B)	Segment 3 South (A/B)	Bypass Alt 1B (C)	Bypass Alt 2 (C)	Bypass Alt 2A (C)	Bypass Alt 3 (C)
Interchanges	1	1	---	---	---	---	---	---	---	---
Schools	1	---	---	---	---	---	---	---	---	---
Rest Homes	---	---	---	---	---	---	---	---	---	---
Recreational Areas	---	---	1	---	---	---	---	---	---	---
Churches	1	2	---	---	---	1	1	1	1	3
Utilities	---	---	---	---	---	---	1 (%)	1 (%)	1 (%)	1 (%)
Historic Properties	1 (0.6 ac)	1 (0.001ac)	1 (0.5 ac)	1 (0.3 ac)	---	---	---	---	---	---
Residential Relocations	40	44	3	7	11	20	24	16	41	33
Business Relocations	1	2 (5?)	---	---	---	4	4	4	9	4
LEP Impacts	1 #	1 #	---	---	---	---	---	---	---	---
Invasive Species	13	13	13	13	13	13	13	13	13	13
Floodplain Areas	2 - LMck	2 - LMck	---	---	---	---	---	---	---	---
Streams (LF)	1,435	1,578	790	585	1,229	734	2,842	2,654	2,127	1,423
Wetlands (Ac)	0.07	0.07	0.00	0.00	0.04	0.09	1.46	1.32	0.05	0.39
Ponds (Ac)	0.00	0.00	0.00	0.00	0.00	0.52	0.53	0.67	0.62	0.00
Belews Lake (Ac)**	---	---	---	---	---	---	---	---	---	---
River Basins	Yadkin	Yadkin	Yadkin	Yadkin	Y/R^	Y/R^	R/CF^	R/CF^	R/CF^	R/CF^
Voluntary Ag. District (VAD)	---	1	---	---	2	3	---	---	---	---
Farmland Preservation Program.	---	---	---	---	---	---	---	---	---	---
Potential UST Sites	2	3	0	0	0	1	3	3	5	5
Impacted Noise Receptors	82	119	8	10	34	24	476	480	481	477
Railroad Crossings	---	---	---	---	---	---	---	---	---	---
Cemeteries	---	---	---	---	---	---	---	---	---	1
Fire Stations	---	---	---	---	---	---	---	---	---	---
Archaeological Sites	---	---	---	---	---	---	---	---	---	---
Fed Listed Species	---	---	---	---	---	---	NLEB	NLEB	NLEB	NLEB
State Listed Species	---	---	---	---	---	---	---	---	---	---
Candidate Species	---	---	---	---	---	---	---	---	---	---
HQ Waters Resources	---	---	---	---	---	---	---	---	---	---
Stream Buffers	---	---	---	---	---	---	Jordan ^	Jordan ^	Jordan ^	Jordan ^
303d Impaired Waters	---	---	---	---	---	---	---	---	---	---
Federal Lands	---	---	---	---	---	---	---	---	---	---
Wildlife Refuges	---	---	---	---	---	---	---	---	---	---
Fish Moratoriums	---	---	---	---	---	---	---	---	---	---
Essential Fish Habitats	---	---	---	---	---	---	---	---	---	---
Hazardous Material Sites	---	---	---	---	---	---	---	---	---	---
Hazardous Spill Basin Areas	---	---	---	---	---	---	---	---	---	---
Air Quality Effects	---	---	---	---	---	---	---	---	---	---

\* Cell Phone Service Tower

\*\* Municipal Water line along Belews Lake Bridge

\*\*\* Open Water Impacts – Duke Energy Lake Management Coordination

# Census Block Borders the Project Beginning

(%) Electric Substation

NLEB: Northern Long-eared Bat

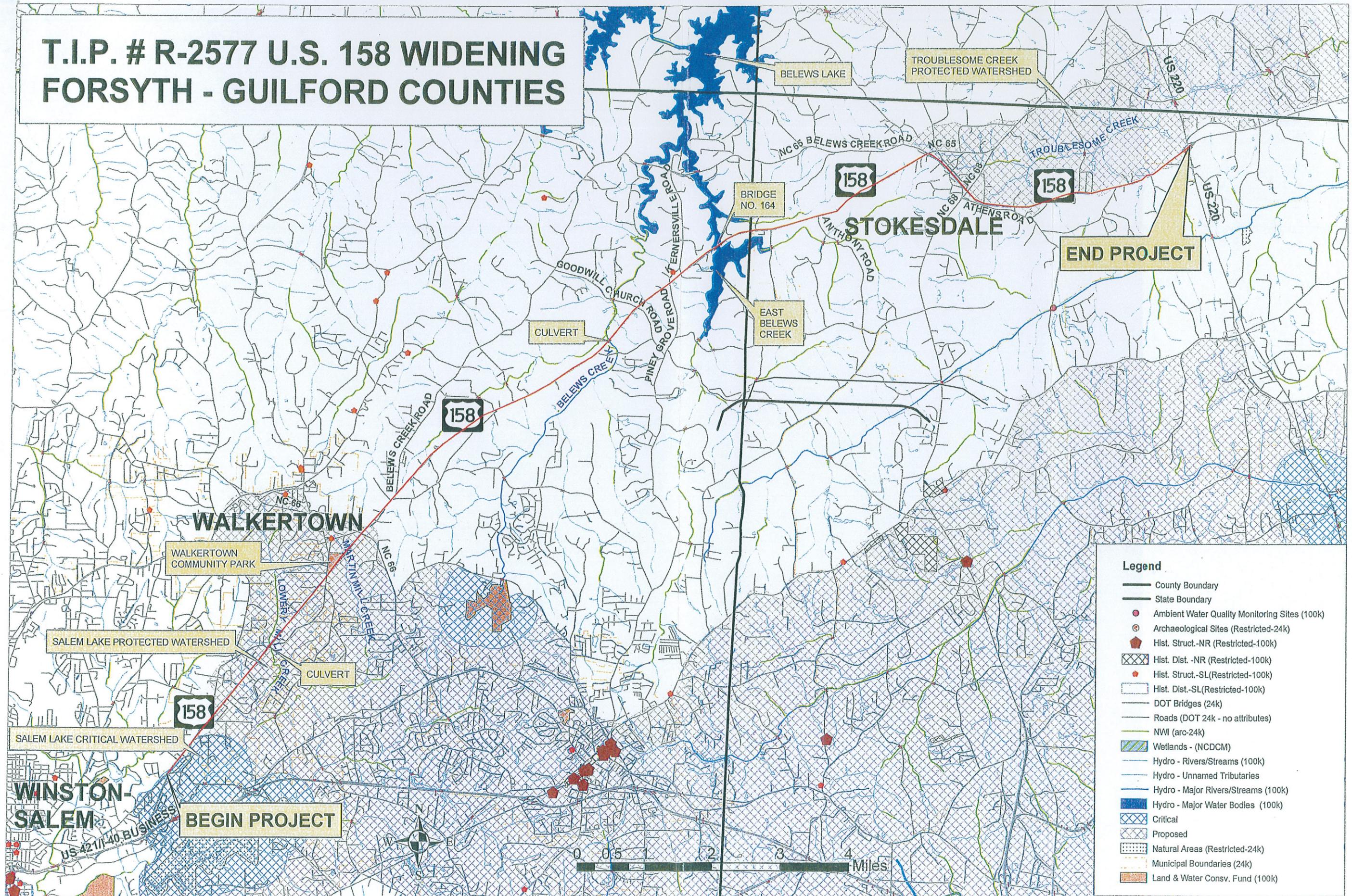
- General Utilities exist along US 158, within the project limits. (Telephone Lines, Gas Lines, Power Mains & Water Lines.)

LMk: Lowery Mill Creek

^ Y/R: Yadkin RB is west of NC 66; Roanoke RB is east of NC 66. R/CF: Roanoke RB is west of NC 68 & south of US 158;

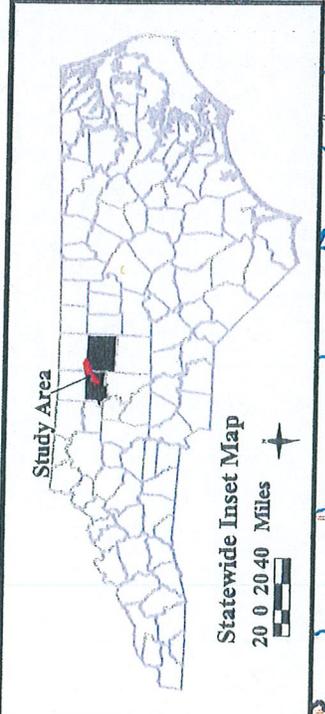
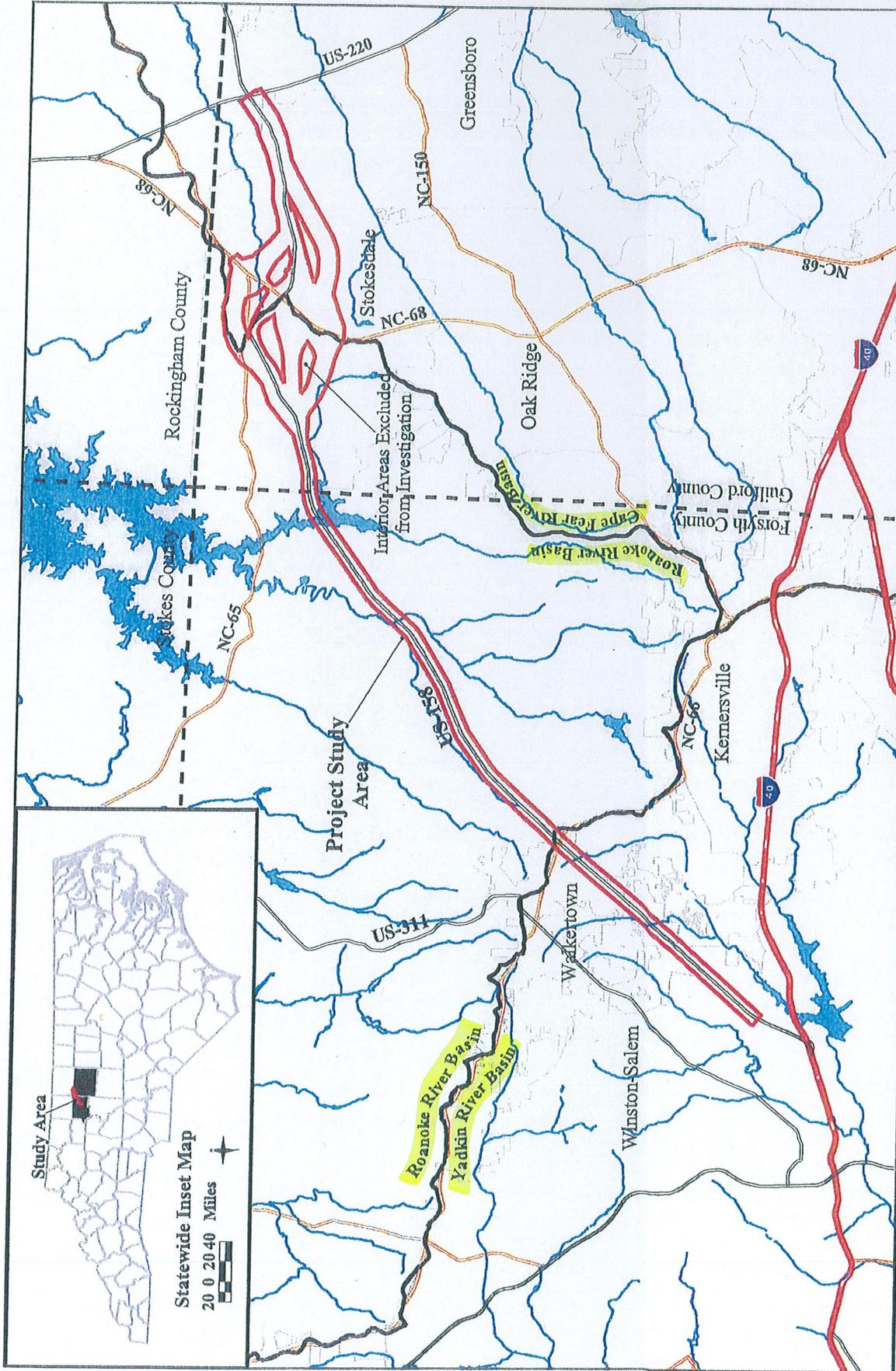
Cape Fear RB is east of NC 68 & north of US 158. (Jordan Watershed: Eastern half of each bypass alternative.)

# T.I.P. # R-2577 U.S. 158 WIDENING FORSYTH - GUILFORD COUNTIES



- ### Legend
- County Boundary
  - State Boundary
  - Ambient Water Quality Monitoring Sites (100k)
  - ⊙ Archaeological Sites (Restricted-24k)
  - ⬮ Hist. Struct.-NR (Restricted-100k)
  - ⊠ Hist. Dist. -NR (Restricted-100k)
  - Hist. Struct.-SL (Restricted-100k)
  - ⊠ Hist. Dist.-SL (Restricted-100k)
  - DOT Bridges (24k)
  - Roads (DOT 24k - no attributes)
  - NWI (arc-24k)
  - ▨ Wetlands - (NCDCM)
  - Hydro - Rivers/Streams (100k)
  - Hydro - Unnamed Tributaries
  - Hydro - Major Rivers/Streams (100k)
  - Hydro - Major Water Bodies (100k)
  - ⊠ Critical
  - ⊠ Proposed
  - ⊠ Natural Areas (Restricted-24k)
  - ⊠ Municipal Boundaries (24k)
  - Land & Water Conserv. Fund (100k)

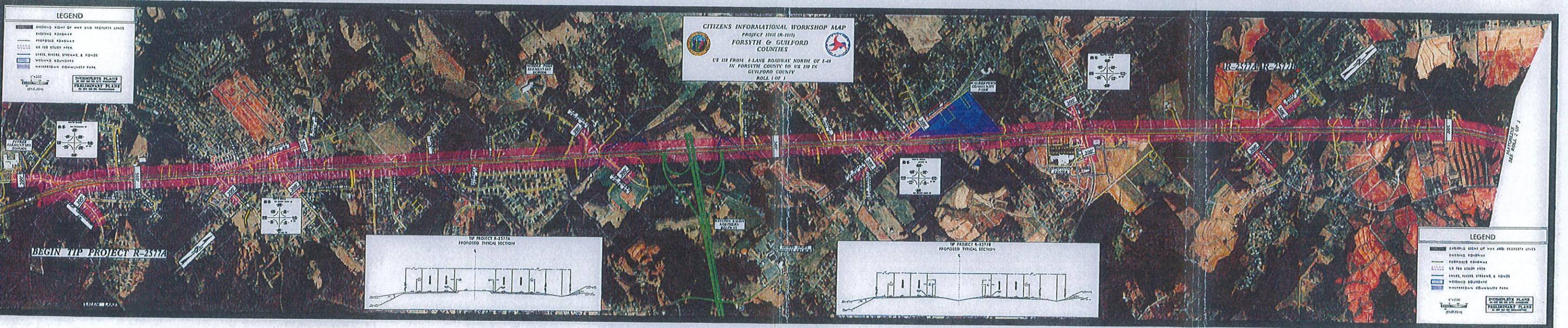




Date: December 2011

Roads - LRS Arcs NCDOT  
 County Boundaries - NCDOT  
 Municipalities - 2010 Powell Bill Data NCDOT  
 River Basins - NC OneMap  
 Major Hydro - subset of USGS Streams

**Figure 1: Vicinity Map**  
**R-2577 US 158 Widening**





**LEGEND**

- EXISTING RIGHT OF WAY AND PROPERTY LINES
- EXISTING ROADWAY
- PROPOSED ROADWAY
- ALTERNATE 1B
- ALTERNATE 2A
- ALTERNATE 1B \ 2 \ 2A
- ALTERNATE 3
- LAKES, RIVERS, STREAMS, & PONDS
- WETLAND BOUNDARY
- PROPOSED WATERSHED

1"=400'

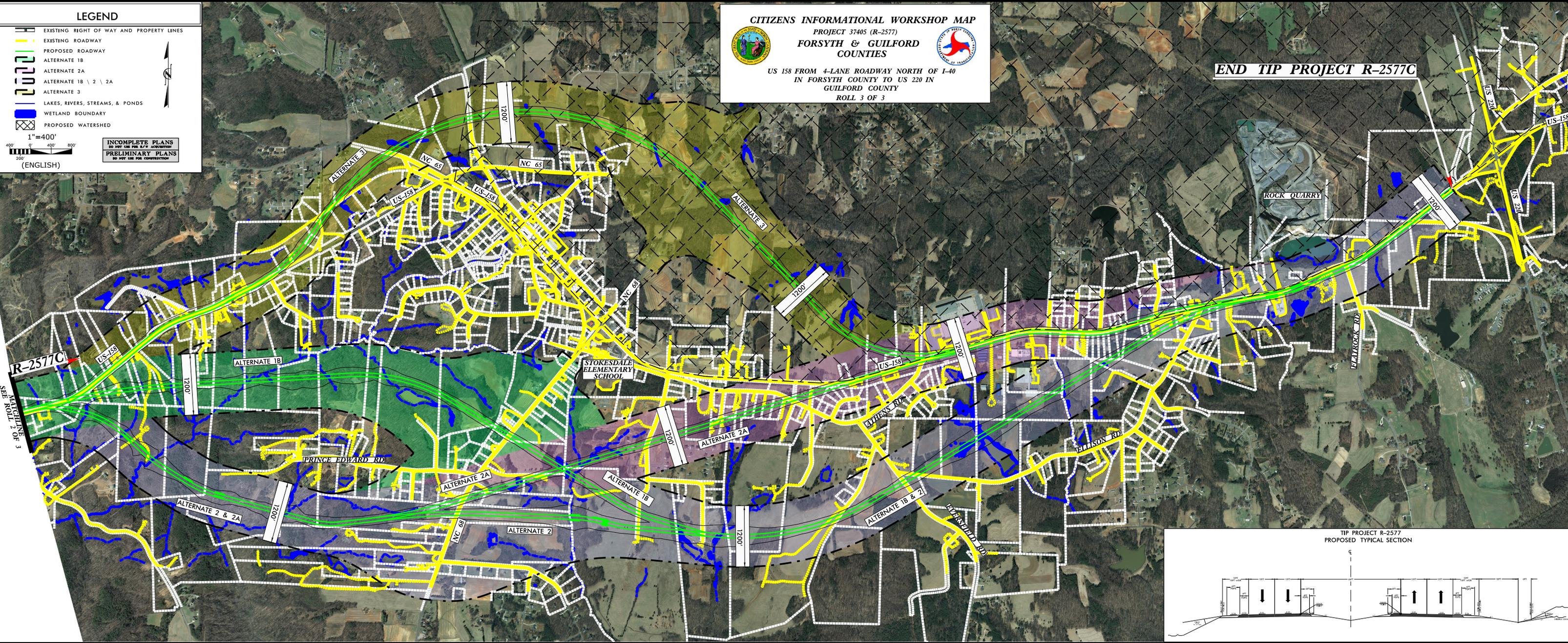
INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

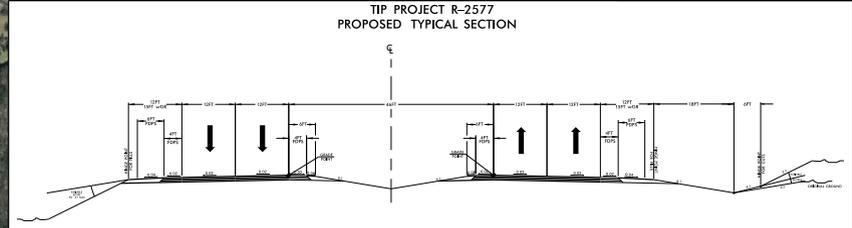
(ENGLISH)

**CITIZENS INFORMATIONAL WORKSHOP MAP**  
PROJECT 37405 (R-2577)  
**FORSYTH & GULFORD**  
**COUNTIES**  
US 158 FROM 4-LANE ROADWAY NORTH OF I-40  
IN FORSYTH COUNTY TO US 220 IN  
GULFORD COUNTY  
ROLL 3 OF 3

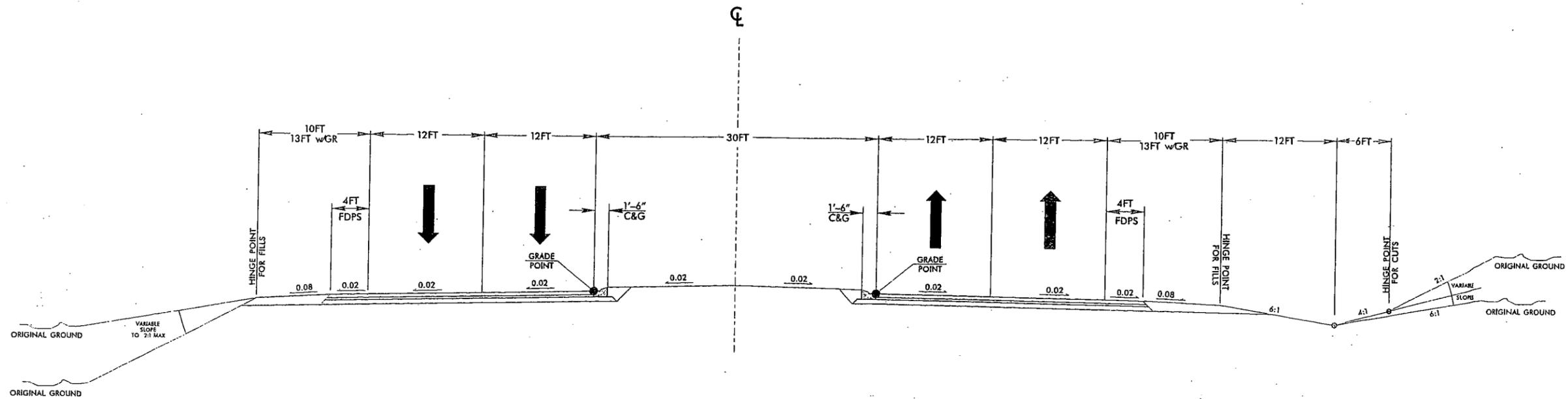
**END TIP PROJECT R-2577C**



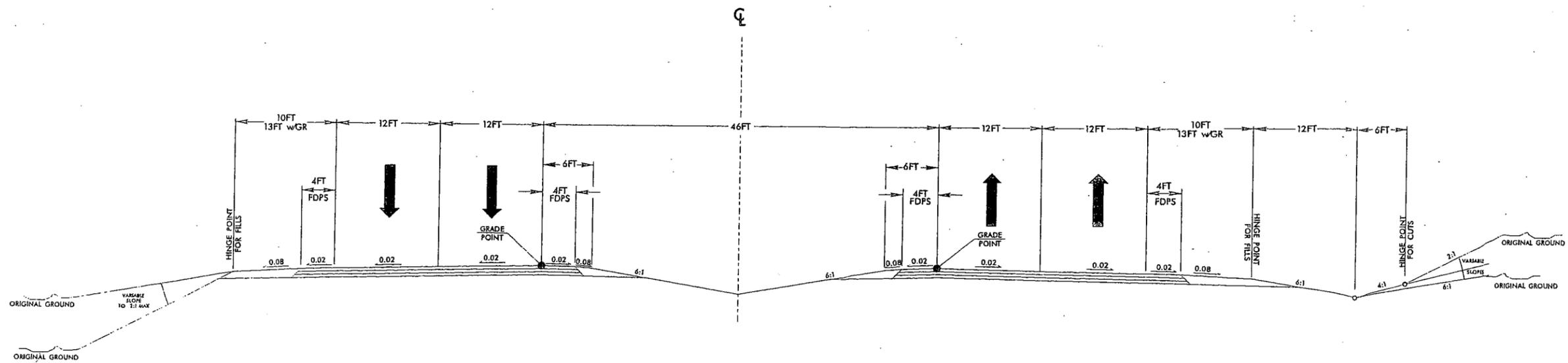
SEE ROLL 2 OF 3



### TIP PROJECT R-2577A PROPOSED TYPICAL SECTION



### TIP PROJECT R-2577B PROPOSED TYPICAL SECTION





STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

Community Characteristics Report

Proposed Widening Project TIP R-2577, WBS 37405

US 158 (Reidsville Road) Improvements from Multi-lanes North of I-40 Business in Forsyth  
County to US 220 in Guilford County

Submitted by: Beverly Goll Yekeson-Community Planner

January 14 2009

EXECUTIVE SUMMARY

Project and Community Summary

US 158 is a Strategic Highway Corridor extending from Mocksville in Davie County to US 64 in Dare County. Transportation Improvement Program (TIP) project R-2577 proposes to widen US Highway 158 (Reidsville Road) to a multi-lane, median divided facility from just north I-40 Business-US 421-NC 150 in Forsyth County to US 220 in Guilford County. The project corridor is 18.8 miles long.

The stated dual purposes and needs of the project are 1) to protect the mobility of and connectivity functions of the US 158 corridor as part of the Strategic Highway Corridor Vision and the North Carolina Intrastate System, and 2) to improve capacity and safety due to an anticipated failing Level of Service (LOS) along US 158 by Design Year 2035.

The project route is characterized by rolling hills, woodlands and farms; streams and rivers. Several perennial stream lies along much of project corridor. The western end of the corridor is within the urbanized area of Winston-Salem. Much of the remaining corridor consists of small town and rural scatter development. Some rural farmlands surrounding the project have been developed into large suburban housing developments and commercial centers, while the historic downtown of Stokesdale is filled with retail stores, restaurants, and houses. This rural-to-suburban development pattern transition seems to be most strongly correlated with proximity to urban employment centers in Forsyth County.

A variety of housing types are located along the project, including single- and double-wide manufactured homes, duplexes, older farm- and ranch-style homes, and newer homes in subdivisions. The rural pattern of small houses on large lots is giving way to the suburban pattern of large homes on small lots. Based on conversations with County planners, the area along the project corridor has experienced high levels of residential growth in the last few years, with the majority of the growth occurring around Lake Belews, Knoll Ridge Drive and Reidsville Road, Providence Drive, Patricia Drive, Marion Point Drive, Stanley Avenue, and Kelly Trails.

Agricultural land uses include mostly tobacco and field crops with a few livestock farms. Most commercial developments are concentrated at major intersections, such as the intersection of NC 66 and US 158, NC 68 and US 158, and west of the intersection of NC 65 and Belews Creek Road. A few local businesses, local restaurants, and local service establishments are scattered along the project corridor. Several churches, parks and

recreation areas, historic properties, health care facilities; schools and a volunteer fire department are also found along or near the project corridor.

## Key Community Characteristics and Notable Features

### *Human Resources-Facilities*

- Several residential subdivisions are located along between Stanley Avenue and Kelly's Trail (Morris farm); High Knoll Drive between Ola Lane and Ester Lane (High Knoll); and Old Belews Creek Road (Silver Chalice Village), and Athens Roads (Southern Meadows).
- Most of the commercial and retail developments are concentrated at major intersections – NC66, NC 68 and NC 65 – as well as along Main Street (US 158) in Stokesdale.
- Industrial development is concentrated around Stokesdale and in Guilford County, including Culp, Burlington Industries, Vulcan Materials Quarry, APAC Carolina and RMC Carolina.
- Stokesdale's historic town center Central Business District runs alongside US 158 between NC 68 and NC 65.
- Four public schools (Stokesdale Elementary, Walkertown Middle School, Walkertown Elementary, and Petree Elementary) and two day care centers (Little Feet Learning Center and Play "N" Learn Child Care) are located within the study area.
- Churches within the study area include Flat Rock United Methodist Church, Crews United Methodist Church, Edgewood Church, Good Will Baptist Church, Stokesdale Church of God, Oak Spring Baptist Church, Manna Church Baptist Church, Victory Baptist Church, and Mount Calvary Baptist Church. Flat Rock United Methodist Church and Stokesdales United Methodist Church are National Register of Historic Places properties.

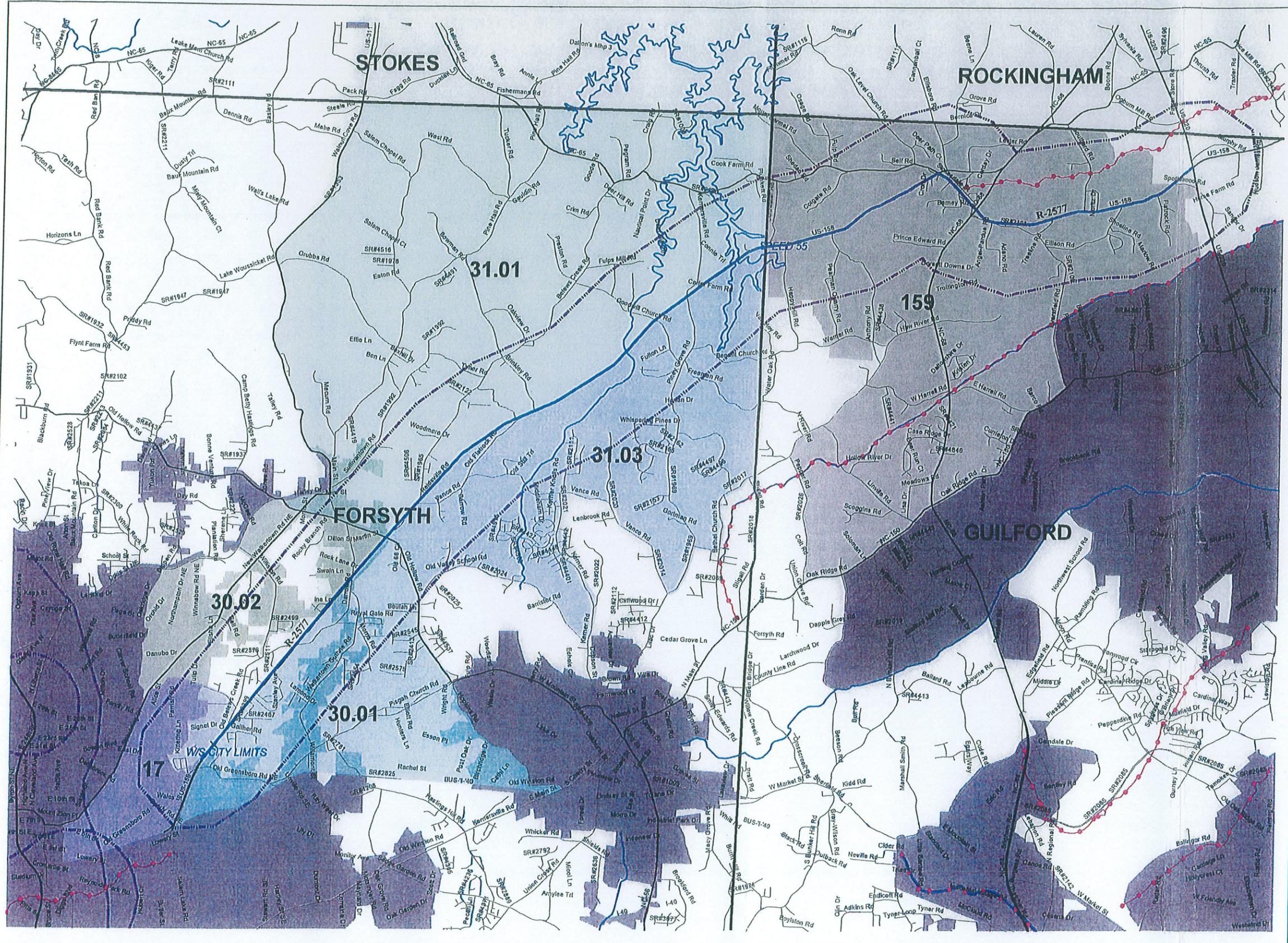
### *Natural Resources*

- Several parks and recreation facilities are within the study area including:
  - Walkertown Community Park, US 158 between Darrow Road and Swain Lane,
  - Stokesdale Community Park, US 158 and Shilling Street,
  - Pine Knolls Golf Course (public) northeast of Goodwill Church Road,
  - Dawn Acres Golf Course (private facility) NC 68 and Haw River Road,
  - Carp Fishing camp is located on Dale Earnhart Drive near Belews Lake.
- There is a protected water supply watershed (WS-III) located about 3,000 feet from the proposed project corridor.
- There are two 303 (d) water bodies in or near the study area: Troublesome Creek and Haw River. Troublesome Creek is within the study area northeast of Stokesdale. The Haw is outside of the study area south and east of the Stokesdale.

### *Demographic Trends-see Figure 1*

- About 21,176 people live in the Demographic Study Area, according to the 2000 Census, including a large Laotian population in Census Tract 17 within the Winston Salem city limits.

**Figure 1**  
**Demographic**  
**Study Area**

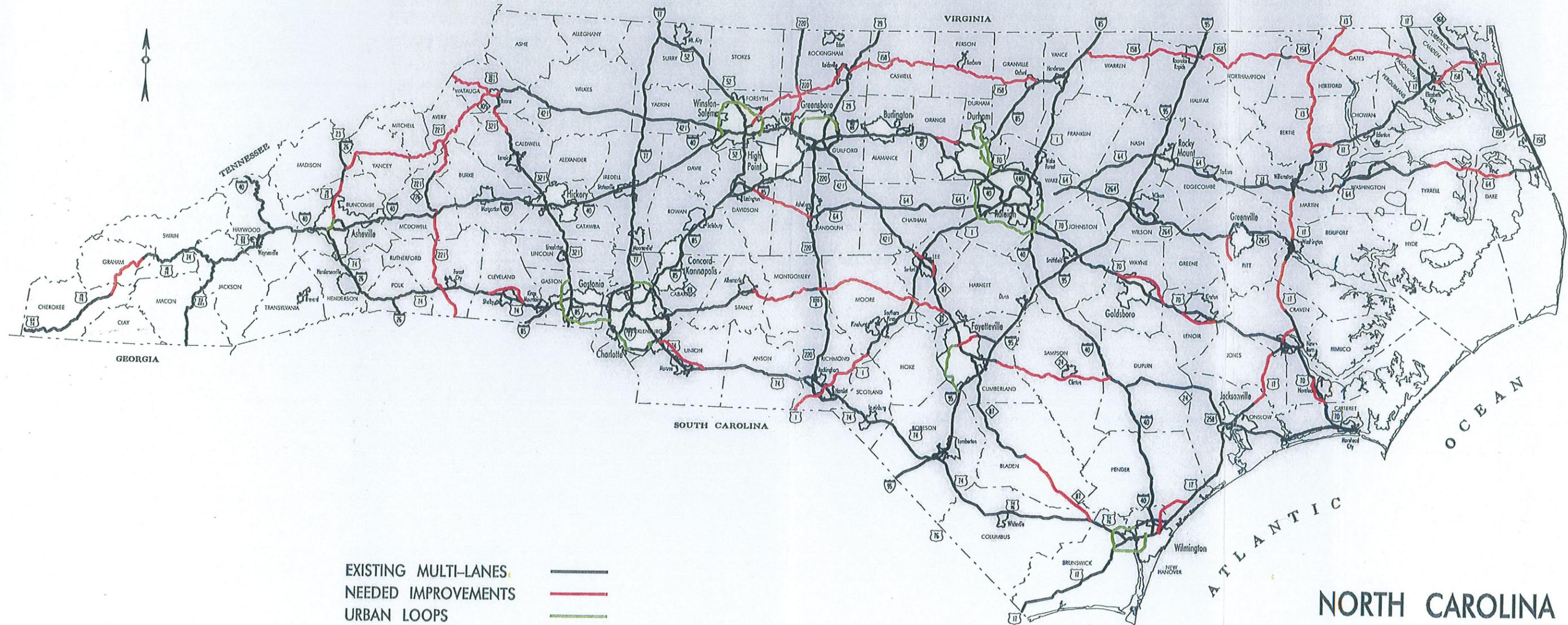


- Legend**
- TIP Line R-2577
  - Roads
  - US
  - NC
  - SR
  - On 303d List
  - Major Rivers-Streams
  - Counties Boundaries
  - DCI AREA
  - Tracts 2000**
  - 17
  - 30.01
  - 30.02
  - 31
  - 31.01
  - 31.03
  - 159
  - Municipal Boundaries

0 0.450 9 1.8 Miles

Public Involvement &  
 Community Studies  
 January 2009

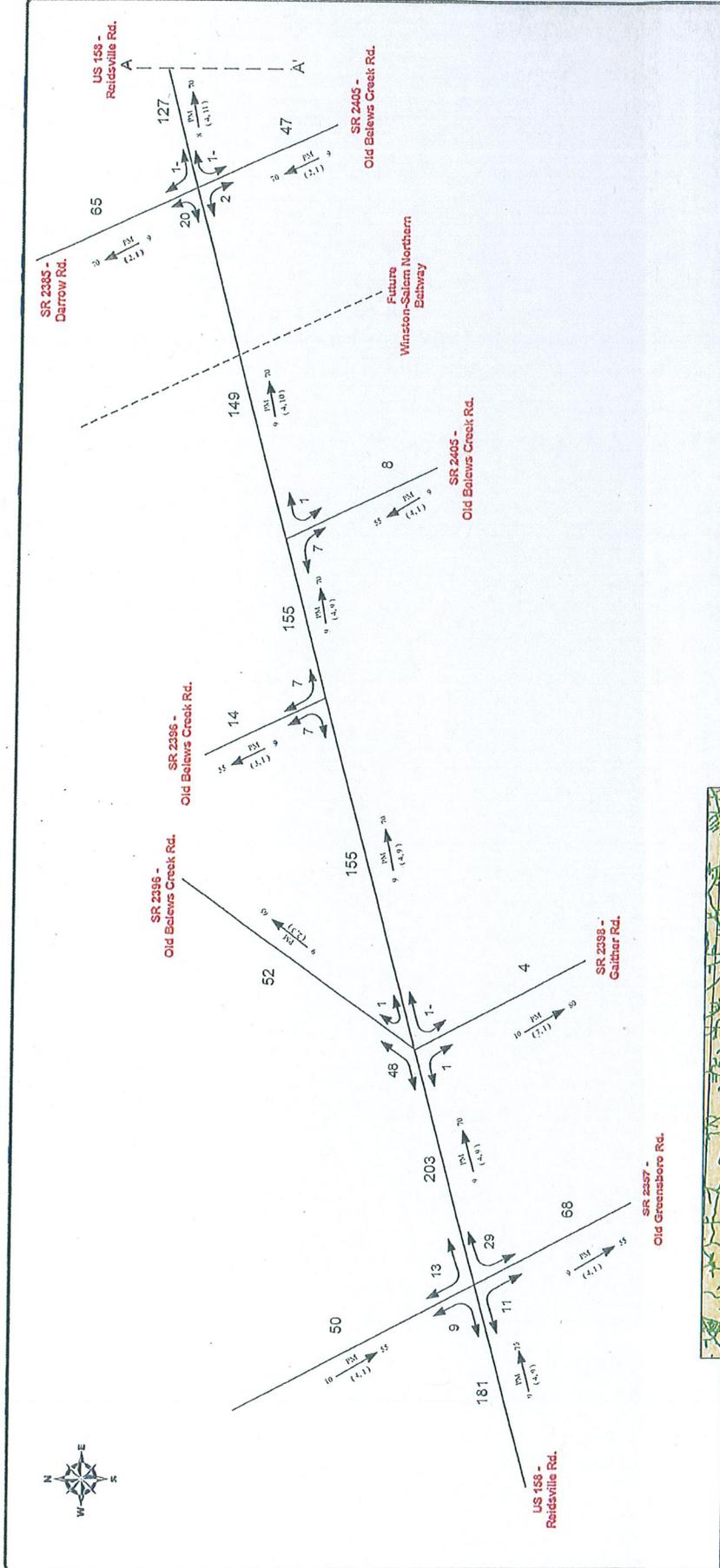




EXISTING MULTI-LANES  
 NEEDED IMPROVEMENTS  
 URBAN LOOPS



# NORTH CAROLINA Intrastate System

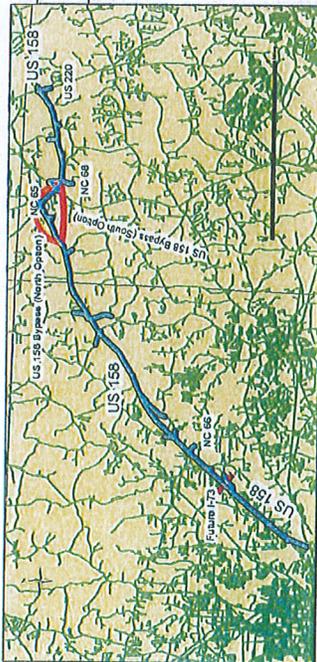


AVERAGE ANNUAL DAILY TRAFFIC		<b>No Build</b>	
TIP: R-2577ABC		Sheet 1 - 4	
COUNTY: Forsyth & Guilford	WBS: 37405.1.1	DIVISION: 7 & 9	
DATE: August 27, 2012			
PREPARED BY: Paul Schroeder, PhD, PE			
LOCATION: US 158 from Old Greensboro Road to US 220			
PROJECT: Widen US 158 to multi-lanes			

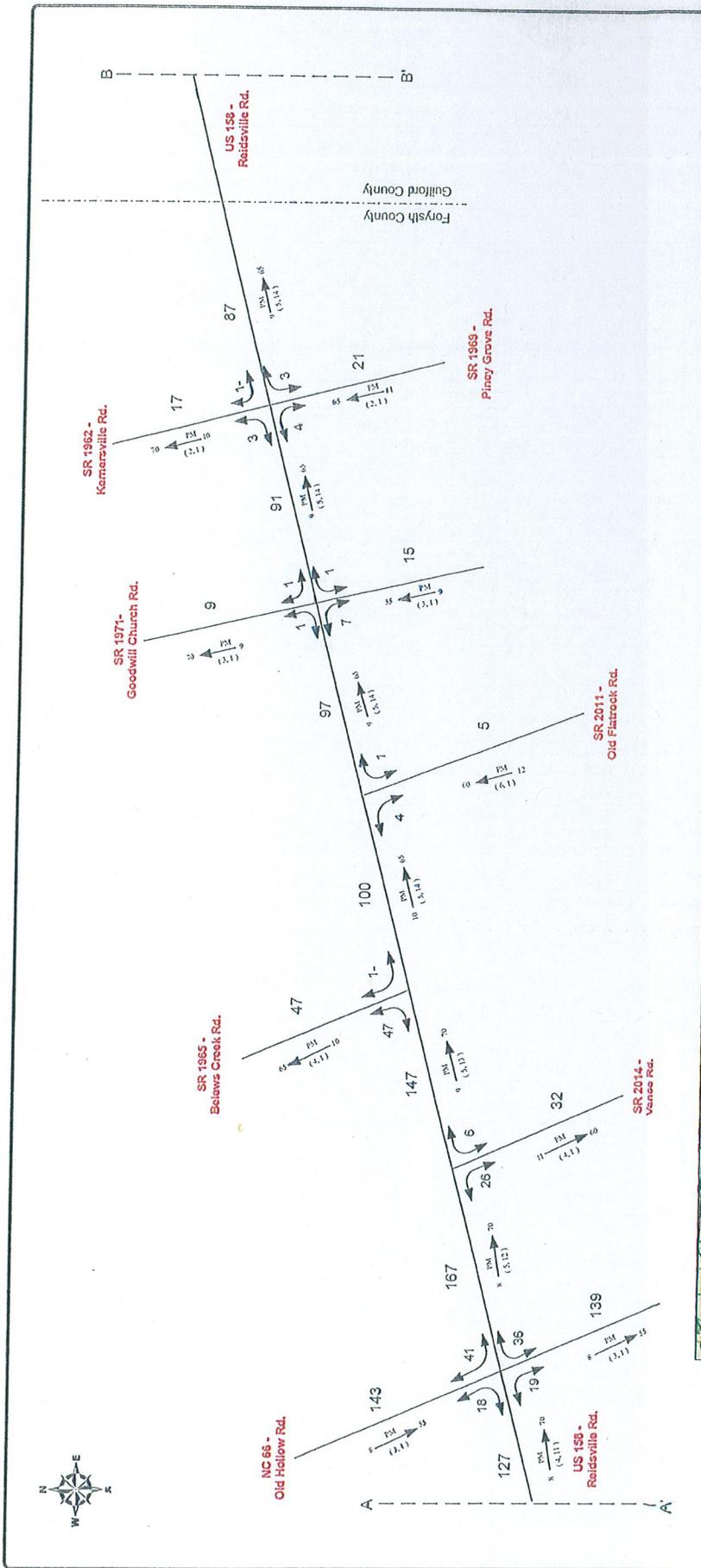
# 2012

## LEGEND

###	No. of Vehicles Per Day (VPD) in 1006	K	Design Hour Factor (%)
1-	Less than 50 VPD	PM	PM Peak Period
X	Movement Prohibited	D	Peak Hour Directional Split
-----	Proposed Roadway	(d, t)	Indicates Direction of D
		(d, t)	Duals, TT-STZ (%)



AVERAGE ANNUAL DAILY TRAFFIC		<b>No Build</b>	
TIP: R-2577ABC		Sheet 1 - 4	
COUNTY: Forsyth & Guilford	WBS: 37405.1.1	DIVISION: 7 & 9	
DATE: August 27, 2012			
PREPARED BY: Paul Schroeder, PhD, PE			
LOCATION: US 158 from Old Greensboro Road to US 220			
PROJECT: Widen US 158 to multi-lanes			

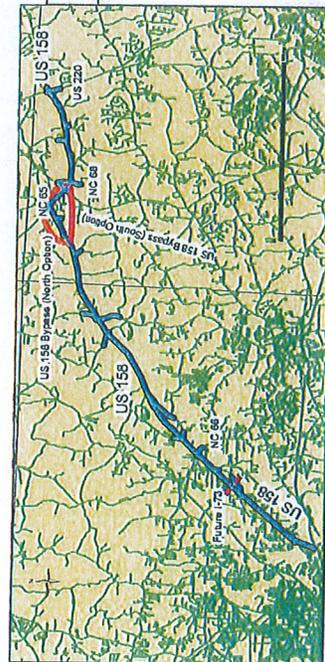


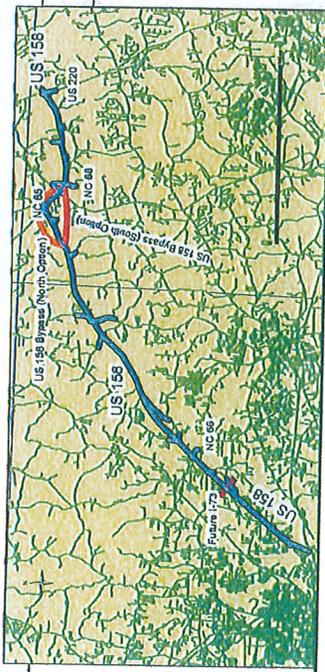
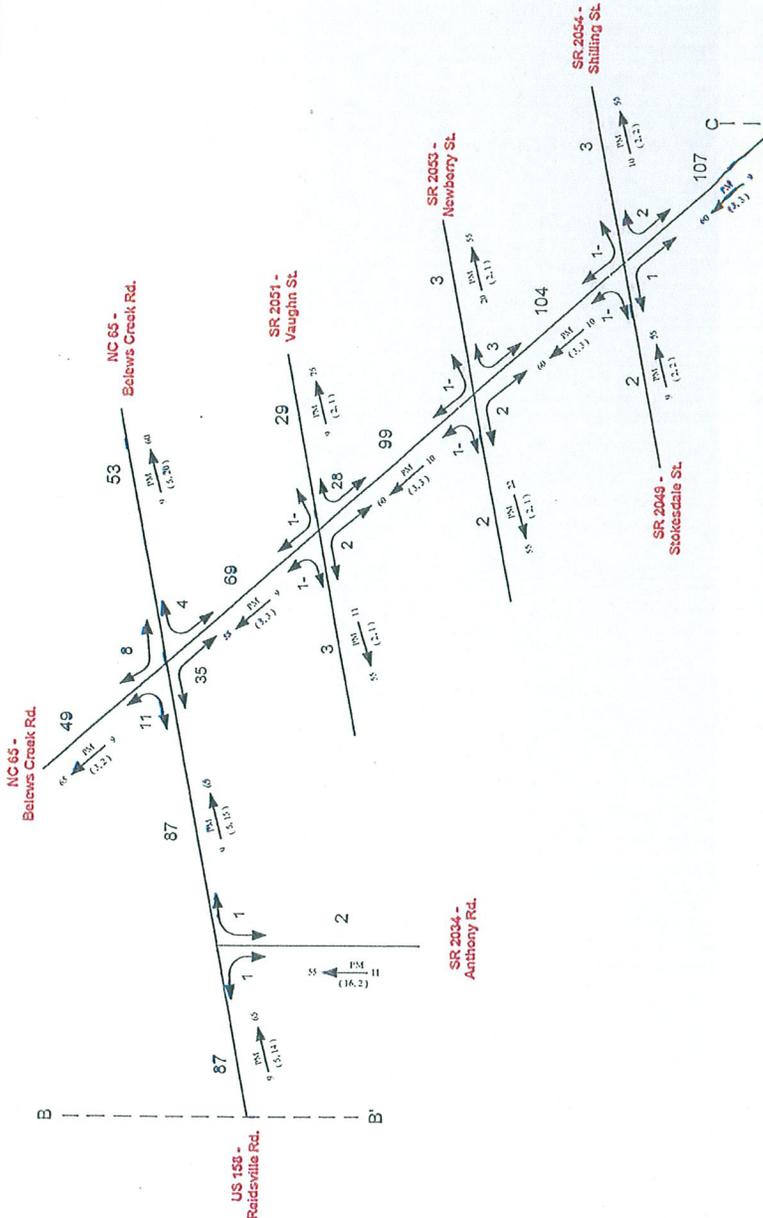
AVERAGE ANNUAL DAILY TRAFFIC		<b>No Build Sheet 2 - 4</b>	
TIP: R-2577ABC	WBS: 37405.1.1	COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	PREPARED BY: Paul Schroeder, PH.D., PE		
LOCATION: US 158 from Old Greensboro Road to US 220			
PROJECT: Widen US 158 to multi-lanes			

# 2012

## LEGEND

###	No. of Vehicles Per Day (VPD) in 100s	K	Design Hour Factor (%)
1-	Less than 50 VPD	PM	PM Peak Period
X	Movement Prohibited	D	Peak Hour Directional Split
.....	Proposed Roadway	(d, t)	Indicates Direction of D
		(d, t)	Deaths, TT-S's (%)





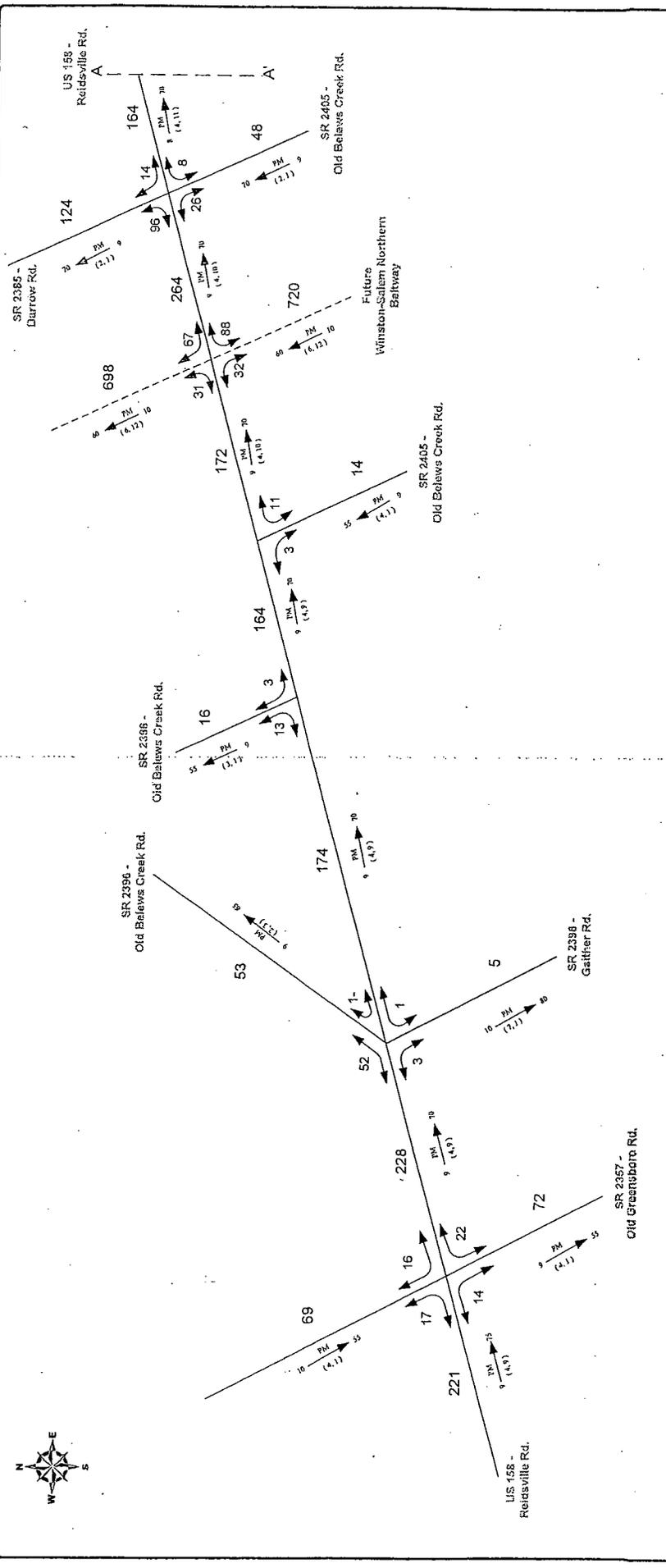
**2012**

**LEGEND**

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 30 VPD
- X Movement Prohibited
- ..... Proposed Roadway
- PM Peak Period
- D Peak Hour Directional Split
- (d,t) Indicates Direction of D
- (d,t) Duals, T+STs (%)

AVERAGE ANNUAL DAILY TRAFFIC	<b>No Build</b>
TIP: R-2577ABC	<b>Sheet 3 - 4</b>
COUNTY: Forsyth & Guilford	WBS: 37405.1.1
DATE: August 27, 2012	DIVISION: 7 & 9
PREPARED BY: Paul Schroeder, PH.D., PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	





# 2035

## LEGEND

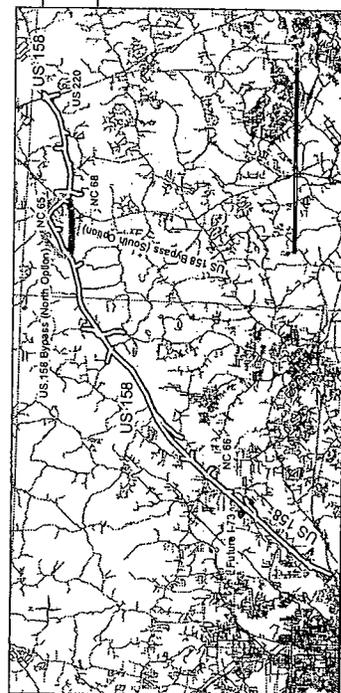
- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway
- K (d,t) Design Hour Factor (%)
- PM Peak Period
- D Peak Hour Directional Split
- ↑ Indicates Direction of D
- (d,t) Duals, TT-STs (%)

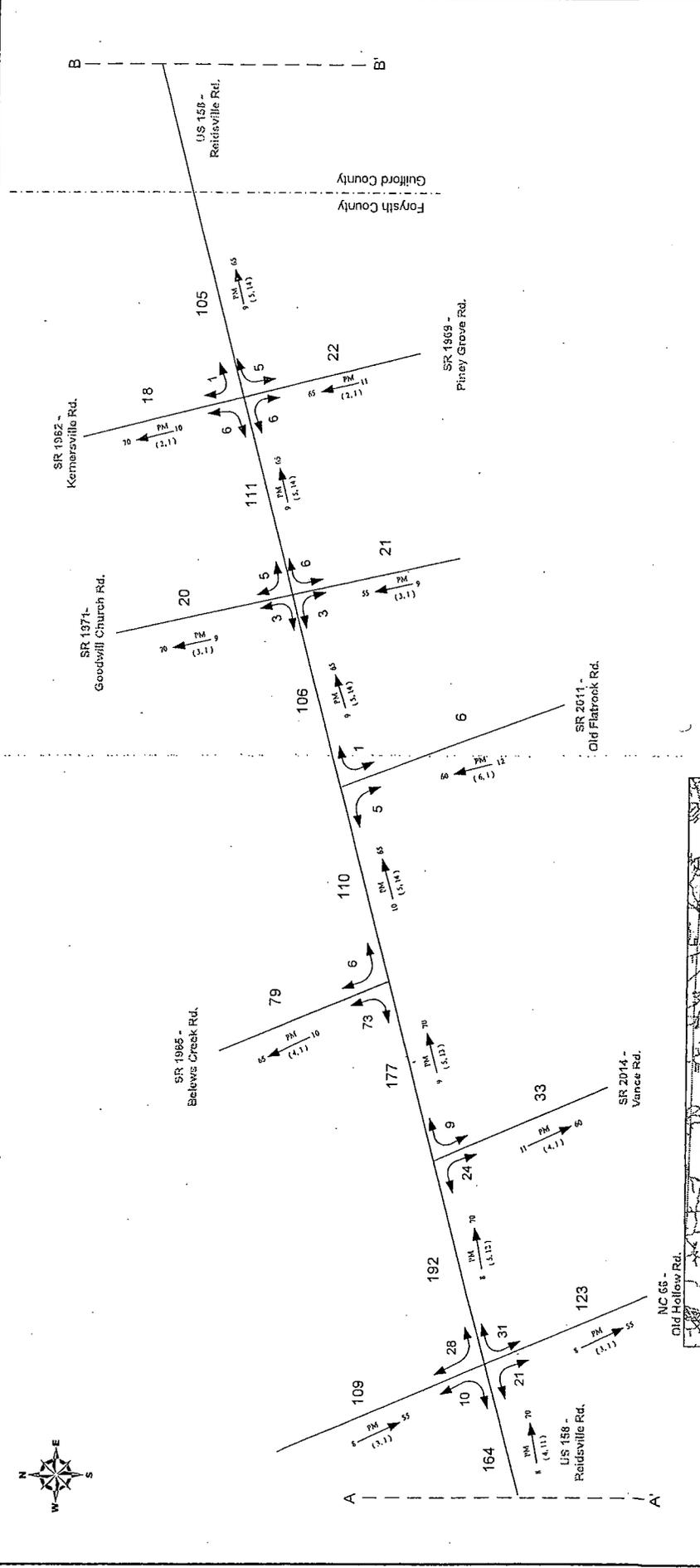
AVERAGE ANNUAL DAILY TRAFFIC

**No Build**

Sheet 1 - 4

TIP: R-2577ABC	WBS: 37405.1.1
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	



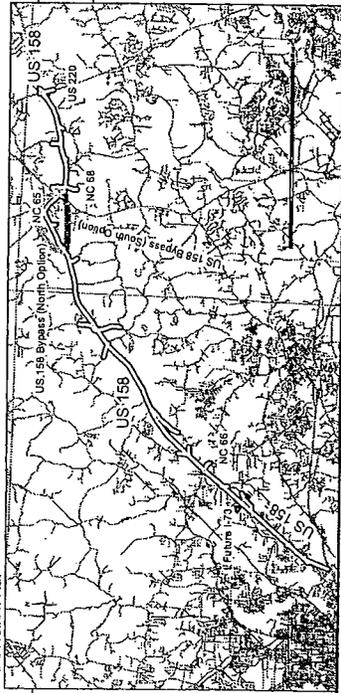


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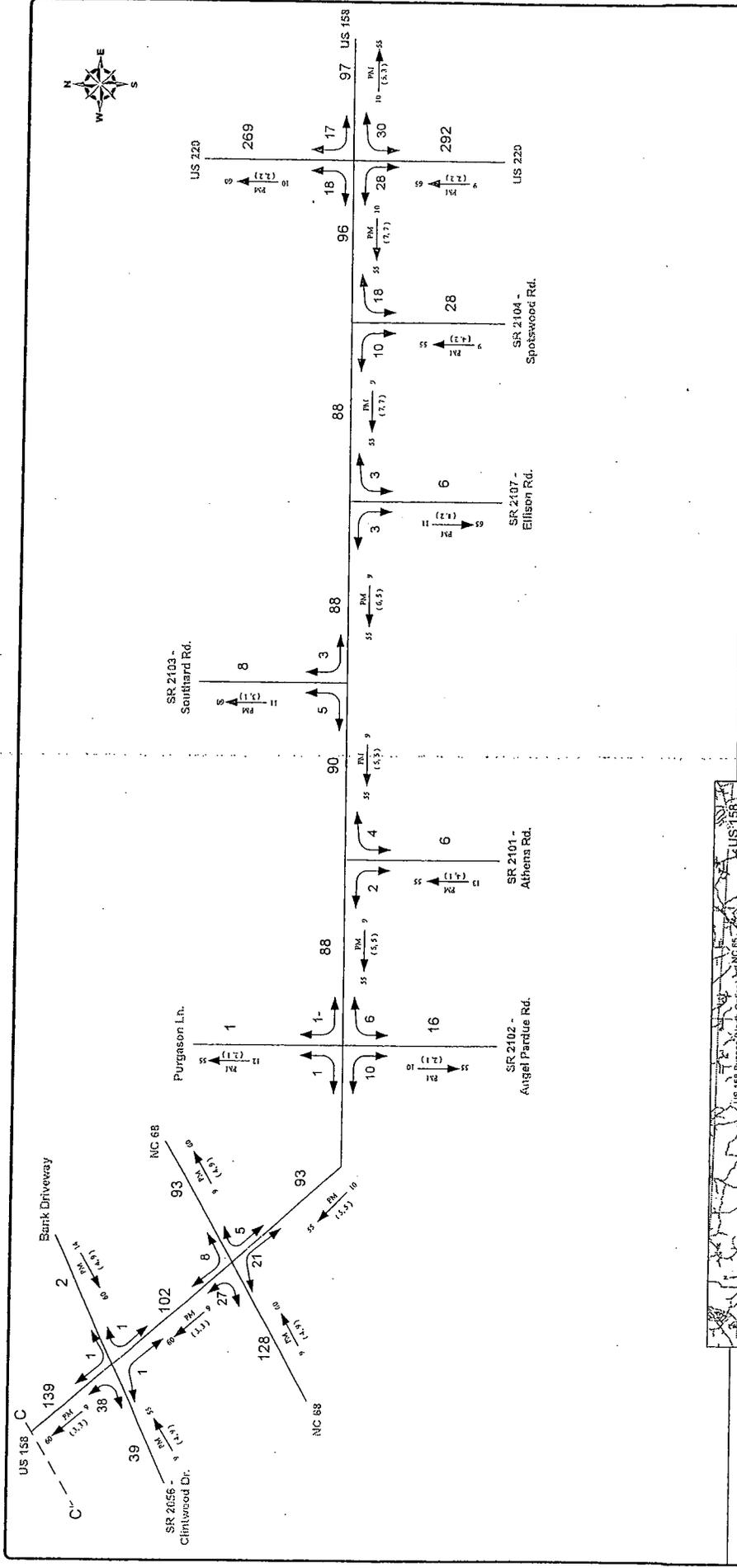
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TIP: R-2577ABC	WBS: 37405.1.1		
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9		
DATE: August 27, 2012			
PREPARED BY: Paul Schroeder, PhD, PE			
LOCATION: US 158 from Old Greensboro Road to US 220			
PROJECT: Widen US 158 to multi-lanes			

## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway (d,t) Duals, TT-STs (%)
- K (d,t) Design Hour Factor (%)
- PM Peak Hour Period
- D Peak Hour Directional Split
- Indicates Direction of D





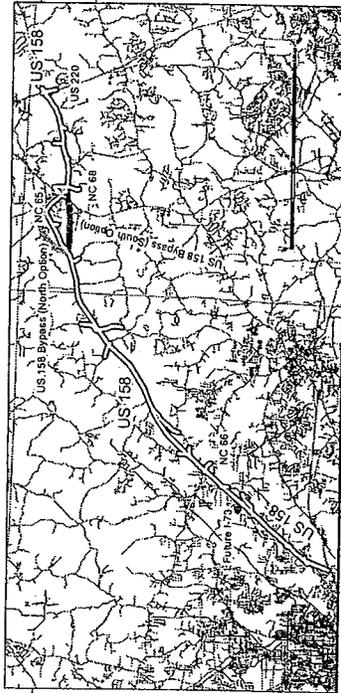


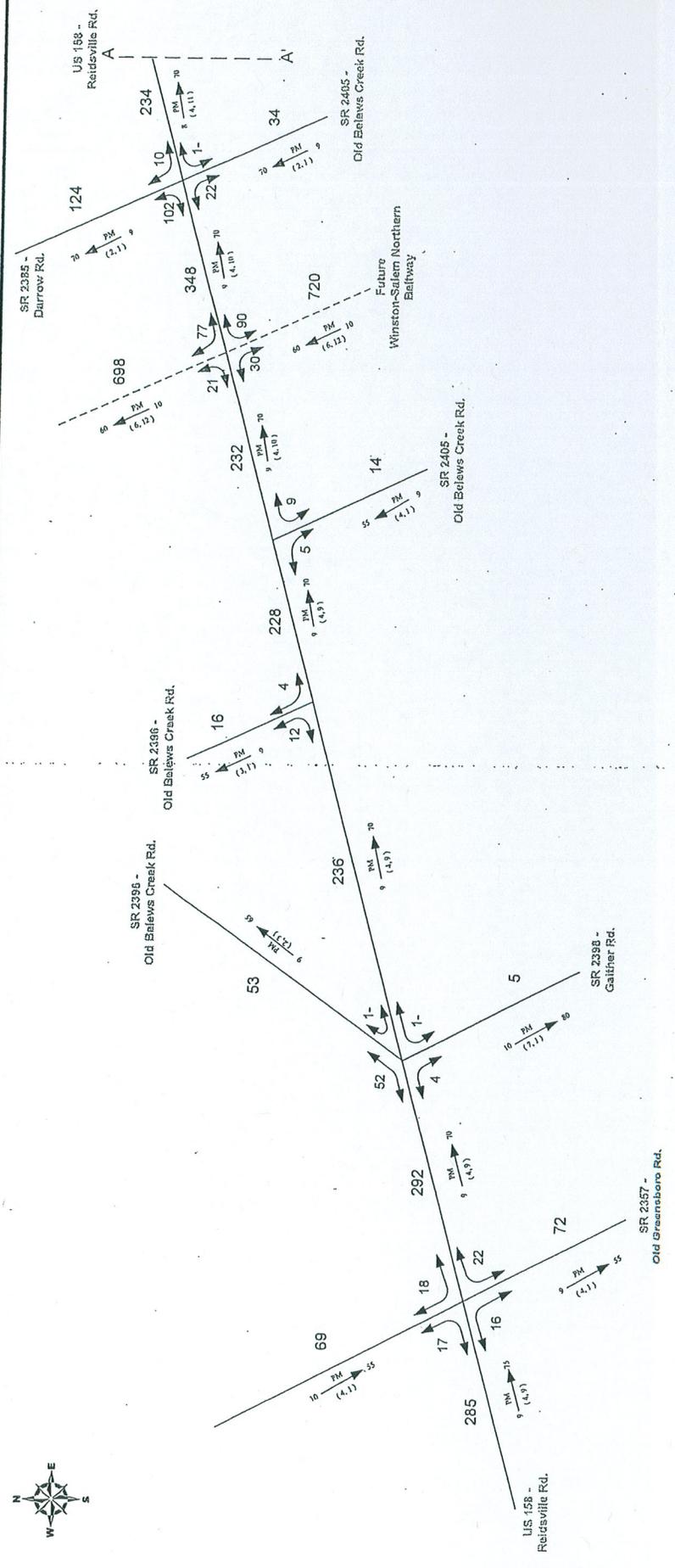
# 2035

AVERAGE ANNUAL DAILY TRAFFIC	No Build
TIP: R-2577ABC	Sheet 4 - 4
COUNTY: Forsyth & Guilford	WBS: 37405.1.1
DATE: August 27, 2012	DIVISION: 7 & 9
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	

## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway
- PM Peak Period
- AM Peak Period
- D Indicates Directional Split
- (d,t) Duals, TT-SFs (%)





# 2035

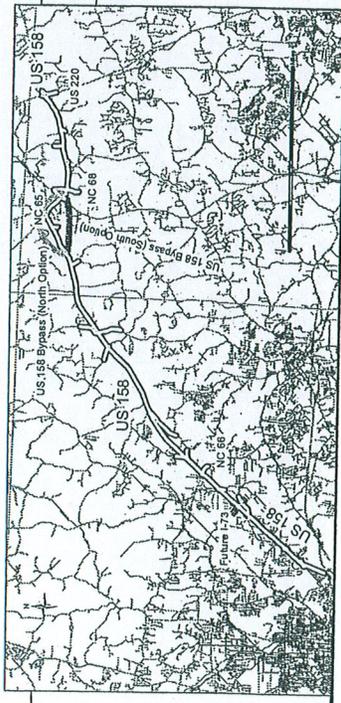
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**Sheet 1 - 5**

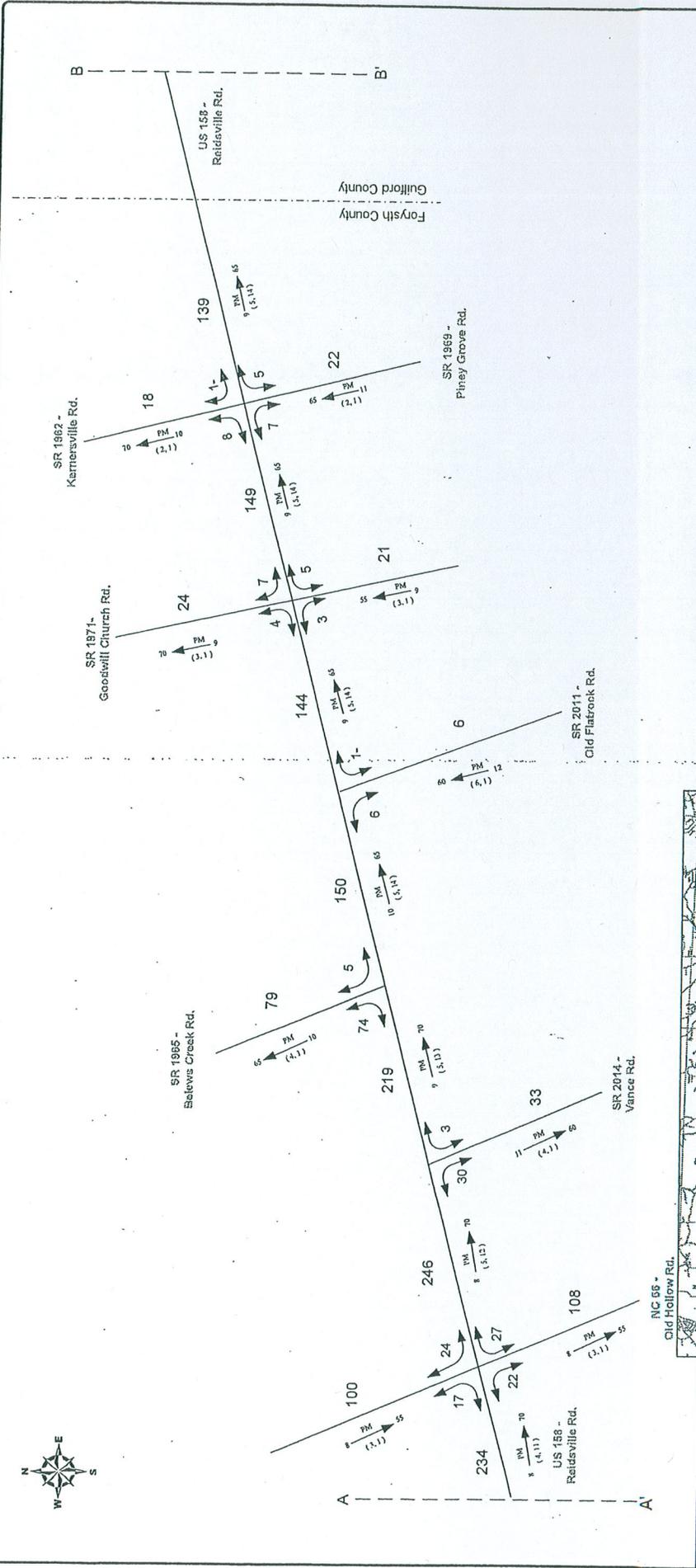
AVERAGE ANNUAL  
DAILY TRAFFIC

TIP: R-2577ABC	WBS: 37405.1.1
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	

## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- x Movement Prohibited
- ..... Proposed Roadway
- K (d,t) Design Hour Factor (%)
- PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)



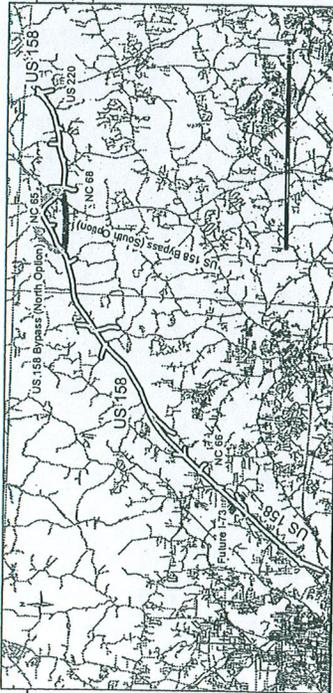


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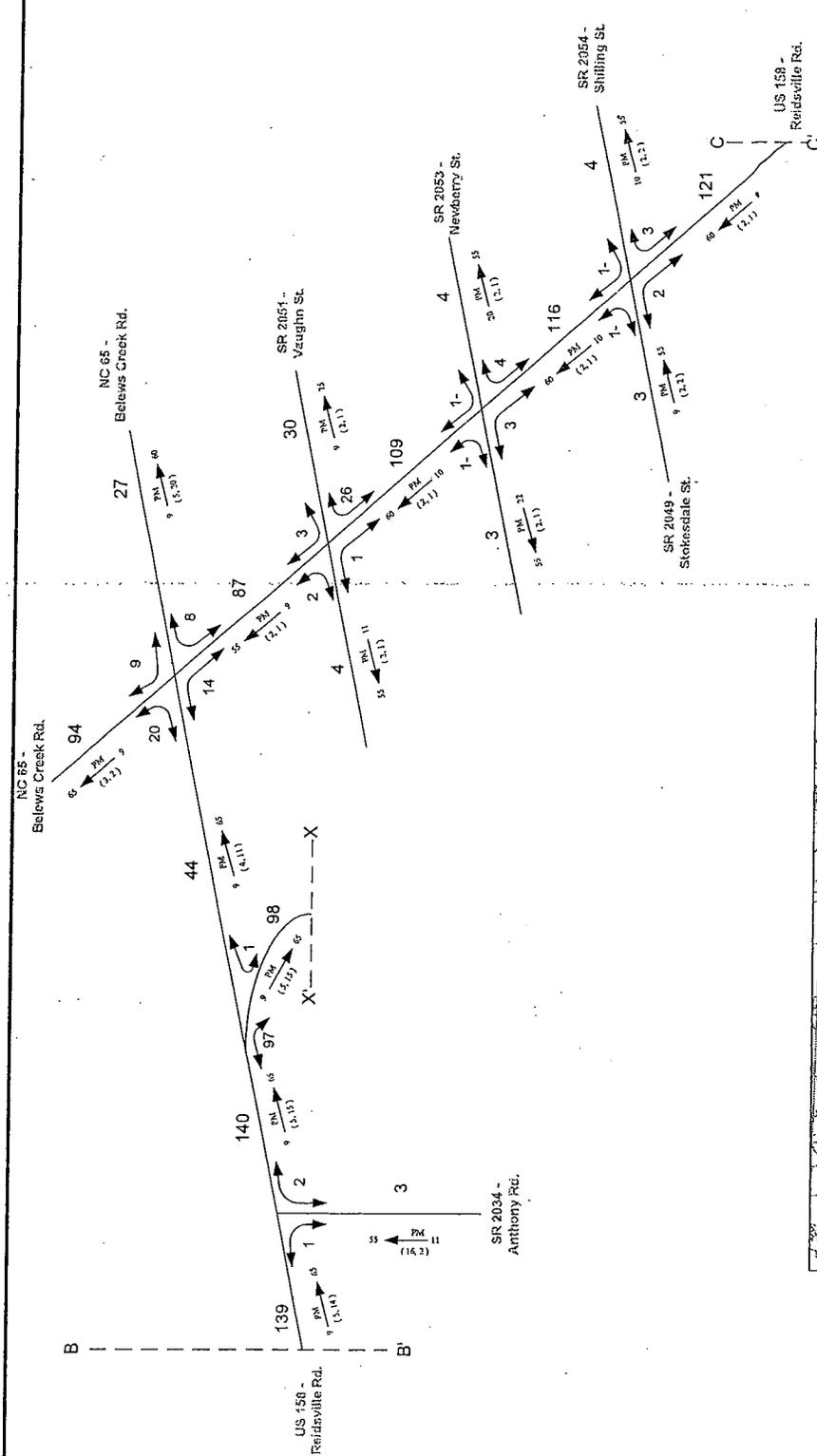
AVERAGE ANNUAL DAILY TRAFFIC		<b>Build Alt. 1</b>
		<b>Sheet 2 - 5</b>
TIP: R-2577/ABC	WBS: 37405.1.1	
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9	
DATE: August 27, 2012		
PREPARED BY: Paul Schroeder, P.H.D., PE		
LOCATION: US 158 from Old Greensboro Road to US 220		
PROJECT: Widen US 158 to multi-lanes		

## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway (d,t) Duals, TT-STs (%)
- K Design Hour Factor (%)
- PM Peak Period
- D Peak Hour Directional Split
- ↑ Indicates Direction of D
- (d,t) Duals, TT-STs (%)



NC 66 - Old Hollow Rd.

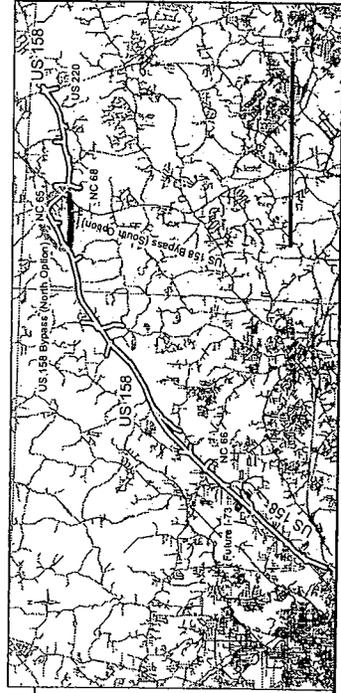


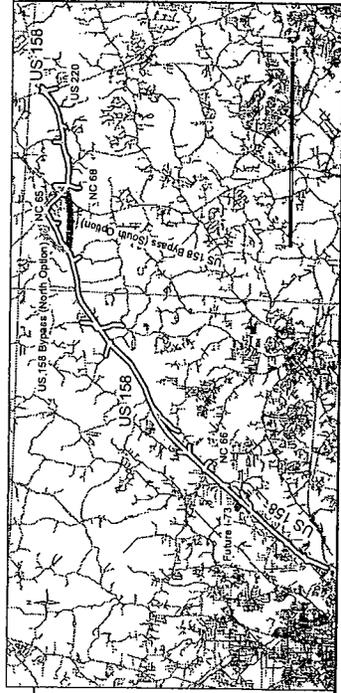
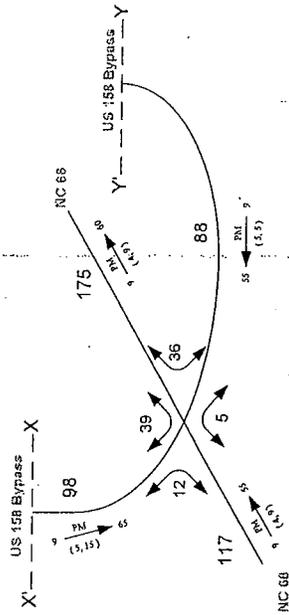
# 2035

## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway (d.t) Duals, TT-STs (%)
- PM (d.t) Design Hour Factor (%)
- K PM Peak Period
- D Peak Hour Directional Split
- ..... Indicates Direction of D
- (d.t) Duals, TT-STs (%)

<b>Build Alt. 1</b>	
<b>Sheet 3 - 5</b>	
AVERAGE ANNUAL DAILY TRAFFIC	
TIP: R-2577ABC	WBS: 37405.1.1
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	





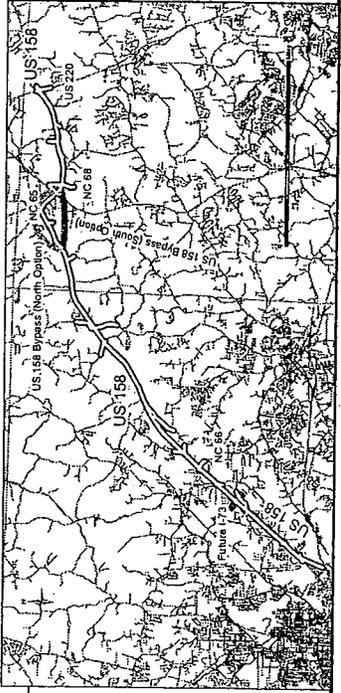
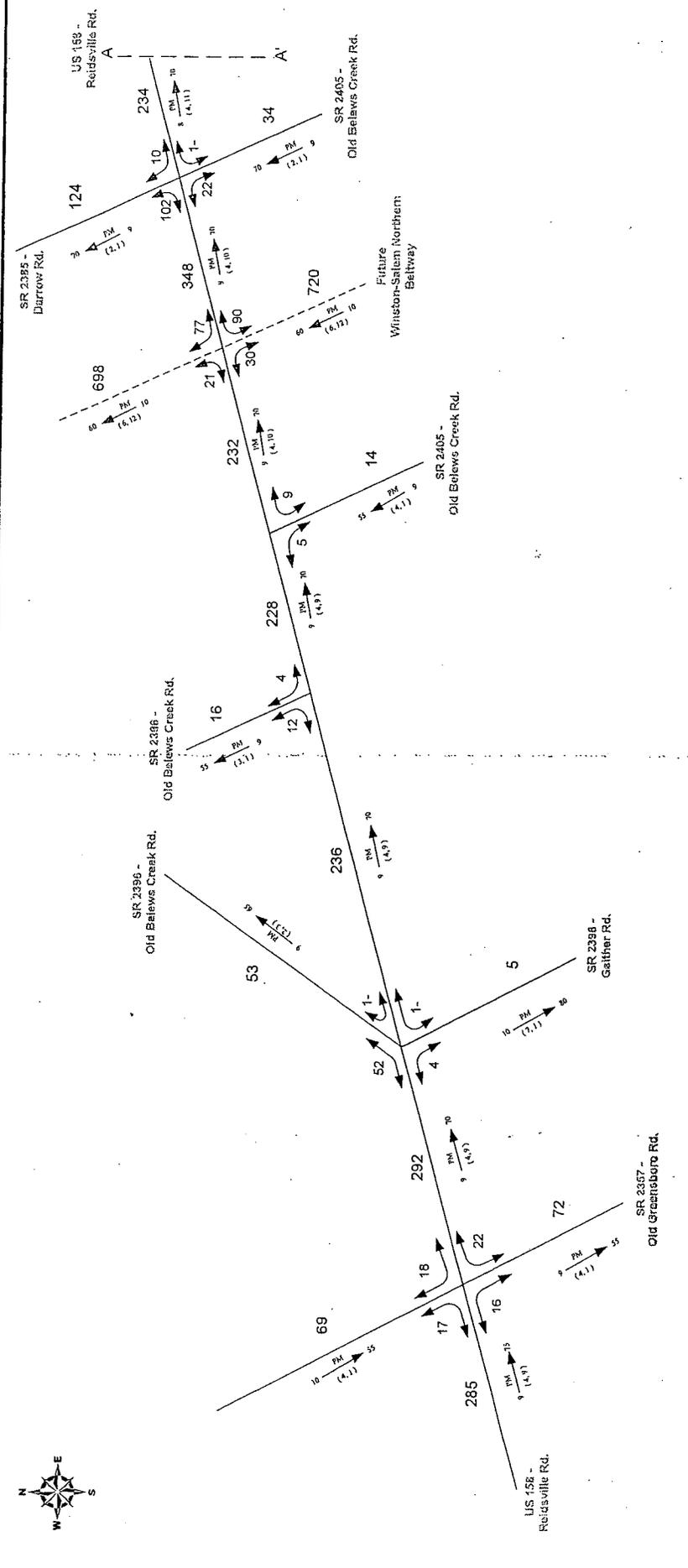
# 2035

## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway
- K (d,t) Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-S/Ts (%)

AVERAGE ANNUAL DAILY TRAFFIC	<b>Build Alt. 1</b>
TIP: R-2577ABC	<b>Sheet 4 - 5</b>
COUNTY: Forsyth & Guilford	WBS: 37405.1.1
DATE: August 27, 2012	DIVISION: 7 & 9
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	





# 2035

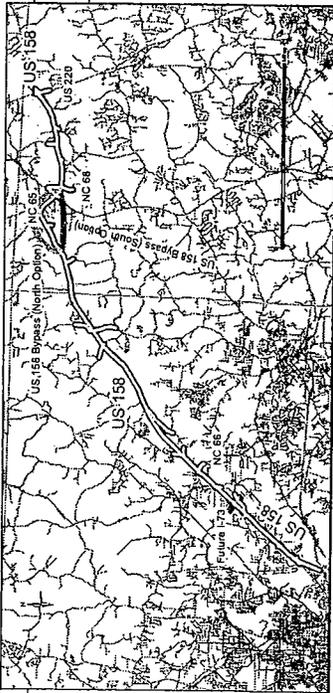
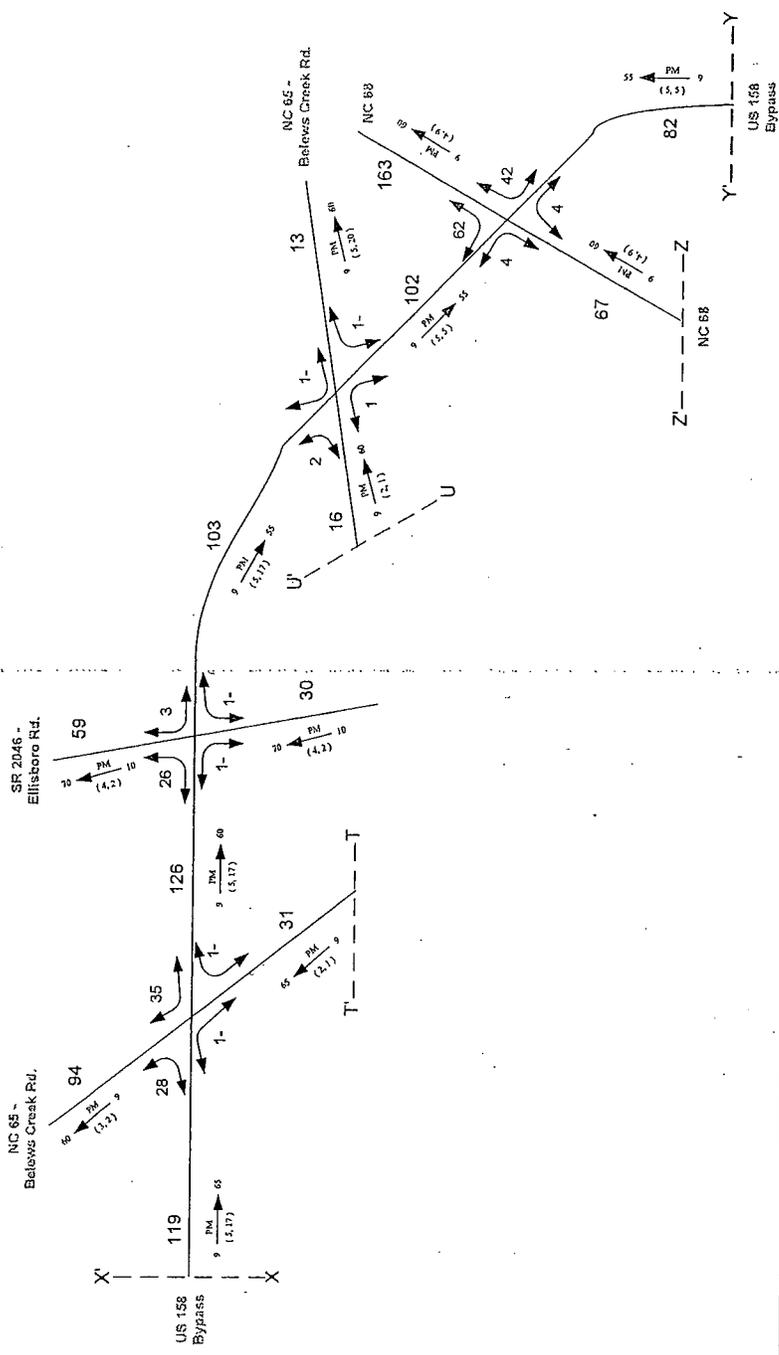
## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway (d.t)
- PM (d.t) Duals, TT-SRs (%)
- K (d.t) Design Hour Factor (%)
- PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D

<b>Build Alt. 2</b>	
<b>Sheet 1 - 5</b>	
AVERAGE ANNUAL DAILY TRAFFIC	
TIP: R-2577ABC	WBS: 37405.1.1
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	







# 2035

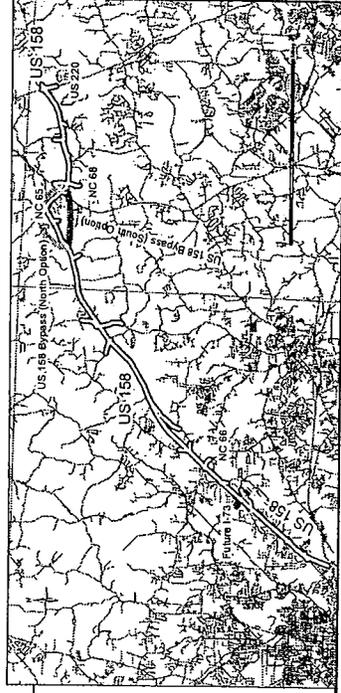
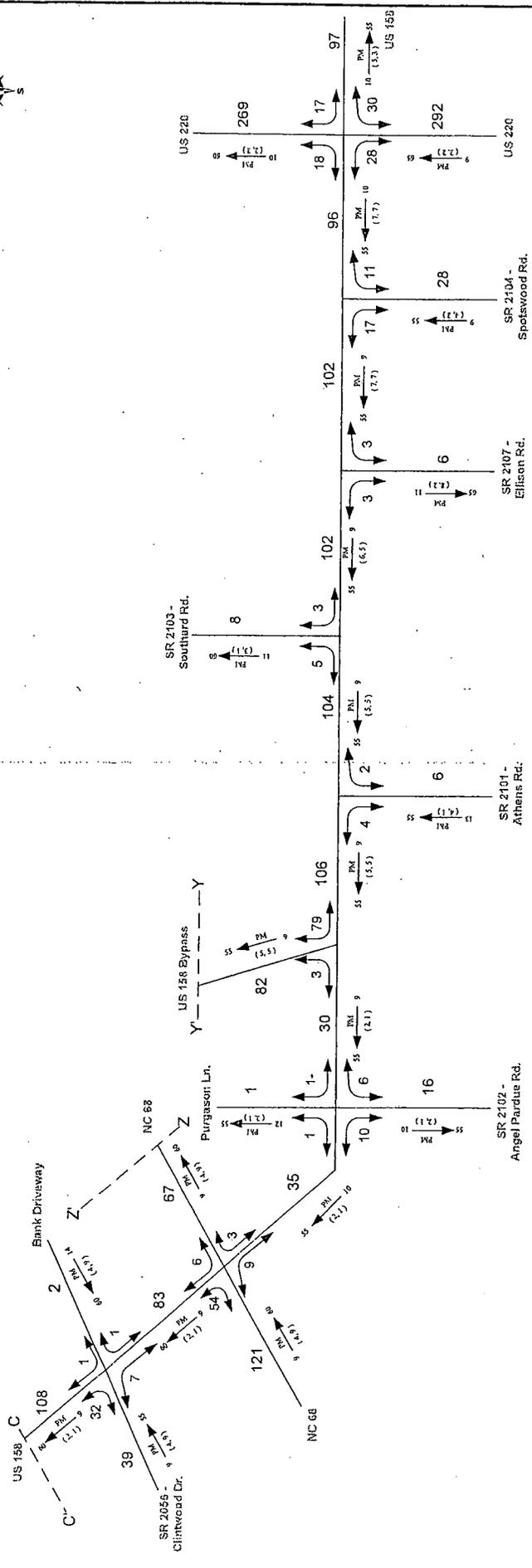
## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100%
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway
- K- (d,t) Duals, TT-SIs (%)
- K- (d,t) Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D

**Build Alt. 2**  
**Sheet 4 - 5**

AVERAGE ANNUAL DAILY TRAFFIC

TIP: R-2577ABC	WBS: 37405.1.1
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	



# 2035

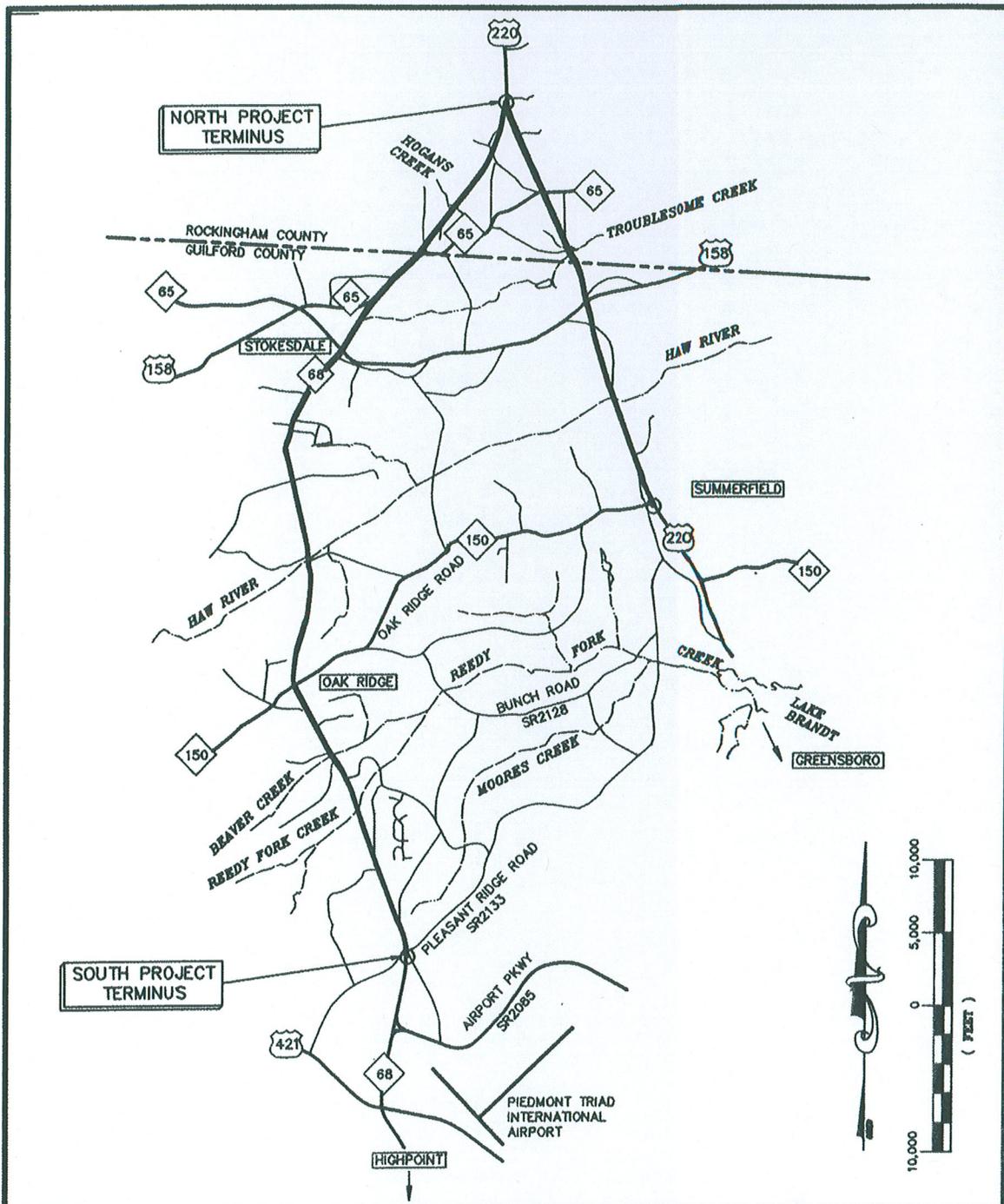
## LEGEND

- ### No. of Vehicles Per Day (VPD) in 100s Less than 50 VPD
- 1- Movement Prohibited
- X Proposed Roadway
- (d, t) Duals, TT-5Ts (%)
- PM (d, t) Design Hour Factor (%)
- K PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D

AVERAGE ANNUAL DAILY TRAFFIC

TIP: R-2577ABC	WBS: 37405.1.1
COUNTY: Forsyth & Guilford	DIVISION: 7 & 9
DATE: August 27, 2012	
PREPARED BY: Paul Schroeder, PhD, PE	
LOCATION: US 158 from Old Greensboro Road to US 220	
PROJECT: Widen US 158 to multi-lanes	

Build Alt. 2  
Sheet 5 - 5

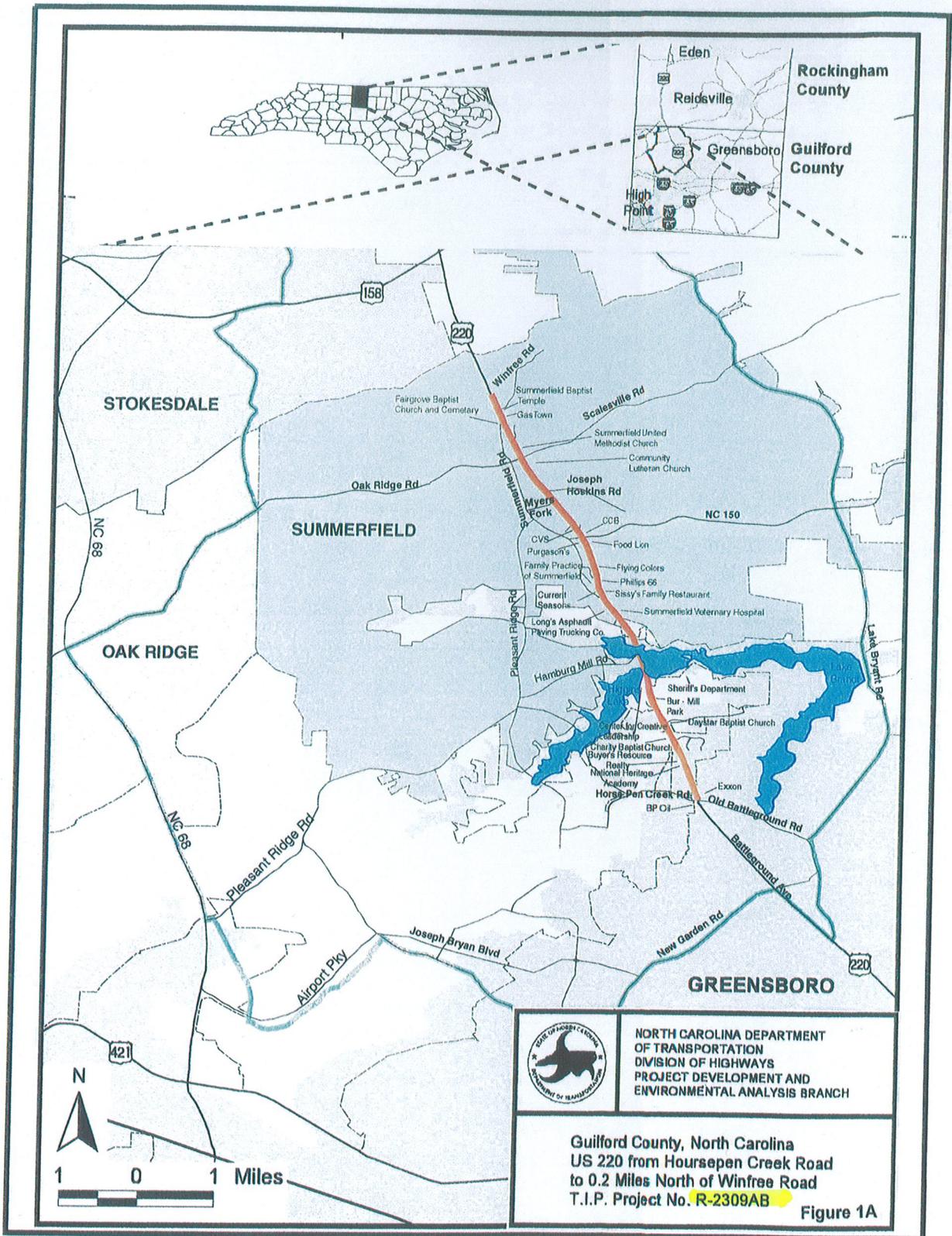


**LEGEND**

— PROJECT LOCATION

NC68-US220 IMPROVEMENTS  
**R-2413**

**EXHIBIT 1.1-2**  
 LOCATION MAP




 NORTH CAROLINA DEPARTMENT  
 OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 PROJECT DEVELOPMENT AND  
 ENVIRONMENTAL ANALYSIS BRANCH

Guilford County, North Carolina  
 US 220 from Hoursepen Creek Road  
 to 0.2 Miles North of Winfree Road  
 T.I.P. Project No. R-2309AB Figure 1A