Burlington
NC 54 (Chapel Hill Road)
from NC 100 (Maple Avenue) to US 70 (Church Street)
Alamance County
Federal Aid Project No. STP-54(8)
WBS Element 38985.1.1

TIP Project U-2907

Administrative Action

ENVIRONMENTAL ASSESSMENT

U. S. Department of Transportation
Federal Highway Administration
And
N. C. Department of Transportation
submitted pursuant to 42 U.S.C. 4332(2) (c)
and 49 U. S. C. 303

APPROVED:

6/26/14
Date

FOR Richard W. Hancock, P. E., Unit Manager
Project Development and Environmental Analysis Unit

6/30/14
Date

FOR John F. Sullivan, III, P. E., Division Administrator
Federal Highway Administration

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ENVIRONMENTAL ASSESSMENT

June 2014

Documentation prepared in the Project Development and Environmental Analysis Unit by:

Lisa M. Feller 6/26/14
Lisa M. Feller, PE
Project Development Engineer

NORTH CAROLINA PROFESSIONAL SEAL 19001 ENGINEER LISA M. FELLER

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Project Development Group Leader

PROJECT COMMITMENTS

Burlington
NC 54 (Chapel Hill Road)
from NC 100 (Maple Avenue) to US 70 (Church Street)
Alamance County
Federal Aid Project No. STP-54(8)
WBS Element 38985.1.1

TIP Project U-2907

Project Development & Environmental Analysis Unit–Human Environment Section

Based on the presence of Limited English Proficiency (LEP) populations in the area, the hearing will be advertised in local Latino newspapers as well as the mainstream newspapers. Notice will be provided to LEP populations regarding their Right of Language Access prior to future meetings for this project.

Division of Bicycle and Pedestrian Transportation, Project Development & Environmental Analysis Unit, Roadway Design Unit

Bicycle and pedestrian accommodations will be further coordinated with the City of Burlington prior to final project design. In accordance with the NCDOT Pedestrian Policy, NCDOT will bear the full cost to replace any existing sidewalks to be relocated by the project along existing streets. The City of Burlington will participate in the cost of new sidewalks in areas where sidewalks do not currently exist. A municipal agreement will be prepared prior to project construction.

Fourteen foot outside travel lanes will be utilized for bicycle accommodations throughout the project limits.

Geotechnical Unit

Preliminary site assessments will be conducted for potentially contaminated sites within the proposed right of way prior to right of way acquisition.

Hydraulics Unit

The Hydraulics Unit will coordinate with the Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

Divisions 7 Construction Unit

This project involves construction activities on or adjacent to the Federal Emergency Management Agency (FEMA) regulated stream. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.

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Appendices

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INTRODUCTION

1) What is the purpose of an Environmental Assessment?

This Environmental Assessment (EA) is an important milestone in the project planning process. The objective of this EA is to provide the public and decision-makers with the appropriate and relevant information to make an informed decision on which transportation improvement alternative to select for implementation. This process is intended to provide all interested parties with the opportunity to contribute to the decision-making process.

This Environmental Assessment (EA) has been prepared to comply with the National Environmental Policy Act (NEPA), which requires that a detailed analysis be prepared if any federal agency is undertaking a major federal action that may significantly affect the environment.

The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating proposed transportation improvements in the Burlington area in Alamance County.

2) What does this EA include?

The table of contents presents the overall organization of this EA and can direct you to the appropriate page numbers in various chapters and sections in the document. Key findings are presented in the summary section. A full discussion of findings is presented in five chapters:

- **Chapter 1 – Purpose of and Need for the Project** describes the transportation improvement needs in the project area and identifies related project objectives.
- **Chapter 2 – Alternatives** describes the characteristics of the alternatives being considered for implementation, the "detailed study alternatives." This chapter also summarizes other alternatives considered and the reasons why they were not selected for detailed study. The No-Build Alternative also is described.
- **Chapter 3 – Description of the Proposed Improvements** describes the existing conditions and the proposed improvements as well as proposed schedules and project costs.
- **Chapter 4 – The Environment: What's There Now and Potential Project Effects** describes the existing and forecast future environmental conditions, as well as potential short- and long-term beneficial and adverse effects (if any) of the detailed study alternatives on these conditions.
- **Chapter 5 – Conclusion** provides a summary of environmental effects for the project and the next steps of the project development process.
- Also included with this EA are several appendices that provide federal, state and local government agency input and background information used to create this document.

SUMMARY

A. Type of Action

1) What type of federal action is this document?

This is a Federal Highway Administration Action, Environmental Assessment.

B. Project Purpose/Description of Action

1) What do we propose to build and where?

State Transportation Improvement Program (STIP) project U-2907 will widen NC 54 (Chapel Hill Road) from NC 100 (Maple Avenue) to US 70 (Church Street). Existing NC 54 is currently a two-lane to three-lane road, and this project will widen NC 54 to a five-lane roadway with sidewalks. The total length of the project is approximately 2.2 miles long. See **Figure 1** on **Page 1** for the project area.

2) What purpose will the project serve?

The purpose of the project is to improve traffic flow (how many cars are able to pass through an area in a given time interval) and reduce travel delay (the additional travel time experienced by a driver due to circumstances that slow down traffic) on existing NC 54 (Chapel Hill Road) between NC 100 (Maple Avenue) and US 70 (Church Street) so that a minimum Level of Service (LOS) D is maintained through the 2035 design year and to maintain a bridge across Little Alamance Creek which has a sufficiency rating greater than 80 that addresses the needs of highway users.

C. Needs Addressed by the Project

1) Why do we need the project?

The proposed project will address the following needs:

The proposed project is needed because transportation deficiencies exist along NC 54 and side streets in the project study area. A highway-related facility is deficient when it is unable to safely and efficiently satisfy travel demands because of the amount of traffic using the facility, the inadequate roadway width to carry the traffic, and/or safety concerns. A structure is deficient when major bridge components are deteriorating, the bridge's load-carrying capacity is potentially reduced, and the bridge typically requires significant maintenance and repair to remain in service.

- The 2012 Annual Average Daily Traffic (AADT) volumes on NC 54 in the project area range between 3,400 vehicles per day near US 70 (Church Street) and 13,100 vehicles per day near NC 100 (Maple Avenue), and NC 54 operates at an acceptable level of service based on traffic analyses utilizing Synchro and SimTraffic computer software. By the year 2035, traffic volumes in the project area are predicted to range between 5,200 vehicles per day near US 70 (Church Street) and

19,200 vehicles per day near NC 100 (Maple Avenue). The Burlington-Graham Municipal Planning Organization (BGMPO) Comprehensive Transportation Plan (CTP) specifies LOS "D" as the desirable level of service for NC 54. With the increasing traffic volumes and without any improvements, the level of service on NC 54 in the project area is expected to be unacceptable resulting in a transportation deficiency.

- Bridge No. 178, built in 1970, carries SR 1154 (Tucker Street) over Little Alamance Creek. The desired performance standard for a bridge is to maintain a sufficiency rating greater than 80. Bridge No. 178 has a sufficiency rating of 33.4 out of 100 rating points which classifies it as "structurally deficient" resulting in a transportation deficiency. Because the bridge's sufficiency rating is less than 50, it is eligible for the Federal-Aid Highway Bridge Program.

D. Alternatives Considered

1) What alternatives are studied in this environmental assessment?

Preliminary alternatives examined for the proposed project included alternative modes of transportation, the Travel Demand Management (TDM) Alternative, the Transportation Systems Management (TSM) Alternative, the "No Build" alternative, and the "Best-Fit" Widening Build Alternative. Of these preliminary alternatives, only the "Best-Fit" Widening Build Alternative serves the project purposes and needs. Also, several widening scenarios were analyzed to determine their Level of Service (LOS) and travel delay times to determine the best roadway typical section for the proposed project.

2) What is NCDOT's recommended alternative?

A "Best Fit" Widening Build alignment with a five-lane undivided roadway and a center left turn lane is NCDOT's Recommended Alternative and was studied in detail in the EA. This alternative will widen NC 54 at locations that "best fit" the current road location and surrounding land uses. The "Best-Fit" alternative allows the design engineers an opportunity to minimize the impacts to the human and natural environments by shifting the alignment as necessary to accommodate the proposed improvements. "Best fit" locations were evaluated and selected to improve the existing road alignment, minimize impacts, and allow traffic to remain on NC 54 and the roads that intersect NC 54 during project construction. This widening scenario also provides continuity because NC 54's roadway typical section matches the section of NC 54 (Harden Street) east of NC 100 (Maple Avenue). A detailed description of NCDOT's Recommended Alternative is included in **Chapter 3** of this document.

The recommended alternative will be presented at a public hearing to obtain citizens' comments. Comments received at the hearing will be reviewed by NCDOT and will be incorporated into the project, as feasible and practicable.

E. Permits Required

1) What permits may be necessary to construct the proposed project?

A Nationwide Permit 14 will likely be applicable. The US Department of the Army Corps of Engineers (USACE) holds the final discretion as to what permit will be required to authorize project construction. In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Division of Water Resources. Required 401 general certifications (GC) may include a GC No. 3886 for linear transportation projects. Also, the project is subject to compliance with Section 402 (NCDOT National Pollutant Discharge Elimination System (NPDES) Stormwater Permit) compliance.

F. Summary of Environmental Effects

1) What effects does the proposed project have on the environment?

Table S1 presents a summary of the proposed project's environmental effects:

TABLE S1: Summary of Environmental Effects *

IMPACT CATEGORY	RECOMMENDED ALTERNATIVE
Natural Resources Impacts	
Federal Listed Species Habitat	No
100-Year Flood Plain and Floodway Crossings (number)	3
Wetlands (number / acres)	2 / 0.014 AC
Stream Crossings (number / linear feet)	11 / 1,597 LF
Water Supply Critical Areas	0
Human Environment Impacts	
Residential Relocations (units)	23
Business Relocations (units)	27
Low Income/Minority Populations	Yes
Schools (number)	1
Historic Sites/Districts (number)	0
Section 4(f) Impacts	No
Traffic Noise Impacts (number of receptors)	44 to 50 receptors
Air Quality	** Attainment Area
Physical Environment Impacts	
Farmland (acres)	0
Underground Storage Tanks (number of potential sites)	14

* Wetland and stream impacts are based on preliminary construction limits plus 25 feet.

** Attainment Area is a geographic area that meets or has pollutant levels below the National Ambient Air Quality Standards (NAAQS).

G. Coordination with the Public and Other Agencies

1) How has the public been or will be involved with this project?

Several meetings have been held to introduce this project to the public and obtain comments and suggestions regarding the project.

- A citizens informational workshop was held on February 19, 2009 in Burlington.
- Several small group meetings were held in 2012 and 2013 with community leaders and business owners in the project area to discuss the roadway typical section and other design issues.
- A public hearing for the project will be held following approval of this document. Comments received at the hearing will be reviewed by the NCDOT and will be incorporated into the project, as feasible and practicable.

2) What agencies were consulted regarding the project?

The following federal, state and local officials were consulted regarding this project:

- US Environmental Protection Agency
- US Department of the Army Corps of Engineers
- US Fish and Wildlife Service
- NC Department of Administration – State Clearinghouse
- NC Department of Cultural Resources – State Historic Preservation Office
- NC Department of Environment and Natural Resources
  - NC Division of Water Quality
  - NC Wildlife Resources Commission
  - NC Natural Heritage Program
  - NC Division of Forest Resources
- NC Department of Public Instruction
- Burlington-Graham Municipal Planning Organization
- City of Burlington

H. Additional Information

1) Who can I contact for additional information about this document?

The following people may be contacted for additional information concerning this document:

John F. Sullivan III, P.E.
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601-1418
(919) 856-4346

Richard W. Hancock, P.E.
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548
(919) 707-6000

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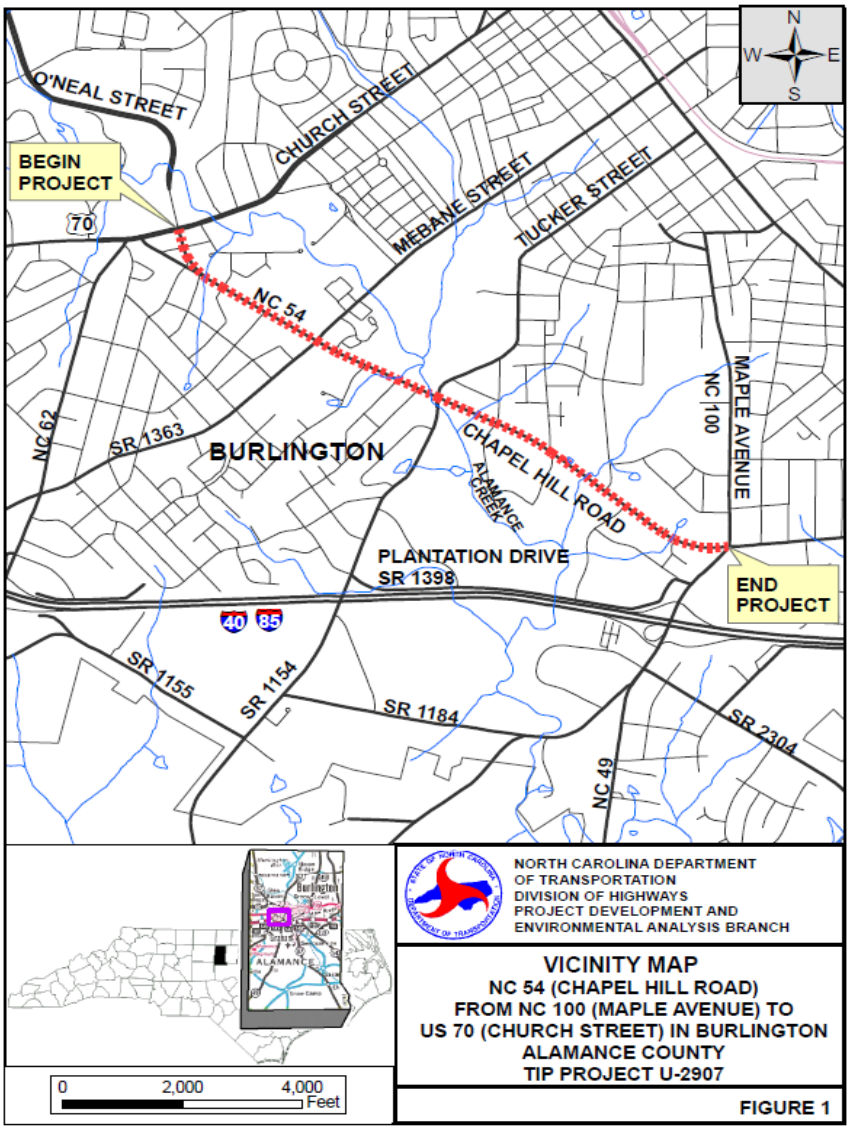
Chapter 1: What is the Purpose of and Need for the Project?

This statement of purpose and need explains why improvements to the transportation system in the project area should be considered and implemented.

A. General Project Description

1) What do we propose to build and where?

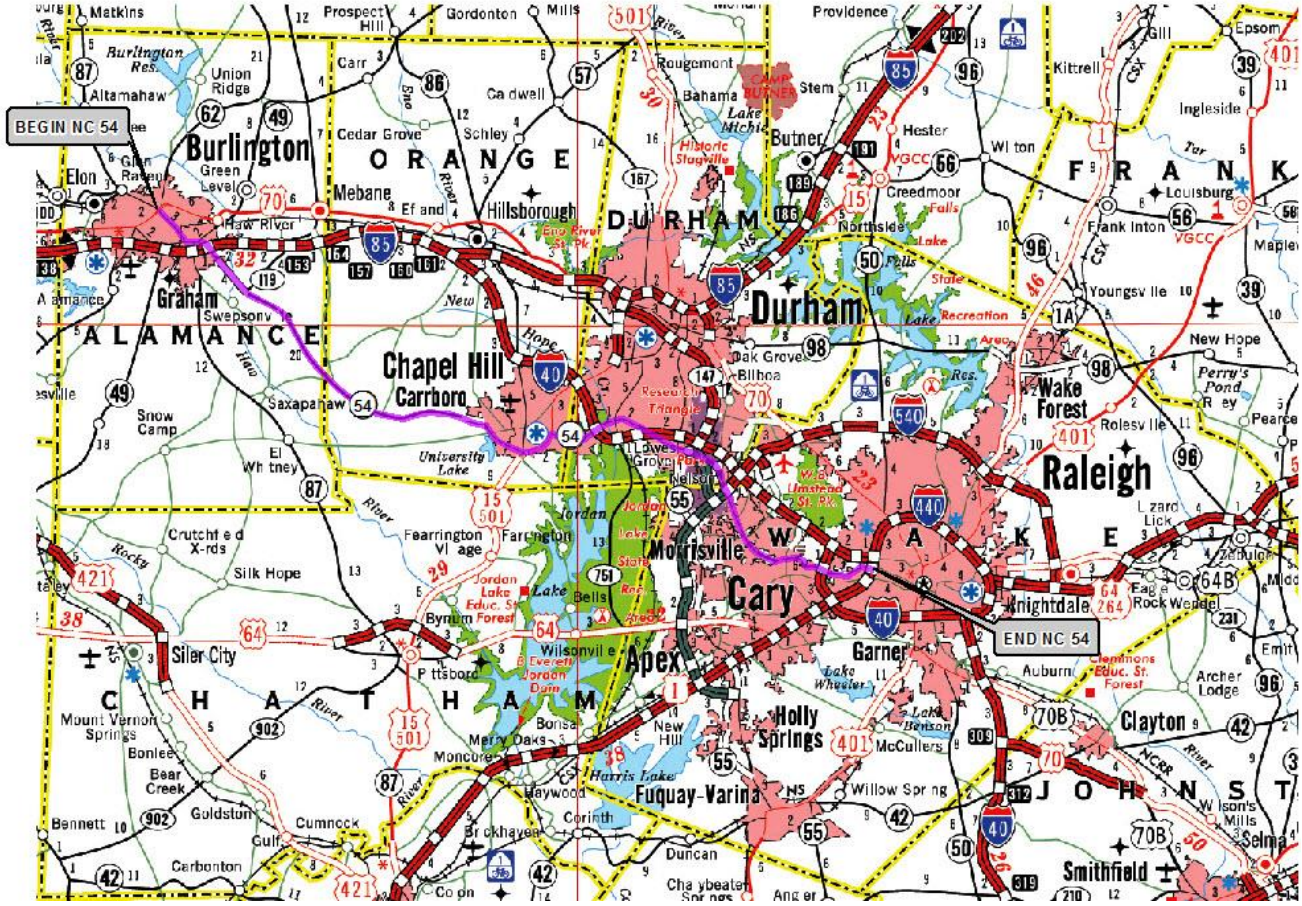
The North Carolina Department of Transportation (NCDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating proposed transportation improvements in the Burlington area in Alamance County. State Transportation Improvement Program (STIP) project U-2907 will widen NC 54 (Chapel Hill Road) from NC 100 (Maple Avenue) to US 70 (Church Street). Existing NC 54 is currently a two-lane to three-lane road, and this project will widen NC 54 to a five-lane roadway with sidewalks. The total length of the project is approximately 2.2 miles long. See **Figure 1** below for the project area.



The proposed project is included in the North Carolina Department of Transportation (NCDOT) 2012-2020 State Transportation Improvement Program (2012-2020 STIP) and in the Burlington-Graham Municipal Planning Organization (BGMPO) Comprehensive Transportation Plan (CTP) which was adopted by NCDOT on December 9, 2010.

NC 54 is a major east-west roadway corridor whose western starting point begins in Burlington at the intersection of US 70 (Church Street)/NC 62/ South O'Neal Street and its eastern ending point terminates in Raleigh at the intersection of US 1/I-440/ Hillsborough Street as shown in the map below. This roadway helps move people and goods through Alamance, Orange, Durham, and Wake Counties.

NORTH CAROLINA MAP SHOWING THE LIMITS OF NC 54



B. Need for the Project

1) Why do we need the project?

The proposed project is needed because transportation deficiencies exist along NC 54 and side streets in the project study area. A highway-related facility is deficient when it is unable to safely and efficiently satisfy travel demands because of the amount

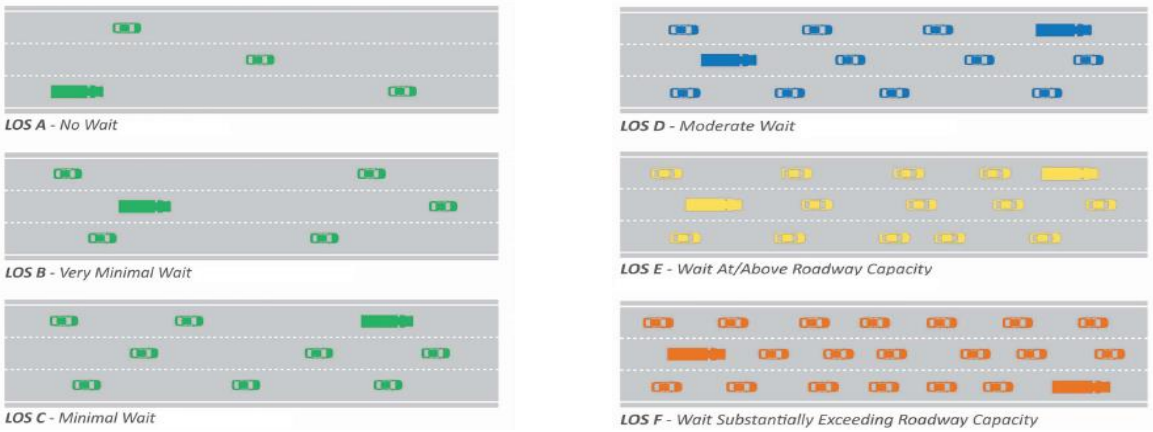
of traffic using the facility, the inadequate roadway width to carry the traffic, and/or safety concerns. A structure is deficient when major bridge components are deteriorating, the bridge's load-carrying capacity is potentially reduced, and the bridge typically requires significant maintenance and repair to remain in service.

- The 2012 Annual Average Daily Traffic (AADT) volumes on NC 54 in the project area range between 3,400 vehicles per day near US 70 (Church Street) and 13,100 vehicles per day near NC 100 (Maple Avenue), and NC 54 operates at an acceptable level of service based on traffic analyses utilizing Synchro and SimTraffic computer software. By the year 2035, traffic volumes in the project area are predicted to range between 5,200 vehicles per day near US 70 (Church Street) and 19,200 vehicles per day near NC 100 (Maple Avenue). The Burlington-Graham Municipal Planning Organization (BGMPO) Comprehensive Transportation Plan (CTP) specifies LOS "D" as the desirable level of service for NC 54. With the increasing traffic volumes and without any improvements, the level of service on NC 54 in the project area is expected to be unacceptable resulting in a transportation deficiency.

*The relationship of travel demand compared to the roadway capacity determines the **level of service (LOS)** of a roadway. Design requirements for roadways vary according to the desired capacity and level of service. Six levels are used, ranging from "A" to "F". For roadways, LOS "A" indicates no congestion while LOS "F" represents more traffic demand than road capacity and extreme delays. LOS D indicates the capacity of a roadway at which the public begins to express dissatisfaction.*

A copy of the full technical report entitled *Traffic Technical Memo* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

LEVEL OF SERVICE (LOS) HIGHWAY ILLUSTRATION



- Bridge No. 178, built in 1970, carries SR 1154 (Tucker Street) over Little Alamance Creek. The desired performance standard for a bridge is to maintain a sufficiency rating greater than 80. Bridge No. 178 has a sufficiency rating of 33.4 out of 100 rating points which classifies it as "structurally deficient" resulting in a transportation deficiency. Because the bridge's sufficiency rating is less than 50, it is eligible for the Federal-Aid Highway Bridge Program.

A copy of the bridge inspection report can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

The sufficiency rating formula provides a method of evaluating highway bridge data by calculating four separate factors to obtain a numeric value which is indicative of bridge sufficiency to remain in service. The result of this method is a percentage in which 100 percent would represent an entirely sufficient bridge and zero percent would represent an entirely insufficient or deficient bridge. The formula considers the structural adequacy; functional obsolescence and level of service; and essentiality for public use. Structural deficiencies are characterized by deteriorated conditions of significant bridge elements and potentially reduced load-carrying capacity. A "structurally deficient" designation does not imply that a bridge is unsafe, but such bridges typically require significant maintenance and repair to remain in service, and would eventually require major rehabilitation or replacement to address the underlying deficiency.

C. Purpose of the Project

1) What purpose will the project serve?

The purpose of the project is to improve traffic flow (how many cars are able to pass through an area in a given time interval) and reduce travel delay (the additional travel time experienced by a driver due to circumstances that slow down traffic) on existing NC 54 (Chapel Hill Road) between NC 100 (Maple Avenue) and US 70 (Church Street) so that a minimum Level of Service (LOS) D is maintained through the 2035 design year and to maintain a bridge across Little Alamance Creek which has a sufficiency rating greater than 80 that addresses the needs of highway users.

D. "No Build" Alternative Consequences

1) What happens if the project is not built?

If the project is not built, NC 54 will experience congestion with main road movements operating at a range of LOS "D" to "F" and intersection movements operating at a range of LOS "A" to "F" which will cause considerable travel time delay for drivers. The bridge's condition will continue to deteriorate and require extensive repairs and maintenance to remain in service. Eventually, the repairs will be too expensive, and the bridge will need to be closed to traffic or replaced.

Chapter 2: Alternatives

A range of alternatives were reviewed for the project to identify an alternative that would satisfy the project's purpose and need while minimizing impacts to the human and natural environments. This chapter summarizes the study alternatives considered and studied in detail.

A. Alternatives to the Proposed Action

1) What alternatives are studied in this environmental assessment?

a) Alternative Modes of Transportation

Mass transit (buses and trains) and bicycle and pedestrian accommodations are examples of alternative modes of transportation that may help reduce highway congestion and reduce delay. The project area is not currently served by mass transit. The proposed project includes construction of sidewalks to accommodate pedestrians and constructing wider outside travel lanes to accommodate bicycle traffic. Providing accommodations for alternative modes of transportation alone will not address the needs that will be improved by the "Build" Alternative.

b) Travel Demand Management (TDM) Alternative

Travel Demand Management (TDM) measures, such as staggering work hours, car-pooling, and van pooling are possible ways to generally reduce highway congestion and reduce delay; however, these congestion management measures are not controlled by NCDOT. These alternatives alone will not address the needs that will be improved by the "Build" Alternative.

c) Transportation Systems Management (TSM) Alternative

Transportation Systems Management (TSM) improvements involve increasing the available capacity of the roadway within the existing right-of-way with minimum capital expenditures and without reconstructing or adding additional through lanes to the existing road. Addition of turn lanes, striping, signing, signalization, and minor road realignments are examples of TSM physical improvements. Examples of TSM operational improvements include traffic law enforcement, speed restrictions and signal timing changes. TSM improvements alone will not reduce congestion and delay enough to prevent failing traffic conditions in the future 2035 design year.

d) "No Build" Alternative

A "No Build" Alternative was studied to establish a baseline for comparing the effects associated with the "Build" alternative. The "No Build" Alternative would provide

routine road repairs and maintenance to existing NC 54 and would include other projects listed in NCDOT's 2012-2020 STIP; however, there are no other projects in the area scheduled for right of way acquisition or construction before 2021. This alternative would not provide any substantial improvements to the NC 54 project area and would not improve traffic flow and reduce travel time delay; therefore, the "No Build" Alternative is not recommended.

e) NCDOT Recommended Alternative-"Best-Fit" Widening Build Alternative

A "Best Fit" Widening Build alignment alternative was studied in detail for the project. This alternative will widen NC 54 at locations that "best fit" the current road location and surrounding land uses. Alternatives that provide widening only on the right side, widening only on the left side, or widening on both sides equally were not considered because the "Best-Fit" alternative allows the design engineers an opportunity to minimize the impacts to the human and natural environments by shifting the alignment as necessary to accommodate the proposed improvements. "Best fit" locations were evaluated and selected to improve the existing road alignment, minimize impacts, and allow traffic to remain on NC 54 and the roads that intersect NC 54 during project construction.

Traffic analyses were completed for the following widening scenarios to determine their Level of Service (LOS) and travel delay times in order to determine the most effective widening alternative:

- Three-lane undivided roadway with a center left turn lane,
- Five-lane undivided roadway with a center left turn lane,
- Four-lane median divided roadway with left turn lanes at some intersections,
- Three-lane undivided roadway / Four-lane divided roadway combination.

The 2035 NC 54 morning and evening network average delay measured in seconds per vehicle (sec/veh) and the speed measured in miles per hour (mph) is shown below in **Table 1**.

TABLE 1 - *2035 AM and PM Network Average Delay (sec/veh) and Speed on NC 54 (mph)*

Scenario	AM					PM				
	Delay	EB		WB		Delay	EB		WB	
		Speed	LOS*	Speed	LOS*		Speed	LOS*	Speed	LOS*
Scenario 1 (Four-lane Median Divided)	57.6	26	C	28	C	55.4	27	C	25	D
Scenario 2 (Five-lane with Center Turn Lane)	51.8	27	C	28	C	54.4	27	C	25	D
Scenario 3 (Three-lane with Center Turn Lane)	59.6	25	D	26	C	65.8	24	D	24	D
Scenario 4 (Four-lane Median Divided and Three-lane with Center Turn Lane Combination)	59.0	26	C	28	C	56.1	28	C	25	D
Scenario 5 (No Build)	179.1	22	D	**10**	**F**	152.6	**16**	**E**	**15**	**F**

*LOS is based on overall arterial speed from SimTraffic, Exhibit 16-4 of 2010 HCM, and an assumed base free flow speed of 50 mph for the corridor

Although all of the "Build" scenarios improved traffic flow and reduced travel time delay on NC 54, the "Five-lane undivided roadway with a center left turn lane" widening

scenario provides 20% less travel delay than the "Three-lane undivided roadway with a center left turn lane" widening scenario and provides approximately the same delay (or less) as the other two scenarios. Therefore, the "Five-lane undivided roadway with a center left turn lane" widening scenario was studied in detail for the project. This widening scenario also matches the section of NC 54 (Harden Street) east of NC 100 (Maple Avenue) providing continuity along this corridor. A detailed description of NCDOT's Recommended Alternative is included in **Chapter 3**.

Traffic volume information is located in **Appendix B** of this document. A copy of the full technical report entitled *Traffic Technical Memo* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

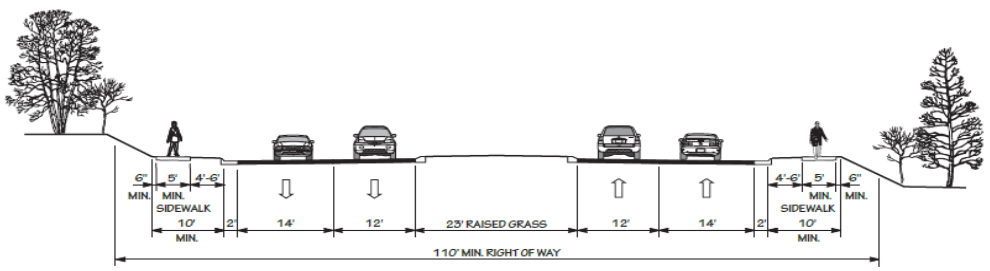
B. Coordination with the Public and Other Agencies

1) How has the public been or will be involved with this project?

a) Citizens Informational Workshop

A citizens informational workshop was held on February 19, 2009 at the Kernodle Senior Center, 1535 South Mebane Street in Burlington. The purpose of the workshop was to obtain comments and suggestions about the project from the public. These meetings were advertised through local Latino newspapers as well as the mainstream newspapers, and flyers were sent to property owners and citizens in the project area. A Spanish translator was at the workshop to assist with translation services based on the presence of Limited English Proficiency (LEP) populations in the area. Approximately 68 people attended the Citizens' Informational Workshop. The proposed roadway typical section shown at the workshop was a four-lane roadway with two through travel lanes in each direction and a raised grass median as shown below. The public's main concern was how the raised median would impact access to homes and businesses. Information presented at the workshop and public comments can be viewed in the Project Development & Environmental Analysis Unit - Century Center, 1000 Birch Ridge Drive, Raleigh.

PROPOSED ROADWAY TYPICAL SECTION SHOWN AT THE WORKSHOP:

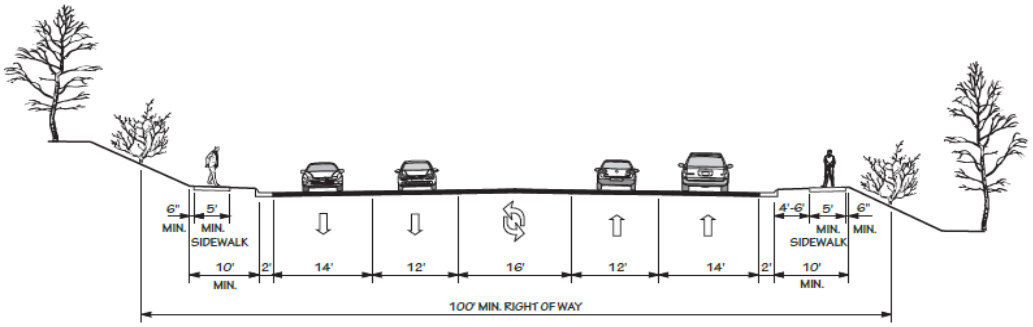


FOUR LANE ROADWAY WITH RAISED GRASS MEDIAN TYPICAL SECTION

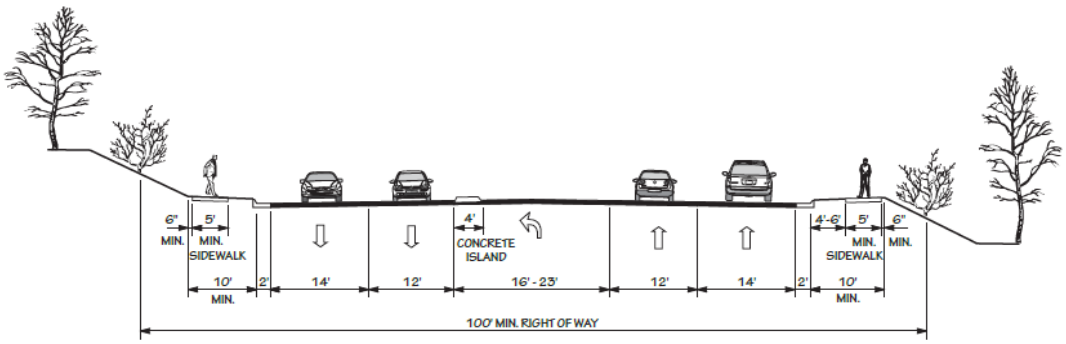
b) Small Group Meetings

Several small group meetings were held in 2012 and 2013 with community leaders and business owners in the project area to discuss the roadway typical section and other design issues. Meeting information can be viewed in the Project Development & Environmental Analysis Unit - Century Center, 1000 Birch Ridge Drive, Raleigh. Based on public concerns for the raised median, the typical section was revised from a four-lane roadway with two through travel lanes in each direction and a raised grass median shown above to a five-lane roadway with two through travel lanes in each direction and a center turn lane with concrete median islands at intersections shown below.

CURRENT PROPOSED ROADWAY TYPICAL SECTIONS:



FIVE LANE ROADWAY WITH CENTER TURN LANE TYPICAL SECTION



FIVE LANE ROADWAY WITH CENTER TURN LANE AND A 4' CONCRETE ISLAND

c) Public Hearing

A public hearing for the project will be held following approval of this document. Comments received at the hearing will be reviewed by the NCDOT and will be incorporated into the project, as feasible and practicable. Based on the presence of Limited English Proficiency (LEP) populations in the area, the hearing will be advertised in local Latino newspapers as well as the mainstream newspapers. Notice will be provided to LEP populations regarding their Right of Language Access prior to future meetings for this project. To ensure full and fair participation for all communities, additional outreach opportunities will be identified and implemented.

2) How have government agencies been or will be involved with this project?

NCDOT has coordinated with appropriate local, state, and federal agencies throughout this project study. Appropriate coordination will continue throughout the design and construction phases of the project. Comments were requested from the agencies listed below. An asterisk indicates a response was received (copies of responses are included in **Appendix A**). Any specific project-related comments or concerns were addressed within this environmental document.

- US Environmental Protection Agency
- ***** US Department of the Army Corps of Engineers
- ***** US Fish and Wildlife Service
- ***** NC Department of Administration – State Clearinghouse
- ***** NC Department of Cultural Resources – State Historic Preservation Office
- ***** NC Department of Environment and Natural Resources
  - ***** NC Division of Water Quality
  - ***** NC Wildlife Resources Commission
  - ***** NC Natural Heritage Program
  - ***** NC Division of Forest Resources
- NC Department of Public Instruction
- ***** Burlington-Graham Municipal Planning Organization
- ***** City of Burlington

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Chapter 3: Description of the Proposed Improvements

The project is designed to improve traffic flow and reduce travel delay on existing NC 54 (Chapel Hill Road) on the 2.2 mile section between NC 100 (Maple Avenue) and US 70 (Church Street). This chapter provides an overview of the proposed project's principal features as well as other features that are necessary to support the proposed improvements.

A. Project Principal Features

1) What are the principal features of the project?

The basic construction elements for the project include:

- adding an eastbound and a westbound through travel lane on NC 54,
- adding a center left turn lane on NC 54,
- providing intersection improvements for NC 54 and streets that cross NC 54 (adding turn lanes, adding traffic signals, providing concrete channelization islands in turn lanes, etc.),
- adding sidewalks on NC 54 to accommodate pedestrians,
- building wider outside through travel lanes on NC 54 to accommodate bicyclists,
- building a new bridge on SR 1154 (Tucker Street),
- and lengthening and constructing drainage culverts on NC 54.

See **Figure 3, Sheets 1 - 5**, on **Pages 12-16** and **Pages 17-24** for further details.

B. Operational Benefits

1) What operational benefits will the project provide?

According to information for the five-year period between November 1, 2007 and October 31, 2012, there were 208 reported crashes with 1 fatality and 67 non-fatal injuries. The most prevalent crash pattern in the project area is rear-end crashes, and the other predominant crash pattern in the project area is frontal impact crashes. The additional through travel lanes and center left turn lane proposed along NC 54 should allow traffic to shift out of the through lanes for left turns, thus improving the driver's ability to avoid rear-end type crashes. The additional through lanes will also provide an opportunity for movement when cars are stopped or slowed for right turns if there are no exclusive right turn lanes. Constructing new right turn lanes at various locations will reduce the likelihood of crashes at intersections.

A copy of the full technical report entitled *Safety Review* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

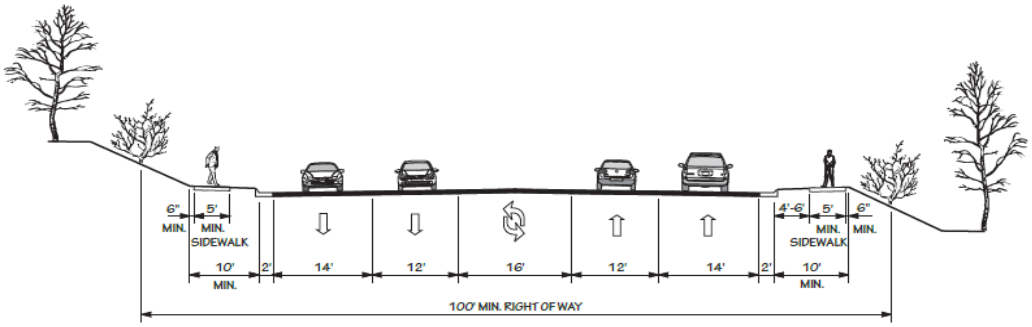
C. Roadway Typical Cross Section and Project Improvements

1) What are the existing conditions and what roadway and intersection improvements will be made by the project?

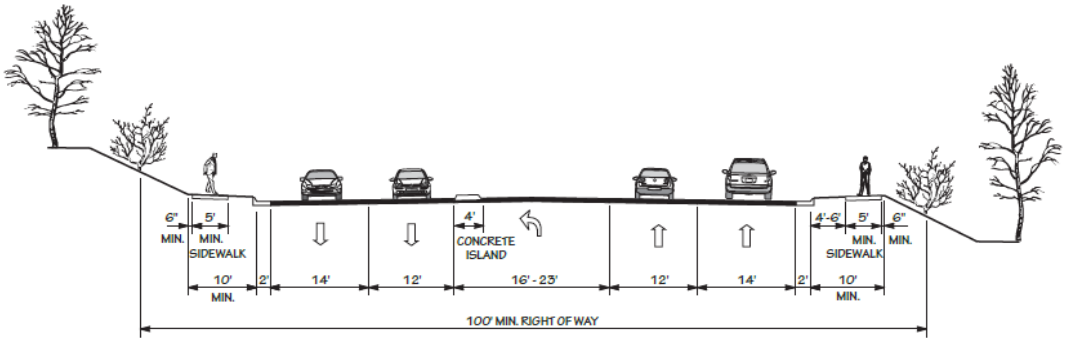
a) <u>General Project Overview:</u> See **Figure 2** below, **Figure 3, Sheets 1 - 5**, on **Pages 12 – 16** and **Pages 17 – 24** for more detailed information.

Existing NC 54 is a two-lane to three-lane roadway with curb and gutter or grass shoulders. A five-lane undivided roadway with curb and gutter and sidewalks on both sides is proposed for NC 54. The roadway will include two through travel lanes in each direction with a center, left turn lane. At major intersections, a concrete island will be placed in the center left turn lane to help guide traffic.

<u>FIGURE 2: PROPOSED ROADWAY TYPICAL SECTIONS</u>



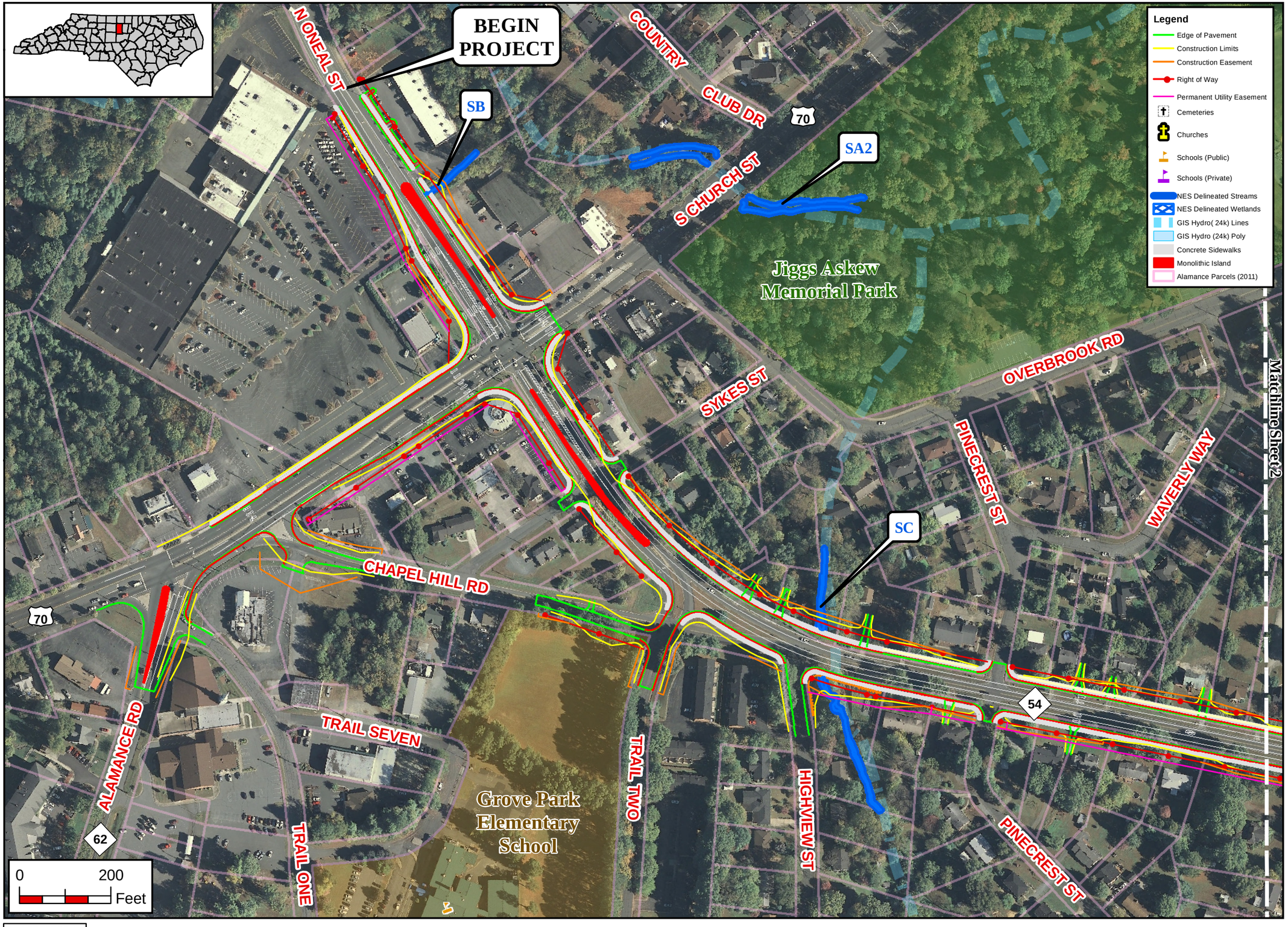
<u>FIVE LANE ROADWAY WITH CENTER TURN LANE TYPICAL SECTION</u>



<u>FIVE LANE ROADWAY WITH CENTER TURN LANE AND A 4' CONCRETE ISLAND</u>

b) <u>O'Neal Street from North of US 70 (Church Street) to US 70:</u> See **Figure 3, Sheet 1** on **Page 12**.

The project begins on O'Neal Street just north of US 70 where O'Neal Street is a three-lane roadway with curb and gutter. In this area, there is one through travel lane in each direction and a center turn lane for traffic turning into businesses or turning east or west onto US 70 along O'Neal Street. New pavement, curb and gutter, and sidewalks will be added to the east and west sides of existing O'Neal Street as the road approaches US 70.



By: J.TORTORELLA

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

PROJECT AERIAL MAP
NC 54 (CHAPEL HILL RD) FROM NC 100 (MAPLE AVENUE) TO US 70 (CHURCH STREET)
IN BURLINGTON

ALAMANCE COUNTY
TIP PROJECT U - 2907

N

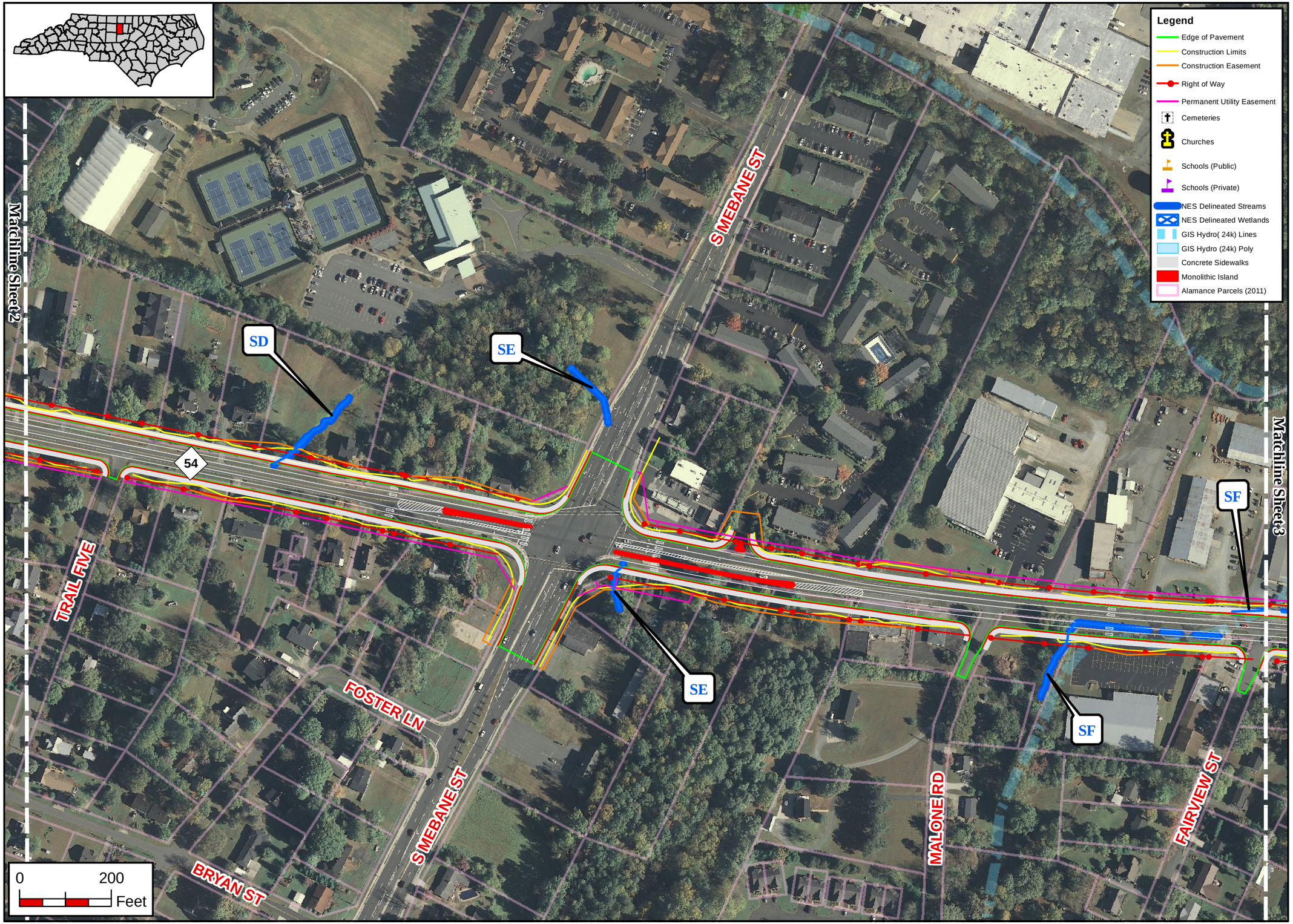
County: ALAMANCE

Div: 7 | TIP# U-2907

WBS: 38985.1.1

Date: APRIL 2014

Figure 3 Sheet 1



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Div: 7 | TIP# U-2907

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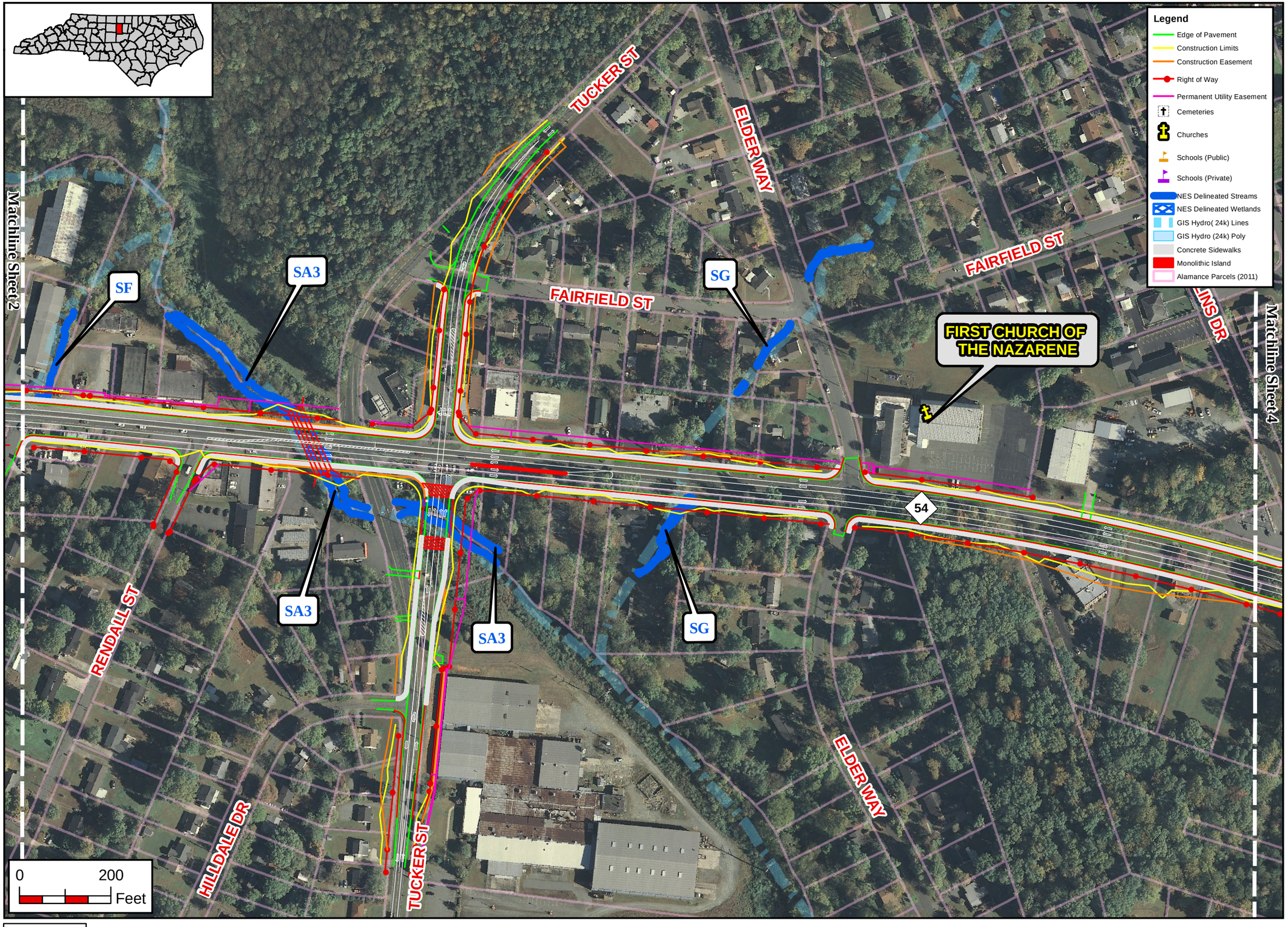
Date: APRIL 2014

Figure 3 Sheet 2



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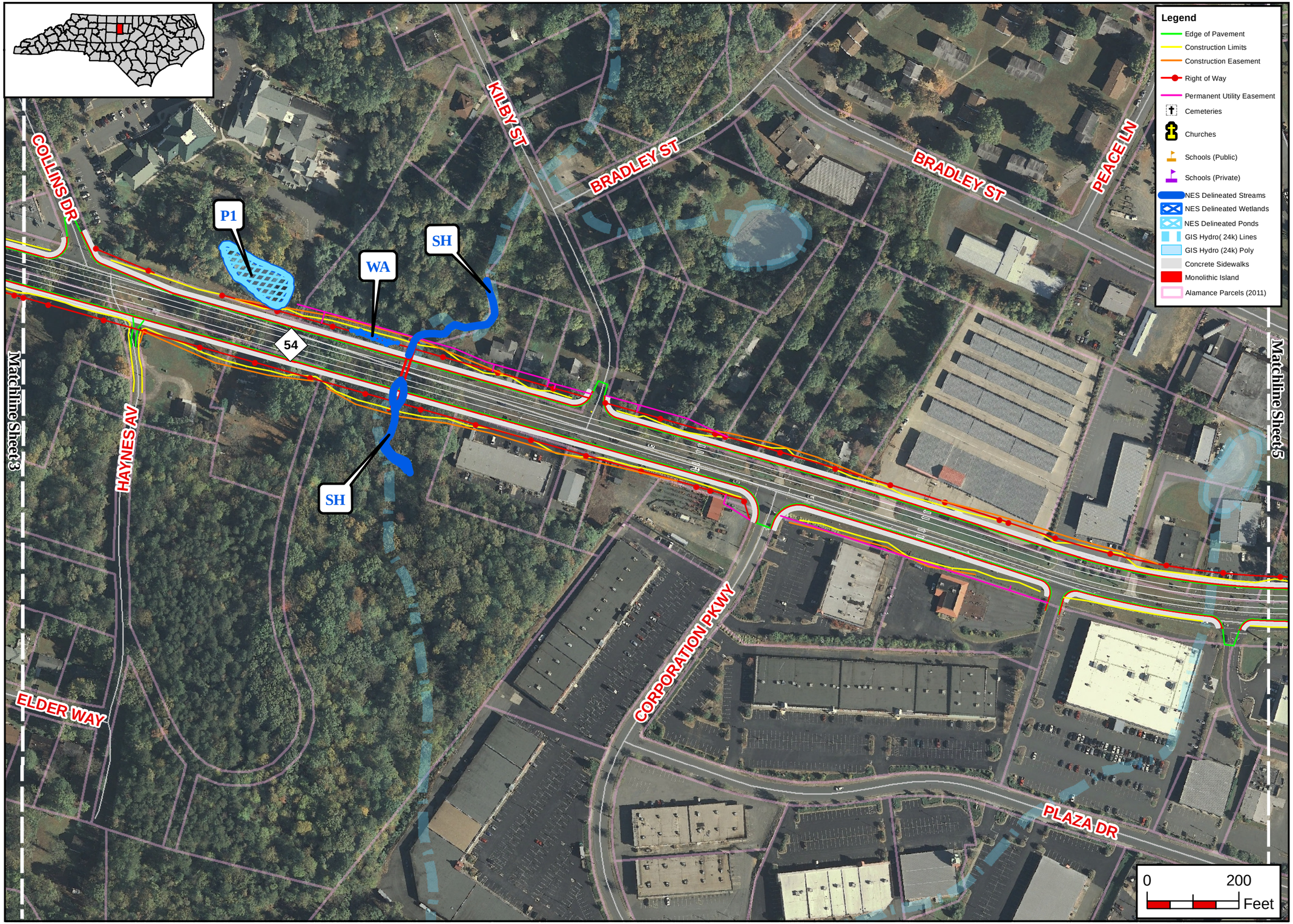
WBS: 38985.1.1

Date: APRIL 2014

Figure 3 Sheet 3



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ALAMANCE COUNTY
TIP PROJECT U - 2907

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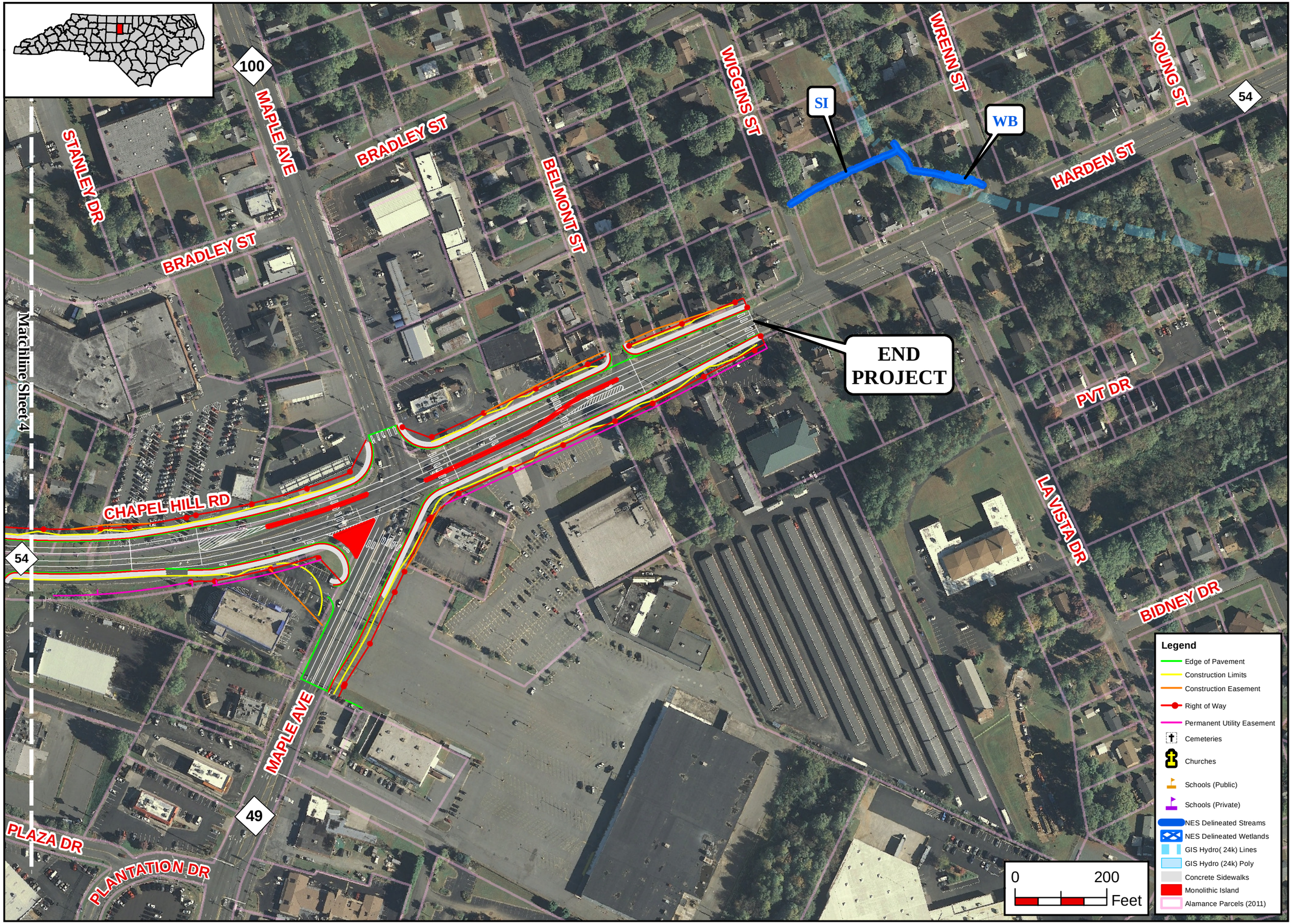
Div: 7 | TIP# U-2907

WBS: 38985.1.1

Date: APRIL 2014

Figure
3
Sheet 4



By: J.TORTORELLA

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

PROJECT AERIAL MAP
NC 54 (CHAPEL HILL RD) FROM NC 100 (MAPLE AVENUE) TO US 70 (CHURCH STREET) IN BURLINGTON

ALAMANCE COUNTY
TIP PROJECT U - 2907

N

County: ALAMANCE

Div: 7 | TIP# U-2907

WBS: 38985.1.1

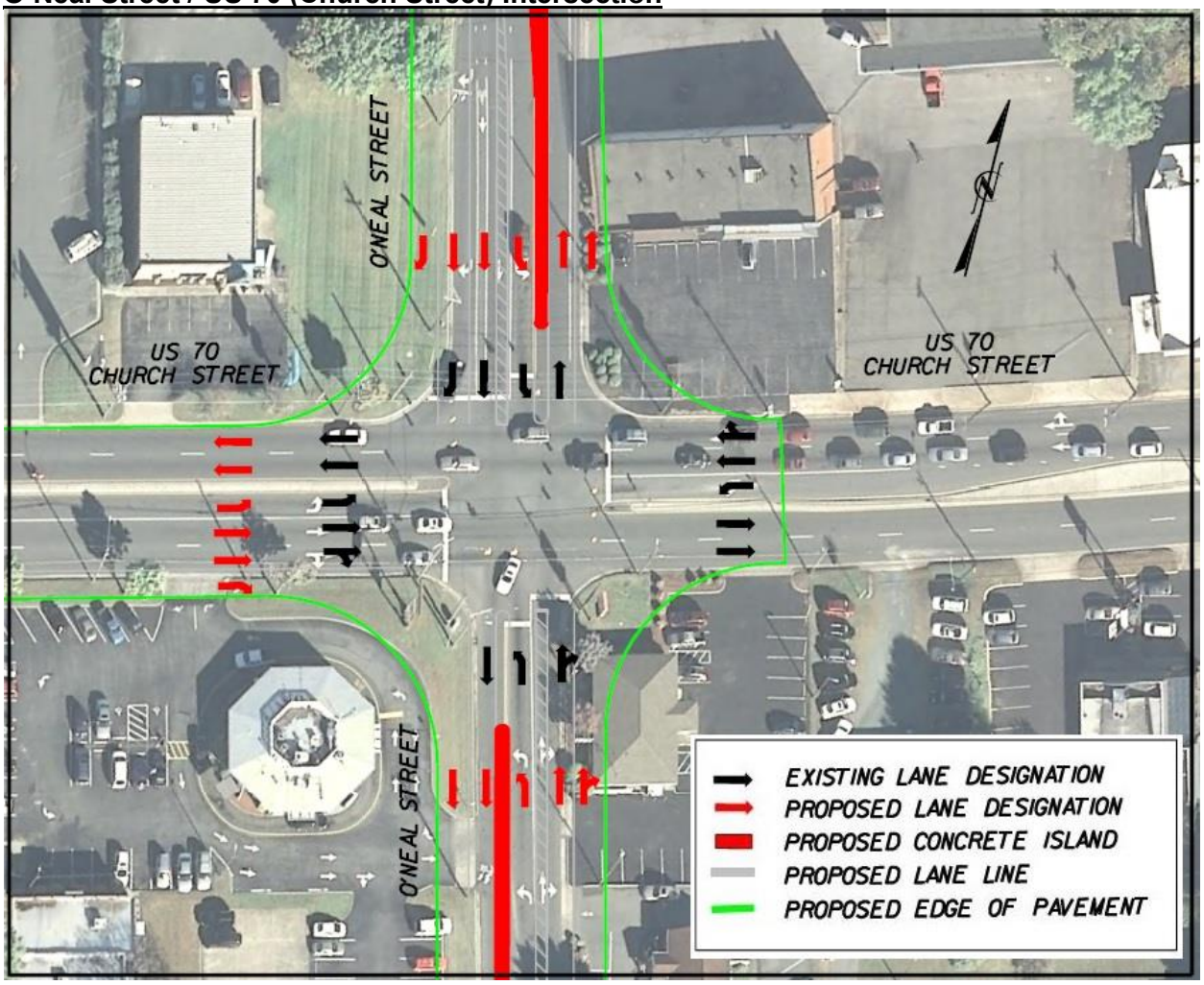
Date: APRIL 2014

Figure 3 Sheet 5

c) **<u>O'Neal Street / US 70 (Church Street) Intersection:</u>** See below and **Figure 3, Sheet 1**, on **Page 12**.

Currently, the beginning point of the NC 54 route starts at the NC 54 (Chapel Hill Road) / US 70 intersection. This project will move the beginning point of NC 54 to the O'Neal Street / US 70 intersection. See below for a picture of the existing intersection area and existing and proposed lane designations. New pavement, curb and gutter, and sidewalks will be added to O'Neal Street north and south of US 70, and the widening will occur on the east and west sides. Concrete islands will be placed on O'Neal Street in the left turn lane north and south of US 70 to guide traffic. An exclusive right turn lane will be added on the south side of US 70 west of O'Neal Street.

<u>O'Neal Street / US 70 (Church Street) Intersection</u>



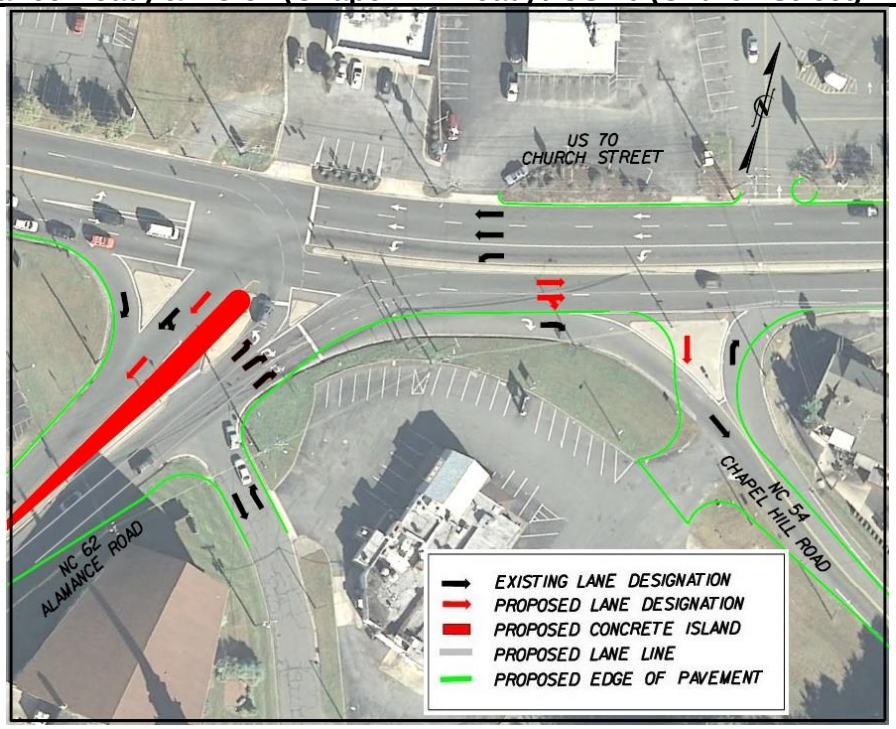
d) <u>NC 62 (Alamance Road) / US 70 (Church Street) Intersection:</u> See below and **Figure 3, Sheet 1**, on **Page 12**.

See below for a picture of the existing intersection area and existing and proposed lane designations. At this intersection, NC 62 has one southbound through lane, one northbound left turn lane and dual right turn lanes. Trail One intersects NC 62 very close to the NC 62 / US 70 intersection which increases the accident potential in this area. As part of this project, a concrete island will be added along NC 62 approaching its intersection with US 70 to guide turning traffic and to reduce conflicts at the NC 62 / Trail One intersection. Traffic traveling southbound on NC 62 will not be able to turn left to access Trail One, and traffic on Trail One will not be able to turn left to access NC 62. Also, widening will occur on the eastern side of NC 62 to provide longer dual right turn lanes.

e) <u>NC 54 (Chapel Hill Road) / US 70 (Church Street) Intersection:</u> See below and **Figure 3, Sheet 1**, on **Page 12**.

See below for a picture of the existing intersection area and existing and proposed lane designations. On Chapel Hill Road, there is a right turn lane to access eastbound US 70. Also, there is a right turn lane from NC 62 that travels along US 70 and becomes the right turn lane onto Chapel Hill Road. Traffic wanting to turn right from US 70 onto Chapel Hill Road conflicts with traffic remaining in the right turn lane from NC 62 to Chapel Hill Road increasing the potential for accidents to occur. This free-flowing right turn lane from NC 62 will be removed, and the Chapel Hill Road / US 70 intersection angle will be adjusted closer to a 90 degree angle.

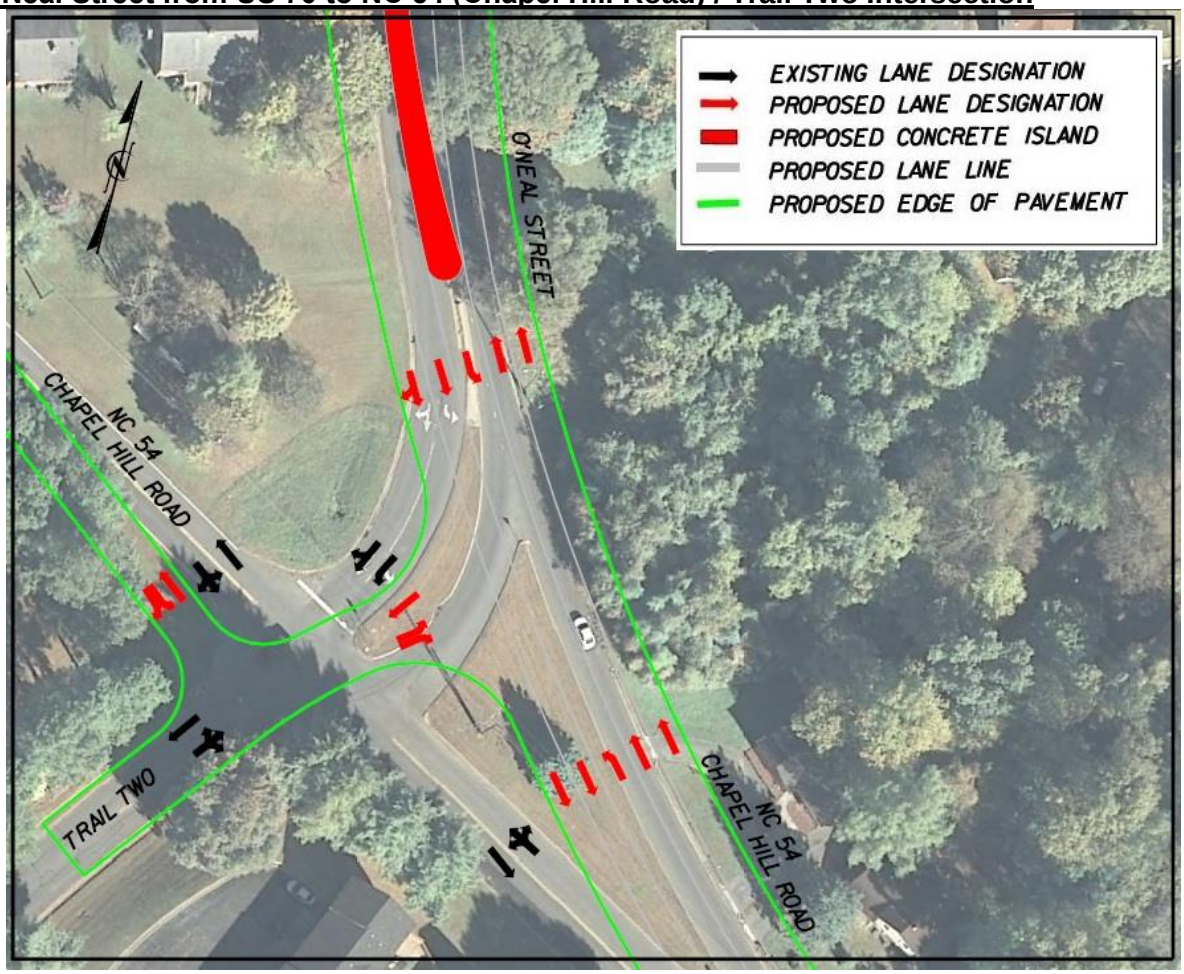
<u>NC 62 (Alamance Road) & NC 54 (Chapel Hill Road) / US 70 (Church Street) Intersection</u>



f) <u>O'Neal Street from US 70 to NC 54 (Chapel Hill Road) / Trail Two Intersection:</u> See below and **Figure 3, Sheet 1**, on **Page 12**.

In this area, there is one through travel lane in each direction and a center turn lane for turning traffic along O'Neal Street. See below for a picture of the existing intersection area and existing and proposed lane designations. New pavement, curb and gutter, and sidewalks will be added to O'Neal Street, and the widening will occur on the east and west sides. The concrete island for the O'Neal Street / US 70 intersection will extend along O'Neal Street restricting left turn access to and from Sykes Street. Right turns into and from Sykes Street will be permitted. Currently, NC 54 follows Chapel Hill Road and O'Neal Street intersects NC 54 at Trail Two. As discussed above, O'Neal Street will be designated as NC 54, and the NC 54 / O'Neal Street / Trail Two intersection will be modified to redirect the main through traffic movement to O'Neal Street. Chapel Hill Road will be realigned to intersect with Trail Two and Trail Two will intersect with NC 54.

<u>O'Neal Street from US 70 to NC 54 (Chapel Hill Road) / Trail Two Intersection</u>



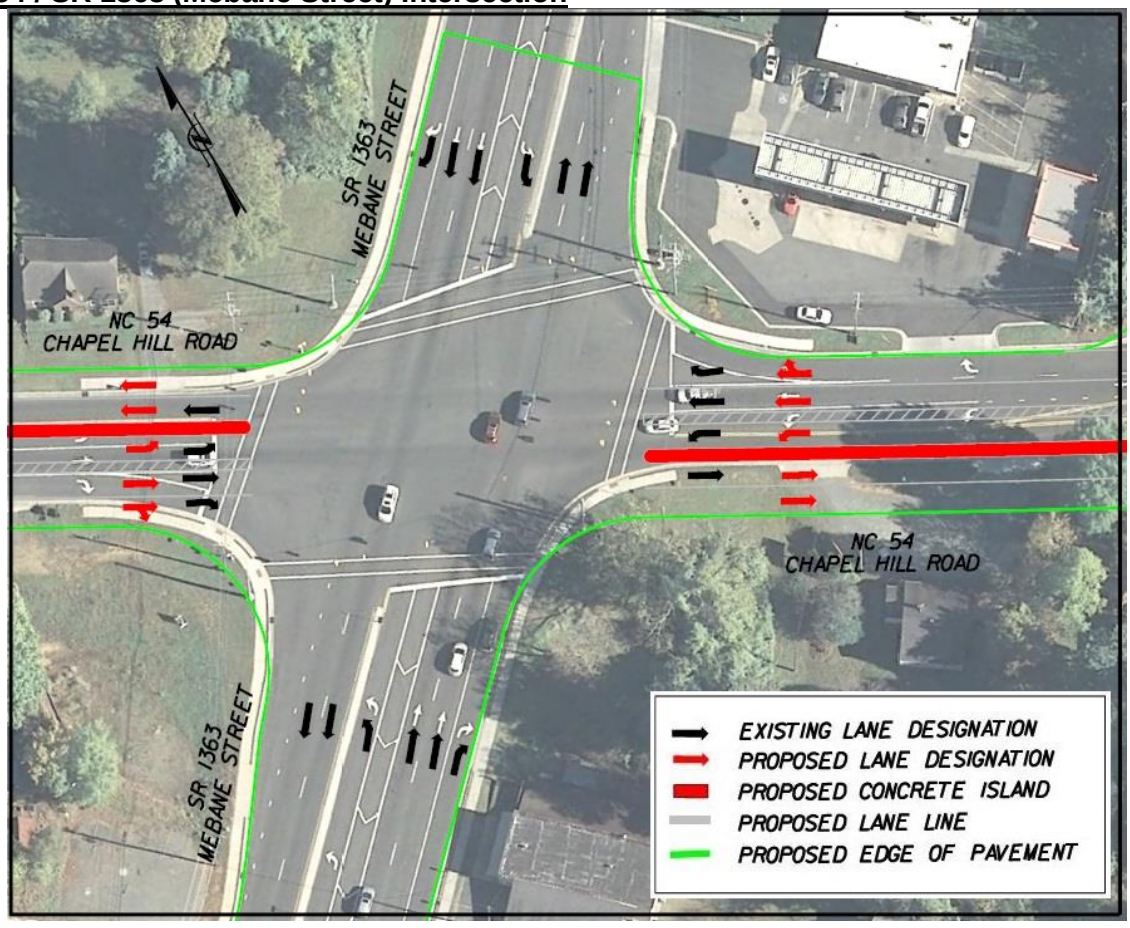
g) <u>NC 54 from Trail Two to SR 1363 (Mebane Street):</u> See **Figure 3, Sheet 1 and Sheet 2**, on **Pages 12-13**.

In this area, there is one through travel lane in each direction along NC 54. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the north and south sides. Currently and after project construction, there is full access to and from Trail Two, Highview Street, Pinecrest Street and Mebane Street.

h) <u>NC 54 / SR 1363 (Mebane Street) Intersection:</u> See below and **Figure 3, Sheet 2**, on **Page 13**.

STIP Project U-3303, completed in 2012, widened Mebane Street to a multi-lane facility and added right turn lanes on NC 54 at the Mebane Street / NC 54 intersection; therefore, minimal construction will be necessary on Mebane Street under this project. See below for a picture of the new intersection area and widened Mebane Street and existing and proposed lane designations. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the north and south sides. The proposed widening will transition from north and south side widening to south side widening through the intersection. Concrete islands will be placed on NC 54 in the left turn lane east and west of Mebane Street to guide traffic.

<u>NC 54 / SR 1363 (Mebane Street) Intersection</u>



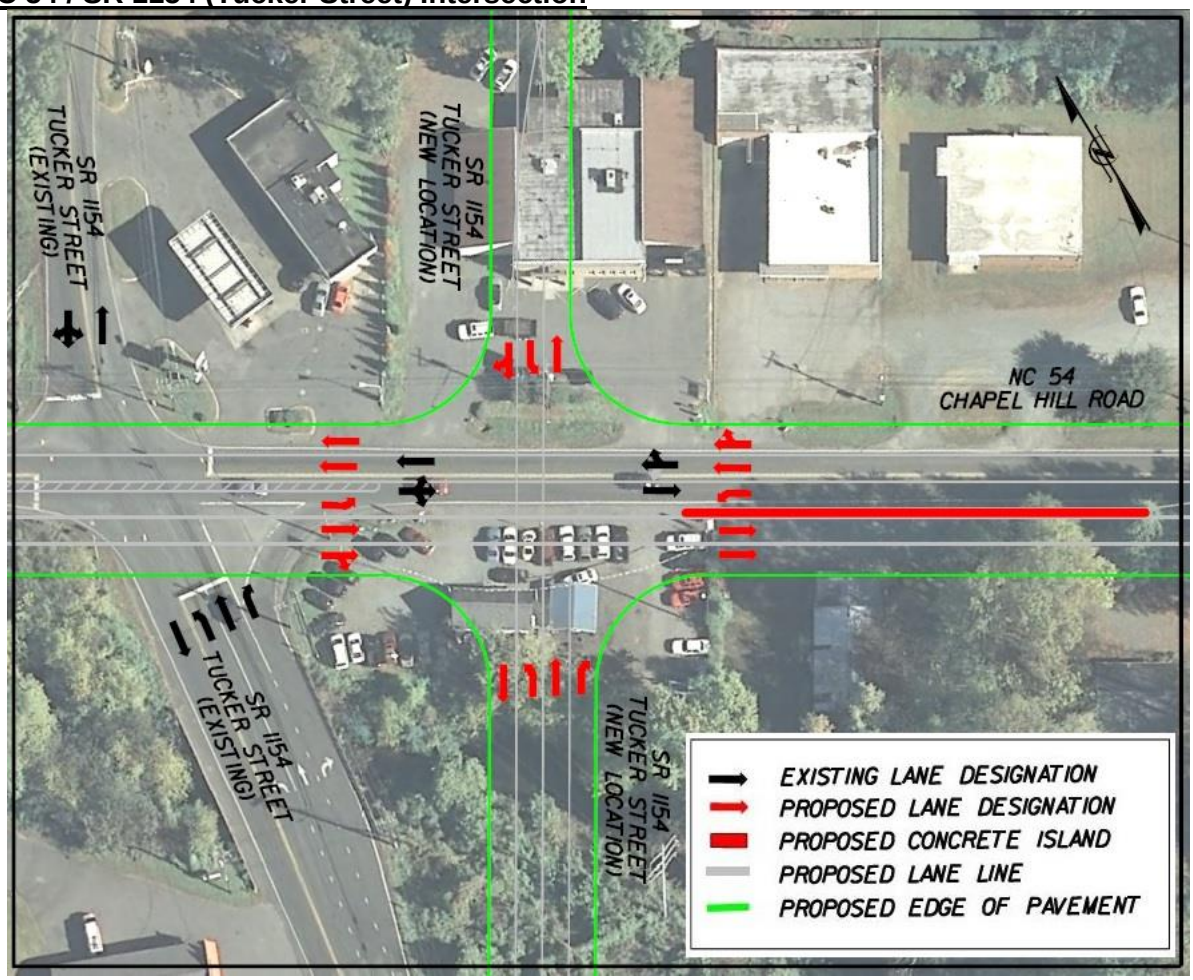
i) **<u>NC 54 from SR 1363 (Mebane Street) to SR 1154 (Tucker Street):</u>** See **Figure 3, Sheet 2 and Sheet 3**, on **Pages 13-14**.

In this area, there is one through travel lane in each direction. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the south side. Currently and after project construction, there is full access to and from Malone Road, Fairview Street and Rendall Street.

j) **<u>NC 54 / SR 1154 (Tucker Street) Intersection:</u>** See below and **Figure 3, Sheet 3**, on **Page 14**.

This project will shift part of Tucker Street to a new location east of its existing intersection with NC 54, and the existing road and bridge will be removed. An exclusive left turn lane will be added to Tucker Street on the north side of NC 54. See below for a picture of the existing intersection area and existing and proposed lane designations. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the south side. A concrete island will be placed on NC 54 in the left turn lane east of Tucker Street to guide traffic.

<u>NC 54 / SR 1154 (Tucker Street) Intersection</u>



k) <u>NC 54 from SR 1154 (Tucker Street) to Collins Drive:</u> See **Figure 3, Sheet 3 and Sheet 4**, on **Pages 14-15**.

In this area, there is one through travel lane in each direction. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the south side. Currently and after project construction, there is full access to and from Elder Way, Collins Drive and Haynes Avenue.

l) <u>NC 54 from Collins Drive to Corporation Parkway:</u> See **Figure 3, Sheet 4**, on **Page 15**.

In this area, NC 54 has one through travel lane in each direction and a left turn lane for turning traffic to access Corporation Parkway. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will transition from south side widening to north side widening within this section. Currently and after project construction, there is full access to and from Kilby Street and Corporation Parkway. See below for pictures of existing NC 54 at Corporation Parkway.

<u>NC 54 at Corporation Parkway facing east</u>

<u>NC 54 at Corporation Parkway facing west</u>

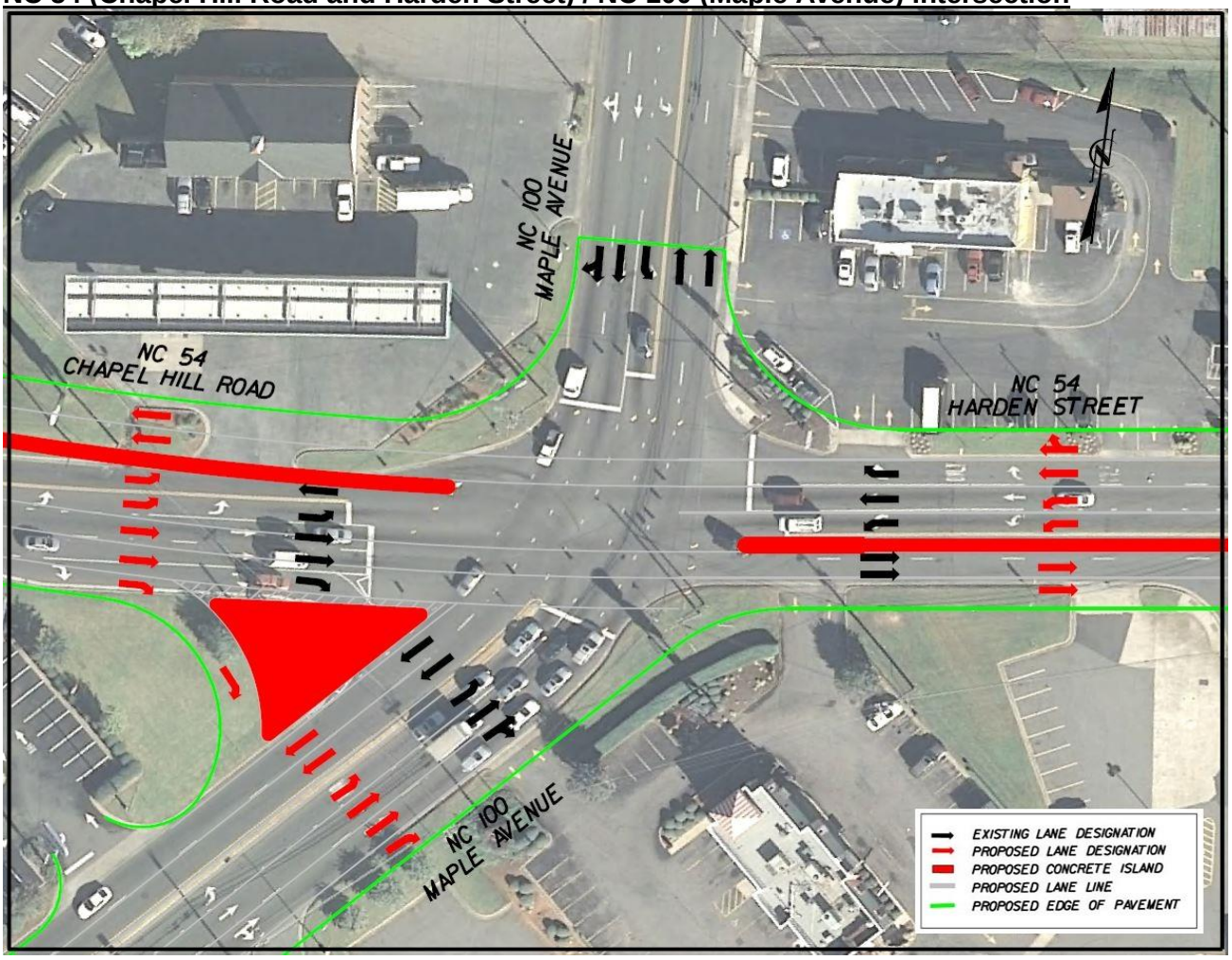
m) <u>NC 54 from Corporation Parkway to NC 100 (Maple Avenue):</u> See **Figure 3, Sheet 4 and Sheet 5**, on **Pages 15-16**.

In this area, NC 54 has one through travel lane in each direction and a left turn lane for turning traffic to access businesses in the area. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the north side. Currently and after project construction, there is full access to and from business driveways.

n) **<u>NC 54 (Chapel Hill Road and Harden Street) / NC 100 (Maple Avenue) Intersection:</u>** See below and **Figure 3, Sheet 5**, on **Page 16**.

This is the last intersection of the NC 54 widening project. See below for a picture of the existing intersection area and existing and proposed lane designations. New pavement, curb and gutter, and sidewalks will be added to NC 54, and the widening will occur on the north side of NC 54 west of Maple Avenue and the north and south sides of NC 54 east of Maple Avenue. Concrete islands will be placed on NC 54 in the left turn lane east and west of Maple Avenue to guide traffic. Dual left turn lanes will be added to NC 54 east and west of Maple Avenue and an offset right turn lane with island will be added to NC 54 west of Maple Avenue. An exclusive right turn lane will be added to Maple Avenue south of NC 54.

<u>NC 54 (Chapel Hill Road and Harden Street) / NC 100 (Maple Avenue) Intersection</u>



o) <u>NC 54 (Harden Street) from NC 100 (Maple Avenue) to east of Belmont Street:</u> See **Figure 3, Sheet 5**, on **Page 16**.

The project ends on NC 54 (Harden Street) east of Belmont Street where Harden Street is a five-lane roadway with curb and gutter. In this area, there are two through travel lanes in each direction and a center left turn lane. New pavement, curb and gutter, and sidewalks will be added to the north and south sides of Harden Street. The concrete island for the NC 54 / NC 100 (Maple Avenue) Intersection will extend along Harden Street restricting left turn access into businesses in the area. Currently and after project construction, there is full access to and from Belmont Street.

D. Traffic Signals

1) Which intersections are controlled by traffic signals and stop signs now, and how will they be controlled in the future?

The following intersections currently are controlled by traffic signals:

- O'Neal Street at US 70 (Church Street)
- NC 54 at SR 1363 (Mebane Street)
- NC 54 at SR 1154 (Tucker Street)
- NC 54 at Corporation Parkway
- NC 54 at NC100 (Maple Avenue)
- NC 62 (Alamance Road) and US 70 (Church Street)

In 2035, the same intersections will be controlled by traffic signals. The following intersections in the proposed project area are currently stop-sign controlled:

- US 70 / NC 62 and NC 54
- Trail 2 and O'Neal Street
- NC 54 and Highview Street
- NC 54 and Elder Way
- NC 54 and Collins Drive
- NC 54 and Haynes Avenue
- NC 54 and Kilby Street

These intersections are anticipated to remain stop-sign controlled in 2035.

E. Speed Limit

1) What speed limit will be posted along NC 54?

The existing speed limit along NC 54 ranges between 35 and 45 miles per hour (mph) within the proposed project area. A 40-mph design speed is proposed for the project; therefore, the project will likely be posted with a speed limit range of 35 mph to 45 mph.

F. Traffic Operations

1) What is traffic like now along the project, and what will happen in the future?

On NC 54, the 2012 Annual Average Daily Traffic (AADT) volumes in the project area were estimated to be between 3,400 and 13,100 vehicles per day. Traffic volume projections for NC 54 and intersecting roads were prepared for the 2015 interim year and the 2035 design year. For the 2015 interim year, the projections estimate that the traffic volumes along NC 54 are expected to range between 3,800 and 15,000 vehicles per day. The projections estimate that the traffic volumes along NC 54 are expected to increase and range between 5,200 and 19,200 vehicles per day by 2035. See the traffic forecast information in **Appendix B** for more detailed information.

Currently, approximately 9 school buses travel NC 54 in the project area twice per day equaling 18 total trips per day. Also, approximately 9 school buses travel US 70, Trail One, Trail Two and Trail Seven in the vicinity of Grove Park Elementary School twice per day equaling 18 total trips per day. Future bus route usage is not known at this time.

A copy of the full technical report entitled *Traffic Technical Memo* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

A capacity analysis was prepared using 2035 design year traffic volume projections to determine the levels of service (LOS) along NC 54 and roads intersecting NC 54 in the project area. See the illustration on **Page 26** for a visual representation of the various levels of service. Using the projected traffic volumes, NC 54 operates in the range of LOS “D” to “F” for the “No Build” scenario for the 2035 design year. In order to function adequately and meet the future 2035 traffic demands, the project proposes to widen the existing road to five lanes with a center turn lane. These proposed improvements include upgrading the existing intersections with designated left-turn lanes and right-turn lanes as needed. With the proposed widening and upgraded

intersections, NC 54 would operate in the range of LOS "C" to "D", and the majority of the upgraded intersections would operate at a LOS "A", "B", or "C" in the 2035 design year. See **Tables 2 and 3** below and on **Page 27** for further details concerning LOS and travel delay measured in seconds per vehicle:

LEVEL OF SERVICE (LOS) HIGHWAY ILLUSTRATION

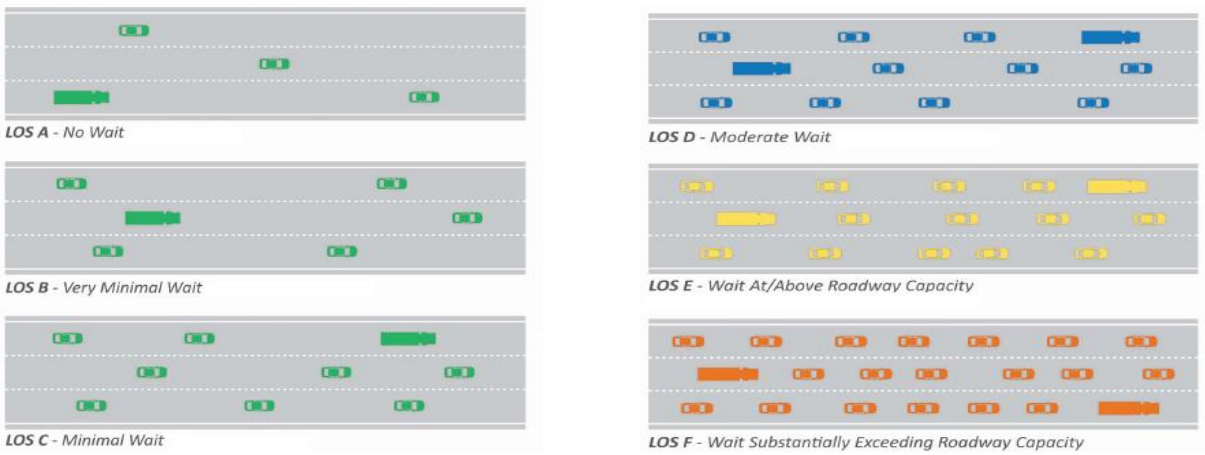


TABLE 2 – Signalized Intersections LOS and Delay

Intersection	2035 No Build Level of Service and Delay (sec/veh)		2035 Build Level of Service and Delay (sec/veh)	
	Morning	Evening	Morning	Evening
NC 54 and NC 100	E	E	D	D
	64.4	61.9	38.8	40.4
NC 54 and Corporation Parkway	B	B	A	B
	12.1	16.7	9.7	10.7
NC 54 and Tucker Street	C	C	B	B
	23	20.6	11.5	10.5
NC 54 and Mebane Street	C	D	C	C
	34.5	39.4	29.2	32.7
O'Neal Street (NC 54) and US 70/NC 62	D	D	C	C
	46.1	42.8	32.9	30.9
NC 62 and US 70	C	C	B	C
	24.3	27.6	18.3	20.6

TABLE 3 - Unsignalized Intersections LOS and Delay

Intersection	2035 No Build Level of Service and Delay (sec/veh)					2035 Build Level of Service and Delay (sec/veh)				
	Movement	Morning		Evening		Movement	Morning		Evening	
		LOS	Delay	LOS	Delay		LOS	Delay	LOS	Delay
NC 54 and Kilby Street	EB Left	A	0.2	A	0.2	EB Left	A	9.9	A	9.3
	SB Shared Left and Right	**F**	**545.2**	**F**	**224.5**	SB Shared Left and Right	C	18.9	C	16.7
NC 54 and Haynes Avenue	EB Shared Left, Through, and Right	A	1	A	1.2	EB Shared Left, Through, and Right	A	0	A	0
	WB Shared Left, Through, and Right	A	0.8	A	0.3	WB Left	A	9.8	B	10
						NB Left and Right	**D**	**25.5**	B	14.3
NC 54 and Collins Drive	NB Shared Left, Through, and Right	**E**	**47.8**	**F**	**50.6**	EB Left	A	9.6	A	9.7
	SB Shared Left, Through, and Right	**F**	**176.7**	**F**	**155.9**	WB Shared Left, Through, and Right	A	0	A	0
						SB Left and Right	C	17.9	C	16
NC 54 and Elder Way	EB Shared Left, Through, and Right	A	0.4	A	0.5	EB Left	A	9.9	A	9.3
	WB Shared Left, Through, and Right	A	0.7	A	1.7	WB Left	A	9.1	A	9.7
	NB Shared Left, Through, and Right	**E**	**42.2**	**F**	**64.7**	NB Shared Left, Through, and Right	B	13.1	B	13.4
	SB Shared Left, Through, and Right	**F**	**201.4**	**F**	**391.4**	SB Shared Left, Through, and Right	C	19.8	C	18.2
NC 54 and Highview Street	WB Shared Left, Through, and Right	A	0.2	A	0.2	WB Left	A	8.1	A	9.7
	NB Shared Left, Through, and Right	B	13.2	C	15.8	NB Shared Left and Right	B	10.3	B	11.7
Trail 2 and O'Neal Street	EB Shared Left, Through, and Right	A	0.2	A	0.1	EB Shared Left and Right	A	8.8	A	9.2
	WB Shared Through and Left	A	1.8	A	4	NB Shared Through and Left	A	0.5	A	0.4
	NB Shared Left, Through, and Right	B	11.2	B	13.8	WB Left	A	8.1	A	8.8
	SB Left	B	14.2	**D**	**29.4**	NB Shared Left and Right	B	10.8	B	13.3
	SB Shared Through and Right	B	11.6	B	13.5					
Trail 2 and O'Neal Street	NB Left	B	10.6	B	11.6					
US 70 / NC 62 and NC 54	WB Right	B	12	B	13	WB Right	B	11.8	B	12.7

- Within the project area, if no improvements are made to NC 54 by the 2035 design year, vehicles traveling eastbound from Church Street (US 70) to Maple Avenue (NC 100) in the morning will drive at an average speed of 22 miles per hour (mph) which equates to a LOS "D". Vehicles traveling westbound from Maple Avenue (NC 100) to Church Street (US 70) in the morning will drive at an average speed of 10 mph which equates to a LOS "F". These speeds correspond to an overall travel delay of 179 seconds per vehicle (sec/veh), or almost a 3 minute delay, in the morning.

- Within the project area, if no improvements are made to NC 54 by the 2035 design year, vehicles traveling eastbound from Church Street (US 70) to Maple Avenue (NC 100) in the evening will drive at an average speed of 16 mph which equates to a LOS "E". Vehicles traveling westbound from Maple Avenue (NC 100) to Church Street (US 70) in the evening will drive at an average speed of 15 mph which equates to a LOS "F". These speeds correspond to an overall travel delay of 153 seconds per vehicle (sec/veh), or approximately a 2 ½ minute delay, in the evening.

- Within the project area, if NC 54 is widened to five lanes with a center turn lane and additional turn lanes are provided by the 2035 design year, vehicles traveling eastbound from Church Street (US 70) to Maple Avenue (NC 100) in the morning will drive at an average speed of 27 mph which equates to a LOS "C". Vehicles traveling westbound from Maple Avenue (NC 100) to Church Street (US 70) in the morning will drive at an average speed of 28 mph which equates to a LOS "C". These speeds correspond to an overall travel delay of 52 seconds per vehicle (sec/veh), or almost a 1 minute delay, in the morning.

- Within the project area, if NC 54 is widened to five lanes with a center turn lane and additional turn lanes are provided by the 2035 design year, vehicles traveling eastbound from Church Street (US 70) to Maple Avenue (NC 100) in the evening will drive at an average speed of 27 mph which equates to a LOS "C". Vehicles traveling westbound from Maple Avenue (NC 100) to Church Street (US 70) in the evening will drive at an average speed of 25 mph which equates to a LOS "D". These speeds correspond to an overall travel delay of 54 seconds per vehicle (sec/veh), or almost a 1 minute delay, in the evening.

G. Pedestrian and Bicycle Accommodations

1) What improvements will be made for pedestrians and bicyclists?

On NC 54, there are no sidewalks, bicycle lanes, or greenways within the project area. This project includes wider outside through travel lanes for NC 54 to accommodate bicycles. As a part of STIP project U-3303, sidewalks were recently constructed on SR 1363 (South Mebane Street) which crosses NC 54 within the project area. City of Burlington officials have requested that sidewalks be constructed along both sides of NC 54 as part of this project. In accordance with the NCDOT Pedestrian policy, NCDOT will bear the full cost to replace any existing sidewalks that will be

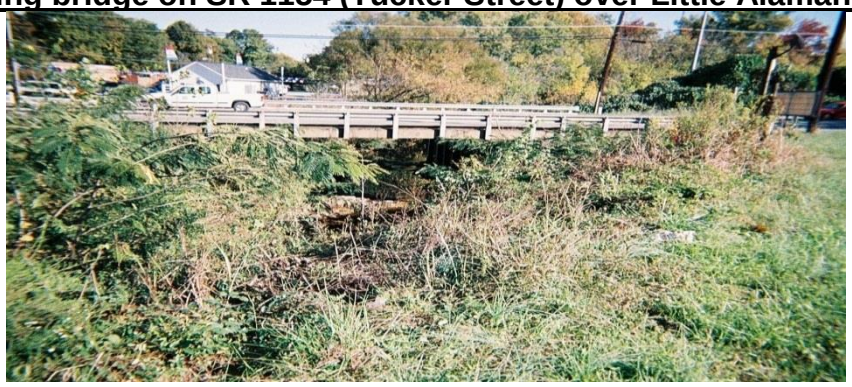
relocated by the project. The City of Burlington will participate in the cost of new sidewalks in areas where sidewalks do not currently exist, and a municipal agreement will be prepared regarding the provision of sidewalks prior to project construction.

H. Bridges and Drainage Structures

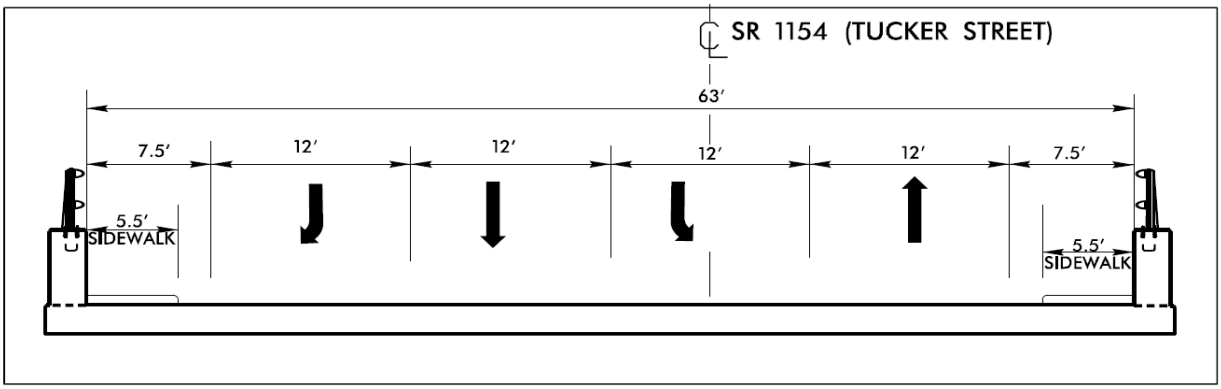
1) What bridge and drainage structure improvements will be made?

There is one existing bridge structure in the project area. Bridge No. 178, built in 1970, carries SR 1154 (Tucker Street) over Little Alamance Creek. The bridge is 60 feet wide and 90 feet long. It has a sufficiency rating of 33.4 out of 100 rating points which classifies it as "structurally deficient". Bridge No. 178 will be replaced as part of the project because Tucker Street is being shifted east of its existing alignment. The new bridge will be 63 feet wide and 90 feet long and will have sidewalks on both sides to accommodate pedestrians. The new bridge and the roadway approaches to the new bridge will be constructed on the new road alignment away from traffic. Once construction is completed, traffic will be shifted onto the new Tucker Street road alignment so that the existing Tucker Street bridge and roadway approaches can be removed. See below for a picture of the existing bridge and a typical section of the proposed bridge.

Existing bridge on SR 1154 (Tucker Street) over Little Alamance Creek



Proposed SR 1154 (Tucker Street) bridge typical section



There are two existing drainage culvert systems in the project area. The first culvert system, built in 1931, is located under NC 54 near Tucker Street, and it is 4 separate reinforced concrete box culverts (RCBC) that are each 8 feet wide by 12 feet high placed beside each other, carrying Little Alamance Creek. The culverts are in good condition, so they will be retained and lengthened to accommodate NC 54's wider roadway width. See below for a picture of the existing culverts near Tucker Street. The second culvert is located under NC 54 just west of Kilby Street, and it is a 6 feet wide by 8 feet high RCBC that carries an unnamed tributary of Little Alamance Creek. The drainage culvert is in good condition; however, it is undersized and requires replacement with a 10 feet wide by 10 feet high culvert long enough to accommodate NC 54's wider roadway width. See below for a picture of the existing culvert near Kilby Street.

What is the difference between a bridge and a culvert?

A bridge is a structure that spans a physical natural hurdle or obstruction (another road, a river or a valley) that carries a roadway or railroad across the obstruction. A bridge allows for the easy movement of vehicles or people. A culvert is a structure that allows for the easy passage of water through a physical obstruction (a hill, roadway or a walkway).

Existing culvert under NC 54 near SR 1154 (Tucker Street) carrying Little Alamance Creek

Existing culvert under NC 54 near Kilby Street carrying an unnamed tributary of Little Alamance Creek

I. Landscaping

1) Will landscaping be included in this project?

No special landscaping is proposed as a part of the project. Disturbed areas along the project will be reseeded with grass.

J. Utilities

1) How will utilities be affected by the widening project?

Current utilities along NC 54 include telephone, power, gas, cable television, water and sewer. The utilities along the project will be relocated prior to the roadway and bridge construction.

K. Right of Way and Access Control

1) How much right of way will be needed and will access be affected?

The existing right of way on NC 54 is approximately 60 feet throughout the proposed project area. Approximately 120 feet of right of way plus easements will be required to accommodate the proposed improvements. Currently, access is not controlled along NC 54, and the proposed project allows for private driveway connections.

L. Project Schedule and Cost

1) What is the current project schedule?

Based on the current project schedule, a public hearing will be held in 2014, and the final environmental document will be completed in 2015 prior to right of way acquisition. The current schedule shown in the 2012-2020 STIP includes purchasing property for the roadway right of way in 2015 and starting construction in 2017. The project will take two to three years to build since traffic will remain on existing NC 54 or newly built portions of the project during construction.

2) How much will the project cost?

The total cost of the proposed improvements included in the 2012-2020 STIP is $12,891,000 which includes $3,324,000 for right of way acquisition, $9,000,000 for construction, $17,000 for mitigation, and $350,000 for prior year costs. The latest total project cost is $40,825,000 which includes $28,425,000 for right of way acquisition and $12,400,000 for construction.

M. Travel During Construction

1) How will the road construction affect travel?

Traffic will remain on existing NC 54 or newly built portions of the project during construction. Temporary detours for short durations may be necessary to tie in construction on side streets.

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Chapter 4: The Environment: What's There Now and Potential Project Effects

This chapter provides an overview of the natural and human environmental features within the proposed NC 54 widening project study area. There is discussion concerning how resources and people may be affected by the proposed NC 54 widening project.

A. Water Resources

A copy of the full technical report entitled *Natural Resources Technical Report* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

1) What streams were found in the project area?

Water resources in the study area are part of the Cape Fear River basin [United States Geological Survey (USGS) Hydrologic Unit 03030002]. Nine streams (Little Alamance Creek is crossed three times) are located in the project study area as shown on **Figure 4** on **Page 33** and in **Table 4** below. Each stream in North Carolina is assigned an index number based upon its river basin and location within that basin, and each stream has a classification assigned to it based upon its designated uses.

TABLE 4 - Water Resources in the Project Area

Stream Name	Map ID	DWR Index Number	Best Usage Classification
Little Alamance Creek	SA1	16-19-11	WS-V; NSW
Little Alamance Creek	SA2	16-19-11	WS-V; NSW
Little Alamance Creek	SA3	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SB	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SC	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SD	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SE	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SF	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SG	16-19-11	WS-V; NSW
UT to Little Alamance Creek	SH	16-19-11	WS-V; NSW
UT to Bowden Branch	SI	16-19-11-2	WS-V; NSW

The streams in the project area are Class WS-V, Nutrient Sensitive Waters (NSW) which are fresh water streams protected as water supplies or formerly used as a water supply that need additional nutrient management due to excessive vegetation growth. No High Quality Waters (HQW), Outstanding Resource Waters (ORW),

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FIGURE 4. TERRESTRIAL COMMUNITIES AND JURISDICTIONAL FEATURES

U-2907 ALAMANCE COUNTY: NC 54 (Chapel Hill Road) Widening from NC 100 (Maple Avenue) to US 70 (Church Street)

Undeveloped Water Supply Waters (WS-II) or Natural Water Supply Waters (WS-I) occur within 1.0 mile of the project study area. Additionally, no streams within the project study area support trout or anadromous fish, and no Primary Nursing Areas are present within the study area boundaries. Little Alamance Creek and its unnamed tributaries (UT) in the project study area and within 1.0 mile of the project study area are listed on the North Carolina 2012 Final 303(d) list of impaired waters due to impaired biological integrity. No fish surveys or benthic organism samples (organisms that live on the stream bottom) have been conducted within 1.0 mile of the project study area.

The streams in the project area are Class WS-V, Nutrient Sensitive Waters (NSW) which are fresh water streams protected as water supplies or formerly used as a water supply that need additional nutrient management due to excessive vegetation growth. No High Quality Waters (HQW), Outstanding Resource Waters (ORW), Undeveloped Water Supply Waters (WS-II) or Natural Water Supply Waters (WS-I) occur within 1.0 mile of the project study area. Additionally, no streams within the project study area support trout or anadromous fish, and no Primary Nursing Areas are present within the study area boundaries. Little Alamance Creek and its unnamed tributaries (UT) in the project study area and within 1.0 mile of the project study area are listed on the North Carolina 2012 Final 303(d) list of impaired waters due to impaired biological integrity. No fish surveys or benthic organism samples (organisms that live on the stream bottom) have been conducted within 1.0 mile of the project study area.

2) What ponds were found in the project area?

One pond (P1) is located in the project area shown in **Figure 4** on **Page 33**. This pond is an artificially excavated pit that is maintained by high groundwater levels. The pond is approximately 0.4 acres in size. No streams flow into this pond.

3) What are wetlands, and are there any wetlands in the project area?

A wetland is an area that is flooded or saturated by water (hydrology) long enough to support plants (hydrophytes) typically adapted for life in wet (hydric) soil conditions. Examples of wetlands include swamps, marshes and bogs. Many wetland areas are seasonal which mean that they are dry one or more seasons every year. The amount of water present and the timing of its presence help determine the functions of a wetland and its role in the environment. Two wetlands were identified within the project study area shown in **Figure 4** on **Page 33**.

4) What is the Clean Water Act, and how does it affect this project?

The Clean Water Act is a federal law that governs all sources of water pollution. It prohibits the discharge of pollutants from non-permitted sources into waters of the United States. Jurisdictional streams and wetlands are protected under the Clean Water Act. The proposed project will place material in jurisdictional wetlands and streams because the road will be wider; therefore, permits will be required for project construction.

5) What is a jurisdictional stream, and how is it classified?

A jurisdictional stream includes rivers, streams, and drainage ditches with a defined streambed and stream banks, an ordinary high water mark (a clear line along the stream banks below which vegetation does not grow due to the flow of water), and deposited sediment, such as sand or rocks. Jurisdictional streams are classified as perennial or intermittent. A perennial stream is a stream that flows continuously in parts of its stream bed all year round during years of normal rainfall. Intermittent streams normally stop flowing for weeks or months each year.

6) What is a jurisdictional wetland, and how is it classified?

A jurisdictional wetland regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act must be a water-saturated area that has plants growing in wet soil. Jurisdictional wetlands are classified as riparian or non-riparian wetlands. Riparian wetlands are wetlands adjacent to streams and rivers, and non-riparian wetlands are wetlands with no direct association to streams and rivers.

7) How will the project impact the jurisdictional streams and wetlands, and ponds in the project area?

See **Table 5** below for jurisdictional stream impacts, and **Table 6** on **Page 36** for jurisdictional wetland and pond impacts.

TABLE 5 - Jurisdictional Stream Impacts

Stream Name	Map ID	Stream Classification	Study Area Length (Feet)	Preliminary Design Impacts (feet)
Little Alamance Creek	SA1	Perennial	360	0
Little Alamance Creek	SA2	Perennial	220	0
Little Alamance Creek	SA3	Perennial	625	200
UT to Little Alamance Creek	SB	Intermittent	160	55
UT to Little Alamance Creek	SC	Perennial	305	269
UT to Little Alamance Creek	SD	Perennial	210	129
UT to Little Alamance Creek	SE	Perennial	185	69
UT to Little Alamance Creek	SF	Intermittent	675	475
UT to Little Alamance Creek	SG	Intermittent	200	147
UT to Little Alamance Creek	SH	Perennial	395	253
UT to Bowden Branch	SI	Perennial	185	0
			TOTAL STREAM IMPACTS:	**1,597 feet**

Note: Impacts are based on preliminary design slope stake limits plus 25 feet.

TABLE 6 - Pond and Jurisdictional Wetlands Impacts

Map ID	NC WAM* Classification	Hydrologic Classification	NCDWR Wetland Rating	Area (acres)	Preliminary Design Impacts (acres)
WA	Non-tidal Freshwater Marsh	Riparian	24	0.014	0.014
WB	Non-tidal Freshwater Marsh	Riparian	24	0.011	0
P1	-	-	-	0.22	0.22
				TOTAL WETLAND IMPACTS:	**0.014 ACRE**
				TOTAL POND IMPACTS:	**0.22 ACRE**

Notes: Impacts are based on preliminary design slope stake limits plus 25 feet.
* NC WAM (North Carolina Wetland Assessment Method) – NC WAM is a field-based, rapid wetland assessment method to determine the level of function of wetlands.

8) What permits will be necessary to construct the proposed project?

To adhere to Section 404 of the Clean Water Act, a Nationwide Permit 14 will likely be applicable. However, if impacts exceed 0.5 acre of waters of the United States or 300 linear feet per stream, then an Individual Permit may be required. The USACE holds the final discretion as to what permit will be required to authorize project construction.

In addition to the 404 permit, other required authorizations include the corresponding Section 401 Water Quality Certification (WQC) from the North Carolina Division of Water Resources. Required 401 general certifications (GC) may include a GC No. 3886 for linear transportation projects. Also, the project is subject to compliance with Section 402 (NCDOT National Pollutant Discharge Elimination System (NPDES) Stormwater Permit) compliance.

9) Is the project located in a river basin that has regulated buffer rules?

This project is located in the Cape Fear River Basin and is subject to the Jordan Lake NCDWR-regulated riparian buffer rules. The Jordan Lake Rules are a nutrient management strategy designed to restore water quality in the lake by reducing the amount of pollution entering upstream. Restoration and protection of the lake is essential because it serves as a water supply for several thriving communities, as well as a prime recreation area for more than a million visitors each year. Since the project study area is subject to the Jordan Lake NCDWR-regulated riparian buffer rules, Design Standards for Sensitive Watersheds will be implemented during project construction.

10) How will the project be required to mitigate for jurisdictional stream and wetland impacts?

NCDOT will attempt to avoid and minimize impacts to streams and wetlands to the greatest extent practicable during project design. For unavoidable stream and

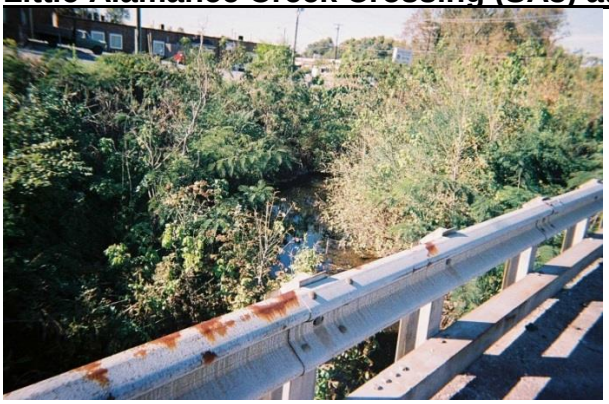
wetland impacts, NCDOT will investigate potential on-site stream and wetland mitigation opportunities in the final design phase of the project. If on-site mitigation is not feasible, mitigation will be provided by North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP). In accordance with the "Memorandum of Agreement among the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District" (MOA), July 22, 2003, the EEP, will be requested to provide off-site mitigation to satisfy the federal Clean Water Act compensatory mitigation requirements for this project. The jurisdictional wetland impacts will require compensatory mitigation at a 2:1 ratio which means that for every acre that the proposed project impacts, two acres of mitigation will be required. The 2:1 compensatory mitigation ratio was decided at the onsite field visit. See **Table 7** below for the jurisdictional stream buffer and mitigation requirements.

TABLE 7 - Jurisdictional Stream Buffer and Mitigation Requirements

Stream Name	Map ID	Stream Classification	Compensatory Mitigation Required?		River Basin Buffer
			USACE	NCDWR	
Little Alamance Creek	SA1	Perennial	(2:1)	(1:1)	Subject
Little Alamance Creek	SA2	Perennial	(2:1)	(1:1)	Subject
Little Alamance Creek	SA3	Perennial	(2:1)	(1:1)	Subject
UT to Little Alamance Creek	SB	Intermittent	(1:1)	(1:1)	Subject
UT to Little Alamance Creek	SC	Perennial	(2:1)	(1:1)	Subject
UT to Little Alamance Creek	SD	Perennial	(1:1)	(1:1)	Subject
UT to Little Alamance Creek	SE	Perennial	(2:1)	(1:1)	Subject
UT to Little Alamance Creek	SF	Intermittent	None	(1:1)	Subject
UT to Little Alamance Creek	SG	Intermittent	(1:1)	(1:1)	Subject
UT to Little Alamance Creek	SH	Perennial	(2:1)	(1:1)	Subject
UT to Bowden Branch	SI	Perennial	(2:1)	(1:1)	Subject

NOTE: Final mitigation determinations were made during field visit conducted on November 10, 2010. All resources are subject to the Jordan Lake NCDWR-regulated riparian buffer rules.

Little Alamance Creek Crossing (SA3) at NC 54 and SR 1154 (Tucker Street)



B. Rare and Protected Species

1) What is the Endangered Species Act and the Bald and Golden Eagle Protection Act, and are there any protected species in the project area?

A 1973 federal law, amended in 1978 and 1982, was enacted to protect troubled species from extinction where there are no surviving individuals that can reproduce and create a new generation. The US Fish and Wildlife Service and National Oceanic and Atmospheric Administration (NOAA) Fisheries decide whether to list species as threatened or endangered. Federal agencies must avoid jeopardy to and aid in the recovery of listed species. In 2007, the bald eagle was declared recovered and removed (delisted) from the Federal List of Threatened and Endangered wildlife. After delisting, the Bald and Golden Eagle Protection Act, enacted in 1940 and amended, again became the primary law protecting bald and golden eagles making it illegal to harass, disturb or kill an eagle, its eggs, or its nest. The project area was surveyed, and coordination with appropriate resource agencies has confirmed that no threatened, endangered, or protected species will be affected by the proposed project. For further information, a copy of the full technical report entitled *Natural Resources Technical Report* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

A threatened species is a plant or animal species that is likely to become endangered within the foreseeable future. An endangered species is a plant or animal species that is in danger of extinction.

C. Soils

1) Why is it important to know what type of soils are in the project area, and are there any soil types in the project area that warrant special construction methods?

Existing soils are the foundation of a roadway project - projects are constructed by adding material on top of the existing soil or by removing some of the existing soil. Knowing information about the existing soil conditions allows scientists, planners and engineers to make determinations about the suitability of the soil for construction. Design elements and special construction methods can then be used to build a stable roadway project. Based on experience with Piedmont soils on previous construction projects in the area, some of the existing soil may need to be removed and replaced with different soil to provide stability for paving and embankment construction along the roadway and in the ditches.

A copy of the full technical report entitled *Geotechnical Pre-Scoping Report* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

D. Cultural Resources

1) What is Section 106?

The proposed project is subject to Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified as 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally-funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

2) Are there any historic architectural and archaeological resources located within the project area?

Historic architectural surveys were completed for structures (houses, barns, churches, etc.) over fifty years old in the project area. None of the properties are currently listed in the National Register for Historic Places and none of the properties are considered eligible for the National Register. The North Carolina State Historic Preservation Office (NC-HPO) concurred with these findings on September 15, 2009 and October 29, 2013. See **Appendix A** for these concurrence forms. A copy of the historic architecture survey can be viewed in the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

During NC-HPO's review of the project scoping information, they recommended that an archaeological investigation is not needed for this project based on the project location and amount of residential and commercial development in the project area. See **Appendix A** for the scoping comments.

E. Section 4(f) and 6(f) Resources

1) What is Section 4(f)?

Section 4(f) of the US Department of Transportation Act of 1966 specifies that publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, and all historic sites of national, state, and local significance may be used for federal projects only if there is no feasible and prudent alternative to the use of such land (23 CFR 774.3(a)(1)) and the project includes all possible planning to minimize impacts to 4(f) lands resulting from such use (23 CFR 774.3(a)(2)).

2) What is Section 6(f)?

The Land and Water Conservation Fund (LWCF) Act of 1965, as amended, allows state and local governments to obtain grants for acquiring or improving parks and recreation areas. Section 6(f) of this Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of the Interior's (DOI) National Park Service.

3) Are there any Section 4(f) or 6(f) resources located within the project area that will be impacted?

There are no Section 4(f) properties in the project area; therefore, no publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, and all historic sites of national, state, and local significance will be used by the proposed project. Also, no Section 6(f) funded land will be converted to a non-recreational purpose. In order to realign NC 54 (Chapel Hill Road) near its intersection with Trail Two, proposed right of way and easements will be needed adjacent to Grove Park Elementary School which will cause minor impacts to vegetation bordering the property. The school's recreational field will not be impacted by the proposed project. Impacts to this resource are not subject to Section 4(f) requirements because this recreational field is only used for school activities and functions.

F. Farmland

1) What is the Farmland Protection Policy Act, and will the project impact any farmland?

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the impact of land acquisition and construction projects on prime and important farmland soils. North Carolina Executive Order Number 96 requires all state agencies to consider the impact of land acquisition and construction projects on prime farmland soils, as designated by the US Natural Resources Conservation Service (NRCS). Land planned or zoned for urban development is not subject to the same level of preservation afforded other rural, agricultural areas. This project is located within an urbanized area as defined by US Census Bureau maps; therefore, requirements for the identification of potential impacts to prime farmland soils outlined within the Farmland Protection Policy Act do not apply.

G. Neighborhoods and Communities

A copy of the full technical report entitled *Community Impact Assessment* can be viewed in the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

1) What are some characteristics of the neighborhoods and communities in the project area?

The proposed project is located in an established urban area within the City of Burlington, approximately 1.5 miles south of the city center and approximately ½ mile north of the I-85/I-40 corridor. Existing land use along the project corridor ranges from predominately residential in the western portion to a mix of residential, commercial and institutional (churches, medical facilities, etc.) uses in the central portion, to predominately commercial in the eastern portion. The residential communities have a mix of housing types including apartments, single family homes and multi-family homes. Many of the homes in the area were constructed in the 1950's. Population growth within the project area has been less than the growth for Alamance County as a whole, likely due to the project's location in an established area.

There are numerous commercial uses located along the project corridor. Most of the commercial and office uses are concentrated near the eastern end of the project (east of Kilby Street) and include the Burlington Outlet Village, LabCorp, Dollar General, a mini-storage facility, gas station, drug store, and several small independently owned businesses. Small businesses, including accountants, architects, salons, printing companies, and auto repair shops line Chapel Hill Road between Elder Way and S. Mebane Street. The Rollabout Skating Center and Industrial Paper Products are also located in this section of the project near Malone Road. A few commercial uses are located around the western end of the project adjacent to US 70 (Church Street), including two restaurants and a hair salon. See **Figure 3, Sheets 1 - 5** on **Pages 12 - 16** for more information.

King Electric Company on NC 54

Gus's Drive In on NC 54

2) How will the project affect the neighborhoods and communities?

The proposed project will have minor effects on communities and neighborhoods within the project area, and most of the project's effects will be beneficial. Congestion will be reduced in the area, and access to residences, businesses, community facilities and recreational areas will not change. Relocations are proposed along the periphery of established neighborhoods which are anticipated to remain intact with minimal effects after construction.

Construction will pose minor inconveniences because of localized travel delays, changes in some business access, possible parking reductions and traffic re-routing. Some travelers may choose alternate routes to avoid construction activity. Delays will have a short time frame and be localized and will not affect social interaction or the economic vitality within the neighborhoods and communities.

H. Relocation of Residences and Businesses

1) Will the project require relocations of residences and businesses?

The proposed project will require the relocation of homes and businesses. The project is anticipated to impact 23 homes and 27 businesses. Housing and suitable business sites are available in the area for relocation. The "Best-Fit" widening alternative and asymmetrical widening (widening on one side of the road) allowed the design engineers an opportunity to minimize the impacts to the human environment by shifting the alignment as necessary to accommodate the proposed improvements. **Appendix C** includes the relocation report for the proposed project.

2) Is there relocation assistance for people whose homes and businesses are displaced?

The relocation program for the proposed action will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Public Law 91-646), and/or the North Carolina Relocation Assistance Act (GS-133-5 through 133-18). The program is designed to provide assistance to displaced persons in relocating to a replacement site in which to live or do business. At least one relocation agent is assigned to each highway project for this purpose.

The relocation agent will determine the needs of displaced families, individuals, businesses, non-profit organizations, and farm operations for relocation assistance advisory services without regard to race, color, religion, sex or national origin. The NCDOT will schedule its work to allow ample time, prior to displacement, for negotiations and possession of replacement housing which meets decent, safe, and sanitary standards.

The displacees are given a 90 Day Letter of Assurance after the initiation of negotiations, or in the case of residential displacees, only after a comparable replacement dwelling has been offered to the displacee. This letter assures that that displacee will have at least 90 days from the date of the letter to move. Once the claim has been closed or condemnation has begun, a 30 Day Notice to Vacate letter will be sent to the displacee with the final date to vacate indicated. At no time will the final vacate date be less than the 90 days assured to the displacee.

a) <u>For Residential Displacees:</u>

It is the policy of NCDOT to ensure comparable replacement housing will be available prior to construction of state and federally-assisted projects. No person will be displaced by NCDOT's State or Federally-assisted construction projects unless and until comparable replacement housing has been offered or provided for each displacee within a reasonable period of time prior to displacement. All attempts will be made to find Decent, Safe, and Sanitary replacement dwellings within the financial means of the residential displacee. NCDOT offers the following relocation assistance to residential displacees:

- Replacement Housing Payment for Owner-Occupant displacees
- Rent Supplement Payment for Tenant Displacees
- Relocation Moving Payments
- Advisory Services

Last Resort Housing is a program used when comparable replacement housing is not available, or when it is unavailable within the displacee's financial means, and the replacement payment exceeds the federal/state legal limitation. The purpose of the program is to allow broad latitude in methods of implementation by the state so that decent, safe, and sanitary replacement housing can be provided.

b) <u>Non-Residential Displacees:</u>

Displaced Businesses, Farms, and Non-Profit Organizations are eligible for the following relocation assistance:

- Relocation Moving Expenses
- Reestablishment Reimbursement up to the maximum Federal amount
- Searching expenses up to the maximum Federal amount
- Business Fixed Payment up to the Federal maximum (in lieu of the items above)
- Advisory Services

No relocation payment received will be considered as income for the purposes of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under Social Security Act or any federal law. These relocation benefits are only available to persons lawfully present in the United States.

I. *Title VI and Environmental Justice*

1) What is Title VI and Environmental Justice?

Title VI of the Civil Rights Act of 1964 protects individuals from discrimination on the grounds of race, age, color, religion, disability, sex, and national origin. In accordance with Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations" federal agencies are mandated to identify and address any disproportionately high and adverse effects on minority and/or low-income populations. The Order also directs federal agencies to provide minority and low income communities access to public information and meaningful public participation. The three environmental justice (EJ) principles are:

1) to ensure the full and fair participation of all potentially affected communities in the transportation decision-making process;
2) to avoid, minimize or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority or low income populations; and
3) to fully evaluate the benefits and burdens of transportation programs, policies, and activities, upon low-income and minority populations.

A disproportionately high and adverse effect on minority and low-income populations means an adverse effect that:

1) Is predominately borne by a minority population and/or a low-income population; or
2) Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low income population.

2) Would concentrations of low-income or minority populations suffer disproportionately adverse human health or environmental effects?

Based on Census data prepared for this project, there are six block groups within the Demographic Study Area (DSA) that exceed the EJ threshold (10 percentage points higher than the county average) for non-white population and/or low-income population. A Hispanic population was identified in Census Tract 208 Block Group 6 at the eastern end of the DSA. African American populations were identified in Census Tract 201.02 Block Group 3 and Census Tract 208 Block Groups 1 and 2, all located north of NC 54 and extending toward the Burlington city center. Low-income populations were identified in Census Tract 201.02 Block Group 3 and Census Tract 208 Block Group 7, located on both sides of NC 54 near Tucker Street in the central portion of the DSA.

Demographics are studies of a population based on factors such as age, race, sex, economic status, level of education, income level and employment, among others. Demographics are used by governments, corporations and non-government organizations to learn more about a population's characteristics.

The primary community impact anticipated to result from this project is a wider roadway for pedestrians to cross. NCDOT's Bicycle and Pedestrian Division suggested providing sidewalks to improve pedestrian connectivity in the area. The Community Impact Assessment recommended the roadway design include pedestrian crosswalks. This slight barrier effect on pedestrian movement is anticipated to be minor and would be mitigated by inclusion of sidewalks and crosswalks. Both the burdens of wider crossings and benefits of improved pedestrian accommodations would be shared by all populations within the project area. Therefore, impacts to low income or minority populations do not appear to be disproportionately high and adverse. Benefits and burdens resulting from the project are anticipated to be equitably distributed throughout the community. Public involvement and outreach activities must ensure full and fair participation of all potentially affected communities in the transportation decision-making process.

The DSA data prepared for this project indicate the presence of a Spanish language group that exceeds the Department of Justice's Safe Harbor threshold of 5% or 1,000 persons. Spanish-speaking populations are generally located in the central and eastern portions of the DSA. In accordance with the Safe Harbor provisions, written translations of vital documents will be provided for the LEP language group, in addition to other measures which include notice of Right of Language Access for future meetings for this project assuring meaningful access. Coordination with the NCDOT Public Involvement and Community Studies Group will ensure all public involvement activities and outreach materials developed for the project appropriately target LEP populations and meet all regulatory guidelines.

J. Bicycle and Pedestrian Facilities

1) Are there bicycle and pedestrian facilities currently in the area?

There are no designated bicycle lanes in the project area, and there are no sidewalks along Chapel Hill Road (NC 54); however, sidewalks were recently installed along S. Mebane Street as part of the U-3303 widening project which crosses Chapel Hill Road. There are several bicycle and pedestrian trip attractors in the vicinity of the project, including the outlet mall, several schools, and City Park.

2) How will the project impact bicyclists and pedestrians?

Sidewalks and wider outside lanes for bicyclists will be constructed as part of the proposed project which will improve walkability and travel in the project area. The proposed roadway will be widened to include two through travel lanes in each direction with a center left turn lane which will be more difficult for pedestrians to cross than the existing two-lane roadway. This potential impact would be most noticeable where residential areas are located across Chapel Hill Road from schools and recreational

areas (generally west of S. Mebane Street) and around the shopping areas at the eastern end of the project. Areas where pedestrian crossings are most likely to occur include O'Neal Street (connects to Grove Park Elementary School), Pinecrest Street (connects to Burlington City Park), Mebane Street (connects to senior center, parks, and convenience store), Elder Way (connects to church), and between Corporation Parkway and Maple Avenue (NC 100) where there are numerous commercial and retail uses. Mebane Street, Corporation Parkway, and Maple Avenue (NC 100) are signalized, but the other crossing locations are at unsignalized intersections. The highest potential for mid-block crossings exists at the eastern end of the project where there are numerous commercial, retail, and business uses on both sides of Chapel Hill Road (NC 54). Since the project will create a wider barrier for pedestrians crossing Chapel Hill Road, the project design may include provisions for the safe movement of pedestrians across Chapel Hill Road where feasible.

K. Recreational Facilities

1) What recreational facilities are located near the project area?

There are several recreational facilities located near the project area, primarily between US 70 (Church Street) and South Mebane Street in the western portion of the project. The largest recreational facility is Burlington City Park. The 75-acre park has playgrounds, a walking track, five athletic fields, and an amusement area featuring the historic Dentzel carousel. The park hosts numerous festivals, concerts and athletic tournaments throughout the year. The Burlington YMCA is located adjacent to City Park on the southeast corner of South Main Street and East Kitchen Street.

South of City Park, the Maynard Aquatic Center, Burlington Tennis Center, and Kernodle Senior Center are located north of NC 54 (Chapel Hill Road) between Overbrook Road and South Mebane Street. The Maynard Aquatic Center is a year-round City Recreation and Parks facility that is enclosed in a bubble during the fall and winter months. The Burlington Tennis Center has twelve lighted courts and a pro shop to serve the community, but the facility also hosts regional and state tournaments. The Kernodle Senior Center offers a wide variety of programs and activities for citizens 55 years of age and over. The facility includes multi-purpose rooms, fitness rooms, a kitchen, activity rooms, and a resource room. See **Figure 3, Sheets 1 - 5** on **Pages 12 - 16** for more information.

2) How will the project impact the recreational facilities?

The project will not impact any of the recreational facilities because they are not located within the proposed project construction area.

L. Other Public Facilities and Services

1) What other public facilities are located in the project area?

There are churches, schools, and medical facilities located within the project area. Truth Tabernacle Church is located on Collins Drive, several hundred feet north of NC 54 in the central portion of the project area; and First Church of the Nazarene is located on Elder Way in the central portion of the project area.

Grove Park Elementary School is located on Trail One, south of NC 54 (Chapel Hill Road) in the western portion of the project area. The school building is set back approximately 800 feet from NC 54 (Chapel Hill Road) and is accessed from Trail One, but an approximately 2.5-acre recreational field used by the school is located adjacent to NC 54 (Chapel Hill Road). The Burlington Campus of Alamance Community College is located adjacent to NC 54 (Chapel Hill Road) within the Burlington Outlet Village in the eastern portion of the project area.

The Spring View Assisted Living facility is located on Chapel Hill Road, near the T-intersection with Trail Five. This is a small facility operating within a converted home. The Hospice and Palliative Care Center of Alamance-Caswell is located on the northeast corner of NC 54 (Chapel Hill Road) and Collins Road. The Center, which provides home health care and counseling, has access from both Collins Road and NC 54 (Chapel Hill Road), and is set back approximately 200 feet from NC 54 (Chapel Hill Road). A 12-bed Hospice Home is located adjacent to the Center. See **Figure 3, Sheets 1 - 5** on **Pages 12 – 16** for more information.

2) How will the project impact these public facilities?

The parking lot for First Church of the Nazarene is located adjacent to NC 54 (Chapel Hill Road) and may be impacted if additional right of way is required for the project. Property may be required for right of way and easements from the Grove Park Elementary School recreational field, but impacts to the functionality of the field are not anticipated. Right of way and easements may be required from The Hospice and Palliative Care Center of Alamance-Caswell, but the buildings will not be relocated.

M. Economic Effects

1) How will the project impact the economy in the area?

There may be some economic benefit during construction of the project due to increased local construction-related employment and increased revenue for businesses providing services to construction crews. The majority of the businesses along the corridor are ‘destination’ businesses and not ‘convenience’ businesses dependent on drive-by traffic and therefore will not experience any notable impacts either during construction or post-construction. On the other hand, businesses in the vicinity of the

corridor could temporarily experience minor decreases in revenue resulting from construction traffic or decreased access caused by construction activities. Additionally, some businesses and/or community facilities will need to be relocated due to the widening of the roadway. Housing and suitable business sites are available in the area for relocation. Excluding construction-related delays, the project should not alter business operations, and the upgraded facility should improve the flow of goods. It is also important to note that the revised design to a 5-lane typical section, including the addition of the center turn lane, is a response to access concerns to accommodate businesses and residences.

N. Land Use

1) Is the proposed project compatible with local plans?

The City of Burlington does not currently have a comprehensive plan or future land use plan.

NC 54 is listed as a major thoroughfare in the Burlington Graham 2035 Long Range Transportation Plan Update adopted in January 2013. The plan recommends widening NC 54 to a multi-lane facility. This plan is consistent with the improvements proposed by NCDOT for STIP project U-2907.

2) What other transportation projects are planned for the project area?

The Burlington Graham 2035 Long Range Transportation Plan Update adopted in January 2013 shows the following projects to be completed by 2025:

- The extension of O'Neal Street/Rockwood Road to West Webb Avenue (NC 87) northwest of the project area would provide a connection between NC 54 in the project area to NC 87.
- STIP Project U-2906B (unfunded) would widen NC 62 (Alamance Road) to multi-lanes from Ramada Road to Church Street southwest of the project area.
- The Tucker Street Interchange would provide a new full access interstate interchange at I-85/I-40 and Tucker Street southwest of the project area and provide a connection between I-85/I-40 and NC 54.

O. Indirect and Cumulative Effects

A copy of the full technical report entitled *Indirect and Cumulative Effects Screening Report* can be viewed in the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

1) What are direct, indirect, and cumulative effects, and why do we study them?

There are three types or categories of effect (or impact) that must be considered during the NEPA process: direct, indirect, and cumulative.

- Direct effects are immediate effects caused by the construction and operation of the project. Direct impacts, which can be predicted and often can be counted or measured, are discussed earlier in this document.

- Indirect effects are effects caused by transportation project activities that occur later in time, at some distance from the project, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems.

- Cumulative effects are effects on the environment which result from the direct and indirect impact of the project when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor impacts that add up to have major effects over time.

Direct impacts are considered as part of project design in order to avoid or reduce negative effects when possible. Indirect and cumulative effects are assessed to reduce negative impacts, expand positive effects, check for consistency with local plans and community goals, and to obtain environmental permits required for construction.

2) *What does FLUSA mean?*

The Future Land Use Study Area, or FLUSA, is the area surrounding a construction project that could possibly be indirectly affected by the project and by the actions of others as a result of the completion of the project and combined projects. This study area encompasses all of the areas examined for potential increases in development pressure as a result of project construction. The FLUSA for this project is based upon current travel patterns, land use and transportation plans, existing neighborhoods and businesses, and future development plans. Generally, the FLUSA encompasses a buffer that extends approximately one-half mile around the proposed route.

3) *What are the indirect effects on resources within the project area?*

The proposed 2.2-mile widening project is not expected to alter land use or traffic patterns in the project area. Although access to major roadways and water/sewer service are not limiting factors for development, the majority of the FLUSA is currently developed, forecasted population and employment growth are low, and there is a limited amount of available land. Therefore, induced development as a result of the project is

unlikely. Development of the few available parcels in the FLUSA would not be dependent upon construction of the project, but rather upon market conditions. In conclusion, indirect effects are not expected as a result of the project.

4) *What are the cumulative effects on resources within the project area?*

Past development activities within the FLUSA have been consistent with local land use regulations. There are no major development or redevelopment projects currently planned within the FLUSA. The only other STIP-listed transportation project in the general project area, which construction is complete, is the widening of an existing roadway. Implementation of the proposed project is not anticipated to have significant direct or indirect effects. The minor effects associated with implementation of the project, in conjunction with other past, present, and future actions in the project area, are not likely to result in significant cumulative effects on the human and natural environment.

P. Flood Hazard Evaluation

1) Is the project located in a flood hazard zone, and what effect will the project have on the floodplains?

The Federal Emergency Management Administration (FEMA), in cooperation with federal, state, and local governments, developed floodway boundaries and Flood Insurance Rate Maps. Alamance County is a participant in the National Flood Insurance Program administered by FEMA. Based on the most current information available from the NC Floodplain Mapping Program (FMP), Site 1 (NC 54 at Little Alamance Creek, SA3) and Site 2 (Tucker Street at Little Alamance Creek, SA3) are in a designated flood hazard zone which is within a detailed flood study (the stream has a designated floodway and floodplain). Site 3 (NC 54 at an unnamed tributary of Little Alamance Creek, SH) is in a designated flood hazard zone which is within a limited detailed flood study (the stream has a designated floodplain but no designated floodway). The proposed culvert extensions at Sites 1 and 3 and the proposed bridge structure at Site 2 will be designed to carry the water produced by the 100 year storm event which is the storm event that has a one percent chance of being equaled or exceeded during any given year. The resulting water surface elevation upstream of the structures may have increases due to constraints within the floodplain area once the project is constructed. An analysis will be performed during the project's final design stage to determine if modifications to the floodway mapping will be necessary. See **Figure 4** on **Page 33** for the site locations.

Congress created the National Flood Insurance Program in 1968 to minimize the taxpayer burden caused by escalating flood costs and to reduce such costs in the future by implementing floodplain protection ordinances and flood insurance that place a premium on actual flood related risk.

Q. Traffic Noise Analysis

1) What is noise?

Noise is basically defined as unwanted sound that is emitted from many sources, including airplanes, factories, railroads, power plants, and highway vehicles. Highway noise, or traffic noise, is usually a composite of noises from engine exhaust, drive train, and tire contact with the roadway. The magnitude of noise is usually described by its sound pressure, and expressed in dimensionless units of decibels (dB). In traffic noise analyses, decibels are filtered with an 'A-weighted' scale (dBA) that adjusts sound frequencies to emphasize frequencies at which human hearing is sensitive and to minimize frequencies at which human hearing is less sensitive. Common examples of everyday noise levels, in dBA, are listed in **Table 8** below, which indicates that most individuals in urbanized areas are exposed to fairly high noise levels from many sources as they go about their daily activities. The commonly accepted limits of detectable human hearing sound magnitudes is between the threshold of hearing at 0 decibels and the threshold of pain at 140 decibels.

TABLE 8: Common Indoor and Outdoor Noise Levels

Common Outdoor Noise Levels	Noise Level (dB(A))	Common Indoor Noise Levels
	110	Rock Band
Jet Flyover at 1,000 feet	100	Inside Subway Train (NY)
Gas Lawn Mower at 3 feet		
Diesel Truck at 50 feet	90	Food Blender at 3 feet
Noisy Urban Daytime	80	Garbage Disposal at 3 feet
Gas Lawn Mower at 100 feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
	60	
		Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Small Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
	30	
Quiet Rural Nighttime		Bedroom at Night, Concert Hall (Background)
	20	
		Broadcast and Recording Studio
	10	
	0	Threshold of Hearing

Adapted from Guide on Evaluation and Attenuation of Traffic Noise, American Association of State Highway and Transportation Officials (AASHTO). 1974 (revised 1993).

2) How are noise impacts estimated?

The Federal Highway Administration (FHWA) developed Noise Abatement Criteria (NAC) and procedures to be used in highway planning and design in Title 23 Code of Federal Regulations, Part 772 (23 CFR 772). The NAC establishes threshold noise levels for seven categories of land use types and activity criteria noise levels at which noise is considered to have a detrimental impact on each category, as presented in **Table 9** below. The NCDOT has also established a Traffic Noise Abatement Policy to provide equitable and uniform methods for considering noise reduction measures when traffic noise impacts are predicted for a project. The NCDOT Policy adopts the FHWA NAC and further establishes a "Substantial Increase Noise Impact Criteria", which compares the existing noise level at a specific location with the predicted future increase in noise levels at the same location, as shown in **Table 10** on **Page 53**. When traffic noise levels for the Design Year of a highway project are predicted to be 1 dBA below the NAC activity criteria or higher, or when they represent a substantial increase per the NCDOT criteria, they are considered to cause a traffic noise "impact".

TABLE 9: Noise Abatement Criteria

Hourly Equivalent A-Weighted Sound Level (decibels (dB(A))

Activity Category	Activity Criteria $L_{eq(h)}$ [2]	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B [3]	67	Exterior	Residential
C [3]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E [3]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted

TABLE 10: NCDOT Substantial Increase Noise Impact Criteria	
Hourly Equivalent A-Weighted Sound Level (decibels (dB(A))	
Existing Noise Level[1] ($L_{eq(h)}$)	**Predicted Design Year Noise Level Increase ($L_{eq(h)}$)**
50 or less	15 or more
51	14 or more
52	13 or more
53	12 or more
54	11 or more
55 or more	10 or more

Traffic noise impacts are determined by using the current Traffic Noise Model (TNM®) approved by the FHWA and by following procedures detailed in 23 CFR 772, the NCDOT Traffic Noise Abatement Policy and the NCDOT Traffic Noise Analysis and Abatement Manual. When traffic noise impacts are predicted for any land use, an examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. Temporary and localized noise impacts will likely occur as a result of project construction activities. Construction noise control measures will be incorporated into the project plans and specifications.

A copy of the full technical report entitled *Traffic Noise Analysis* can be viewed in the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

3) What are the predicted noise impacts for the project?

The maximum number of receptors (locations that may be affected by noise) in each activity category, for each section, that are predicted to become impacted by future traffic noise when the proposed project is constructed range between 44 and 50 receptors (residences, businesses, or public facilities). These receptors are noted in terms of those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA NAC or by a substantial increase in exterior noise levels. The predicted noise level increases for this project range up to +8 dBA. When real-life noise is heard, it is barely possible to detect noise level changes of 2-3 dBA. A 5-dBA change is more readily noticeable. A 10-dBA change is judged by most people as a doubling or a halving of the loudness of the sound.

The Traffic Noise Analysis also considered traffic noise impacts for the “no-build” alternative. If the proposed project is not constructed, 42 receptors (residences, businesses, or public facilities) will become impacted due to future traffic noise levels. These receptors could anticipate experiencing an increase in exterior noise levels of approximately 3 dBA or less.

In accordance with NCDOT Traffic Noise Abatement Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Finding of No Significant Impact (FONSI) which is the final planning document for the project. For development occurring after this date, local governing bodies are responsible to insure that noise compatible designs are utilized along the proposed facility.

With the proper information on future traffic noise contours and predicted noise levels, local authorities can prevent further development of incompatible activities and land uses. The maximum extent of the 72-dBA and 67-dBA noise level contours, measured from the center of the proposed roadway, are less than sixty-one feet (61') and one hundred-eight feet (108'), respectively. This information should assist local authorities in exercising land use control over the remaining undeveloped lands adjacent to the roadway within local jurisdiction.

4) Will noise barriers be used to reduce noise impacts?

Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. The evaluation of reasonableness and feasibility of noise wall construction is based on such factors as constructability, cost, height, anticipated noise level reduction, number of benefited receptors, benefited residents' preferences and land use type. For this project, earthen berms are not found to be a viable abatement measure because the additional right of way, materials and construction costs are estimated to exceed both the maximum allowable quantity of 7,000 cubic yards of earthen berms and the base quantity value of $37,500 per benefited receptor, as defined in the NCDOT Traffic Noise Abatement Policy.

A benefited receptor is a home, business, school, etc. that achieves a 5 dBA reduction in noise, whether the receptor is impacted or not.

The project will maintain uncontrolled or partial control of access, meaning most commercial establishments and residents will have direct access connections to the proposed roadway, and all intersections will adjoin the project at grade. For a noise barrier to provide sufficient noise reduction, it must be high enough and long enough to shield the receptor from significant sections of the highway. Access openings in the barrier severely reduce the noise reduction provided by the barrier. It then becomes economically unreasonable to construct a barrier for a small noise reduction. Safety at access openings (driveways, crossing streets, etc.) due to restricted sight distance is also a concern. Furthermore, to provide a sufficient reduction, a barrier's length would normally be eight times the distance from the barrier to the receptor. For example, a receptor located fifty feet from the barrier would normally require a barrier four hundred feet long. An access opening of forty feet (10 percent of the barrier length) would limit

its noise reduction to approximately 4 dBA. Consequently, this type of roadway control of access effectively eliminates the consideration of berms or noise walls as noise mitigation measures.

Additionally, businesses, churches, and other related establishments located along a particular highway normally require accessibility and high visibility. Noise barriers do not allow uncontrolled or partial access, easy accessibility or high visibility, and would therefore not be acceptable abatement measures for this project. The project Traffic Noise Analysis identified no areas where potential traffic noise abatement measures are feasible and reasonable, as defined in the NCDOT Traffic Noise Abatement Policy. Consequently, no noise reduction measures are recommended for construction on this project.

R. Air Quality Analysis

1) What is air quality?

Clean air is important to a community's wellbeing and the environment. Pollutants in the air can have negative effects on human health and cause harm to animals and plants. Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility. Vehicles are a major contributor to decreased air quality because they emit a variety of pollutants into the air. New highways or the widening of existing highways increase localized levels of vehicle emissions, but these increases could be offset due to increases in speeds from reductions in congestion and because vehicle emissions will decrease in areas where traffic shifts to the new roadway. Significant progress has been made in reducing criteria pollutant emissions from motor vehicles and improving air quality, even as vehicle travel has increased rapidly.

2) What is the Clean Air Act?

The Clean Air Act of 1970 was enacted to protect and enhance air quality and to assist state and local governments with air pollution prevention programs. Under the Clean Air Act Amendments of 1990, the federal government cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to Clean Air Act requirements. Under the Clean Air Act, the US Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) that specify maximum concentrations for specific pollutants. Transportation projects must conform to the NAAQS by demonstrating that:

- the proposed project will not cause or contribute to any new violation of NAAQS;
- the project will not increase the frequency or severity of any existing violation of any NAAQS's; and
- the project will not delay timely attainment of the NAAQS within the region.
- It will not increase a carbon monoxide (CO) reading in the design year over the CO reading in the existing year.

The EPA publishes a list of all geographic areas that are in compliance with the NAAQS (criteria pollutant levels below their respective standards), as well as areas not in compliance with the NAAQS. The designation of the area is made on a pollutant-by-pollutant basis. The project is located in Alamance County, which has been determined to comply with the NAAQS. The proposed project is located in an attainment area; therefore, Title 40, *Code of Federal Regulations* Parts 51 (the NAAQS) and 93 (determination of conformity with a state implementation plan for air quality reduction) are not applicable. This project will not add substantial new capacity or create a facility that is likely to meaningfully increase emissions. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

A project-level qualitative air quality analysis was prepared for this project. A copy of the full technical report entitled *Revised Air Quality Analysis* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

3) What are Mobile Source Air Toxics (MSATs), and how do they relate to the project?

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/iris/). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). These are acrolein, benzene, 1,3-butidiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in

Mobile Source Air Toxics (MSATs) are compounds emitted from highway vehicles and non-road equipment.

consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of the National Environmental Policy Act (NEPA).

a) Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

b) MSAT Conclusion

What we know about mobile source air toxics is still evolving. As the science progresses FHWA will continue to revise and update this guidance. FHWA is working with Stakeholders, EPA and others to better understand the strengths and weaknesses of developing analysis tools and the applicability on the project level decision documentation process.

4) How will construction debris removal be handled to protect air quality?

During construction of the proposed project, all materials resulting from clearing and grubbing, demolition or other operations will be removed from the project, burned or otherwise disposed of by the Contractor. Any burning done will be done in accordance with applicable local laws and ordinances and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. Care will be taken to insure burning will be done at the greatest distance practical from dwellings and not when atmospheric conditions are such as to create a hazard to the public. Burning will be performed under constant surveillance. Also during construction, measures will be taken to reduce the dust generated by construction when the control of dust is necessary for the protection and comfort of motorists or area residents.

S. Hazardous Materials

1) What are hazardous materials, and will potentially hazardous materials sites cause impacts to the proposed project?

Hazardous materials are any materials that have a harmful effect on humans or the natural environment. Examples of potentially hazardous materials and waste sites include service stations, regulated landfills, unregulated dumpsites, salvage yards, industrial sites, and aboveground and underground storage tanks.

A copy of the full technical report entitled *Geotechnical Pre-Scoping Report* can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

Based on field reconnaissance surveys and database review of the project area, fourteen (14) possible sites presently or formerly containing petroleum underground storage tanks (UST's) were identified within the project limits. No hazardous waste sites and no apparent landfills were identified within the project limits. Preliminary site assessments will be conducted for all potentially contaminated sites within the proposed right of way prior to right of way acquisition. Coordination and cost impacts for cleaning up these sites, if necessary, are expected to be minimal. Discovery of additional sites not recorded by regulatory agencies and not reasonably discernable during the project reconnaissance may occur. The NCDOT GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

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Chapter 5: Conclusion

1) What effects does the proposed project have on the environment?

Table 11 presents a summary of the proposed project's environmental effects:

TABLE 11: Summary of Environmental Effects*

IMPACT CATEGORY	RECOMMENDED ALTERNATIVE
Natural Resources Impacts	
Federal Listed Species Habitat	No
100-Year Flood Plain and Floodway Crossings (number)	3
Wetlands (number / acres)	2 / 0.014 AC
Stream Crossings (number / linear feet)	11 / 1,597 LF
Water Supply Critical Areas	0
Human Environment Impacts	
Residential Relocations (units)	23
Business Relocations (units)	27
Low Income/Minority Populations	Yes
Schools (number)	1
Historic Sites/Districts (number)	0
Section 4(f) Impacts	No
Traffic Noise Impacts (number of receptors)	44 to 50 receptors
Air Quality	** Attainment Area
Physical Environment Impacts	
Farmland (acres)	0
Underground Storage Tanks (number of potential sites)	14

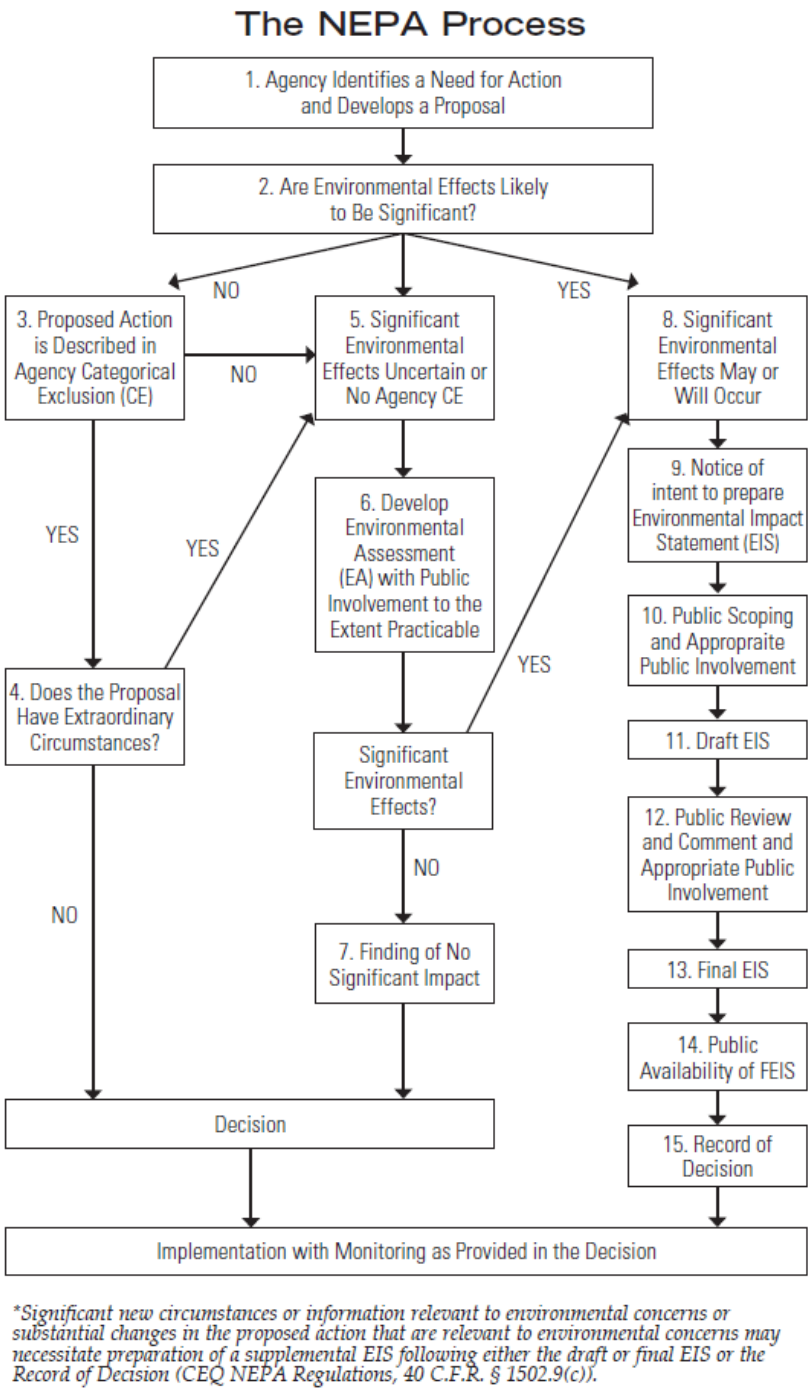
* Wetland and stream impacts are based on preliminary construction limits plus 25 feet.

** Attainment Area is a geographic area that meets or has pollutant levels below the National Ambient Air Quality Standards (NAAQS).

2) What are the next steps in the project development process?

Based on the current project schedule, a public hearing will be held in 2014 following FHWA approval of this document. Comments received at the hearing will be reviewed by the NCDOT and will be incorporated into the project, as feasible and practicable. Before the final environmental document is approved, a decision will be made determining whether the project will cause significant environmental effects. If there are no significant environmental effects, then a Finding of No Significant Impact (FONSI) decision document will be prepared. If there are significant environmental

effects, then a higher level planning document will need to be developed. Based on the level of impacts discussed in this document, a FONSI is anticipated. The flowchart below from *A Citizen's Guide to NEPA* illustrates the NEPA process:



**Significant new circumstances or information relevant to environmental concerns or substantial changes in the proposed action that are relevant to environmental concerns may necessitate preparation of a supplemental EIS following either the draft or final EIS or the Record of Decision (CEQ NEPA Regulations, 40 C.F.R. § 1502.9(c)).*

The current schedule shown in the 2012-2020 STIP includes purchasing property for the roadway right of way in 2015 and starting construction in 2017. The project will take two to three years to build since traffic will remain on existing NC 54 or travel on newly built portions of the project during construction.

APPENDIX A

COMMENTS RECEIVED FROM FEDERAL, STATE AND LOCAL AGENCIES

Federal Aid # STP-54(8) *TIP #* U-2907 *County*: Alamance

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description:

On October 29, 2013, representatives of the

☒ North Carolina Department of Transportation (NCDOT)
☒ North Carolina State Historic Preservation Office (NC-HPO)
☐ Federal Agency
☐ Other

Reviewed the subject project at historic architectural resources photograph review session/consultation and

All parties present agreed

☐ There are no properties over fifty years old within the project's Area of Potential Effects (APE).

☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's APE.

☒ There are properties over fifty years old within the project's APE, but based on the historical information available and the photographs of each property, the properties identified as **93-105** are considered not eligible for the National Register and no further evaluation of them is necessary. Photographs of these properties are attached.

☒ There are no National Register-listed or Study Listed properties within the project's APE.

☒ All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

☐ More information is requested on properties _____.

Signed:

Shelby Reap — Oct 29, 2013
Representative, NCDOT — Date

Renee Gledhill-Earley — Oct 29, 2013
Representative, NC-HPO — Date

Representative, Federal Agency — Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

Feller, Lisa M

From: Williams, Andrew E SAW <Andrew.E.Williams2@usace.army.mil>
Sent: Monday, June 17, 2013 1:58 PM
To: Feller, Lisa M; Euliss, Amy; Felix.Davila@dot.gov; Eason, Patty P; Speer, James A; White, Allison K; Beauregard, Rachelle; Price, Gregory W
Cc: Robinson, Beverly G; Lassiter, Matthew R
Subject: RE: U-2907 Merger Screening Meeting Packet (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I will not be able to attend the U-2907 Merger Screening Meeting. I will be conducting a site visit for a proposed mitigation bank. However, I would like to provide some comments regarding the project.

Based on the proposed impacts listed this project could be permitted with multiple NWP 14s. There is only one stream impact that is greater than 300 lf (SF) and the stream was determined to be intermittent. It was also determined to be a low quality feature that would not require compensatory mitigation. As such, the 300 lf threshold could be waived and this could be permitted with a NWP 14.

Provided that there are no additional jurisdictional impacts to this project, my recommendation is that we remove this project from the Merger Process.

Andrew Williams
Regulatory Project Manager
U.S. Army Corps of Engineers
Raleigh Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587
919-554-4884 extension 26

-----Original Message-----
From: Feller, Lisa M [mailto:lfeller@ncdot.gov]
Sent: Wednesday, June 12, 2013 8:54 AM
To: Williams, Andrew E SAW; Euliss, Amy; Felix.Davila@dot.gov; Eason, Patty P; Speer, James A; White, Allison K; Beauregard, Rachelle; Price, Gregory W
Cc: Robinson, Beverly G; Lassiter, Matthew R
Subject: U-2907 Merger Screening Meeting Packet

Good morning Everyone,

Attached are the merger screening meeting packet files for our June 19th meeting at 1:30 PM in the PDEA CCB Large Conference Room. If you have any questions or need additional information, please let me know.

City of Burlington

Harold T. Owen
City Manager

Telephone (336) 222-5022
Fax (336) 513-5452

April 2, 2013

Mr. Leonard Williams
Burlington-Graham MPO Chairman
Town of Gibsonville
507 Cook Road
Elon, NC 27244

RE: NC54 Widening Project (U2907)

Dear Mr. Williams:

This letter serves as official notification to the Burlington-Graham Metropolitan Planning Organization (BGMPO) that the City of Burlington supports NCDOT's current preliminary design choice of a 5-lane cross section for the NC54 Widening Project. Per NCDOT's request for concurrence the Burlington City Council discussed the issue at its April 1, 2013, work session and agreed based on access needs and volumes that the 5-lane cross section was acceptable for the preliminary design plans.

In addition Burlington City Council agreed to sidewalks on both sides of the roadway as part of the design. It is our understanding that this would be at a 50% cost share for the City based on our current population. Also, City Council requests that NCDOT include a landscaping budget to be included with the project.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Harold Owen
City Manager

cc: Burlington City Council Members
Cheryl McQueary, NC Board of Transportation Member
Mike Mills, PE, NCDOT
Nolan Kirkman, PE, Public Works Director
Amy Nelson, Planning Director
Mike Nunn, Burlington-Graham MPO Manager
Lanny Rhew, City Engineer

City of Burlington

Harold T. Owen
City Manager

Telephone (336) 222-5022
Fax (336) 513-5452

May 14, 2010

Ms. Lisa Feller, PE
Project Planning Engineer
NCDOT Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Re: City of Burlington Design Comments – U-2907 NC54/Chapel Hill Road Widening Project

Dear Ms. Feller:

Per your request please find below our comments from the City of Burlington regarding the subject project. We will be very interested to see how these comments are incorporated into the actual design. Please provide ongoing communication during the design process to allow us to be further involved.

1) Design left turn lanes at crossovers with zero or positive offsets. Negative offsets create safety hazards and may result in the unnecessary use of protected-only phasing which increases delay, stops and travel times. A 6' area for monolithic/offsets, an 11' area for the left-turn lane and a 6' gore area would accomplish this and fit within proposed 23' median width.

2) The section of South Church Street (US70) between Alamance Road (NC62) and ONeal Street (NC54) needs to be evaluated. The NC54 design should work in concert with the future NC62 TIP project (U-2906B) design.
   a. NC54 leg just past NC62/Alamance Rd. – should this "right-turn" onto NC54 be relocated to ONeal? If so, would the right-turns at NC 62 be allowed to turn right on red reducing intersection delays at NC62?
   b. US70 between NC62 and ONeal is congested during AM, Noon and PM peak times
      i. Left turn lanes back into through lanes
      ii. Large cycle length (140 seconds)
      iii. Difficult to serve movements within cycle; some vehicles experience two cycles
      iv. Dual lefts from ONeal onto US70 should be considered
   c. ONeal Street and US70 along with US70 and Huffman Mill Road are the critical intersections on the South Church Street zone which includes a total of 14 signals; these two critical intersections drive a large cycle length. Improvements to ONeal and US70 would make it possible to reduce the cycle length for the entire zone resulting in reduced delays at all 14 intersections.
   d. Request that the study area on ONeal extend northward at least to the Aldi's driveway closest to the store.

3) The intersection configuration at NC54 and Trail Two needs to be analyzed. Currently, vehicles heading south, approaching this intersection from US70, have a stop condition. Consider reconfiguring to allow these vehicles to not have a stop condition. This would result in the vehicles that turned right past NC62 to have to stop. This gets back to considering bringing that "right-turn" onto NC54 east to the ONeal and US70 intersection.

4) Evaluate volumes to consider need for dual WB lefts from NC54 onto Mebane Street.

5) Is the plan for widening and right-of-way procurement symmetrical or asymmetrical? How would this impact property owners?

6) Tucker Street signal needs to be evaluated for future impacts (BGMPO Local Needs List includes new interchange at Tucker and I-85), particularly with bridge/culvert presence.

7) NC54 and NC49/Maple Avenue is the critical intersection on the Maple Avenue zone which comprises 7 signals. A higher than desirable cycle length exists due to capacity issues at this intersection. Improvements to this intersection would allow the cycle length for the entire zone to be reduced resulting in less delay at all 7 intersections. Consider dual WB lefts from NC54 onto NC49. Also, consider dual NB and SB lefts from NC49 onto NC54. Need to maintain the WB right-turn lane from NC54 onto NC49; this is a significant volume.

8) Accident data should be evaluated along corridor to identify any areas for correction.

9) The City requests to have the design include sidewalks and 4' striped bike lanes on both sides of the corridor. Per information from NCDOT, a municipal agreement would be executed about a year before the project is scheduled to be let and we would participate at our share for the sidewalks (currently 40% - approximately $175,000) but the entire cost of the bike lanes would be borne by NCDOT. It is our understanding that we would be responsible for the post-construction maintenance of the sidewalks.

Thank you for soliciting our input on this important project. Please let us know if we can provide any further information.

Sincerely,

Harold Owen
City Manager

Cc: Mike Mills, PE, Division 7 Engineer
Nolan Kirkman, PE, Public Works Director
Lanny Rhew, PE, City Engineer
Bob Harkrader, Director of Planning and Economic Development

Federal Aid # STP-54(8) *TIP #* U-2907 *County*: Alamance

CONCURRENCE FORM FOR PROPERTIES NOT ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES

Project Description: Widen NC 54 (Chapel Hill Road) in Burlington to a multi-lane facility from NC 100 (Maple Avenue) to US 70 (Church Street)

On 15 **September 2009**, representatives of the

- ☒ North Carolina Department of Transportation (NCDOT)
- ☐ Federal Highway Administration (FHWA)
- ☒ North Carolina State Historic Preservation Office (HPO)
- ☐ Other

Reviewed the subject project at historic architectural resources photograph review session/consultation and

All parties present agreed

- ☐ There are no properties over fifty years old within the project's Area of Potential Effects (APE).
- ☒ There are no properties less than fifty years old which are considered to meet Criteria Consideration G within the project's APE.
- ☒ There are properties over fifty years old within the project's APE, but based on the historical information available and the photographs of each property, the properties identified as 1-92 are considered not eligible for the National Register and no further evaluation of them is necessary. Photographs of these properties are attached.
- ☒ There are no National Register-listed or Study Listed properties within the project's APE.
- ☒ All properties greater than 50 years of age located in the APE have been considered at this consultation, and based upon the above concurrence, all compliance for historic architecture with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.
- ☐ More information is requested on properties _____.

Signed:

Courtney Foley — 15 SEPTEMBER 2009

Representative, NCDOT — Date

FHWA, for the Division Administrator, or other Federal Agency — Date

Representative, HPO — Date

Renee Gledhill-Earley — 9-15-09

State Historic Preservation Officer — Date

If a survey report is prepared, a final copy of this form and the attached list will be included.

North Carolina
Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

January 11, 2007

Mr. Gregory Thorpe
N.C. Dept. of Transportation
Program Development
1548 Mail Service Center
Raleigh, NC 27699-1534

Dear Mr. Thorpe:

Re: SCH File # 07-E-4220-0170; Scoping; Widening NC 54 (Chapel Hill Road) in Burlington to a multi-lane facility from NC 100 (Maple Avenue) to US 70 (Church Street). TIP No. U-2907

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are **additional** comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Chrys Baggett/SJC

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region G
Region K

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Projects Officer

SUBJECT: #07-0170 Widen NC 54 in Burlington from NC 100 to US 70, Alamance County

DATE: January 5, 2007

The attached comments were received by this office after the response due date. These comments should be forwarded to the applicant and made a part of our previous comment package.

Thank you for the opportunity to respond.

Attachment

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

North Carolina
Department of Environment ar
Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

North Carolina
Division of Forest Resources

Dan Smith, Acting Director

January 4, 2007

MEMORANDUM

TO: Melba McGee, Office of Legislative Affairs

FROM: Michael Mann, NC Division of Forest Resources

SUBJECT: Start of study for the proposed widening of NC 54 (Chapel Hill Rd)

PROJECT #: 07-0170

The North Carolina Division of Forest Resources has reviewed the referenced document and offers the following comments that should be addressed in the EA concerning impacts to woodlands.

1. In order to evaluate construction impact, list, by timber type, the total forest land acreage that is removed or taken out of forest production as a result of the project. Fragmentation of woodlots into small sections can make forest management difficult and should be avoided where possible. If no impacts will occur please state so in the document.

2. Efforts should be made to avoid or minimize impact to forest resources. Areas to avoid include unique or unusual ecosystems, highly productive managed woodlands and wetlands. Additionally, efforts should be made to align corridors to minimize impacts to woodlands in the following order of priority:
   - Managed, high site index woodland
   - Productive forested woodlands
   - Managed, lower site index woodlands
   - Unique forest ecosystems
   - Unmanaged, fully stocked woodlands
   - Unmanaged, cutover woodlands
   - Urban woodlands

1616 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919 – 733-2162 ext. 255 \ FAX: 919 – 715-5247 \ Internet: www.dfr.state.nc.us

3. The EA should include a summary of the potential productivity of the forest stands affected by the proposed project. Potential productivity is quantified by the soil series, and is found in the USDA Soil Survey for the county involved.

4. The provisions the contractor will take to utilize the merchantable timber removed during construction. Emphasis should be on selling all wood products. However, if the wood products cannot be sold then efforts should be made to haul off the material or turn it into mulch with a tub grinder. This practice will minimize the need for debris burning, and the risk of escaped fires and smoke management problems to residences, highways, schools, and towns.

5. If woodland burning is needed, the contractor must comply with the laws and regulations of open burning as covered under G.S. 113-60.21 through G.S. 113-60.31. Alamance County is classified as a non-high hazard counties, and G.S. 113-60.24 requiring a regular burning permit applies.

6. The provisions that the contractor will take to prevent erosion and damage to forestland. Trees, particularly the root system, can be permanently damaged by heavy equipment. Efforts should be to avoid skinning of the tree trunk, compacting the soil, adding layers of fill, exposing the root system, or spilling petroleum or other substances.

We appreciate the opportunity to comment on the proposed project, and encourage the impact on our forestland be considered during the planning process.

cc: Barry New

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

December 15, 2006

MEMORANDUM

TO: Gregory J. Thorpe, Manager
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter Sandbeck PBS for Peter Sandbeck

SUBJECT: Start of Study for the Proposed Widening of NC54 in Burlington From NC 100 to US 70, U-2907, Alamance County, ER 06-3034

Thank you for your letter of November 7, 2006. We have reviewed the information for the above project and offer the following comments.

Because the recent architectural survey for the area of potential effects is incomplete, we recommend that a Department of Transportation architectural historian identify and evaluate any structures over fifty years old and report the findings to us.

Because of the location and level of disturbance of the proposed project area from residential and commercial development, it is unlikely that any archaeological sites that may be eligible for inclusion in the National Register of Historic Places will be affected by the proposed construction. We, therefore, recommend that no archaeological investigation be conducted in connection with this project.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919-733-4763, ext 246. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Matt Wilkerson, NCDOT
State Clearinghouse

North Carolina
Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

December 14, 2006

Mr. Gregory Thorpe
N.C. Dept. of Transportation
Program Development
1548 Mail Service Center
Raleigh,, NC 27699-1534

Dear Mr. Thorpe:

Re: SCH File # 07-E-4220-0170; SCOPING; Widening NC 54 (Chapell Hill Road) in Burlington to a multi-lane facility from NC 100 (Maple Avenue) to US 70 (Chruch Street). TIP No. U-2907

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Chrys Baggett

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region G
Region K

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

Michael Abunya

STATE NUMBER: 07-E-4220-0170 F02
DATE RECEIVED: 11/14/2006
AGENCY RESPONSE: 12/11/2006
REVIEW CLOSED: 12/14/2006

MS CARRIE ATKINSON
CLEARINGHOUSE COORD
DEPT OF TRANSPORTATION
STATEWIDE PLANNING - MSC #1554
RALEIGH NC

REVIEW DISTRIBUTION
CC&PS - DEM, NFIP
DENR LEGISLATIVE AFFAIRS
DEPT OF AGRICULTURE
DEPT OF CUL RESOURCES
DEPT OF TRANSPORTATION
PIEDMONT TRIAD COG

DEC 2006 RECEIVED Secretary's Office DOA

PROJECT INFORMATION
APPLICANT: N.C. Dept. of Transportation
TYPE: National Environmental Policy Act
ERD: Scoping
DESC: Widening NC 54 (Chapell Hill Road) in Burlington to a multi-lane facility from NC 100 (Maple Avenue) to US 70 (Chruch Street). TIP No. U-2907

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:

☐ NO COMMENT

☑ COMMENTS ATTACHED

SIGNED BY: Michael Abunya

DATE: 12-11-06

NOV 2006 RECEIVED NCDOT TRANSPORTATION PLANNING

State of North Carolina
Department of Environment and Natural Resources

Reviewing Office: _____

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

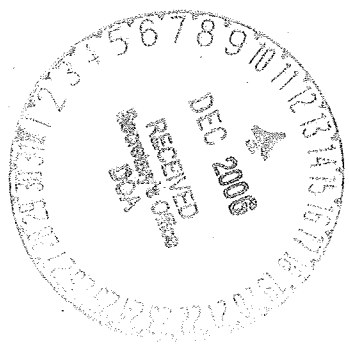
Project Number: 07-0170 Due Date: _____

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
☐	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
☐	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
☐	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
☐	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
☑	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.OI00, 2Q.0300, 2H.0600)	N/A	60 days
☑	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 20.1900	N/A	60 days (90 days)
☑	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.		
☐	Complex Source Permit required under 15 A NCAC 2D.0800		
☐	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of$30 for the first acre and $2000 for each additional acre or part must accompany the plan.		20 days (30 days)
☑	The Sedimentation Pollution control Act of 1973 must be addressed with respect to the referenced Local Ordinance.		(30 days)
☐	Mining Permit	On-site inspection usual. Surety bond filed with ENR Bond amount varies with type mine and number of acres of affected land. Any arc mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
☐	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
☐	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual bum is planned."	1 day (N/A)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction. certify construction is according to ENR approved plans. May also require permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of $200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	Permit to drill exploratory oil or gas well	File surety bond of $5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.	10 days N/A
☐	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
☐	State Lakes Construction Permit	Application fees based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days N/A
☐	401 Water Quality Certification	N/A	60 days (130 days)
☐	CAMA Permit for MAJOR development	$250.00 fee must accompany application	55 days (150 days)
☐	CAMA Permit for MINOR development	$50.00 fee must accompany application	22 days (25 days)
☐	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611		
☑	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	Compliance with 15A NCAC 2H 1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
☐	Tar Pamlico or Neuse Riparian Buffer Rules required.		

* Other comments (attach additional pages as necessary, being certain to cite comment authority)



REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

☐ **Asheville Regional Office**
2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500

☐ **Fayetteville Regional Office**
225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300

☐ **Mooresville Regional Office**
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699

☐ **Raleigh Regional Office**
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200

☐ **Washington Regional Office**
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

☐ **Wilmington Regional Office**
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

☐ **Winston-Salem Regional Office**
585 Waughtown Street
Winston-Salem, NC 27107
(336) 771-5000

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Review Coordinator

SUBJECT: 07-0170 Widening of NC 54 from NC 100 to US 70 in Burlington in Alamance County

DATE: December 12, 2006

The Department of Environment and Natural Resources has reviewed the proposed information. The attached comments are for the applicant's information.

Thank you for the opportunity to review.

Attachments

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 \ Internet: www.enr.state.nc.us/ENR/

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

December 7, 2006

MEMORANDUM

To: Melba McGee, Environmental Coordinator, DENR

From: Sue Homewood, NC Division of Water Quality, Winston-Salem Regional Office

Subject: Scoping comments on proposed widening of NC 54 (Chapel Hill Rd) in Alamance County, Federal Aid Project No. STP-54(8), State Project No. 38985.1.1, TIP U-2907.

Reference the correspondence dated November 7, 2006 in which NCDOT requested comments for the referenced scoping project. Preliminary analysis of the project reveals the potential for multiple impacts to perennial streams and jurisdictional wetlands in the project area. More specifically, impacts to:

Stream Name	River Basin	Stream Classification(s)	Stream Index Number
Little Alamance Creek	Cape Fear	C; NSW	16-19-11

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Quality requests that NCDOT consider the following environmental issues for the proposed project:

Project Specific Comments:

1. Little Alamance Creek are class C; NSW waters of the State. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that highly protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Little Alamance Creek. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practice.*

2. Little Alamance Creek are class C;NSW 303(d) waters of the State. Little Alamance Creek is on the 303(d) list for impaired use for aquatic life due to urban runoff/storm sewers. DWQ is very concerned with sediment and erosion impacts that could result from this project. DWQ recommends that the most protective sediment and erosion control BMPs be implemented to reduce the risk of nutrient runoff to Little Alamance Creek. DWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices.*

Transportation Permitting Unit
1650 Mail Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 250, Raleigh, North Carolina 27604
Phone: 919-733-1786 / FAX 919-733-6893 / Internet: http://h2o.enr.state.nc.us/ncwetlands

General Project Comments:

1. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

2. Environmental assessment alternatives should consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives should include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

3. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

4. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

5. If a bridge is being replaced with a hydraulic conveyance other than another bridge, DWQ believes the use of a Nationwide Permit may be required. Please contact the US Army Corp of Engineers to determine the required permit(s).

6. If an old bridge is removed, no discharge of bridge material into surface waters is allowed unless otherwise authorized by the US ACOE. Strict adherence to the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.

7. Bridge supports (bents) should not be placed in the stream when possible.

8. Whenever possible, the DWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.

9. Bridge deck drains should not discharge directly into the stream. Stormwater should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NC DWQ *Stormwater Best Management Practices.*

10. If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

11. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas should be seeded or mulched to stabilize the soil and appropriate native woody species should be planted. When using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

12. Placement of culverts and other structures in waters, streams, and wetlands shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

13. If multiple pipes or barrels are required, they should be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

14. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3494/Nationwide Permit No. 6 for Survey Activities.

15. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

16. All work in or adjacent to stream waters should be conducted in a dry work area unless otherwise approved by NC DWQ. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures should be used to prevent excavation in flowing water.

17. Sediment and erosion control measures should not be placed in wetlands and streams.

18. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.

19. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

20. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

21. In most cases, the DWQ prefers the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed and restored to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. Tall fescue should not be used in riparian areas.

22. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

Thank you for requesting our input at this time. The DOT is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Sue Homewood at 336-771-4964.

cc: Monte Matthews, US Army Corps of Engineers, Raleigh Field Office
Felix Davila, Federal Highway Administration
Chris Militscher, Environmental Protection Agency
Travis Wilson, NC Wildlife Resources Commission
Gary Jordan, US Fish and Wildlife Service
DWQ Wetlands/401 Transportation Unit
DWQ WSRO File Copy

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

December 1, 2006

MEMORANDUM

To: Chris Baggett
Clearing House Director

From: Michael Abuya, EIT
Transportation Engineer
Transportation Planning Branch

Subject: N.C. State Clearing House Review of TIP U-2907, Widening of NC 54, (Chapel Hill Road) from NC100 (Maple Avenue) to US70 (Church Street) in Alamance County

This project covers a segment of NC54 (Chapel Hill Road), which is a major thoroughfare in the updated 2004 Burlington-Graham Urbanized Area Thoroughfare Plan. Driveway permits should be cleared through the District Engineers Office.

Thank you.

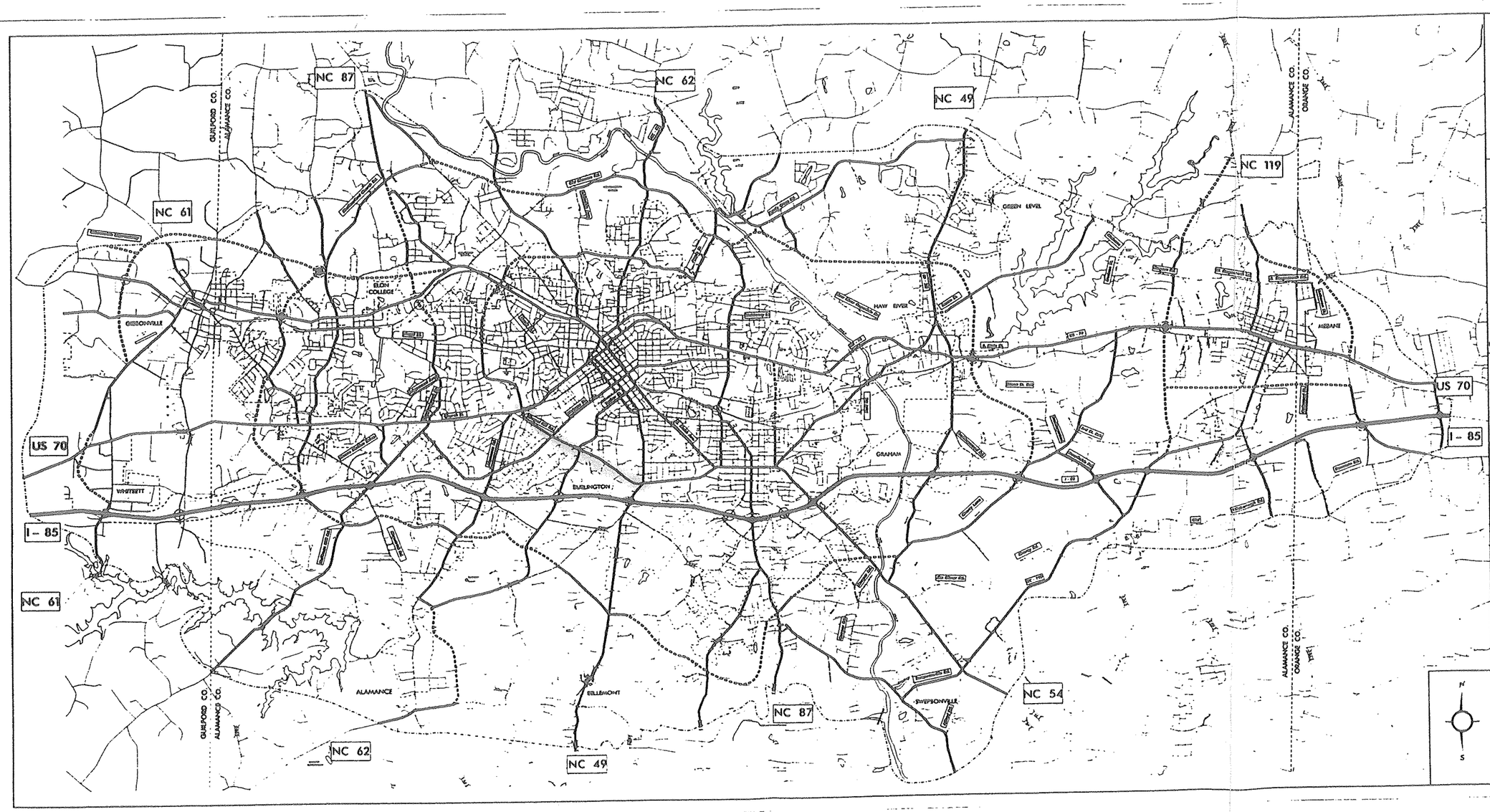
Attachment

cc.
C. N. Edwards, PE
District Engineer, District 1
127 East Crescent Square Dr.
Graham NC, 27253

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PLANNING BRANCH
1554 MAIL SERVICE CENTER
RALEIGH NC 27699-1554

NCDOT TPB
TRANSPORTATION PLANNING BRANCH
www.NCDOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH, NC 27601
Phone: 919-733-4705
Fax: 919-733-2417



LEGEND

	EXISTING	PROPOSED
FREEWAY		
MAJOR THOROUGHFARE		
MINOR THOROUGHFARE		
INTERCHANGE		
GRADE SEPARATION		
PLANNING AREA BOUNDARY		

ADOPTED BY:

CITY OF BURLINGTON	JUNE 15, 1999
TOWN OF GIBSONVILLE	JUNE 7, 1999
CITY OF GRAHAM	JUNE 1, 1999
TOWN OF GREEN LEVEL	JUNE 10, 1999
TOWN OF HAW RIVER	JUNE 7, 1999
CITY OF MEBANE	JUNE 7, 1999
TOWN OF ELON COLLEGE	JUNE 8, 1999
TOWN OF WHITSETT	JUNE 8, 1999
VILLAGE OF ALAMANCE	JUNE 28, 1999
COUNTY OF ALAMANCE	JUNE 21, 1999
TRANSPORTATION ADVISORY COMMITTEE	MAY 18, 1999
RECOMMENDED APPROVAL BY: STATEWIDE PLANNING BRANCH	JULY 7, 1999
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	AUGUST 6, 1999

REVISIONS TO PLAN:

CITY OF BURLINGTON	9/00
TOWN OF GIBSONVILLE	
CITY OF GRAHAM	
TOWN OF GREEN LEVEL	
TOWN OF HAW RIVER	
CITY OF MEBANE	
TOWN OF ELON COLLEGE	
TOWN OF WHITSETT	
VILLAGE OF ALAMANCE	9/20/00
COUNTY OF ALAMANCE	
TRANSPORTATION ADVISORY COMMITTEE	12/15/00, 11/19/02
RECOMMENDED APPROVAL BY: STATEWIDE PLANNING BRANCH	3/16/01, 11/27/02
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	3/16/01, 3/03

MAY 18, 2004 THOROUGHFARE PLAN

BURLINGTON - GRAHAM URBAN AREA NORTH CAROLINA

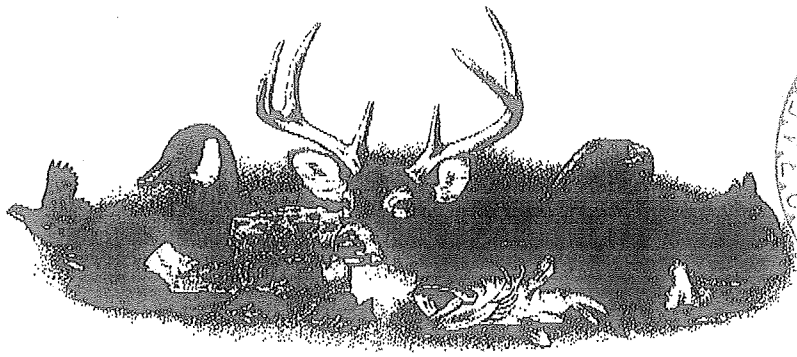
PREPARED BY THE

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
STATEWIDE PLANNING BRANCH

IN COOPERATION WITH THE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

0 2000 4000 6000 8000
SCALE IN FEET



North Carolina Wildlife Resources Commission

MEMORANDUM

Richard B. Hamilton, Executive Director

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: November 29, 2006

SUBJECT: Response to the start of study notification from the N. C. Department of Transportation (NCDOT) regarding fish and wildlife concerns for the proposed widening of NC 54 from NC 100 to US 70 in Burlington, Alamance County, North Carolina. TIP No. U-2907, SCH Project No. 07-0170.

This memorandum responds to a request from Gregory J. Thorpe of the NCDOT for our concerns regarding impacts on fish and wildlife resources resulting from the subject project. Biologists on the staff of the N. C. Wildlife Resources Commission (NCWRC) have reviewed the proposed improvements. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

At this time we do not have any specific concerns related to this project. To help facilitate document preparation and the review process, our general informational needs are outlined below:

1. Description of fishery and wildlife resources within the project area, including a listing of federally or state designated threatened, endangered, or special concern species. Potential borrow areas to be used for project construction should be included in the inventories. A listing of designated plant species can be developed through consultation with:

The Natural Heritage Program
N. C. Division of Parks and Recreation
1615 Mail Service Center
Raleigh, N. C. 27699-1615
(919) 733-7795
WWW.ncsparks.net/nhp

and,

NCDA Plant Conservation Program
P. O. Box 27647
Raleigh, N. C. 27611
(919) 733-3610

2. Description of any streams or wetlands affected by the project. The need for channelizing or relocating portions of streams crossed and the extent of such activities.

3. Cover type maps showing wetland acreages impacted by the project. Wetland acreages should include all project-related areas that may undergo hydrologic change as a result of ditching, other drainage, or filling for project construction. Wetland identification may be accomplished through coordination with the U. S. Army Corps of Engineers (COE). If the COE is not consulted, the person delineating wetlands should be identified and criteria listed.

4. Cover type maps showing acreages of upland wildlife habitat impacted by the proposed project. Potential borrow sites should be included.

5. The extent to which the project will result in loss, degradation, or fragmentation of wildlife habitat (wetlands or uplands).

6. Mitigation for avoiding, minimizing or compensating for direct and indirect degradation in habitat quality as well as quantitative losses.

7. A cumulative impact assessment section which analyzes the environmental effects of highway construction and quantifies the contribution of this individual project to environmental degradation.

8. A discussion of the probable impacts on natural resources which will result from secondary development facilitated by the improved road access.

9. If construction of this facility is to be coordinated with other state, municipal, or private development projects, a description of these projects should be included in the environmental document, and all project sponsors should be identified.

Thank you for the opportunity to provide input in the early planning stages for this project. If we can further assist your office, please contact me at (919) 528-9886.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

November 29, 2006

Gregory J. Thorpe, Ph.D.
North Carolina Department of Transportation
Project Development and Environmental Analysis
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

This letter is in response to your request for comments from the U.S. Fish and Wildlife Service (Service) on the potential environmental effects of the proposed widening of NC 54 (Chapel Hill Road) in Burlington from NC 100 (Maple Avenue) to US 70 (Church Street) in Alamance County, North Carolina (TIP No. U-2907). These comments provide information in accordance with provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661-667d) and section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).

Due to the urban nature of the project area, minimal terrestrial wildlife habitat is present. However, the stream crossings do have the potential to impact aquatic habitat. We do not have any specific concerns at this time, but offer the following general conservation measures to avoid or minimize environmental impacts to fish and wildlife resources:

1. Crossings of streams and associated wetland systems should use existing crossings and/or occur on a bridge structure wherever feasible. Where bridging is not feasible, culvert structures that maintain natural water flow and hydraulic regimes without scouring or impeding fish and wildlife passage should be employed;

2. Bridges and approaches should be designed to avoid any fill that will result in damming or constriction of the channel or flood plain. To the extent possible, piers and bents should be placed outside the bank-full width of the stream;

3. Bridge designs should include provisions for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from run-off of storm water and pollutants;

4. If unavoidable wetland or stream impacts are proposed, a plan for compensatory mitigation to offset unavoidable impacts should be provided early in the planning process;

5. Best Management Practices (BMP) for Construction and Maintenance Activities should be implemented.

Section 7(a)(2) of the Endangered Species Act requires that all federal action agencies (or their designated non-federal representatives), in consultation with the Service, insure that any action federally authorized,

funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally listed threatened or endangered species. Currently, no species are federally listed in Alamance County.

We reserve the right to review any federal permits that may be required for this project, at the public notice stage. Therefore, it is important that resource agency coordination occur early in the planning process in order to resolve any conflicts that may arise and minimize delays in project implementation. In addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action:

1. A clearly defined and detailed purpose and need for the proposed project, supported by tabular data, if available;

2. A description of the proposed action with an analysis of all alternatives being considered;

3. A description of the fish and wildlife resources, and their habitats, within the project impact area that may be directly or indirectly affected;

4. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National Wetlands Inventory (NWI). Wetland boundaries should be determined by using the 1987 Corps of Engineers Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers;

5. The anticipated environmental impacts, both temporary and permanent, that would be likely to occur as a direct result of the proposed project. The assessment should also include the extent to which the proposed project would result in indirect and cumulative effects to natural resources;

6. Design features and construction techniques which would be employed to avoid or minimize impacts to fish and wildlife resources, both direct and indirect;

7. Design features, construction techniques, or any other mitigation measures which would be employed at wetland crossings and stream channel relocations to avoid or minimize impacts to waters of the US; and,

8. If unavoidable wetland or stream impacts are proposed, project planning should include a compensatory mitigation plan for offsetting the unavoidable impacts.

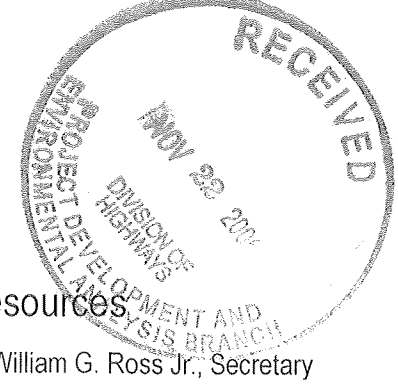
The Service appreciates the opportunity to comment on this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520, ext. 32.

Sincerely,

Gary Jordan

for Pete Benjamin
Field Supervisor

cc: John Thomas, USACE, Raleigh, NC
Chris Militscher, USEPA, Raleigh, NC



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

November 20, 2006

MEMORANDUM

TO: Gregory J. Thorpe, DOT Project Development and Environmental Analysis

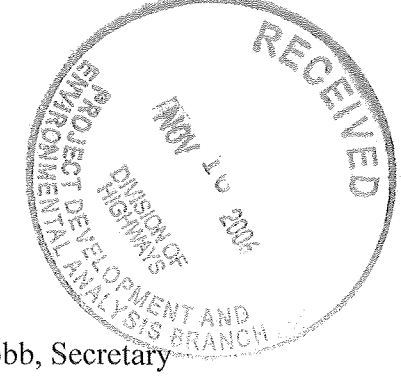
FROM: Misty Franklin, Natural Heritage Program MAF

SUBJECT: Proposed Widening of NC 54 (Chapel Hill Road) in Burlington, from NC 100 (Maple Avenue) to US 70 (Church Street), Federal-Aid Project no. STP-54(8)
WBS No. 38985.1.1, Alamance County, TIP No. U-2907

The Natural Heritage Program has no record of rare species, significant natural communities, or significant natural heritage areas at the site nor within a mile of the project area. Though such natural heritage elements are not currently known from within the project boundaries shown on your maps, the use of Natural Heritage Program data should not be substituted for actual field surveys, particularly if the project area contains suitable habitat for rare species, significant natural communities, or priority natural areas. Care should be taken to survey for these species if suitable habitat is present within the proposed project areas.

Please do not hesitate to contact me at 919-715-8700 if you have questions or need further information.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-715-8700 \ FAX: 919-715-3085 \ Internet www.ncnhp.org



North Carolina
Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

November 14, 2006

Mr. Gregory Thorpe
N.C. Dept. of Transportation
Program Development
1548 Mail Service Center
Raleigh, NC 27699-1534

Dear Mr. Thorpe:

Subject: Scoping - Widening NC 54 (Chapell Hill Road) in Burlington to a multi-lane facility from NC 100 (Maple Avenue) to US 70 (Chruch Street). TIP No. U-2907

The N. C. State Clearinghouse has received the above project for intergovernmental review. This project has been assigned State Application Number 07-E-4220-0170. Please use this number with all inquiries or correspondence with this office.

Review of this project should be completed on or before 12/14/2006. Should you have any questions, please call (919)807-2425.

Sincerely,

Chrys Baggett

Ms. Chrys Baggett
Environmental Policy Act Coordinator

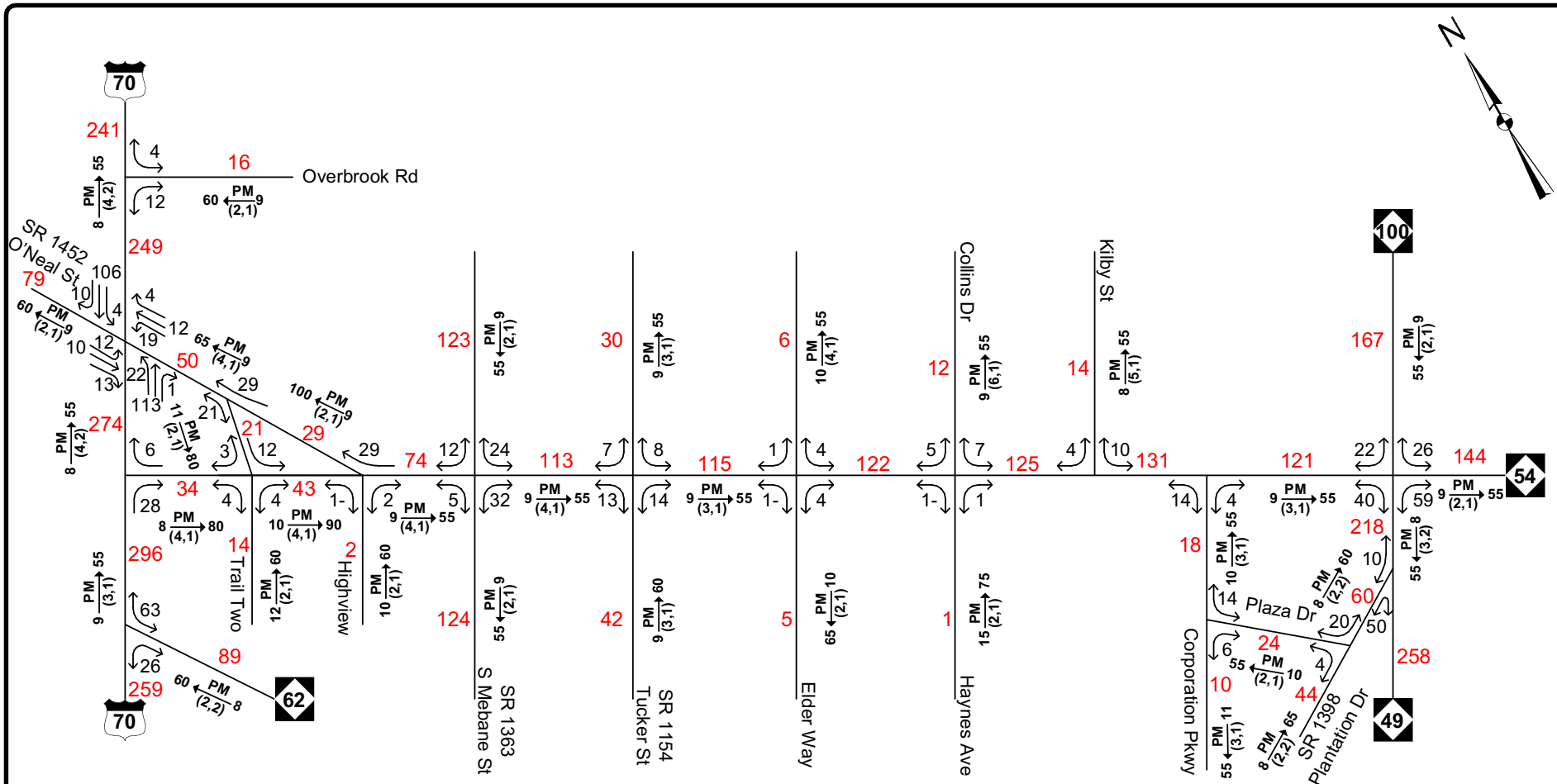
Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

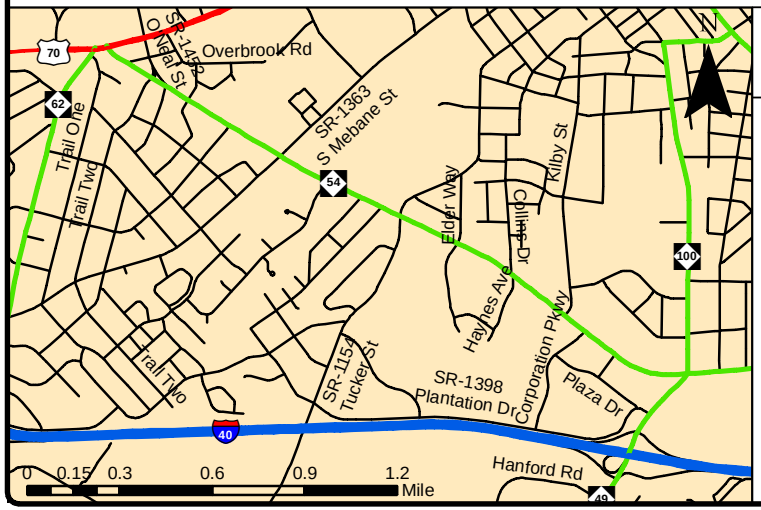
Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail: Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

APPENDIX B

TRAFFIC VOLUME INFORMATION





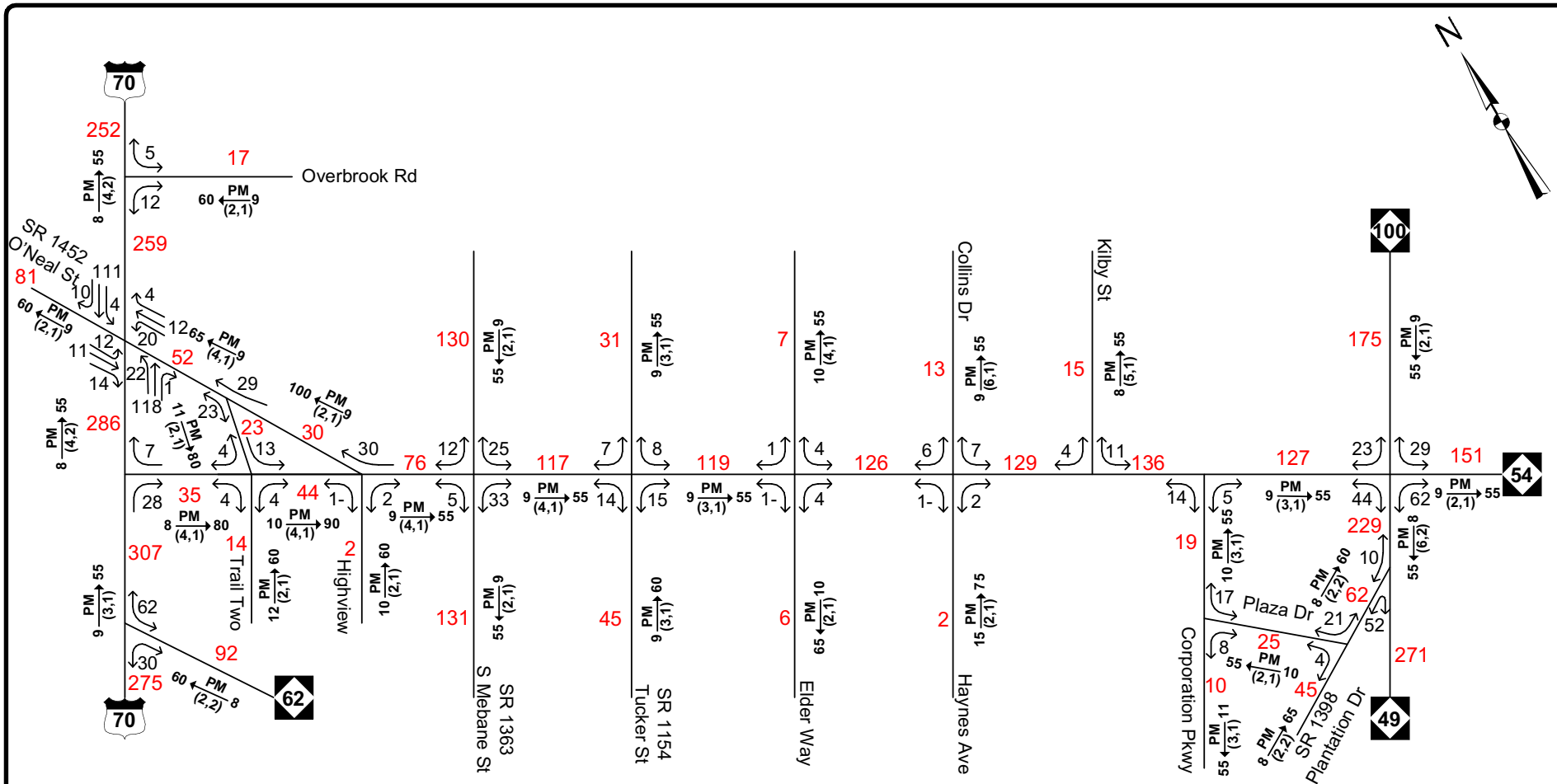
2012 AVERAGE ANNUAL DAILY TRAFFIC

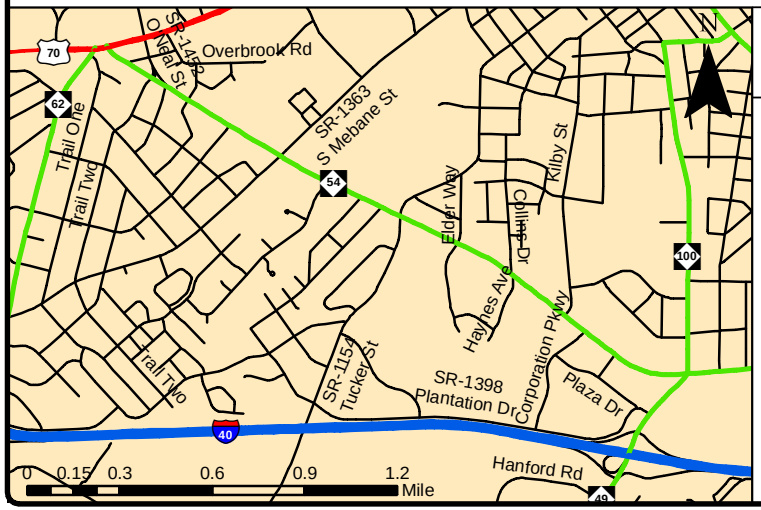
ALTERNATIVE 1 – NO BUILD
SHEET 1 OF 5

LEGEND

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

TIP: U-2907	**WBS:** 38985.1.1
COUNTY: Alamance	**DIVISION:** 7
DATE: 3-18-2014	
PREPARED BY: Bryan D. Johnson	
LOCATION: Burlington, NC	
PROJECT: Widen NC 54 to multi-lane facility from NC 100 to US 70	





2015 AVERAGE ANNUAL DAILY TRAFFIC

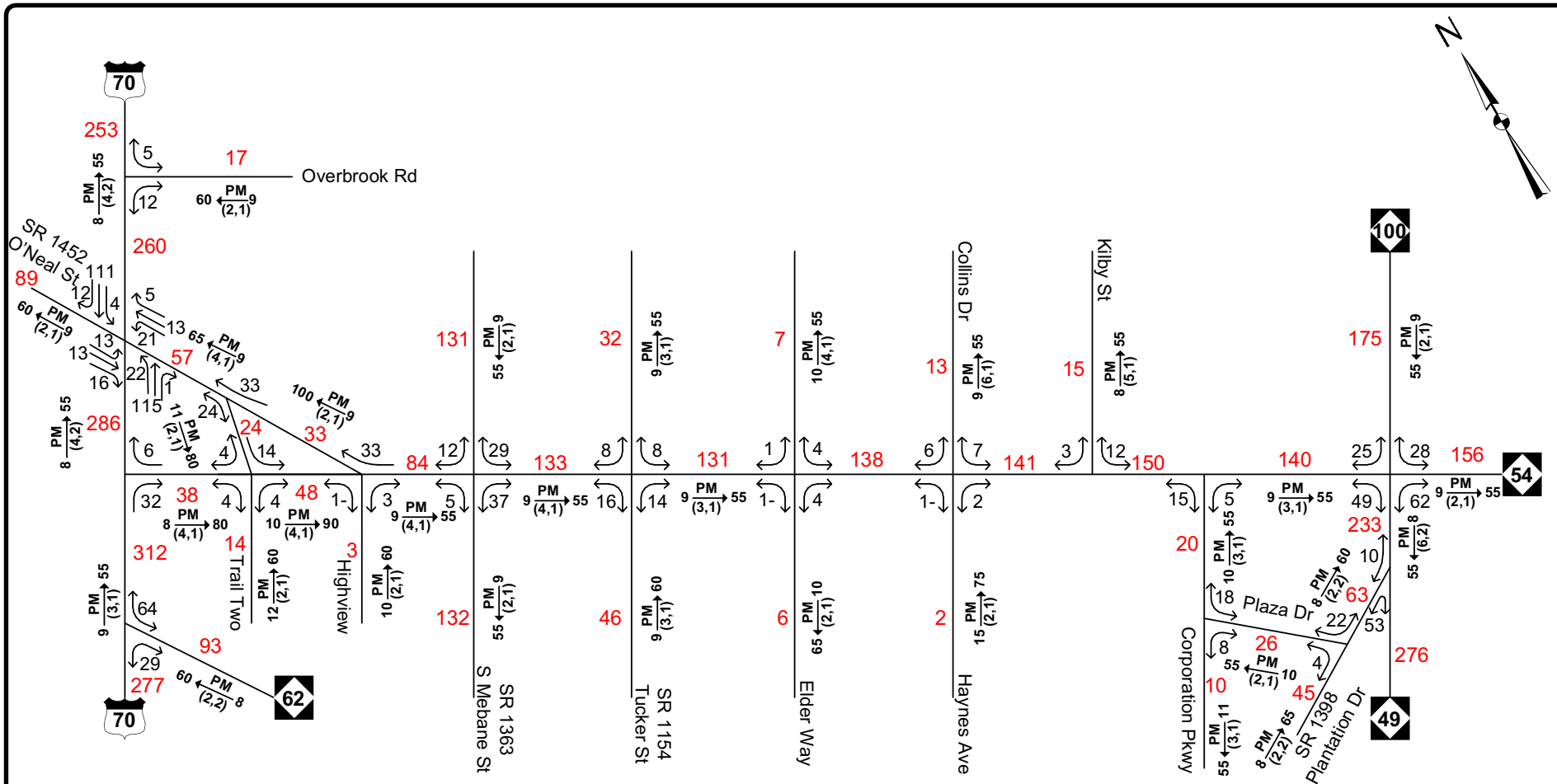
LEGEND

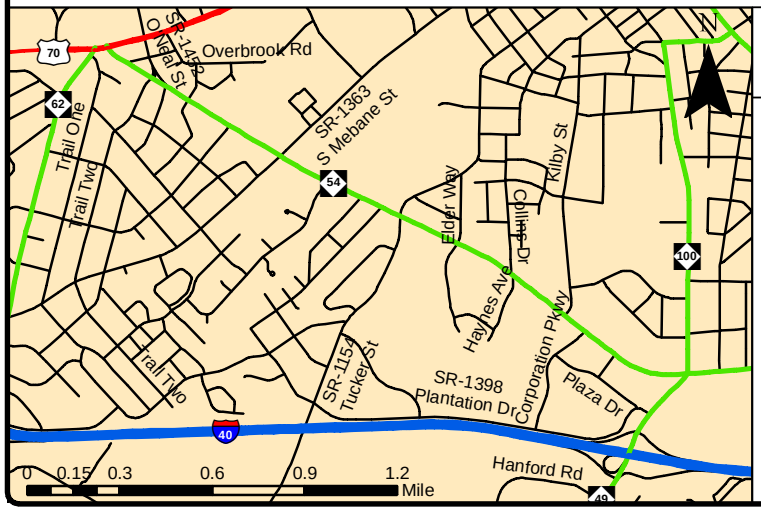
###	No. of Vehicles Per Day in 100s
1-	Less than 50 vpd
X	Movement Prohibited
K PM (d, t) D	
K	Design Hour Factor (%)
PM	PM Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TT-STs (%)

ALTERNATIVE 1 – NO BUILD

SHEET 2 OF 5

TIP: U-2907	**WBS:** 38985.1.1
COUNTY: Alamance	**DIVISION:** 7
DATE: 3-18-2014	
PREPARED BY: Bryan D. Johnson	
LOCATION: Burlington, NC	
PROJECT: Widen NC 54 to multi-lane facility from NC 100 to US 70	





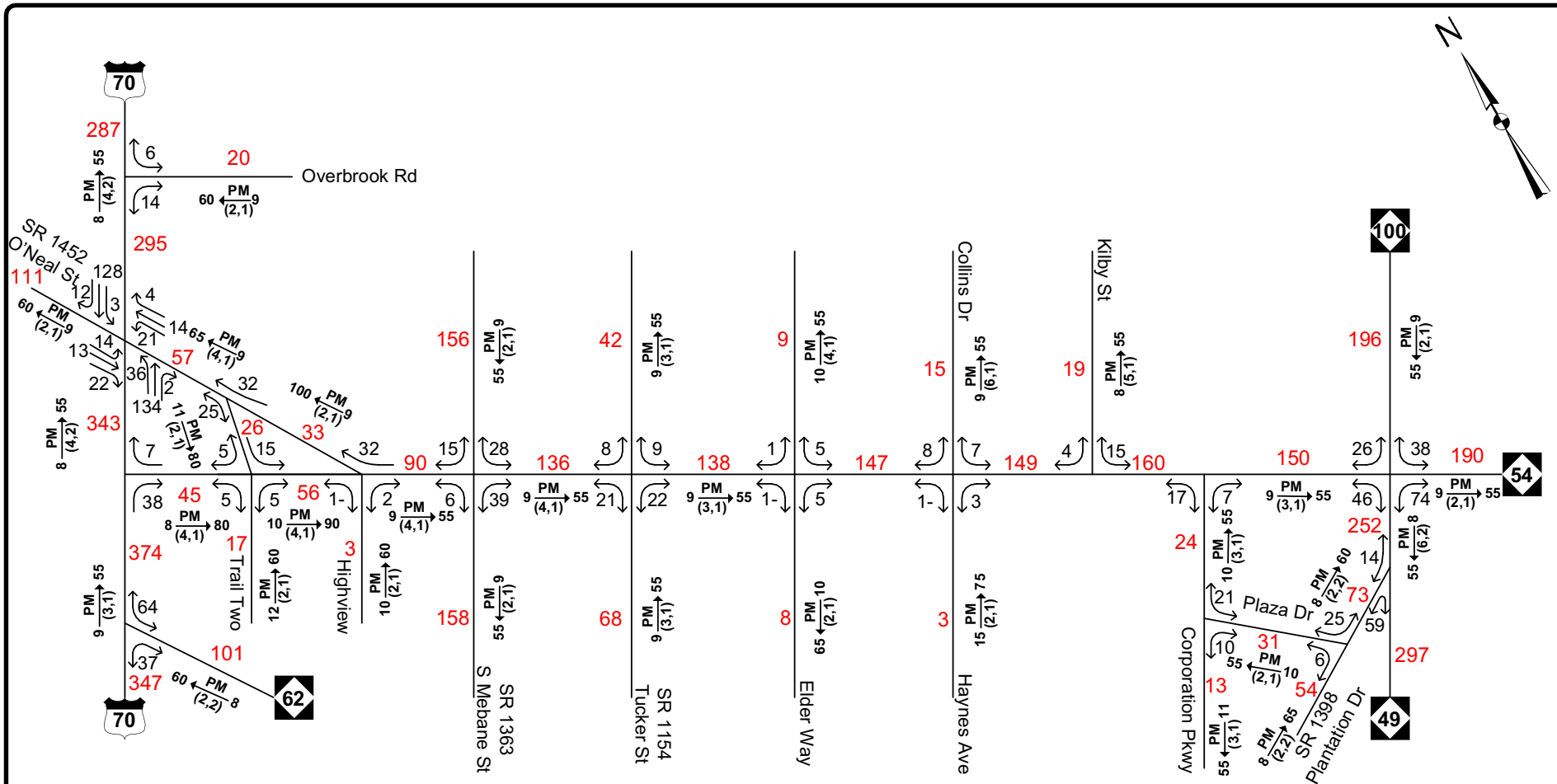
2015 AVERAGE ANNUAL DAILY TRAFFIC

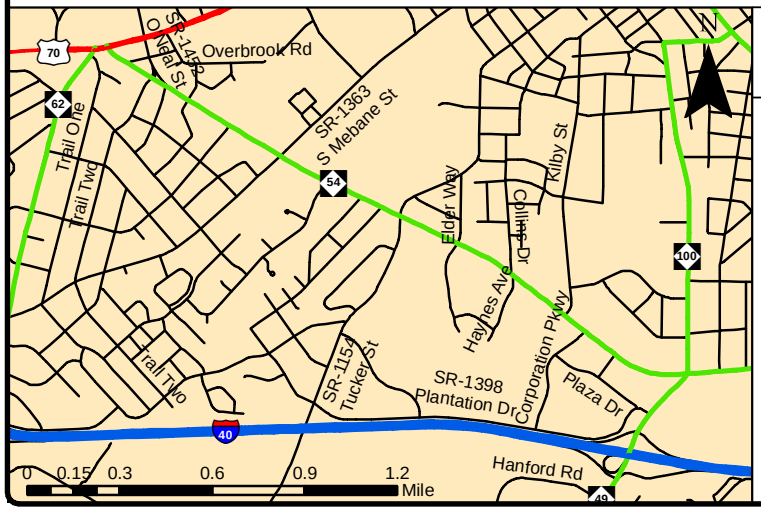
ALTERNATIVE 2 – BUILD
SHEET 3 OF 5

LEGEND

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

TIP: U-2907	**WBS:** 38985.1.1
COUNTY: Alamance	**DIVISION:** 7
DATE: 3-18-2014	
PREPARED BY: Bryan D. Johnson	
LOCATION: Burlington, NC	
PROJECT: Widen NC 54 to multi-lane facility from NC 100 to US 70	





2035 AVERAGE ANNUAL DAILY TRAFFIC

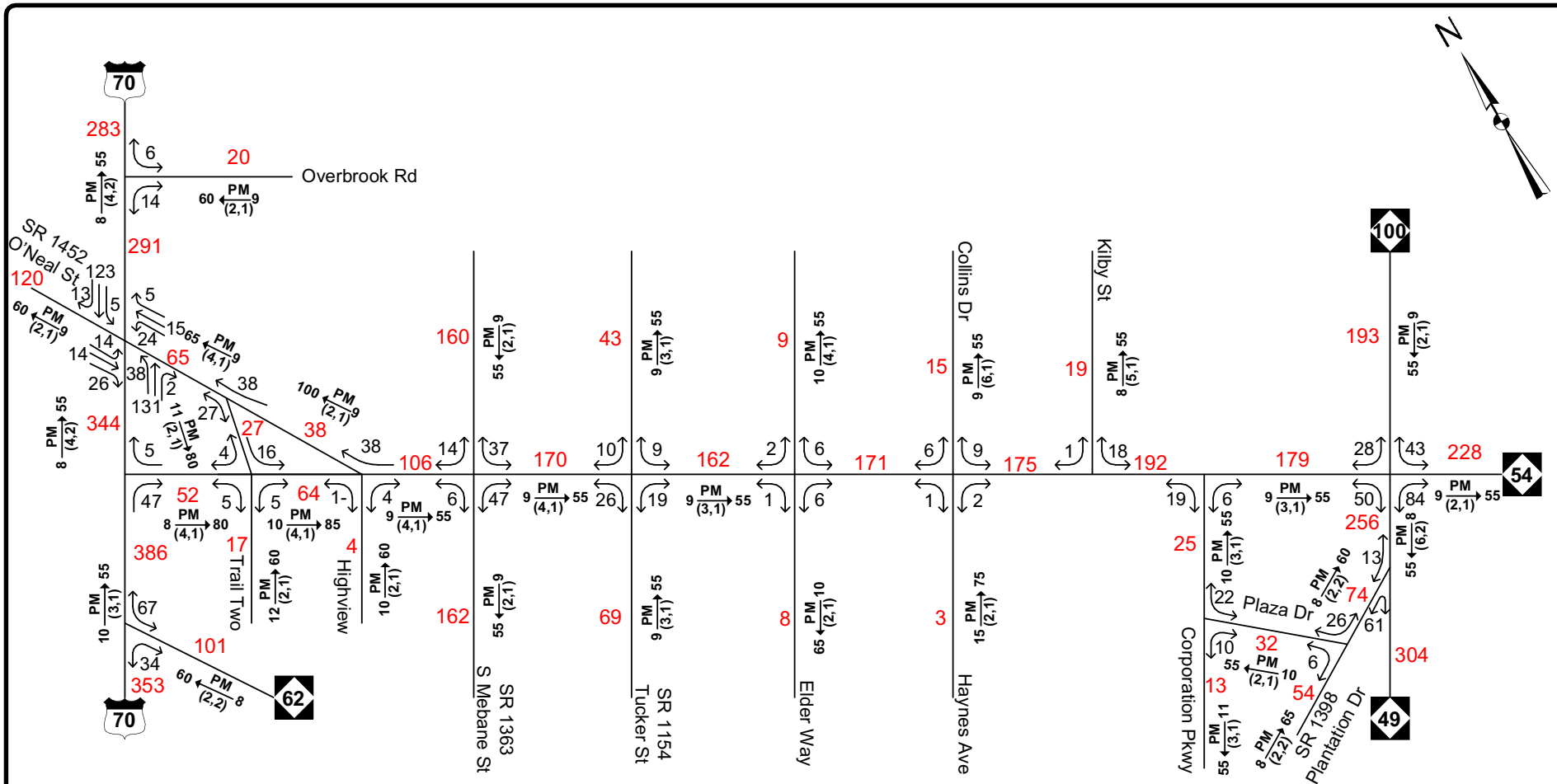
LEGEND

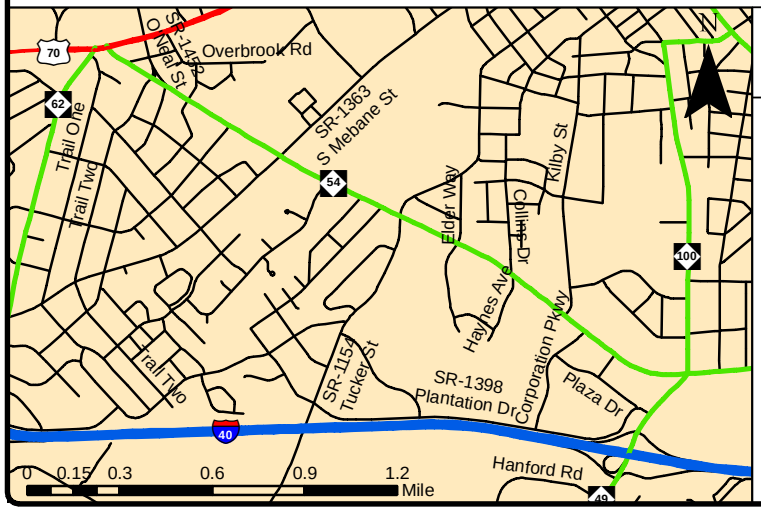
###	No. of Vehicles Per Day in 100s
1-	Less than 50 vpd
X	Movement Prohibited
K PM (d, t) D	
K	Design Hour Factor (%)
PM	PM Peak Period
D	Peak Hour Directional Split (%)
→	Indicates Direction of D
(d, t)	Duals, TT-STs (%)

ALTERNATIVE 1 – NO-BUILD

SHEET 4 OF 5

TIP: U-2907	**WBS:** 38985.1.1
COUNTY: Alamance	**DIVISION:** 7
DATE: 3-18-2014	
PREPARED BY: Bryan D. Johnson	
LOCATION: Burlington, NC	
PROJECT: Widen NC 54 to multi-lane facility from NC 100 to US 70	





2035 AVERAGE ANNUAL DAILY TRAFFIC

ALTERNATIVE 2 – BUILD
SHEET 5 OF 5

LEGEND

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

TIP: U-2907	**WBS:** 38985.1.1
COUNTY: Alamance	**DIVISION:** 7
DATE: 3-18-2014	
PREPARED BY: Bryan D. Johnson	
LOCATION: Burlington, NC	
PROJECT: Widen NC 54 to multi-lane facility from NC 100 to US 70	

APPENDIX C

RESIDENTIAL AND BUSINESS RELOCATIONS INFORMATION

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

☒ E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS ELEMENT:	38985.1.1	COUNTY	Alamance	Alternate 1 of 1 Alternate
T.I.P. NO.:	U-2907			
DESCRIPTION OF PROJECT:	Burlington-NC 54 (Chapel Hill Rd) from NC 100 (Maple Ave.) to US 70 (Church Street)-**Widen the existing roadway to a multi-lane facility**			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	8	15	23	0
Businesses	12	15	27	3
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	1	11	11	0

VALUE OF DWELLING

Owners		Tenants	
0-20M	0	$ 0-150	0
20-40M	0	150-250	0
40-70M	1	250-400	1
70-100M	1	400-600	14
100 UP	6	600 UP	0
TOTAL	8		15

DSS DWELLING AVAILABLE

For Sale		For Rent	
0-20M	0	$ 0-150	0
20-40M	14	150-250	0
40-70M	29	250-400	12
70-100M	45	400-600	14
100 UP	68	600 UP	27
	156		53

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	x	1. Will special relocation services be necessary?
	x	2. Will schools or churches be affected by displacement?
x		3. Will business services still be available
x		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	x	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
	x	7. Will additional housing programs be needed?
x		8. Should Last Resort Housing be considered?
x		9. Are there large, disabled, elderly, etc. families?
	x	10. Will public housing be needed for project?
x		11. Is public housing available?
x		12. Is it felt there will be adequate DSS housing housing available during relocation period?
	x	13. Will there be a problem of housing within financial means?
x		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? 24

REMARKS (Respond by Number)

4. Please see attached sheet
6. MLS, Realtor.com, newspaper
8. Last resort housing shold be considered
9. Yes, there are elderly individuals located in this area.
11. As of today, public housing is still available.
12, Yes there is adequate DSS housing.
14. Suitable business sites are available. MLS, Realtor.com, newspaper

Please note that there are 6 vacant business sites not included

In the relocation estimate but included in the attached site Breakdown. Please be advised that the number of business Relocatees may change if these sites attract business tenants.

Heather Fulghum	09-23-13		9/24/13
Heather Fulghum Right of Way Agent	Date	Relocation Coordinator	Date

FRM15-E

U-2907 Relocation Report Attachment for Question #4

1) Address: 1629 South Church Street
   Business Name: David E. Massey, Inc. (Real Estate Firm)
   Estimated Employees: 5 Full- Time/ 2 Part-Time

2) Address: 1624 South Church Street
   Business Name: Chiropractic & Progressive Rehab
   Estimated Employees: 10 Full-Time/ 4 Part-Time

3) Address: ONeal Street (No #)
   Business Name: Shear Style Salon
   Estimated Employees: 4 Full-Time/ 2 Part-Time

4) Address: 120 ONeal Street
   Business Name: Johnson & Associates (Life Insurance)
   Estimated Employees: 3 Full-Time/ 1 Part-Time

5) Address: 1700 South Church Street
   Business Name: Biscuitville
   Estimated Employees: 20 Full-Time/ 0 Part-Time

6) Address: 511 Chapel Hill Road
   Business Name: Titan Insurance
   Estimated Employees: 2 Full-Time/ 1 Part-Time

7) Address: 523 Chapel Hill Road
   Business Name: **Vacant**
   Estimated Employees: N/A

8) Address: 525 Chapel Hill Road
   Business Name: **Vacant**
   Estimated Employees: N/A

9) Address: 623 Chapel Hill Road
   Business Name: Mr. J's Auto Sales and Spa
   Estimated Employees: 3 Full-Time/ 3 Part-Time

10) Address: 629 Chapel Hill Road
    Business Name: L & J Fashions & Tailoring
    Estimated Employees: 4 Full-Time/ 2 Part-Time

    Address: 632 Chapel Hill Road
    Four Businesses (Brick Strip Mall)

    11) Business Name: Dean Patterson Construction Company
        Estimated Employees: 1 Full-Time/ 1 Part-Time

    12) Business Name: Burlington Machine Service
        Estimated Employees: 2 Full-Time/ 1 Part-Time

    13) Business Name: Patch & Ball
        Estimated Employees: 1 Full-Time/ 1 Part-Time

14) Business Name: Keck Company, General Contractor
Estimated Employees: 1 Full-Time/ 1 Part-Time

Address: 633 (635 and 637) Chapel Hill Road
Numerous Businesses

15) Business Name: Banks Enterprise
Unit 633-C
Estimated Employees: 4 Full-Time/ 2 Part-Time

16) Business Name: **Vacant**
Unit 633-B
Estimated Employees: N/A

17) Business Name: Sunshine Realty & Property Management
Unit 633-A
Estimated Employees: 2 Full-Time/ 2 Part-Time

18) Business Name: Part of 36 Construction (Residential and Commercial)
Unit 635 A/B (To the rear of property)
Estimated Employees: Not directly affected.

19) Business Name: Second Look Hair Studios
Unit 637-A
Estimated Employees: 2 Full-Time/ 1 Part-Time

20) Business Name: **Vacant**
Unit 637-B
Estimated Employees: N/A

21) Business Name: **Vacant**
Unit 637-C
Estimated Employees: N/A

22) Business Name: 36 Construction (Residential & Commercial)
Unit 637-D
Estimated Employees: 2 Full-Time/ 0 Part-Time

23) Address: Chapel Hill Road (No #)
Business Name: Dimas Auto Sales
Estimated Employees: 4 Full-Time/ 1 Part-Time

24) Address: 704 Chapel Hill Road
Business Name: Fairway One Stop – AMKO Gas & Convenience Store
Estimated Employees: 4 Full-Time/ 4 Part-Time
Special Considerations: Minority Owner

25) Address: 721 Chapel Hill Road (No address on GIS)
Business Name: No Name – Consignment Shop
Estimated Employees: 1 Full-Time/ 0 Part-Time

26) Address: 729 Chapel Hill Road
Business Name: Foy-Workman Construction Company
Estimated Employees: 4 Full-Time/ 0 Part-Time

27) Address: 813 Chapel Hill Road
Business Name: Gillian Coble & Moser, CPA
Estimated Employees: 12 Full-Time/ 2 Part-Time

28) Address: 2012 Chapel Hill Road
Business Name: CTCH – Thomas Chantler…, LLP (Public Accountants)
Estimated Employees: 3 Full-Time/ 2 Part-Time

29) Address: 2026 Chapel Hill Road
Business Name: Americas Self Storage
Estimated Employees: 2 Full-Time/ 1 Part-Time

30) Address: 2060 Chapel Hill Road
Business Name: Bank Shot Billiards, LLC
Estimated Employees: 0 Full-Time/ 5 Part-Time

31) Address: 2227 Maple Ave.
Business Name: BP Family Fare
Estimated Employees: N/A – Gas Tanks and Pumps Affected ONLY
Special Consideration: Minority

32) Address: 1824 S. Church Street
Business Name: La Fiesta Mexican Restaurant
Estimated Employees: 15 Full-Time/ 5 Part-Time
Special Consideration: Minority

33) Address: 1902 Tucker Road
Business Name: DNA SI Lab
Estimated Employees: 15 Full-Time/ 0 Part-Time

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