

External Scoping Meeting September 20, 2018

NC 73 Widening

From NC 115 (Old Statesville Road) to SR 2693 (Davidson-Concord Road)
Mecklenburg County, North Carolina – NCDOT Division 10
STIP Project No. R-2632AB
WBS No. 38824.1.2

Purpose of the Meeting

The purpose of today's meeting is to review the project, share project knowledge, and discuss the purpose of and need for the project.

Project Description

STIP Project R-2632AB proposes to widen NC 73 (Sam Furr Road) from NC 115 (Old Statesville Road) to Davidson-Concord Road (SR 2693) in Mecklenburg County, NC from two lanes to four lanes with bicycle and pedestrian accommodations.

Project Setting and Study Area

NC 73 provides a critical transportation facility for the northern Charlotte region that is experiencing significant population and employment growth. As one of the main arterials critical to the connectivity between the Towns of Huntersville, Cornelius and Davidson, NC 73 also provides access to adjacent residential communities, community resources such as places of worship, agricultural resources, and commercial/retail establishments.

Project Status and Schedule

Segment AB is identified as part of Project No. R-2632 in the current 2018-2027 State Transportation Improvement Program (STIP), dated August 2018.

The STIP has allocated \$1,100,000 for right-of-way acquisition, \$500,000 for utilities, and \$18,200,000 for construction. Right-of-way acquisition is planned to begin in fiscal year (FY) 2020 and construction is to begin in FY 2022. The project is state-funded and a Categorical Exclusion is being prepared in compliance with National Environmental Policy Act (NEPA).

Need for Project

The following conditions demonstrate the need for the project.

- The current year (2017) annual average daily traffic (AADT) along NC 73 ranges from 18,400 vehicles per day (vpd) to 20,000 vpd. In 2040, NC 73 is expected to carry between 39,600 vpd and 46,000 vpd. Population and employment growth will increase travel demand along NC 73, with most sections of the roadway forecasted to increase in traffic volumes by approximately 130 percent in 2040.

- NC 73 is currently congested during peak commuting hours with a volume-to-capacity (v/c) ratio of 0.67 for AM peak and 0.56 for PM peak hours. Without the proposed improvements, the corridor will have a v/c ratio of 0.89 and 0.75 for AM and PM peak hours, respectively. With the proposed improvements, the v/c ratio will be 0.52 for AM peak and 0.63 for PM peak.
- The corridor currently operates at Level of Service (LOS) E during AM and PM peak hours. Without the proposed improvements, the corridor will operate at LOS E in 2040 during AM and PM peak hours. With the proposed improvements, the corridor is expected to operate at LOS C during AM and PM peak hours.
- The R-2632AB project corridor lacks bicycle and pedestrian accommodations. The Charlotte Regional Transportation Planning Organization (CRTPO) Comprehensive Transportation plan recommends improvements to bicycle and pedestrian facilities.

Table 1. Intersection Crash Data (2012 to 2017)

Intersection	Crashes	Crashes per 100MVM	Rear End Crash Percentage
Old Statesville Road	41	90	17%
Parr Drive	10	28	30%
Jamesburg Road	3	8	33%
New Birth Drive	1	3	100%
Willow Breeze Lane	6	17	50%
Westmoreland Road	13	38	77%
Mayes Road	2	6	50%
Davidson-Concord Road	14	38	29%

Table 2. Segment Crash Rate Comparison (2012 to 2017)

	Crashes	Crashes per 100MVM	Statewide Rate*	Critical Rate**
NC 73 between Old Statesville Road and Davidson-Concord Road				
Total	47	59.648	241.37	258.91
Fatal	0	0	1.31	2.82
Non-Fatal Injury	14	17.768	75.62	85.54

*2013-2015 statewide crash rate for statewide urban 2-lane undivided roads in North Carolina.

**Based on the statewide crash rate (95% level of confidence).

Source: NCDOT Traffic Safety Unit

Project Purpose

The purpose of the project is to reduce congestion on NC 73 between NC 115 and Davidson-Concord Road, with an operational target of LOS C during the 2040 design year, and to provide bicycle and pedestrian accommodations.

Figures

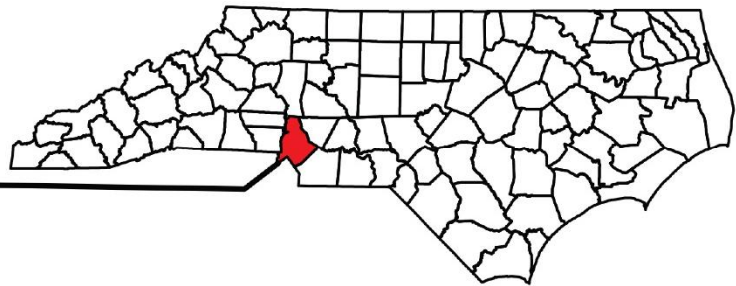
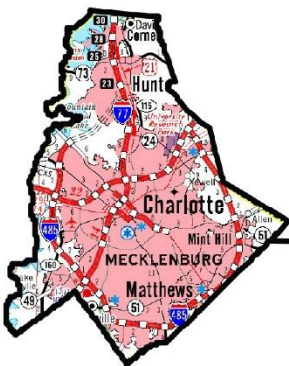
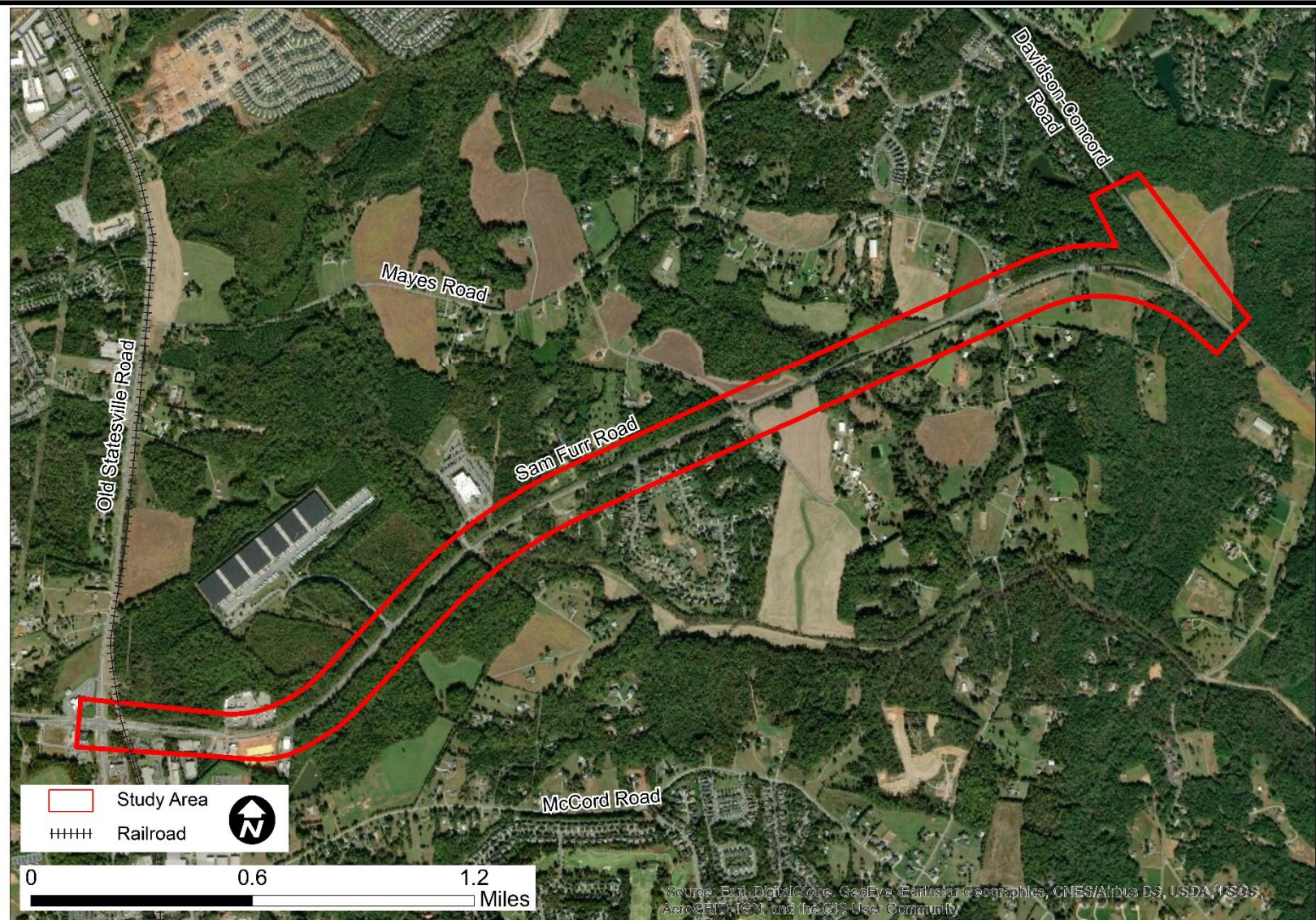
1. Project Vicinity Map
2. USGS Quad and Study Area Map
3. Environmental Features and Study Area Map

Attachments

Project Data Sheet

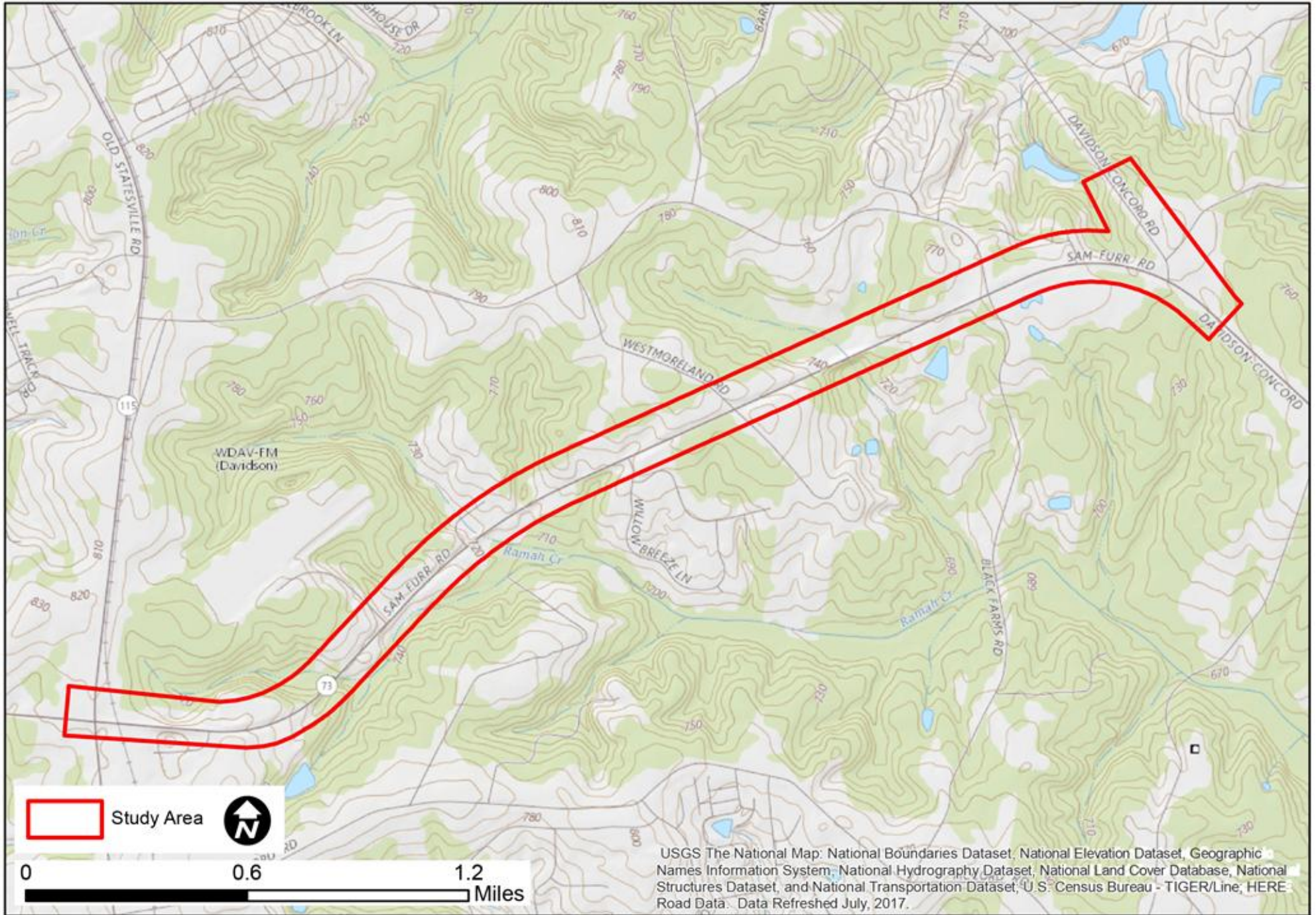
Preliminary Study Area Resources Inventory Table

Traffic Volume Diagrams



Project Vicinity Map
 NC 73 Widening from NC 115 (Old Statesville Road) to SR 2692 (Davidson-Concord Road)
 TIP No: R-2632AB
 WBS #: 38824.1.2
 Mecklenburg County
 August 2018

Figure 1



Project Study Area

NC 73 Widening from NC 115 (Old Statesville Road) to SR 2692 (Davidson-Concord Road)

TIP No: R-2632AB

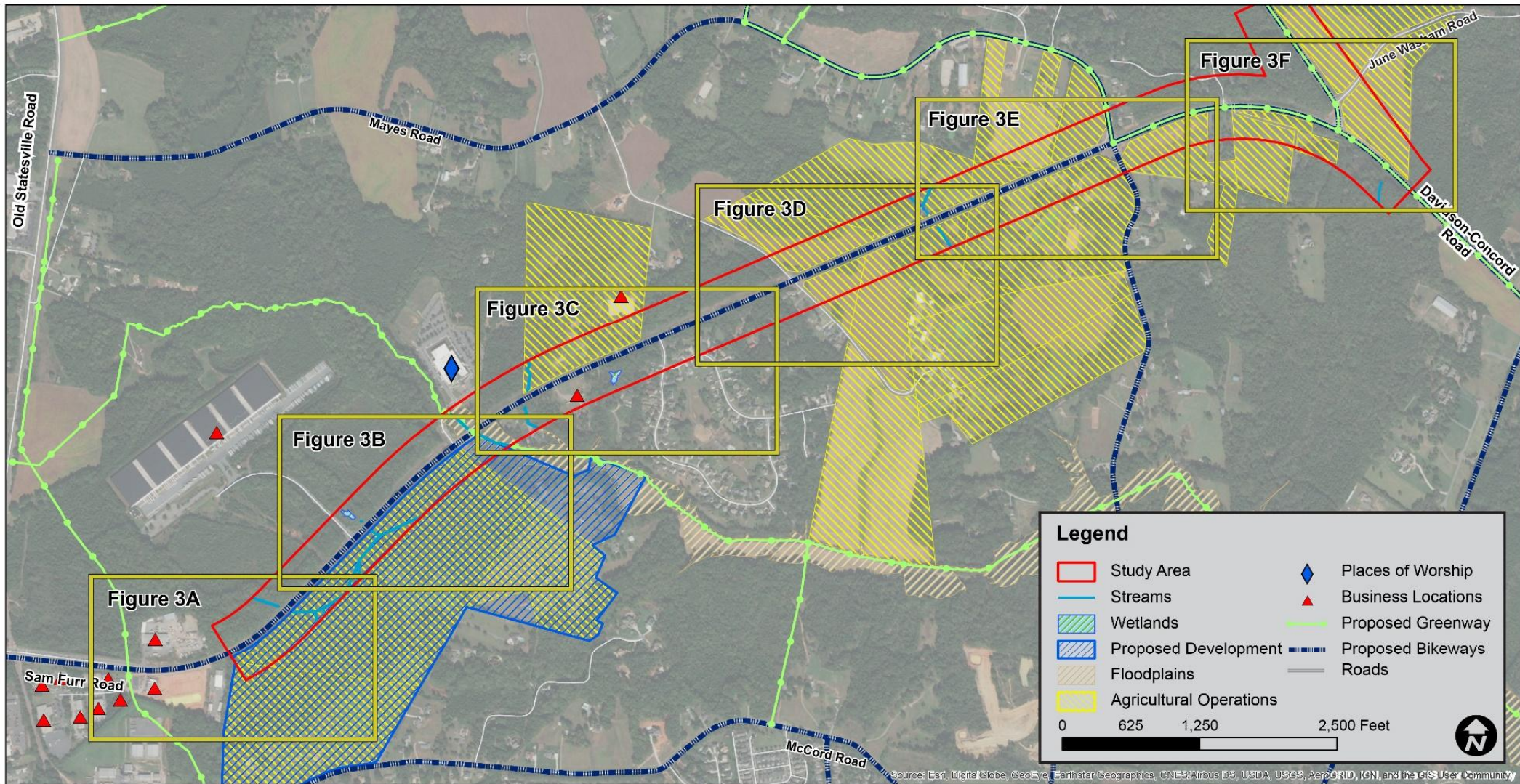
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Mecklenburg County

August 2018

Figure 2





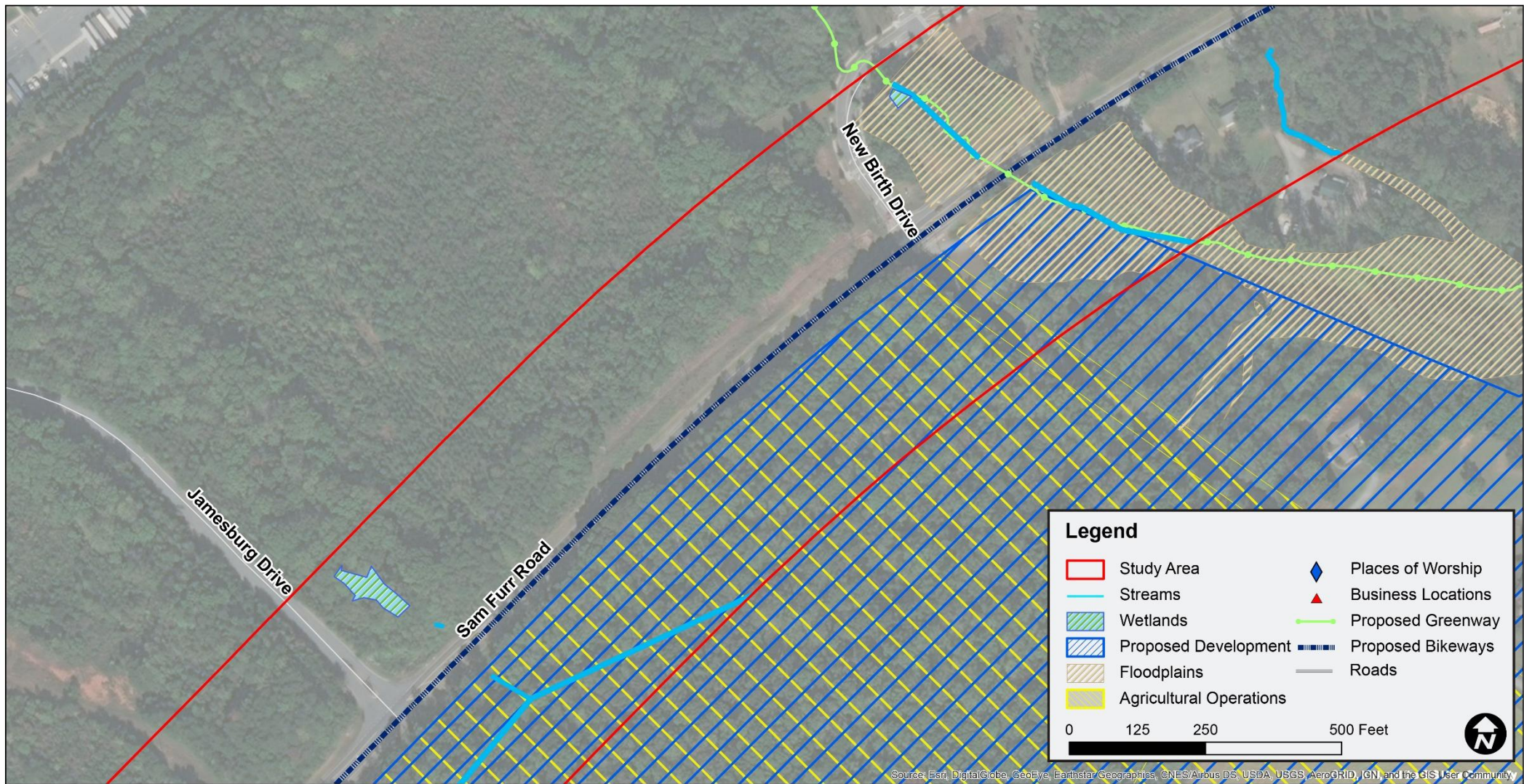
Environmental Features Map
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Figure 3



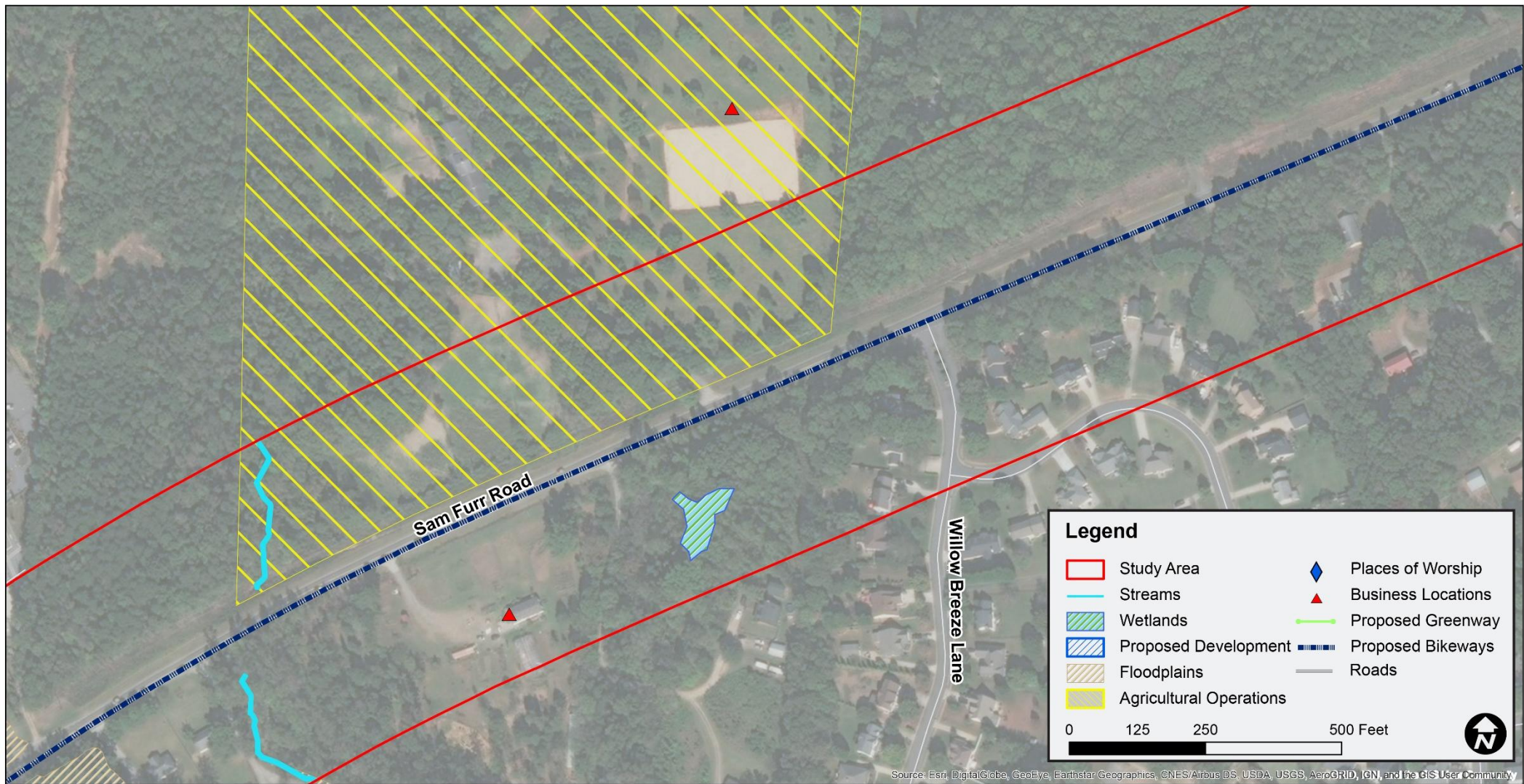
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Figure 3A



Environmental Features Map
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Figure 3B



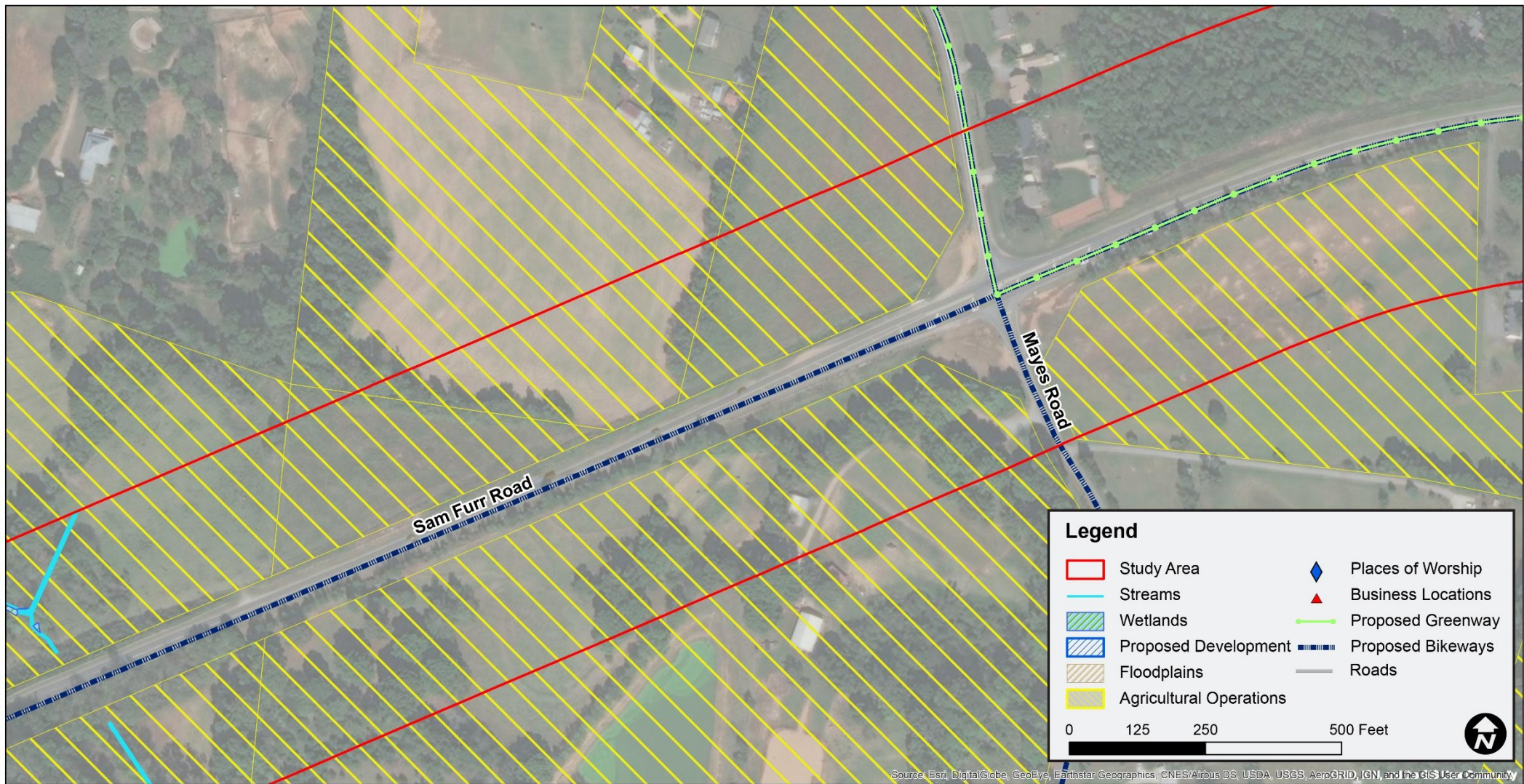
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Figure 3C



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








Figure 3D




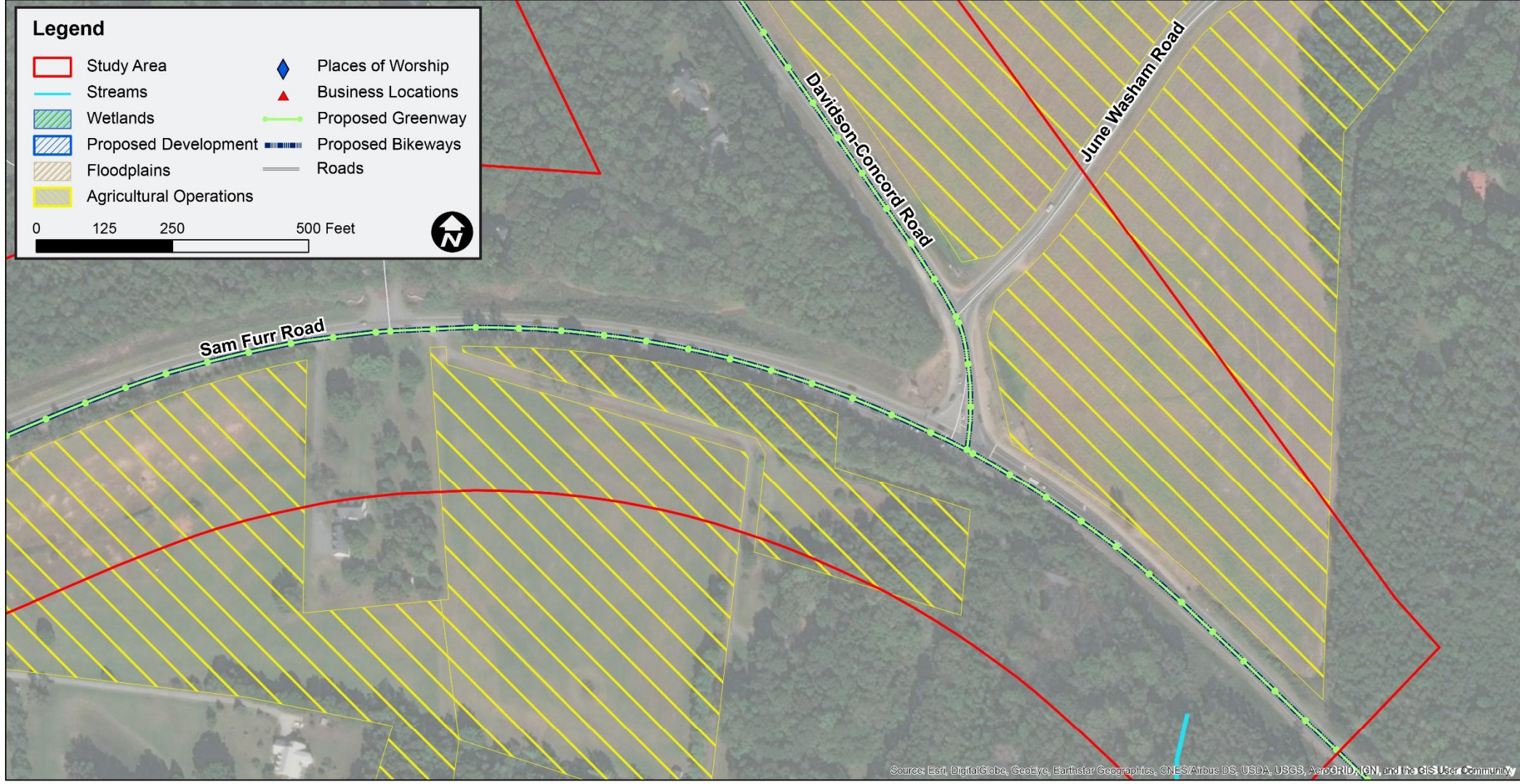
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Figure 3E

Legend

 Study Area	 Places of Worship
 Streams	 Business Locations
 Wetlands	 Proposed Greenway
 Proposed Development	 Proposed Bikeways
 Floodplains	 Roads
 Agricultural Operations	

0 125 250 500 Feet

Environmental Features Map
 NC 73 Widening from NC 115 (Old Statesville Road) to SR 2692 (Davidson-Concord Road)
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 Mecklenburg County
 August 2018

Figure 3F

EXTERNAL SCOPING INFORMATION SHEET

TIP No.:	R-2632AB	Sent Date:	09/06/2018
WBS No.:	38824.1.2	Revision Date:	
Federal Aid No.:	STP-0073(047)	Meeting Date:	09/20/2018
NCDOT Division:	10	County:	Mecklenburg

Project Description

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General Project Need

The current year (2017) annual average daily traffic (AADT) along NC 73 ranges from 18,400 vehicles per day (vpd) to 20,000 vpd. In 2040, NC 73 is expected to carry between 39,600 vpd and 46,000 vpd. Population and employment growth will increase travel demand along NC 73, with most sections of the roadway forecasted to increase in traffic volumes by approximately 130 percent in 2040.

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The purpose of the project is to reduce congestion on NC 73 between NC 115 and Davidson-Concord Road, with an operational target of LOS C during the 2040 design year, and to provide bicycle and pedestrian accommodations.

Metropolitan / Rural Planning Organization Area: Charlotte Regional Transportation Planning Organization (CRTPO)

NEPA / 404 Merger Candidate: Yes No Not Sure

Feasibility Study Completed: Yes No _____ Date

Type of Environmental Documents to be Prepared / Project Schedule:

	Dates:	Type of Document:
Environmental Document:	2019	CE

Right of Way:	2020
Let:	2022

Air Quality Status: Non-attainment Maintenance Attainment

Design Criteria

Length of Project:	2.67 miles
Type of Access Control: (Existing / Proposed)	Existing: No access control Proposed: Partial Control
Structure Inventory:	Ramah Creek Culvert
Functional Classification:	Other Principal Arterial on the Federal Functional Classification System.
Strategic Highway Corridor Information:	Not included on the 2015 Strategic Transportation Corridors map.
CTP/Thoroughfare Plan Designation: (Facility Type)	Boulevard Needs Improvement
Roadway Typical Section: (Existing / Proposed)	Existing: 2-lane undivided Proposed: 4-lane divided

Typical Section in Compliance with Conformity Determination:

Yes No

Right of Way: (Existing / Proposed)	Existing: 100 feet from west project limits to Mayes Road. Narrows to 85 feet from Mayes Road to east project limits. Proposed: 122 feet for the length of the project
Existing Posted Speed:	55 mph
Proposed Design Speed:	50 mph

Traffic Data (AADT)

Current Year:	2017	18,400-20,000
Design Year:	2040	39,600-46,000

% TTST:	3%, 3%
% Dual:	5-7%, 5-7%
% DHV:	8%, 8%
Directional Split	55-60, 55-60

Source: NCDOT Traffic Estimate for R-2632AB – September 27, 2017

Note: For 2017 No Build and 2040 Build Alternative

Design Standards Applicable: AASHTO 3R

Railroad Involvement

There is one railroad crossing in the project study area located approximately 200 feet east of NC 115. No rail impacts are anticipated.

Cost Estimate

	Construction	ROW & Utilities	Total Cost
TIP Estimate:	\$ 18,200,000	\$ 1,600,000	\$ 19,800,000

Other STIP Projects in the Area

R-5706A: NC 73 Widening from Davidson-Concord Road (SR 2693) to Poplar Tent Road (SR 1394).

R-5706B: NC 73 Widening from Poplar Tent Road to US 29.

U-6029: Poplar Tent Road Widening from Derita Road to NC 73.

U-5771: US 21 Widening from Gilead Road (SR 2136) to Holly Point Drive.

U-5767: US 21 Widening from Northcross Center Court to Westmoreland Road (SR 2147).

I-5715: Upgrade NC 73 interchange at I-77 to split diamond configuration.

Long Range Plan History

Project R-2632AB is located within the Charlotte Regional Transportation Planning Organization (CRTPO) area. The project is listed in the CRTPO 2045 Metropolitan Transportation Plan (MTP) as a widening to multi-lanes for horizon year 2025. No bike or pedestrian facilities are recommended in the MTP. The Comprehensive Transportation Plan (CTP) identifies NC 73 as a Boulevard that Needs Improvement. The CTP also indicates improvement to on-road bike facilities and recommends sidewalks. The Huntersville Bikeway and Greenway Master Plan Map recommends wide paved shoulders.

Natural / Human Environment Information

Natural Environment (from 2017 Final Natural Resources Technical Report):

- 10 jurisdictional streams and seven wetlands were identified.
- No streams are subject to any North Carolina River Basin Buffer Rules.
- No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW) or water supply watersheds (WS-I or WS-II)
- No streams included in the North Carolina Final 2016 303(d) lists of impaired waters.
- No areas of Essential Fish Habitat (EFH) were identified.
- Mecklenburg County is not a designated trout county.
- Four terrestrial communities were identified within the study area.
- USFWS lists six federally protected species for Mecklenburg County:
 - Rusty-patched bumble bee; Biological Conclusion: No Effect
 - Schweinitz's sunflower; Biological Conclusion: No Effect
 - Smooth coneflower; Biological Conclusion: No Effect
 - Michaux's sumac; Biological Conclusion: No Effect
 - Carolina heelsplitter; Biological Conclusion: No Effect
 - Northern long-eared bat; Biological Conclusion: Consistent with 4(d) Rule
- Bald Eagle: Due to the lack of habitat, no known occurrences, and minimal impact anticipated for this project, it has been determined that this project will not affect this species.

Human Environment (from 2018 Draft Community Impact Assessment):

- No presence of minority and low income populations meeting the criteria for Environmental Justice.
- Data does not indicate Limited English Proficiency (LEP) populations meeting the US Department of Justice LEP Safe Harbor threshold.
- Data does indicate a Spanish language-speaking population exceeding 50 persons that may require language assistance.
- Two privately owned recreation facilities: Everest Gymnastics Training Center and Lake Pointe Equestrian Center.

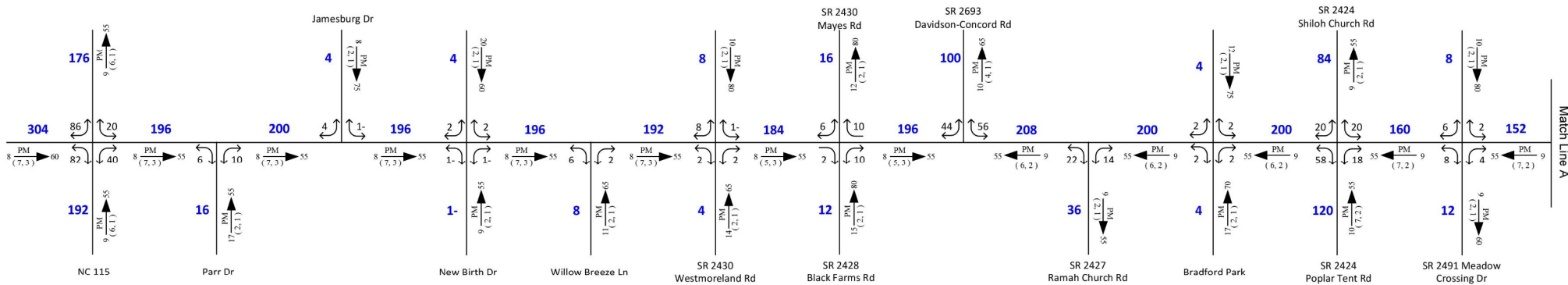
- Land use mostly undeveloped/agricultural. Some commercial and a church on western end. One subdivision (Willowbrook) in the central area on the south side. Some residential on the east end, including Pages Pond subdivision.
- No pedestrian and bicycle facilities.
- Proposed 141-unit subdivision, Northbrook, planned in western end of corridor – scheduled to be approved in September 2018.
- Sam Furr Road Mini Storage to expand east of Parr Road – plan approved in 2017.
- Shown on the CRTPO Bike Suitability Map as “Poor” for cyclists.
- No greenway facilities, however, there are greenways and/or multiuse paths proposed along and/or crossing NC 73 in the project study area.
- Not served by Charlotte Area Transit Service (CATS) bus routes.

Preliminary Study Area Resources Inventory Table
(Use with Environmental Features Map)

Resource/Affected Environment & Measure	Applicability/ Resources in Study Area
General Project Information	
Length of project (approximate in miles)	2.67 miles
Crossing or Intersecting (#) <i>Intersections (major) include:</i> 1. Sam Furr Rd at Jamesburg Dr 2. Sam Furr Rd at Willow Breeze Ln 3. Sam Furr Rd at Westmoreland Rd 4. Sam Furr Rd at Mayes Rd 5. Sam Furr Rd at Davidson-Concord Rd (signalized)	5 - Intersections 1 – railroad crossing
Cultural Resources	
NRHP (and eligible sites, districts, other properties) (#)	0 – NRHP sites
Human Environment	
Community Resources (#)	1 - Church 0 - Cemetery 0 – Schools;
Public Parks/Section 4(f) Properties (#)	None
Greenways, Game Lands, Land and Water Conservation Fund Properties, etc. (#)	None Existing; one proposed greenway crossing (Carolina Thread Trail)
Residential Properties (# potentially affected)	1 – Known
Business Properties (# potentially affected)	0 – Known
High % Special Populations (Low-income, Minority)	No – Minority and/or Low-Income
Natural Environment	
Streams (# of stream impact locations)	10 delineated (5 stream impact areas) <i>Approximately 1,030 lf of total impact based on slope stakes + 25' from Functional Design. USACE Permit Required Previously determined to qualify for RGP 31</i>
Wetlands (est. acres)	7 wetlands delineated (0.3 acre delineated) <i>Approximately 0.03 acre of impacts based on slope stakes + 25' from Function Design</i>
Critical Water Supply Watersheds	None
Riparian Buffer Rules apply	None

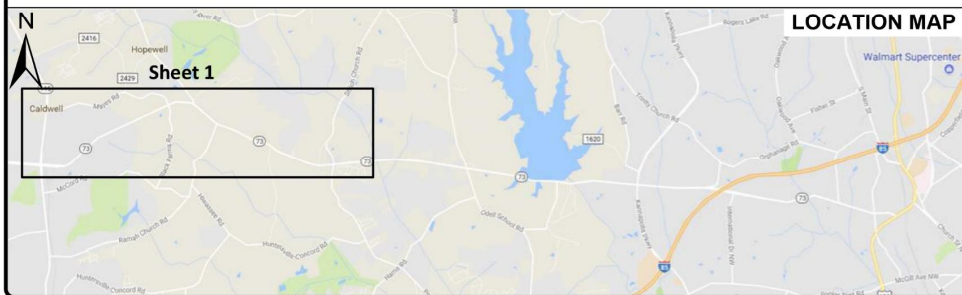
Identified Critical Habitat/ESA Spp. (# known)	0 – No Effect <i>Northern long-eared bat – 4(d) Rule Compliant</i>
Physical Environment	
Hazardous Materials (# suspected/known sites)	None
Utilities	TBD
Active agriculture (Voluntary Agricultural District)	No VADs or EVADs in study area
Noise	Impacts TBD Noise sensitive receptors in study area

NOTES: This table is intended to be used in conjunction with the Environmental Features Map



Match Line A

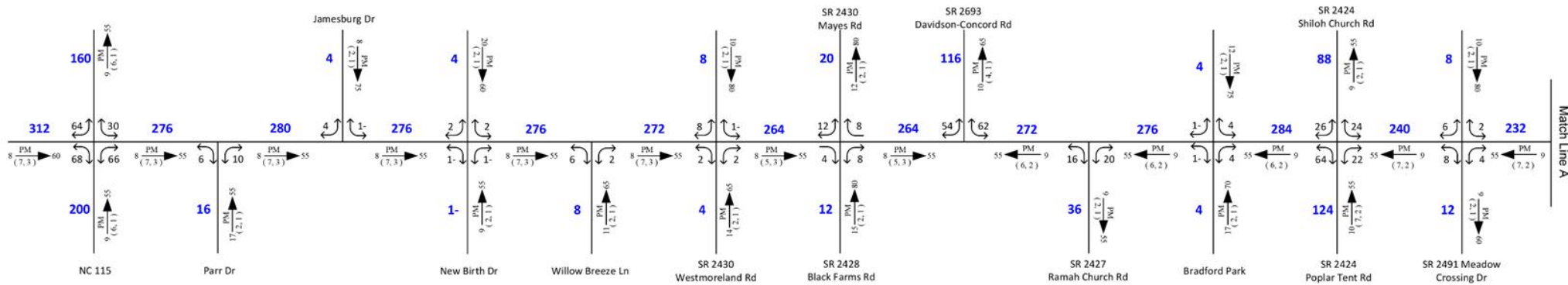
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LOCATION MAP

2017 AVERAGE ANNUAL DAILY TRAFFIC
NO BUILD ALTERNATIVE
SHEET 1 OF 2

<p>LEGEND</p> <p>### Vehicles Per Day (VPD) in 100s 1- Less than 50 VPD X Movement Prohibited Roadway ● Existing Interchange</p>		<p>← PM → D (d, t)</p> <p>K Design Hour Volume Percentage PM PM Peak Period D Peak Hour Directional Split → Indicates Direction of D (d,t) Duals, TT-STs (%)</p>		<p>TIP: R-2632AB & R-5706 COUNTY: Cabarrus & Mecklenburg DATE: September 27, 2017 PREPARED BY: WSP LOCATION: NC 73 from NC 115 to US 29 PROJECT: Widen NC 73 to four lane controlled access facility</p>		<p>WBS: 38824.1.2 & 46378.1.1 DIVISION: 10</p>	
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Match Line A

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2017

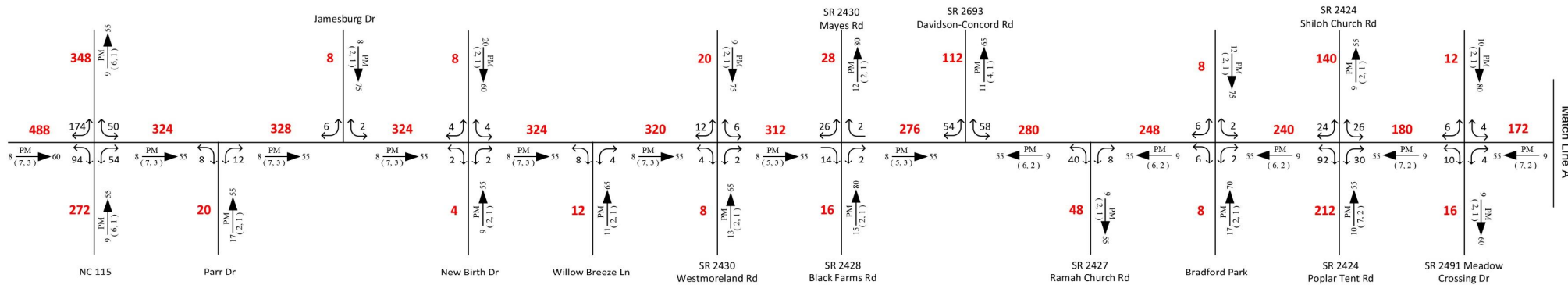
AVERAGE ANNUAL
DAILY TRAFFIC

**BUILD ALTERNATIVE
SHEET 1 OF 2**

LEGEND

- ### Vehicles Per Day (VPD) in 1000s
- 1- Less than 50 VPD
- X Movement Prohibited Roadway
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- K Design Hour Volume Percentage
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2040

AVERAGE ANNUAL DAILY TRAFFIC

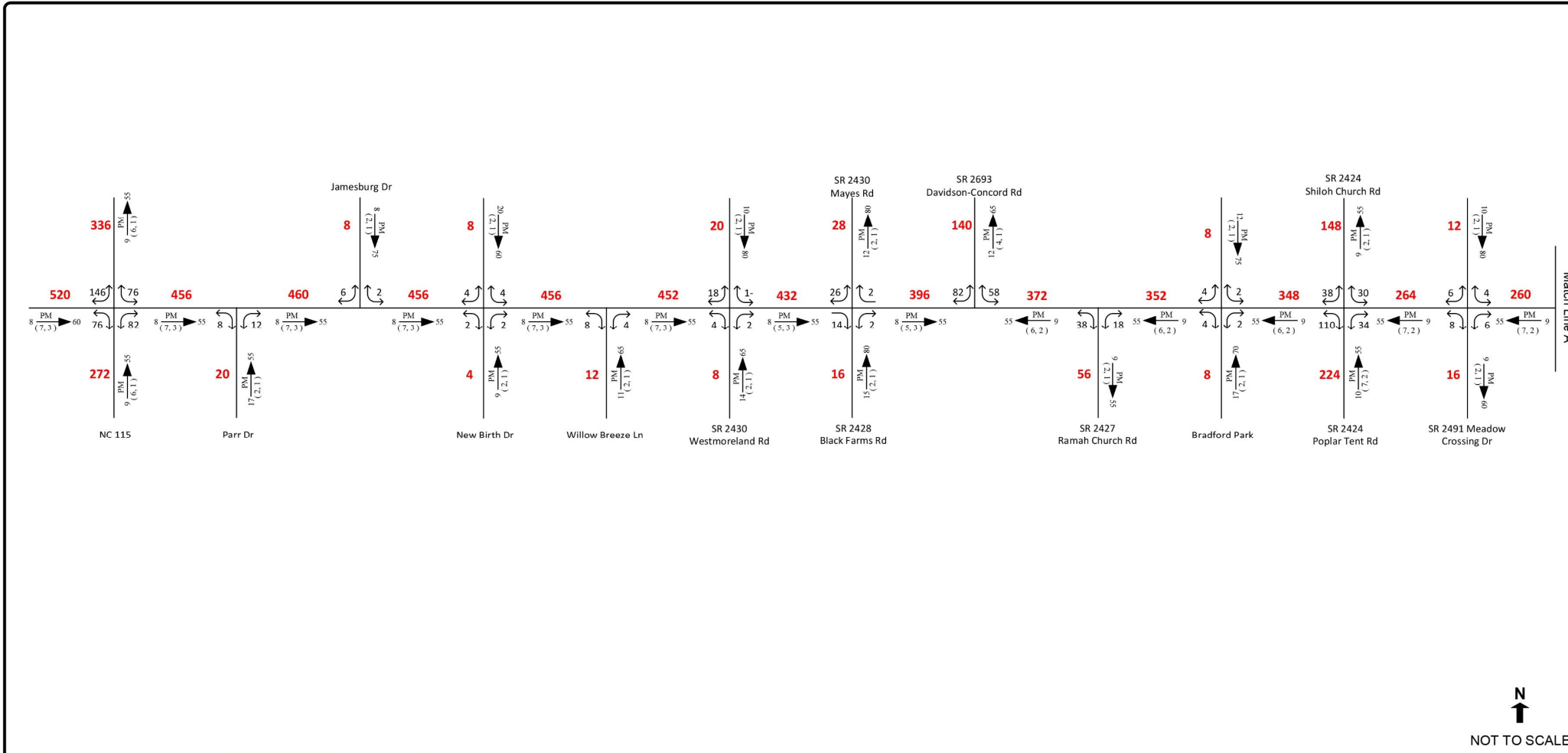
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2040

AVERAGE ANNUAL DAILY TRAFFIC

BUILD ALTERNATIVE SHEET 1 OF 2

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