



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

June 24, 2016

MEMORANDUM

TO: Mr. Patrick Norman, P.E., Director
Division of Planning and Programming

FROM: Ms. Lynnise M. Hawes, P.E. 
Feasibility Studies Engineer

SUBJECT: FS-1003A: NC 53 (Western Boulevard) from US 17 to NC 24; Onslow County

As requested, we have completed feasibility study FS-1003A for the proposed upgrading of NC 53 in Onslow County. This project proposes to construct a median and provide access management along NC 53 from US 17 to NC 24, a distance of approximately 2.5 miles. The project location is shown on Figure 1. Our evaluation of this project was based on two alternatives, the details of which are as follows:

Alternative 1: Proposed six-lane divided curb and gutter section with four 11-foot travel lanes, two 12-foot travel lanes, a 17.5-foot raised grass median, a 5-foot sidewalk to the south, and a 10-foot multiuse path to the north on variable width right of way. It is anticipated that no residences and no businesses would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$15,800,000
Right of Way.....	\$8,500,000
Utility Relocation	\$100,000
<u>Total Cost (Alternative 1).....</u>	<u>\$24,400,000</u>

Alternative 2: Proposed six-lane divided curb and gutter section with four 11-foot travel lanes, two 12-foot travel lanes, a 23-foot raised grass median, a 5-foot sidewalk to the south, and a 10-foot multiuse path to the north on variable width right of way. It is anticipated that no residences and no businesses would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$16,400,000
Right of Way.....	\$8,500,000
Utility Relocation	\$100,000
<u>Total Cost (Alternative 2).....</u>	<u>\$25,000,000</u>



The current year Average Daily Traffic (ADT) along NC 53 ranges from 33,500 vehicles per day (vpd) to 55,200 vpd. For the design year 2035, the traffic volume along NC 53 is estimated to range between 43,200 vpd to 74,300 vpd. Truck Traffic is estimated to make up approximately 3 percent of the daily traffic.

The existing segment of NC 53 operates at a level of service (LOS) F under current traffic volumes. With the proposed improvements, NC 53 is projected to operate at a LOS F. See the May 2014 Western Boulevard (NC 53) Corridor Study by VHB Engineering for detailed traffic analysis.

Between 2010 and 2015, 1,495 total crashes were reported within the project limits. The crash rate for NC 53 is 828.54 crashes per 100 million vehicle miles (Crashes/100MVM) traveled. The rate is much higher than the statewide rate of 262.59 crashes/100MVM traveled for 4+ lanes with continuous left turn lane Urban North Carolina Routes. There were 1 fatal crash, 352 non-fatal injury crashes, and 1142 property damage only crashes. The most prevalent types of crashes were Rear End (42%), Angle (25%), Sideswipe (16%), and Left Turn (8%).

A detailed investigation was not conducted for this feasibility study, however it is anticipated that there will be possible impacts to Coastal Carolina Community College, F.A.C.T. Day Treatment School, and Onslow Memorial Hospital. No impacts to parks, recreation areas, or community facilities are anticipated with this project.

The Geographic Information System Service of the North Carolina State Historic Preservation Office was used to determine if any historic properties on the National Register of Historic Places (NRHP) or state study lists exist in the project area. No properties or structures located within the project corridor were found to be potentially historic.

The proposed project study area is located in the White Oak River Basin. NC 53 crosses the Sandy Run Branch within the project study area. The Sandy Run Branch has a stream classification of SC; NSW. This waterbodies will likely need to be surveyed and have the appropriate coordination with North Carolina Department of Environmental Quality (NCDEQ) and the U.S. Army Corps of Engineers (USACE) during any environmental document study.

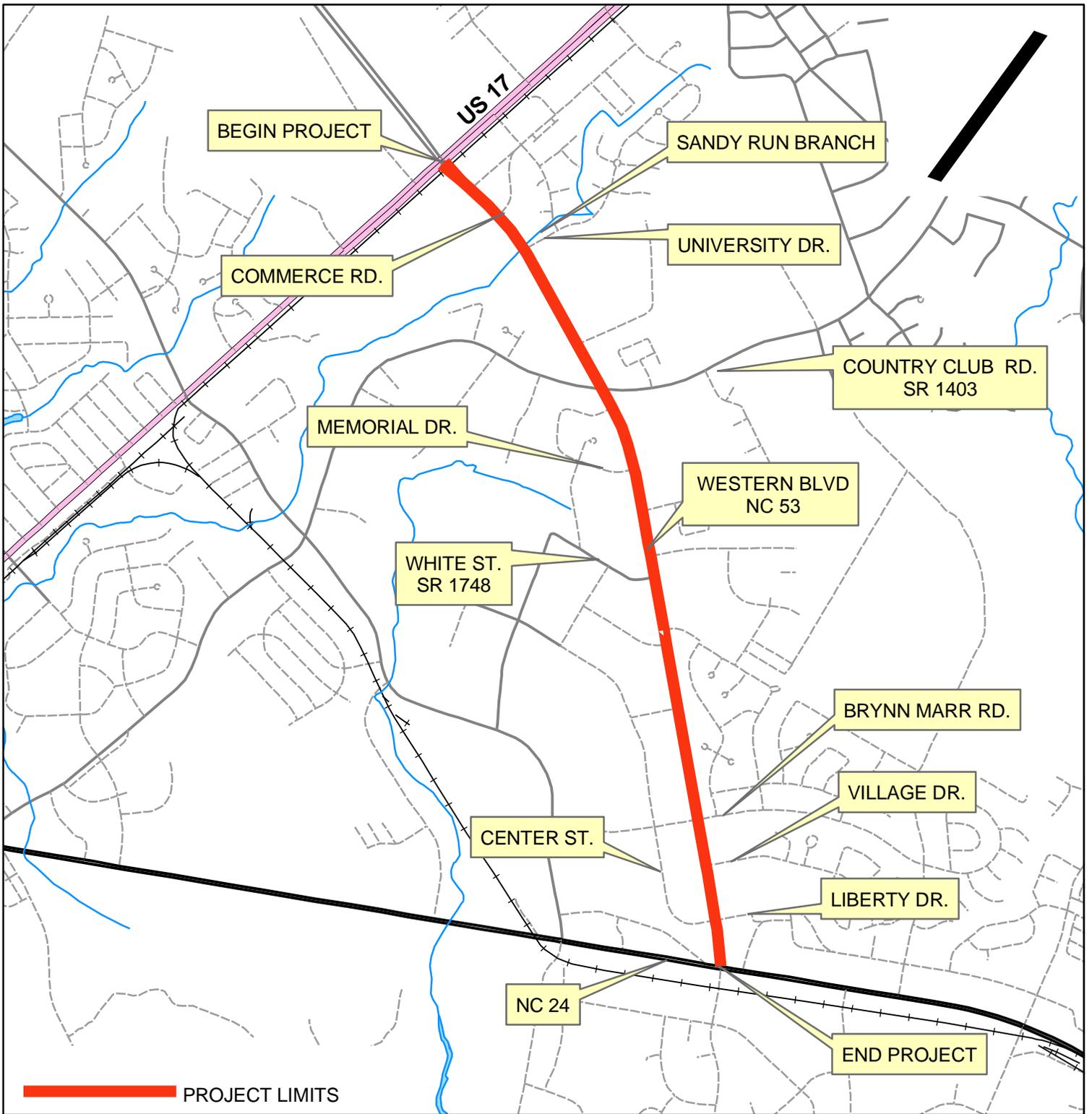
The proposed project study area contains wetlands associated with the Sandy Run Branch. Permitting with the U.S. Army Corps of Engineers (USACE) will likely need to be obtained before construction of the project, and appropriate mitigation measures should be taken if deemed necessary. A portion the proposed project study area is located in a 100-year floodplain.

There are not threatened and endangered species located within the project study area.

As you are aware, this is preliminary and not the product of comprehensive environmental or design evaluations. If you should have further questions or additional information is needed, please do not hesitate to contact me at 919-707-4662, or via email at lmhawes@ncdot.gov.

ATT: Project Location Map

Cc: Van Argabright, PE, Manager STIP and Feasibility Studies
Ray McIntyre, PE, Unit Head STIP Eastern Region
Karen Collette, PE, Division 3 Engineer



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FS-1003A
 NC 53 (WESTERN BOULEVARD)
 FROM US 17 TO NC 24
 ONSLOW COUNTY
 DIVISION 3 FIGURE 1