

MINIMUM CRITERIA DETERMINATION CHECKLIST

STIP Project No. B-5507
W.B.S. Element. 55007.1.1

Project Description: The proposed project involves replacing three bridges on NC 32 in Chowan County approximately ten miles north of the Town of Edenton. These bridges include Bridge No. 20 over Dillard Creek, Bridge No. 21 over Sand Run, and Bridge No. 24 over Warwick Creek. The proposed project is included in the 2016-2025 North Carolina State Transportation Improvement Program (STIP). Right of way acquisition and construction are scheduled for state fiscal years 2019 and 2020, respectively, in the draft 2017-2027 STIP.

The bridges will be replaced on the existing alignment and the replacement structures will provide a minimum 40 feet of clear roadway width. The bridges will include two 12-foot lanes and two 8-foot offsets. The proposed structure lengths are 85 feet for Bridge No. 20; 70 feet for Bridge No. 21 and 100 feet for Bridge No. 24. The lengths of bridges were determined based on preliminary design information and are set by hydraulic requirements. The roadway grade of the new structures will be approximately the same as the existing structures. On-site detours will be used during construction to maintain traffic on NC 32. NC 32 is classified as a minor arterial.

The cost estimate for the project included in the draft 2017-2027 STIP is \$3,080,000. Of this total, \$280,000 is estimated for right-of-way acquisition and \$2,800,000 is estimated for construction. The latest cost estimate for the project is \$6,718,637. Of this total, \$927,387 is estimated for right-of-way acquisition, \$91,250 is estimated for utilities and \$5,700,000 is estimated for construction.

Purpose and Need: The purpose of the proposed project is to replace these three deficient and deteriorated concrete bridges along NC 32.

All three bridges are approaching the end of their useful life and should be replaced. Bridge Nos. 20 and 21 were both built in 1922 and reconstructed in 1952. Bridge No. 24 was built in 1923 and reconstructed in 1952.

Bridge No. 20 is approximately 56 feet long with a 26.25-foot clear roadway width. Bridge No. 21 is approximately 30 feet long with an approximately 26-foot clear roadway width. Bridge No. 24 is approximately 64 feet long with a 26.25-foot clear roadway width. NCDOT Bridge Management Unit records indicate Bridge Nos. 20, 21, and 24 have sufficiency ratings of 48.04, 45.94, and 45.93, respectively, out of a possible 100 for a new structure. All three bridges are considered Functionally Obsolete due to deck geometry appraisals of 3 out of 9, according to Federal Highway Administration (FHWA) standards.

With average daily traffic of 2,900, 2,100, and 2,500 vpd, respectively and as aging structures (65 years old), Bridges No. 20, 21, and 24 are approaching the end of their useful life. Replacement of the bridges will result in safer traffic operations.

Anticipated Permit or Consultation Requirements: The project is expected to impact jurisdictional wetlands. A Nationwide Permit (NWP) 3 (maintenance) and NC Water Quality Certification No. 3883 will likely be required for impacts resulting from this project. Other permits that may apply include an NWP No. 6 (survey activities), NWP No. 33, and the corresponding NC Water Quality Certifications. If a Section 404 permit is required, then a Section 401 Water Quality Certification from the NC Division of Water Resources will also be required. Pre-construction notification should be provided to the US Army Corps of Engineers and NC Division of Water Resources.

Stream crossing guidelines for anadromous fish passage will be followed during construction in Sand Run (Bridge No. 21) and Warwick Creek (Bridge No. 24), including a moratorium on in-water work from February 15 to June 30. No anadromous fish habitat exists in Dillard's Creek at Bridge No. 20 due to a downstream dam; no moratoriums apply at this location.

Environmental Commitments: The list of project commitments (greensheet) is located at the end of the checklist.

Bicycle and Pedestrian Accommodations: NC 32 in the project area is not a designated bike route nor is there an indication of substantial bike or pedestrian usage. NC 32 runs parallel to future realignments of State Bicycle Route NC-3 (Ports of Call) and State Bicycle Route NC-44 (North Line Trace), which will intersect north of Bridge No. 24. Due to these realigned State Bicycle Routes in close proximity, bicyclists are unlikely to utilize NC 32 as an alternate route. Although there are several schools and churches along NC 32 between these bridges, the high speed limit of 55 MPH and sparse population in the area make it unlikely for users of these facilities to walk or bicycle to these destinations. In addition, there are no exclusive bicycle, pedestrian, greenway, or transit facilities along NC 32 in the project area. Therefore, no bicycle or pedestrian accommodations are proposed for the project.

Bridge Demolition: The existing bridges are constructed of concrete. The replacement and demolition of this type of structure is likely to result in debris in the water based on standard demolition practices. NCDOT will ensure the demolition process complies with environmental permit requirements.

Special Project Information:

Estimated Traffic:

	<u>Year 2015</u>	<u>Year 2040</u>
Bridge No. 20	2,900 vpd	3,700 vpd
Bridge No. 21	2,100 vpd	2,800 vpd
Bridge No. 24	2,500 vpd	3,200 vpd

Crash Rates:

Summary of Crashes in Vicinity of Bridges (2010 – 2014)

	<u>Total Crashes</u>	<u>Type(s) of Crashes</u>
Bridge No. 20	3	Injury & Property Damage Only
Bridge No. 21	2	Property Damage Only
Bridge No. 24	4	Injury & Property Damage Only

Design Exceptions: There are no anticipated design exceptions for this project.

Public Involvement: A landowner notification letter was sent to all property owners affected directly by this project, and property owners were invited to comment. No comments have been received to date.

Cemeteries: Two cemeteries are located on both sides of NC 32 approximately 650 feet south of Bridge No. 24. It is not expected the proposed project will affect either cemetery, however.

Alternatives Discussion:

No Build - The no build alternative would result in eventually closing the road which is unacceptable given the volume of traffic served by NC 32. It is a minor arterial in the vicinity of the bridges and numerous driveways are located along NC 32.

Rehabilitation – The superstructure of the bridges is monolithic slab. The bridges were reconstructed in 1952 and were originally built approximately 30 years prior to this date. The timber and steel joists within the bridges are reaching the end of their useful life. Rehabilitation would require replacing the joists which would constitute effectively replacing the bridge.

Offsite Detour - An off-site detour was not evaluated due to high traffic volumes served by NC 32 and high volumes of school bus traffic serving the three area schools.

Onsite Detour – On-site detours are proposed at each bridge location to decrease impacts to accessibility and mobility. There will be temporary disruptions in access to driveways for each bridge due to construction activities.

Staged Construction – Staged construction was not considered because of the availability of acceptable on-site detours.

New Alignment – Given that the alignment for NC 32 is acceptable, a new alignment was not considered as an alternative.

PART A: MINIMUM CRITERIA

- | | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 1. Will the proposed project involve land disturbing activity of more than ten acres that will result in substantial, permanent changes in the natural cover or topography of those lands? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Will the proposed project require the expenditure of more than ten million dollars in public funds? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Is the proposed project listed as a type and class of activity which would qualify as a Non-Major Action under the Minimum Criteria rules? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| If "yes", under which category? | Category # 9 | |

If "yes" is selected for either Question 1 or 2 and "no" is selected for Question 3, then the project does not qualify as a Non-Major Action. A state environmental impact statement (SEIS) or state environmental assessment (SEA) will be required.

PART B: MINIMUM CRITERIA EXCEPTIONS

- | | YES | NO |
|--|--------------------------|-------------------------------------|
| 4. Does the proposed activity have a significant adverse effect on wetlands; surface waters such as rivers, streams, and estuaries; parklands; prime or unique agricultural lands; or areas of recognized scenic, recreational, archaeological, or historical value? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Will the proposed activity endanger the existence of a species on the Department of Interior's threatened and endangered species list? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Would the proposed activity cause significant changes in land use concentrations that would be expected to create adverse air quality impacts? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Would the proposed activity cause significant changes in land use concentrations that would be expected to create adverse water quality or groundwater impacts? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Is the proposed activity expected to have a significant adverse effect on long-term recreational benefits? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Is the proposed activity expected to have significant adverse effect on shellfish, finfish, wildlife, or their natural habitats? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Will the proposed activity have secondary impacts or cumulative impacts that may result in a significant adverse impact to human health or the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11. Is the proposed activity of such an unusual nature or does the proposed activity have such widespread implications, that an uncommon concern for its environmental effects has been expressed to the NCDOT? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Note: If any of Questions 2 through 14 in part B are answered "YES", the proposed project does not qualify as a Non-Major Action. A state EIS or EA will be required.

PART C: COMPLIANCE WITH STATE AND FEDERAL REGULATIONS

	YES	NO
<u>Ecological Impacts</u>		
12. Is a federally protected threatened or endangered species, or its habitat, likely to be impacted by the proposed action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Does the action require the placement of fill in waters of the United States?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Does the project require the placement of a significant amount of fill in high quality or relatively rare wetland ecosystems, such as mountain bogs or pine savannahs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. Does the project require stream relocation or channel changes?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. Is the proposed action located in an Area of Environmental Concern, as defined in the Coastal Area Management Act?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Cultural Resources</u>		
17. Will the project have an "effect" on a property or site listed on the National Register of Historic Places?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18. Will the proposed action require acquisition of additional right of way from publicly owned parkland or recreational areas?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Additional Information:

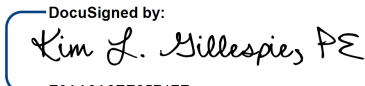
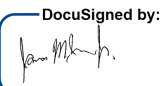

Response to Question 12:

Although not listed for Chowan County, the US Fish and Wildlife Service has developed a programmatic biological opinion, in conjunction with the Federal Highway Administration, the US Army Corps of Engineers and NCDOT, for the northern long-eared bat (*Myotis septentrionalis*) in eastern North Carolina. The programmatic biological opinion covers the entire NCDOT program in Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for northern long-eared bat for the NCDOT program is "May Affect, Likely to Adversely Affect". The programmatic biological opinion provides incidental take coverage for northern long-eared bat and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Chowan County.

Response to Question 13:

Permanent impacts to jurisdictional wetlands are not anticipated as the bridges will be replaced in their existing locations. Temporary impacts to wetlands from on-site detours are 0.32 acres for Bridge No. 20, 0.29 acres for Bridge No. 21, and 0.33 acres for Bridge No. 24.

Reviewed by:

7/5/2017	
<hr/> Date	<hr/> Project Planning Engineer Project Development & Environmental Analysis Unit
7/6/2017	
<hr/> Date	<hr/> Project Engineer Project Development & Environmental Analysis Unit
7/5/2017	
<hr/> Date	<hr/> Consultant Project Manager

PROJECT COMMITMENTS

**Chowan County
Bridge Nos. 20, 21, and 24 on NC 32
over Dillard Creek, Sand Run, and Warwick Creek
WBS No. 55007.1.1
STIP Project B-5507**

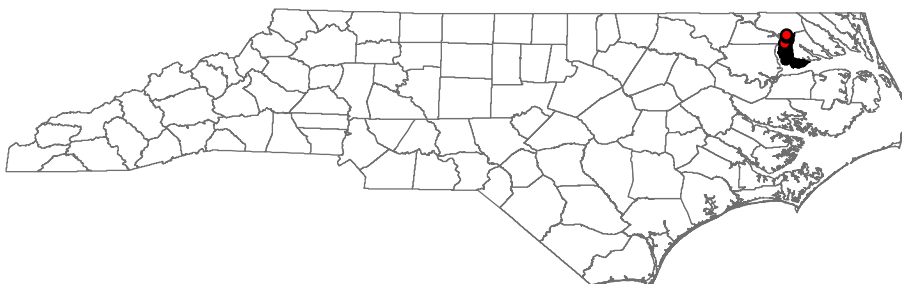
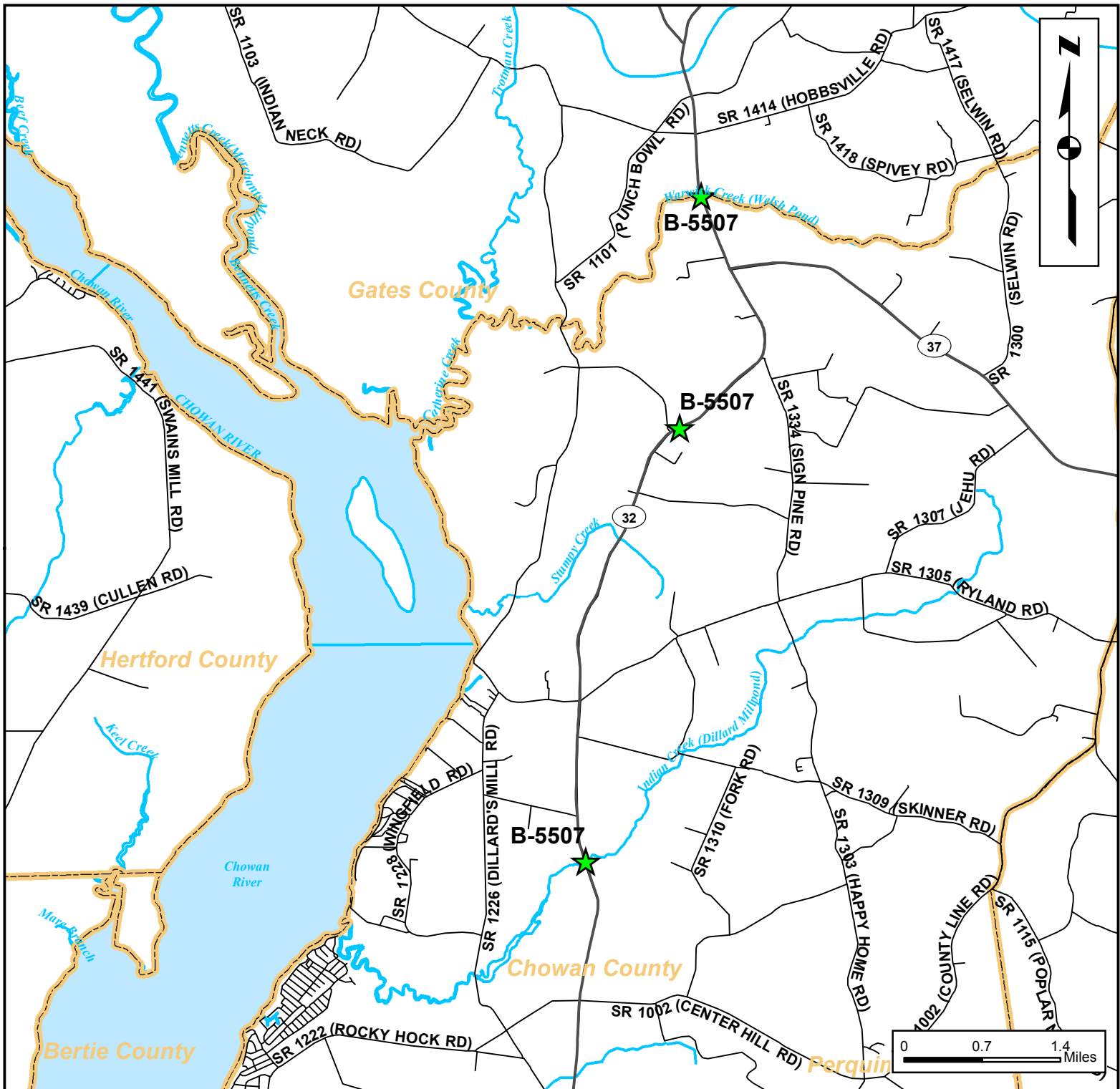
Division One Construction


Stream crossing guidelines for anadromous fish passage will be followed during construction of the replacements for Bridge Nos. 21 and 24, including a moratorium on in-water work from February 15 to June 30. No anadromous fish habitat exists at Bridge No. 20 due to a downstream dam. No moratorium on in-water work is required for the replacement of Bridge No. 20.

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

Hydraulics Unit – FEMA Coordination

The Hydraulics Unit will coordinate with the NC Floodplain Mapping Program (FMP), to determine status of project with regard to applicability of NCDOT'S Memorandum of Agreement, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

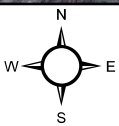


	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT</p>
<p>CHOWAN COUNTY REPLACE BRIDGE NO. 20 ON NC 32 OVER DILLARD CREEK, BRIDGE NO. 21 ON NC 32 OVER SAND RUN, AND BRIDGE NO. 24 ON NC 32 OVER WARWICK SWAMP TIP PROJECT B-5507</p>	
<p>VICINITY MAP</p>	



0 100 200 Feet

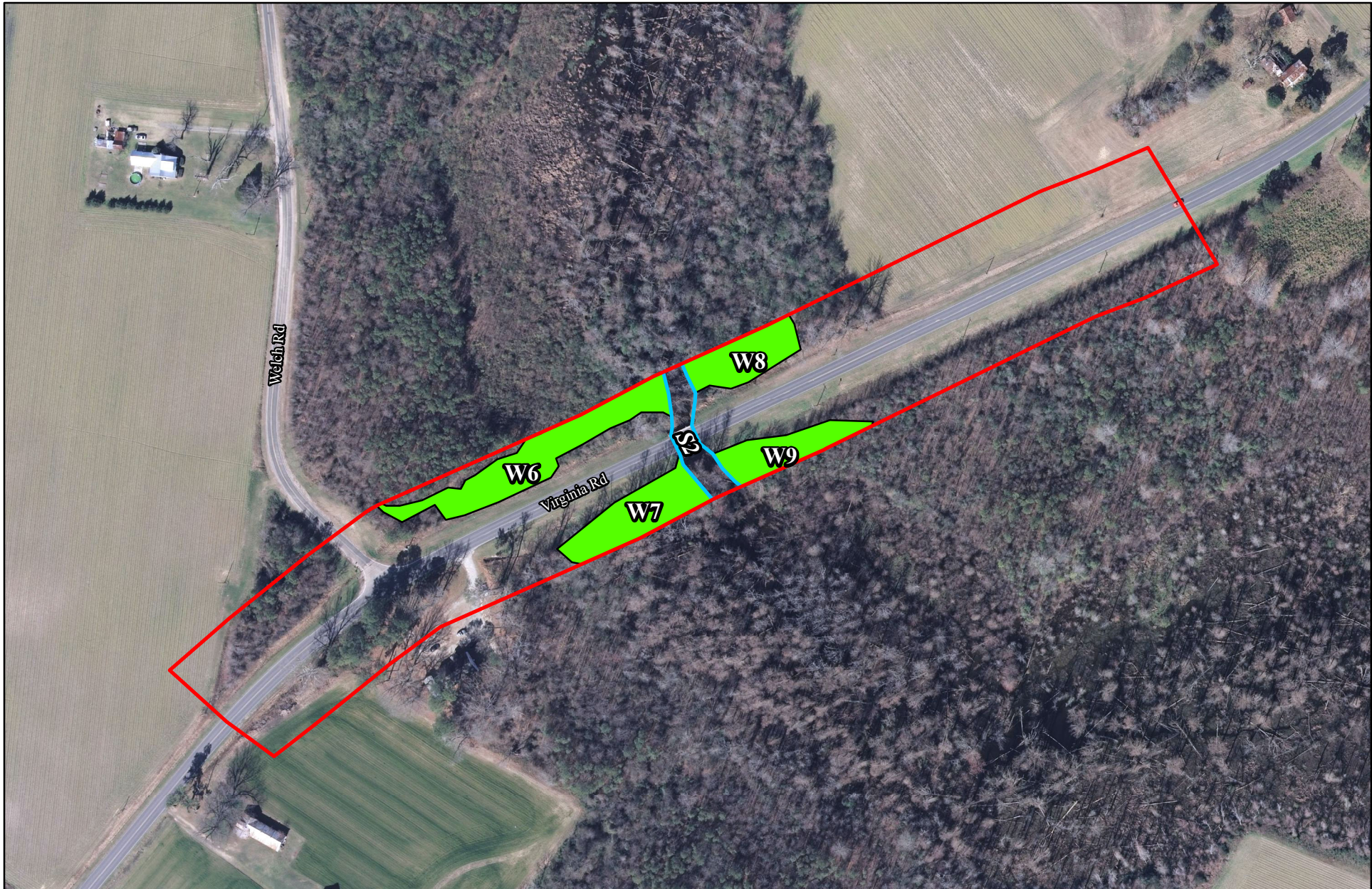
2012 NC Statewide Aerial Imagery
March 2015



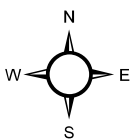
- Study Area
- Wetlands
- Perennial Stream

Figure 1a: Jurisdictional Features Map

B-5507
Replace Bridge No. 20 on NC-32
over Dillard Creek
Chowan County



2012 NC Statewide Aerial Imagery
March 2015






-  Study Area
-  Wetlands
-  Perennial Stream

Figure 1b: Jurisdictional Features Map

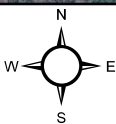
B-5507

**Replacement of Bridge No. 21 on NC-32
over Warwick Creek (Sand Run)
Chowan County**



0 100 200

Feet



2012 NC Statewide Aerial Imagery
March 2015



Study Area



Wetlands



Perennial Stream

Figure 1c: Jurisdictional Features Map

B-5507

**Replacement of Bridge No. 24
on NC-32 over Warwick Swamp
Chowan County**