
Bridge Design Speed Investigation

B-4562

Structure #216 on SR 2143 (Old Route 22) over Little Buffalo Creek

Johnston County



Document Prepared By:

Ramey Kemp & Associates, Inc.
5808 Faringdon Place, Suite 100
Raleigh, NC 27609

March 16, 2016

Project Manager

Jacob D. Carpenter, PE
Regional Manager

Principal Investigator

Joshua T. Reinke, PE
Transportation Engineer



Bridge and Approach Investigation Checklist

Project B-4562

Description Bridge #216 over Buffalo Creek

Route SR 2143 (Old Route 22)

Division 4

County Johnston

Existing Speed Limit 55 mph ☐ Posted ☒ Statutory

Reasonable & Comfortable
Passenger Car Speed 55 mph

Speed Data Estimated 55 mph

Ball Bank Speed Study Curve East of Bridge:
55 mph: WB Approach - 7, EB Approach - 5
No curve west of bridge

Warning Signs at Bridge 4x Bridge End Delineators, 2 Weight Limit (19 ton SV, 28 ton TTST)

Roadside Development Wooded/Residential/Agricultural

ADT History 740 vpd (From NCDOT TEAAS)
700 vpd (From NCDOT Traffic Volume Map - 2012)

Pedestrian/Bicycle Traffic Minimal Expected

Bridge and Approach
Digital Photos Attached

Approach Lane Width East of Bridge - 18 ft, West of Bridge - 18.75 ft (total width)

Approach Shoulder Width
Shoulder Type East of Bridge - <1 ft paved, >8 ft on north side and 2-6 ft on south side
West of Bridge - <1 ft paved, >8 ft ditch with water

Lane Width (existing bridge) 18.25 ft (total width)

Shoulder width (existing bridge) 2.5 ft on south side, 3 ft on north side (~23.75 ft total width)

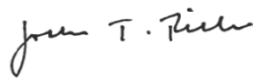
Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section SR 2143 is classified as a minor collector facility in the Statewide
Functional Classification System. 2-lane cross-section is recommended.

Crash History and
Safety Considerations Crash data completed from 01/01/06 to 12/31/15. No collisions were
reported.

Comments The design of the bridge and approaches should consider accommodating
up to a 25 ft wide farm machine.

Reasonable Bridge Speed 55 mph

Investigated by: Joshua T. Reinke, PE

Reviewed by: 

County: Johnston

Route: SR 2143 (Old Route 22)

Date: 03/16/16

Eastbound

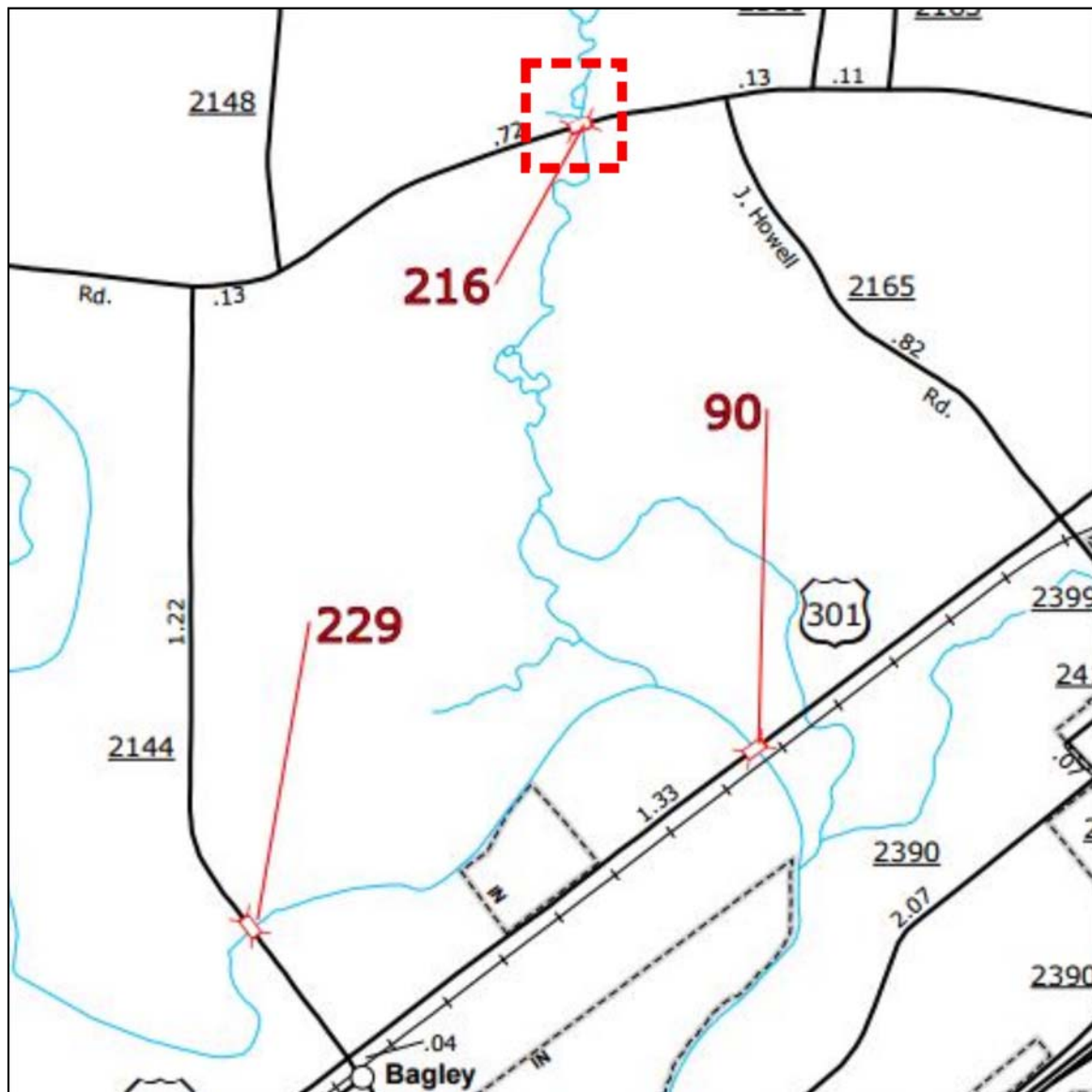
Eastbound



Westbound

Westbound





Bridge Location Map-Bridge #500216

