
Bridge Design Speed Investigation

B-5667

Structure #231 on SR 2159 (Bay Valley Road) over Little Buffalo Creek

Johnston County



Document Prepared By:

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

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Project Manager

Jacob D. Carpenter, PE
Regional Manager

Principal Investigator

Joshua T. Reinke, PE
Transportation Engineer



Bridge and Approach Investigation Checklist

Project B-5667

Description Bridge #231 over Little Buffalo Creek

Route SR 2159 (Bay Valley Road)

Division 4

County Johnston

Existing Speed Limit 55 mph ☐ Posted ☒ Statutory

Reasonable & Comfortable
Passenger Car Speed 40 mph

Speed Data Estimated 35-45 mph

Ball Bank Speed Study Curve West of Bridge:
35 mph: NB Approach - 10, SB Approach - 6
40 mph: NB Approach - 12, SB Approach - 6
45 mph: NB Approach - 14, SB Approach - 8
No curve east of bridge

Warning Signs at Bridge 4x Bridge End Delineators, 2x Weight Limit (23 ton SV, 26 ton TTST)
2x 35 mph Cautionary Signs at Curve

Roadside Development Wooded/Agricultural/Residential

ADT History 150 vpd (From NCDOT TEAAS)
250 vpd (From NCDOT Traffic Volume Map - 2012)

Pedestrian/Bicycle Traffic Minimal Expected

Bridge and Approach
Digital Photos Attached

Approach Lane Width South of Bridge - 20 ft, North of Bridge - 19.5 ft (total width)

Approach Shoulder Width South of Bridge - <1 ft paved, 6 feet dirt and ditch
Shoulder Type North of Bridge - <1 ft paved, 2-6 ft dirt/ditch and pond on one side

Lane Width (existing bridge) 20 ft (total width)

Shoulder width (existing bridge) 2 ft (~24 ft total width)

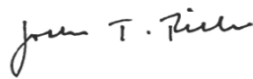
Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section SR 2159 is classified as a rural local facility in the Statewide Functional
Classification System. 2-lane cross-section is recommended.

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 40 mph

Investigated by: Joshua T. Reinke, PE

Reviewed by: 

County: Johnston

Route: SR 2159 (Bay Valley Road)

Date: 03/16/16

Northbound



Northbound



Southbound



Southbound



