

Bridge Design Speed Investigation

Bridge #5 on SR 1775 (Walker Road) over Shoal Creek
McDowell County



Document Prepared By:

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Commission No: 3350

July 18, 2013



Investigating Engineer


James Voso, PE

Bridge and Approach Investigation Checklist

Project 17BP.13.PE.1
Description Replace Bridge #5 on SR 1775 (Walker Road) over Shoal Creek
Route SR 1775 (Walker Road)
Division 13
County McDowell

Existing Speed Limit 55 mph ☐ Posted ☒ Statutory

Reasonable & Comfortable
Passenger Car Speed 45 mph

Speed Data N/A

Ball Bank Speed Study Curve north of Bridge #5 had a ball bank indication of 11 at 45 mph.

Warning Signs at Bridge 4 Bridge End Delineators, Weight Limit (15 tons - single vehicle,
20 tons - truck tractor semitrailer), Narrow Bridge warning sign

Roadside Development Residences east of bridge. Farm land in west of bridge.

ADT History 110 (2000)

Pedestrian/Bicycle Traffic Low

Bridge and Approach
Digital Photos (attached)

Approach Lane Width 8'

Approach Shoulder Width: 11'
Shoulder Type grass

Lane Width (existing bridge) 9'

Shoulder width (existing bridge) 2'

Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section Not a Strategic Corridor/Thoroughfare. Two lane cross section at 45
mph based on 3R guidelines.

Crash History and
Safety Considerations No crashes reported near bridge (5/1/2003 - 4/30/2013, 10 years).

Comments Driveway located at southern terminus of bridge. Bridge number posted
on bridge.

Reasonable Bridge Speed 45 mph

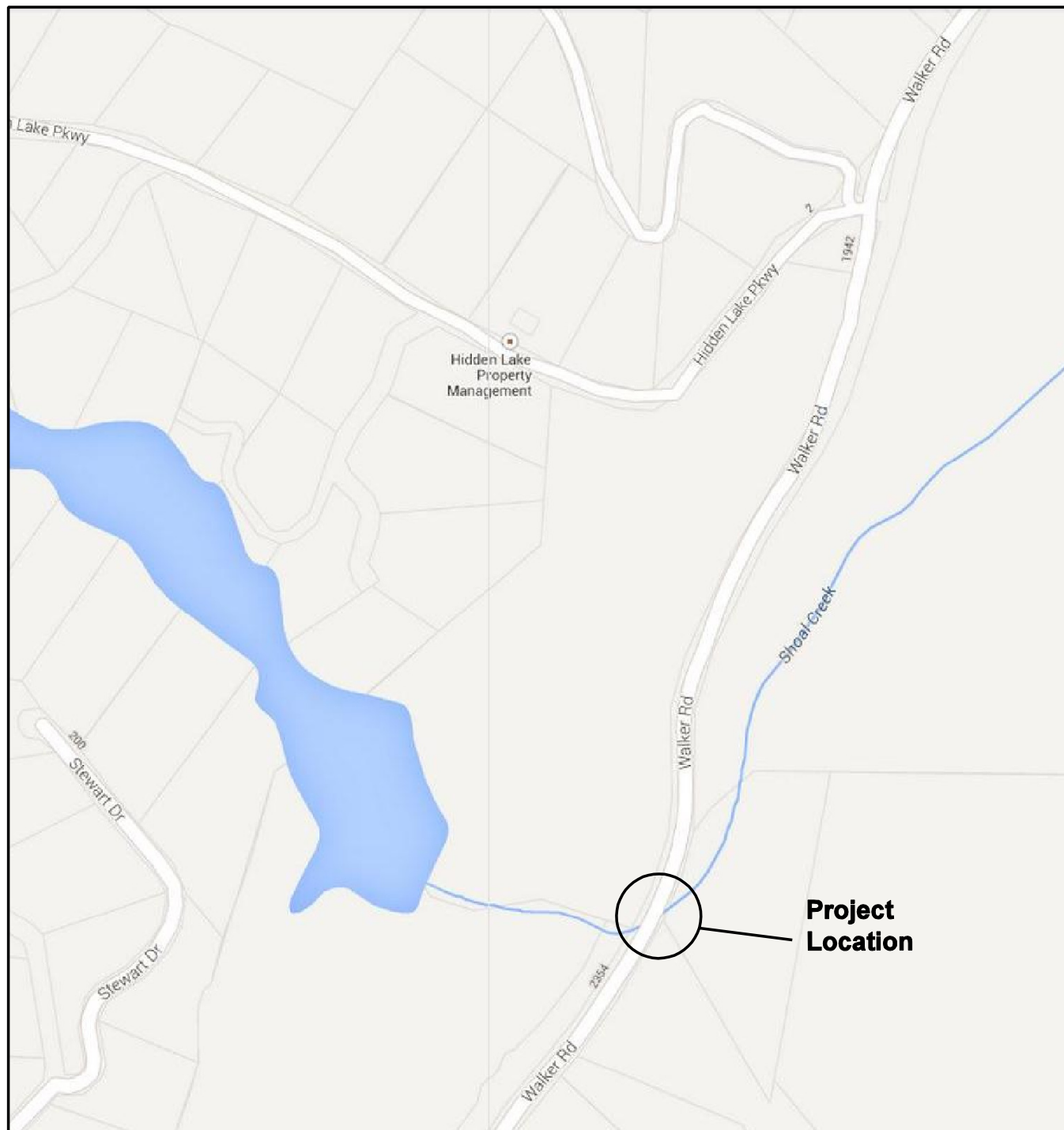
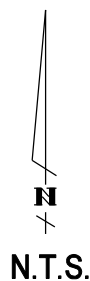
Investigated by: Mathew Bolden

Reviewed by: James Voso

Bridge #5

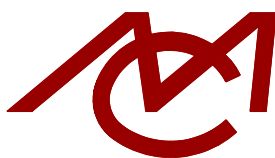
McDowell County

Division 13



VICINITY MAP

Bridge #5 on SR 1775
(Walker Road)
over Shoal Creek



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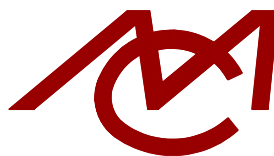


Northbound Approach



Northbound Approach at bridge

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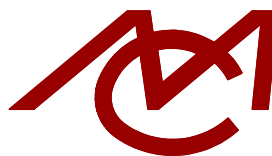


Southbound Approach



Southbound Approach at bridge

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**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: MCDOWELL **City:** All and Rural
Date: 5/1/2003 **to** 4/30/2013 **Study:** MCDOWELLBRIDGE5
Location: SR 1775 (Walker Road) from 500 feet North of Bridge 5 to 500 feet South of Bridge 5

Report Details

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
MCDOWELLBRIDGE5				76.8	8.4	110	40001775

Request Date	Courier Service	Phone No.	Ext.	Fax No.
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County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MCDOWELL	58	13	All and Rural		0	5/1/2003	4/30/2013	10.00

Location Text	Requestor
SR 1775 (Walker Road) from 500 feet North of Bridge 5 to 500 feet South of Bridge 5	

Fiche Roads	
Name	Code
SR 1775	40001775
WALKER	50031939

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1775	40001775	2.324	2.526	0.202	0.325