



RICHARD HENSON

VICKIE HENSON

RICHARD HENSON

BRIDGE LOCATION

TERRY HENSON

RICHARD HENSON

TIM HENSON

SITE ID: 044-01-f60bd

SITE ADDRESS: 85 COLD CREEK RD.,  
CANTON, NC 28716

**North Carolina Emergency Management – Private Roads and Bridges**  
Site Information Form

**Site Number:** 044-01-f60bd

**Site Address:** 85 Cold Creek Rd., Canton, NC 28716

**GPS Coordinates:** 35.4253, -82.8148

**County:** Haywood

**Bridge Type:** Steel I-beam with timber decking

**Span Length:** 30 feet

**Bridge Width:** 12'-0" out-to out, 11'-1" clear width

**Substructure Type:** Concrete cap on Drilled in Piles

**Geotechnical Information:** See Standard Bridge Plans for Notes

**Additional Notes:** \_\_\_\_\_

Timber bridge railing not required.

Wing walls not required.

The existing bridge is in place and must be removed prior to the start of construction.

The stream contains no debris or obstructions requiring removal.

\_\_\_\_\_

# BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT  
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number 044-01-f60bd Latitude 35.425335 Longitude -82.814606  
 County Haywood Address 85 Cold Creek Road  
 City Canton Zip Code 28716  
 Recommended Structure 1 @ 30' Steel Girder Bridge with 2'-6" Pier Caps  
 Recommended Width of Roadway 12' Skew Match existing  
 Recommended Location is (A) Upstream, Downstream) of Existing Crossing  
 Temporary Crossing Sitting on exposed abutments, foundations undermined

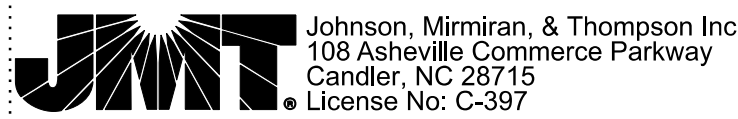


I hereby certify that I have reviewed the existing hydraulic conveyance at this site which was a 24 ft existing bridge with the proposed conveyance provided by a 30 ft span bridge.

The proposed bridge low chord for the bridge shall be set in accordance with the FEMA Disaster Specific Guidance for the Replacement of Private Roads and Bridges issued on 14 February 2025, "to provide bridge/culvert design plans certified (sealed, signed, and dated) by a Professional Engineer licensed in the State of North Carolina demonstrating that the newly designed and installed private bridge/culvert provides conveyance greater than or equal to the original destroyed crossing."

This certification demonstrates that the newly designed and installed private bridge/culvert provides conveyance greater than or equal to the original destroyed crossing. This is based on the best available data provided from the post-storm evaluations. Portions of the existing structures may have been destroyed, removed, modified, or shifted from their original location or elevation.

Designed by \_\_\_\_\_ Date \_\_\_\_\_  
 Assisted by \_\_\_\_\_  
 Signed by: **Matthew D Foster** 5/18/2026  
 781932BFAFC8472... 5:53:44 PM EDT  
 Reviewed by \_\_\_\_\_ Date \_\_\_\_\_



## SITE DATA

Drainage Area 1.66 SQ MI Source USGS StreamStats  
 River Basin French Broad Character \_\_\_\_\_  
 Stream Classification (e.g., Trout, High Quality Water) WS-III; Tr  
 Debris Potential: Low  Moderate  High   
 Existing Structure - Source of Available Data NCEM Private Roads and Bridges Inspection Team  
 Existing Structure - Description 12-ft wide x 24-ft long bridge  
 Estimated Waterway Opening **40.6** ft<sup>2</sup>  
 Design Control Elev \_\_\_\_\_ ft Source \_\_\_\_\_

Gage Station No \_\_\_\_\_ Period of Records \_\_\_\_\_  
 Max Discharge \_\_\_\_\_ cfs Date \_\_\_\_\_ Frequency \_\_\_\_\_

Historical Flood Information:  
 Date \_\_\_\_\_ Elev \_\_\_\_\_ ft Est Freq \_\_\_\_\_ yr Source \_\_\_\_\_ Period of Knowledge \_\_\_\_\_ yrs  
 Historical Scour Info: General \_\_\_\_\_ ft Contraction \_\_\_\_\_ ft Local \_\_\_\_\_ ft

Channel Slope \_\_\_\_\_ ft/ft Source \_\_\_\_\_ Normal Water Surface Elev \_\_\_\_\_ ft  
 Manning's n: Left OB \_\_\_\_\_ Channel \_\_\_\_\_ Right OB \_\_\_\_\_ Source \_\_\_\_\_

Flood Study / Status No FEMA Study  
 Flood Study \_\_\_\_\_ With \_\_\_\_\_ Without \_\_\_\_\_  
 100-yr Discharge \_\_\_\_\_ cfs WS Elev: Floodway \_\_\_\_\_ ft Floodway \_\_\_\_\_ ft River Station \_\_\_\_\_

## DESIGN DATA

Hydrological Method \_\_\_\_\_  
 Hydraulic Design Method Disaster Specific Guidance for the Replacement of Private Roads and Bridges 2/14/2025  

Floods Evaluated	Frequency (year)	Discharge (cfs)	Elevation (ft)	Backwater (ft)	Bridge Opening Velocity (fps)

Waterway Opening Provided Below: Design WS Elev \_\_\_\_\_ sf 100-yr WS Elev \_\_\_\_\_ sf Total **60.3** sf  
 Average Channel Velocity (Design) \_\_\_\_\_ fps Average Overbank Velocity (Design) \_\_\_\_\_ fps  
 Computed Scour: General \_\_\_\_\_ ft Contraction \_\_\_\_\_ ft Local \_\_\_\_\_ ft

## INFORMATION TO BE SHOWN ON PLANS

HYDRAULIC DATA	
DESIGN DISCHARGE	= 410 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25 YRS.
DESIGN HIGH WATER ELEVATION	= _____
DRAINAGE AREA	= 1.66 SQ. MI.
BASIC DISCHARGE (Q100)	= 650 C.F.S.
BASIC HIGH WATER ELEVATION	= _____

OVERTOPPING FLOOD DATA	
OVERTOPPING DISCHARGE	= _____ C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	= _____ YRS.
OVERTOPPING FLOOD ELEVATION	= _____

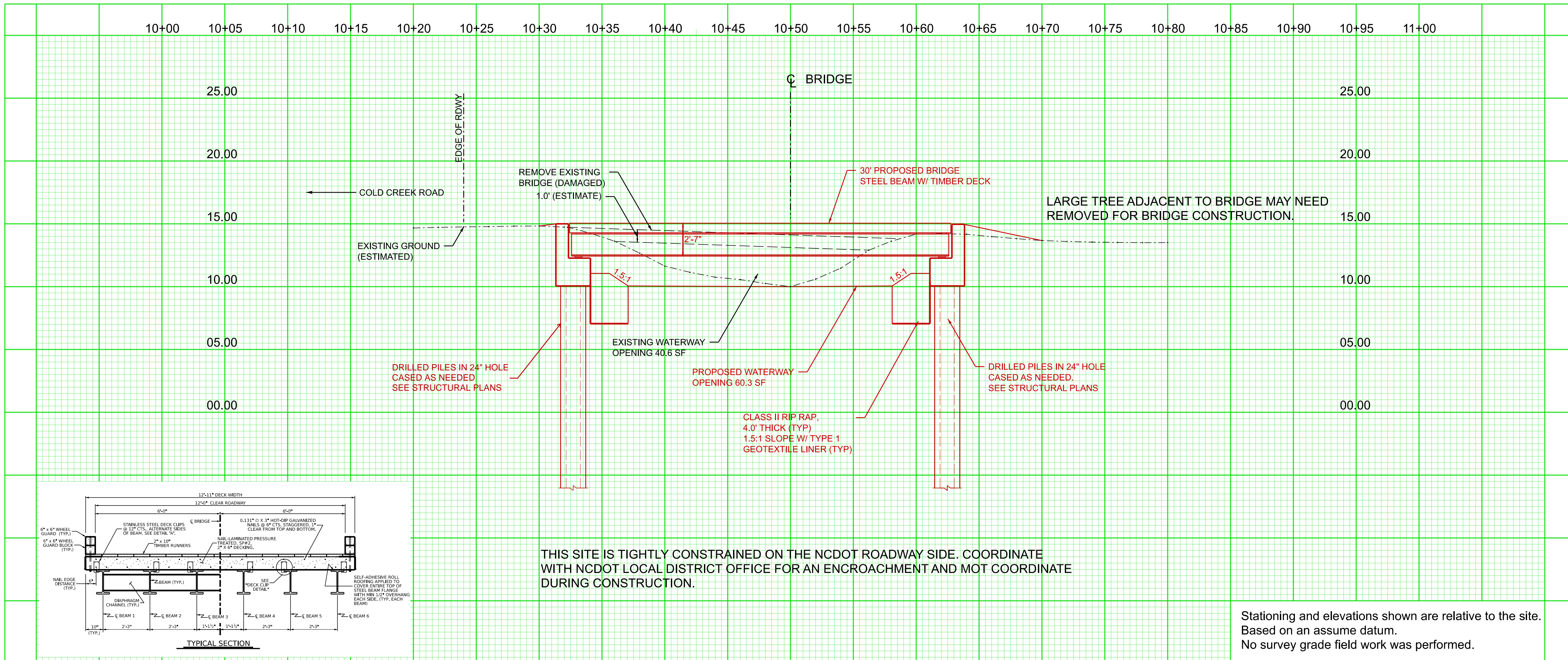
\*NOTE LOCATION OF OVERTOPPING  
 WS EL. Taken @ River Station ?

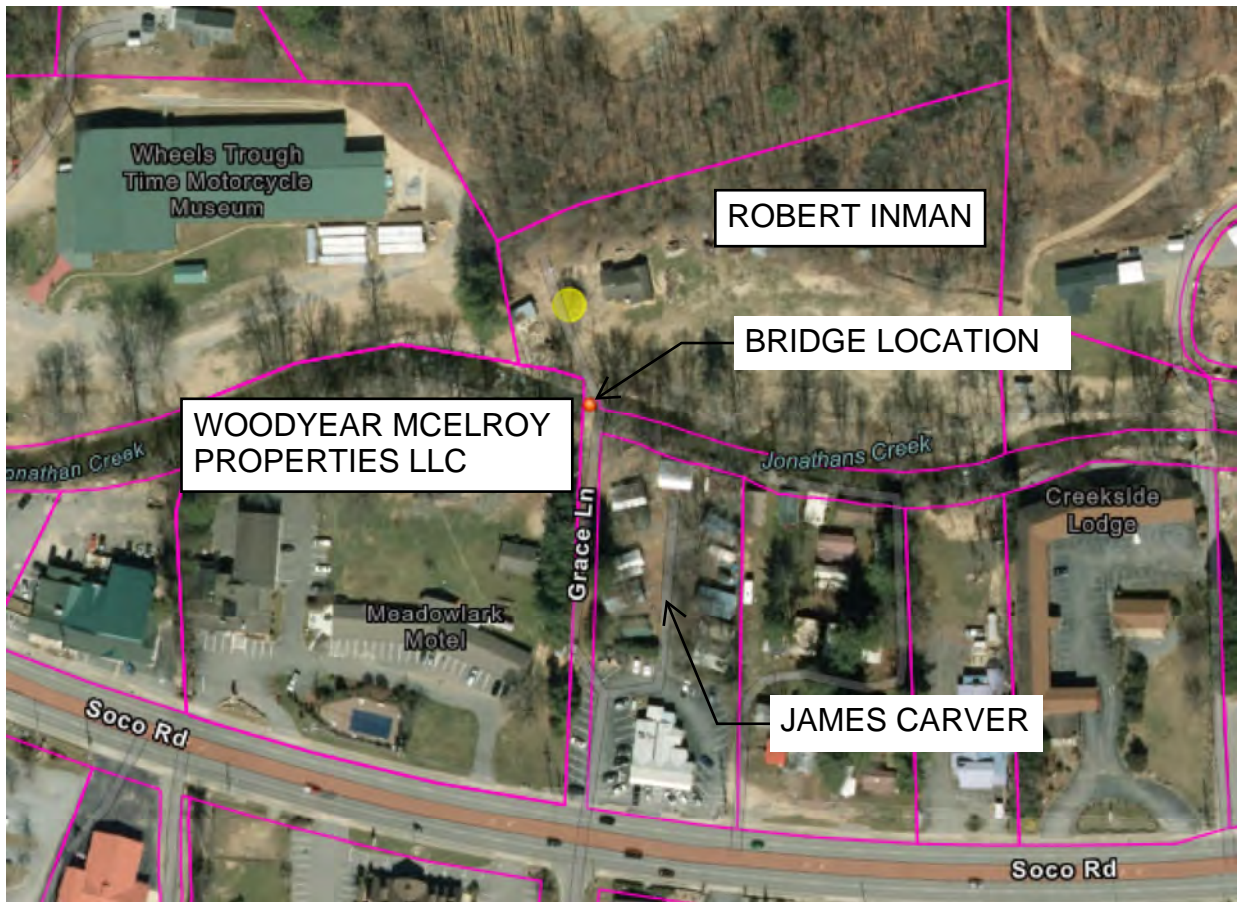
## ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No	Expected Level of Effort	Full Redesign
Number of Homes Confirmed	Yes	Other Level of Effort	
Number of Homes	1	Horizontal Curve	No
Churches Confirmed	Yes	Number of Travel Lanes (LOS)	1
Number of Churches	0	Inclination	No
Schools Confirmed	Yes	Roadway Divider	No
Number of Schools	0	Road/Bridge Width (ft)	12.00
Recreational/Business Areas Confirmed	Yes	Span/Gap Estimate (ft)	24.00
Number of Recreational/Business Areas	0	Surface to Water (ft)	6.00
General Description	Main access bridge to property has erosion around abutments. Property owner is using smaller 2nd bridge.	Utility/Mechanical	No
Overall Condition	Damage	Utility Types	
Condition Other		Pipe Needs Sizing	No
Site Repair Status	No Repair	Depth of Pipe	
Condition Description	Erosion of earth around bridge makes it impossible to get vehicle on bridge. Homeowner has smaller bridge now but no suitable for emergency vehicles. Heavy abutment scour under and around bridge.	Geotechnical	Erosion/scour
		Other Geotechnical	

TOTAL STR. DIMENSION
21" [W21X48 I-BEAM]
+ 8" [NOMINAL 2"X8" DECKING]
+ 2" [NOMINAL 2"X10" TIMBER RUNNER]
= 31" [2'-7" TOTAL STR DEPTH]





SITE ID: 044-01-9b6dc

SITE ADDRESS: 104 GRACE LANE  
MAGGIE VALLEY, NC 28751

**North Carolina Emergency Management – Private Roads and Bridges**  
Site Information Form

**Site Number:** 044-01-9b6dc

**Site Address:** 104 Grace Lane, Maggie Valley, NC 28751

**GPS Coordinates:** 35.5135, -83.076

**County:** Haywood

**Bridge Type:** Steel I-beam with timber decking

**Span Length:** 50 feet

**Bridge Width:** 12'-0" out-to-out, 11'-1" clear width

**Substructure Type:** Concrete Cap on Driven Piles

**Geotechnical Information:** See Standard Bridge Plans for Notes

**Additional Notes:** \_\_\_\_\_

Timber bridge railing not required.

Wingwalls are not required.

The existing bridge is in place and must be removed prior to the start of construction.

The stream contains no debris or obstructions requiring removal.

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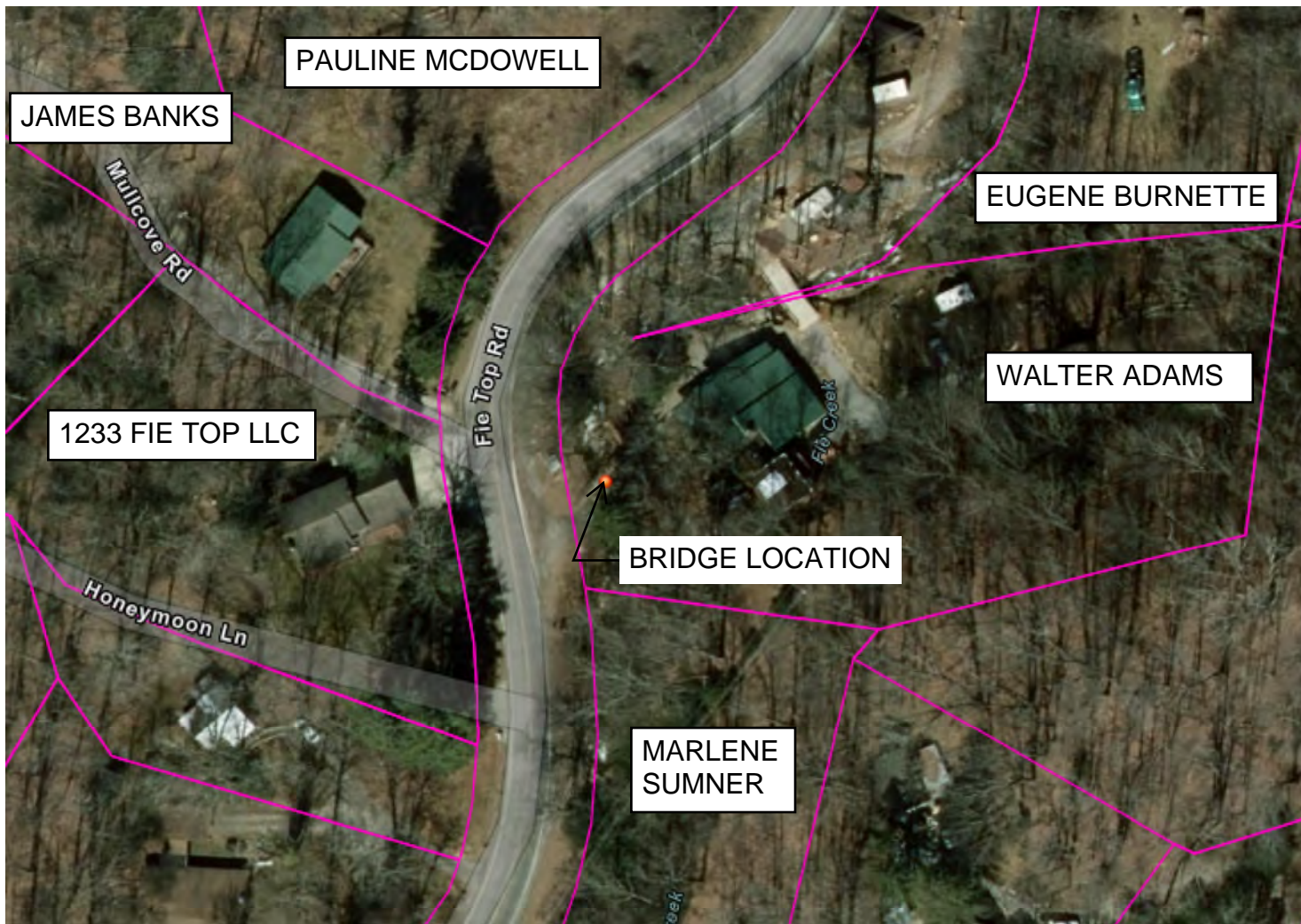


# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS N/A		TIP N/A		COUNTY HAYWOOD		GEOLOGIST BEATY, A.										
SITE DESCRIPTION SITE 044-01-9b6dc-Grace Lane							GROUND WTR (ft)									
BORING NO. B-1		STATION N/A		OFFSET N/A		ALIGNMENT N/A	0 HR. Dry									
COLLAR ELEV. N/A		TOTAL DEPTH 43.5 ft		NORTHING 666,570		EASTING 787,422	24 HR. FIAD									
DRILL RIG/HAMMER EFF./DATE TRI9435 CME-55 89% 05/13/2024				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER TOOTHMAN, R.		START DATE 02/17/26		COMP. DATE 02/17/26		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
		1.0	4	7	See Notes										GROUND SURFACE	0.0
		3.5	9	11	11										<b>ARTIFICIAL FILL</b> BROWN, DARK GRAY, SANDY CLAY, MOIST (A-6)	3.5
		6.0	15	17	19										MEDIUM DENSE TO DENSE, BROWN, SILTY SAND, SOME GRAVEL, TRACE MICA, MOIST (A-2-4)	7.0
		8.5	6	5	5										<b>RESIDUAL</b> STIFF TO HARD, BROWN, FINE TO COARSE SANDY SILT, TRACE GRAVEL, TRACE MICA, MOIST (A-4)	
		13.5	3	5	8											
		18.5	6	7	7											
		23.5	9	12	22											
		28.5	6	14	22											
		33.5	13	28	46											
		38.5	10	14	16											
		41.9														
		43.5	100/0.3												<b>WEATHERED ROCK</b> BROWN, WHITE (BIOTITE GNEISS)	41.9
			60/0.0												Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Depth 43.5 ft ON CRYSTALLINE ROCK (BIOTITE GNEISS)	43.5

NCDOT BORE SINGLE 71265014 NCEM SITE 044-01-9B6DC-GRACE LANE GP1 NC\_DOT\_GDT 2/18/26



SITE ID: 044-01-19073

SITE ADDRESS: 1226 FIE TOP RD.,  
MAGGIE VALLEY, NC 28751

**North Carolina Emergency Management – Private Roads and Bridges**  
Site Information Form

**Site Number:** \_\_\_\_\_

**Site Address:** \_\_\_\_\_

**GPS Coordinates:** \_\_\_\_\_

**County:** \_\_\_\_\_

**Bridge Type:** \_\_\_\_\_

**Span Length:** \_\_\_\_\_

**Bridge Width:** \_\_\_\_\_

**Substructure Type:** \_\_\_\_\_

**Geotechnical Information:** \_\_\_\_\_

\_\_\_\_\_

**Additional Notes:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





# GEOTECHNICAL BORING REPORT CORE LOG

WBS 044-01-19073			TIP N/A			COUNTY HAYWOOD			GEOLOGIST J. Baskin			
SITE DESCRIPTION 1224 Fie Top Road for Bridge over Fie Creek										GROUND WTR (ft)		
BORING NO. EB1			STATION N/A			OFFSET N/A			ALIGNMENT -L-			
COLLAR ELEV. 0.0 ft			TOTAL DEPTH 25.9 ft			NORTHING 675,647			EASTING 778,279			
DRILL RIG/HAMMER EFF./DATE F&R4637 CME-75 78% 03/28/2025						DRILL METHOD SPT Core Boring			HAMMER TYPE Automatic			
DRILLER S. Davis			START DATE 04/15/26			COMP. DATE 04/15/26			SURFACE WATER DEPTH N/A			
CORE SIZE NQ			TOTAL RUN 14.9 ft									
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		STRATA		L O G	DESCRIPTION AND REMARKS	DEPTH (ft)	
					REC. (%)	RQD (%)	REC. (%)	RQD (%)				
-5.5	-5.5	5.5	4.9	N=60/0.0 2:08/1.0 0:57/1.0 1:25/1.0 0:41/1.0 1:39/0.9	(2.3) 47%	(0.0) 0%	(7.2) 50%	(0.0) 0%		-5.5	5.5	
-10	-10.4	10.4	5.0	1:08/1.0 0:59/1.0 0:53/1.0 1:26/1.0 1:23/1.0	(2.6) 52%	(0.0) 0%						
-15	-15.4	15.4	5.0	0:52/1.0 1:03/1.0 0:40/1.0 0:47/1.0 1:28/1.0	(2.3) 46%	(0.0) 0%						
-20	-20.4	20.4		N=25			(0.0) 0%	(0.0) 0%			-20.0	20.0
-25				N=100/0.7 N=60/0.1			(0.0) 0%	(0.0) 0%		-22.0	22.0	
										-25.8	25.8	
										-25.9	25.9	

DRAFT

**RESIDUAL**  
 Tan-Orange, Clayey Silty Fine to Coarse SAND (A-2-4) with Trace Rock Fragments  
**WEATHERED ROCK**  
 Tan-Black BIOTITE GNEISS  
**CRYSTALLINE ROCK**  
 Black-Gray BIOTITE GNEISS  
 Boring terminated with Standard Penetration Test Refusal at Elevation -25.9 ft in CRYSTALLINE ROCK (BIOTITE GNEISS)

Note:  
 Auger Refusal and Began Coring at 5.5'.

NCDOT CORE SINGLE SITE 044-01-19073 HAYWOOD COUNTY BORING LOGS.GPJ NC\_DOT.GDT 4/28/26