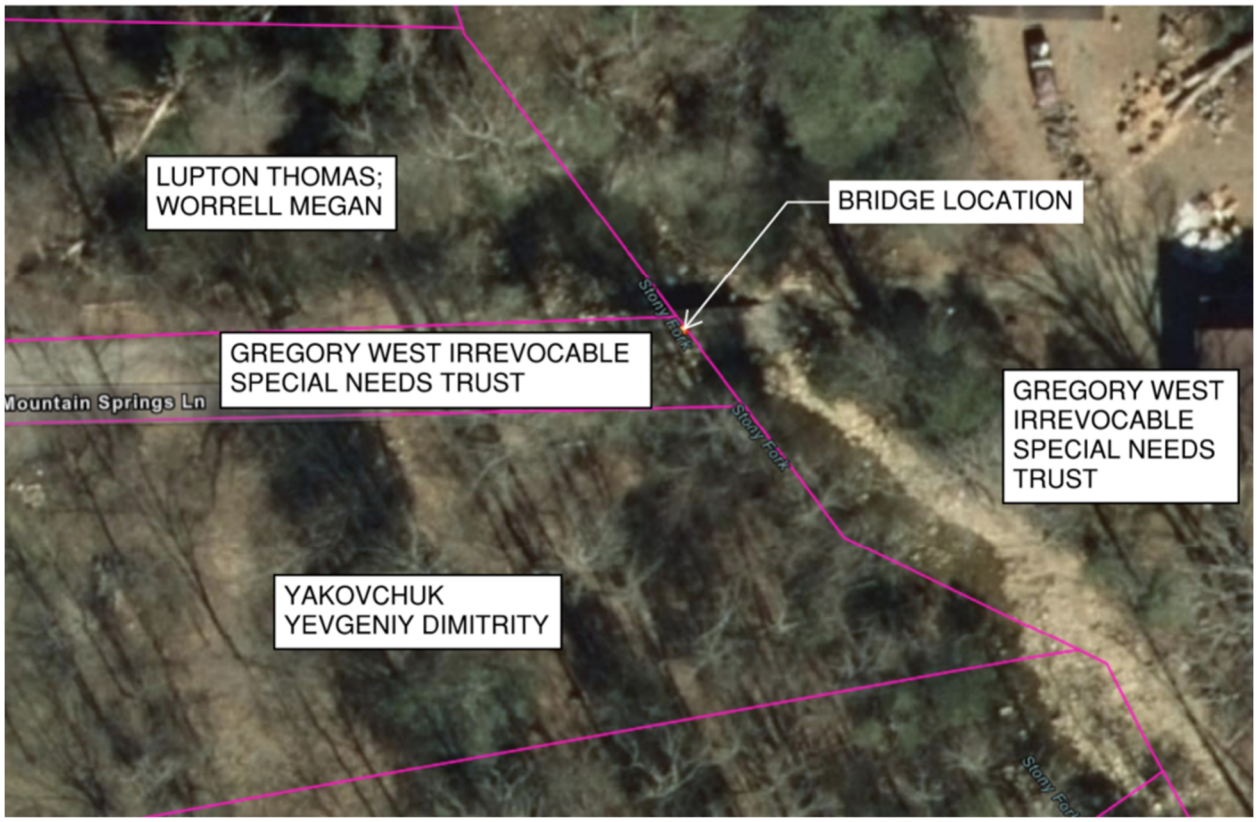


SITE ID: 011-01-b4913

SITE ADDRESS: 32 MOUNTAIN SPRING LANE, CANDLER, NC

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 011-01-b4913

Site Address: 32 Mountain Spring Lane, Candler, NC

GPS Coordinates: 35.4635, -82.7349

County: Buncombe

Bridge Type: Steel I-beam with Timber Decking or Modular Steel Bridge

Span Length: 50 ft Standard Bridge or 60 ft Modular Bridge. Refer to BSR for required waterway opening.

Bridge Width: 12'-0" Clear Width

Substructure Type: Concrete Cap on Drilled-in Piles

Geotechnical Information: See Standard Bridge Plans or the Modular Bridge Substructure Plans for Notes

Additional Notes:

Timber bridge railing not required for Steel I-beam with timber decking option.

Modular Steel Bridge option shall include guardrail as part of the system.

Wingwalls are not required.

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

No known debris or obstructions in the stream requiring removal.

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number 011-01-b4913 Latitude 35.46489 Longitude -82.73528

County Buncombe Address near 32 Mountain Spring Lane

City Candler, NC Zip Code 28715

Recommended Structure 1 @ 50' Steel Girder Bridge w/ timber deck

Recommended Width of Roadway ..... Skew .....

Recommended Location is (At,) Upstream, Downstream) of Existing Crossing .....

Temporary Crossing .....



I hereby certify that that I have reviewed the existing hydraulic conveyance at this site which was a 27' +/- ft existing bridge with the proposed conveyance provided by the proposed 50.0 ft. bridge.

The proposed bridge low chord for the bridge shall be set in accordance with the 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 post storm evaluations. Portions of the existing structures may have been destroyed, removed, modified or shifted from their original location or elevation.

Designed by .....

Assisted by .....

Date .....

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 7B1932BFAFC8472...

9/28/2026 | 12:15:02 PM EDT

Johnson, Mirmiran, & Thompson Inc.
108 Asheville Commerce Parkway
Candler, NC, 28715
License No: C-3097

Reviewed by ..... Date .....

SITE DATA

Drainage Area ..... Source .....

River Basin French Broad Character .....

Stream Classification (e.g., Trout, High Quality Water) C, Tr

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data NCEM Private Roads and Bridges Inspection Team

Existing Structure - Description 1 @ 27' private bridge (damaged by Helene)

Estimated Waterway Opening 114.1 ft²

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 Stony Fork, LDS

Flood Study 100-yr Discharge 1980 cfs WS Elev: With Floodway 2536.09 ft Without Floodway 2536.09 ft River Station 9878

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 257.7 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	= 810	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	= _____	
DRAINAGE AREA	= 3.92	SQ. MI.
BASIC DISCHARGE (Q100)	= 1240	C.F.S.
BASIC HIGH WATER ELEVATION	= _____	

OVERTOPPING FLOOD DATA

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

** NOTE LOCATION OF OVERTOPPING*

WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	2
Churches Confirmed	Yes
Number of Churches	0
Schools Confirmed	Yes
Number of Schools	0
Recreational/Business Areas Confirmed	Yes
Number of Recreational/Business Areas	0
General Description	Bridge undermined from water getting behind end bent, soil unstable. Concrete end bents with wing walls. Steel beams, concrete deck.
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	Unsafe to drive due to major washout behind endbent. Possibly repairable with reinforced concrete. Structure looks sound other than the washout
Expected Level of Effort	Repair
Other Level of Effort	
Horizontal Curve	No
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	15.00
Span/Gap Estimate (ft)	35.00
Surface to Water (ft)	15.00
Utility/Mechanical	Yes
Utility Types	Electrical
Pipe Needs Sizing	No

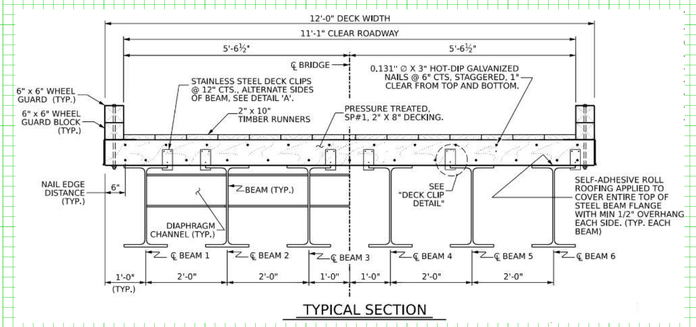
Note: The HEC RAS model showed a 1@ 60" RCP instead of the current damaged bridge shown.

Note multiple utility lines in the vicinity near the existing bridge. Attached to the bridge, in the stream, and an automatic gate.

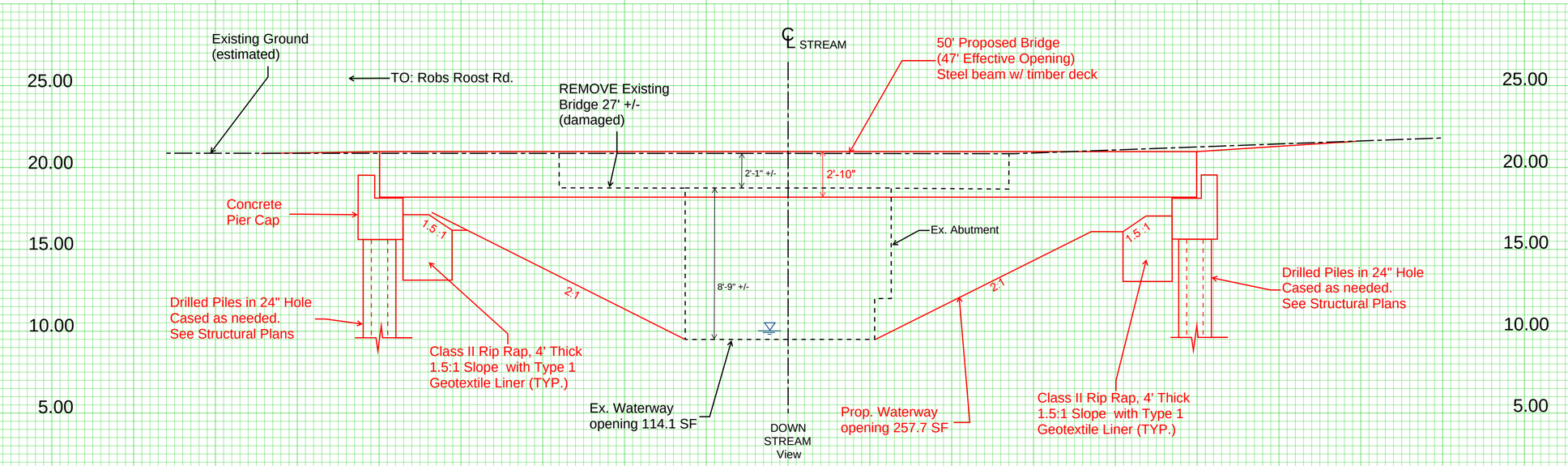




24" W24X104 beam
+ 8" Deck
+ 2" Runner
=34" (2'-10") ft structure depth)



TYPICAL SECTION



Stationing and elevations shown are relative to the site.
Based on an assumed datum.
No survey grade field work was performed.

BSR based on STANDARD BRIDGE PLANS

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number 011-01-b4913 Latitude 35.46489 Longitude -82.73528

County Buncombe Address near 32 Mountain Spring Lane

City Candler, NC Zip Code 28715

Recommended Structure 1 @ 60' Modular Bridge (50' effective length)

Recommended Width of Roadway ..... Skew .....

Recommended Location is (At, Upstream, Downstream) of Existing Crossing .....

Temporary Crossing .....



I hereby certify that that I have reviewed the existing hydraulic conveyance at this site which was a 27' +/- ft existing bridge with the proposed conveyance provided by the proposed 60.0 ft. bridge.

The proposed bridge low chord for the bridge shall be set in accordance with the 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 post storm evaluations. Portions of the existing structures may have been destroyed, removed, modified or shifted from their original location or elevation.

Designed by .....

Assisted by .....

Date .....

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 9/28/2026 12:15:02 PM EDT
7B1932BFAFC8472...

Johnson, Mirmiran, & Thompson Inc.
108 Asheville Commerce Parkway
Candler, NC, 28715
License No: C-3097

Reviewed by ..... Date .....

SITE DATA

Drainage Area ..... Source .....

River Basin French Broad Character .....

Stream Classification (e.g., Trout, High Quality Water) C, Tr

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data NCEM Private Roads and Bridges Inspection Team

Existing Structure - Description 1 @ 27' private bridge (damaged by Helene)

Estimated Waterway Opening 114.1 ft²

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 Stony Fork, LDS

Flood Study 100-yr Discharge 1980 cfs WS Elev: With Floodway 2536.09 ft Without Floodway 2536.09 ft River Station 9878

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 329.0 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	= 810	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	= _____	
DRAINAGE AREA	= 3.92	SQ. MI.
BASIC DISCHARGE (Q100)	= 1240	C.F.S.
BASIC HIGH WATER ELEVATION	= _____	

OVERTOPPING FLOOD DATA

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

** NOTE LOCATION OF OVERTOPPING*

WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	2
Churches Confirmed	Yes
Number of Churches	0
Schools Confirmed	Yes
Number of Schools	0
Recreational/Business Areas Confirmed	Yes
Number of Recreational/Business Areas	0
General Description	Bridge undermined from water getting behind end bent, soil unstable. Concrete end bents with wing walls. Steel beams, concrete deck.
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	Unsafe to drive due to major washout behind endbent. Possibly repairable with reinforced concrete. Structure looks sound other than the washout
Expected Level of Effort	Repair
Other Level of Effort	
Horizontal Curve	No
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	15.00
Span/Gap Estimate (ft)	35.00
Surface to Water (ft)	15.00
Utility/Mechanical	Yes
Utility Types	Electrical
Pipe Needs Sizing	No

Note: The HEC RAS model showed a 1@ 60" RCP instead of the current damaged bridge shown.

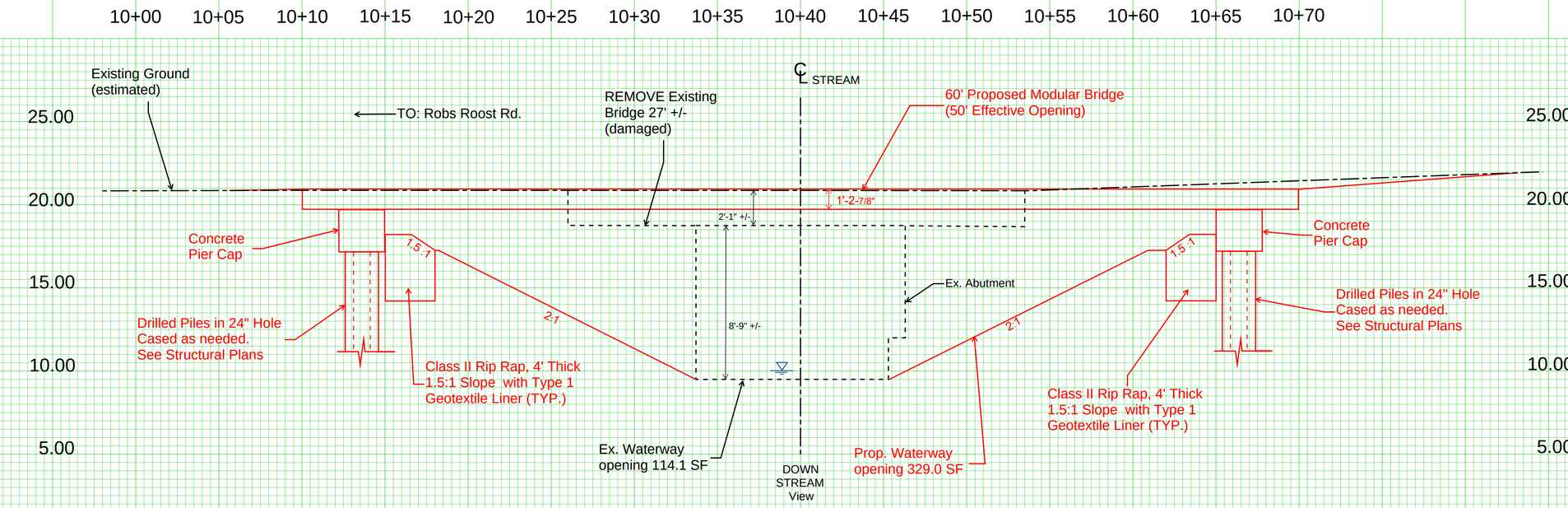
Note multiple utility lines in the vicinity near the existing bridge. Attached to the bridge, in the stream, and an automatic gate.

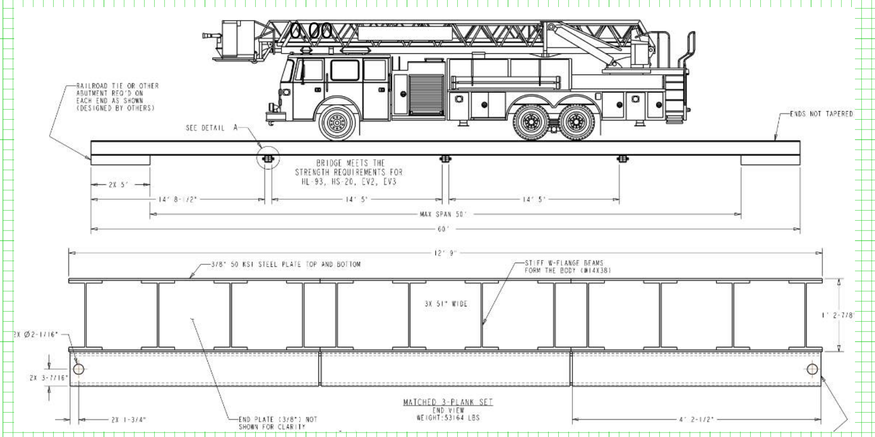




14" W14X38 beam
+ 0.25" Steel Plate
+ 0.25" Steel Plate
=14.75" (1'-2-3/4") structure depth)

Proposed Conveyance Area has been reduced by 0.9 sf to account for blockage created by 3 Plank Connectors as shown in Detail A of the Typical Section.





Stationing and elevations shown are relative to the site.
Based on an assumed datum.
No survey grade field work was performed.

BSR based on MODULAR BRIDGE PLANS

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

SHEET

WBS 011-01-b4913	**TIP** N/A	**COUNTY** BUNCOMBE	**GEOLOGIST** J. Baskin
SITE DESCRIPTION 32 Mountain Springs Lane for Bridge over Stony Fork			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 15.5
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 31.9 ft	**NORTHING** 645,023	**EASTING** 888,081	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic
DRILLER W. Shenberger	**START DATE** 08/19/26	**COMP. DATE** 08/19/26	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
0										0.0 GROUND SURFACE 0.0
	0.0	0.0	3	3	2	5		M		**ARTIFICIAL FILL**
										-2.0 Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel, Mica, and Roots 2.0
-5	-3.5	3.5	5	10	14	24		M		**ALLUVIAL**
										Brown, Fine to Coarse Silty Sandy SILT (A-4) with Trace Mica and Gravel
	-8.5	8.5								-7.0 7.0
-10			24	20	19	39		M		Gray-Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel and Mica
	-13.5	13.5								-14.0 14.0
-15			26	100/0.3		100/0.3		M		**WEATHERED ROCK**
										Orange-Tan GNEISS
	-18.5	18.5								-17.0 17.0
-20			9	12	13	25		M		**RESIDUAL**
										Red-Gray, Fine to Coarse Sandy SILT (A-4) with Trace Mica
	-21.9	21.9								-21.9 21.9
			60/0.0			60/0.0				**CRYSTALLINE ROCK**
-25										Fresh to Slight Weathering, Hard to Very Hard, White-Gray HORNEBLENDE GNEISS with Close to Moderately Close Fracture Spacing
-30										-31.9 31.9
										Boring Terminated at Elevation -31.9 ft in CRYSTALLINE ROCK (HORNEBLENDE GNEISS)

Notes:
1. Surficial Organic Soil= 0.0'-0.1'
2. Auger Refusal at 21.9', Begin Coring at 21.9'
3. 0 HR Water and Cave Depths Obtained Prior to Coring

DRAFT

FOR INFORMATION ONLY

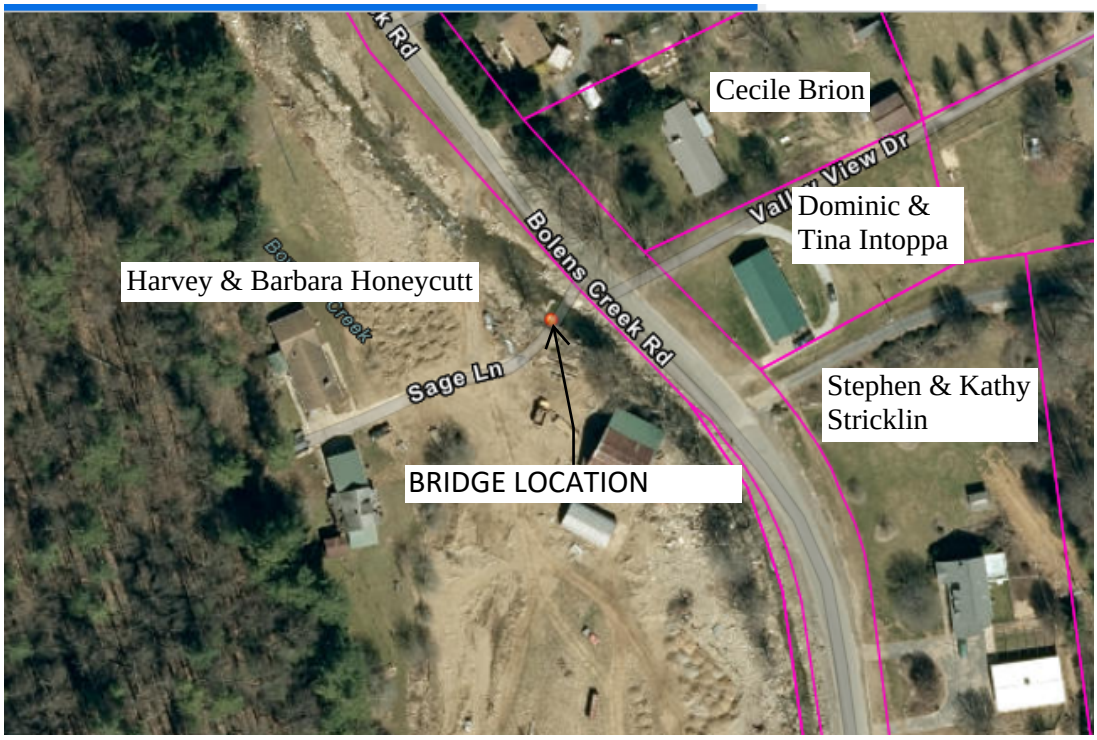
GEOTECHNICAL BORING REPORT
CORE LOG

WBS 011-01-b4913	**TIP** N/A	**COUNTY** BUNCOMBE	**GEOLOGIST** J. Baskin
SITE DESCRIPTION 32 Mountain Springs Lane for Bridge over Stony Fork			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 15.5
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 31.9 ft	**NORTHING** 645,023	**EASTING** 888,081	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic
DRILLER W. Shenberger	**START DATE** 08/19/26	**COMP. DATE** 08/19/26	**SURFACE WATER DEPTH** N/A
CORE SIZE NQ	**TOTAL RUN** 10.0 ft		

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
-21.9											Begin Coring @ 21.9 ft
	-21.9	21.9	5.0	*N=60/0.0* 1:45/1.0 2:07/1.0 2:05/1.0 1:35/1.0 1:37/1.0	(4.7) 94%	(4.0) 80%		(9.7) 97%	(8.9) 89%		-21.9 **CRYSTALLINE ROCK** 21.9 Fresh to Slight Weathering, Hard to Very Hard, White-Gray HORNEBLENDE GNEISS with Close to Moderately Close Fracture Spacing
-25											
	-26.9	26.9	5.0	1:36/1.0 1:18/1.0 1:35/1.0 1:40/1.0 1:58/1.0	(5.0) 100%	(4.9) 98%					
-30											
	-31.9	31.9									-31.9 31.9 Boring Terminated at Elevation -31.9 ft in CRYSTALLINE ROCK (HORNEBLENDE GNEISS)

Notes:
1. Surficial Organic Soil= 0.0'-0.1'
2. Auger Refusal at 21.9', Begin Coring at 21.9'
3. 0 HR Water and Cave Depths Obtained Prior to Coring

DRAFT



SITE ID: 100-01-00508

SITE ADDRESS: 48 Sage Lane, Burnsville, NC

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 100-01-00508

Site Address: 48 Sage Lane, Burnsville, NC

GPS Coordinates: 35.8929, -82.284

County: Yancey

Bridge Type: Steel I-beam with Timber Decking

Span Length: 50 ft Standard Bridge. Refer to BSR for required waterway opening.

Bridge Width: 12'-0" 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 for Steel I-beam with timber decking option.

Wingwalls are not required.

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

No known debris or obstructions in the stream requiring removal.

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number 100-01-00528 Latitude 35.893093 Longitude -82.283228

County Yancey Address near 48 Sage Lane

City Burnsville, NC Zip Code 28714

Recommended Structure 1 @ 50' Steel Girder Bridge

Recommended Width of Roadway ..... Skew .....

Recommended Location is (At,) Upstream, Downstream) of Existing Crossing .....

Temporary Crossing .....



I hereby certify that I have reviewed the existing hydraulic conveyance at this site which was a 26 ft +/- existing bridge with the proposed conveyance provided by the proposed 30.0 ft. span bridge.

The proposed bridge low chord for the bridge shall be set in accordance with the 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 post storm evaluations. Portions of the existing structures may have been destroyed, removed, modified or shifted from their original location or elevation.

Designed by .....

Assisted by .....

Date .....

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 7B1932BFAFC8472... 9/30/2026 | 10:42:05 AM EDT

Johnson, Mirmiran, & Thompson Inc.
108 Asheville Commerce Parkway
Candler, NC, 28715
License No: C-3097

Reviewed by ..... Date .....

SITE DATA

Drainage Area ..... Source .....

River Basin French Broad Character .....

Stream Classification (e.g., Trout, High Quality Water) Class C

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data NCEM Private Roads and Bridges Inspection Team

Existing Structure - Description 1 @ 26' +/- private bridge (damaged by Helene)

Estimated Waterway Opening 173.5 ft²

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 Bowlens Creek, DS

Flood Study 100-yr Discharge 2990 cfs WS Elev: With Floodway 2797.30 ft Without Floodway 2796.32 ft River Station 12379

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 193.6 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	= 920	C.F.S.
FREQUENCY OF DESIGN FLOOD	= 25	YRS.
DESIGN HIGH WATER ELEVATION	=	
DRAINAGE AREA	= 4.58	SQ. MI.
BASIC DISCHARGE (Q100)	= 1400	C.F.S.
BASIC HIGH WATER ELEVATION	=	

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	=	C.F.S.
FREQUENCY OF OVERRTOPPING FLOOD	=	YRS.
OVERTOPPING FLOOD ELEVATION	=	*

*NOTE LOCATION OF OVERTOPPING

WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

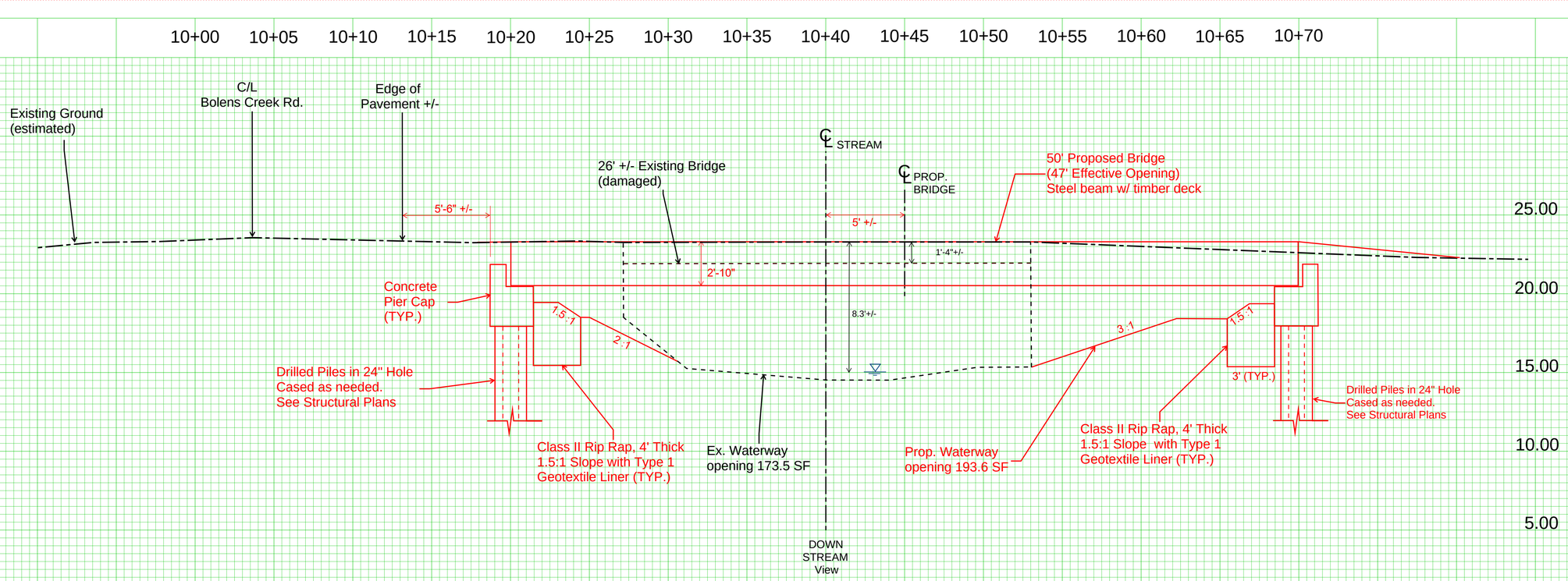
Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	3
Churches Confirmed	Yes
Number of Churches	0
Schools Confirmed	Yes
Number of Schools	0
Recreational/Business Areas Confirmed	Yes
Number of Recreational/Business Areas	0
General Description	Limited accessibility, installed temporary bridge capacity is unstated on the structure, fire truck access is questionable. Bridge seemed structurally sound? Added quantities for riprap. SC/RV 10/22
Overall Condition	Intact
Condition Other	
Site Repair Status	Temporary Repair
Condition Description	Accessibility is limited, installed temporary bridge capacity is unstated. Concrete approach pad (12'*30') at south end was washed away and is replaced with gravel.
Expected Level of Effort	Repair
Other Level of Effort	
Horizontal Curve	No
Number of Travel Lanes (LOS)	1
Inclination	No
Roadway Divider	No
Road/Bridge Width (ft)	12.00
Span/Gap Estimate (ft)	41.00
Surface to Water (ft)	8.50
Utility/Mechanical	No

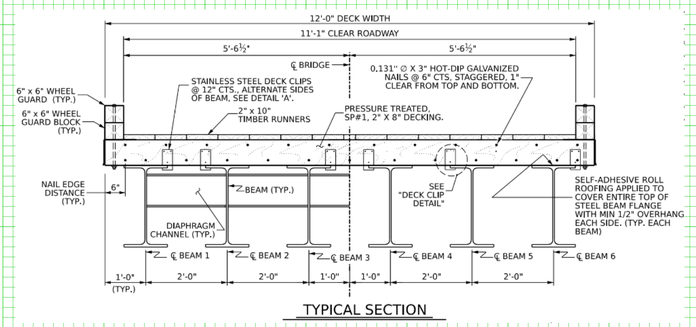
Subject: Re: Need more dimensions and info for Site 100-01-00508

Distance from the end of bridge to the edge of pavement- 14'
Distance from the top of bridge deck to the creek bed at center of bridge- 8'3"
Verification- it's possible end bent cap will be 5'-6' from road, possibly more

Proposed bridge is shifted from the C/L of the creek to avoid impacts to Young Cove Road.

24" W24X104 beam
+ 8" Deck
+ 2" Runner
=34" (2'-10") ft structure depth)





TYPICAL SECTION

Stationing and elevations shown are relative to the site.
Based on an assumed datum.
No survey grade field work was performed.

BSR based on STANDARD BRIDGE PLANS

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 100-01-00508	**TIP** N/A	**COUNTY** YANCEY	**GEOLOGIST** C. Brake
SITE DESCRIPTION 48 Sage Lane for Bridge over Bowlens Creek			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 49.8 ft	**NORTHING** 796,082	**EASTING** 1,027,725	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER W. Shenberger	**START DATE** 08/25/26	**COMP. DATE** 08/25/26	**SURFACE WATER DEPTH** N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft) / DEPTH (ft)
0										0.0 GROUND SURFACE 0.0
	0.0	0.0	2	4	4	8		M		**ARTIFICIAL FILL** Brown, Silty Fine to Coarse SAND (A-2-4) with Little Gravel, Cobbles, and Mica
	-2.3	2.3	4	6	4	10		M		
-5	-3.8	3.8	6	10	12	22		M		
										-7.0 7.0
	-8.5	8.5	24	53	35	88		W		Brown, Silty Fine to Coarse SAND (A-1-b) with Trace Gravel and Mica
-10										
	-13.5	13.5	12	28	20	48		W		-12.0 12.0 **ALLUVIAL** Brown, Silty Fine to Coarse SAND (A-2-4) with Trace Mica, Little Gravel and Cobbles
-15										
	-18.5	18.5	15	22	28	50		W		
-20										
	-23.5	23.5	11	15	21	36		W		-22.0 22.0 Brown, Fine to Coarse Sandy SILT (A-4) with Trace Mica and Little Gravel
-25										
	-28.5	28.5	14	33	33	66		W		-27.0 27.0 **RESIDUAL** White-Brown, Fine to Coarse Sandy SILT (A-4) with Trace Mica
-30										
	-33.5	33.5	8	16	40	56		M		
-35										
	-38.5	38.5	100/0.5			100/0.5				-37.0 37.0 **WEATHERED ROCK** Tan-White BIOTITE GNEISS
-40										
	-43.5	43.5	10	23	22	45		W		-42.0 42.0 **RESIDUAL** Tan-White, Fine to Coarse Sandy SILT (A-4) with Trace Mica
-45										
	-48.5	48.5	15	100/0.2		100/0.2				-49.0 49.0
	-49.8	49.8	60/0.0			60/0.0				-49.8 49.8 **WEATHERED ROCK** White-Tan BIOTITE GNEISS

Boring Terminated with Standard Penetration Test Refusal at Elevation -49.8 ft on CRYSTALLINE ROCK (BIOTITE GNEISS)

Note:
0 HR Cave Depth= 7.0'

DRAFT

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 100-01-00508	**TIP** N/A	**COUNTY** YANCEY	**GEOLOGIST** C. Brake	
SITE DESCRIPTION 48 Sage Lane for Bridge over Bowlens Creek				**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 7.1
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 41.9 ft	**NORTHING** 796,041	**EASTING** 1,027,704	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3763 CME-550X 83% 05/18/2026		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER W. Shenberger	**START DATE** 08/26/26	**COMP. DATE** 08/26/26	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION ELEV. (ft)	DEPTH (ft)
0										0.0 GROUND SURFACE	0.0
	0.0	0.0	2	5	5	10		M		**ARTIFICIAL FILL** Brown, Silty Fine to Coarse SAND (A-2-4) with Little Gravel and Trace Mica	
-5	-3.5	3.5	4	3	4	7		M			
	-8.5	8.5	10	9	14	23		W		-7.0 **ALLUVIAL** Brown-Black-Gray, Silty Fine to Coarse SAND (A-2-4) with Trace Mica, Little Gravel and Cobbles	7.0
-10											
-15	-13.5	13.5	30	29	26	55		M			
	-18.5	18.5	20	10	10	20		W		-22.0 **RESIDUAL** Brown-White, Fine to Coarse Sandy SILT (A-4) with Trace Mica	22.0
-20											
-25	-23.5	23.5	19	18	20	38		M			
	-28.5	28.5	23	43	57/0.2	100/0.7				-27.0 **WEATHERED ROCK** Brown-White BIOTITE GNEISS	27.0
-30											
	-33.5	33.5	12	22	19	41		M		-32.0 **RESIDUAL** Brown-White, Fine to Coarse Sandy SILT (A-4) with Trace Rock Fragments and Mica	32.0
-35											
-40	-38.5	38.5	100/0.2			100/0.2				-37.0 **WEATHERED ROCK** Brown-White BIOTITE GNEISS	37.0
	-41.8	41.8	60/0.1			60/0.1				-41.8	41.8
										-41.9 **CRYSTALLINE ROCK** Brown-White BIOTITE GNEISS	41.9

Boring Terminated with Standard Penetration Test Refusal at Elevation -41.9 ft in CRYSTALLINE ROCK (BIOTITE GNEISS)

Notes:
1. Auger Refusal at 41.8'
2. 0 HR Cave Depth= 7.6'

DRAFT