

SITE ID: 005-01-69CD6

SITE ADDRESS: 1388 WILLIAM T CALLOWAY ROAD, TODD, NC, 28684

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 005-01-69cd6

Site Address: 1388 William T Calloway Road, Todd, NC, 28684

GPS Coordinates: 36.3697, -81.574

County: Ashe

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

Span Length: 20 ft Standard Bridge or 30 ft Modular Bridge. Refer to BSR for required waterway opening.

Bridge Width: 12'-0" Clear Width

Substructure Type: Concrete Cap on Driven 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 [illegible] Latitude [illegible] Longitude [illegible]

County [illegible] Address [illegible]

City [illegible] Zip Code [illegible]

Recommended Structure [illegible]

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

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

Temporary Crossing ....



[illegible]

Designed by ....

Assisted by ....

Date ....

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20646 MATTHEW D. FOSTER

Signed by: Matthew D Foster 7B1932BFAFC8472... 9/2/2026 | 4:36:34 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 [illegible] Character ....

Stream Classification (e.g., Trout, High Quality Water) [illegible]

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data [illegible]

Existing Structure - Description [illegible]

Estimated Waterway Opening [illegible] 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 [illegible]

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

DESIGN DATA

Hydrological Method ....

Hydraulic Design Method [illegible]

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 [illegible] 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	= [illegible] C.F.S.
FREQUENCY OF DESIGN FLOOD	= [illegible]5 YRS.
DESIGN HIGH WATER ELEVATION	= ______
DRAINAGE AREA	= [illegible] SQ. MI.
BASIC DISCHARGE (Q100)	= [illegible] C.F.S.
BASIC HIGH WATER ELEVATION	= ______

OVERTOPPING FLOOD DATA

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

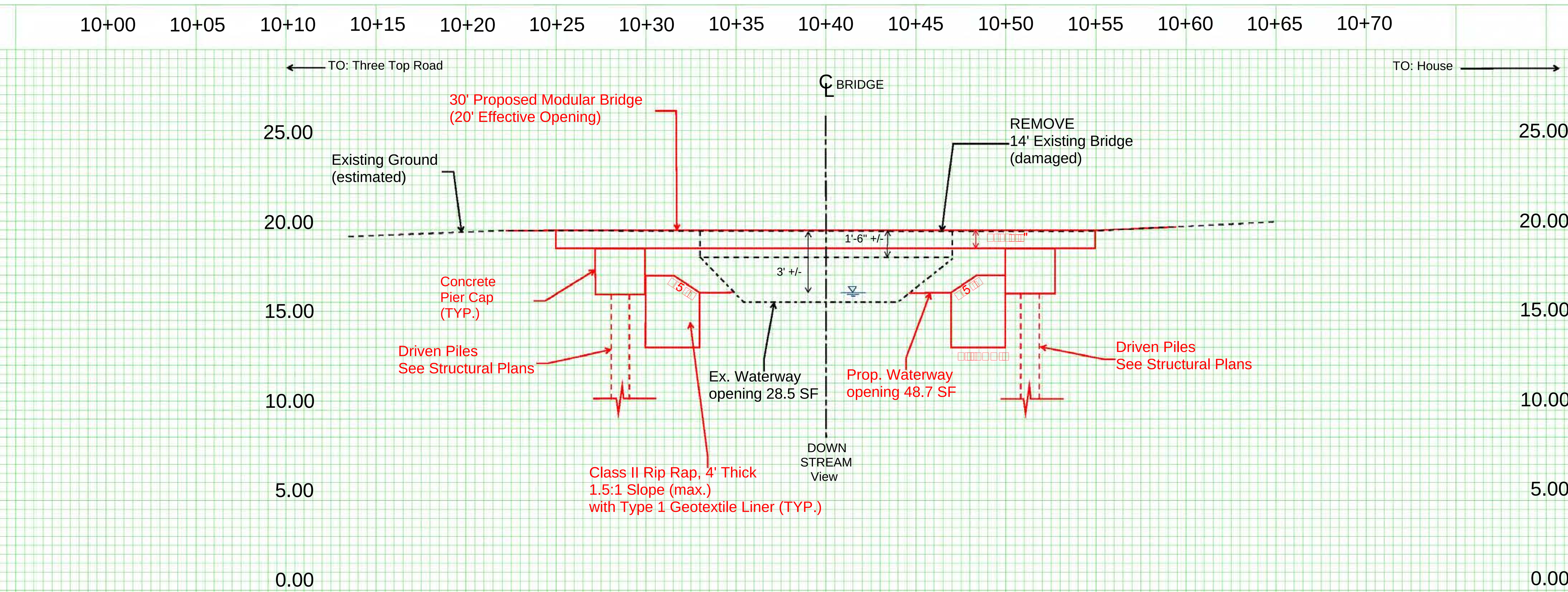
*NOTE LOCATION OF OVERTOPPING

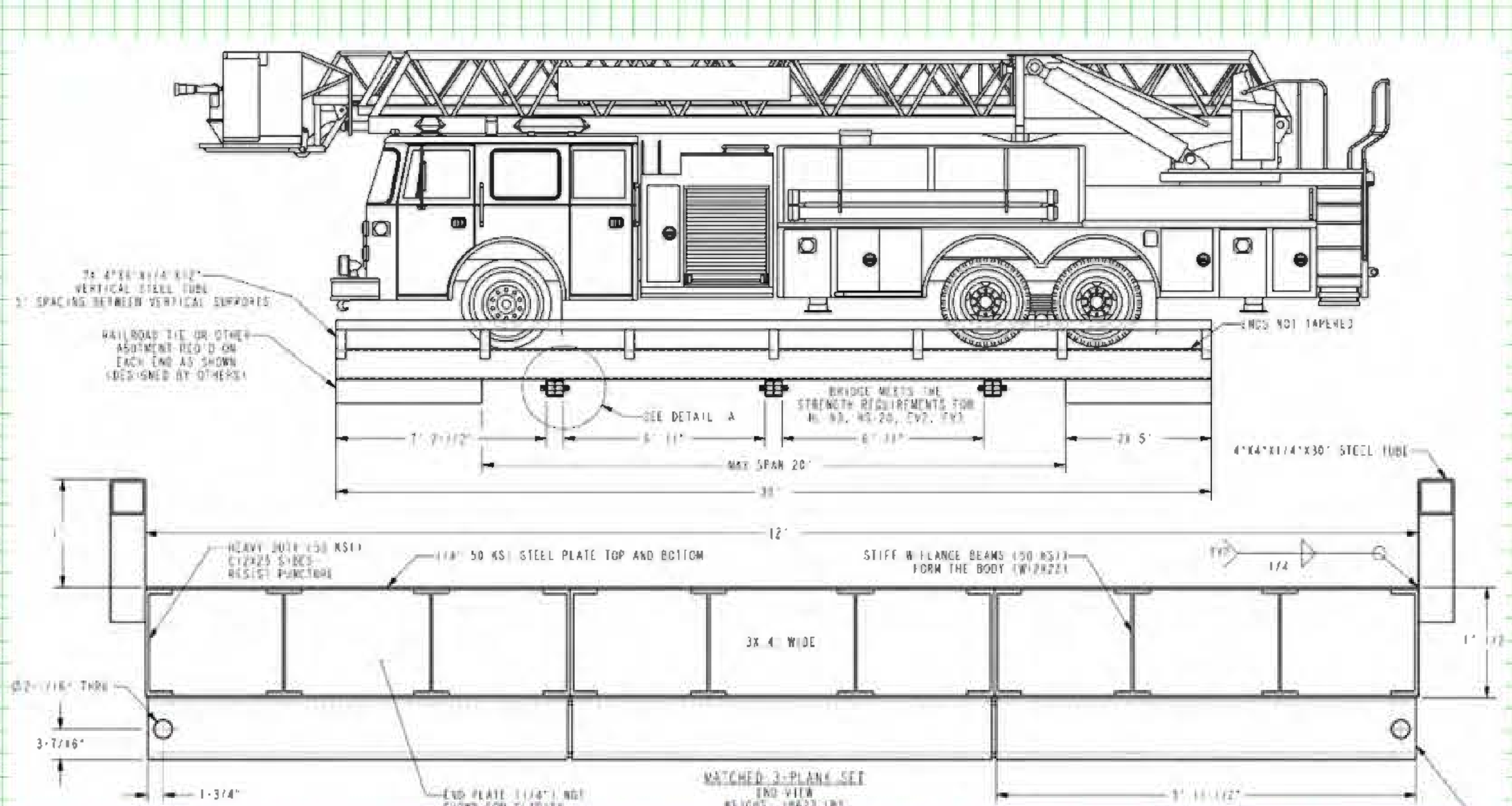
WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	No
Number of Homes	1
Churches Confirmed	Yes
Number of Churches	0
Schools Confirmed	Yes
Number of Schools	0
Recreational/Business Areas Confirmed	Yes
Number of Recreational/Business Areas	1
General Description	Wooden bridge crossing creek leads to house
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	Wooden bridge has not been fixed. Ems vehicle can not access, nor vehicles. Needs to be fully replaced. Power line is above the steam. Fiber optic cables are also exposed
Expected Level of Effort	Replace
Other Level of Effort	
Horizontal Curve	No
Number of Travel Lanes (LOS)	1
Inclination	Yes
Roadway Divider	No
Road/Bridge Width (ft)	14.00
Span/Gap Estimate (ft)	14.00
Surface to Water (ft)	3.00
Utility/Mechanical	Yes
Utility Types	Electrical,Communications

[illegible]





[illegible]

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

Site Number [illegible] Latitude [illegible] Longitude [illegible]

County [illegible] Address [illegible]

City [illegible] Zip Code [illegible]

Recommended Structure [illegible]

Recommended Width of Roadway ______ Skew ______

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

Temporary Crossing ______



Designed by ______

Assisted by ______

Date ______

Signed by: Matthew D Foster
7B1932BFAFC8472...

9/2/2026 | 4:36:34 PM EDT

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License No: C-3097

Reviewed by ______ Date ______

SITE DATA

Drainage Area ______ Source ______

River Basin [illegible] Character ______

Stream Classification (e.g., Trout, High Quality Water) [illegible]

Debris Potential: Low ☐ Moderate ☒ High ☐

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Existing Structure - Description [illegible]

Estimated Waterway Opening [illegible] 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 [illegible]

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

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Hydrological Method ______

Hydraulic Design Method [illegible]

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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	= [illegible]	C.F.S.
FREQUENCY OF DESIGN FLOOD	= [illegible]5	YRS.
DESIGN HIGH WATER ELEVATION	= ______	
DRAINAGE AREA	= [illegible]	SQ. MI.
BASIC DISCHARGE (Q100)	= [illegible]	C.F.S.
BASIC HIGH WATER ELEVATION	= ______	

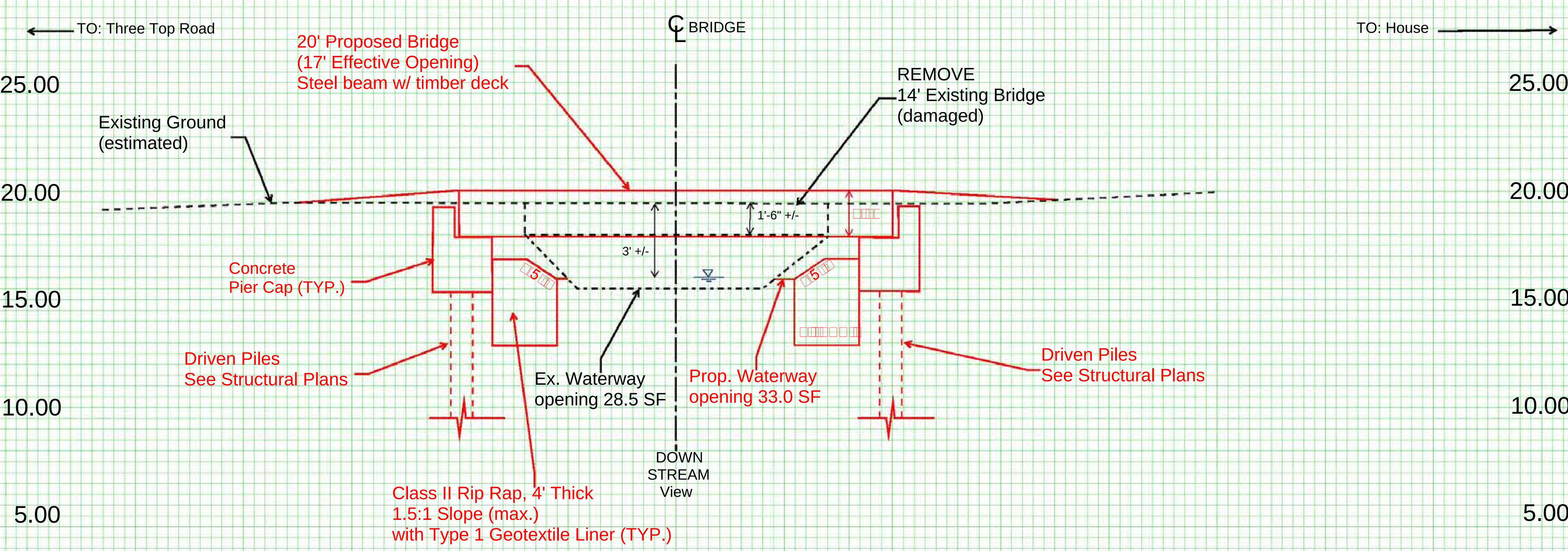
OVERTOPPING FLOOD DATA		
OVERTOPPING DISCHARGE	= ______	C.F.S.
FREQUENCY OF OVERRTOPPING FLOOD	= ______	YRS.
OVERTOPPING FLOOD ELEVATION	= ______*	

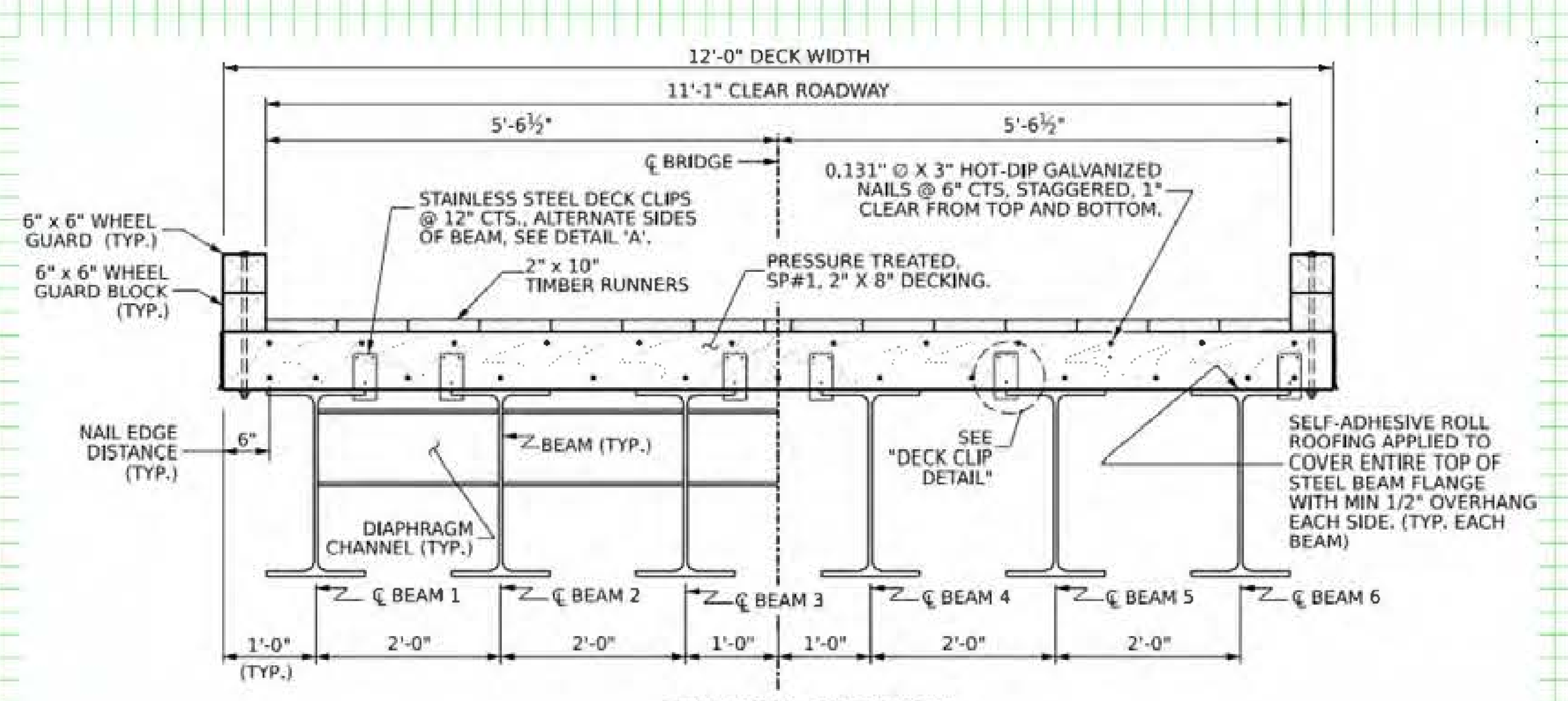
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Inclination	Yes
Roadway Divider	No
Road/Bridge Width (ft)	14.00
Span/Gap Estimate (ft)	14.00
Surface to Water (ft)	3.00
Utility/Mechanical	Yes
Utility Types	Electrical,Communications





TYPICAL SECTION

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 005-01-69cd6	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake
SITE DESCRIPTION 1388 William T Calloway Road for Bridge over Unnamed Creek			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 13.0
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 34.0 ft	**NORTHING** 963,319	**EASTING** 1,242,174	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic
DRILLER T. Beard	**START DATE** 08/04/26	**COMP. DATE** 08/04/26	**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	17	9	8	17		M		**ARTIFICIAL FILL**
	-3.5	3.5								-2.0 Brown, Fine to Coarse Sandy Silty CLAY (A-7) with Some Gravel 2.0
-5			10	11	11	22		W		**ALLUVIAL** Brown, Silty Fine to Coarse SAND (A-2-4) with Little Gravel
	-8.5	8.5								-7.0 Tan, Fine Sandy Silty CLAY (A-7) 7.0
-10			1	0	1	1		Sat.		
	-13.5	13.5								-12.0 12.0
-15			8	17	11	28		W		**RESIDUAL** Dark Brown-Orange to Brown, Fine to Coarse Sandy SILT (A-4) with Trace Mica and Trace to Little Rock Fragments
	-18.5	18.5								
-20			6	8	12	20		W		
	-23.5	23.5								
-25			12	17	23	40		M		
	-28.5	28.5								-27.0 27.0
-30			21	79/0.3		100/0.8				**WEATHERED ROCK** Orange-Tan GNEISS
	-33.5	33.5								
	-34.0	34.0	100/0.3			100/0.3				-34.0 34.0
			60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation -34.0 ft on CRYSTALLINE ROCK (GNEISS)

Notes:
1. Driller Noted Layers of Hard Drilling~25.0'-27.0'
2. Auger Refusal at 34.0'
3. 0 HR Cave Depth= 16.0'

DRAFT

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 005-01-69cd6	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake
SITE DESCRIPTION 1388 William T Calloway Road for Bridge over Unnamed Creek			**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 11.5
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 38.1 ft	**NORTHING** 963,345	**EASTING** 1,242,184	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic
DRILLER T. Beard	**START DATE** 08/04/26	**COMP. DATE** 08/05/26	**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	1	5	6	11		M		**ARTIFICIAL FILL**	
										-2.0 Brown, Fine to Coarse Sandy Clay (A-7) with Trace Gravel and Mica	2.0
-5	-3.5	3.5	10	8	10	18		W		Brown, Clayey Silty Fine to Coarse SAND (A-2-4) with Little Gravel	
										-7.0	7.0
-10	-8.5	8.5	4	6	2	8		M		**RESIDUAL** Light Gray to Orange-Brown, Fine Sandy SILT (A-4) with Trace Mica	
-15	-13.5	13.5	4	2	6	8		W			
-20	-18.5	18.5	12	4	9	13		M			
-25	-23.5	23.5	100/0.2			100/0.2				-22.0 **WEATHERED ROCK** Gray GNEISS	22.0
	-27.0	27.0	34	66/0.3		100/0.8				-27.8 Brown-Gray GNEISS	27.8
-30										-30.6	30.6
-35	-32.8	32.8	100/0.3			100/0.3				**CRYSTALLINE ROCK** Very Slight to Moderate Weathering, Hard to Moderately Hard, Very Thinly Foliated to Thickly Laminated, Black-White GNEISS with Very Close to Moderately Close Fracture Spacing	
	-38.1	38.1	60/0.0			60/0.0				-35.0 -36.4	35.0 36.4
										-38.1 **WEATHERED ROCK** Brown GNEISS	38.1
										CRYSTALLINE ROCK Very Slight to Moderate Weathering, Hard to Moderately Hard, Thinly Foliated to Thickly Laminated, Black-White GNEISS with Very Close to Moderately Close Fracture Spacing	
										Boring Terminated with Standard Penetration Test Refusal at Elevation -38.1 ft in CRYSTALLINE ROCK (GNEISS)	

Notes:
1. Slow Drilling (>5 Minutes/Foot) at 27.0'- Take SPT Drive and Begin Coring at 27.8'
2. 0 HR Cave Depth= 14.3'
3. 0 HR Water and Cave Depths Obtained Prior to Rock Coring

DRAFT

FOR INFORMATION ONLY

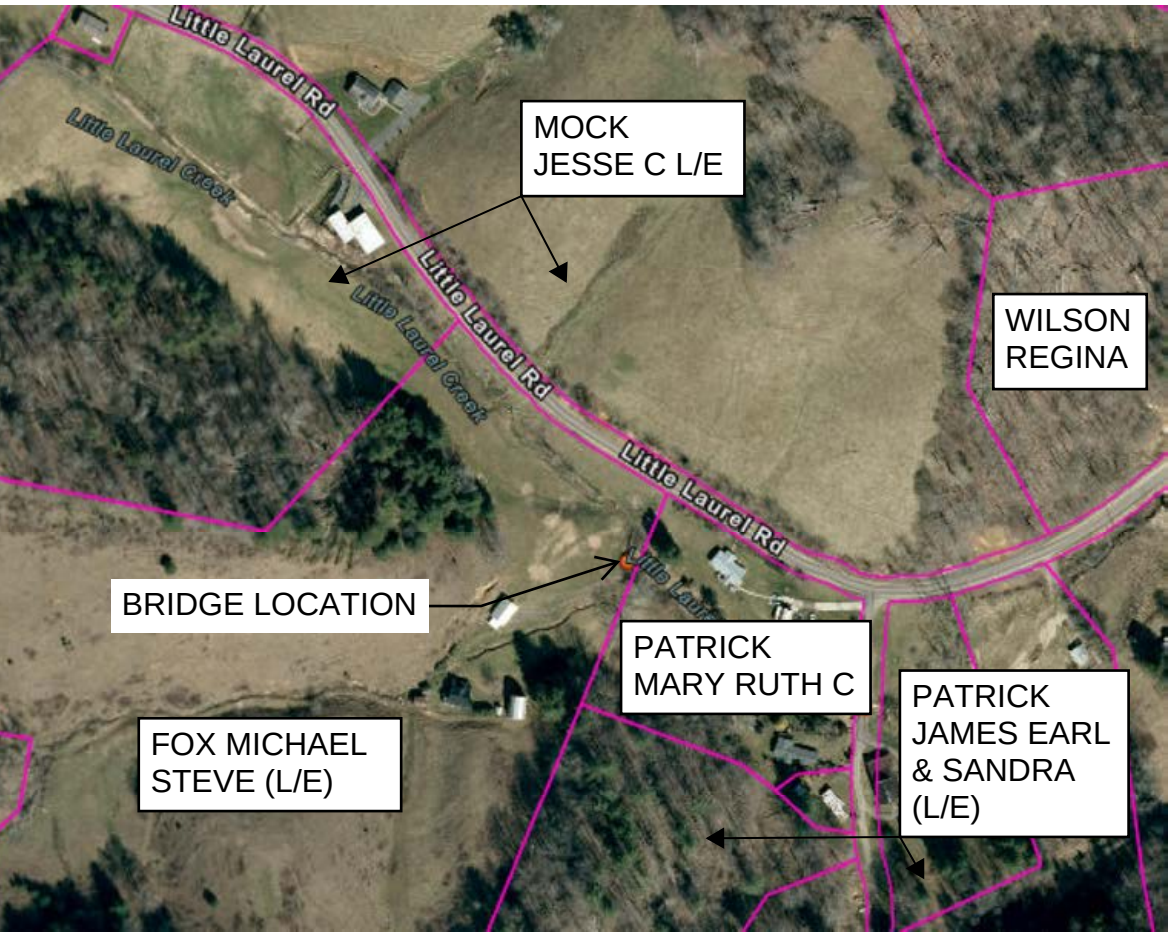
GEOTECHNICAL BORING REPORT
CORE LOG

WBS 005-01-69cd6	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake
SITE DESCRIPTION 1388 William T Calloway Road for Bridge over Unnamed Creek			**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 11.5
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 38.1 ft	**NORTHING** 963,345	**EASTING** 1,242,184	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic
DRILLER T. Beard	**START DATE** 08/04/26	**COMP. DATE** 08/05/26	**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
-27.8											Begin Coring @ 27.8 ft
-30	-27.8	27.8	5.0	1:48/1.0 2:13/1.0 3:09/1.0 3:33/1.0 4:13/1.0	(3.1) 62%	(2.2) 44%		(0.9) 32%	(0.0) 0%		-27.8 **WEATHERED ROCK** 27.8 Brown-Gray GNEISS -30.6 30.6
-35	-32.8 -33.1	32.8 33.1	5.0	*N=100/0.3* 3:54/1.0 2:28/1.0 2:07/1.0 6:54/1.0	(3.5) 70%	(1.8) 36%		(4.1) 93% (0.1) 7%	(3.2) 73% (0.0) 0%		**CRYSTALLINE ROCK** Very Slight to Moderate Weathering, Hard to Moderately Hard, Very Thinly Foliated to Thickly Laminated, Black-White GNEISS with Very Close to Moderately Close Fracture Spacing -35.0 35.0 -36.4 **WEATHERED ROCK** 36.4 Brown GNEISS
	-38.1	38.1		12:00/1.0 *N=60/0.0*				(1.6) 94%	(0.8) 47%		-38.1 **CRYSTALLINE ROCK** 38.1 Very Slight to Moderate Weathering, Hard to Moderately Hard, Thinly Foliated to Thickly Laminated, Black-White GNEISS with Very Close to Moderately Close Fracture Spacing Boring Terminated with Standard Penetration Test Refusal at Elevation -38.1 ft in CRYSTALLINE ROCK (GNEISS)

Notes:
1. Slow Drilling (>5 Minutes/Foot) at 27.0'- Take SPT Drive and Begin Coring at 27.8'
2. 0 HR Cave Depth= 14.3'
3. 0 HR Water and Cave Depths Obtained Prior to Rock Coring

DRAFT



SITE ID: 005-01-A5D2F

SITE ADDRESS: 915 LITTLE LAUREL ROAD, CRESTON, NC, 28615

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 005-01-a5d2f

Site Address: 915 Little Laurel Road, Creston, NC, 28615

GPS Coordinates: 36.4503, -81.6343

County: Ashe

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

Span Length: 30 ft Standard Bridge or 40 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 [illegible] Latitude [illegible] Longitude [illegible]

County [illegible] Address [illegible] Rd

City [illegible] Zip Code [illegible]

Recommended Structure [illegible]

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

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

Temporary Crossing ....



[illegible]

Designed by ....

Assisted by ....

SEAL 20646 NORTH CAROLINA PROFESSIONAL ENGINEER MATTHEW D. FOSTER

Date ....

Signed by: Matthew D Foster 7B1932BFAFC8472... 9/2/2026 | 4:24:28 PM EDT

Johnson, Mirmiran, & Thompson Inc.
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Drainage Area .... Source ....

River Basin [illegible] Character ....

Stream Classification (e.g., Trout, High Quality Water) [illegible]

Debris Potential: Low ☐ Moderate ☒ High ☐

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Existing Structure - Description [illegible]

Estimated Waterway Opening [illegible] ft²

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Date .... Elev .... ft Est Freq .... yr Source .... Period of Knowledge .... yrs

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Channel Slope .... ft/ft Source .... Normal Water Surface Elev .... ft

Manning's n: Left OB .... Channel .... Right OB .... Source ....

Flood Study / Status [illegible]

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

DESIGN DATA

Hydrological Method ....

Hydraulic Design Method [illegible]

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 [illegible] 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 = [illegible] C.F.S.
FREQUENCY OF DESIGN FLOOD = [illegible] YRS.
DESIGN HIGH WATER ELEVATION = ______
DRAINAGE AREA = [illegible] SQ. MI.
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OVERTOPPING FLOOD DATA

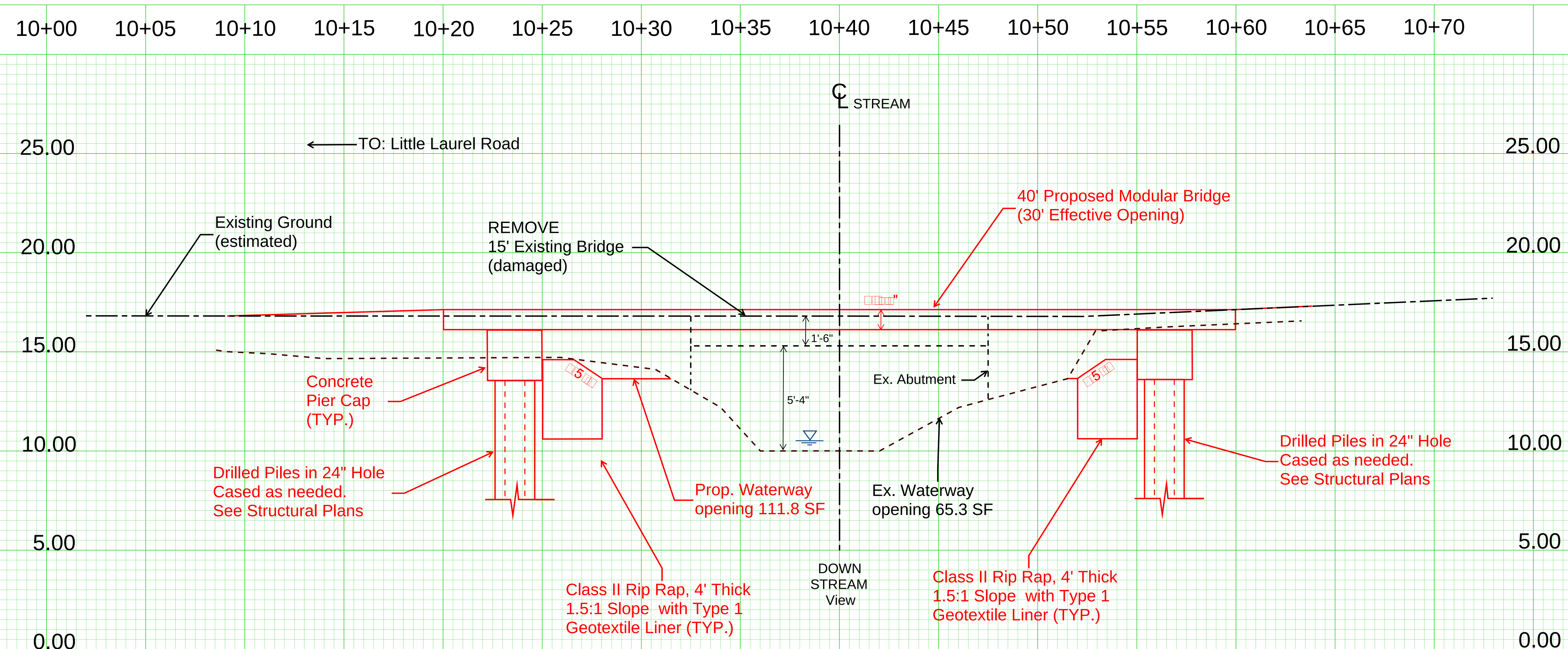
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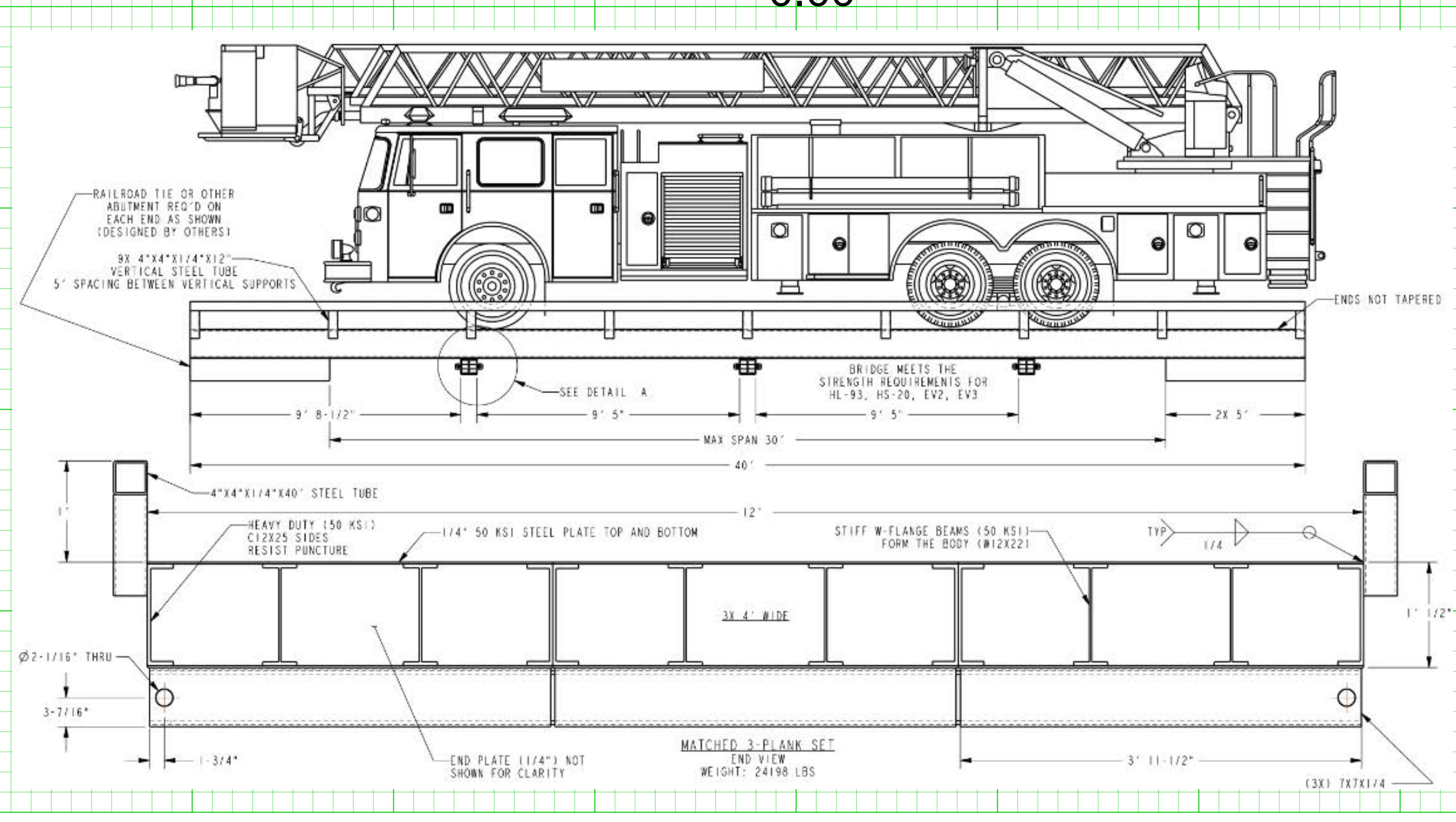
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Churches Confirmed	Yes
Number of Churches	0
Schools Confirmed	Yes
Number of Schools	0
Recreational/Business Areas Confirmed	Yes
Number of Recreational/Business Areas	0
General Description	Endwall foundation has had soil underneath massively scour out which can be seen in the attached images. Possible that whole bridge will need to be replaced.
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	No repair has been made at this time.
Expected Level of Effort	Replace
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)	21.00
Surface to Water (ft)	7.00
Utility/Mechanical	No

[illegible]





[illegible]

BRIDGE SURVEY & HYDRAULIC DESIGN REPORT

NC DEPARTMENT OF EMERGENCY MANAGEMENT
PRIVATE ROADS AND BRIDGES PROGRAM

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Stream Classification (e.g., Trout, High Quality Water) [illegible]

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data [illegible]

Existing Structure - Description [illegible]

Estimated Waterway Opening [illegible] 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 [illegible]

Flood Study 100-yr Discharge [illegible] cfs WS Elev: With Floodway [illegible] ft Without Floodway [illegible] ft River Station [illegible]

DESIGN DATA

Hydrological Method ....

Hydraulic Design Method [illegible]

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 [illegible] 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	= [illegible]	C.F.S.
FREQUENCY OF DESIGN FLOOD	= [illegible]5	YRS.
DESIGN HIGH WATER ELEVATION	= ______	
DRAINAGE AREA	= [illegible]	SQ. MI.
BASIC DISCHARGE (Q100)	= [illegible]	C.F.S.
BASIC HIGH WATER ELEVATION	= ______	

OVERTOPPING FLOOD DATA

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

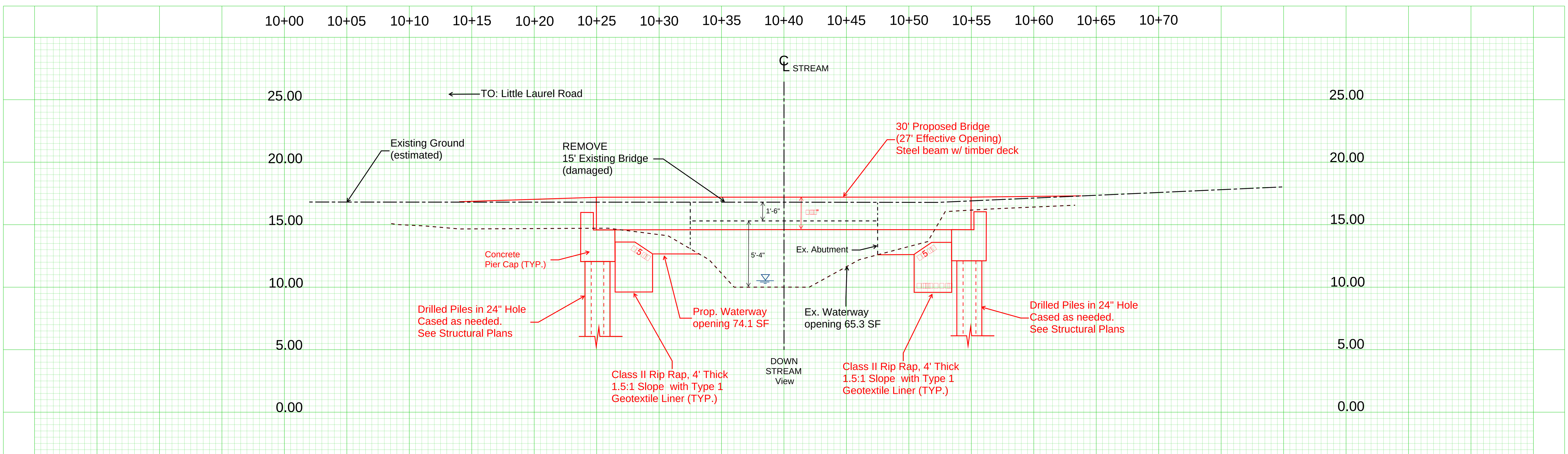
**NOTE LOCATION OF OVERTOPPING*

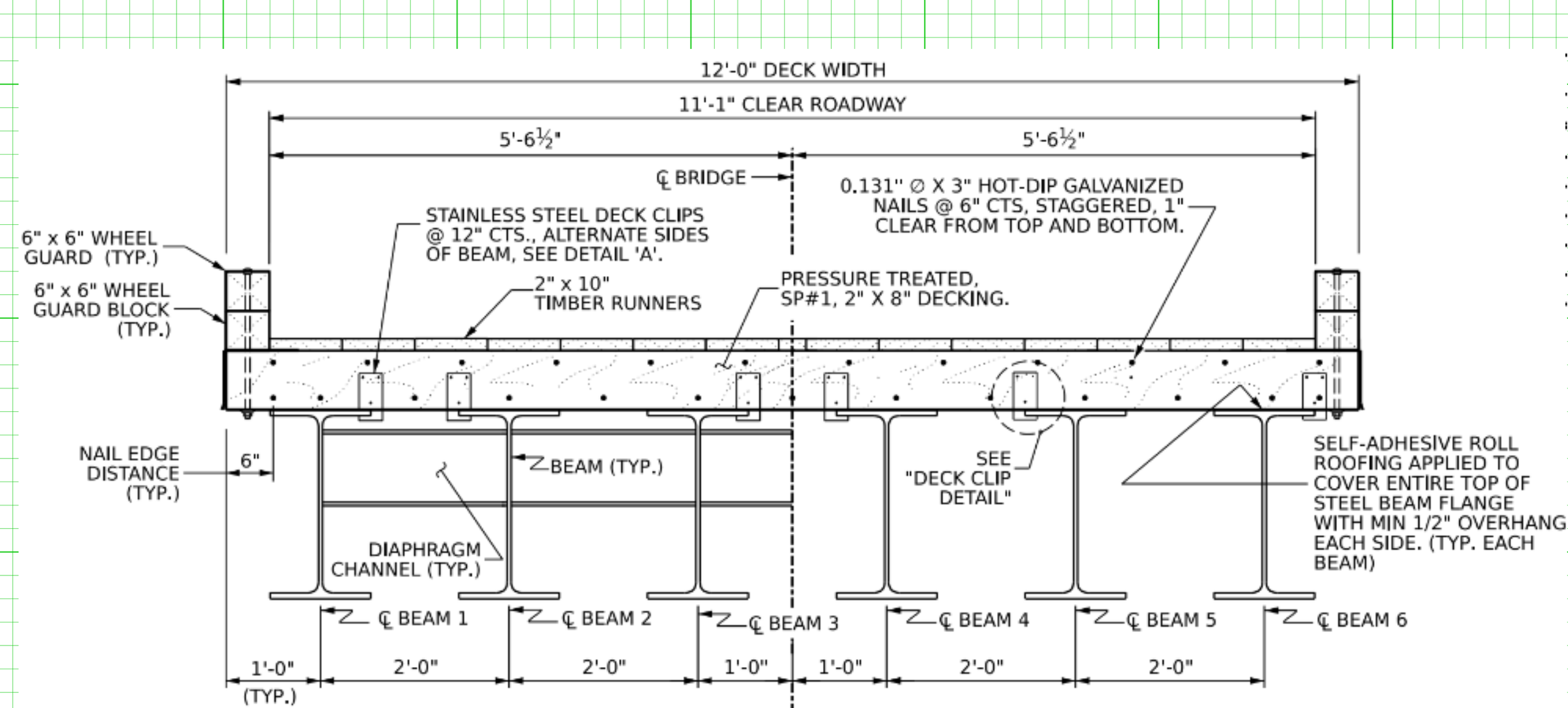
WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

Emergency Vehicle Access Possible?	No
Number of Homes Confirmed	Yes
Number of Homes	1
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	Endwall foundation has had soil underneath massively scour out which can be seen in the attached images. Possible that whole bridge will need to be replaced.
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	No repair has been made at this time.
Expected Level of Effort	Replace
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)	21.00
Surface to Water (ft)	7.00
Utility/Mechanical	No

[illegible]





TYPICAL SECTION

[illegible]

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 005-01-A5d2F	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake	
SITE DESCRIPTION 915 Little Laurel Road for Bridge over Little Laurel Creek				**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 2.0
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 20.2 ft	**NORTHING** 993,337	**EASTING** 1,225,487	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER T. Beard	**START DATE** 08/03/26	**COMP. DATE** 08/03/26	**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	4	6	3	9				-1.0 **ARTIFICIAL FILL**	1.0
	-3.5	3.5								-2.0 Tan, Silty Fine to Coarse SAND (A-2-4) with Some Gravel	2.0
-5			1	0	1	1		W		Brown, Clayey Fine to Coarse Sandy SILT (A-4) with Trace Gravel and Mica	
	-8.5	8.5								-7.0 **ALLUVIAL**	7.0
-10	-10.1	10.1	13	10	13	23		W		Gray-Brown, Fine to Coarse Sandy Clayey SILT (A-5) with Trace Mica	
			60/0.1			60/0.1				-10.1 **RESIDUAL**	10.1
										-10.2 Brown, Fine to Coarse Sandy SILT (A-4) with Trace Mica	10.2
-15										**CRYSTALLINE ROCK** Fresh to Slight Weathering, Moderately Hard to Very Hard, Very Thinly Foliated to Thinly Laminated, Green-Black-Gray AUGEN GNEISS with Minor Schist, Very Close to Moderately Close Fracture Spacing (Notes: Minor Pyrite Observed Throughout; Wide Fracture Spacing Observed~18.2'-20.2')	
-20										-20.2	20.2

Boring Terminated at Elevation -20.2 ft in CRYSTALLINE ROCK (AUGEN GNEISS)

Notes:
1. Auger Refusal at 10.1', Began Coring 10.2'.
2. 0 HR Cave Depth= 6.0'
3. 0 HR Water and Cave Depth Measurements Obtained After Rock Core Completed

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FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 005-01-A5d2F	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake
SITE DESCRIPTION 915 Little Laurel Road for Bridge over Little Laurel Creek			**GROUND WTR (ft)**
BORING NO. EB1	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 2.0
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 20.2 ft	**NORTHING** 993,337	**EASTING** 1,225,487	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic
DRILLER T. Beard	**START DATE** 08/03/26	**COMP. DATE** 08/03/26	**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
-10.2											Begin Coring @ 10.2 ft
	-10.2	10.2	5.0	5:03/1.0 4:21/1.0 4:13/1.0 4:15/1.0 4:45/1.0	(4.8) 96%	(5.0) 100%		(9.8) 98%	(10.0) 100%		-10.2 **CRYSTALLINE ROCK** 10.2 Fresh to Slight Weathering, Moderately Hard to Very Hard, Very Thinly Foliated to Thinly Laminated, Green-Black-Gray AUGEN GNEISS with Minor Schist, Very Close to Moderately Close Fracture Spacing (Notes: Minor Pyrite Observed Throughout; Wide Fracture Spacing Observed~18.2'-20.2')
-15	-15.2	15.2	5.0	4:41/1.0 4:40/1.0 4:01/1.0 6:00/1.0 6:31/1.0	(5.0) 100%	(5.0) 100%					
-20	-20.2	20.2									-20.2 20.2 Boring Terminated at Elevation -20.2 ft in CRYSTALLINE ROCK (AUGEN GNEISS) Notes: 1. Auger Refusal at 10.1', Began Coring 10.2'. 2. 0 HR Cave Depth= 6.0' 3. 0 HR Water and Cave Depth Measurements Obtained After Rock Core Completed

DRAFT



SITE ID: 005-01-a58a0

SITE ADDRESS: 189 Meadowood Lane, West Jefferson, NC, 28694,

North Carolina Emergency Management – Private Roads and Bridges

Site Information Form

Site Number: 005-01-a58a0

Site Address: 189 Meadowood Lane, West Jefferson, NC, 28694

GPS Coordinates: 36.3497, -81.5377

County: Ashe

Bridge Type: Steel I-beam with Timber Decking

Span Length: 60 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

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 [illegible] Latitude [illegible] Longitude [illegible]

County [illegible] Address [illegible]

City [illegible] Zip Code [illegible]

Recommended Structure [illegible]

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

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

Temporary Crossing ....



[illegible]

Designed by ....

Assisted by ....

Date ....

NORTH CAROLINA PROFESSIONAL SEAL 20646 ENGINEER MATTHEW D. FOSTER

Signed by: Matthew D Foster 7B1932BFAFC8472... 9/15/2026 | 5:19:12 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 [illegible] Character ....

Stream Classification (e.g., Trout, High Quality Water) [illegible]

Debris Potential: Low ☐ Moderate ☒ High ☐

Existing Structure - Source of Available Data [illegible]

Existing Structure - Description [illegible]

Estimated Waterway Opening [illegible] 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 [illegible]

Flood Study 100-yr Discharge [illegible] cfs WS Elev: With Floodway .... ft Without Floodway .... ft River Station ....

DESIGN DATA

Hydrological Method ....

Hydraulic Design Method [illegible]

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 [illegible] 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	= [illegible] C.F.S.
FREQUENCY OF DESIGN FLOOD	= [illegible] YRS.
DESIGN HIGH WATER ELEVATION	=
DRAINAGE AREA	= [illegible] SQ. MI.
BASIC DISCHARGE (Q100)	= [illegible] C.F.S.
BASIC HIGH WATER ELEVATION	=

OVERTOPPING FLOOD DATA

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

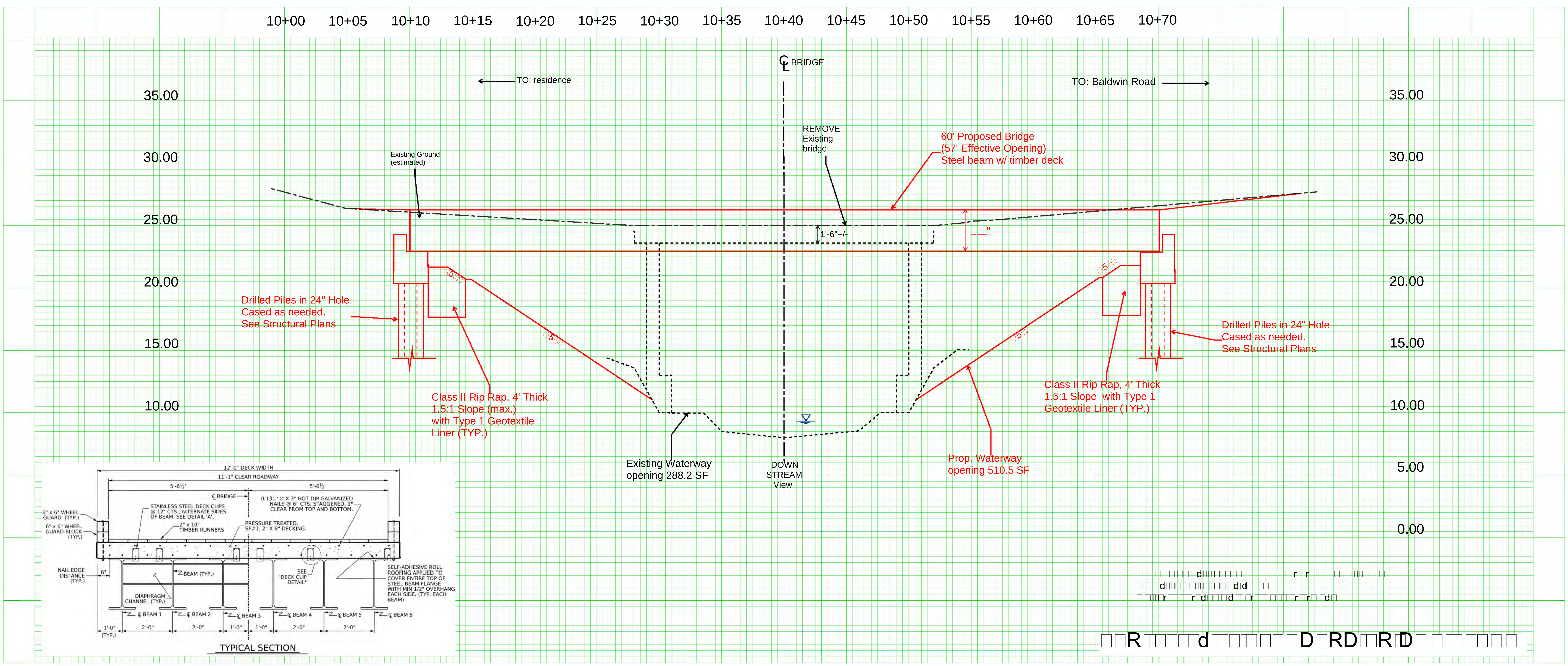
**NOTE LOCATION OF OVERTOPPING*

WS EL. Taken @ River Station ?

ADDITIONAL INFORMATION AND COMPUTATIONS

General Description	Bridge for one house. Property owner noted moving truck and propane truck crossed pre-hurricane. Insurance has not said EMS cannot cross it. Appears structurally safe as long as load restrictions placed on structure or scour issues are corrected.
Overall Condition	Damage
Condition Other	
Site Repair Status	No Repair
Condition Description	Scour on both sides of abutments. Abutment 1 - 50% scour with downstream end, completely scoured. Approximately 4' along cap. Abutment 2- minimal scour along cap until approximately 4' from the down stream end where it has scoured completely under the cap.
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)	20.00
Surface to Water (ft)	15.00
Utility/Mechanical	No
Utility Types	
Pipe Needs Sizing	No
Depth of Pipe	
Geotechnical	Erosion/scour

[illegible]



[illegible]

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 005-01-a58a0	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake
SITE DESCRIPTION 189 Meadowood Lane for Bridge over Unnnamed 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** 18.2 ft	**NORTHING** 955,731	**EASTING** 1,252,925	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic
DRILLER T. Beard	**START DATE** 08/05/26	**COMP. DATE** 08/06/26	**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	5	3	12	15		M		**ARTIFICIAL FILL** Brown-Gray, Clayey Fine to Coarse Sandy SILT (A-5) with Trace Gravel and Mica	-2.0 / 2.0
-5	-3.5	3.5	2	2	2	4		M		Brown, Silty Fine to Coarse Sandy CLAY (A-6) with Trace Gravel and Mica	-7.0 / 7.0
	-8.0	8.0	60/0.1			60/0.1				**CRYSTALLINE ROCK** Gray-Brown GNEISS	-8.2 / 8.2
-10										Moderate to Severe Weathering, Hard to Moderately Hard, Very Thinly Foliated, Gray-Brown GNEISS with Very Close to Close Fracture Spacing	-10.7 / 10.7
-15										Fresh to Slight Weathering, Moderately Hard to Very Hard, Very Thinly Foliated to Thickly Laminated, Gray GNEISS with Minor Granulite with Close to Moderately Close Fracture Spacing	-15.7 / 15.7
										Slight to Moderate Weathering, Hard, Thickly Laminated, Light Brown HORNEBLENDE GNEISS with Close Fracture Spacing	-17.0 / 17.0
										Fresh to Very Slight Weathering, Very Hard to Hard, Thickly Laminated, Black HORNEBLENDE GNEISS with Close to Very Close Fracture Spacing	-18.2 / 18.2
										Boring Terminated at Elevation -18.2 ft in CRYSTALLINE ROCK (HORNEBLENDE GNEISS)	

Notes:
1. Driller Noted Harder Drilling at 7.0'
2. Auger Refusal at 8.0'
3. 0 HR Cave Depth= 7.0'
4. 0 HR Water and Cave Depths Obtained Prior to Coring

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FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
CORE LOG

WBS 005-01-a58a0	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. Brake	
SITE DESCRIPTION 189 Meadowood Lane for Bridge over Unnnamed 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** 18.2 ft	**NORTHING** 955,731	**EASTING** 1,252,925	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** SPT Core Boring	**HAMMER TYPE** Automatic	
DRILLER T. Beard	**START DATE** 08/06/26	**COMP. DATE** 08/06/26	**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
-8.2											Begin Coring @ 8.2 ft
-10	-8.2	8.2	5.0	4:27/1.0 10:30/1.0 12:15/1.0 3:36/1.0 3:50/1.0	(4.4) 88%	(2.6) 52%		(2.0) 80%	(0.4) 16%		**CRYSTALLINE ROCK** Moderate to Severe Weathering, Hard to Moderately Hard, Very Thinly Foliated, Gray-Brown GNEISS with Very Close to Close Fracture Spacing
	-13.2	13.2						(5.0) 100%	(4.3) 86%		Fresh to Slight Weathering, Moderately Hard to Very Hard, Very Thinly Foliated to Thickly Laminated, Gray GNEISS with Minor Granulite with Close to Moderately Close Fracture Spacing
-15			5.0	3:00/1.0 3:15/1.0 3:30/1.0 4:40/1.0 2:45/1.0	(4.9) 98%	(3.8) 76%					
	-18.2	18.2						(1.3) 100%	(1.2) 92%		Slight to Moderate Weathering, Hard, Thickly Laminated, Light Brown HORNEBLENDE GNEISS with Close Fracture Spacing
								(1.1) 92%	(0.5) 42%		Fresh to Very Slight Weathering, Very Hard to Hard, Thickly Laminated, Black HORNEBLENDE GNEISS with Close to Very Close Fracture Spacing

ELEV. (ft) / DEPTH (ft)

-8.2 / 8.2
-10.7 / 10.7
-15.7 / 15.7
-17.0 / 17.0
-18.2 / 18.2

Boring Terminated at Elevation -18.2 ft in CRYSTALLINE ROCK (HORNEBLENDE GNEISS)

Notes:
1. Driller Noted Harder Drilling at 7.0'
2. Auger Refusal at 8.0'
3. 0 HR Cave Depth= 7.0'
4. 0 HR Water and Cave Depths Obtained Prior to Coring

DRAFT

FOR INFORMATION ONLY

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 005-01-a58a0	**TIP** N/A	**COUNTY** ASHE	**GEOLOGIST** C. bRAKE	
SITE DESCRIPTION 189 Meadowood Lane for Bridge over Unnnamed Creek				**GROUND WTR (ft)**
BORING NO. EB2	**STATION** N/A	**OFFSET** N/A	**ALIGNMENT** -L-	**0 HR.** 10.0
COLLAR ELEV. 0.0 ft	**TOTAL DEPTH** 15.5 ft	**NORTHING** 955,707	**EASTING** 1,252,897	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE F&R3147 CME-75 88% 05/18/2026		**DRILL METHOD** H.S. Augers		**HAMMER TYPE** Automatic
DRILLER T. Beard	**START DATE** 08/06/26	**COMP. DATE** 08/06/26	**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
	-0.3	0.3	7	4	6	10		M		-0.3 **ASPHALT**	0.3
										-0.8 **ARTIFICIAL FILL** Gray, Silty Fine to Coarse SAND (A-2-4) with Trace Gravel and Mica	0.8
-5	-3.5	3.5	4	3	1	4		M		Tan, Fine to Coarse Sandy Clayey SILT (A-5) with Trace Mica and Gravel	
	-8.5	8.5	2	3	2	5		▽			
-10										-12.0 **RESIDUAL** Brown, Fine to Coarse Sandy SILT with Trace Mica (A-4)	12.0
	-13.5	13.5	11	6	18	24		M		-15.5	15.5
-15	-15.5	15.5	60/0.0			60/0.0				Boring Terminated with Standard Penetration Test Refusal at Elevation -15.5 ft on CRYSTALLINE ROCK (GNEISS)	

Notes:
1. Auger Refusal at 15.5'.
2. 0 HR Cave Depth=11.0'

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