

**SUMMARY OF PILE INFORMATION/INSTALLATION**

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Resistance per Pile TONS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles*			Drilled-In Piles		
					Min Pile Tip (Tip No Higher Than) Elev FT	Required Driving Resistance (RDR)** per Pile TONS	Total Pile Redrives Quantity EACH	Predrilling Length per Pile Lin FT	Predrilling Elevation (Elev Not To Predrill Below) FT	Maximum Predrilling Dia INCHES	Pile Excavation (Bottom of Hole) Elev FT	Pile Exc Not In Soil per Pile Lin FT	Pile Exc In Soil per Pile Lin FT
End Bent 1, Piles 1-8	63	See Structure Drawings	20	N/A		104							
End Bent 2, Piles 1-8	63		20	N/A		104							

\*Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.

$$**RDR = \frac{\text{Factored Resistance} + \text{Factored Downdrag Load} + \text{Factored Dead Load}}{\text{Dynamic Resistance Factor}} + \text{Nominal Downdrag Resistance} + \frac{\text{Nominal Scour Resistance}}{\text{Scour Resistance Factor}}$$

**PILE DESIGN INFORMATION**

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile TONS	Factored Downdrag Load per Pile TONS	Factored Dead Load* per Pile TONS	Dynamic Resistance Factor	Nominal Downdrag Resistance per Pile TONS	Nominal Scour Resistance per Pile TONS	Scour Resistance Factor (Default = 1.00)
End Bent 1, Piles 1-8	63			0.60			1.00
End Bent 2, Piles 1-8	63			0.60			1.00
							1.00
							1.00
							1.00

\*Factored Dead Load is factored weight of pile above the ground line.

**SUMMARY OF DRILLED PIER INFORMATION/INSTALLATION**

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Factored Resistance per Pier TONS	Minimum Pier Tip (Tip No Higher Than) Elevation FT	Required Tip Resistance per Pier TSF	Scour Critical Elevation FT	Minimum Drilled Pier Penetration Into Rock per Pier Lin FT	Drilled Pier Length* per Pier Lin FT	Drilled Pier Length Not In Soil* per Pier Lin FT	Drilled Pier Length In Soil* per Pier Lin FT	Permanent Steel Casing Required? YES or MAYBE	Permanent Steel Casing Tip Elevation (Elev Not To Extend Casing Below) FT	Permanent Steel Casing Length** per Pier Lin FT
Bent 1, Piers 1-2	344	1073.0	60	1082	6.0	6.0	14.1		MAYBE	1085.0	8.0
Bent 1, Pier 3	344	1079.0	70	1086	6.0	6.0	8.1		MAYBE	1088.0	5.0
Bent 2, Piers 1-2	345	1081.0	100	1086	6.0	6.0	7.0		MAYBE	1088.0	6.0
Bent 2, Pier 3	345	1084.0	90	1089	6.0	6.0	4.0		MAYBE	1091.0	3.0
<b>TOTAL QTY:</b>							36.0	54.3			36

\*Drilled Pier Length, Drilled Pier Length Not in Soil and Drilled Pier Length in Soil represent estimated drilled pier quantities and are measured and paid for as either "36" Dia. Drilled Piers" or "36" Dia. Drilled Piers Not in Soil" and "36" Dia. Drilled Piers in Soil" in accordance with Article 411-7 of the NCDOT Standard Specifications.

\*\*Permanent Steel Casing Length equals the difference between the ground line or top of drilled pier elevation, whichever is higher, and the permanent casing tip elevation and is measured and paid for as "Permanent Steel Casting for 36" Dia. Drilled Pier" in accordance with Article 411-7 of the NCDOT Standard Specifications.

**SUMMARY OF DRILLED PIER TESTING**

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pier(s) #(-#) (e.g., "Bent 1, Piers 1-3")	Standard Penetration Test (SPT) Required? YES or MAYBE	Crosshole Sonic Logging (CSL) Required?*	Total CSL Tube Length (For All Tubes) per Pier Lin FT	Shaft Inspection Device (SID) Required? YES or MAYBE	Pile Integrity Test (PIT) Required? MAYBE
Bent 1, Piers 1-2		MAYBE	86.4		
Bent 2, Pier 3		MAYBE	62.4		
Bent 2, Piers 1-2		MAYBE	58.0		
Bent 2, Pier 3		MAYBE	46.0		
<b>TOTAL QTY:</b>		1	397.2		

\*CSL Tubes are required if CSL Testing is or may be required. The number of CSL Tubes per drilled pier is equal to one tube per foot of design pier diameter with at least 4 tubes per pier. The length of each CSL Tube is equal to the drilled pier length plus 1.5 ft.

**GEOTECHNICAL TABLES**

**NOTES:**

- The Pile and Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer Shipping Yang, License No. 031361 on 1/4/2023.
- Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
- The Engineer will determine the need for PDA Testing, Pipe Pile Plates, Permanent Steel Casing, SPTs, CSL Testing, SID Inspections and PITs when these items may be required.

PROJECT NO. **BR-0100**

**RUTHERFORD** COUNTY

STATION: **18+28.00 -L-**

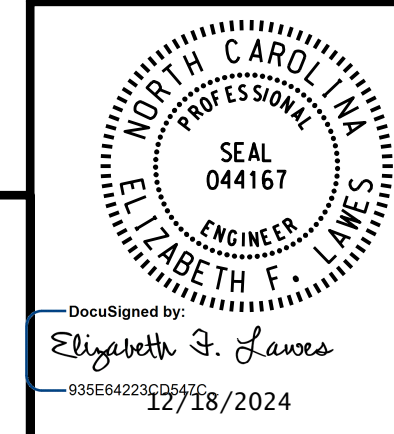
SHEET 3 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**PILE AND DRILLED PIER  
FOUNDATION TABLES**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			30

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



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DESIGN ENGINEER OF RECORD:	E. LAWES	DATE :	MAY 2024