

**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 Lenth 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 1-9	90	See Substructure Plans	65			120							
Bent 1, Piles 1-9	125		85	-14.5	-34.0	180		29	-34.0	20			
Bents 2 to 4, Piles 1-9	125		85	-14.5	-34.0	180		35	-34.0	20			
Bents 5 to 9, Piles 1-9	125		90	-7	-31.0	175		32	-31.0	20			
End Bent 2, Piles 1-9	90		65			120							

\*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.

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

**SUMMARY OF PDA/PILE ORDER LENGTHS**

(Blank entries indicate item is not applicable to structure)

Pile Driving Analyzer (PDA)				Pile Order Lengths	
End Bent/ Bent No	PDA Testing Required? YES or MAYBE	PDA Test Pile Length FT	Total PDA Testing Quantity EACH	End Bent/ Bent No(s)	Pile Order Length Basis* EST or PDA
End Bent 1	Yes	65	4	End Bent 1	PDA
Bents 1 to 4	Yes	85		Bents 1 to 4	PDA
Bents 5 to 9	Yes	90		Bents 5 to 9	PDA
End Bent 2	Yes	65		End Bent 2	PDA

\*EST = Pile order lengths from estimated pile lengths; PDA = Pile order lengths based on PDA testing. For groups of end bents/bents with pile order lengths based on PDA testing, the first end bent/bent no. listed for each group is the representative end bent/bent with the PDA.

**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 1-9	90			0.75			1.00
Bent 1, Piles 1-9	125		5.5	0.75		3	1.00
Bents 2 to 4, Piles 1-9	125		5.5	0.75		8	1.00
Bents 5 to 9, Piles 1-9	125		3.5	0.75		3	1.00
End Bent 2, Piles 1-9	90			0.75			1.00

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

**SUMMARY OF PILE ACCESSORIES**

(Blank entries indicate item is not applicable to structure)

End Bent/ Bent No, Pile(s) ## (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates Required? YES or MAYBE	Steel Pile Points			Steel Pile Tips Required? YES
		Pipe Pile Cutting Shoes Required? YES	Pipe Pile Conical Points Required? YES	H-Pile Points Required? YES	
End Bent 1, Piles 1-9					YES
Bent 1, Piles 1-9					YES
Bents 2 to 4, Piles 1-9					YES
Bents 5 to 9, Piles 1-9					YES
End Bent 2, Piles 1-9					YES
<b>TOTAL QTY:</b>					99

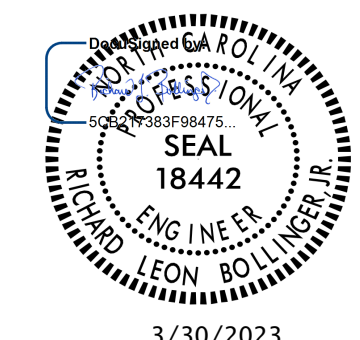
**NOTES:**

- The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Michael G. Batten and 039763) on 03-21-2023.
- 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.
- For piles, see piles provision and section 450 of the standard specifications.
- It has been estimated that a hammer with equivalent rated energy in the range of 40,000 ft-lbs to 60,000 ft-lbs per blow will be required to drive piles at the end bent and interior bents. This estimated energy range does not release the contractor from providing driving equipment in accordance with subarticle 450-3(d) (2) of the standard specifications.
- Temporary steel casings are required for Predrilling (and Spudding) at bents 1 to 4.
- Spudding may be used instead of Predrilling at bents 1 to 9.
- Observe one month waiting period after constructing the embankment to within 2ft of finished grade before beginning end bent construction at the end bent no. 1 and end bent no. 2. For bridge waiting periods, see roadway plans and section 235 of the standard specifications.
- Test the first production pile of the end bent no. 1 piles with the Pile Driving Analyzer (PDA) during driving, restriking, or re-driving. For PDA testing, see section 450 of the standard specifications.
- Test the first production pile of the end bent no. 2 piles with the Pile Driving Analyzer (PDA) during driving, restriking, or re-driving. For PDA testing, see section 450 of the standard specifications.
- Testing the first production pile with the Pile Driving Analyzer (PDA) during driving, restriking, or re-driving is required at the interior bents 1 to 4 piles. For PDA testing, see section 450 of the standard specifications.
- Testing the first production pile with the Pile Driving Analyzer (PDA) during driving, restriking, or re-driving is required for the interior bents 5 to 9 locations. For PDA testing, see section 450 of the standard specifications.

PROJECT NO. BR-0160

BRUNSWICK COUNTY

STATION: 21+77.50 -L-

	STATE OF NORTH CAROLINA <b>DEPARTMENT OF TRANSPORTATION</b> RALEIGH						<b>PILE FOUNDATION TABLES</b>
	SIGNATURE _____ DATE _____						
REVISIONS						SHEET NO. <b>S-4</b>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED						NO. BY: DATE:	NO. BY: DATE:
1						3	
2						4	
TOTAL SHEETS						42	