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 1-6	100	See Structural Plans	50			165							
End Bent 1, Piles 7-13	100		55			165							
End Bent 2, Piles 1-13	100		55			165							

*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.

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

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, Piles 1-6					
End Bent 1, Piles 7-13					
End Bent 2, Piles 1-13					

*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 1-6	100			0.60			
End Bent 1, Piles 7-13	100			0.60			
End Bent 2, Piles 1-13	100			0.60			

*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 1-6					
End Bent 1, Piles 7-13					
End Bent 2, Piles 1-13					
TOTAL QTY:					

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 1-4	560	667.0	20			21.5					
Bent 2, Piers 1-4	560	667.0	20			23.0					
TOTAL QTY:						178.0					

*Drilled Pier Lengths represent estimated drilled pier quantities and are measured and paid for as either "60-Inch Dia. Drilled Piers 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?* YES or MAYBE	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 1-4	YES	MAYBE	115	MAYBE	
Bent 2, Piers 1-4	YES	MAYBE	123	MAYBE	
TOTAL QTY:	8	2	950	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.

NOTES:

1. The Pile and Drilled Pier Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Bon-Hsiang Lien, 030132) on 9-29-2023.
2. 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.
3. The Engineer will determine the need for PDA Testing, Permanent Steel Casing, SPTs, CSL Testing, SID Inspections and PITs when these items may be required.
4. For Piles, See Piles Provision and Section 450 of the Standard Specifications.
5. Do Not begin work at End Bent No. 1 and End Bent No. 2 until fill has been placed.
6. For Drilled Piers, See Section 411 of the Standard Specifications.
7. Temporary Casing is requried for Bent No. 1 and Bent No. 2 based on CSX requirements.
8. See Roadway Plans and Section 235 of the Standard Specifications for the Settlement Gauges required at End Bent No. 1 and End Bent No. 2.
9. Observe a 1 month Waiting Period after constructing the Embankment to within 2 ft of finished grade before beginning End Bent construction at End Bent No.1 and End Bent No.2. For Bridge Waiting Periods, See Roadway Plans and Section 235 of the Standard Specifications.
10. Inspect Drilled Piers using the Shaft Inspection Device (Sid) for any pour using the wet method of concrete placement and for any Drilled Pier Excavations that cannot be visually inspected or have remained open longer than 24 hours that cannot be dewatered due to unstable soil or rock. The Engineer will determine the need for Sid Testing.

PROJECT NO. U-5808

UNION COUNTY

STATION: 55+00.96 -L2-

SHEET 3 OF 5

NORTH CAROLINA PROFESSIONAL SEAL 043177 ENGINEER JOHN S. HOBSON

DocuSigned by: Jack Hobson 10/5/2023 0DEFC6B1D45F4D6... SIGNATURE DATE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PILE AND DRILLED PIER FOUNDATION TABLES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S-03

TOTAL SHEETS 56