



NOTES:
 THE PILE FOUNDATIONS TABLES ARE BASED ON THE BRIDGE SUBSTRUCTURE DESIGN AND FOUNDATION RECOMMENDATIONS SEALED BY A NORTH CAROLINA PROFESSIONAL ENGINEER (ABNER F. RIGGS 014155) ON 11-4-2021.
 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.

BENT No. 1
 DIMENSIONS AND PILE LAYOUT ARE TYPICAL FOR EACH FOOTING
 ALL PILES ARE HP 14x73 STEEL PILES
FOUNDATION LAYOUT

NOTES:
 FOR PILES, SEE PILES PROVISION AND SECTION 450 OF THE STANDARD SPECIFICATIONS.
 SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS FOR THE SETTLEMENT GAUGES REQUIRED AT END BENT 1 AND END BENT 2.
 INSTALL PILE SLEEVES BEFORE CONSTRUCTING THE MECHANICALLY STABILIZED EARTH (MSE) ABUTMENT WALL AT END BENT 1 AND END BENT 2. OBSERVE A 4 MONTH WAITING PERIOD AFTER CONSTRUCTING THE MSE ABUTMENT WALL AND THE REINFORCED BRIDGE APPROACH FILL TO WITHIN 1 FT OF THE FINAL GRADE ELEVATION. THEN, INSTALL PILES THROUGH THE CORRUGATED STEEL PILES AND FILL PILES WITH LOOSE UNCOMPACTED SAND BEFORE CONSTRUCTING END BENT CAPS. FOR PILE SLEEVES, SEE MSE RETAINING WALL PLANS AND PROVISION. FOR BRIDGE WAITING PERIODS, SEE ROADWAY PLANS AND SECTION 235 OF THE STANDARD SPECIFICATIONS.
 FOR REINFORCING BRIDGE APPROACH FILL, SEE TYPE A ALTERNATE APPROACH FILL AT MSE WALLS (SPECIAL) PROVISION.

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 (1-7)	MAYBE	90	2		
BENT 1, PILES (1-36)	YES	85			
END BENT 2, PILES (1-7)	YES	95			

*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 DOWDRAG LOAD PER PILE (TONS)	FACTORED DEAD LOAD* PER PILE (TONS)	DYNAMIC RESISTANCE FACTOR	NOMINAL DOWDRAG RESISTANCE PER PILE (TONS)	NOMINAL SCOUR RESISTANCE PER PILE (TONS)	SCOUR RESISTANCE FACTOR (DEFAULT = 1.00)
END BENT 1, PILES (1-7)	137			0.75			1.00
BENT 1, PILES (1-36)	150			0.75			1.00
END BENT 2, PILES (1-7)	137			0.75			1.00

*FACTORED DEAD LOAD IS FACTORED WEIGHT OF PILE ABOVE GROUND LINE.

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)	MIN. PILE TIP (TIP NO HIGHER THAN) ELEV. (FT)	DRIVEN PILES		PREDRILLING FOR PILES*			DRILLED IN PILES		
						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 (1-7)	137	183.90	85			185	4						
BENT 1, PILES (1-36)	150	159.76	80			200	18						
END BENT 2, PILES (1-7)	137	184.15	90			185	4						

*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 = $\frac{\text{FACTORED RESISTANCE} + \text{FACTORED DOWDRAG LOAD} + \text{FACTORED DEAD LOAD}}{\text{DYNAMIC RESISTANCE FACTOR}}$ + NOMINAL DOWDRAG RESISTANCE + NOMINAL SCOUR RESISTANCE

PROJECT NO. I-5987A
ROBESON COUNTY
 STATION: 30+04.11 -Y3-
 SHEET 2 OF 3

ENGINEER OF RECORD
 3/24/2022

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE ON McDUFFIE
 CROSSING RD. (SR 1758) OVER
 I-95 BETWEEN
 SR 1763 AND HWY 301

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

SHEET NO. S3-2
 TOTAL SHEETS 29

DRAWN BY: D. HODGE DATE: 11/21
 CHECKED BY: G. GILLAND DATE: 11/21

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

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