



FOUNDATION LAYOUT

ALL END BENT PILES ARE HP 12 X 53. DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE AT THE BOTTOM OF THE CAP. END BENT BRACE PILES ARE BATTERED 3:12.

NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
 FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
 PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 95 TONS PER PILE.
 DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 158 TONS PER PILE.
 DRILLED PIERS AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 784.0 TONS PER PIER.
 INSTALL DRILLED PIERS AT BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 698.0 FEET (LT) AND 687 FEET (RT) WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 20 FEET OF WEATHERED ROCK OR 12 FEET OF ROCK AS DEFINED BY ARTICLE 411 OF THE STANDARD SPECIFICATIONS.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 718.0 FEET. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
 DRILLED PIERS AT BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 784.0 TONS PER PIER.
 INSTALL DRILLED PIERS AT BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 705.5 FEET WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 20 FEET INTO WEATHERED ROCK.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO. 2 IS ELEVATION 724.0 FEET. THE SCOUR CRITICAL ELEVATION ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

TO VERIFY BEARING STRATA, STANDARD PENETRATION TESTING (SPT) IS REQUIRED FOR DRILLED PIERS AT BENT NO. 2. PERFORM SPTs AT ELEVATION 725.5 FEET TO VERIFY TOP OF PARTIALLY WEATHERED ROCK AND AGAIN AT THE FINAL TIP ELEVATION INDICATED. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
 DRILLED PIERS AT BENT NO. 3 ARE DESIGNED FOR A FACTORED RESISTANCE OF 784.0 TONS PER PIER.
 INSTALL DRILLED PIERS AT BENT NO. 3 TO A TIP ELEVATION NO HIGHER THAN 712.0 FEET WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 12 FEET OF ROCK AS DEFINED BY ARTICLE 411 OF THE STANDARD SPECIFICATIONS.
 THE SCOUR CRITICAL ELEVATION OF BENT NO. 3 IS ELEVATION 724.0 FEET. SCOUR CRITICAL ELEVATION ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
 PERMANENT STEEL CASING IS REQUIRED FOR DRILLED PIERS AT BENT NO. 4. DO NOT EXTEND PERMANENT CASING BELOW ELEVATION 726.0 FEET WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 DRILLED PIERS AT BENT NO. 4 ARE DESIGNED FOR A FACTORED RESISTANCE OF 784.0 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 95.0 TSF.
 INSTALL DRILLED PIERS AT BENT NO. 4 TO A TIP ELEVATION NO HIGHER THAN 712.0 FEET WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 12 FEET OF ROCK AS DEFINED BY ARTICLE 411 OF THE STANDARD SPECIFICATIONS.
 THE SCOUR CRITICAL ELEVATION FOR BENT NO. 4 IS ELEVATION 724.0 FEET. SCOUR CRITICAL ELEVATION ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

PROJECT NO. B-5825
YADKIN/FORSYTH COUNTY
 STATION: 34+65.50 -L-
 SHEET 4 OF 7

4/14/2020

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE OVER
 YADKIN RIVER ON
 NC 67
 BETWEEN SR 1607 AND SR 1600

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TGS ENGINEERS
 706 HILLSBOROUGH STREET
 SUITE 200
 RALEIGH, NC 27603
 PH (919) 773-8887
 CORP. LICENSE NO.: C-0275

DRAWN BY : <u>ZCS</u>	DATE : <u>12/19</u>
CHECKED BY : <u>MGC</u>	DATE : <u>1/20</u>
DESIGN ENGINEER OF RECORD: <u>TBE</u>	DATE : <u>2/20</u>