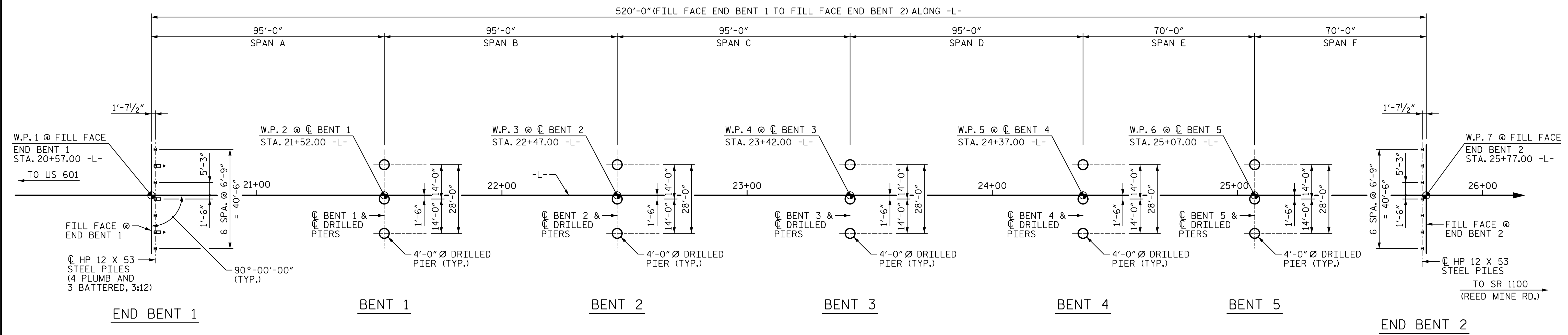


R:\Structures\Station\Finals\401_005_B5810_SMU_FL_003_120022.dgn 4:49:31 PM 1/16/2022



▲ INDICATES DIRECTION OF 3:1:2 BATTER

FOUNDATION LAYOUT

ALL PILES SHALL BE HP 12 X 53 STEEL PILES.
DIMENSIONS TO PILES ARE TO C PILE.
DIMENSIONS TO DRILLED PIERS ARE TO C OF DRILLED PIERS.

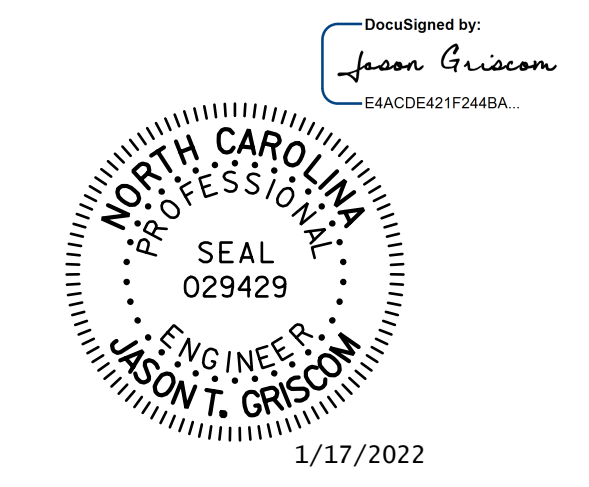
NOTES

- FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- PILES AT END BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 100 TONS PER PILE.
- DRIVE PILES AT END BENT NO. 1 TO A REQUIRED DRIVING RESISTANCE OF 167 TONS PER PILE.
- FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
- DRILLED PIERS AT BENT NO. 1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 440 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 45 TSF.
- INSTALL DRILLED PIERS AT BENT NO. 1 TO A TIP ELEVATION NO HIGHER THAN 452.5 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 16 FT INTO WEATHERED ROCK AND ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 467 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- SPT IS REQUIRED FOR DRILLED PIERS AT BENT NO. 1. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
- DRILLED PIERS AT BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 440 TONS PER PIER.
- INSTALL DRILLED PIERS AT BENT NO. 2 TO A TIP ELEVATION NO HIGHER THAN 451.0 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 8 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO. 2 IS ELEVATION 459.0 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- DRILLED PIERS AT BENT NO. 3 ARE DESIGNED FOR A FACTORED RESISTANCE OF 440 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 45 TSF.
- INSTALL DRILLED PIERS AT BENT NO. 3 TO A TIP ELEVATION NO HIGHER THAN 444.0 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 16 FT INTO WEATHERED ROCK AND ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO. 3 IS ELEVATION 457 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- SPT IS REQUIRED FOR DRILLED PIERS AT BENT NO. 3. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

- DRILLED PIERS AT BENT NO. 4 ARE DESIGNED FOR A FACTORED RESISTANCE OF 410 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 45 TSF.
- PERMANENT STEEL CASINGS ARE REQUIRED FOR DRILLED PIERS AT BENT NO. 4. DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 458 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.
- INSTALL DRILLED PIERS AT BENT NO. 4 TO A TIP ELEVATION NO HIGHER THAN 442.0 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 16 FT INTO WEATHERED ROCK AND ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO. 4 IS ELEVATION 457 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- SPT IS REQUIRED FOR DRILLED PIERS AT BENT NO. 4. FOR SPT TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
- DRILLED PIERS AT BENT NO. 5 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PIER. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE OF 85 TSF.
- PERMANENT STEEL CASINGS ARE REQUIRED FOR DRILLED PIERS AT BENT NO. 5. DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 464 FT WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT CASINGS.
- INSTALL DRILLED PIERS AT BENT NO. 5 TO A TIP ELEVATION NO HIGHER THAN 454.0 FT WITH THE REQUIRED TIP RESISTANCE AND A PENETRATION OF AT LEAST 10 FT INTO ROCK AS DEFINED BY ARTICLE 411-1 OF THE STANDARD SPECIFICATIONS.
- THE SCOUR CRITICAL ELEVATION FOR BENT NO. 5 IS ELEVATION 463 FT. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
- CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. FOR CSL TESTING, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.
- SID INSPECTIONS MAYBE REQUIRED FOR DRILLED PIERS. FOR SID INSPECTIONS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

- PILES AT END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 83 TONS PER PILE.
- DRIVE PILES AT END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE.
- DRILLED-IN PILES ARE REQUIRED FOR END BENT NO. 2. EXCAVATE HOLES AT PILE LOCATIONS TO ELEVATION 485.7 FT. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PROJECT NO. B-5810
CABARRUS COUNTY
 STATION: 23+17.00 -L-



STV 100 YEARS
 STV ENGINEERS, INC.
 900 West Trade St., Suite 715
 Charlotte, NC 28202
 NC License Number F-0991

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
FOUNDATION LAYOUT					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 36
					S-3

ASSEMBLED BY :	LGH	DATE :	6-19
CHECKED BY :	MLO	DATE :	12-19
DESIGN ENGINEER OF RECORD :	J. GRISCOM	DATE :	1-22