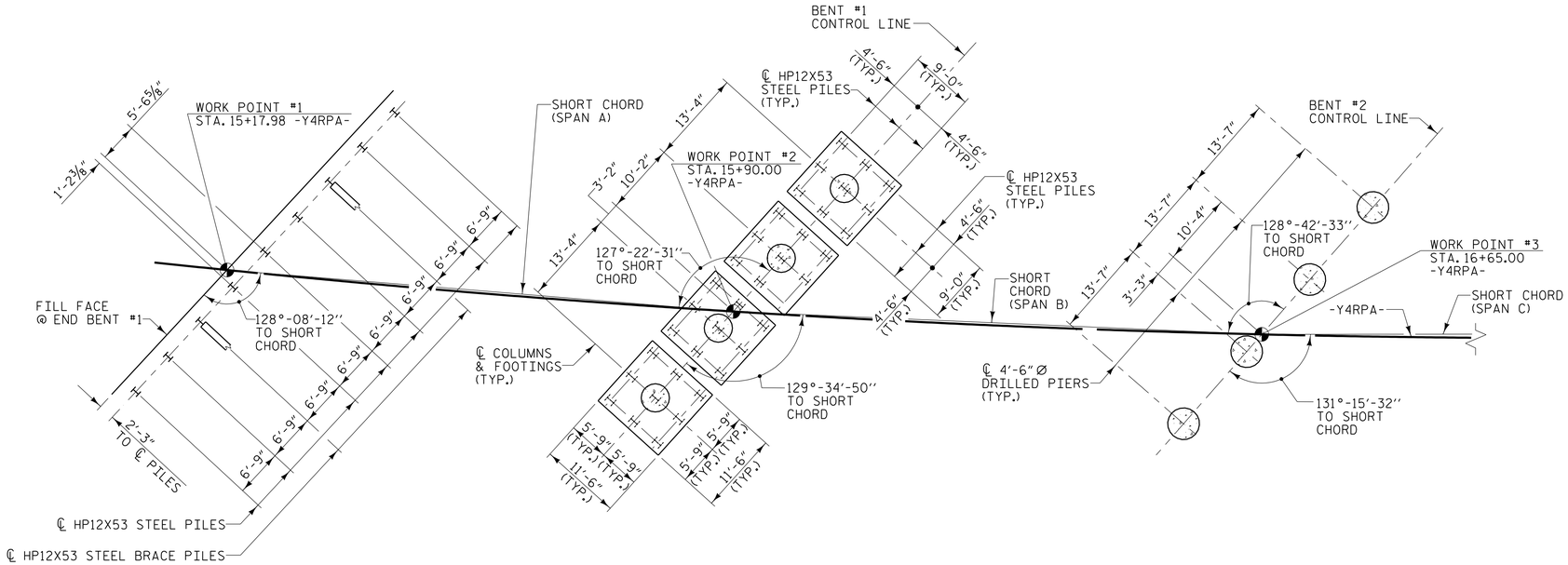
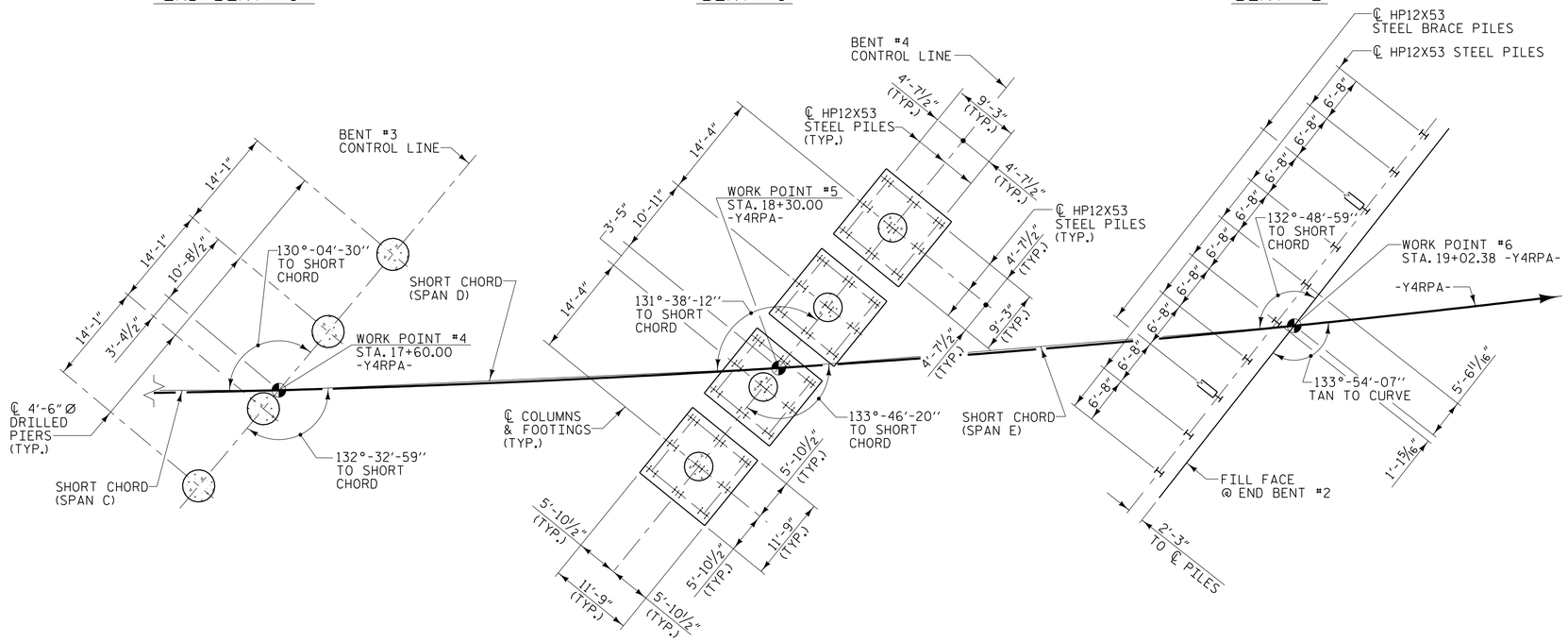


END BENT #1 BENT #1 BENT #2



BENT #3 BENT #4 END BENT #2

FOUNDATION LAYOUT

ALL PILES AT END BENT #1 AND END BENT #2 ARE HP12X53.

END BENT BRACE PILES ARE TO BE BATTERED AT 3:12.

ALL PILES AT BENT #1 AND BENT #4 ARE HP12X53.

DIMENSIONS LOCATING PILES ARE SHOWN TO THE PILE CENTERLINE.

DIMENSIONS LOCATING DRILLED PIERS ARE SHOWN TO THE DRILLED PIER CENTERLINE.

NOTES

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO WITHIN 2 FT. OF FINISHED GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT #1.

PILES AT END BENT #1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 110 TONS PER PILE.

DRIVE PILES AT END BENT #1 TO A REQUIRED DRIVING RESISTANCE OF 183 TONS PER PILE.

PILES AT BENT #1 AND #4 ARE DESIGNED FOR A FACTORED RESISTANCE OF 70 TONS PER PILE.

DRIVE PILES AT BENT #1 AND #4 TO A REQUIRED DRIVING RESISTANCE OF 117 TONS PER PILE.

FOR DRILLED PIERS, SEE SECTION 411 OF THE STANDARD SPECIFICATIONS.

INSTALL DRILLED PIERS AT BENT #2 TO A TIP ELEVATION NO HIGHER THAN 760 FT. AND WITH THE REQUIRED TIP RESISTANCE.

DRILLED PIERS AT BENT #2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 375 TONS PER PIER. CHECK FIELD CONDITIONS FOR REQUIRED TIP RESISTANCE OF 30.0 TSF.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT #2. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 789.5 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.

THE SCOUR CRITICAL ELEVATION FOR BENT #2 IS ELEVATION 810 FT. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

INSTALL DRILLED PIERS AT BENT #3 TO A TIP ELEVATION NO HIGHER THAN 779 FT. (LT); 774 FT. (RT) AND WITH THE REQUIRED TIP RESISTANCE.

DRILLED PIERS AT BENT #3 ARE DESIGNED FOR A FACTORED RESISTANCE OF 390 TONS PER PIER. CHECK FIELD CONDITIONS FOR REQUIRED TIP RESISTANCE OF 30.0 TSF.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT #3. IF REQUIRED, DO NOT EXTEND PERMANENT CASINGS BELOW ELEVATION 799 FT. WITHOUT PRIOR APPROVAL FROM THE ENGINEER. THE ENGINEER WILL DETERMINE THE NEED FOR PERMANENT STEEL CASING.

THE SCOUR CRITICAL ELEVATION FOR BENT #3 IS ELEVATION 810 FT. THE 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.

THE SCOUR CRITICAL ELEVATION FOR BENT #1 AND #4 IS THE BOTTOM OF FOOTING ELEVATION. THE SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

OBSERVE A 2 MONTH WAITING PERIOD AFTER CONSTRUCTING THE EMBANKMENT TO WITHIN 2 FT. OF FINISHED GRADE BEFORE BEGINNING END BENT CONSTRUCTION AT END BENT #2.

PILES AT END BENT #2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 110 TONS PER PILE.

DRIVE PILES AT END BENT #2 TO A REQUIRED DRIVING RESISTANCE OF 183 TONS PER PILE.

PROJECT NO. U-2579B

FORSYTH COUNTY

STATION: 17+10.00 -Y4RPA-

SHEET 2 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON -Y4RPA- OVER HARMON MILL (SMITH) CREEK BETWEEN US 158 AND US421/I-40 BUS.

PLANS PREPARED BY:

MULKEY ENGINEERS & CONSULTANTS
PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM
NC LICENSE NO. C-1021

NORTH CAROLINA PROFESSIONAL SEAL 034352 ENGINEER TERRY R. PETERSON

DocuSigned by: 5/19/2014
Terry R. Peterson
6DC417164 7CD40F...

DWG. NO. RPA-2

REVISIONS								SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			S-219
1			3					TOTAL SHEETS
2			4					707

STR #7

DRAWN BY :	W. B. ALLEN	DATE :	1/14
CHECKED BY :	T. R. PETERSON	DATE :	2/14
DESIGN ENGINEER OF RECORD:	T. R. PETERSON	DATE :	4/23/14

5/19/2014 7:54:33 AM R:\Structures\U-2579B Ramp A\U-2579B_RPA_SD_FL_01.dgn