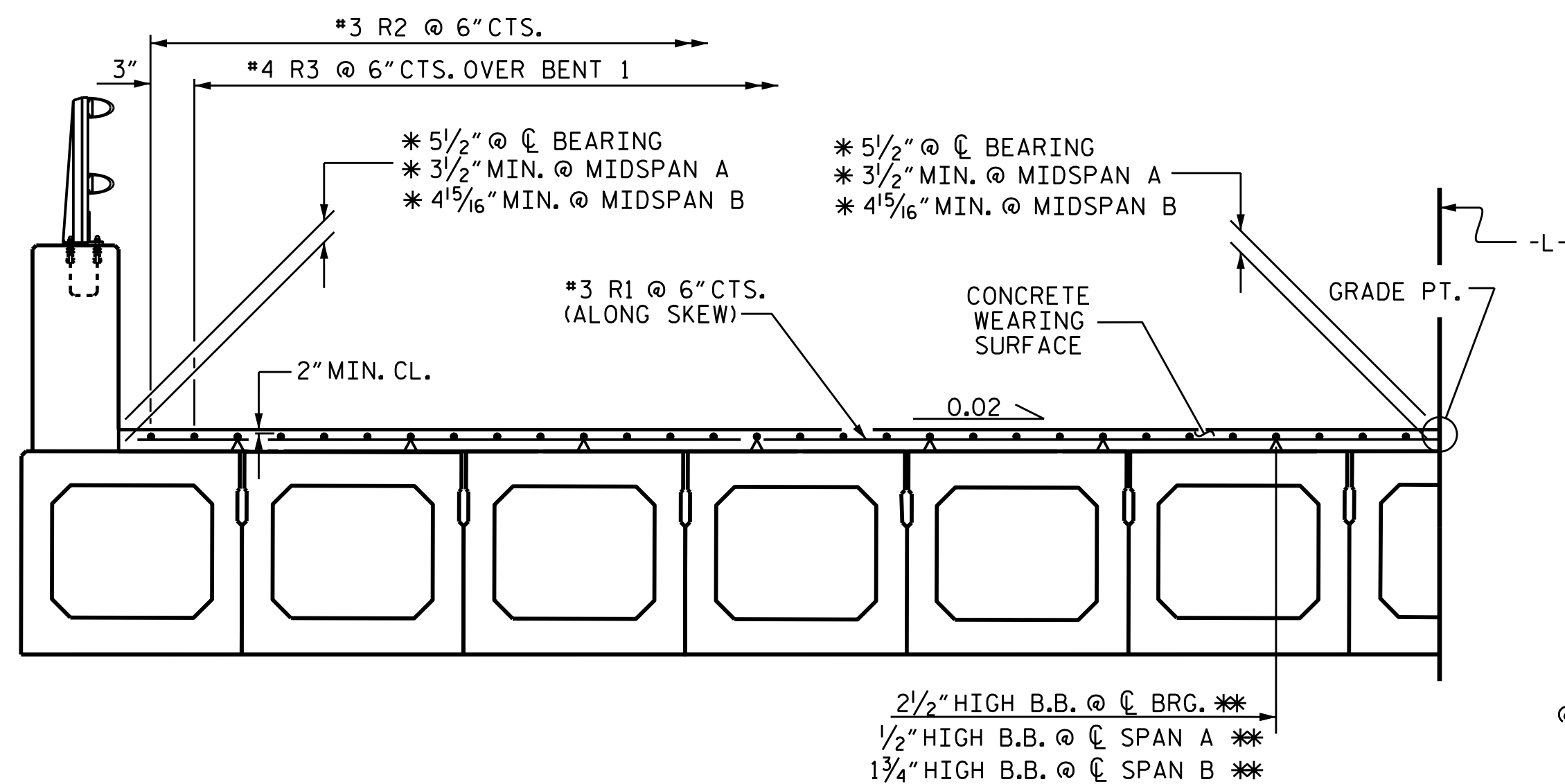


HALF SECTION  
THROUGH VOIDS

TYPICAL SECTION

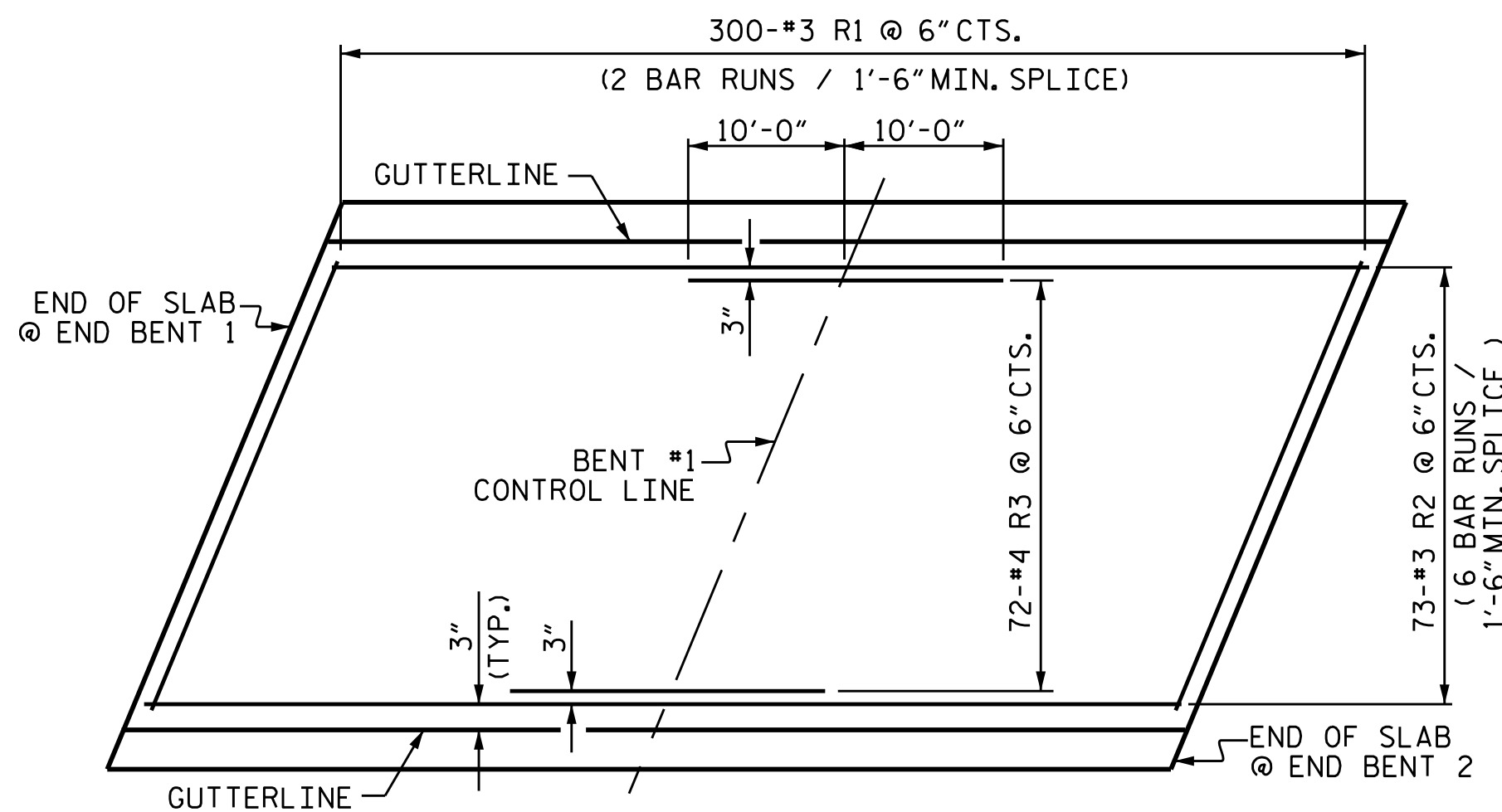
HALF SECTION  
AT INTERMEDIATE DIAPHRAGMS

\* - THE MAXIMUM PARAPET HEIGHT AND CONCRETE WEARING SURFACE THICKNESS ARE SHOWN. THE HEIGHT OF THE PARAPET AND CONCRETE WEARING SURFACE THICKNESS VARIES WHILE THE TOP OF THE PARAPET FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR PARAPET HEIGHT DETAILS AND CONCRETE WEARING SURFACE THICKNESS, SEE THE "CONCRETE PARAPET AND END POST DETAILS" SHEET.



HALF SECTION REINFORCING FOR CONCRETE WEARING SURFACE

\* BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS  
\*\* BEAM BOLSTERS (B.B.) SHALL BE SPACED AT 2'-0" CENTERS



PLAN SHOWING CONCRETE WEARING SURFACE REINFORCING STEEL

NOTES

- ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- ALL REINFORCING STEEL CAST WITH THE BOX BEAM SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE BOX BEAMS.
- FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.
- RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.
- THE 2 1/2" Ø ANCHOR BOLT HOLES AND BLOCKOUTS AT FIXED ENDS OF BOX BEAM SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.
- THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.
- THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE BOX BEAM UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6000 PSI (SPAN A) AND 4000 PSI (SPAN B).
- ALL REINFORCING STEEL IN PARAPETS, END POSTS AND CONCRETE WEARING SURFACE SHALL BE EPOXY COATED.
- PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE BOX BEAM UNIT ENDS.
- APPLY EPOXY PROTECTIVE COATING TO BOX BEAM UNIT ENDS.
- VERTICAL GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE PARAPET AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A VERTICAL CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN PARAPET EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF PARAPET SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.
- THE LOCATION OF THE VOID DRAINS MAY BE SHIFTED SLIGHTLY WHERE NECESSARY TO CLEAR PRESTRESSING STRANDS OR TRANSVERSE REINFORCING STEEL.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

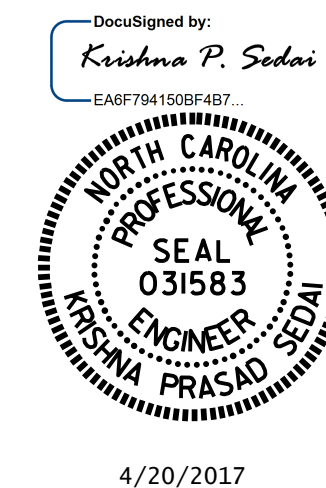
NOTES

- GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN THE TOP OF WEARING SURFACE AT INTERIOR BENTS WITH CONTINUOUS CONCRETE WEARING SURFACE IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS.
- THE TOP SURFACE OF THE BOX BEAM UNITS SHALL HAVE A 3/8" RAKED FINISH IN ACCORDANCE WITH SECTION 1078-15 OF THE STANDARD SPECIFICATIONS.
- PAYMENT FOR ANCHOR BOLTS, NUTS, WASHERS AND HOLD-DOWN PLATES SHALL BE INCLUDED IN THE BOX BEAM PAY ITEM.

- THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.
- THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.
- THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.
- THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.
- PLACEMENT OF THE CONCRETE WEARING SURFACE SHALL OCCUR AFTER CASTING THE CONCRETE RAIL. THE COST OF THE BARS CAST WITH THE CONCRETE WEARING SURFACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE WEARING SURFACE. FOR CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS.
- ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS, WASHERS AND PLATES. SHOP INSPECTION IS REQUIRED.
- NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.
- ANCHOR BOLTS, NUTS, WASHERS AND HOLD-DOWN PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

PROJECT NO. B-5165  
DAVIDSON COUNTY  
 STATION: 22+12.00 -L-

SHEET 1 OF 7



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 3'-0" X 2'-9"  
 PRESTRESSED CONCRETE  
 BOX BEAM UNIT  
 110° SKEW

DRAWN BY : H. B. DESAI DATE : 10-12-16  
 CHECKED BY : T. L. AVERETTE DATE : 2-13-17  
 DESIGN ENGINEER OF RECORD : K. P. SEDA I DATE : 2-24-17

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			24