228 280 © GUARDRAIL ANCHOR ASSEMBLY -**—** \_\_\_\_\_ · © GUARDRAIL ANCHOR ASSEMBLY © 22.23mm Ø X 280m BOLT WITH ROUND WASHERS (TYP.) . \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ 27mm Ø HOLES (TYP.) 6mm HOLD-DOWN ₽ 32mm Ø HOLE (TYP.) 6mm HOLD-DOWN ₽ SECTION E-E PLAN

- © JT. @ END BENT #1 BEGIN APPROACH SLAB SLAB SKETCH SHOWING POINTS OF ATTACHMENT \* INDICATES POINTS OF ATTACHMENT

## GUARDRAIL ANCHOR ASSEMBLY DETAILS

SEE SHEET 3 OF 5 FOR ELEVATION

© JT.@ END BENT #2 APPROACH

\*\* #16 S3 ----

TSAWED OPENING FOR JOINT SEAL

SEE JOINT SEAL DETAILS

/-- ON 'BRIDGE APPROACH

SLAB DETAILS" SHEET

2 LAYERS OF 13.6 kg ROOFING FELT TO PREVENT BOND

76mm Ø PVC PIPE DRAIN

-#78M STONE

IMPERMEABLE GEOMEMBRANE

<sup>†</sup>25mm FORMED

OPENING

110 CL.

228 90

SECTION K-K

\*\* ADHESIVELY ANCHORED

SECTION M-M

−<del>\*\*\*</del> #16 S1

110 CL. #16 S2 ~ #16 S1 - #16 S3 110 CL. VARIES −#16 S1 SECTION L-L

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 6mm HOLD DOWN PLATE AND 7 - 22.23mm Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 250. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291M. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 22.23mm Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE BID FOR BRIDGE APPROACH SLABS.

THE 32mm Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

THE #16 S1 AND #16 S3 BARS SHALL BE INSTALLED, WHERE NOTED ON THE PLANS, USING AN ADHESIVE ANCHORING SYSTEM AFTER SAWING THE JOINT. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE SPECIAL PROVISIONS. THE YIELD LOAD FOR THE #16 S1 AND #16 S3 BARS IS 82.7 kN. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

> PROJECT NO. R-513BB ROBESON COUNTY STATION: 209+17.263 -L-

SHEET 2 OF 5

SEAL 16301

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB WITH BARRIER RAIL

REVISIONS						SHEET NO.
10.	BY:	DATE:	NO.	BY:	DATE:	S-6 <b>2</b>
1			3			TOTAL SHEETS
2			4			312
SED #0 DEVI SED NO DASSOLI						

\_\_ 121mm HIGH BEAM BOLSTER UPPER (BBU )@ 1.000m CTS. ACROSS SLAB

-LIMITS OF REINFORCED BRIDGE APPROACH FILL

SECTION THRU SLAB

(ROADWAY PAY ITEM, SEE NOTES)

FABRIC -(TYP.)

\_\_\_\_#25 *"*B"

---- #13 *"*A"

†2:1 SLOPE -

102mm Ø CORRUGATED ——
PERFORATED DRAINAGE PIPE

\_\_\_ #16 "A"

#16 "G" —

DRAWN BY: W.K. FISCHER DATE: 2/24/04 CHECKED BY: M.A. ALLEN DATE: 3/3/04

<sup>†</sup>NORMAL TO END BENT

3.000m

APPROVED WIRE BAR -

SUPPORTS @ 1.000m CTS.

#16 "G" —

SELECT MATERIAL

W:\SquadM\r05|3bb\str2\wkfischer\Microstation\R-5|3BB\_sd\_AS\_02.dgn

150mm — COMP. A.B.C.

REV. STD. NO. BAS2SM STR #2