

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 5 OF 6 862D03

SECTION OF THRIE BEAM POSTS 1 THRU 6
SHOULDER BERM, GUTTER OR APPROACH SLAB
THRIE-BEAM GUARDRAIL
WTR SECTION
SECTION OF WTR BEAM POST 8
SECTION OF 'W' BEAM POST 9

SECTION OF THRIE BEAM POST 7
SHOULDER BERM, GUTTER OR APPROACH SLAB
WTR SECTION

SECTION OF WTR BEAM POST 8

SECTION OF 'W' BEAM POST 9

WTR SECTION ELEVATION VIEW

THRIE BEAM OFFSET BLOCK

THRIE BEAM LINE POST

NOTE: THE MID POST AND OFFSET BLOCK OF SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.

THRIE-BEAM SECTION

END SHOE

WTR SECTION ELEVATION VIEW

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ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS ANCHORAGE FOR GUARDRAIL POST ON BOX CULVERT

SHEET 6 OF 6 862D03

ELEVATION VIEW

PLAN VIEW

ELEVATION VIEW

PLAN VIEW

NOTES FOR:
 - GUARDRAIL POST ANCHORED TO STRUCTURE:
 - USE FULL LENGTH 1/4" BUTT WELDS AT ALL LOCATIONS OF CONTACT BETWEEN THE BASE PLATE, SUPPORT PLATES AND STEEL POST OR STEEL TUBE.
 - USE POST AND POST-BASE PLATES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION TO CONFORM TO A.S.T.M. A-123.
 - USE WOOD POSTS WHICH FIT SNUGLY IN THE STEEL TUBE WITH A MAXIMUM OF 1/8" CLEARANCE BETWEEN TUBE WALL AND POST.

NEW STRUCTURES:
 - ATTACH POST TO INSERT ASSEMBLY UNITS (USING ANCHOR BOLTS SUPPLIED WITH INSERTS) WHICH HAVE BEEN CAST INTO THE STRUCTURE DURING CONSTRUCTION.

EXISTING STRUCTURES:
 - USE CONCRETE ANCHORS CONSISTING OF A STUD BOLT WITH NUT AND WASHER. USE STUDS THREADED ON ONE END AND HAVING AN EXPANDED WEDGE ASSEMBLY POSITIONED AROUND A TAPERED AREA AT THE OTHER END. USE ANCHORS WHICH PROVIDE A MINIMUM SAFE HOLDING POWER OF 2875 LBS. FOR A 3/4" OR 1" DIAMETER BOLT. CALCULATE HOLDING POWER BASED ON 1/4 THE ACTUAL HOLDING POWER OF THE ANCHOR IN 3500 PSI CONCRETE AS DETERMINED BY AN APPROVED COMMERCIAL TESTING LABORATORY.

- USE ANCHORS GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153. SIZE HOLES FOR THE CONCRETE ANCHORS IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S RECOMMENDATIONS. DRILL HOLES WITH A CARBIDE OR DIAMOND TIPPED MASONRY BIT POWERED BY A ROTARY OR ROTARY IMPACT DRILL. NO OTHER IMPACT TOOLS WILL BE PERMITTED. DRILL HOLES VERTICALLY. FURNISH DOCUMENTATION OF HOLE SIZE RECOMMENDED FOR THE SPECIFIED ANCHOR TO THE ENGINEER BEFORE DRILLING HOLES. THOROUGHLY CLEAN HOLES FOR ANCHORS OF ALL CONCRETE CHIPS, DUST, GREASE, OIL, ETC. BEFORE ANCHORS ARE INSTALLED. REPAIR ALL DAMAGE CAUSED BY THIS WORK TO THE SATISFACTION OF THE ENGINEER.

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SHEET 6 OF 6 862D03

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

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