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

ENGLISH DETAIL DRAWING FOR
CABLE GUIDERAIL
NOTES

SHEET 11 OF 11
865D01

GENERAL NOTES:

- PROVIDE ALL S3x5.7 ROLLED STEEL SECTIONS IN ACCORDANCE WITH ASTM A-6. USE POSTS, PLATES AND ANCHOR ANGLES CONFORMING TO THE REQUIREMENTS OF SECTION 862 OF THE STANDARD SPECIFICATIONS. WHERE THE RAIL IS PARALLEL TO THE EDGE OF THE TRAVEL LANE, REFLECTORIZE EVERY 6th POST (96') (SEE STANDARD 1261.02 FOR DELINEATORS). FOR DOUBLE FACE GUIDERAIL, PLACE DELINEATOR VISIBLE ON EVERY 6th POST TO TRAFFIC IN EITHER DIRECTION. DO NOT REFLECTORIZE POSTS IN THE TYPICAL INTERMEDIATE ANCHORAGE SECTION, TYPICAL APPROACH OR TERMINAL SECTIONS.
- PROVIDE ROUND 3/4" DIAMETER ZINC COATED CABLE WIRE CONSTRUCTED OF THREE STRANDS (7 WIRES PER STRAND) HAVING A MINIMUM TENSILE STRENGTH OF 25000 LBS. IN ACCORDANCE WITH AASHTO M-30 TYPE I CABLE, CLASS 'A' COATING.
- PROVIDE MATERIALS INDICATED AS 'CAST STEEL' WHICH CONFORM TO AASHTO M103.
- PROVIDE INSTALLED HOOK BOLTS WHICH DEVELOP AN ULTIMATE PULL OPEN STRENGTH OF 500 LBS TO 1000 LBS. APPLIED IN A DIRECTION NORMAL TO THE LONGITUDINAL AXIS OF THE POST.
- DESIGN ALL FITTINGS, INCLUDING SPLICES, TO USE THE CABLE WEDGE AND DEVELOP THE FULL STRENGTH OF THE 3/4" CABLE. HOT DIP GALVANIZE ALL FITTINGS, EXCEPT THE CABLE WEDGE, ACCORDANCE WITH AASHTO M-30.
- CRIMP ONE WIRE OF THE WIRE ROPE OVER THE BASE OF THE WEDGE TO HOLD IT FIRMLY IN PLACE AT ALL LOCATIONS WHERE THE CABLE IS CONNECTED TO A CABLE SPLICE CONNECTION.
- DESIGNS FOR A COMBINATION OR SINGLE UNIT COMPENSATING DEVICE AND TURNBUCKLE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL. COMPENSATING DEVICES MUST HAVE A SPRING RATE OF 450 LBS. PLUS OR MINUS 50 LBS. PER INCH WITH A MINIMUM TOTAL 'THROW' OF 6".
- APPLY THE FOLLOWING CRITERIA FOR ARRANGEMENT OF SPRING CABLE END ASSEMBLIES (COMPENSATING DEVICES) AND TURNBUCKLE CABLE END ASSEMBLIES:
LENGTH OF CABLE RUNS:
TO 1000' - USE COMPENSATING DEVICE ON ONE END AND TURNBUCKLE ON THE OTHER END OF EACH INDIVIDUAL CABLE.
1000' TO 2000' - USE COMPENSATING DEVICE ON EACH END OF EACH CABLE.
OVER 2000' - START NEW STRETCH BY INTERLACING AT LAST PARALLEL POST (TYPICAL LAYOUT).
PRIOR TO FINAL ACCEPTANCE BY THE STATE, USE THE FOLLOWING VALUES TO TIGHTEN THE TURNBUCKLES BASED ON THE TEMPERATURE AT THE TIME OF ADJUSTMENT.

TABLE "A"

PAVEMENT & CURVATURE	POST SPACING
8° OR LESS	16'
MORE THAN 8° TO 13° (440 FT. RAD.)	12'

TEMPERATURE (FAHRENHEIT)	SPRING COMPRESSION FROM UNLOADED POSITION IN EACH SPRING
110° - 120°	1"
100° - 109°	1 1/4"
90° - 99°	1 1/2"
80° - 89°	1 3/4"
70° - 79°	2"
60° - 69°	2 1/4"
50° - 59°	2 1/2"
40° - 49°	2 3/4"
30° - 39°	3"
20° - 29°	3 1/4"
10° - 19°	3 1/2"
0° - 9°	3 3/4"
-10° - -1°	4"
-20° - -11°	4 1/4"

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**DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN**
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SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 1-15-02
MODIFIED BY: E.E. WARD DATE: 4-07-04
CHECKED BY: DATE:
FILE SPEC.: /usr/std/02stds to details/english/86501/0865D01.dgn