

BILL OF REINFORCEMENT FOR RAILING

BAR NO.	LENGTH	SHAPE	LOCATION
R501E	6' 1"	Bent	Rail Vertical
R502E	5' 6"	Bent	Rail Vertical
R703E	4'	Bent	Integral End Post
R704E	5' 6"	Bent	Integral End Post
R405E	12'	36'-1" Straight	NORTH RAIL-LONG-E.F.
R406E	12'	34'-5" Straight	SOUTH " " " " " " " "
R407E	2'	21'-9" "	NORTH " " " " " " " "
R408E	2'	25'-1" "	SOUTH " " " " " " " "
R409E	2'	21'-3" "	NORTH " " " " " " " "
R410E	2'	21'-9" "	SOUTH " " " " " " " "

Conc. Railing = 0.109Cu. Yds. per ft. and 405 lbs. per ft.
 3 LINES, 1/2" MIN. LAP
GENERAL NOTES
 Bars marked with the suffix "E" shall be epoxy coated in accordance with Spec. 3301
 Finish all edges of rail with 1/2" vee except where otherwise noted.

All posts shall have a means to securely hold the top tension wire in position and allow for the removal and replacement of a post without damaging the top wire.
 Wire ties may be 9 gage galvanized steel or 0.179" minimum aluminum alloy conforming to ASTM B211, Alloy 1100-H18. Use 12-1/2 gage galvanized hog rings for tension wire ties.
 End Post bracing is not to exceed 500 ft. maximum interval.
 Concrete in the rail base shall be Mix No. 3X46
 All material in the concrete base is included in the superstructure quantities.
 For spacing of fence posts, joints and electrical grounds, see superstructure sheets.
 Fence posts & anchorages shall be set vertical, unless otherwise noted.
 See special provisions for requirements not included on this sheet and for basis of payment.
 Guardrail connection shall be Structural Steel Spec. 3306 and galvanized after fabrication per Spec. 3394

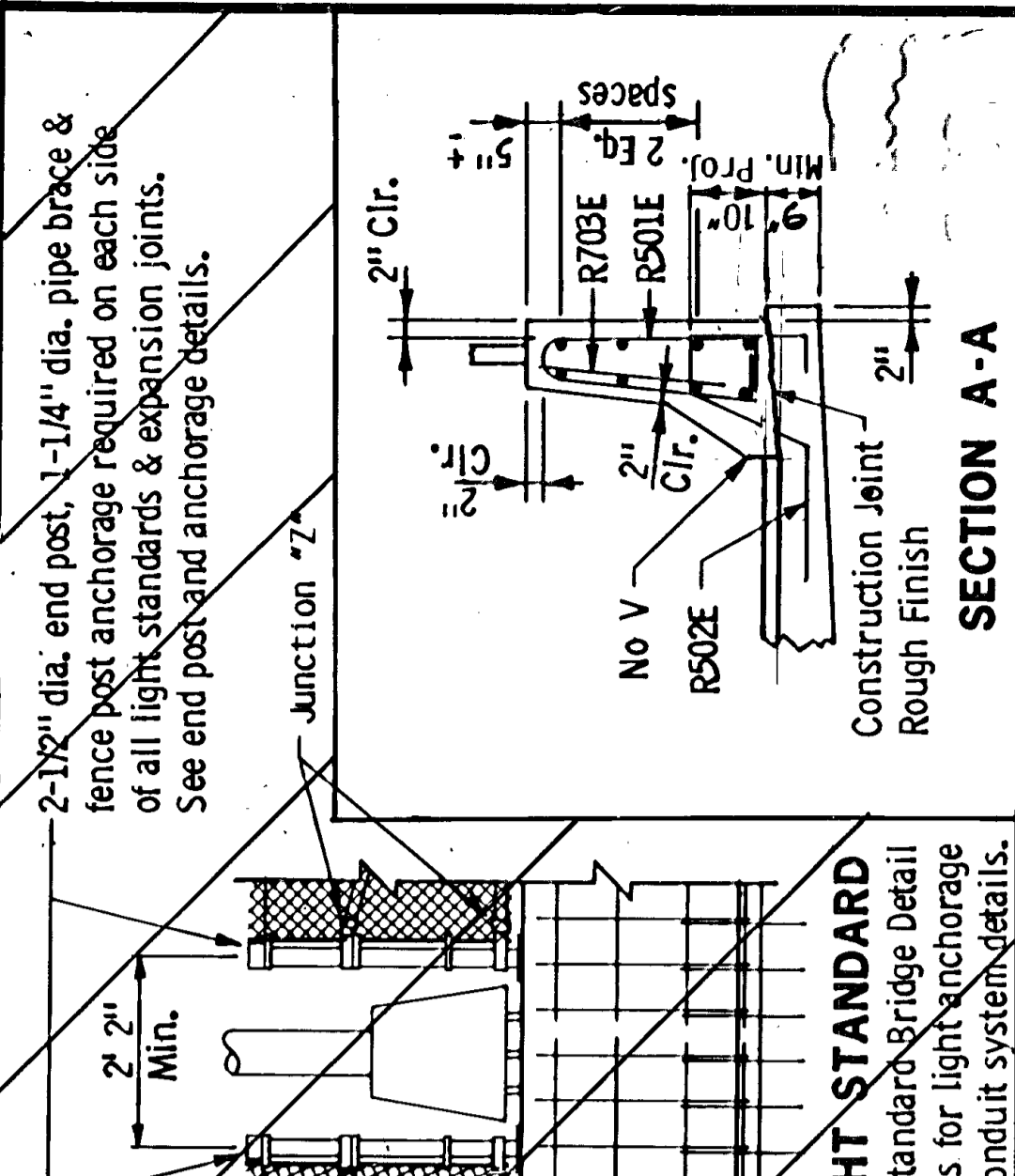
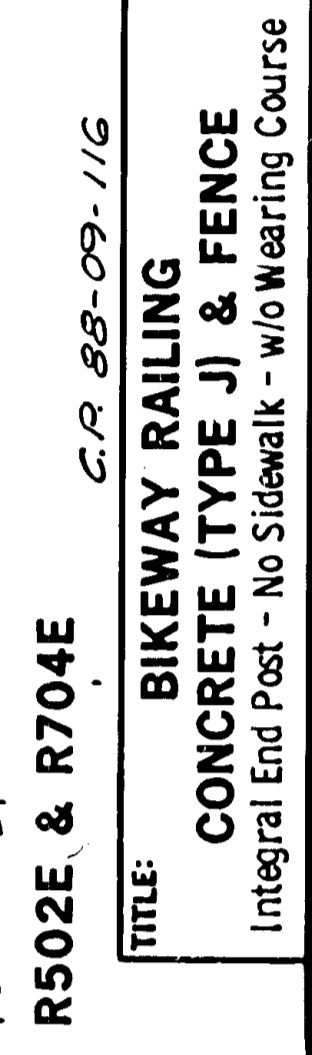
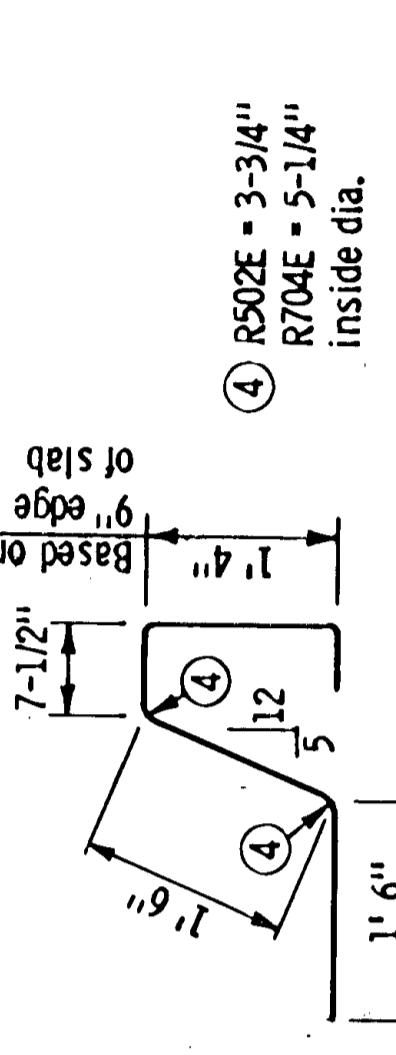
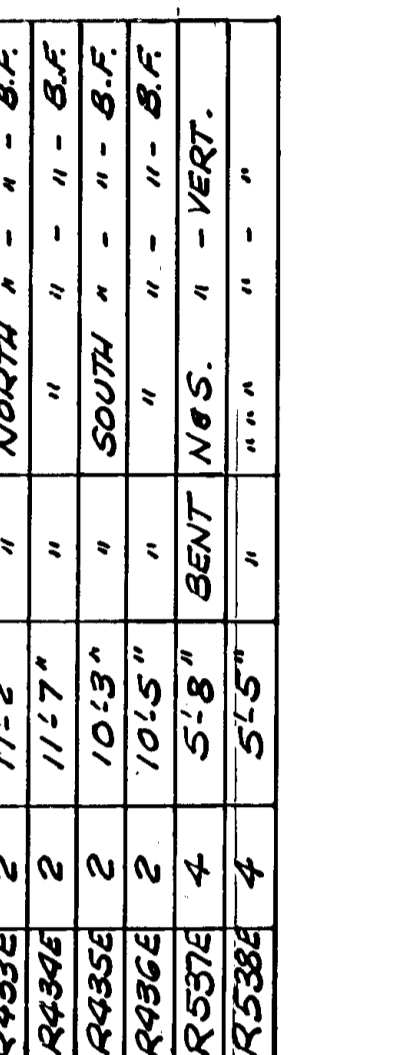
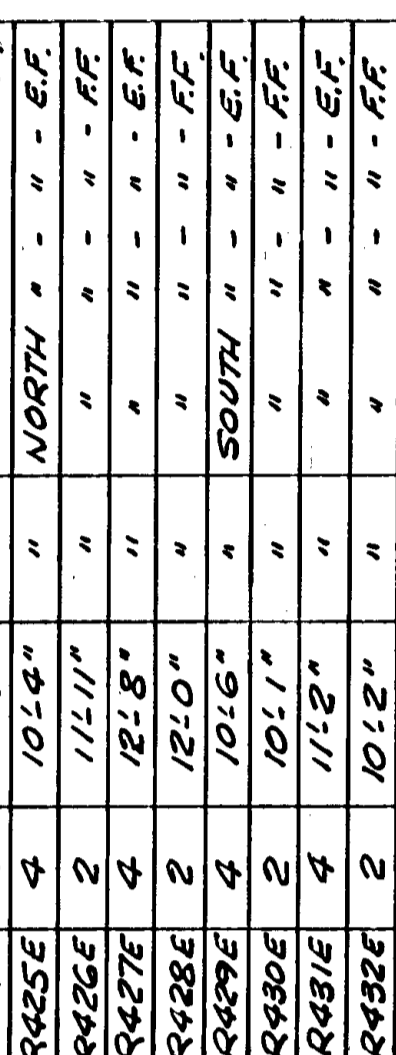
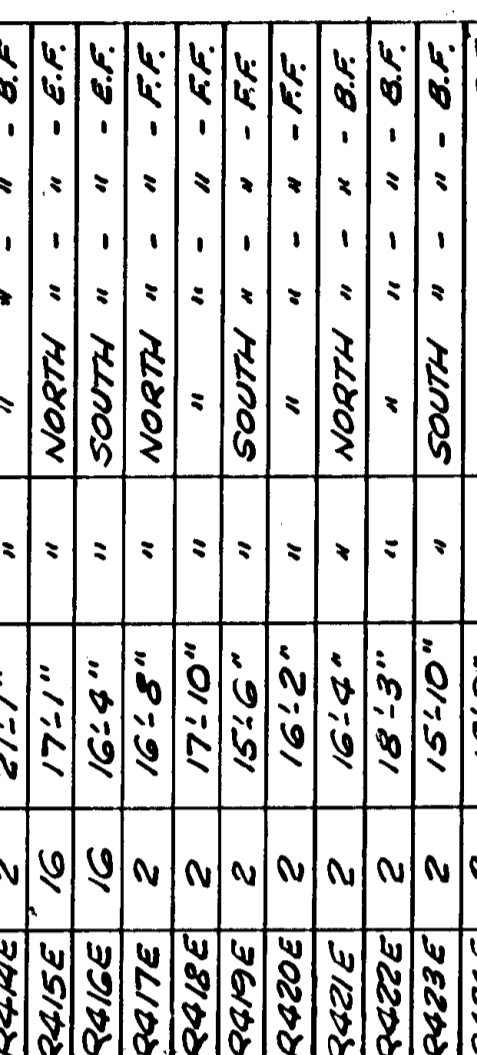
The guard rail connection is included in the price bid for other items.
 Maximum spacing of deflection joints shall be 20' 0".
 The length of railing concrete is to be measured for payment between the outside faces of railing.
 Length of fence post anchorage shall be a minimum of 6" from joints.

BILL OF REINFORCEMENT - RAILING - CONTD.

BAR NO.	LENGTH	SHAPE	LOCATION
R411E	2'	24'-8" STAR	NORTH RAIL-LONG - E.F.
R412E	2'	24'-8" "	" " " " " " " "
R413E	2'	21'-0" "	SOUTH " " " " " " " "
R414E	2'	21'-0" "	" " " " " " " "
R415E	16'	17'-1" "	NORTH " " " " " " " "
R416E	16'	16'-4" "	SOUTH " " " " " " " "
R417E	2'	16'-8" "	NORTH " " " " " " " "
R418E	2'	17'-10" "	SOUTH " " " " " " " "
R419E	2'	15'-6" "	NORTH " " " " " " " "
R420E	2'	16'-2" "	SOUTH " " " " " " " "
R421E	2'	16'-4" "	NORTH " " " " " " " "
R422E	2'	16'-2" "	SOUTH " " " " " " " "
R423E	2'	15'-10" "	NORTH " " " " " " " "
R424E	2'	15'-9" "	SOUTH " " " " " " " "
R425E	4'	10'-4" "	NORTH " " " " " " " "
R426E	2'	11'-1" "	" " " " " " " "
R427E	4'	12'-8" "	" " " " " " " "
R428E	2'	12'-0" "	" " " " " " " "
R429E	4'	10'-6" "	SOUTH " " " " " " " "
R430E	2'	10'-1" "	" " " " " " " "
R431E	4'	11'-2" "	" " " " " " " "
R432E	2'	10'-2" "	" " " " " " " "
R433E	2'	11'-2" "	" " " " " " " "
R434E	2'	11'-7" "	" " " " " " " "
R435E	2'	10'-9" "	SOUTH " " " " " " " "
R436E	2'	10'-5" "	" " " " " " " "
R537E	4'	5'-8" BENT	N/E'S. " " - VERT.
R538E	4'	5'-5" "	" " " " " " " "

DEFLECTION JOINT
 An expansion joint is required only if an expansion device is used. Provide pipe sleeve in span between the vertical posts at expansion joint. See Superstructure Sheets for location.

EXPANSION JOINT
 (EXPANSION DEVICE NOT SHOWN)
 2-#405E OR #406E longitudinal rail bars (Typ.) thru deflection joint
 1-1/4" max. spacing thru deflection joint
 R415E, R417E, R418E, R419E, R420E, R421E, OR R422E
 R416E, R419E, R420E, R423E, OR R424E
 SEE SHEET FOR LOCATION.



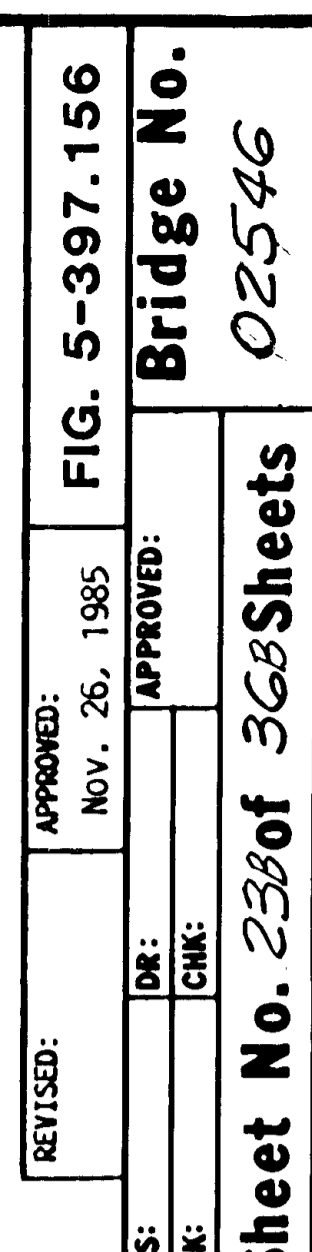
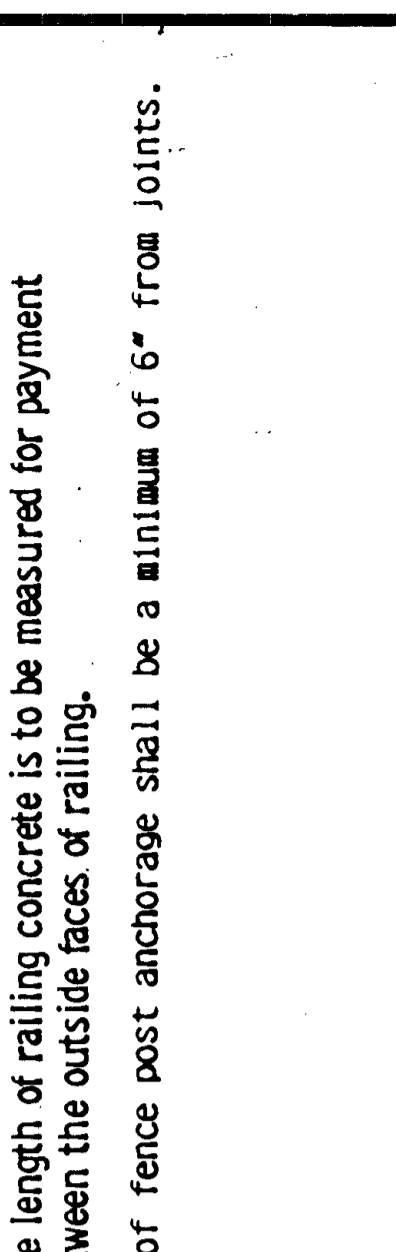
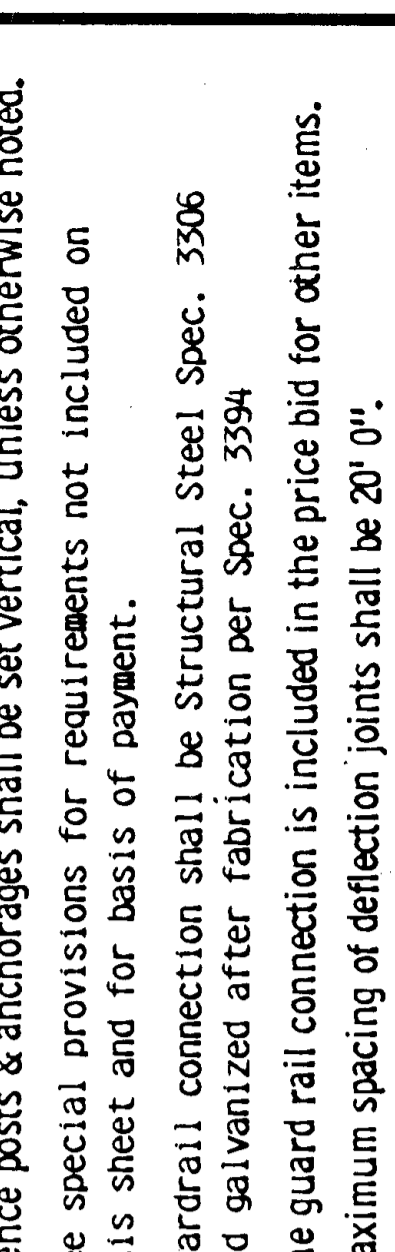
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REVISED: _____ APPROVED: _____
 Nov. 26, 1985
 FIG. 5-397.156
BIKEWAY RAILING
CONCRETE (TYPE J) & FENCE
 Integral End Post - No Sidewalk - w/o Wearing Course
 DES: _____ DR: _____
 CHK: _____ CHK: _____
 Sheet No. 23 of 368 Sheets
 Bridge No. 02546