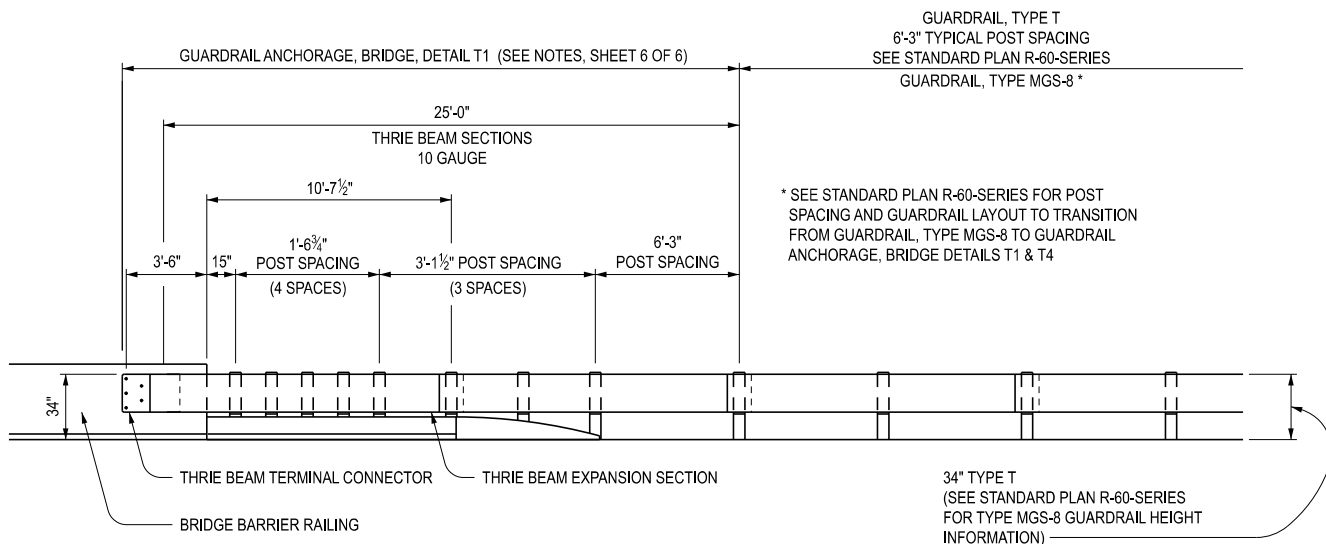
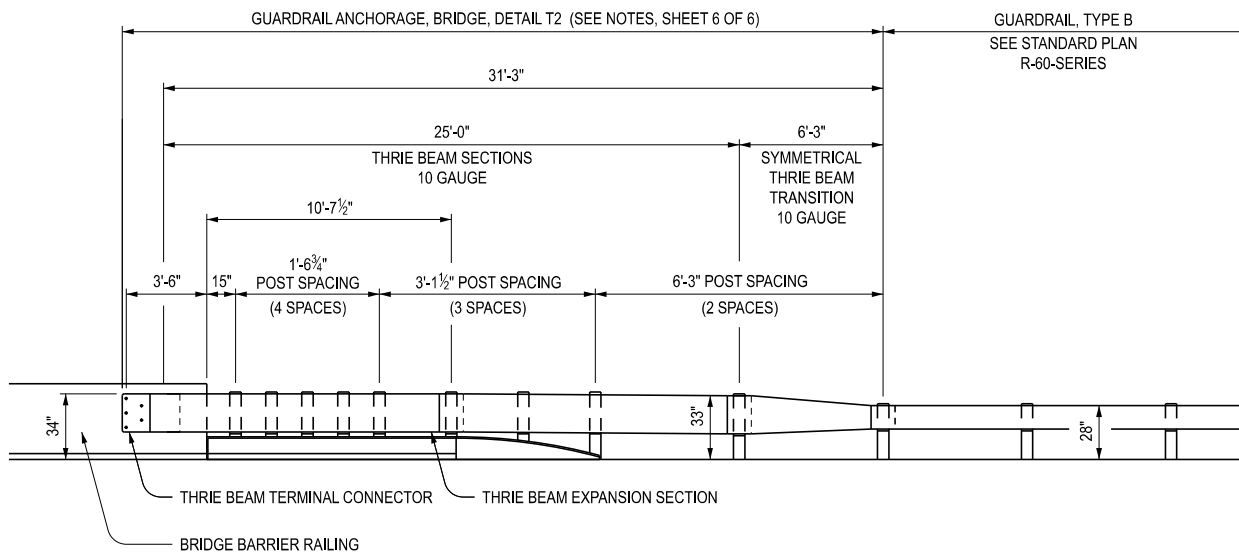


PLAN VIEW



ELEVATION VIEW
(USE WITH GUARDRAIL, TYPE T & TYPE MGS-8)



ELEVATION VIEW
(USE WITH GUARDRAIL, TYPE B)

DETAILS FOR CONNECTING GUARDRAIL TO
BRIDGE BARRIER RAILINGS, TYPE 4, 2-TUBE, 4-TUBE,
AESTHETIC PARAPET TUBE, OR 3 TUBE WITH PICKETS
(WITHOUT EXPANSION AT BACKWALL)

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

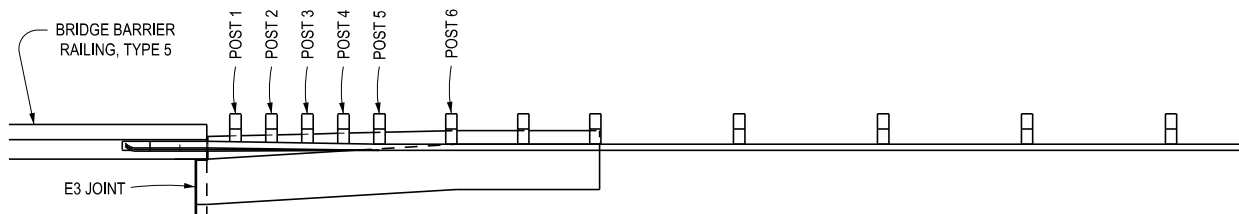
SPECIAL DETAIL FOR
GUARDRAIL ANCHORAGE, BRIDGE, DETAILS
(FOR SAFETY SHAPE BRIDGE BARRIERS & RAILINGS)

(SPECIAL DETAIL)
FHWA APPROVAL

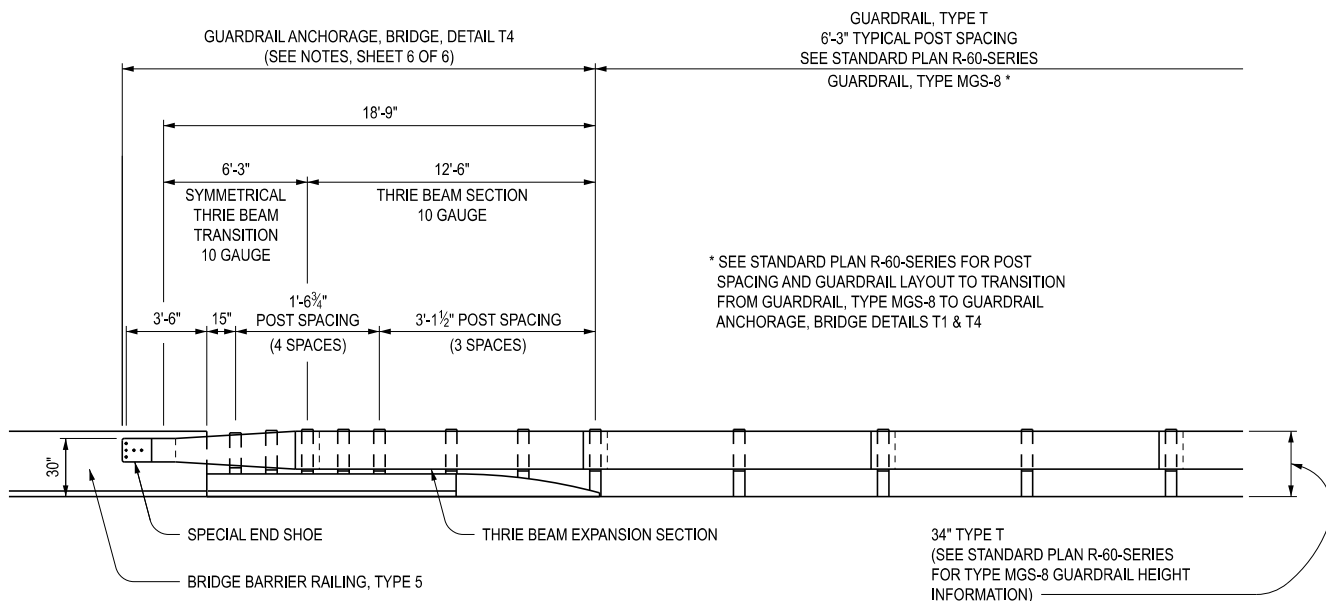
01/06/2026
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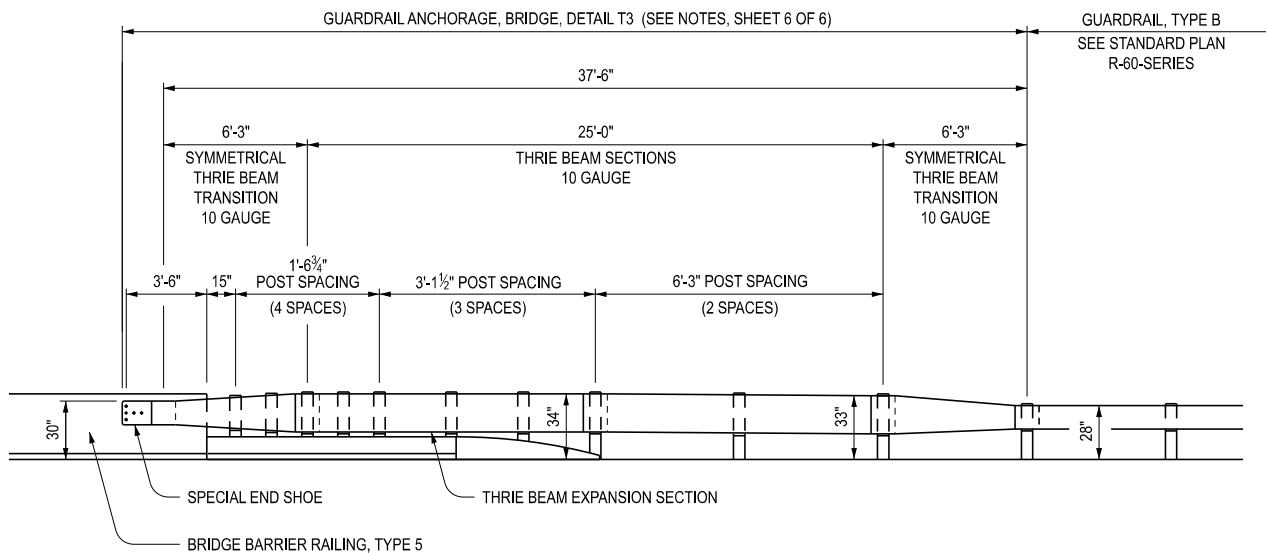
SHEET
1 OF 6



PLAN VIEW



ELEVATION VIEW
(USE WITH GUARDRAIL, TYPE T & TYPE MGS-8)



ELEVATION VIEW
(USE WITH GUARDRAIL, TYPE B)

DETAILS FOR CONNECTING GUARDRAIL TO BRIDGE BARRIER RAILINGS, TYPE 5
(WITHOUT EXPANSION AT BACKWALL)



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

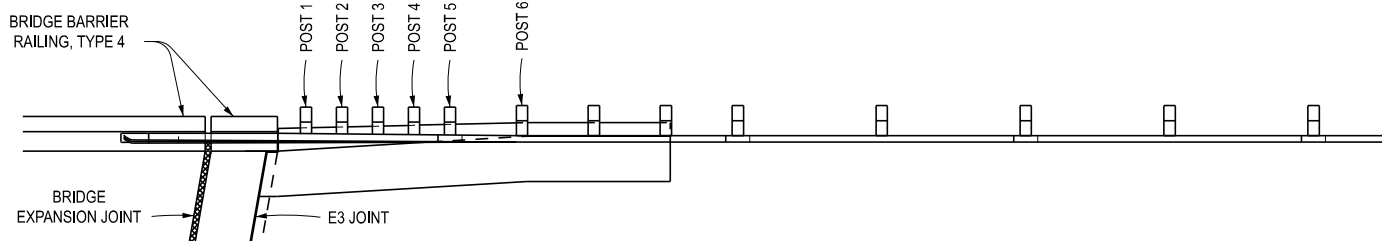
SPECIAL DETAIL FOR
GUARDRAIL ANCHORAGE, BRIDGE, DETAILS
(FOR SAFETY SHAPE BRIDGE BARRIERS & RAILINGS)

(SPECIAL DETAIL)
FHWA APPROVAL

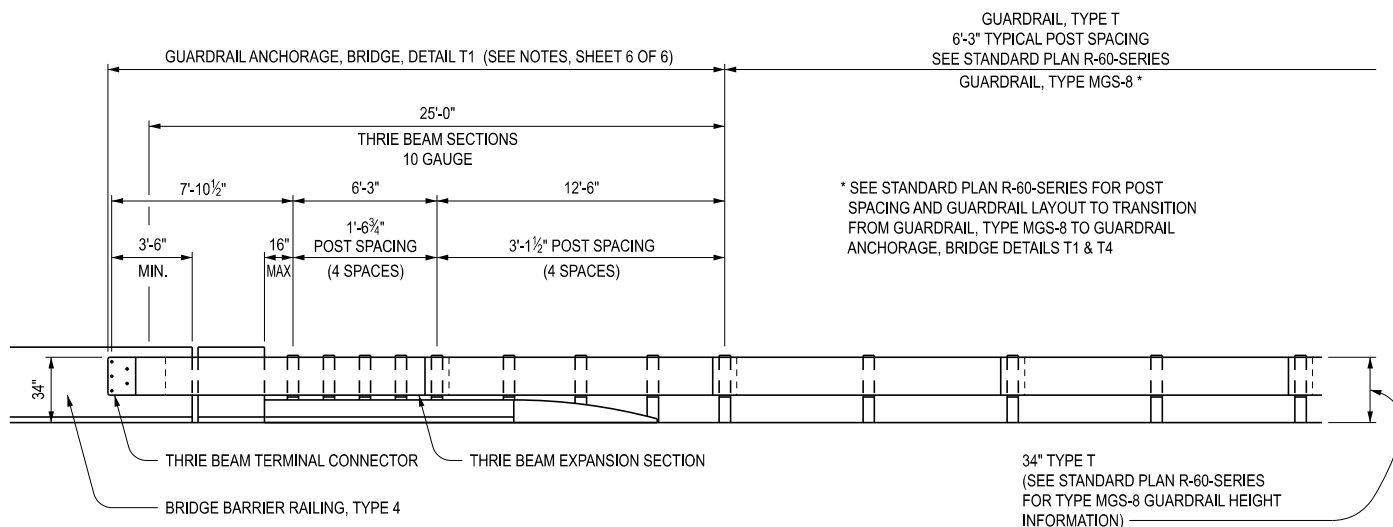
01/06/2026
PLAN DATE

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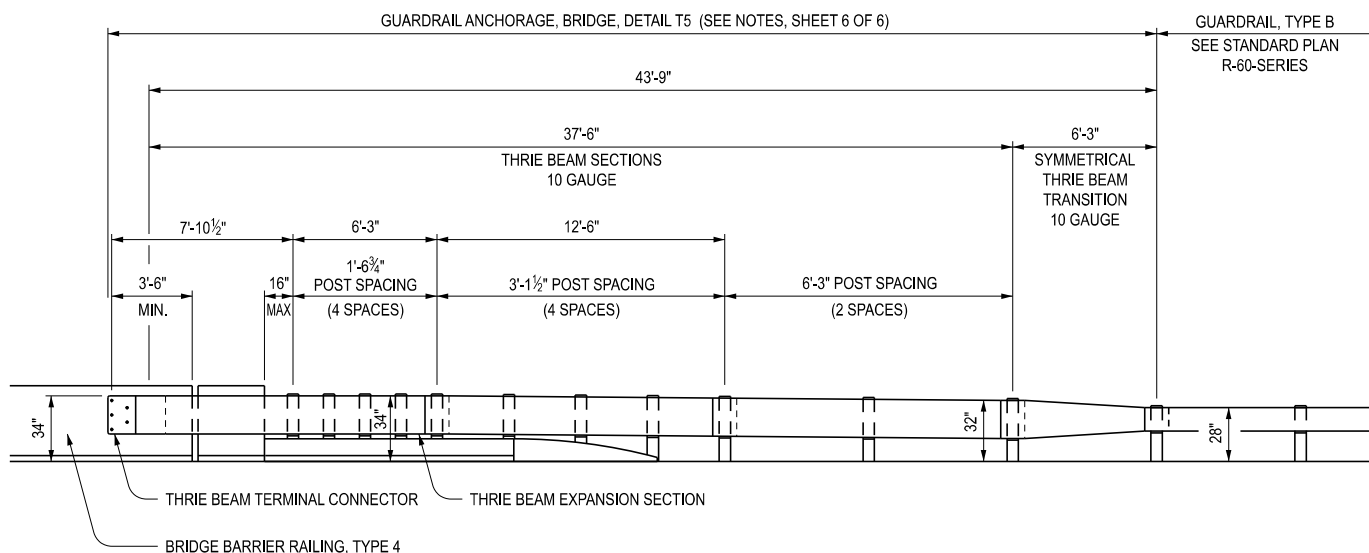
SHEET
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PLAN VIEW



ELEVATION VIEW
(USE WITH GUARDRAIL, TYPE T & TYPE MGS-8)



ELEVATION VIEW
(USE WITH GUARDRAIL, TYPE B)

**DETAILS FOR CONNECTING GUARDRAIL TO
BRIDGE BARRIER RAILINGS, TYPE 4, 2-TUBE, 4-TUBE,
AESTHETIC PARAPET TUBE, OR 3 TUBE WITH PICKETS**
(WITH EXPANSION AT BACKWALL/END WALL OR SLEEPER SLAB)



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

SPECIAL DETAIL FOR
GUARDRAIL ANCHORAGE, BRIDGE, DETAILS
(FOR SAFETY SHAPE BRIDGE BARRIERS & RAILINGS)

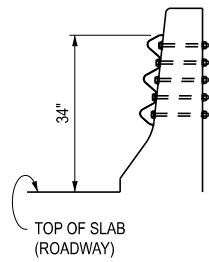
(SPECIAL DETAIL)
FHWA APPROVAL

01/06/2026
PLAN DATE

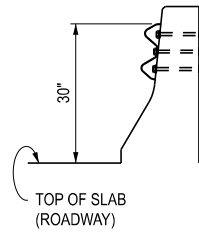
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SHEET
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USE HIGH STRENGTH $\frac{7}{8}$ " DIA. HEX HEAD BOLT AND NUTS TO CONNECT GUARDRAIL TO BRIDGE RAILINGS WITH ROUND WASHERS ON FRONT AND SQUARE WASHERS ON BACK. (SEE CHART BELOW FOR LENGTHS AND NUMBER REQUIRED.) WASHER DETAILS ARE SHOWN ON SHEET 5 OF 6.

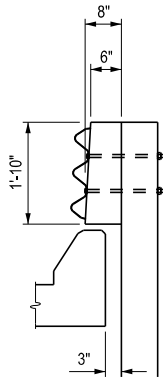


BRIDGE BARRIER
RAILING TYPE 4

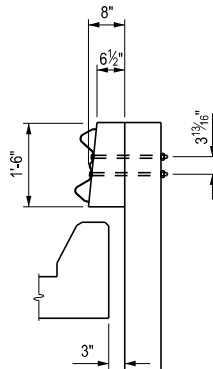


BRIDGE BARRIER
RAILING TYPE 5

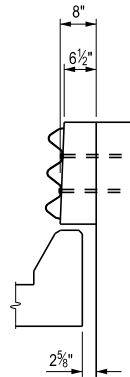
SECTIONS AT BRIDGE RAILINGS



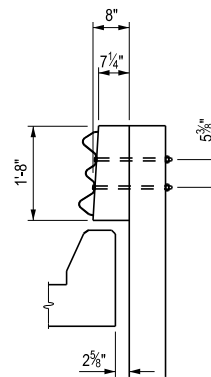
POST 1 FOR
BRIDGE BARRIER
RAILING, TYPE 4



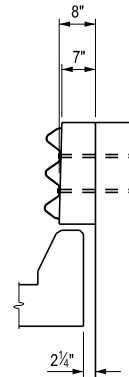
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RAILING, TYPE 5



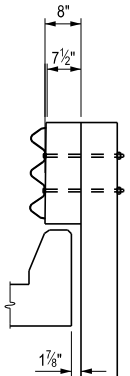
POST 2 FOR
BRIDGE BARRIER
RAILING, TYPE 4



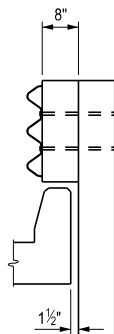
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BRIDGE BARRIER
RAILING, TYPE 5



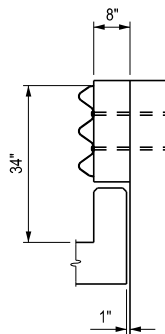
POST 3



POST 4



POST 5



POST 6

BOLT REQUIREMENTS FOR CONNECTING GUARDRAIL TO BRIDGE RAILINGS & FILLER WALLS			
BRIDGE RAILING	BOLT LENGTH	MINIMUM THREAD LENGTH	NUMBER REQUIRED
TYPE 4	12 1/2"	4"	5
TYPE 5	11 1/2"	4"	4
SHORTER BOLT LENGTHS MAY BE USED PROVIDED THE BOLT EXTENDS 1/4" BEYOND THE NUT WHEN TIGHTENED.			

GUARDRAIL POST SECTIONS FOR GUARDRAIL ANCHORAGE, BRIDGE



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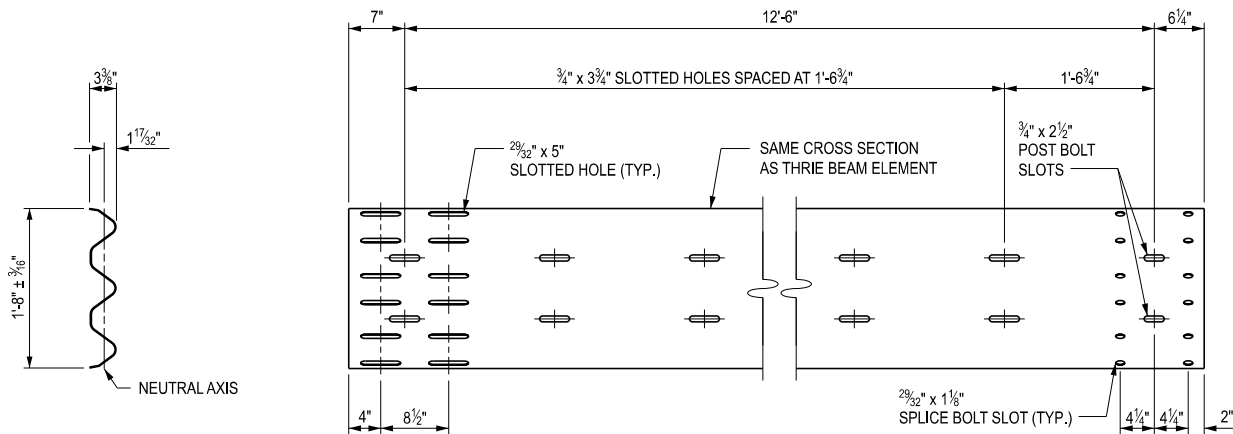
SPECIAL DETAIL FOR
GUARDRAIL ANCHORAGE, BRIDGE, DETAILS
(FOR SAFETY SHAPE BRIDGE BARRIERS & RAILINGS)

(SPECIAL DETAIL)
FHWA APPROVAL

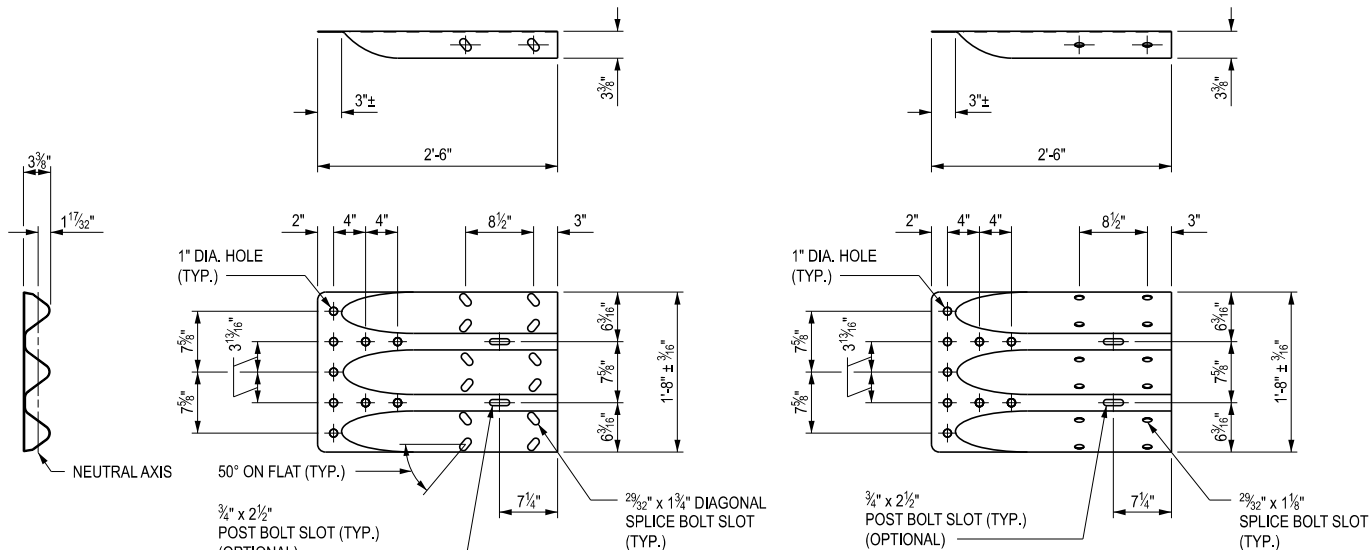
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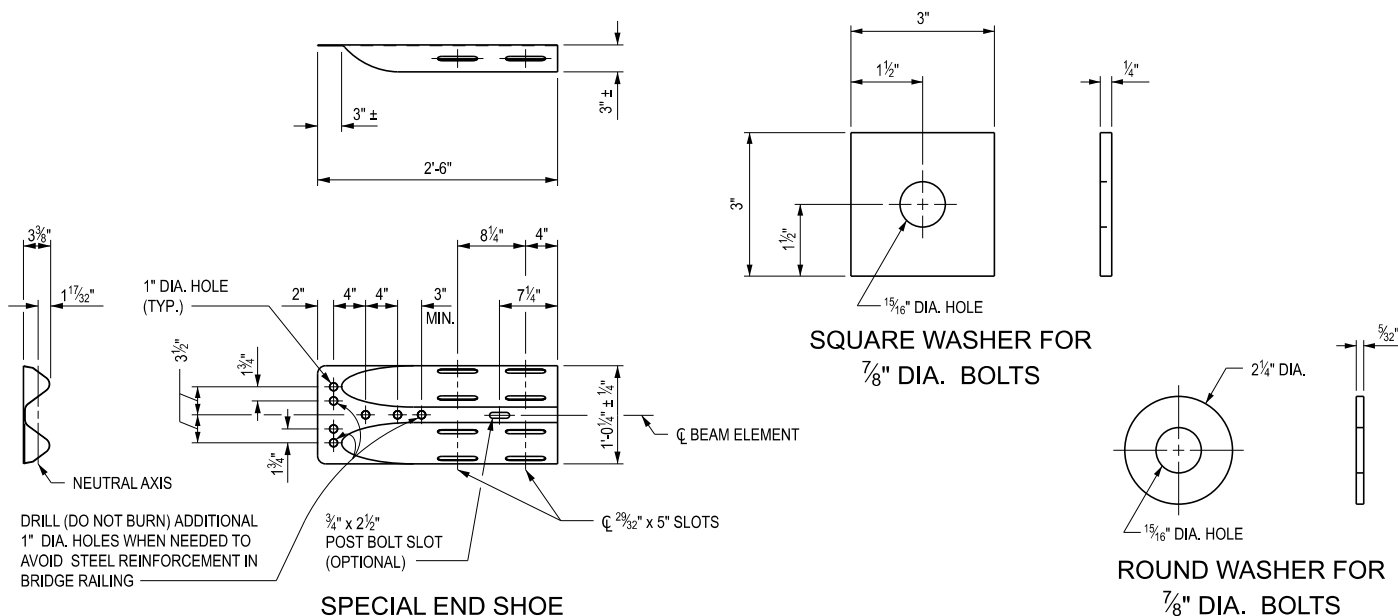
THRIE BEAM EXPANSION SECTION



OPTION 1

OPTION 2

THRIE BEAM TERMINAL CONNECTOR



SPECIAL END SHOE

SQUARE WASHER FOR
7/8\" DIA. BOLTS

ROUND WASHER FOR
7/8\" DIA. BOLTS



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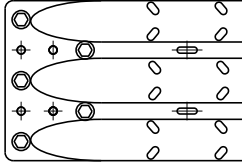
SPECIAL DETAIL FOR
GUARDRAIL ANCHORAGE, BRIDGE, DETAILS
(FOR SAFETY SHAPE BRIDGE BARRIERS & RAILINGS)

(SPECIAL DETAIL)
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THRIE BEAM TERMINAL CONNECTOR
BOLT LOCATION FOR
GUARDRAIL ANCHORAGE TYPE T1, T2, T5

⊙ = REQUIRED BOLT LOCATION TO ANCHOR INTO CONCRETE

NOTES:

ENSURE ALL POSTS, OFFSET BLOCKS, BEAM ELEMENTS, REFLECTORS, AND HARDWARE (INCLUDING BOLTS, NUTS, AND WASHERS) CONFORM TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND TO STANDARD PLAN R-60-SERIES, WHERE APPLICABLE, EXCEPT AS SPECIFIED ON THIS STANDARD.

ENSURE BEAM ELEMENTS IDENTIFIED AS 12 GAUGE MEET CLASS A REQUIREMENTS PER AASHTO M 180. ENSURE BEAM ELEMENTS IDENTIFIED AS 10 GAUGE MEET CLASS B REQUIREMENTS PER AASHTO M 180.

USE 7'-0" LONG POSTS, STEEL (W6 x 8.5 OR W6 x 9) OR WOOD (6" x 8") TO CONSTRUCT GUARDRAIL ANCHORAGE, BRIDGE, DETAILS T1 THROUGH T5.

ENSURE THE THRIE BEAM TERMINAL CONNECTOR AND SPECIAL END SHOE ARE THE SAME MATERIAL AS THE ADJACENT RUN OF GUARDRAIL AND ARE NOT LIGHTER THAN 10 GAUGE (0.138").

FIELD BEND SECTIONS OF THE THRIE BEAM ELEMENT REQUIRED TO BE TWISTED FOR USE IN ANCHORAGE.

LAP GUARDRAIL BEAM ELEMENTS IN THE DIRECTION OF TRAFFIC EXCEPT FOR THE THRIE BEAM TERMINAL CONNECTOR WHICH MAY BE LAPPED IN EITHER DIRECTION.

USE SPLICE BOLTS WHEN SPLICING THE THRIE BEAM TERMINAL CONNECTOR TO THE THRIE BEAM EXPANSION SECTION AND WHEN SPLICING THE SPECIAL END SHOE TO THE TRANSITION SECTION. INSTALL THE SPLICE BOLT NUT FINGER-TIGHT AND FULLY ENGAGE THE SPLICE BOLT A MINIMUM OF ONE THREAD EXTENDING BEYOND THE NUT. THEN UPSET THE FIRST THREAD ON THE OUTSIDE OF THE NUT WITH A CENTER PUNCH OR COLD CHISEL SO THAT IT WILL NOT LOOSEN.

SEE STANDARD PLAN R-32-SD FOR APPROACH CURB AND GUTTER AND DOWNSPOUT HEADER.

FOR GUARDRAIL ANCHORAGE, BRIDGE, DETAILS T1, T2, AND T5, ENSURE THE THRIE BEAM TERMINAL CONNECTOR IS ATTACHED TO THE 29/32" X 5" LONG SLOTTED HOLES IN THE THRIE BEAM EXPANSION SECTION.

SEE APPROPRIATE PLANS TO DETERMINE WHETHER GUARDRAIL ANCHORAGE, BRIDGE SPANS A BRIDGE EXPANSION JOINT.

SEE STANDARD PLAN R-55-SERIES FOR FILLER WALLS AND FILLER WALL END BLOCK.

SEE STANDARD PLAN R-54-SERIES FOR CONCRETE BARRIER, SINGLE FACE, TYPE ____.

INCLUDE CONCRETE BARRIER, SINGLE FACE TRANSITION SECTION IN THE PAY ITEM "CONC BARRIER, SINGLE FACE, TYPE ____".



DEPARTMENT DIRECTOR
BRADLEY C. WIEFERICH, PE

SPECIAL DETAIL FOR
GUARDRAIL ANCHORAGE, BRIDGE, DETAILS
(FOR SAFETY SHAPE BRIDGE BARRIERS & RAILINGS)

(SPECIAL DETAIL)
FHWA APPROVAL

01/06/2026
PLAN DATE

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