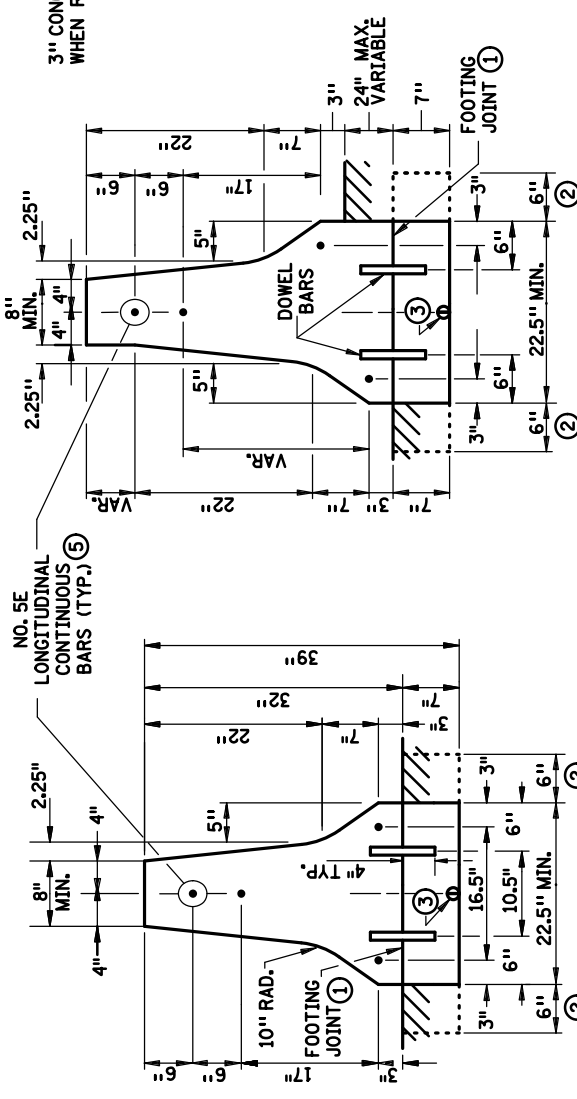


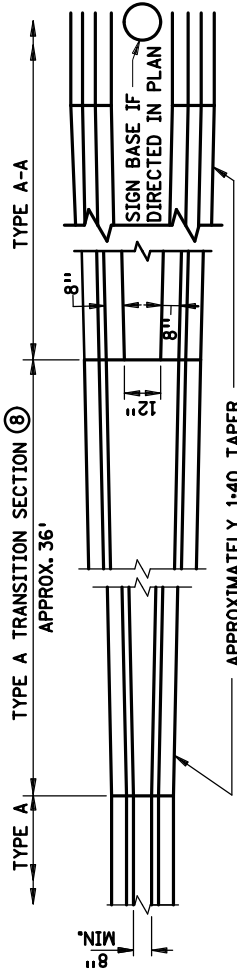
TYPE A-A ⑥



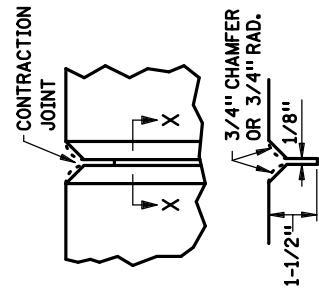
TYPE A STEP

GENERAL NOTES:

- ① 0.148 CU. YDS. CONCRETE PER LIN. FT. TYPE A
- ② 0.114 CU. YDS. CONCRETE PER LIN. FT. TYPE A-A
- ③ CUBIC YARDS OF CONCRETE INCLUDES STANDARD FOOTING.
- ④ ALL BARS SHALL BE EPOXY COATED PER SPEC 3301.
- ⑤ FINISH ALL EDGES OF BARRIER WITH 1/2" VEE, EXCEPT WHERE OTHERWISE NOTED.
- ⑥ IF FOOTING IS CONSTRUCTED SEPARATELY, A FOOTING JOINT WITH 1" DIA. DOWEL BARS 8" LONG AT 2'0" CENTERS IS REQUIRED. DUMMY TRANSVERSE JOINTS (1-1/2" MIN. DEPTH) SHALL BE PLACED IN FOOTING AND BE ALIGNED WITH CONTRACTION JOINTS IN UPPER PORTION OF BARRIER. THE SURFACE OF THE FOOTING JOINT SHALL BE ROUGH.
- ⑦ ADDITIONAL FOOTING WIDTH TO BE REQUIRED WHEN CONCRETE MEDIAN BARRIER IS ADJACENT TO BITUMINOUS PAVEMENT OR BITUMINOUS SHOULDER.
- ⑧ WHEN REQUIRED, PROVIDE A 1-1/2" NOMINAL DIAMETER PVC-TYPE I CONDUIT (SPEC. 3803) IN FIXED FORM OR SLIP FORM CONSTRUCTED BARRIER, OR 3" X 3" VOID IN PRECAST BARRIER FOR LIGHTING CONDUIT. LOCATE AS DIRECTED BY PLAN OR ENGINEER.
- ⑨ UNLESS OTHERWISE NOTED IN PLANS.
- ⑩ SEE SHEET 2 FOR BILL OF REINFORCEMENT AND CONSTRUCTION NOTES.
- ⑪ SHALL NOT USE ONE SIDE OF BARRIER TYPE A-A AS FREE-STANDING SYSTEM. MUST USE BOTH DETAILS AS SHOWN OR SINGLE BARRIER FULLY ABUTTED TO COMPACTED BACKFILL.
- ⑫ CONCRETE WALK BETWEEN TYPE A-A BARRIERS MAY BE SLOPED IF BARRIER TOPS ARE NOT THE SAME ELEVATION.
- ⑬ WHEN THE BARRIER IS PRECAST, THE TRANSITION SECTION MAY BE CAST IN THREE 12' LONG SECTIONS.



TRANSITION FROM TYPE A TO TYPE A-A



**SECTION X-X
CONTRACTION JOINT**

CONTRACTION JOINT NOTES:

- IF JOINT SPACING IS NOT INDICATED IN THE PLANS, THE BASIS OF JOINT SPACING IS AS FOLLOWS:
- 1) BITUMINOUS SECTION ADJACENT TO THE BARRIER, 15 FT. SPACING.
- 2) CONCRETE SECTION ADJACENT TO THE BARRIER:
 - FIXED FORM OR SLIP FORMED BARRIER CONTRACTION JOINTS SHALL ALIGN WITH JOINTS IN CONCRETE SECTION, NOT TO EXCEED 15 FT.
- 3) REINFORCING TO BE CONTINUOUS THROUGH JOINT.

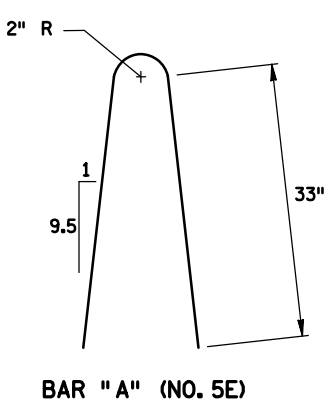
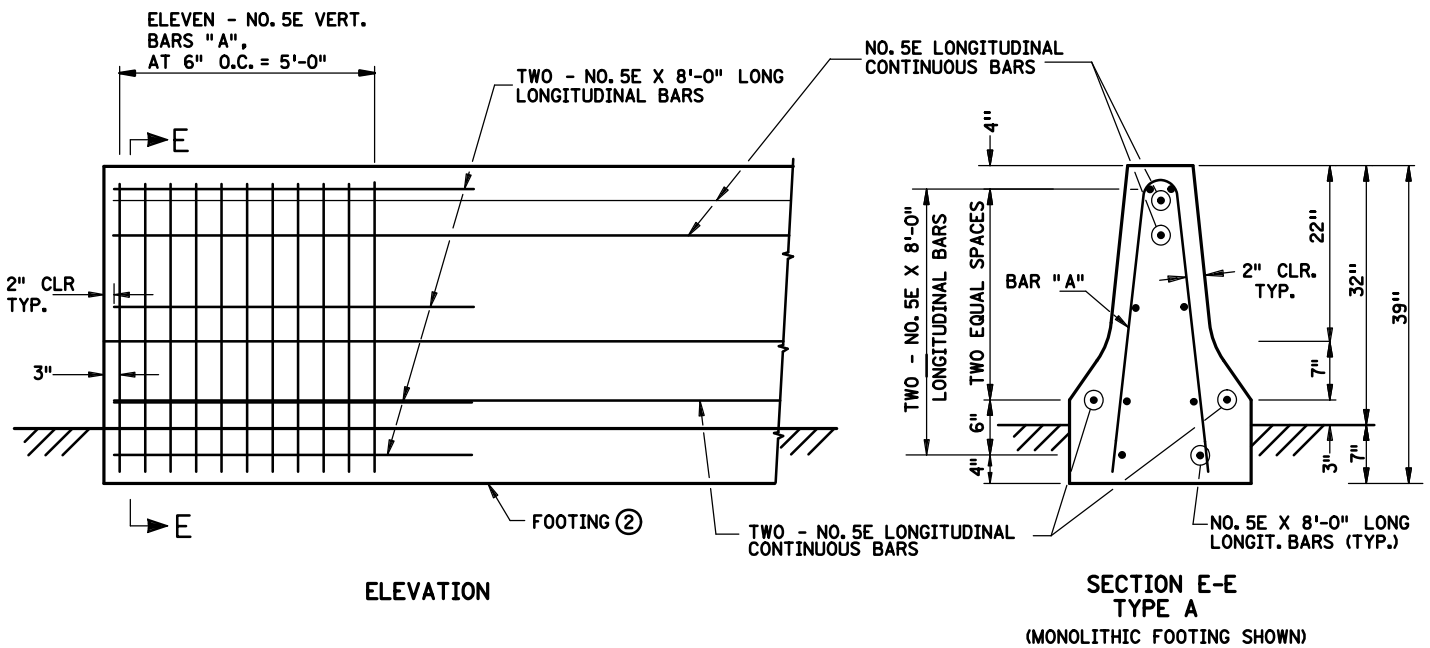
APPROVED **APRIL 14, 2020**

 STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**REINFORCED CONCRETE MEDIAN
 BARRIER TYPE F**
 (NON-GLARE SCREEN TYPE)
 DESIGN 8308

SPECIFICATION
 REFERENCE
 2533

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END ANCHORAGE DETAIL ①

NOTES:

- ① END ANCHORAGE MUST BE PLACED AT BOTH ENDS OF THE BARRIER AND AT ANY EXPANSION JOINT/OPEN JOINT. EXPANSION JOINTS SHALL BE PROVIDED IN THE BARRIERS TO MATCH EXPANSION JOINTS IN RIGID PAVEMENT, AT BRIDGE APPROACHES, OR AT OTHER STRUCTURES, WHERE UNCONTROLLED LONGITUDINAL MOVEMENT MAY BE OBJECTIONABLE.
- ② IF FOOTING IS CONSTRUCTED SEPARATELY, A FOOTING JOINT WITH NO. 8E DOWEL BARS 8" LONG AT 2'-0" CENTERS IS REQUIRED. DUMMY TRANSVERSE JOINTS (1-1/2" MIN. DEPTH) SHALL BE PLACED IN FOOTING AND BE ALIGNED WITH CONTRACTION JOINTS IN UPPER PORTION OF BARRIER. THE SURFACE OF THE FOOTING JOINT SHALL BE ROUGH.
- ③ ALL REBARS SHALL BE GRADE 60 STEEL AND SHALL BE EPOXY COATED, PER SPEC. 3301.
- ④ MINIMUM LAP SPLICE IS 2' - 11" FOR ALL BARS.

GENERAL CONSTRUCTION NOTES:

- A. CONSTRUCTION METHOD SHALL BE CONTRACTOR'S OPTION: CAST-IN-PLACE (FIXED FORM OR SLIP FORM) OR PRECAST.
- B. PRECAST SECTIONS SHALL WEIGH A MINIMUM OF 650 LBS./FT. (TYPE A WITH STANDARD FOOTING). PROVISIONS SHALL BE MADE FOR THE INTERCONNECTION OF INDIVIDUAL SECTIONS PROVIDING LATERAL RESISTANCE EQUIVALENT TO THAT OF THE BARRIER SECTION ITSELF.
- C. CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPORTS TO MAINTAIN LONGITUDINAL REBARS AT DIMENSIONS SHOWN ON THE PLAN DURING SLIP FORMING.
- D. CONTRACTOR SHALL PROVIDE VERTICAL SUPPORTS WITH 2' - 0" MAXIMUM SPACING TO MAINTAIN LONGITUDINAL REBARS AT DIMENSIONS SHOWN ON THE PLAN DURING FIXED FORMING.
- E. PAY QUANTITIES WILL NOT BE ADJUSTED AS A RESULT OF SELECTING ONE OF THE CONSTRUCTION METHODS.

BILL OF REINFORCEMENT ③				
BAR SIZE	LENGTH PER BAR	NO. OF BAR	BAR SHAPE	BAR LOCATION
5E	---	---	STR	LONGITUDINAL ④
5E	8'-0"	16*	STR	LONGIT. AT ENDS
5E	6'-0"	22*	BENT	VERT. AT ENDS

* NUMBERS PER TWO ENDS

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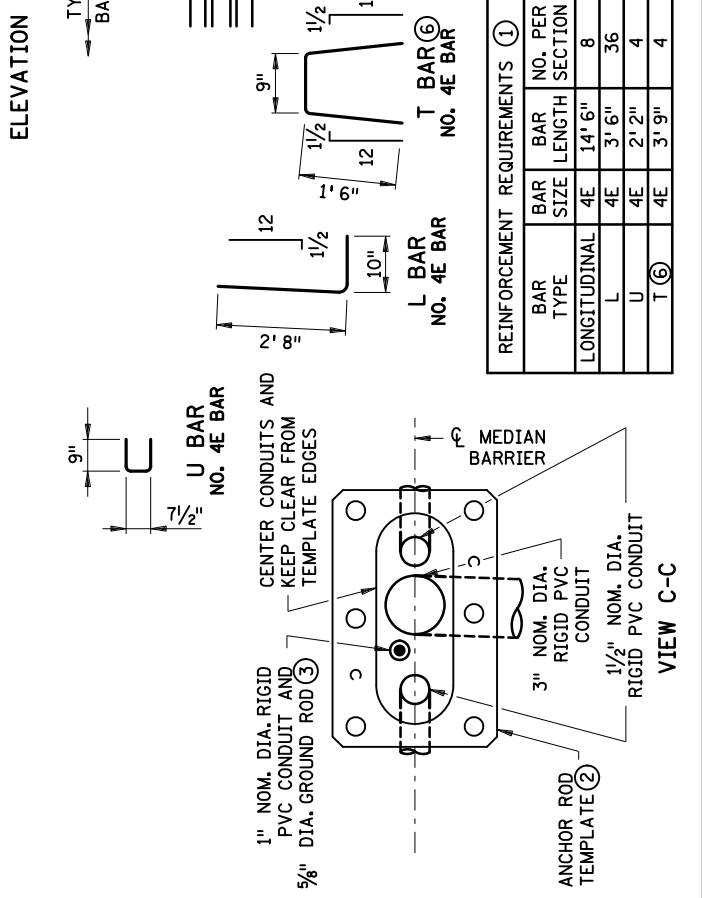
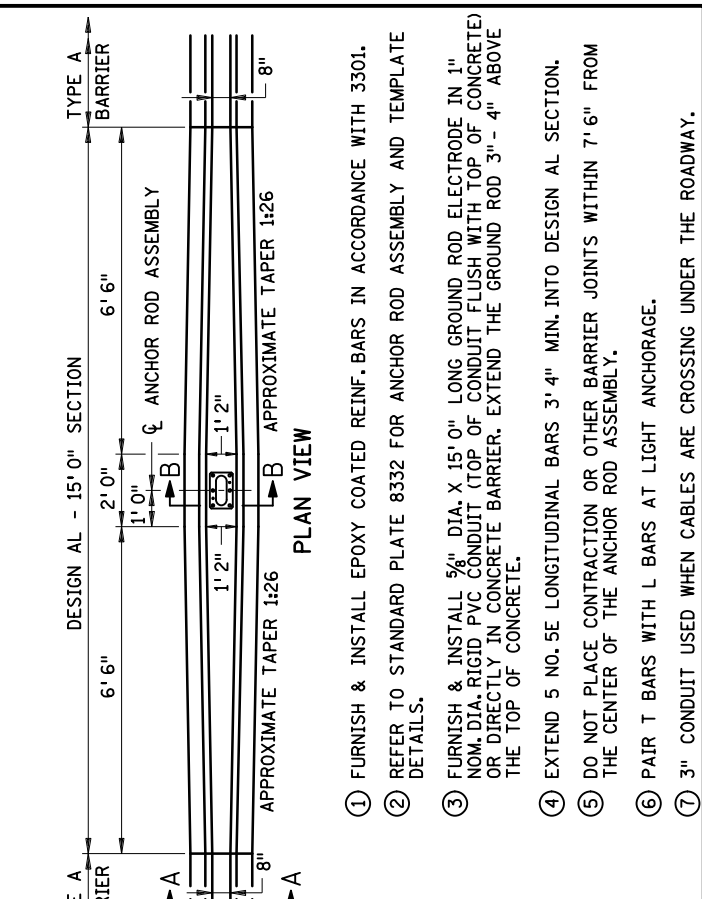
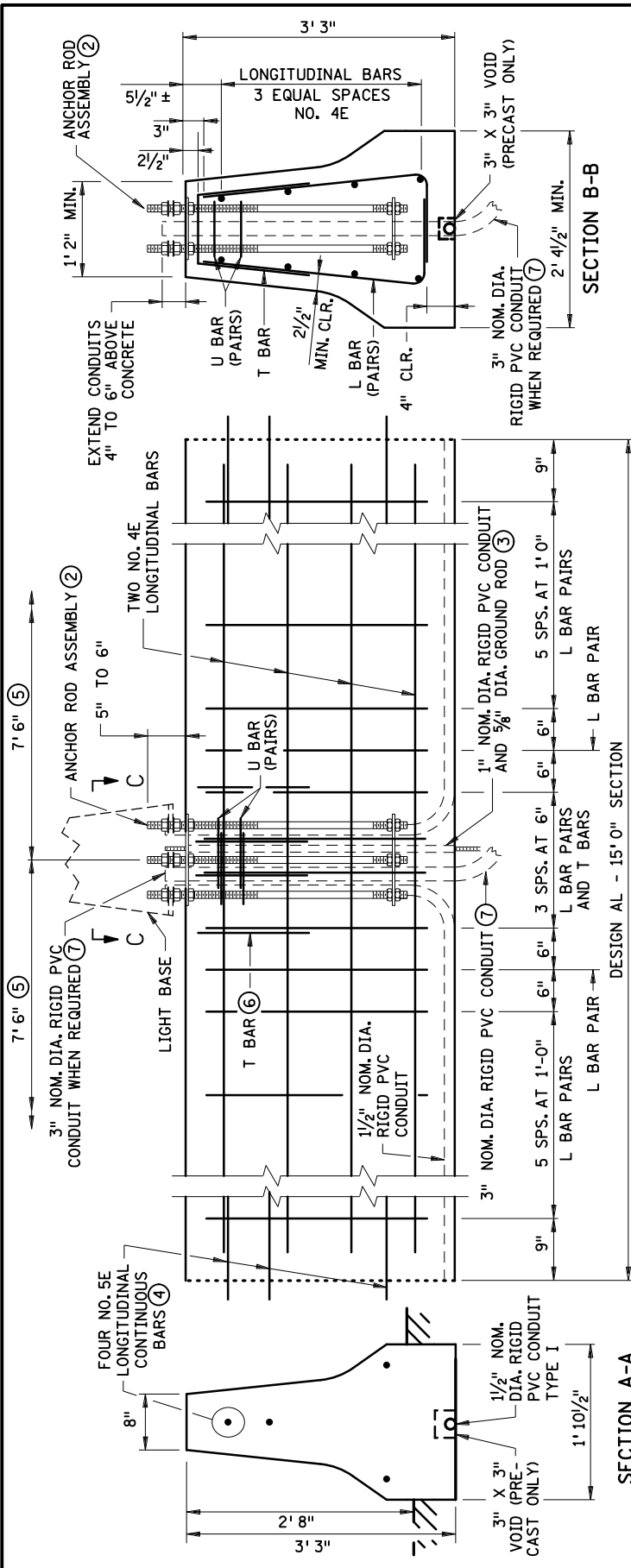
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STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**REINFORCED CONCRETE MEDIAN
 BARRIER TYPE F**
 (NON-GLARE SCREEN TYPE) DESIGN 8308
 GENERAL CONSTRUCTION NOTES & END ANCHORAGE

SPECIFICATION
 REFERENCE
 2533

STANDARD
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- ① FURNISH & INSTALL EPOXY COATED REINF. BARS IN ACCORDANCE WITH 3301.
- ② REFER TO STANDARD PLATE 8332 FOR ANCHOR ROD ASSEMBLY AND TEMPLATE DETAILS.
- ③ FURNISH & INSTALL 5/8" DIA. X 15' 0" LONG GROUND ROD ELECTRODE IN 1" NOM. DIA. RIGID PVC CONDUIT (TOP OF CONDUIT FLUSH WITH TOP OF CONCRETE) OR DIRECTLY IN CONCRETE BARRIER. EXTEND THE GROUND ROD 3" - 4" ABOVE THE TOP OF CONCRETE.
- ④ EXTEND 5 NO. 5E LONGITUDINAL BARS 3' 4" MIN. INTO DESIGN AL SECTION.
- ⑤ DO NOT PLACE CONTRACTION OR OTHER BARRIER JOINTS WITHIN 7' 6" FROM THE CENTER OF THE ANCHOR ROD ASSEMBLY.
- ⑥ PAIR T BARS WITH L BARS AT LIGHT ANCHORAGE.
- ⑦ 3" CONDUIT USED WHEN CABLES ARE CROSSING UNDER THE ROADWAY.

REINFORCEMENT REQUIREMENTS ①			
BAR TYPE	BAR SIZE	BAR LENGTH	NO. PER SECTION
LONGITUDINAL	4E	14' 6"	8
L	4E	3' 6"	36
U	4E	2' 2"	4
T ⑥	4E	3' 9"	4

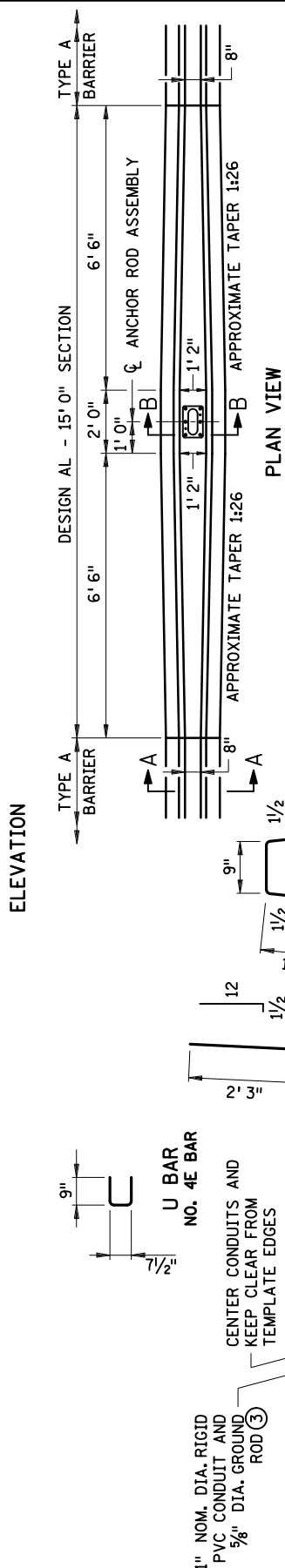
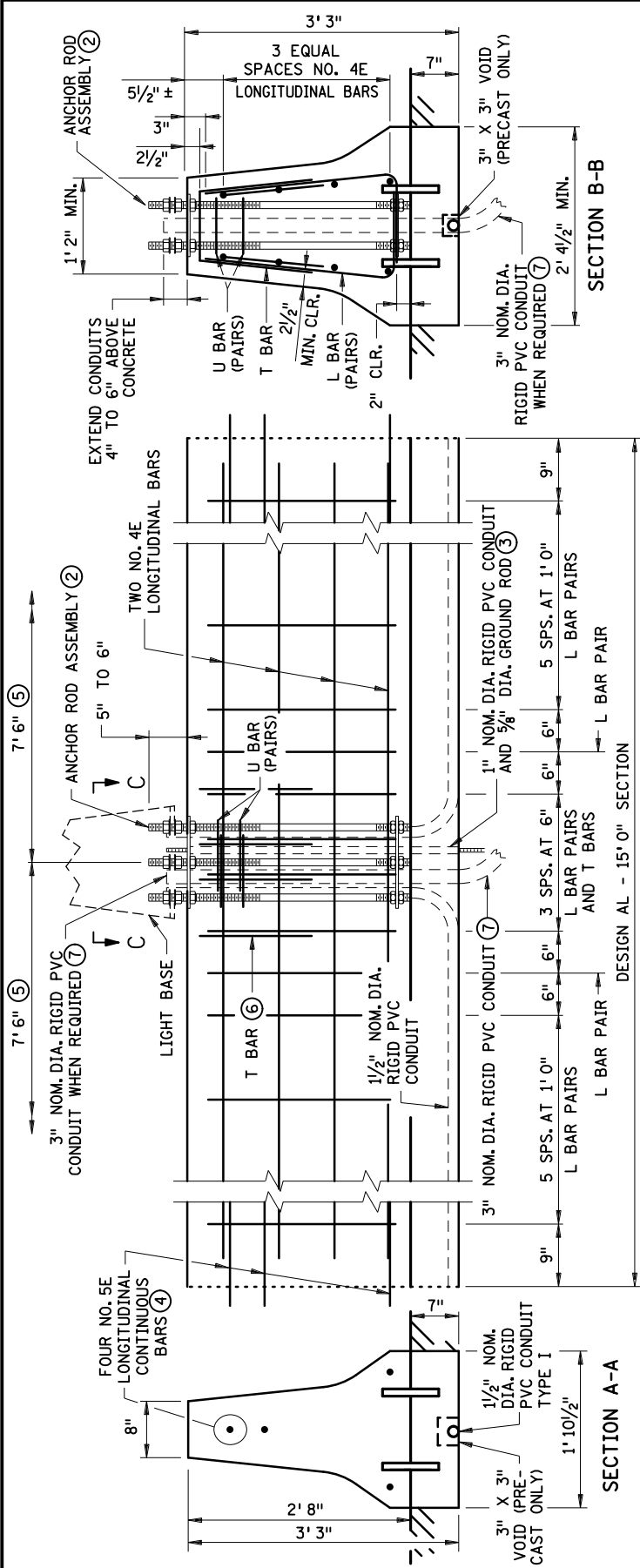
APPROVED APRIL 14, 2020

 STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**REINFORCED CONCRETE MEDIAN
 BARRIER TYPE F**
 (NON-GLARE SCREEN TYPE)
 LIGHT FOUNDATION - MONOLITHIC BARRIER PLACEMENT

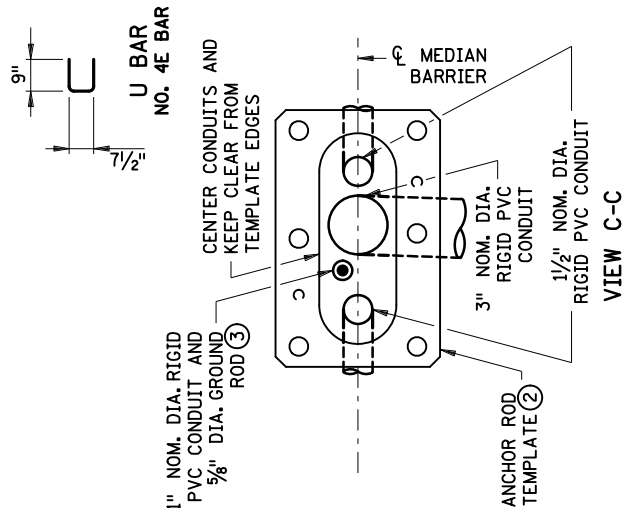
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- ① FURNISH & INSTALL EPOXY-COATED REINFORCEMENT BARS IN ACCORDANCE WITH 3301.
- ② REFER TO STANDARD PLATE 8332 FOR ANCHOR ROD ASSEMBLY AND TEMPLATE
- ③ FURNISH & INSTALL 5/8" DIA. X 15'0" LONG GROUND ROD ELECTRODE IN 1" NOMINAL DIAMETER RIGID PVC CONDUIT (TOP OF CONDUIT FLUSH WITH TOP OF CONCRETE) OR DIRECTLY IN CONCRETE BARRIER. EXTEND THE GROUND ROD 3"-4" ABOVE THE TOP OF CONCRETE.
- ④ EXTEND FIVE NO. 5E LONGITUDINAL BARS 3' 4" MINIMUM INTO DESIGN AL SECTION.
- ⑤ DO NOT PLACE CONTRACTION OR OTHER BARRIER JOINTS WITHIN 7' 6" OF THE CENTER OF THE ANCHOR ROD ASSEMBLY.
- ⑥ PAIR T BARS WITH L BARS AT LIGHT ANCHORAGE.
- ⑦ 3" CONDUIT USED WHEN CABLES ARE CROSSING UNDER THE ROADWAY.

REINFORCEMENT REQUIREMENTS ①			
BAR TYPE	BAR SIZE	BAR LENGTH	NO. PER SECTION
LONGITUDINAL	4E	14' 6"	8
L	4E	3' 1"	36
U	4E	2' 2"	4
T ⑥	4E	3' 9"	4



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STATE DESIGN ENGINEER

STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
**REINFORCED CONCRETE MEDIAN
 BARRIER TYPE F**
 (NON-GLARE SCREEN TYPE)
 LIGHT FOUNDATION - BARRIER ON FOOTING

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