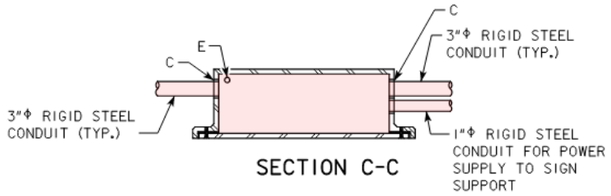
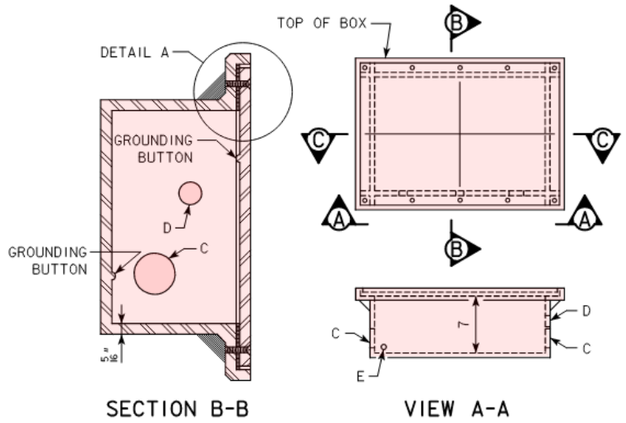


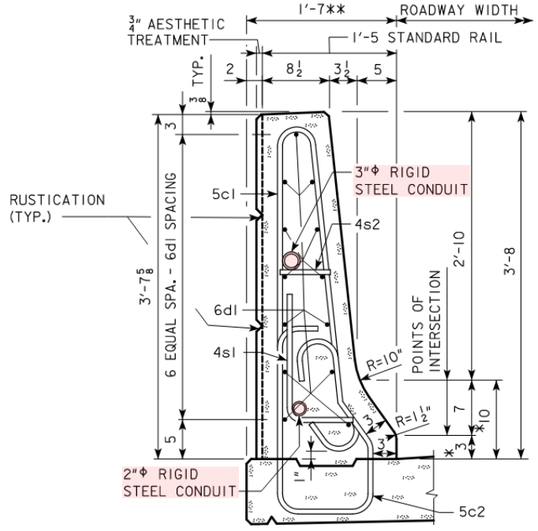
SECTION C-C



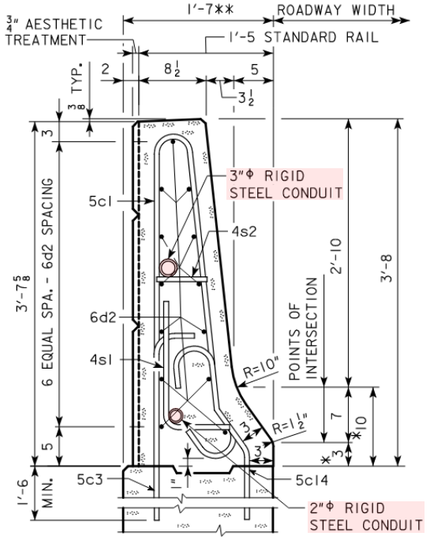
SECTION B-B VIEW A-A

LI-104, TYPE I POWER SUPPLY JUNCTION BOX

WATERTIGHT, CAST IRON - FLUSH MOUNT



PART SECTION C-C



PART SECTION F-F

* DENOTES THE MAXIMUM VALUE FOR THIS DIMENSION. THIS DIMENSION MAY VARY DUE TO CONSTRUCTION INACCURACIES.

BARRIER RAIL NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

THE PERMISSIBLE CONSTRUCTION JOINTS ARE TO BE PLACED BETWEEN VERTICAL BARS AT A MINIMUM SPACING OF 20 FEET. CONSTRUCTION JOINT CONTACT SURFACES ARE TO BE COATED WITH AN APPROVED BOND BREAKER.

COST OF THE JOINT SEALER AND BOND BREAKER SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.

ALL BARRIER RAIL REINFORCING STEEL IS TO BE EITHER EPOXY COATED OR STAINLESS STEEL AS SHOWN. THE STAINLESS STEEL REINFORCING STEEL SHALL BE DEFORMED BAR GRADE 60 MEETING THE REQUIREMENTS OF MATERIALS I.M. 452.

THE CONCRETE BARRIER RAIL IS TO BE BID ON A LINEAL FOOT BASIS. THE NUMBER OF LINEAL FEET OF BARRIER RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT BASED ON PLAN QUANTITIES. PRICE BID FOR "CONCRETE BARRIER RAILING, AESTHETIC" SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EXCLUDING REINFORCING STEEL, AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS. THE RIGID STEEL CONDUIT, JUNCTION BOXES AND FITTINGS INCLUDING LABOR AND ANY ADDITIONAL WORK TO DO THE INSTALLATION IS CONSIDERED INCIDENTAL TO THE COST OF THE RAILING.

THE JOINT SEALER SHALL BE LIGHT GRAY NONSAG LATEX CAULKING SEALER MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED.

TOP OF THE BARRIER RAIL IS TO BE PARALLEL TO THE THEORETICAL ℄ GRADE.

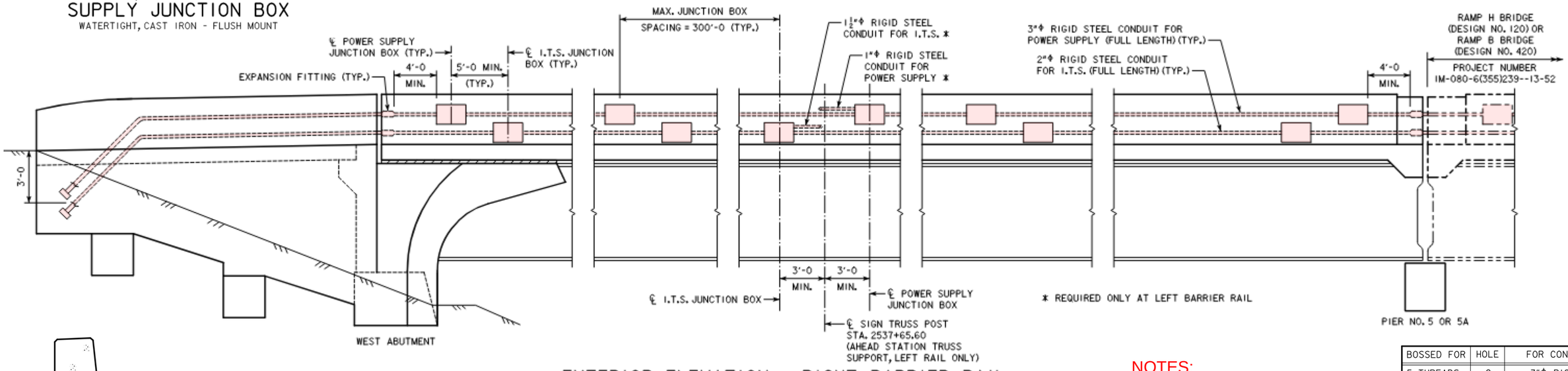
CROSS SECTIONAL AREA OF THE STANDARD SECTION OF THE BARRIER RAIL = 3.46 SQUARE FEET.

THE GALVANIZED STEEL CONDUIT SHALL BE SECURELY TIED AT EVERY 3'-0 INTERSECTION WITH THE 4s1 & 4s2 BARS TO AVOID CONTACT WITH THE STAINLESS STEEL REINFORCING.

** FOR BARRIER RAIL ORIENTATION, SEE "BARRIER RAIL ORIENTATION DETAIL" ON DESIGN SHEET 38.

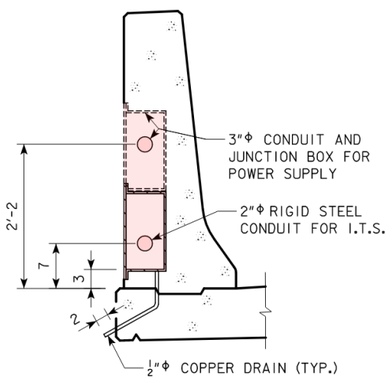
FOR RUSTICATION NOTES, SEE DESIGN SHEET 4.

RUSTICATIONS SHALL EXTEND THE FULL LENGTH OF BRIDGE BARRIER, INCLUDING BARRIER END SECTION. FOR RUSTICATION DETAILS AND "BARRIER AESTHETIC NOTES", SEE DESIGN SHEET 88.

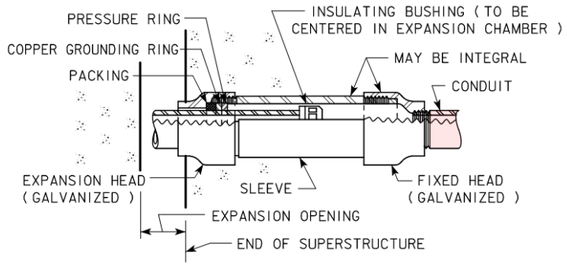


EXTERIOR ELEVATION - RIGHT BARRIER RAIL

(LEFT BARRIER RAIL SIMILAR EXCEPT AS NOTED)



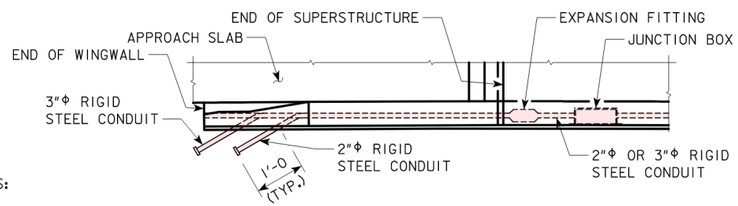
SECTION THRU JUNCTION BOX



EXPANSION CHAMBER LENGTH IS TO ACCOMODATE THE FOLLOWING MOVEMENTS:

- 3" EACH WAY AT WEST ABUTMENT EXPANSION JOINTS (4 REQUIRED)
- 7" EACH WAY AT PIER NOS. 5 AND 5A EXPANSION JOINTS (4 REQUIRED)

EXPANSION FITTING DETAIL



PART PLAN AT WINGWALL

(SOUTH WINGWALL SHOWN, NORTH WINGWALL SIMILAR)

NOTES:

1. For the full plan set and additional structure information, see Br3-Steel and Concrete-Iowa DOT.pdf.

BOSSED FOR	HOLE	FOR CONDUIT SIZE
5 THREADS	C	3"Φ RIGID STEEL
NONE	D	1"Φ RIGID STEEL
NONE	E	1/2"Φ COPPER PIPE

NOTE:
THE GROUNDING BUTTONS ARE TO BE BLIND DRILLED AND TAPPED FOR 3/8"Φ x 0'-0 3/4" BOLTS.

Unit Test Instruction for the Design-to-Construction Data Exchange

BIM FOR BRIDGES AND STRUCTURES TPF-5(372)

HDR jo consulting

No.	Date	Issue / Revision Notes
1	12/14/23	

Unit Test Description: Level 2 Conduits

Drawn By: AMN

Reviewed By:

Unit Test / Sheet No.: L2-Br03-Conduits01 / 01

I.T.S. CONDUIT NOTES:

SEE LI-104 STANDARD ROAD PLAN FOR ADDITIONAL INFORMATION ON JUNCTION BOXES.

I.T.S. CONDUIT SHALL BE LIMITED TO SIX 45° ELBOW BENDS FOR A CABLE PULL FROM HANDHOLE TO HANDHOLE.

RIGID STEEL CONDUIT FOR I.T.S. APPLICATIONS SHALL BE GALVANIZED AND INSTALLED AND PREPARED TO FACILITATE INSTALLATION OF FIBER OPTIC CABLE.

THE MINIMUM INSIDE BEND RADIUS FOR RIGID STEEL CONDUIT USED FOR I.T.S. APPLICATIONS SHALL BE 18".

RIGID STEEL CONDUIT FOR I.T.S. APPLICATIONS SHALL BE CUT AND THREADED TO ELIMINATE EXPOSED THREADS AFTER COMPLETING THE CONNECTIONS; ALL COUPLINGS SHALL BE TIGHTENED UNTIL THE CONDUIT ENDS MEET TO ALLOW A CONTINUOUS INNER SURFACE THROUGHOUT THE ENTIRE LENGTH OF THE CONDUIT RUN. NIPPLES SHOULD BE USED TO ELIMINATE CUTTING AND THREADING SHORT LENGTHS OF CONDUIT.

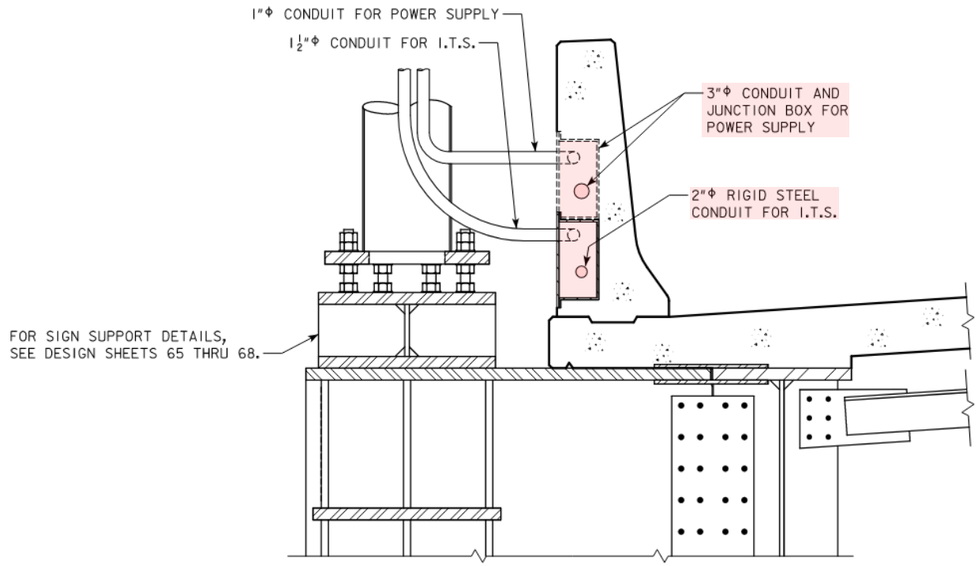
ALL BURRS AND ROUGHENED SURFACES SHALL BE REMOVED FROM CONDUITS AND FITTINGS. ALL CONDUIT RUNS SHALL BE REAMED, CLEANED AND SWABBED FOR INSTALLATION OF FIBER OPTIC CABLE.

ONLY GALVANIZED FITTINGS SHALL BE USED WITH RIGID STEEL CONDUIT. DAMAGED GALVANIZED SURFACES OF RIGID STEEL CONDUIT OR FITTINGS SHALL BE PAINTED WITH AN ACCEPTABLE ZINC-RICH PAINT.

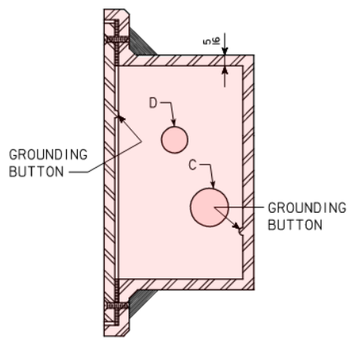
I.T.S. CONDUIT SHALL INCLUDE A POLYPROPYLENE PULL ROPE BETWEEN HANDHOLES WITH A MINIMUM 600 POUND TENSILE STRENGTH.

I.T.S. RIGID STEEL CONDUIT, PULL ROPES AND FITTINGS, INCLUDING LABOR AND ANY ADDITIONAL WORK FOR INSTALLATION IS CONSIDERED INCIDENTAL TO THE COST OF THE RAILING.

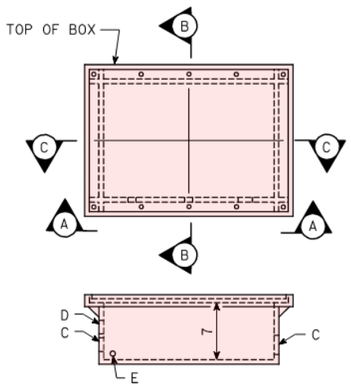
FOR ADDITIONAL NOTES, SEE LIGHTING NOTES ON DESIGN SHEET 89.



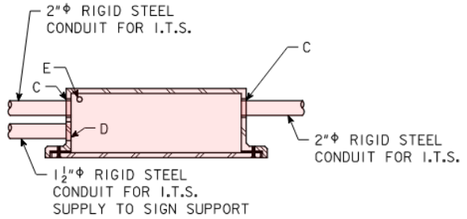
SECTION AT SIGN SUPPORT



SECTION B-B



VIEW A-A



SECTION C-C

BOSSED FOR	HOLE	FOR CONDUIT SIZE
5 THREADS	C	2"Φ RIGID STEEL
NONE	D	1½"Φ RIGID STEEL
NONE	E	½"Φ COPPER PIPE

NOTE:
THE GROUNDING BUTTONS ARE TO BE BLIND DRILLED AND TAPPED FOR ⅜"Φ × 0'-0¾ BOLTS.

LI-104, TYPE I I.T.S. JUNCTION BOX

WATERTIGHT , CAST IRON - FLUSH MOUNT

NOTES:

1.

Unit Test Instruction for the Design-to-Construction Data Exchange

BIM FOR BRIDGES AND STRUCTURES TPF-5(372)

No.	Date	Issue / Revision Notes
1	12/14/23	

HDR jo consulting

Unit Test Description: Level 2 Conduits

Unit Test / Sheet No.: L2-Br03-Conduits01 / 02

Drawn By: AMN

Reviewed By: .