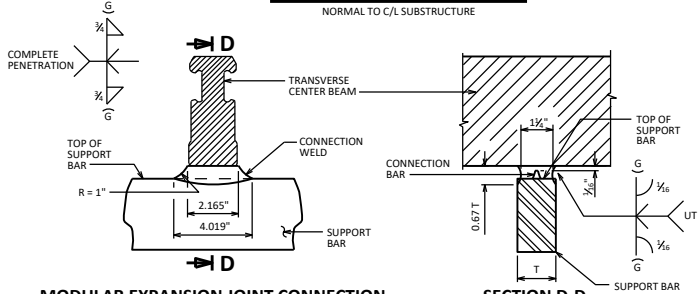
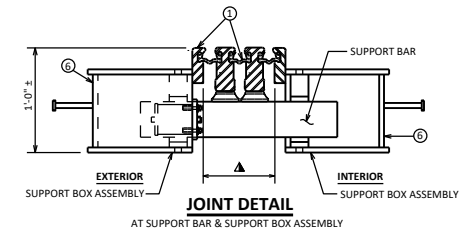


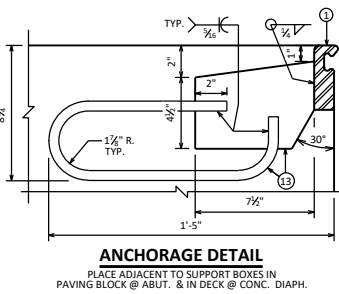
JOINT @ ABUT. (STEEL GIRDERS)
NORMAL TO C/L SUBSTRUCTURE



**MODULAR EXPANSION JOINT CONNECTION
DETAIL AND WELD SPECIFICATION**

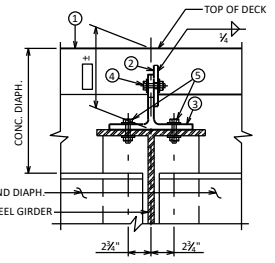


JOINT DETAIL
AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

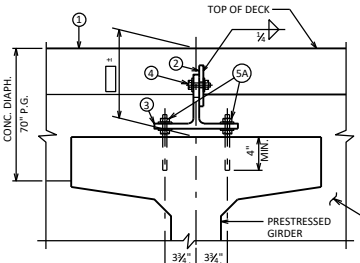


ANCHORAGE DETAIL

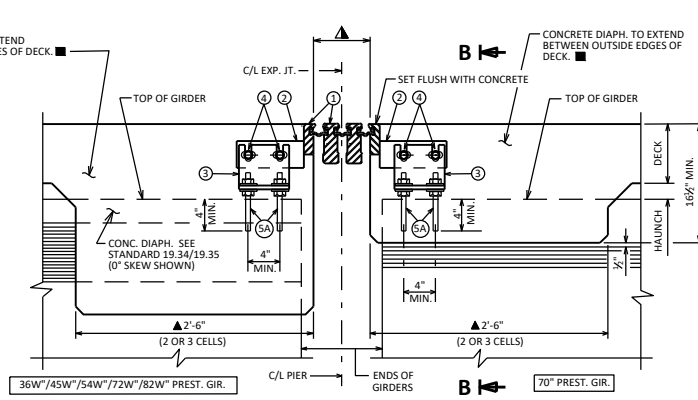
PLACE ADJACENT TO SUPPORT BOXES IN PAVING BLOCK @ ABUT. & IN DECK @ CONC. DIAPH.



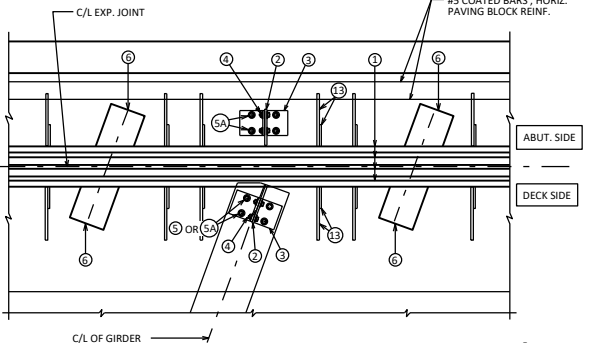
SECTION A-A



SECTION B-B



JOINT @ PIER (PRESTRESSED GIRDERS)
NORMAL TO C/L SUBSTRUCTURE



PART PLAN

NOTE:
MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS.
▲ SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

- LEGEND**
- ① MODULAR EXPANSION JOINT DEVICE, □ CELLS.
 - ② 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
 - ③ WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION), ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLT NO. 4.
 - ④ 1/2" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
 - ⑤ 3/4" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
 - ⑤A 1/2" DIA. THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES (GALV.).
 - ⑥ SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM 1/2" PLATES.
 - ⑦ 1/2" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14 WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE FOR BY PROVIDING OPENING IN NO. 7.
 - ⑧ INSIDE PLATE. FABRICATE FROM 3/8" PLATE.
 - ⑨ OUTSIDE PLATE. FABRICATE FROM 3/8" PLATE.
 - ⑩ 7/8" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
 - ⑪ 1/2" DIA. X 4" LONG STUDS. WELD TO NO. 7, 8, & 14 AS SHOWN.
 - ⑫ 1/2" DIA. X 2" STAINLESS STEEL PLT. CTSK. SLOTTED HEAD CAP SCREWS W/ ANTI-SEIZE LUBRICANT. RECESS 1/4" BELOW PL. SURFACE.
 - ⑬ 1/2" PLATE WITH 1/2" DIA. LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
 - ⑭ INSIDE PLATE. FABRICATE FROM 1/4" PLATE
 - ⑮ ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

- AT LOCATION WHERE EXT. GIR. IS ADJACENT TO A RAISED SIDEWALK (STD 30.07), CONC. DIAPH. DOES NOT EXTEND OUT TO EDGE OF DECK, BUT IS TERMINATED AT INSIDE FACE OF EXT. GIR.
- † #5 COATED BARS, ± 8'-0" LONG, 1'-0" MIN. LAP. CUT IN FIELD TO CLEAR JOINT SUPPORT SYSTEM AS REQ'D.
- * POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONC. IS IN PLACE. STRIKE OFF & LEAVE ROUGH.
- ① DIMENSION IS PARALLEL TO C/L GIRDER.
- ▲ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.
- ★ (Z) COATED L-SHAPED ADHESIVE ANCHORS NO. 5 BAR. EMBED 12" IN CONCRETE. SPACE AT 1'-0". PLACE ADHESIVE ANCHORS AFTER MODULAR JOINT IS IN POSITION.
- TOP FLANGE WIDTH WITHIN LIMITS OF CONC. DIAPH. SHALL BE ≤ 20" FOR SKEWS ≤ 30°
- ▲ FOR PRESTRESSED GIRDERS, PLACE THE FOLLOWING NOTE ON PLANS: "JOINT MANUFACTURER SHALL INFORM AND PROVIDE NECESSARY DETAILS TO THE PRESTRESSED GIRDER FABRICATOR, WHEN FORM-OUT OF THE TOP FLANGE IS REQ'D. TO ALLOW PLACEMENT OF SUPPORT BOX ASSEMBLY."

NOTES

ONE FIELD SPICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.
NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).
THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.


TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:
1. □ IN. OF MOVEMENT PER 10" F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (5° F) TO (85° F) FOR PRESTRESSED CONCRETE GIRDERS AND FROM (-5° F) TO (+95° F) FOR STEEL GIRDERS.
4. ADJUST INITIAL JOINT OPENINGS BY A REDUCTION OF □ IN. WHICH ACCOUNTS FOR SHRINKAGE (CREEP) OF THE SUPERSTRUCTURE OVER TIME, TO PRODUCE FINAL JOINT OPENINGS FOR TABLE.
A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INCLUDE ITEM 4. FOR PRESTRESSED GIRDER STRUCTURES ONLY. SEE CHART, 28 IN BRIDGE DESIGN MANUAL FOR ADJUSTMENT FACTOR.

STANDARD COVERS:
- SKEWS ≤ 30°
- 2 OR 3 CELL MODULAR EXPANSION JOINTS
- STEEL GIRDER BRIDGES
- PRESTRESSED GIRDER BRIDGES (70", 36W", 45W", 54W", 72W" AND 82W" SECTION)

**MODULAR EXPANSION
JOINT DETAILS**



BUREAU OF
STRUCTURES

DATE:
1-23

APPROVED: *Laura Shadewald*

STANDARD 28.03