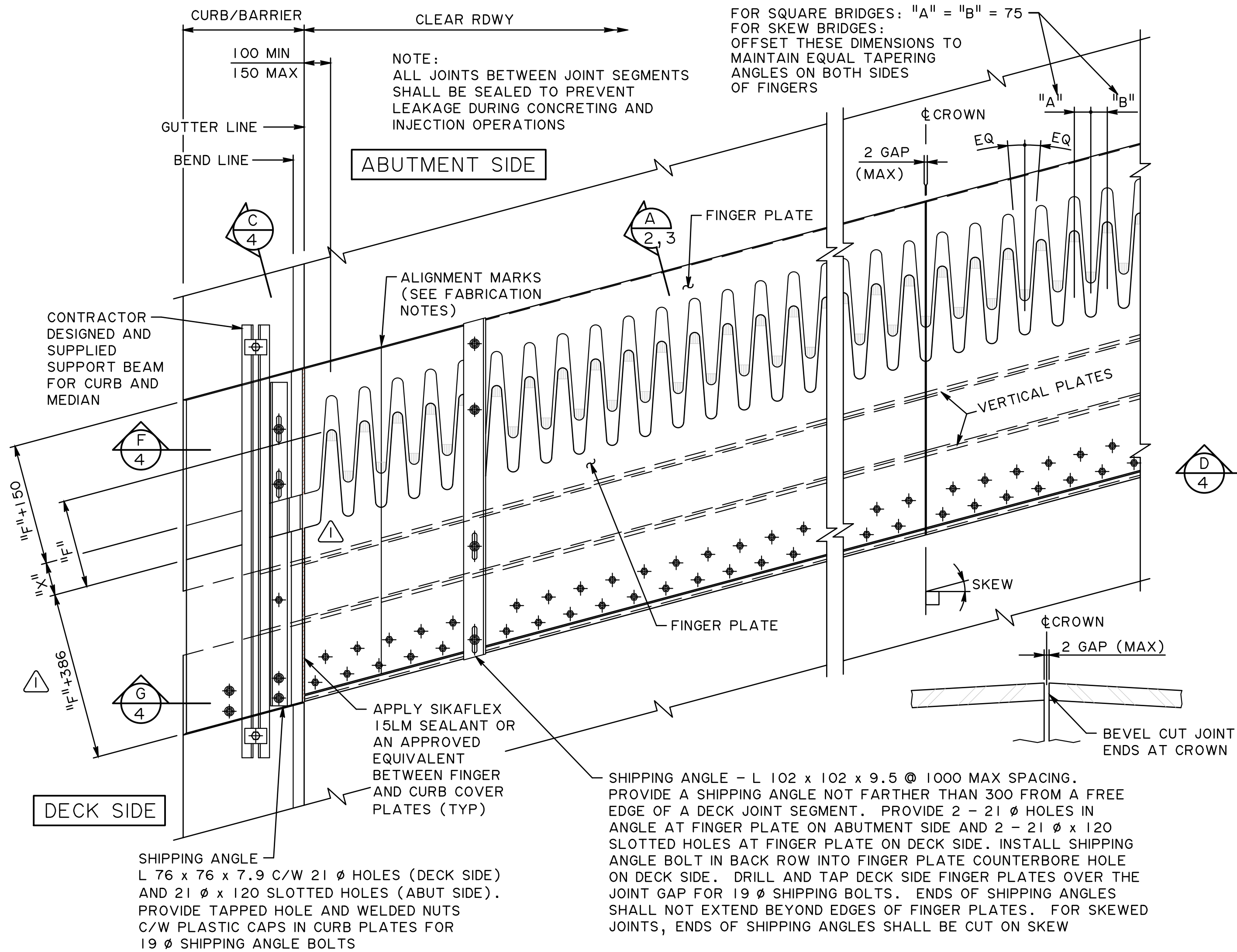
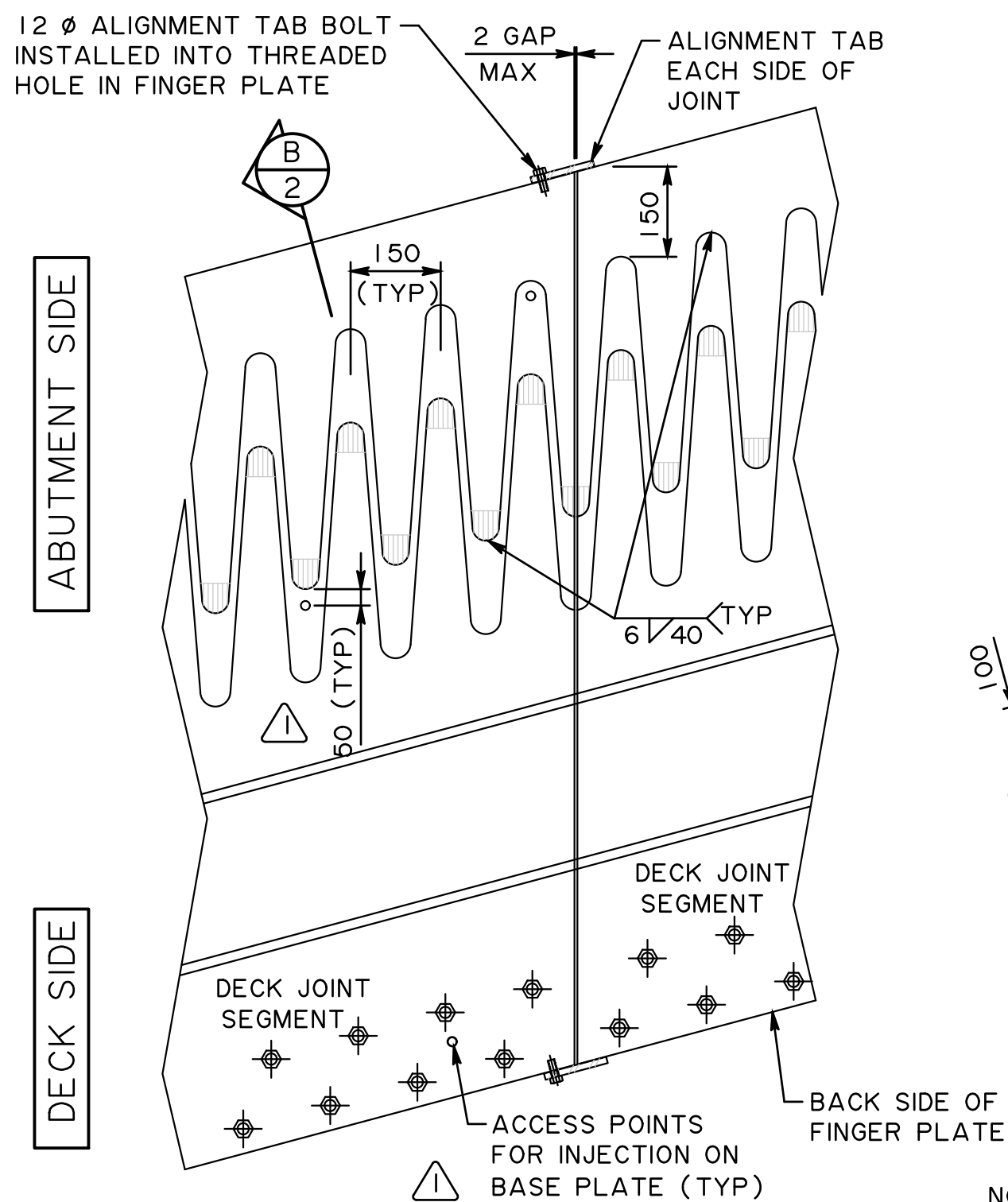




DECK JOINT PLAN

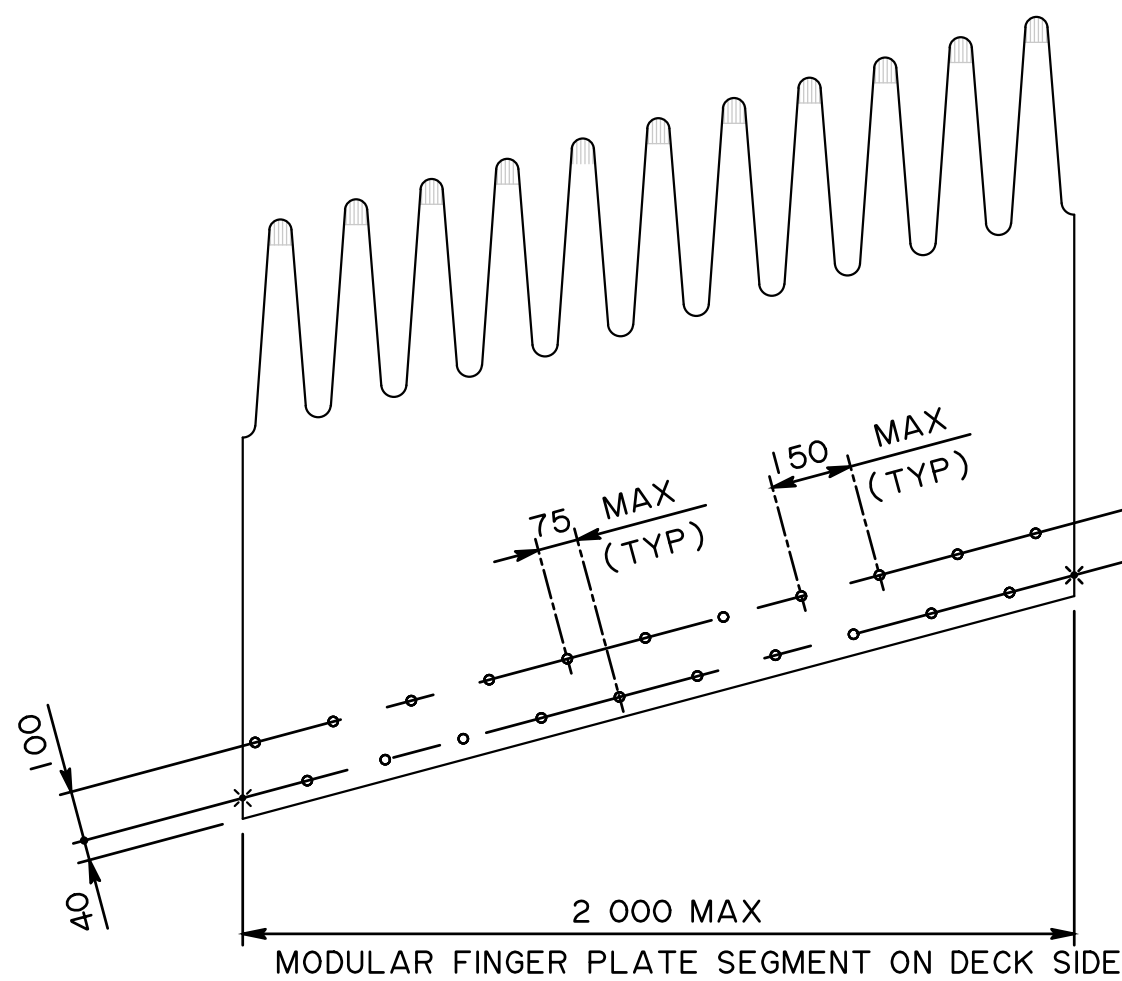
1:15



FIELD BUTT JOINT DETAIL

1:10

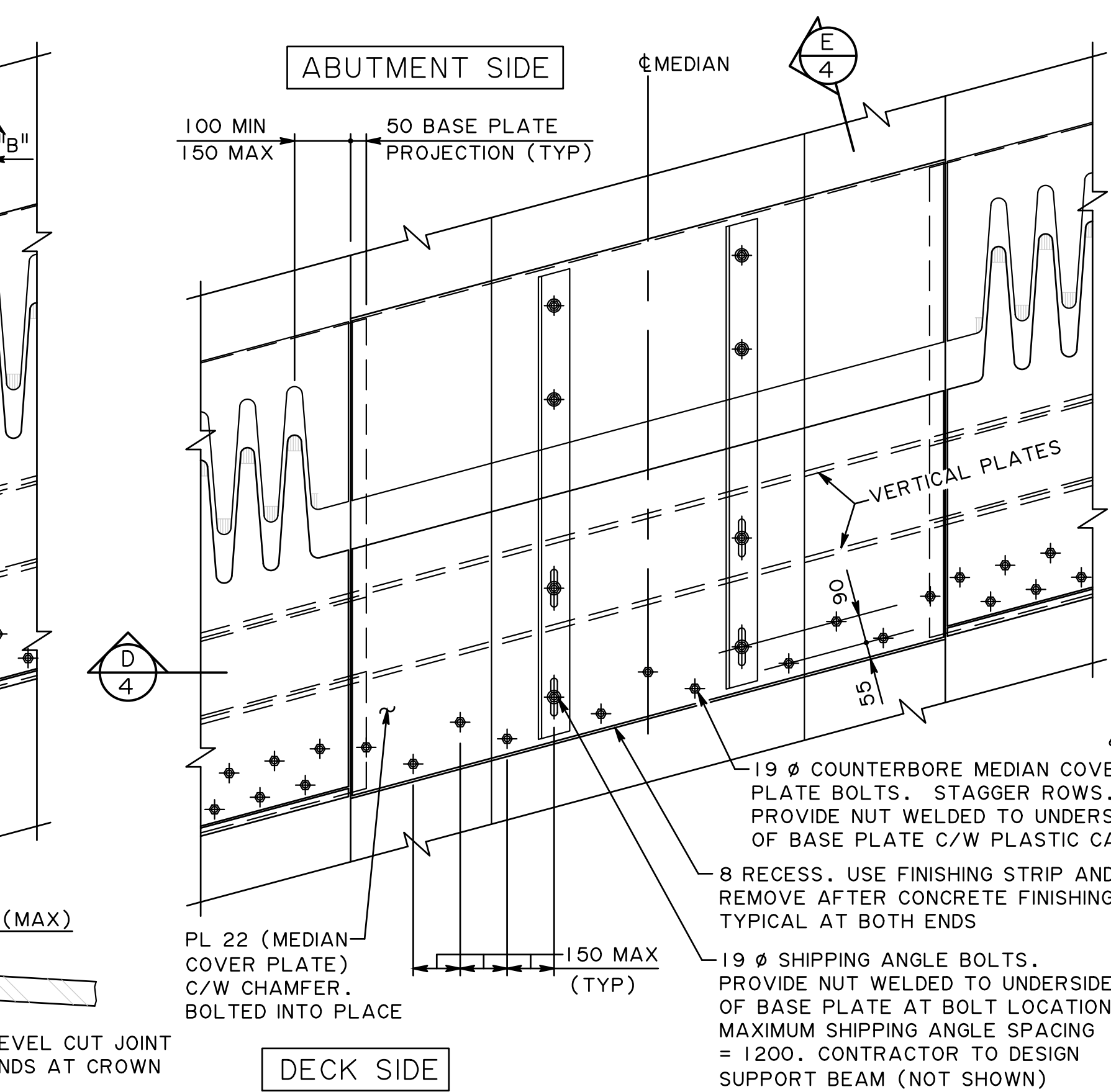
NOTE:
THE DECK JOINT ASSEMBLY SEGMENT WIDTH SHALL BE MINIMUM 4 m AND MAXIMUM 10 m. THE JOINTS BETWEEN SEGMENTS SHALL BE LOCATED AT THE CENTERLINE OF TRAVELED LANE



FINGER PLATE SEGMENT

1:15

NOTE:
THE EDGE OF FINGER PLATE SEGMENTS SHALL BE AT THE CENTERLINE OF TRAVELLED LANE



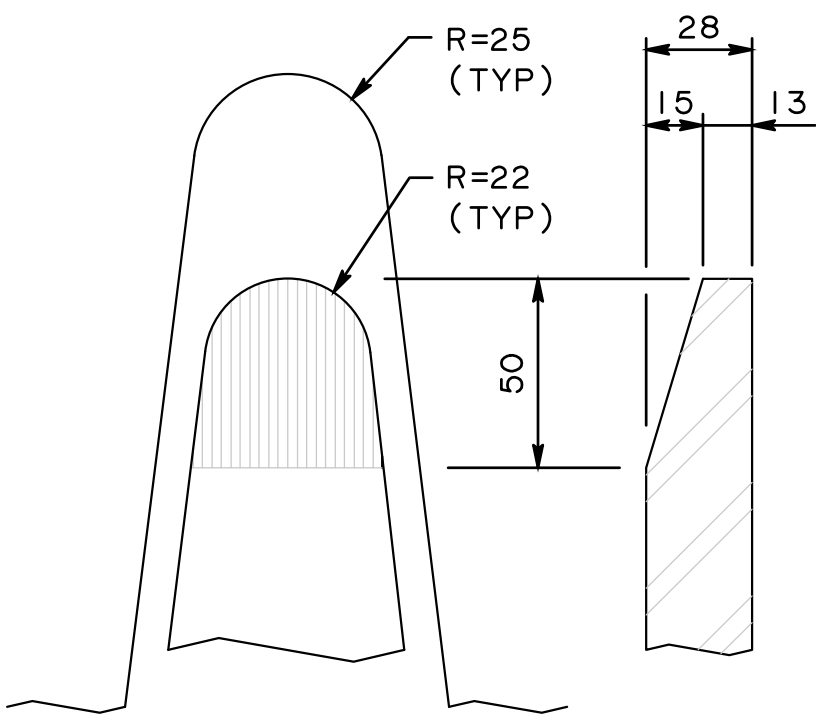
PLAN OF MEDIAN JOINT

1:15

FABRICATION AND CONSTRUCTION TOLERANCES

THE DECK JOINT SHALL MEET THE FOLLOWING TOLERANCES:

- VARIATION OF GAP SETTING "x" SHALL BE WITHIN ± 3 mm BETWEEN CROWN AND GUTTER LINES
- PLATE GAPS BETWEEN FINGER PLATE TIPS AND BASE PLATE:
= 100% OF FINGER TIPS: GAP ≤ 0.4 mm AT HOLD POINT 1
= 100% OF FINGER TIPS: GAP ≤ 1.0 mm AT HOLD POINT 2 AND WITNESS POINTS 1 & 2
- PLATE GAPS BETWEEN FINGER PLATE HEELS AND BASE PLATE:
= 100% OF FINGER HEELS: GAP ≤ 1.0 mm AT HOLD POINT 1
= 100% OF FINGER HEELS: GAP ≤ 2.0 mm AT HOLD POINT 2 AND WITNESS POINTS 1 & 2
- MAXIMUM ALLOWABLE VARIATION FOR FLATNESS OF FINGER PLATES AND BASE PLATES IN THE DIRECTION PARALLEL TO TRAFFIC IS 0.5 mm/m
- OUT-OF-STRAIGHTNESS OF THE DECK JOINT ASSEMBLY BETWEEN THE CROWN AND GUTTER LINES IN THE VERTICAL PLANE SHALL NOT EXCEED 5 mm
- HORIZONTAL SWEEP OF THE DECK JOINT ASSEMBLY BETWEEN THE CROWN AND GUTTER LINES SHALL NOT EXCEED 6 mm
- IN A FULLY CLOSED POSITION, THE FINGERS SHALL HAVE A UNIFORM SIDE GAP TO THE ADJACENT FINGER OF $3 \text{ mm} \pm 1.5$ mm



FINGER BEVEL DETAIL

1:2

GENERAL NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE
- "x" @ $-5^{\circ}\text{C} = (1/2 \text{ CALCULATED MOVEMENT}) + 50 \text{ mm}$
- "F" = $2 ("x" @ -5^{\circ}\text{C}) + 100 \text{ mm}$
- FOR JOINT GAP SETTING TABLE WITH "x" DIMENSIONS AT SPECIFIC GIRDER TEMPERATURES, SEE SITE SPECIFIC DRAWINGS
- ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH SECTION 6 OF THE STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION
- CONSTRUCTION LIVE LOADS USED TO CHECK THE CAPACITY OF THE BLOCKOUT AREA DURING CONSTRUCTION WILL BE SPECIFIED ON THE SITE SPECIFIC DRAWINGS

MATERIALS AND FABRICATION

- ALL STEEL PLATES AND WT STIFFENERS SHALL BE CSA G40.21 GRADE 350A. THE TOP SURFACE OF THE BASE PLATE ON THE DECK SIDE AND THE EXPOSED FACES OF THE VERTICAL PLATES ON THE DECK AND ABUTMENT SIDES SHALL BE METALLIZED WITH A COATING THICKNESS BETWEEN $200 \mu\text{m}$ AND $300 \mu\text{m}$. THE FEEDSTOCK SHALL BE 85/15 Zn/Al ALLOY
- BOLTS SHALL MEET THE REQUIREMENTS OF ASTM F3125 GRADE A325T TYPE 1 HEAVY HEX STYLE AND SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM F2329. NUTS SHALL MEET THE REQUIREMENTS OF ASTM A563M DH3
- STAINLESS STEEL TROUGH, BOLTS, NUTS, WASHERS AND THREADED ADJUSTMENT ANCHOR RODS SHALL BE AISI TYPE 316 (TYPE 316L IF THE STEEL IS TO BE WELDED). STAINLESS STEEL SURFACES SHALL BE SHIPPED WITH A PROTECTIVE FILM TO PREVENT DAMAGE DURING HANDLING AND INSTALLATION. THE PROTECTIVE FILM SHALL BE REMOVED AFTER INSTALLATION
- CURB, MEDIAN AND BARRIER COVER PLATE STEEL SHALL CONFORM TO CSA G40.21 GRADE 300W AND SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123
- FINGER PLATES AND BASE PLATES WITH FLAME CUT EDGES SHALL HAVE A SURFACE ROUGHNESS NOT EXCEEDING $12.5 \mu\text{m Ra}$ IN ACCORDANCE WITH ANSI B46.1
- ALL SHEAR STUDS SHALL CONFORM TO THE CHEMICAL REQUIREMENTS OF ASTM A108 GRADES 1015, 1018 OR 1020. IN ADDITION, THEY SHALL MEET THE MECHANICAL PROPERTIES SPECIFIED IN AWS D1.5M/D1.5 TABLE 7.1 FOR TYPE B STUDS
- FIBRE REINFORCED NEOPRENE SHALL BE "AMERICAN BILTRITE AB 3210 NEO/NYLON" SHEET OR AN APPROVED EQUIVALENT. DRIP SHEET SHALL BE SHOP FABRICATED TO REQUIRED SIZE. BOLT HOLES SHALL BE SHOP DRILLED OR PUNCHED
- ASPHALT IMPREGNATED FIBRE BOARD (AIFB) SHALL MEET THE REQUIREMENTS OF ASTM D1751
- ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.5M/D1.5 - BRIDGE WELDING CODE
- ALIGNMENT MARKS TO BE SCRIBED ACROSS TOP SURFACE OF THE FINGER PLATE SEGMENT AT EACH END PARALLEL TO THE ROADWAY CENTERLINE AFTER THE CONSULTANT HAS REVIEWED AND ACCEPTED THE SHOP ASSEMBLY
- THE GAP "x" SHALL BE SET FOR SHIPPING AT THE ANTICIPATED INSTALLATION TEMPERATURE
- THE GAP BETWEEN THE DECK CONCRETE AND ABUTMENT CONCRETE SHALL BE TEMPORARILY FILLED WITH G-TEC ELASTICIZED EXPANDED POLYSTYRENE (EPS) OR AN APPROVED EQUIVALENT ($15\text{--}30 \text{ kg/m}^3$). GIRDER TEMPERATURE AT THE TIME THAT THE PLUG IS INSERTED SHALL BE CLOSE TO THE MINIMUM ANTICIPATED TEMPERATURE OF THE BRIDGE DURING THE DECK COMPLETION PERIOD. THE EPS PLUG SIZE AND THE INSTALLATION TIMING SHALL BE REVIEWED AND ACCEPTED BY THE CONSULTANT
- THE DECK JOINT SHALL BE FITTED WITH INJECTION HOSES AND FITTINGS PRIOR TO PLACEMENT INTO THE DECK JOINT BLOCKOUT. THE EPOXY INJECTION SYSTEM SHALL BE SELECTED FROM THE MTO DESIGNATED SOURCES FOR MATERIAL (DSM) PUBLICATION #9.40.18. THE EPOXY SHALL BE SIKADUR 673 EPOXY GROUT OR AN APPROVED EQUIVALENT
- THE CONCRETE COLD JOINT SEAL SHALL BE SIKA HYDROTITE CJ-0725-3K OR AN APPROVED EQUIVALENT. THE SEAL SHALL BE INSTALLED WITHOUT ANY BREAKS ACROSS THE FULL WIDTH OF THE BRIDGE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS
- THE GAP BETWEEN THE ACP AND THE DECK SIDE BLOCKOUT CONCRETE SHALL BE SEALED WITH MACSEAL 6690-4 MOD (EXTRA LOW MODULUS) OR AN APPROVED EQUIVALENT
- PLATE GAPS SHALL BE MEASURED AT THE TIPS AND THE HEELS OF THE DECK JOINT FINGER PLATES AT THE FOLLOWING WITNESS AND HOLD POINTS:
 - AFTER COMPLETION OF FABRICATION, BUT BEFORE SHIPPING ANGLES ARE TIGHTENED. PLATE GAP MEASUREMENTS SHALL BE TAKEN AT BOTH THE -5°C AND $+15^{\circ}\text{C}$ DECK JOINT GAP SETTINGS WITH THE JOINT IN A RELAXED CONDITION (HOLD POINT 1)
 - AFTER SITE INSTALLATION OF THE DECK JOINT INTO THE BLOCKOUT WITH SHIPPING ANGLES REMOVED BUT BEFORE ANY CONCRETE IS PLACED (WITNESS POINT 1)
 - AFTER ABUTMENT SIDE BLOCKOUT CONCRETE HAS BEEN PLACED AND HAS ACHIEVED A MINIMUM STRENGTH OF 20 MPa BUT BEFORE CONCRETE IS PLACED INTO THE DECK SIDE BLOCKOUT (WITNESS POINT 2)
 - AFTER COMPLETION OF CURING OF ALL THE DECK JOINT BLOCKOUT CONCRETE, WHEN THE BRIDGE TEMPERATURE AND TEMPERATURE GRADIENT IN THE BRIDGE GIRDERS ARE SIMILAR TO THOSE THAT EXISTED AT WITNESS POINT 2 AND BEFORE EPOXY INJECTION (HOLD POINT 2)
- AT EACH WITNESS POINTS AND HOLD POINTS, WRITTEN ACCEPTANCE OF THE DECK JOINT PLATE GAP MEASUREMENTS SHALL BE PROVIDED BY BOTH THE CONTRACTOR AND CONSULTANT WITHIN THE DECK JOINT ASSEMBLY DELIVERY AND INSTALLATION INSPECTION AND TEST PLAN (ITP)

WORK THESE DRAWINGS TOGETHER: S-1860, S-1861, S-1862, S-1863, S-1864 AND S-1865

5						RECOMMENDED DIRECTOR BRIDGE ENGINEERING ORIGINAL SIGNED BY JOHN ALEXANDER		Alberta Transportation	
4									
3									
2		2023-10-01		COVER PLATE MATERIAL					
1		2021-02-11		GENERAL REVISIONS		MT			
REV		DATE		REVISION		BY			
DESIGNER		ORIGINAL SIGNED BY		MT		CHECKER		ORIGINAL SIGNED BY	
								CM	