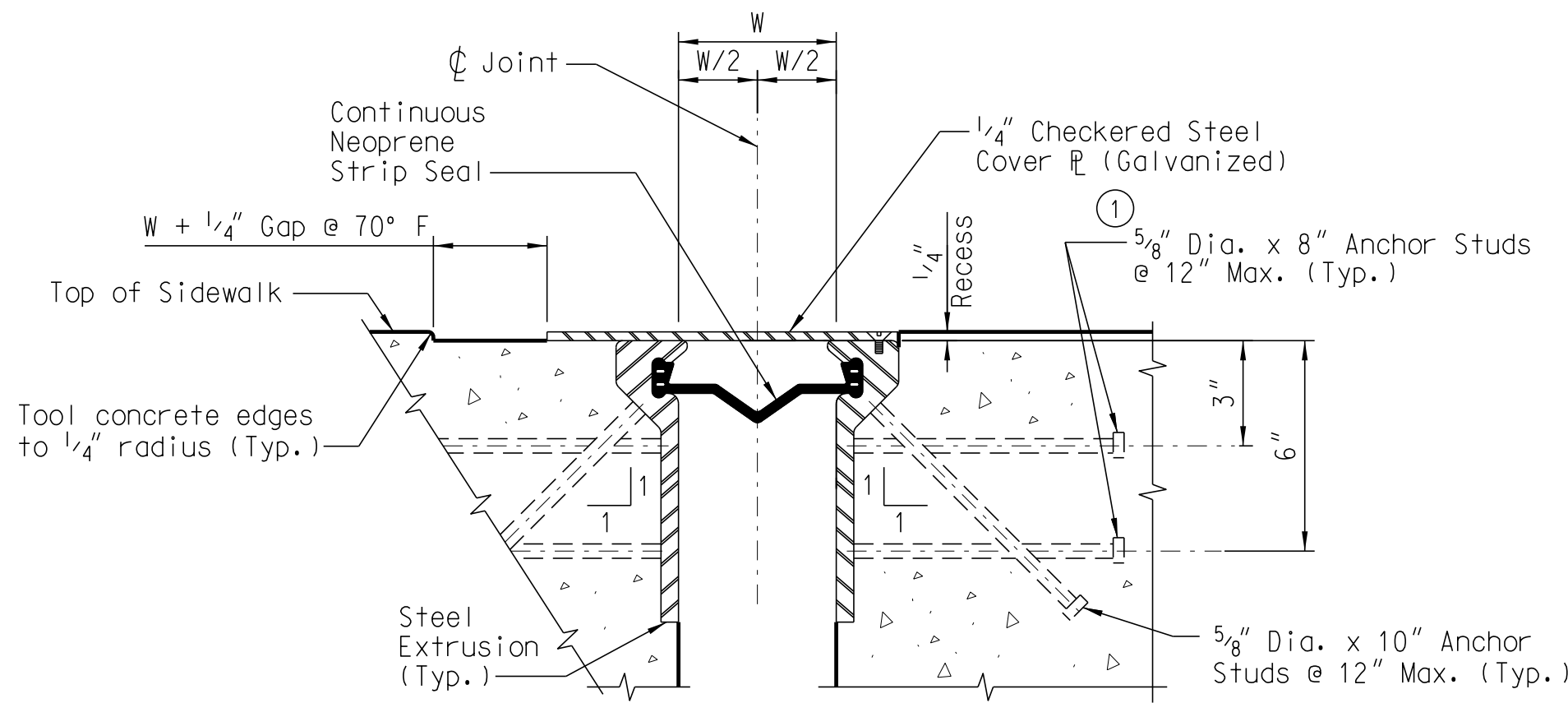
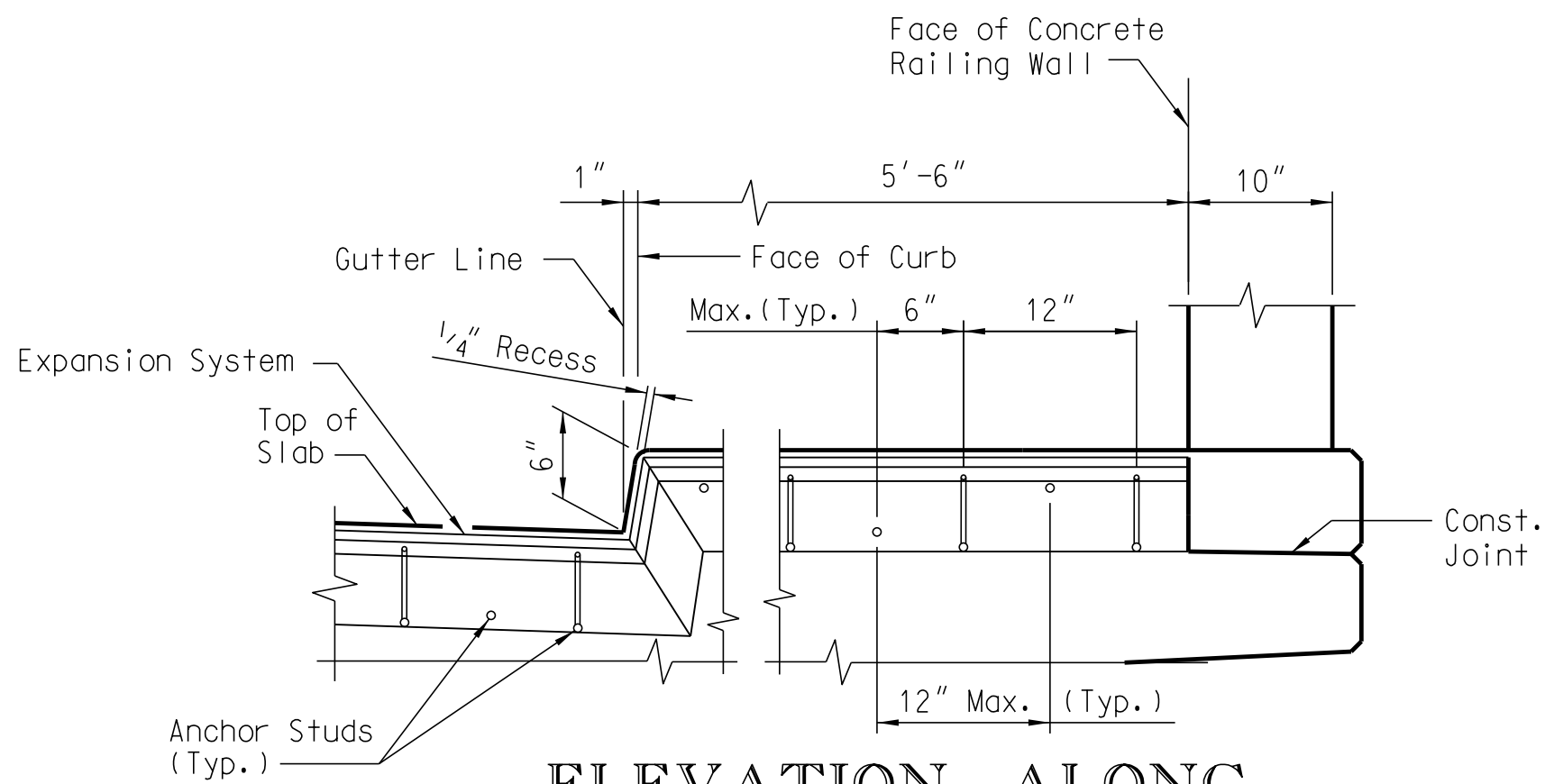


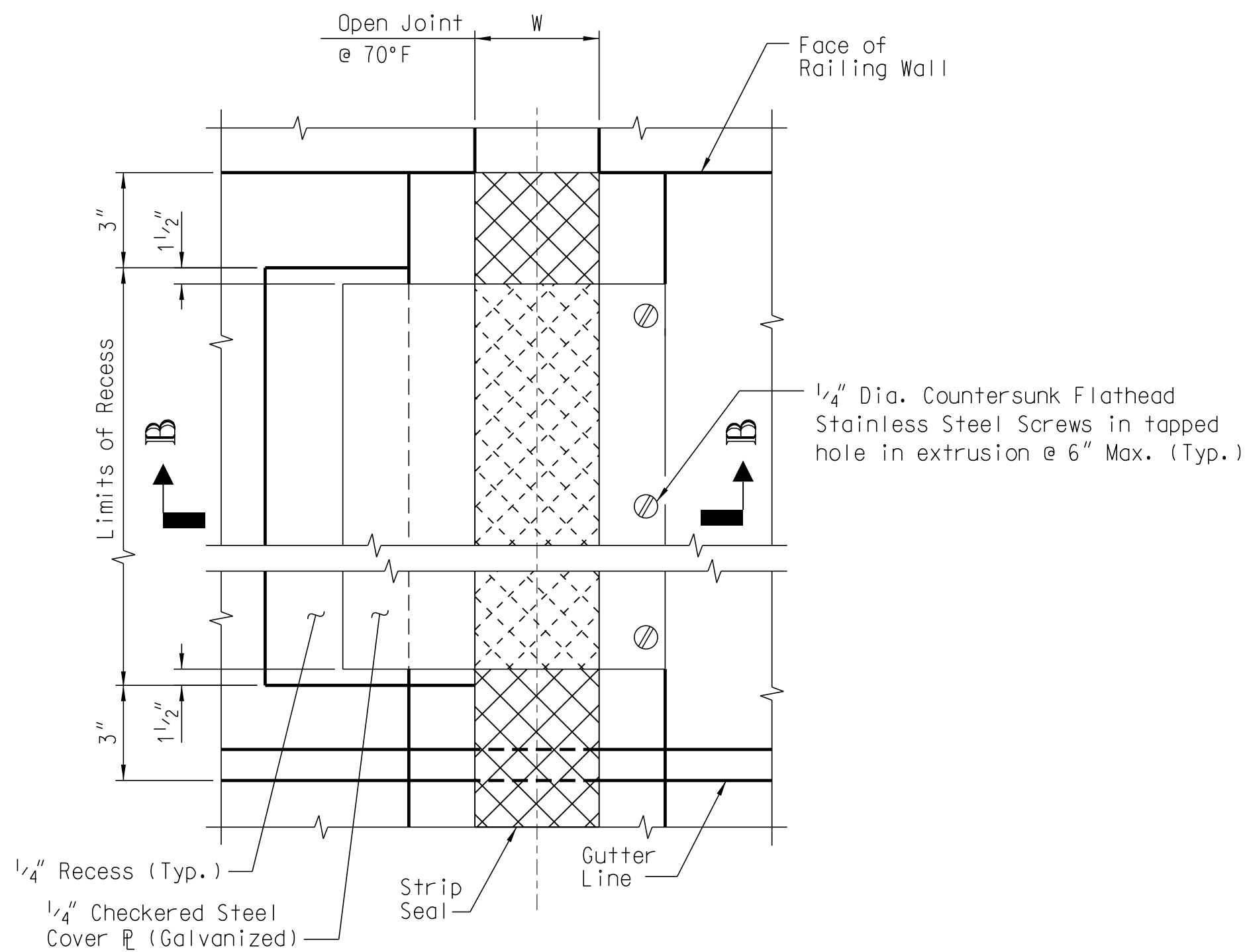
StripSealJt.dgn
Coefficient of Thermal Expansion and Contraction: Concrete Shrinkage Coefficient = 0.0002
Normal Weight Concrete = 0.000006 in/in per °F
Structural Steel = 0.000065 in/in per °F



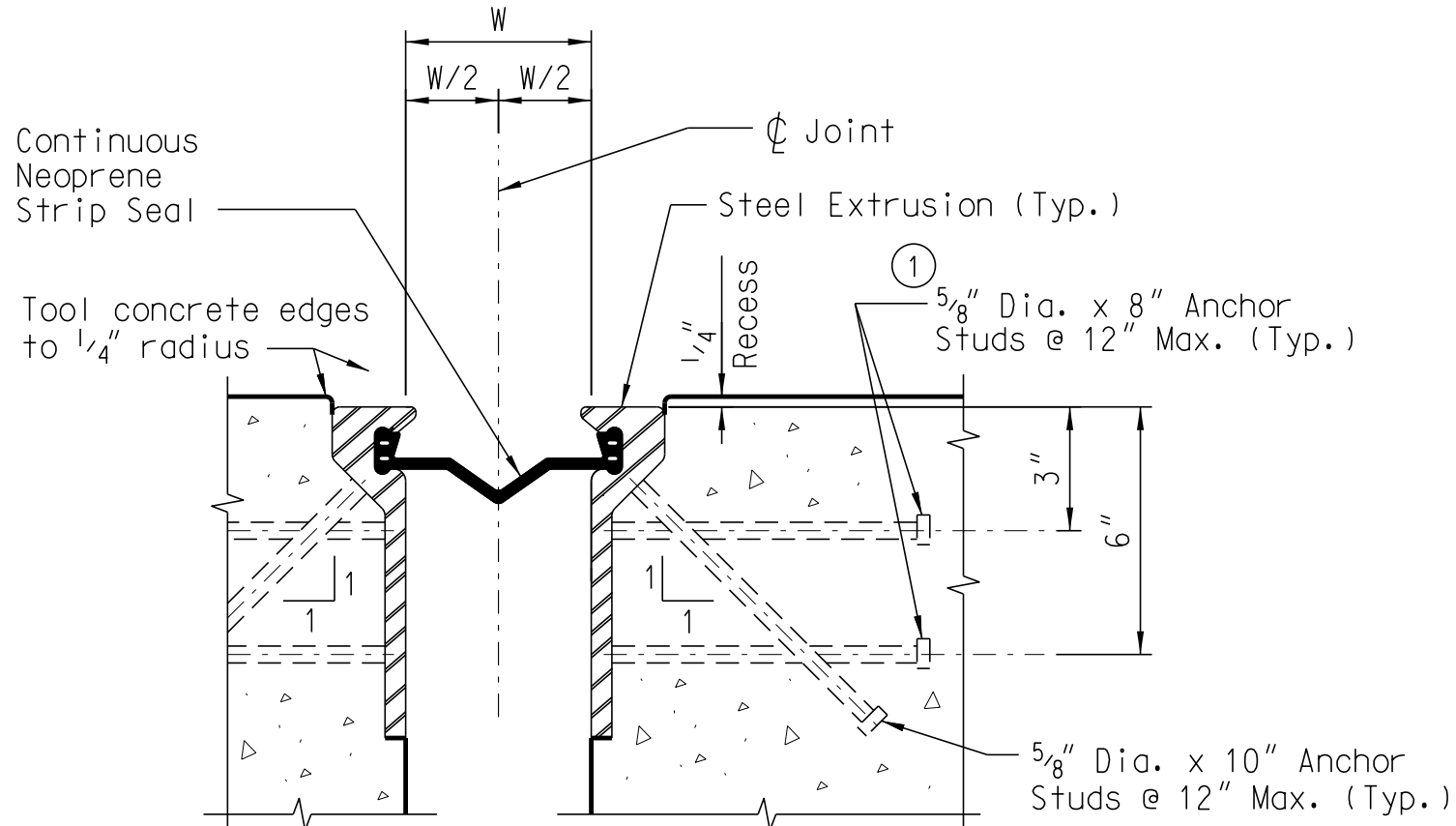
SECTION B-B



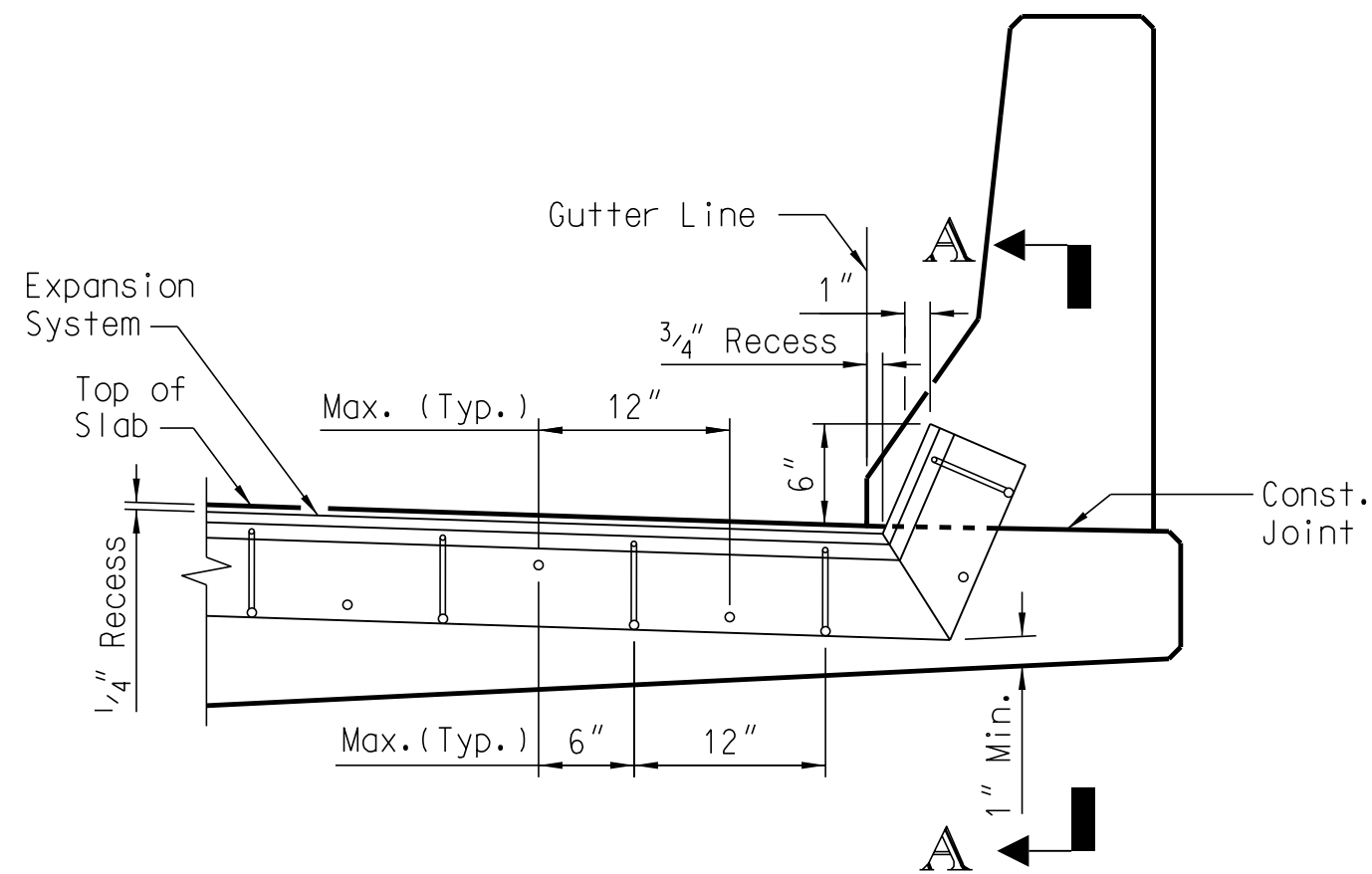
ELEVATION ALONG JOINT AT SIDEWALK



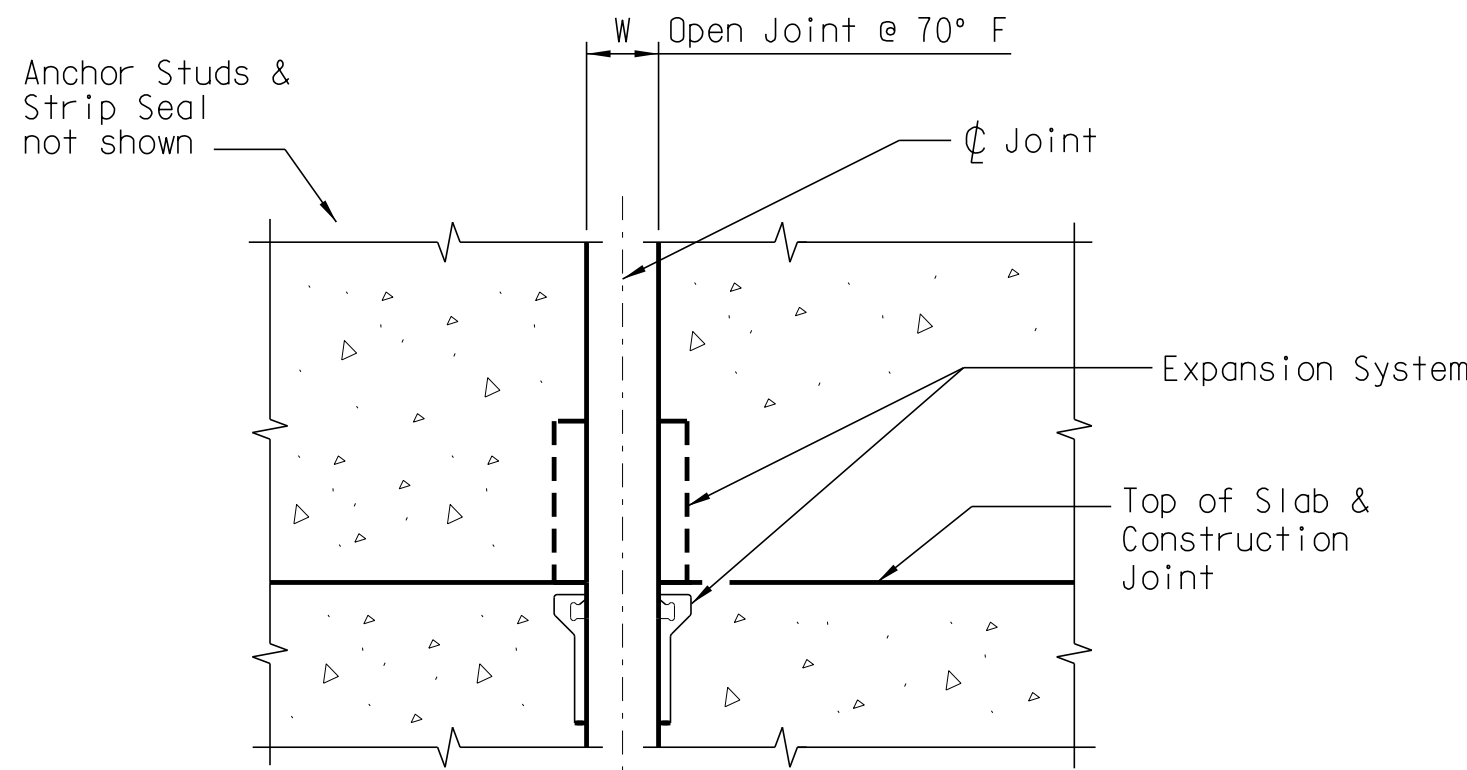
PART PLAN - COVER PLATE AT SIDEWALK



TYPICAL SECTION STRIP SEAL EXPANSION JOINT



ELEVATION ALONG JOINT AT BARRIER PARAPET



SECTION A-A

Notes:

Provide the strip seal expansion joint in accordance with Section 723 of the Standard Specifications.

Provide strip seal joints that conform to the crown of the finished roadway.

Fabricate the steel extrusions in reasonable lengths and connect them at the job site using partial penetration groove welds. Do not weld areas where the extrusion comes in contact with the strip seal. Grind exposed surfaces of weld flush. Complete welding and grinding process prior to installing seals. After field welding is complete, clean and paint damaged areas. Detail field welds and splice locations on Shop Plans. The number of splices must be approved by the RCE.

Submit the installation plan to the RCE for acceptance prior to installation.

Fabricate and construct the strip seal mounting in the barrier so that the strip seal gland may be removed for future maintenance.

Provide 5/8" Dia. headed studs that meet the requirements of Section 709 of the Standard Specifications. Electrically weld all studs.

Field bend slab reinforcing as required to clear anchor studs.

Provide checkered steel cover plate conforming to the latest AASHTO M 270, Grade 36 and galvanize in accordance with AASHTO M 111.

① Alternate location of studs as shown in elevation details.

MOVEMENT TABLE

LOCATION	EXPANSION (THERMAL)	CONTRACTION (THERMAL)	CONTRACTION (SHRINKAGE)	JOINT WIDTH "W" AT 70°F	* TOTAL RATED MOVEMENT	Δ TEMP. ±10°F

* Includes 1" additional allowance.

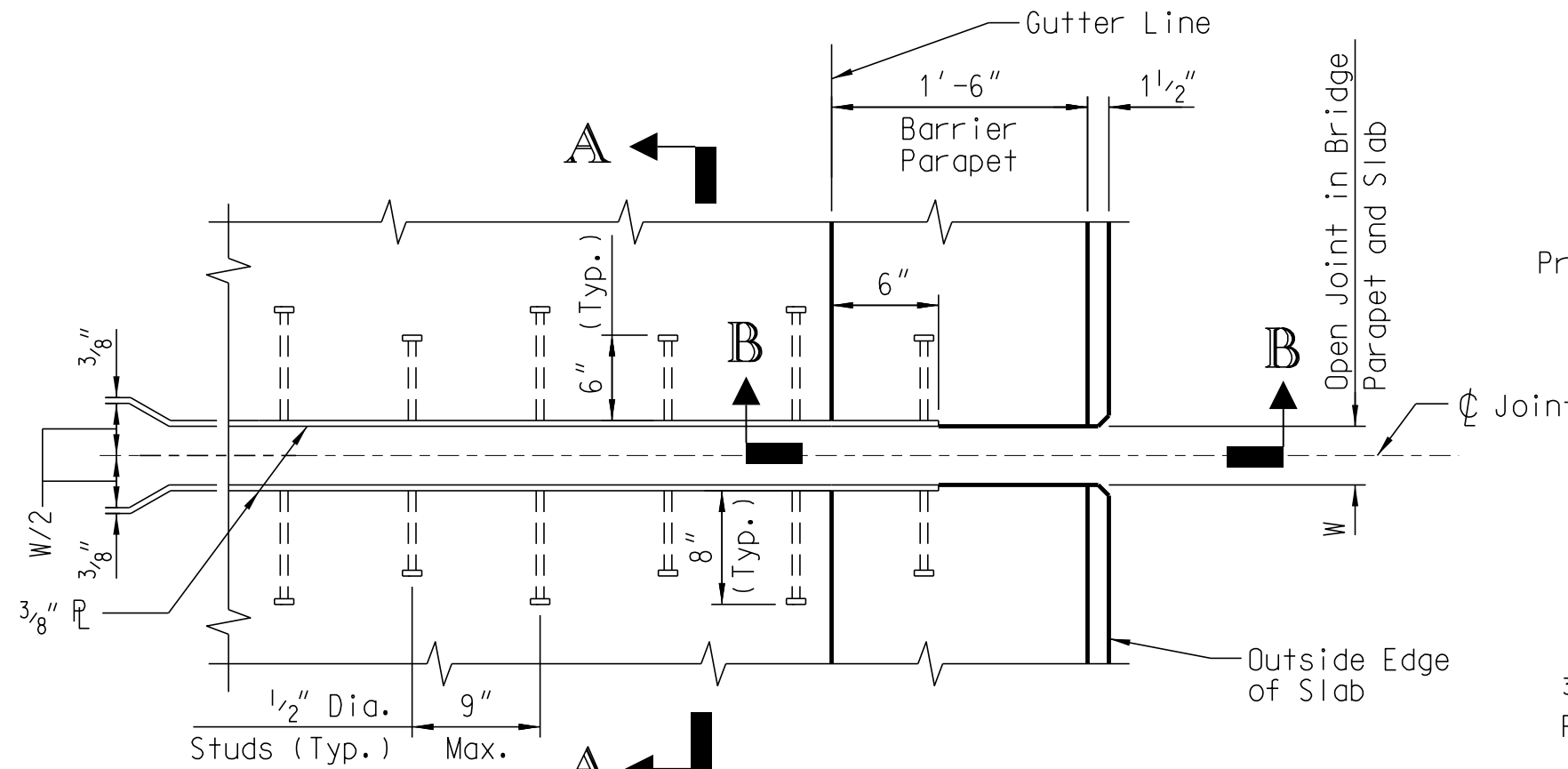
STRIP SEAL EXPANSION JOINT SYSTEMS

MANUFACTURER	DESIGNATION
D.S. Brown Co.	Steelflex L2-XXX with Type SSPA Steel Extrusion
Watson Bowman Acme Corp.	Wabo SE-XXX with Type P Steel Extrusion

Note to Designer:
This drawing furnished for information only. All dimensions shown are sheet specific. Any use of this design and drawing, including dimensions, must be checked by the User's Engineer to ensure design is adequate for the intended use. All drawings must be signed and sealed by a South Carolina Registered Professional Engineer when used.
Designer to fill in Movement Table and fill in appropriate designation of strip seal size.

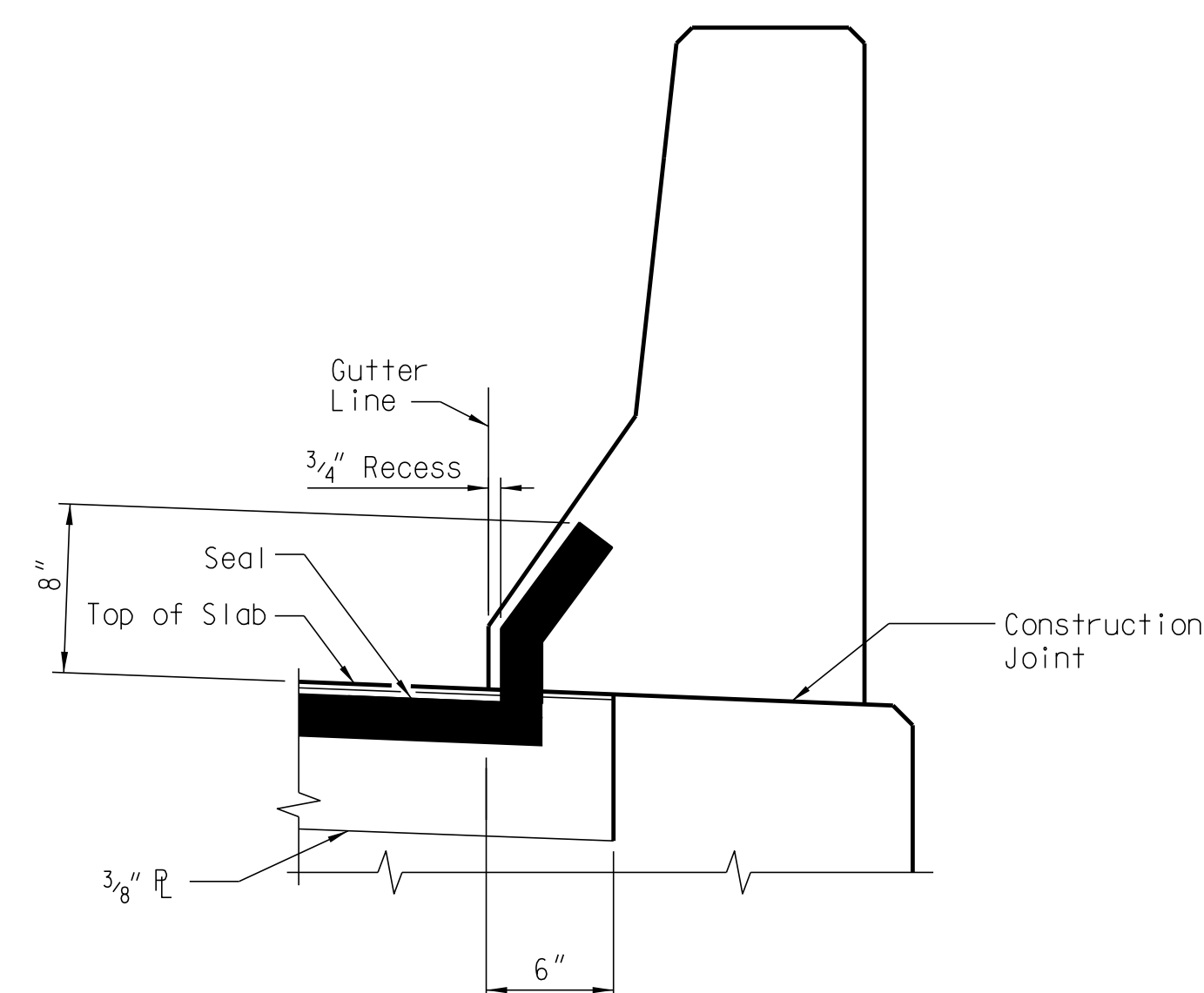
REV.				SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION			
REV.	GAR	JXY	2-16	STRIP SEAL EXPANSION JOINT DETAILS			
	Sidewalk						
REV.	JXY	SAN	3-14				
	New Border						
REVIEWED							
QUAN.							
DR.	PNP	MRW	10-08				
DES.							
BY	CHK.	DATE		COUNTY XXXXXXXX			ROUTE XXXXXX

StripSealJt.dgn
Coefficient of Thermal Expansion and Contraction: Concrete Shrinkage Coefficient = 0.0002
Normal Weight Concrete = 0.00006 in/in per °F
Structural Steel = 0.000065 in/in per °F

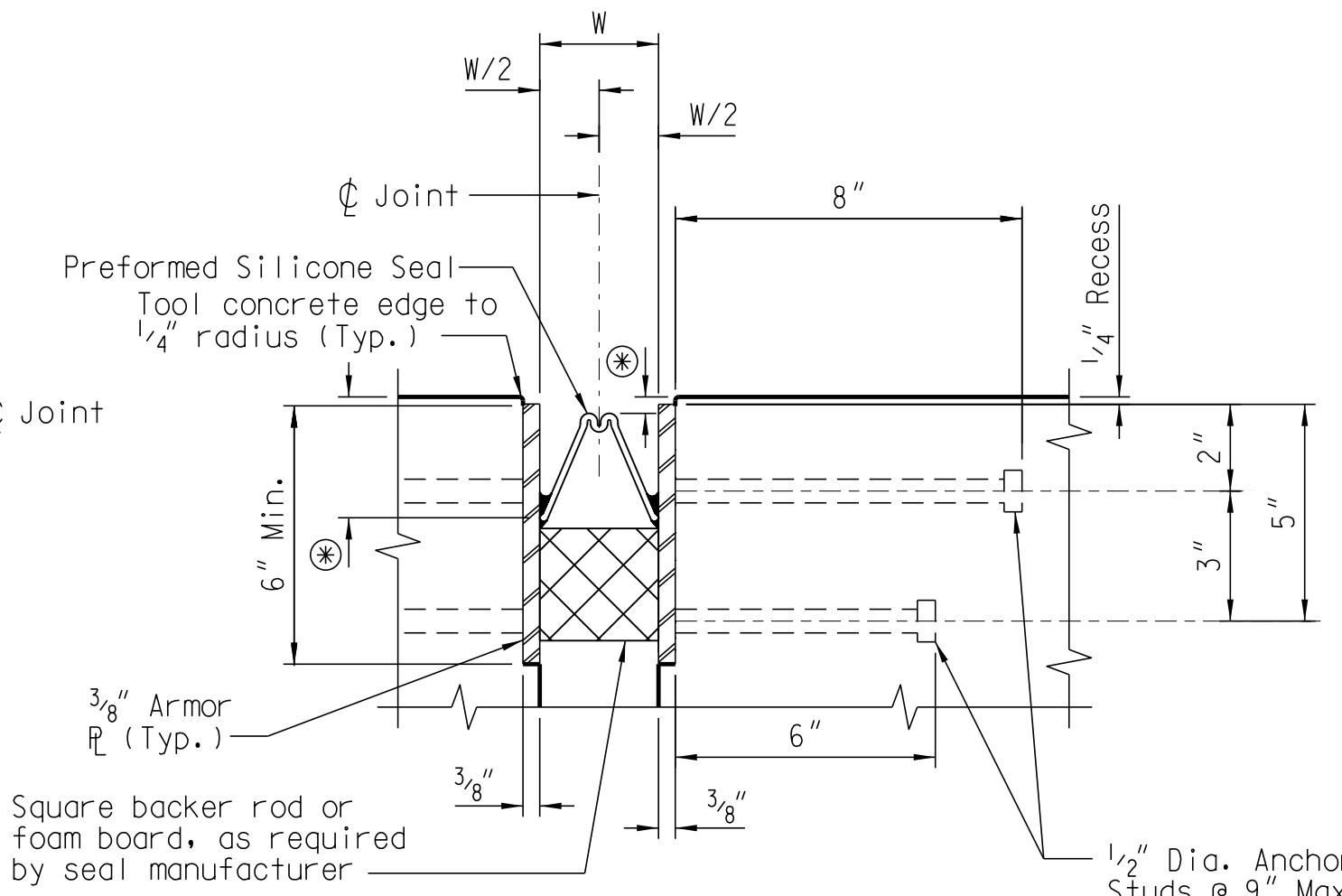


PART PLAN - EXPANSION JOINT

(Seal Not Shown)



SECTION B-B



SECTION A-A

⊗ - depth per manufacturer's instructions

Note to Designer:
This drawing furnished for information only. All dimensions shown are sheet specific. Any use of this design and drawing, including dimensions, must be checked by the User's Engineer to ensure design is adequate for the intended use. All drawings must be signed and sealed by a South Carolina Registered Professional Engineer when used.
This alternate is only acceptable for deck joints having skews less than or equal to the maximum skew as shown in the SEAL SIZING CHART.
★ - Designer to input dimension.
XXX - Designer to input appropriate model number of the seal.
For Bridges with Sidewalk replace Part Plan - Expansion Joint and Section B-B with Alternate Details for Sidewalk, and add Part Plan - Cover Plate at Sidewalk and Section C-C.

Seal Installation:

Do not start installing the seal on the project until a trained factory representative is on the job site to provide direction and assistance throughout the installation work. Notify the joint manufacturer of the scheduled installation a minimum of 2 weeks in advance. The factory representative must be present for the installation of the first seal and succeeding seals until the Contractor becomes proficient in the work as determined by the RCE.

The minimum temperature for installing the seal is 40° F and rising ambient air temperature. Ensure that the joint and seal are completely dry before installing the seal. Do not install seal immediately after precipitation or if precipitation is anticipated for the day. Once work on placing a seal begins, do not stop until it is completed.

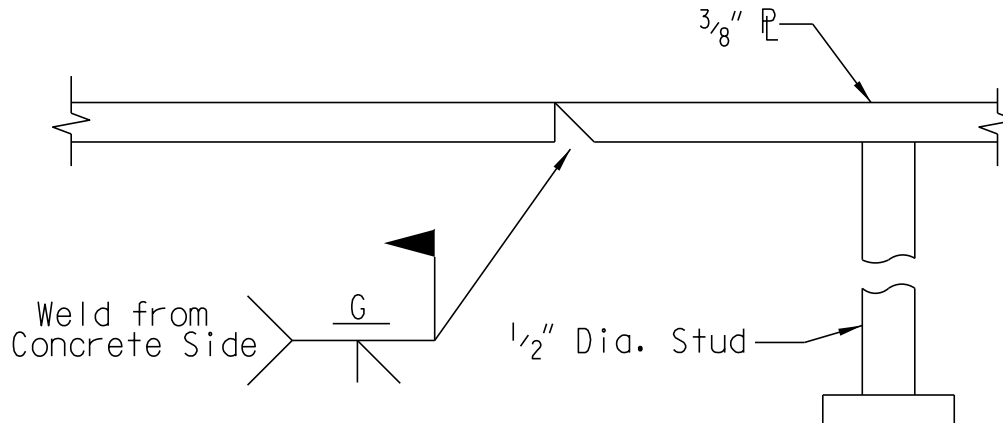
Prior to installation, sandblast the vertical faces of armor plate to a near-white condition. Using oil-free and water-free compressed air, blow joint area clean to remove all sand and debris. Wipe clean armor plate with a cloth saturated in denatured alcohol. Perform any additional cleaning in accordance with the manufacturer's instructions. As required by the manufacturer, use a square backer rod or foam board to temporarily support the seal until the adhesive sets. Ensure the backer rod/foam board is compatible with the adhesive and primer, if required, and is a closed cell, nongassing, polyethylene foam. If primer is recommended or required by the manufacturer, mix and apply the primer to the clean dry joint in accordance with the seal manufacturer's instructions. Permit the primer to dry according to the manufacturer's instructions prior to placing adhesive or seal. Unroll seal and place adjacent to joint opening. Clean the seal with a cloth saturated with solvent approved by the manufacturer. Bond the seal to the cleaned surface on the same day the cleaning is performed.

Apply a minimum 3/8" thick continuous bead of adhesive to the joint in accordance with the manufacturer's instructions.

Insert the seal into the joint in an inverted "V" shape by folding it by hand. Position the seal to the proper depth, per the manufacturer's instructions. Apply a second bead of locking adhesive along each side of the seal to the top of the serrations, and no higher. This second bead of adhesive should be in contact with the seal and the armor plate. Tool the locking adhesive twice to insure complete contact with the vertical edge. Allow 60 minutes to pass before allowing traffic over the joint seal.

Factory vulcanize vertical upturns and directional changes.

Provide a watertight joint and seal. The joint will not be tested, but the RCE will observe the joint condition and performance until final inspection.



FIELD WELD DETAIL

Notes:

Provide one of the preformed silicone joint seals listed below in the PREFORMED SILICONE JOINT SYSTEM table.

Set the nominal joint width, "W" to ★" at 70°F. Use the actual air temperature, measured in the shade and averaged over the preceding 24 hour period, as the setting temperature. At the time of construction, decrease the joint opening by ★" for each 10°F that the setting temperature is above 70°F or increase the joint opening by ★" for each 10°F that the setting temperature is below 70°F.

Ensure three copies of certifications are signed by an authorized agent of the manufacturer or supplier and submitted to the RCE prior to the installation of the seal. The required certifications are a copy of the manufacturer's test reports, or a statement by the supplier accompanied by the test results, certifying that the materials have been sampled, tested and inspected. Failure to provide the required certifications for seals and lubricant/adhesive is grounds for rejection of the materials.

Install seals in accordance with the manufacturer's instructions unless stipulated otherwise in these plans or the Special Provisions.

Provide a watertight seal along the entire length including the ends of the seal.

Adhesives:

Use a one part, medium modulus, silicone sealant that cures quickly and adheres to concrete, steel, and the preformed seal.

Joint Armor:

Provide steel armor plates that conform to the requirements of the latest AASHTO M 270, Grade 50W (ASTM A 709, Gr. 50W) and are of weldable quality.

Provide 3/8" plates that conform to the crown of the finished roadway and have smooth edges. Fabricate the 3/8" plates in reasonable lengths and connect them at the job site using partial penetration groove welds. Grind welds at the exposed surfaces of plates flush. Perform welding of splices prior to bonding seals. If necessary to bolt the 3/8" plates to the forms, provide 3/16" Dia. holes at approximately 2' on center in the lower portion of the plates.

Provide 1/2" Dia. headed studs that meet the requirements of Section 709 of the Standard Specifications. Electrically weld all studs.

Field bend top slab reinforcing as required to clear anchor studs.

Payment:

Payment for the accepted quantity of Deck Joint Strip Seal, measured in accordance with Subsection 723.5 of the Standard Specifications, is determined using the contract unit bid price for the pay item. Payment is full compensation for furnishing and installing the preformed silicone joint system as specified or directed and includes preparing Shop Plans; providing and installing the preformed silicone seal and steel components including welded studs, armor plates, additional armor plate length required to terminate the joint at the face of the parapet, curb or sidewalk parapet, and cover plates; cleaning and preparation of steel components; having manufacturer's representative on site; and all other materials, labor, equipment, tools, supplies, transportation, and incidentals necessary to fulfill the requirements of the pay item in accordance with the Plans, the Specifications, and other terms of the Contract. Payment includes all direct and indirect costs and expenses necessary to complete the work.

Provide seal that complies with the requirements in the Table below.

TEST	TEST METHOD	REQUIREMENT
Durometer (Shore A)	ASTM D 2240	55 ± 5
Tensile	ASTM D 412	1000 psi Min.
Elongation (%)	ASTM D 412	400 % Min.
Tear (Die B lb/in)	ASTM D 624	100 lb/in Min.
Compression Set	ASTM D 395	30 % Max. at 350°F/22 hrs.
Operating Temperature Range		-55°F to 350°F
Color		Black or Gray

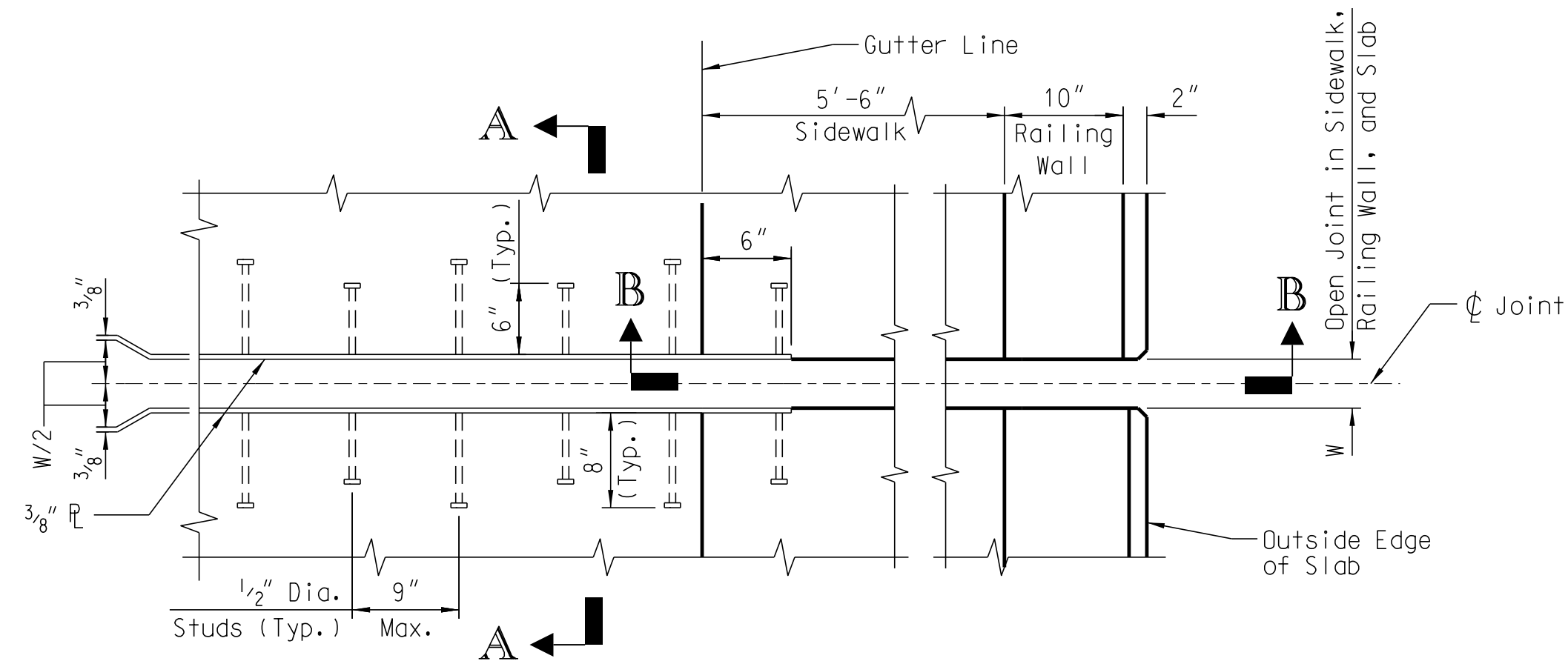
Provide adhesive that complies with the requirements in the Table below.

TEST	TEST METHOD	REQUIREMENT
Sag/Flow	ASTM C 639	3/16" Max.
Elongation	ASTM D 412	450%
Tack-Free Time	ASTM C 679	30 min. Max.
Cure Through to 1/4" Thickness at 75°F/50% RH	ASTM C 679	24 hrs. Max.
Resistance to UV	ASTM C 793	No Cracking, Ozone Chalking, or Degradation.
Tensile Strength	ASTM D 412	200 psi Min.
Color		Black or Gray

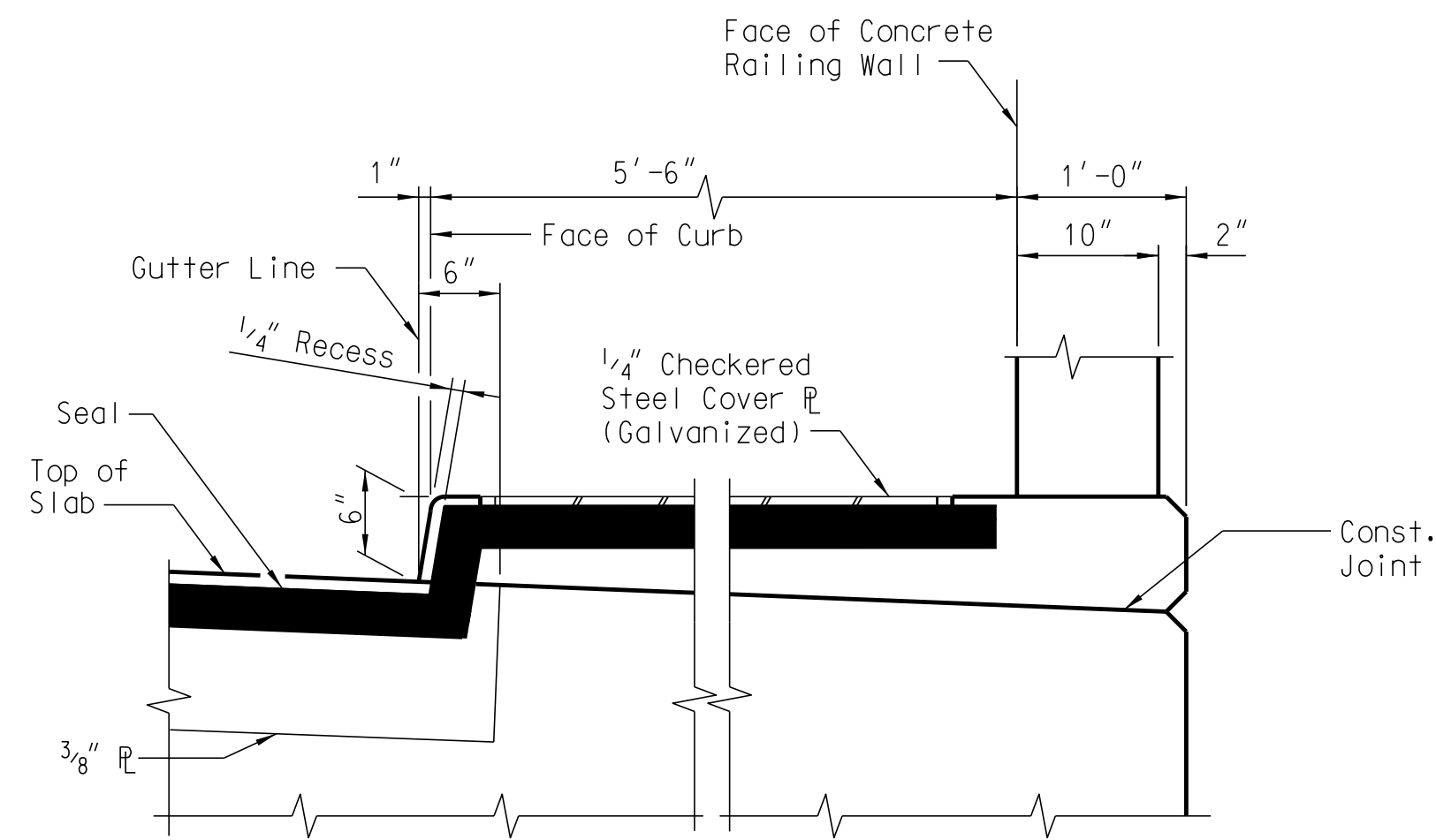
At the Contractor's option a preformed silicone joint system, in accordance with the details shown on this drawing, may be used in place of the deck joint strip seal system detailed on Sh. XX.

REV.				SOUTH CAROLINA				
	JXY	SAN	3-14	DEPARTMENT OF TRANSPORTATION				
REV.	New Border			PREFORMED SILICONE JOINT SYSTEM ALTERNATE				
	JXY	BMH	12-13					
REV.	Testing Req.							
REVIEWED								
QUAN.								
DR.	MRW	SAN	6-09					
DES.								
	BY	CHK.	DATE	COUNTY XXXXXXXXXX			ROUTE XXXXXX	

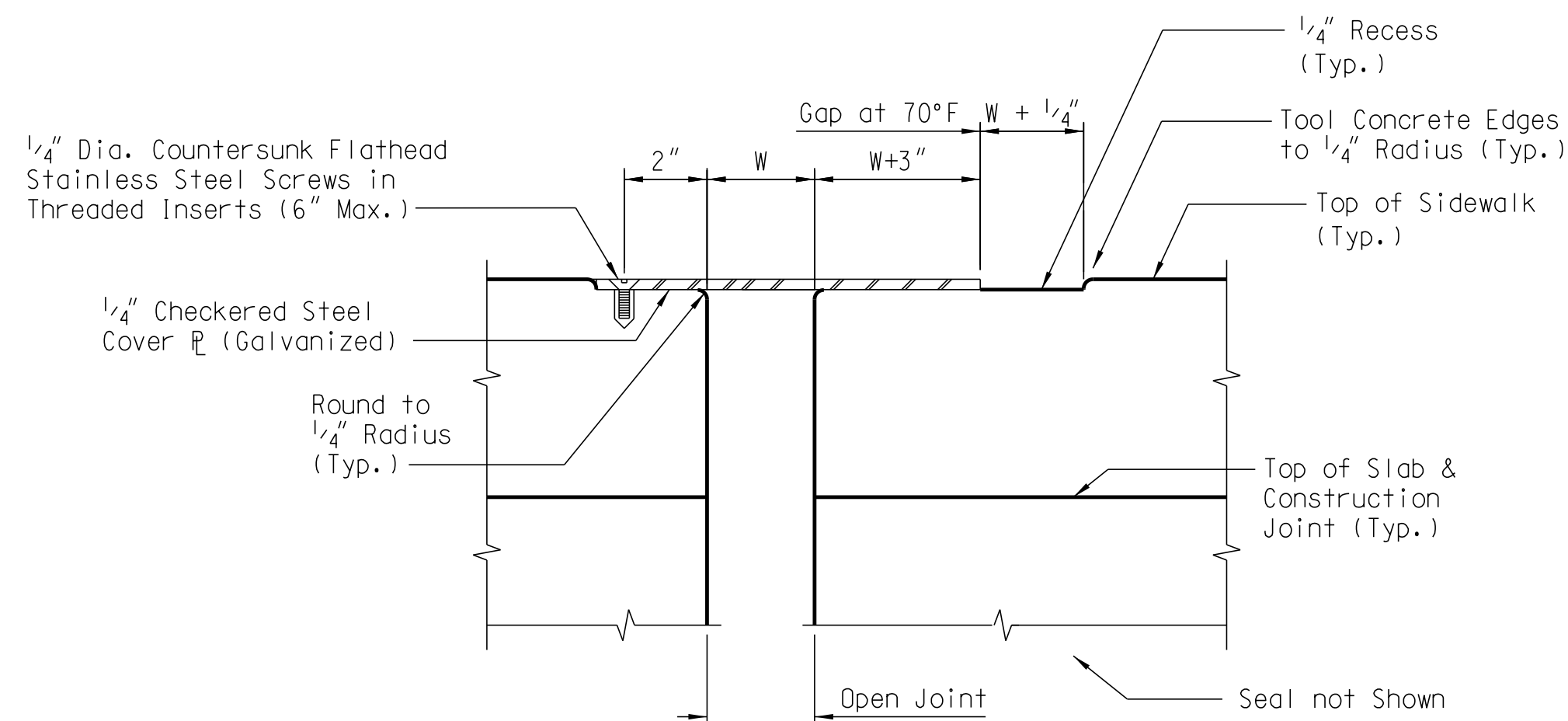
PREFORMED SILICONE JOINT DETAILS FOR SIDEWALK



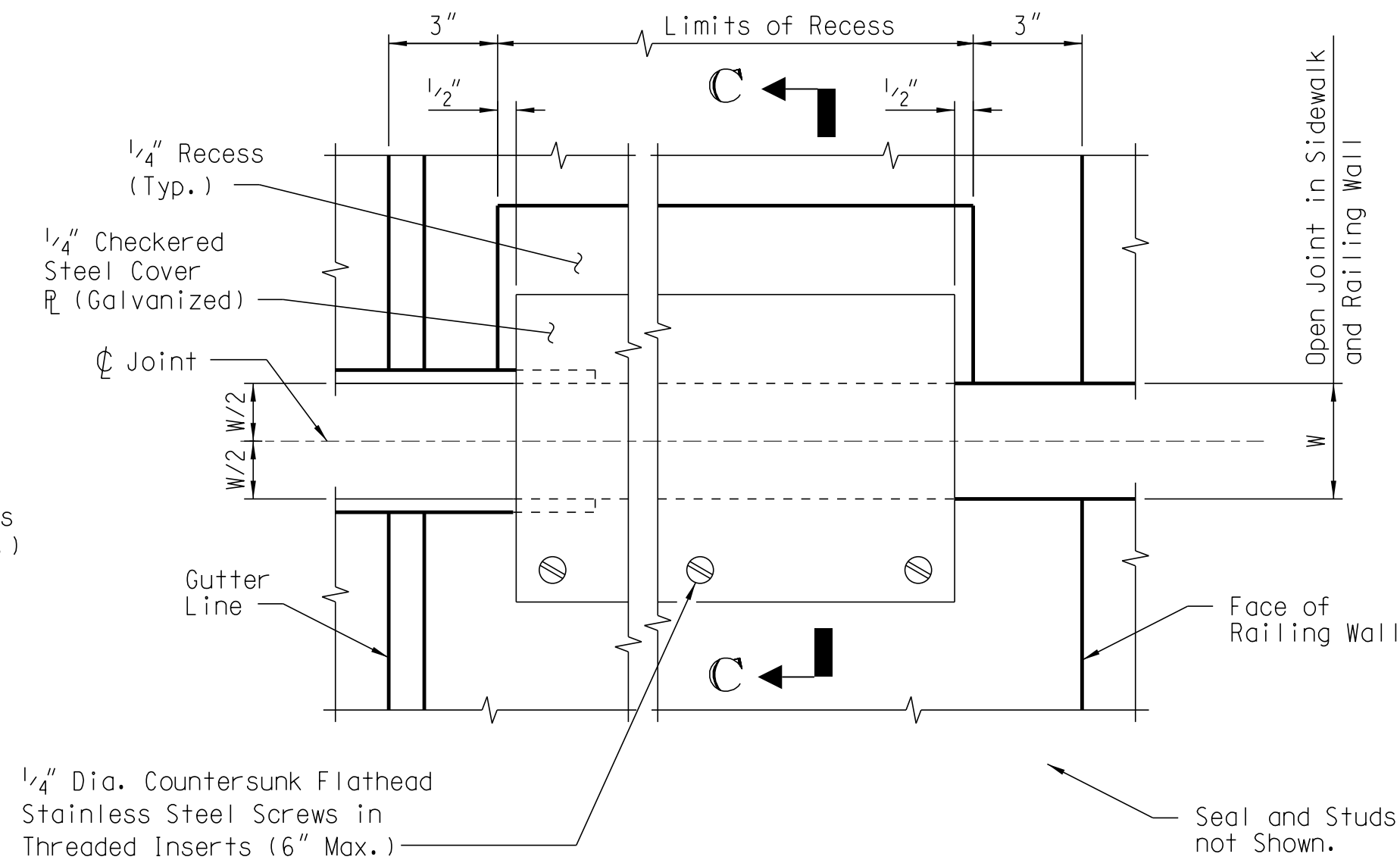
PART PLAN - EXPANSION JOINT
(Seal and Cover Plate Not Shown)



SECTION B-B



SECTION C-C



PART PLAN - COVER
PLATE AT SIDEWALK

(Provide checkered steel cover plate conforming to the latest AASHTO M 270, Grade 36 and galvanize in accordance with AASHTO M 111.)

SEAL SIZING CHART					
Model	Installation Width		Max. Closure	Max. Opening	Max. Skew
	Min.	Max.			
Silicoflex SF225	1.25"	3.0"	0.75"	3.0"	40°
Silicoflex SF400	2.5"	4.0"	1.0"	*5.0"	30°

*Per Article 14.5.3.2 of the AASHTO LRFD Bridge Design Specifications, the maximum permissible roadway surface gap, measured in the direction of travel, is 4.0 inches.

REV.	GAR	JXY	2-16
REV.	JXY	SAN	3-14
DR.	MRW	SAN	06-09