

SUDAS Revision Submittal Form

Status Date: As of 5/12/2026 Topic: PCC joint types
Manual: Design Manual Location: Section 5G-2, C

Requested Revision:

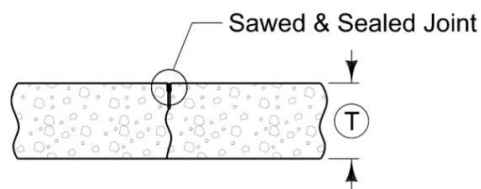
C. Joint Types

Contraction joints for concrete pavements are generally sawed. Transverse joints can be sawed with conventional sawing or early concrete sawing equipment. Longitudinal joints are formed with conventional sawing. Some joints, including construction joints, are formed. The figures in this subsection are derived from [SUDAS Specifications Figure 7010.101](#).

1. Transverse Contraction Joints: Contraction joints constructed transversely across pavement lanes are spaced to control natural initial and mature cracking of the concrete pavement. Under certain conditions, such as rapidly dropping air temperature during the night, transverse cracks may occur early. Therefore, early formation of the transverse joints is required.

a. Plain Contraction Joints: Plain contraction joints are normally used in local streets and minor collectors where load transfer is not a major factor. Load transfer for plain contraction joints occurs through the adjacent irregular fractured faces. Generally, they are used when the slab thickness is less than 8 inches. The joints are constructed by sawing to a depth of $T/4$ ~~and are spaced at 12 foot intervals for slab thickness of 6 inches and 15 foot intervals for slab thickness of 8 inches or less.~~ See SUDAS Specifications Figure 7010.901 for joint spacing for 6 and 8 inch thick slabs. Plain contraction joints are sometimes used when the pavement thickness is 9 inches or greater such as at intersections in boxouts near curbs where load transfer is not a concern. Approved early concrete sawing equipment may be used to cut the joint to a depth of 1 1/4 inch. For **sealing filling**, the joint width must be a minimum of 1/4 inch wide.

Figure 5G-2.01: 'C' Plain Contraction Joint



Continued with C, 2 (longitudinal contraction joints), after Figure 5G-2.03:

An important consideration when establishing the distance between longitudinal joints for jointed plain concrete pavements is the prevention of random longitudinal cracking at the quarter point, which is the midpoint between the centerline and the back of the curb. Pavements less than 9 inches thick may not crack through a longitudinal joint placed close to the gutter, which could cause longitudinal cracks at the quarter point. ~~For this reason, it is preferred to use quarter point jointing for 31-foot wide pavements. Third point jointing, which eliminates the centerline joint, is frequently used for pavement narrower than 30 feet because of the narrower panel width and for 31-foot wide pavements with a depth greater than 8 inches. However, some jurisdictions desire a centerline joint and a gutterline joint, typically 3 to 3 1/2 feet from the back of curb. A gutterline joint should only be used if the pavement has depth of at least 9 inches or pavement widening is likely to occur.~~

- a. **Quarter Point Jointing** is the preferred layout for longitudinal pavement joints. This pattern, for all pavement widths, is the best option to induce cracking at the planned locations.
- b. **Third Point Jointing**, which eliminates the centerline joint, is frequently used and recommended for pavements 30 feet or narrower. It is only recommended for pavements wider than 30 feet when pavement depths are greater 8 inches.
- c. **Gutterline Jointing** with a centerline joint is favored by some jurisdictions. This pattern has a centerline joint with gutterline joints 3 to 3 1/2 feet from the back of curb. It is recommended that this jointing pattern be only used on pavements depths of at least 9 inches or pavements where a widening is likely to occur, because, as stated above, the longitudinal joints close to the gutter may not activate. This would increase the likelihood of random cracking at the quarter point.

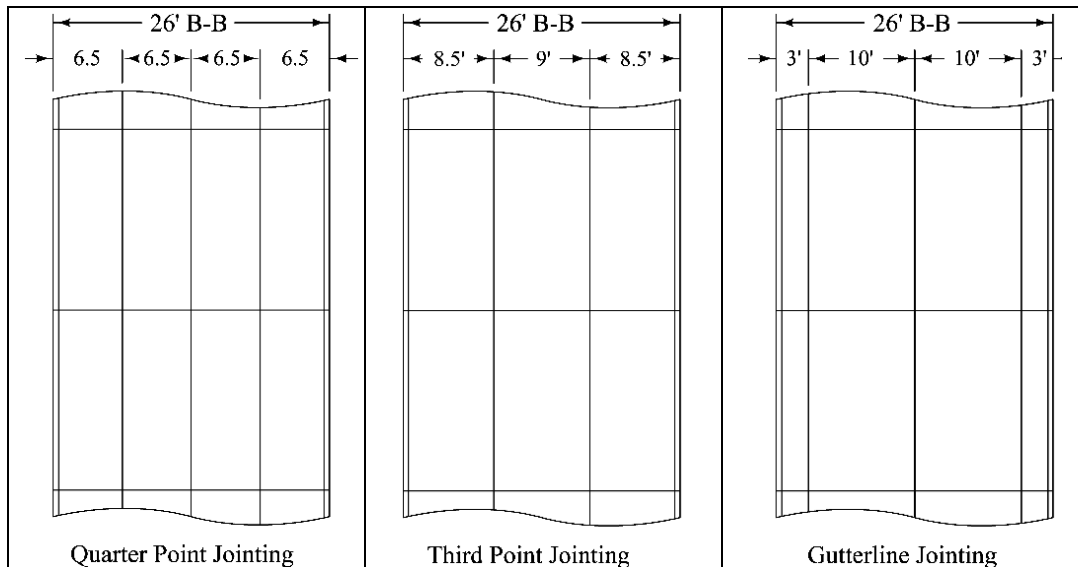
The following examples depict jointing options for 26 foot and 31 foot wide pavements. The principles involved with jointing for these pavement widths can be extended to other pavement widths.

- a. **26 Foot B-B Pavement:** Three longitudinal joint options for 26 foot wide plain jointed concrete pavements are provided:

Rearranged the order in this text and the figure below from most preferred to least

- 1) Quarter point jointing includes a centerline joint and two joints at the quarter points. This option is used when centerline crack control is desired.
- 2) Third point jointing provides for a single 9 foot center panel with two joints, each 8 1/2 feet from the back of curb.
- 3) Gutterline jointing provides two 10 foot lanes with a centerline joint and gutterline joints 3 feet from the back of curb. As stated above, care must be exercised with this option to prevent random cracking at the quarter point. This option is typically used for streets 9 inches or greater in thickness.

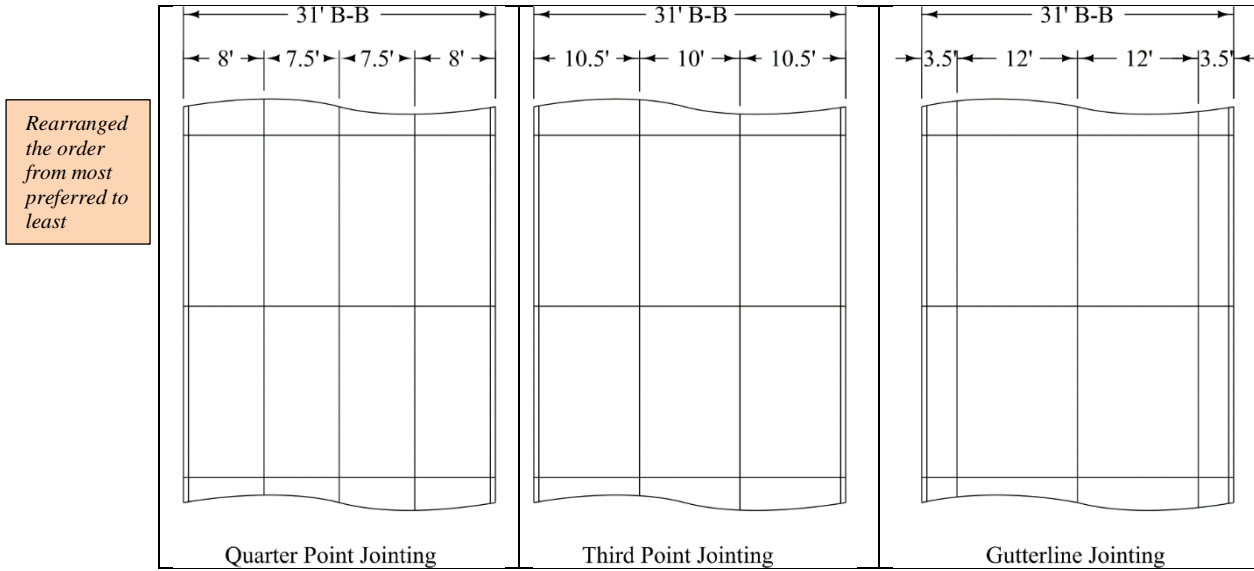
Figure 5G-2.04: 26 Foot B-B Pavement



- b. **31 Foot B-B Pavements:** Three longitudinal joint options for 31 foot wide pavements are provided.
 - 1) Quarter point jointing provides for a centerline longitudinal joint and two quarter point joints and is not intended to delineate driving lanes.
 - 2) Third point jointing provides three nearly equally spaced panels, without a centerline joint. It typically is used as an option to quarter point jointing to minimize the number of longitudinal joints.
 - 3) Gutterline jointing utilizes a centerline joint and gutterline joints 3 to 3 1/2 feet from the back of curb that delineate driving lanes. This jointing pattern is typically used when the pavement may be widened in the future, and the delineation of the lanes is desired. Care must be exercised

with this option to prevent random cracking at the quarter point. Typically, gutterline jointing is used on streets with pavement thickness greater than or equal to 9 inches.

Figure 5G-2.05: 31 Foot B-B Pavements



Reason for Revision: Industry requested revisions.

Comments: None.

Region:	<input checked="" type="checkbox"/> Central	<input checked="" type="checkbox"/> East	<input checked="" type="checkbox"/> West	2/19/2026 Webinar
Comments:	None.			
Region:	<input checked="" type="checkbox"/> Central	<input type="checkbox"/> East	<input type="checkbox"/> West	
Comments:	Make sure to change from sealed to filled.			
Action:	<input type="checkbox"/> Deferred	<input type="checkbox"/> Not Approved	<input checked="" type="checkbox"/> Approved	
Region:	<input type="checkbox"/> Central	<input checked="" type="checkbox"/> East	<input type="checkbox"/> West	
Comments:	None.			
Action:	<input type="checkbox"/> Deferred	<input type="checkbox"/> Not Approved	<input checked="" type="checkbox"/> Approved	
Region:	<input type="checkbox"/> Central	<input type="checkbox"/> East	<input checked="" type="checkbox"/> West	
Comments:	1/4 point jointing - straight through or angle joint at boxout? Boxout is full panel. Both have been done (angled and straight).			
Action:	<input type="checkbox"/> Deferred	<input type="checkbox"/> Not Approved	<input checked="" type="checkbox"/> Approved	

Final Regional Action Summary: All 3 approved; see comments above.

Board of Directors Action: Approved