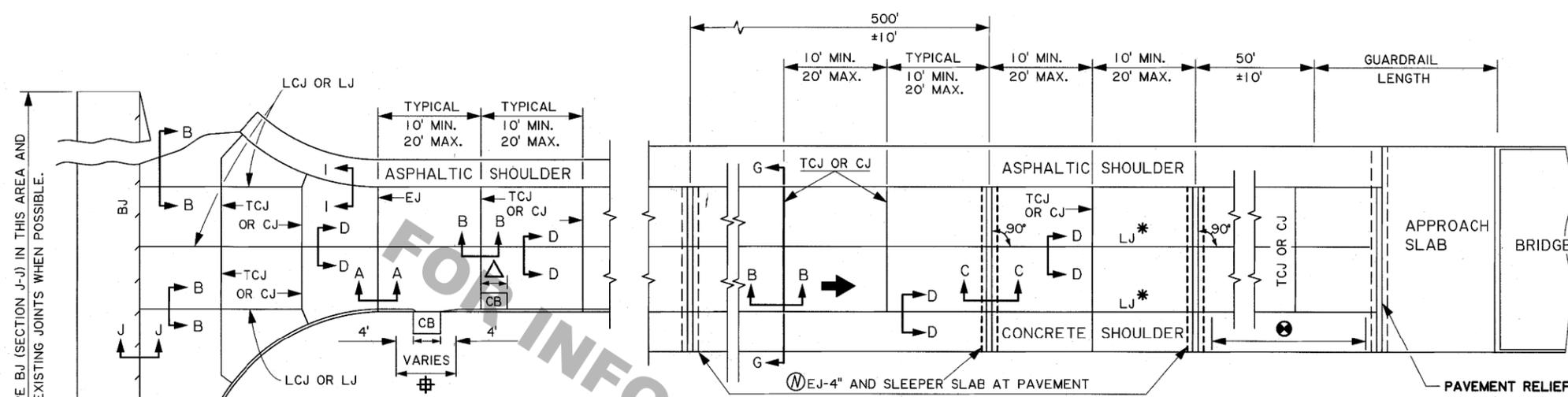


PLAN VIEW  
ROADWAY SHOWING JOINTS



**JOINT LEGEND:**  
 LJ: LONGITUDINAL JOINT  
 EJ: TRANSVERSE EXPANSION JOINT  
 TCJ: TRANSVERSE CONTRACTION JOINT  
 CJ: CONSTRUCTION JOINT  
 LCJ: LONGITUDINAL CONSTRUCTION JOINT  
 LBJ: LONGITUDINAL BUTT JOINT  
 BJ: TRANSVERSE BUTT JOINT

USE TYPE BJ (SECTION J-J) IN THIS AREA AND MATCH EXISTING JOINTS WHEN POSSIBLE.  
 USE TYPE LBJ (SECTION H-H) IN THIS AREA AND MATCH EXISTING JOINTS (JOINTS AT EQUAL SPACES NOT EXCEEDING 20' MAX.)

- \* USE TYPE LCJ JOINT WITH SPLIT SLAB CONSTRUCTION
- ⊕ WHEN POSSIBLE, AT CATCH BASINS NO JOINTS SHALL BE PLACED IN THE LIMITS SHOWN.
- △ TRANSVERSE JOINTS NEAR CATCH BASIN (CB-07, 08 & 09) THAT EXTEND INTO THE PAVEMENT SHALL BE ADJUSTED TO COINCIDE WITH ONE EDGE OF THE CATCH BASIN OR THE CENTER OF THE CATCH BASIN. SEE DETAIL E, SHEET 3.
- Ⓜ SEE SECTION C-C (SHT. 2 OF 3) AND DETAIL "G" (SHT. 3 OF 3) FOR EJ-4" JOINT, SLEEPER SLAB AND DRAINAGE DETAILS. (REQUIRED (3) PLACES.)
- ⊗ CJ OR TCJ JOINTS AT 20' MAX. CTRS.

NOTE: MAXIMUM JOINT SPACING AT 18' WHEN PAVEMENT IS PLACED ON PERMEABLE BASE. (SEE SECTION 307)

NOTES:

- ① PAVEMENT EDGES SHALL BE SLIGHTLY ROUNDED (1/4" APPROX.).
- ② ASPHALTIC CONCRETE SHOULDER: THE SHOULDER JOINTS SHALL BE SAW CUT AND CONSTRUCTED IN ACCORDANCE WITH SECTION I-I.
- ③ FOR SECTIONS A-A THROUGH J-J, SEE SHEET 2 OF THIS STANDARD.
- ④ ALL JOINTS TO BE USED WHERE SHOWN ON THIS SHEET OR AS SHOWN ELSEWHERE IN THE PLANS OR AS OTHERWISE DIRECTED BY THE ENGINEER.
- ⑤ ON TYPE EJ ALTERNATE JOINTS, SPOT WELD ALTERNATE ENDS OF DOWEL BARS TO DOWEL BASKETS AND PLACE EXPANSION TUBES ON FREE ENDS OF DOWEL BARS.
- ⑥ FOR DESIGN SPEEDS GREATER THAN 45mph: SAW CUT AND CONSTRUCT THE TYPE LJ, TCJ, AND CJ JOINTS AS IN DETAILS "A, B OR C" TO A DEPTH OF T/3 INCHES. THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A Poured OR EXTRUDED SEALANT CONFORMING TO SECTION 1005.

- ⑦ FOR DESIGN SPEEDS OF 45mph OR LESS:
  - A. SAW CUT AND SEAL TYPE LJ JOINTS AS DESCRIBED IN NOTE 6.
  - B. CONSTRUCT TYPE TCJ OR CJ JOINTS AS DESCRIBED IN NOTE 6 OR CONSTRUCT WITH A REMOVABLE FORMING DEVICE AS SPECIFIED IN DETAIL "C". THOROUGHLY CLEAN THE JOINT FACES BY SANDBLASTING; FOLLOWED BY AN OIL-FREE AIR JET IMMEDIATELY PRIOR TO SEALING WITH A Poured OR EXTRUDED SEALANT CONFORMING TO SECTIONS 601 AND 1005. WITH A COMBINATION JOINT FORMER/SEALER AS SHOWN IN DETAIL "D", THE SEALER SHALL CONFORM TO SECTION 1005 AND BE INSTALLED IN ACCORDANCE WITH SECTION 601 AND NO ADDITIONAL SEALANT IS REQUIRED.
- ⑧ EXCEPT AS NOTED BELOW, DOWEL BARS & TIE BARS SHALL BE HELD IN PLACE BY SUPPORTS SIMILAR TO THE ONES SHOWN, OR APPROVED EQUALS. APPROVED MECHANICAL PLACEMENT OF DOWEL BARS AND TIE BARS WILL BE ALLOWED WITH ALL PAVING METHODS.
- ⑨ INSTALL GEOTEXTILE FABRIC (TYPE B, C, OR D) UNDER ALL TCJ, CJ, AND EJ ALTERNATE JOINTS WHEN CONCRETE PAVEMENT IS PLACED ON ANYTHING OTHER THAN ASPHALT BASE. WHEN DOWEL BARS ARE MECHANICALLY IMPLANTED, THE GEOTEXTILE FABRIC SHALL BE ANCHORED TO THE BASE COURSE WITH PINS.

- ⑩ WHEN CONSTRUCTING CONCRETE CURB AND GUTTER ADJACENT TO NEW P.C.C. PAVEMENT, USE TYPE LCJ JOINT. WHEN ADJACENT TO EXISTING P.C.C. PAVEMENT, USE TYPE LBJ JOINT. THE FIRST LOAD TRANSFER DEVICE SHALL BE INSTALLED 18" FROM THE PAVEMENT EDGE.
- ⑪ TRANSVERSE EXPANSION JOINTS ARE NOT TO BE USED FOR CONSTRUCTION JOINTS.
- ⑫ CONCRETE SHOULDERS:
  - A. CONSTRUCT TCJ JOINTS IN ACCORDANCE WITH SECTION B-B.
  - B. CONSTRUCT LCJ JOINTS IN ACCORDANCE WITH TYPE LCJ DETAIL AND LJ JOINTS IN ACCORDANCE WITH TYPE LJ DETAIL. SEE SECTION D-D.
  - C. USE THE MAXIMUM SHOULDER THICKNESS WHEN DETERMINING DOWEL BAR AND TIE BAR SIZES IN TABLE 1.
  - D. WHEN SKEWED JOINTS ARE USED ON MAINLINE PAVING THE SHOULDER TCJ JOINTS MAY BE SKEWED OR CONSTRUCTED AT 90°.
  - E. SHOULDER JOINTS AND JOINT MATERIALS SHALL MATCH THE MAIN LINE.
  - F. HEIGHT OF DOWEL BASKET SHALL BE BASED ON THE THINNEST SHOULDER THICKNESS. VARYING HEIGHT DOWEL BASKETS WILL BE ALLOWED TO KEEP THE DOWEL BAR LOCATED WITHIN TOLERANCE.
- ⑬ TIEBARS SHALL NOT BE PLACED WITHIN 18" OF CONTRACTION OR EXPANSION JOINTS.

TABLE 1  
(ALL DIMENSIONS ARE IN INCHES)

PAVEMENT THICKNESS "T"	SMOOTH DOWEL BARS			DEF. TIE BARS			KEYWAY	
	SIZE	LENGTH	SPACING	SIZE	LENGTH	SPACING	A	B
8	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
9	1 1/4	18	12	1/2	24	24	2 1/2	1 1/4
10	1 1/2	18	12	1/2	24	24	2 1/2	1 1/4
11	1 1/2	18	12	5/8	30	24	2 1/2	1 1/4
12	1 1/2	18	12	5/8	30	24	3	1 1/2
13	1 1/2	18	12	5/8	30	24	3	1 1/2
14	1 1/2	18	12	5/8	30	24	3	1 1/2

NOT TO SCALE

DESIGNED BY: S.A.A. DATE: 01/27/2014  
 CHECKED BY: S.A.A. DATE: 01/27/2014  
 DRAWN BY: S.A.A. DATE: 01/27/2014  
 CHECKED BY: S.A.A. DATE: 01/27/2014  
 SHEET NUMBER: 1 OF 3  
 PROJECT: PORTLAND CEMENT CONCRETE PAVEMENT DETAILS  
 STANDARD PLAN: CP-01  
 ENGINEER: Janice P. Williams  
 DATE: 10-24-2014  
 ROAD DESIGN