

**Supplemental Plan Check List for
Two Way Concrete Slab (2014 LABC)**

Plan Check Submittal Date: _____

Plan Check / PCIS App #: _____

Job Address: _____

Applicant: _____ Phone: _____

P.C. Engineer: _____ Phone: _____
(print first / last name) E-mail: firstname.lastname@lacity.org

Plan Check Supervisor: _____ Phone: _____

Your feedback is important; please visit our website to complete a Customer Survey at www.ladbs.org/LADBSWeb/customer-survey.jsf.

If you have any questions or need clarification on any plan check matters, please contact the Plan Check supervisor or call our Customer Hotline at (213) 482-0056.

For instruction and other information, read the master plan check correction sheet attached.

Obtain the following Information Bulletins, Affidavits, or forms from our web site (www.ladbs.org)

P/BC 2014-031 Concrete proportioning and admixture qualification

Note: All Sections referenced in these Correction sheets are referring to ACI 318-11 (referenced by 2014 LABC Section 1901.2)

PLAN DETAILS

- 1. Drop panel shall extend in centerline of supports each direction not less than one sixth the span length in that direction. (ACI 318, Section 13.2.5)
- 2. Projection of drop panel below the slab shall be at least one-quarter of the slab thickness beyond the drop. (ACI 318, Section 13.2.5)
- 3. Provide minimum reinforcement ratio of 0.0018 in each direction for grade 60 rebar or per 318, Section 7.12, but not less than 0.0014. (ACI 318, Section 7.12.2.1)
- 4. Maximum rebar spacing at the critical sections is 2 x slab thickness, but not more than 18 in. (ACI 318, Section 13.3.2 and 7.6.5)
- 5. Provide minimum extensions for reinforcement in slabs without beams (flat plates and flat slabs) per Fig. 13.3.8. (ACI 318, Section 13.3.8)
- 6. Provide special top and bottom reinforcement at exterior corners in slabs with beams between supports with a value of α_f greater than 1.0. (ACI 318, Section 13.3.6)
- 7. At least two of the column strip bottom bars in each direction shall pass within the region bounded by the longitudinal reinforcement of the column and shall be anchored at exterior supports. (ACI 318, Section 13.3.8, Fig. 13.3.8.5)

- 8. Not more than one eighth the width of column strip shall be interrupted by openings. Equivalent amount of reinforcement shall be added. (ACI 318, Section 13.4.2.2)
- 9. Show all proposed locations of openings in slab, beams, and column caps (ducts, piping, etc...). Penetrations shall comply with 714.4. Detailing of the reinforcement around openings and fire stop system shall be provided. (714.4.1 and ACI 318, Section 13.4)
- 10. In the area common to one column strip and one middle strip, not more than one-quarter of the reinforcement in either strip shall be interrupted by openings. Equivalent amount of reinforcement shall be added. (ACI 318, Section 13.4.2.3)
- 11. The critical slab sections should be modified per Section 11.11.6.1 & 11.11.6.2 for openings located less than 10 x slab thickness from a concentrated load or openings in flat slabs within the column strip. (ACI 318, Section 11.11.6)
- 12. Under Direct Design Method:
 - a) Slabs should not be designed as two-way slabs because the ratio of long to short span is greater than two. (ACI 318, Section 13.6.1.2)
 - b) There must be three or more continuous spans in each direction; (ACI 318, Section 13.6.1.1)
 - c) Successive span lengths center to center supports in each direction must not differ by more than 1/3 of the longer span; (ACI 318, Section 13.6.1.3)
 - d) Columns must not be offset more than 10% of the span (in direction of offset) from either axis between center lines of successive columns (ACI 318, Section 13.6.1.4)
 - e) Loads must be uniformly distributed and the unfactored live load shall not exceed two times the unfactored dead load. (ACI 318, Section 13.6.1.5)
 - f) For two-way beam-supported slabs, relative stiffness of beams in two perpendicular directions must satisfy Equations (13-2) & (13-3) (ACI 318, Section 13.6.1.6)
 - h) Redistribution of negative moments is not permitted. (ACI 318, Section 13.6.1.7)

CALCULATIONS

$$6\sqrt{f'_c} b_o d$$

- 1. Nominal shear stress V_n shall not be taken greater than (ACI 318, Section 11.11.3.2)
- 2. Factored loads should be calculated per Section 1605.1 and 1605.2.
- 3. Special element _____ should be designed for seismic load with amplified factor combinations due to the irregularity. (ASCE 7-10 12.3.3.2 & 12.3.3.4)
- 4. For panels having a ration of long to short span greater than 2, they shall be designed as one-way construction per Section 9.5.2 (ACI 318, Section 9.5.2)
- 5. Provide short and long term deflection calculations using effective moment of inertia, since slab thickness is less than minimum slab thickness required by ACI 318, Section 9.5.3. (ACI 318, Section 9.5.3.4)
- 6. Deflection should not exceed the limits in Table 9.5(b) in short, long and diagonal directions where l is the clear span length.
- 7. Provide complete calculations for (one-way shear, two-way shear).
- 8. Unbalanced moment should be transferred by a combination of flexure and eccentricity of shear. (ACI 318, Section 13.5.3)

9. Effect of slab cracking and reinforcement on stiffness of frame members should be taken into account for lateral load analysis. (*ACI 318, Section 13.5.1*)

NOTES ON PLAN

1. Slab forms should not be removed unless a specified compressive strength is reached and an approval is obtained from the engineer of record.

| ADDITIONAL CORRECTIONS | Code Sec. No. |
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