**Supplemental Plan Check List for Two Way Concrete Slab (2017 LABC)**

Plan Check 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 your plan check engineer and/or his or her supervisor.

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](http://www.ladbs.org):

- [ ] P/BC 2017-031Concrete proportioning and admixture qualification

**Note:** All Sections referenced in these Correction sheets are referring to ACI 318-14 (referenced by 2017 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 8.2.4)*

- [ ] 2. Projection of drop panel below the slab shall be at least one-quarter of the slab thickness beyond the drop. *(ACI 318, Section 8.2.4)*

- [ ] 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 24.4.3.2, 7.6.1.1, and 8.6.1.1)*

- [ ] 4. Maximum rebar spacing at the critical sections is 2 x slab thickness, but not more than 18 in. *(ACI 318, Section 7.7.2.3, 11.7.2.1 and 8.7.2.2)*

- [ ] 5. Provide minimum extensions for reinforcement in slabs without beams (flat plates and flat slabs) per Fig. 8.7.4.13a *(ACI 318, Section 8.7.4.1.3)*

- [ ] 6. Provide special top and bottom reinforcement at exterior corners in slabs with beams

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between supports with a value of $\alpha_f$ greater than 1.0.  

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.  

8. Not more than one eighth the width of column strip shall be interrupted by openings. Equivalent amount of reinforcement shall be added.  

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.  

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.  

11. The critical slab sections should be modified per Section 22.6.4.3 & 22.6.9.9 for openings located less than 10 x slab thickness from a concentrated load or openings in flat slabs within the column strip.  

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.  
   b) There must be three or more continuous spans in each direction;  
   c) Successive span lengths center to center supports in each direction must not differ by more than 1/3 of the longer span;  
   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  
   e) Loads must be uniformly distributed and the unfactored live load shall not exceed two times the unfactored dead load.  
   f) For two-way beam-supported slabs, relative stiffness of beams in two perpendicular directions must satisfy Equations (8.10.2.7a) & (8.10.2.7b)  
   h) Redistribution of negative moments is not permitted.  

**CALCULATIONS**  

1. Nominal shear stress $V_n$ shall not be taken greater than  

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.  

4. For panels having a ration of long to short span greater than 2, they shall be designed as one-way construction per Section 7.31.1  

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 8.3.1.1.  

(ACI 318, Section 22.6.6.2)  

(ACI 318, Section 8.10.2.3)  

(ACI 318, Section 8.10.2.1)  

(ACI 318, Section 8.10.2.2)  

(ACI 318, Section 8.10.2.4)  

(ACI 318, Section 8.10.2.5 & 8.10.2.6)  

(ACI 318, Section 8.10.2.7a) & (8.10.2.7b)  

(ACI 318, Section 8.10.2.7)  

(ACI 318, Section 8.10.4.3)  

(ASCE 7-10 12.3.3.2 & 12.3.3.4)  

(ACI 318, Section 7.3.1.1)  

(ACI 318, Section 24.2.4.1.1)
6. Deflection should not exceed the limits in Table 24.2.2 in short, long and diagonal directions where $I$ 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. \((ACI 318, \text{Section } 9.8.1.7)\)

9. Effect of slab cracking and reinforcement on stiffness of frame members should be taken into account for lateral load analysis. \((ACI 318, \text{Section } 8.2.1, 8.10.2, \text{and } 13.2.6.2)\)

**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.

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