



SUPPLEMENTAL PLAN CHECK CORRECTION SHEET FOR UNREINFORCED MASONRY (URM) RETROFIT (2020 LABC)

Plan Check #: \_\_\_\_\_ Permit Application Number: \_\_\_\_\_

Job Address: \_\_\_\_\_

Plan Check Engineer: \_\_\_\_\_ Phone: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Plan Check Supervisor: \_\_\_\_\_ Phone: \_\_\_\_\_

This is a supplemental correction sheet. Please see the attached master correction sheet.

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.

Unless noted otherwise, all sections of code referenced in italics within this article refer to the 2020 Los Angeles Building Code (2020 LABC) and Appendix A1 of the 2020 Los Angeles Existing Building Code (2020 LAEBC).

Review the following checked supplemental correction lists, information bulletins and forms. Revise plans to show compliance (Copies can be obtained at www.ladbs.org):

- Supplemental Correction List: Structural – General P/BC 2020-051 Wet Mix Shotcrete

PART I: GENERAL REQUIREMENTS

A. PERMIT APPLICATION

- 1. Provide fully dimensioned plot plan to scale, and copy it to the PCIS application plot plan sheet. The plot plan shall provide, at a minimum, the lot size, streets, alleys, location of building(s), location of SHEAR RESISTING ELEMENTS at the first floor, and location of adjacent buildings. See correction item B.3 below for a comprehensive list of items required on plot plan. Plot plan shall be drawn with ink.
2. Provide complete and correct legal description (Tract, Lot, Block, Grant Deed). Provide complete information for applicant, owner, engineer, architect, and contractor.
3. Complete the following application items:
4. Valuation is revised to \$ \_\_\_\_\_ Pay additional plan check fee of \$ \_\_\_\_\_
5. The permit application must be signed by the property owner or licensed contractor or authorized agent at the time the permit is to be issued:
a. For owner-builder permits: Owner's signature can be verified with owner's driver license. Owner's representatives must present owner's approval with a notarized letter from the owner.
b. For contractor building permits: Prior to the issuance of a building permit, the contractor shall have the following:
i. Notarized letter of authorization for agents.
ii. Certificate of workers Compensation Insurance made out to the Contractors State License Board.
iii. Copy of Contractor's State License or pocket ID.
iv. Copy of City of Los Angeles business tax registration certificate (BTRC) or a newly paid receipt for one.

- 6. Obtain sign-off for all clearances as noted on the attached Clearance Summary Worksheet. It is necessary to apply immediately for the signoff as it can take months for some departments to review the project. Comply with all conditions given by each departments/agencies as part of their approval prior to permit issuance.

B. PLAN DETAILS

- 1. The following items will be required during permit issuance.
a. Two sets of plans. Plans must be:
i. Quality blue or black line drawings with uniform and light background color.
ii. Max. 36' x 48" size with minimum 1/8" lettering size.
iii. Sticky back details must produce prints without contrasting shades of background color.
b. One copy of structural calculations.
c. One copy of shear test report.
2. All structural plan sheets and index sheet of calculations (showing number of pages) must be signed by the same civil/structural engineer licensed by the State of California. Plans and calculations for products designed by others must be reviewed and approved by the engineer of record for the project. 106.3.3
3. Provide a fully-dimensioned plot plan to scale, showing:
Legal Description Building Lines
Alley location/size Street Centerline
Parking Spaces Use of all buildings
Location of Shear Resisting Elements at first floor
Location of all adjacent buildings
Construction type and numbers of stories of each bldg.
Size/location of all buildings 106.3.2.1

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities

4. Provide the following with each set of plans:
- |   |  |
|---|--|
| <input type="checkbox"/> Floor Plans        | <input type="checkbox"/> Construction Sections |
| <input type="checkbox"/> Framing Plans      | <input type="checkbox"/> Grading Information   |
| <input type="checkbox"/> Two Elevations     | <input type="checkbox"/> Foundation Plans      |
| <input type="checkbox"/> Structural Details |  |
| <input type="checkbox"/> Other: _____       |  |
5. The shear test report shall comply with the following:
- Tests must be conducted by a laboratory approved by the Department. Wet signature report required.
  - Existing clay tile or concrete block walls shall be clearly identified in the report with dimensioned sections of the units, the lay out of the units in the wall, amount of mortar in bed head and collar joints, and the particular procedures to carry out the required push tests.
  - Provide a plan view showing exact location of all tests on the report.
  - Number and/or location of tests do not comply with Section A106.2.3.3:
    - 2 per URM wall at 1st and top stories.
    - 1 per URM wall at intermediate stories.
    - But not less than 1 per 1500 sf of wall surface.
  - All sheets of the report must be stamped and wet-signed by test lab engineer.
  - Responsible Engineer must sign test location acknowledgement (see Guideline #8 attached).
  - Minimum quality of mortar in 80% of the in-place shear tests shall be not less than the total of 30 psi plus the axial stress in the wall at the point of the test. Total wall load must be used in determining "net shear".
6. Plans must show location of shear test on both elevation and plan views. A105.3
7. Reproduce shear test results on plans. A105.3
8. Show existing diaphragm construction at each floor and roof. A105.3
9. Dimension distance between floor/roof anchor lines on elevations.
10. Provide details and specifications for the repair of any cracked or damaged unreinforced masonry wall. A105.3
11. Provide specifications for the following:
- Type of soil and bearing value, per Table 1806.2.
  - Species and grade of lumber
  - Plywood
  - Concrete (type and f'c)
  - Masonry
  - Grout and Mortar
  - Reinforcing steel
  - Structural steel
  - Roofing (repair of)
  - Testing of grouted anchors
12. Maintain a minimum of 20 square feet of openings in every 50 linear feet or fraction thereof of exterior wall in the story on at least one accessible exterior wall of the building, or provide sprinklers. 903.2.11.1
13. Exterior walls of wood construction are not permitted in a building of Type III-A or III-B construction, except as permitted by Section 602.3.
14. Buildings are not permitted to be de-rated to Type V in Fire District #1. 7204
15. Provide class "A" or "B" fire retardant roofing material. 1505, Table 1505.1
16. Note that cores shall be taken of existing roofing from locations chosen by inspector at start of work or building shall be re-roofed where core thickness exceeds 1 inch.
17. Embedment's shall not significantly impair the strength of the structure and shall not reduce fire protection. Type, size, details, and location of embedment's shall be designed by the licensed design professional and shown on the plans. ACI 318-14, Section 20.7.1; 26.8.1
18. Structural elements (including walls and footings) that project into public property require an approval from Public Works prior to the issuance of a building permit. 3202
19. Separate building permits are required when buildings are located on separate lots with a common party wall.
20. Show size, spacing, and direction of all roof and floor members on roof/floor plans. A105.3
21. Provide a cross section which shows existing masonry wall construction. Wythes must be bonded by header courses every 24-inches (6th courses). A106.2.2
22. Exterior walls fronting streets shall be checked for veneer as follows:
- Color photos of walls facing streets shall be submitted to Plan Check for verification of presence of veneer.
  - Exterior walls covered with plaster shall be uncovered for veneer check and color photos are required.
  - For veneer anchor requirements, see A113.7.
  - The veneered wall shall be checked for h/t requirement and shear capacity excluding the veneer for effective thickness, t.
23. Provide details of all new and/or existing tension wall anchors. Maximum spacing of anchors is 6'-0" for walls 13" or thicker and 3'-0" for 9" walls. A113.1.2
24. Clearly indicate spacing of tension anchors and shear bolts on roof and floor plans.
25. Provide a combination shear/tension anchor at 2' max from inside face of return wall at all corners to reduce corner cracking, Sec. A113.1.4.
26. Grouted/Epoxy tension anchors shall be used only when the exterior wall surface is not accessible.
27. Epoxy use in unreinforced masonry buildings must be approved by a current Los Angeles City Research Report prior to any use in the field. Specify product name and current Los Angeles City Research Report number on plans.
28. Parapets and exterior wall appendages shall be removed or braced; parapets shall not be reduced to heights less than required by Sec. 705.11.1. Refer to Earthquake Safety Division Guideline #6 for parapet bracing and removal requirements.
29. Provide a layout for plywood sheathing or diaphragms showing ends of plywood sheets bearing on joists or rafters and edge of plywood located on center of individual sheathing boards as per Table 108.1(2).
30. Provide a detail showing how continuity of the existing diaphragm will be maintained when cut in order to install anchors, braces, etc.
31. Provide shear transfer details for use of 10-d nails at plywood sheathing over existing straight sheathing. See attached "Earthquake Safety Division Guideline #9".
32. Provide details for transfer of forces at the break in the plane of the roof diaphragm.
33. Shear bolts in unreinforced masonry walls shall not bear on the joist pockets.
34. Provide minimum area of reinforcement for all masonry infills.

35. Provide details and specifications for pneumatically placed concrete, which shall be applied under continuous inspection by a registered Deputy Building Inspector. Testing shall be conducted by a testing agency approved by the Department. Proper preparation of existing surfaces must be included in the specification. Incorporate requirements of Section 1908 into the plans. When wet mix shotcrete is used, refer to Information Bulletin P/BC 2020-051 and specify the conditions to be met.
  36. Provide columns under trusses and beams when supporting vertical loads from the roof or floor levels. *A113.9*
  37. Provide a shear resisting element at both mezzanine edges in each direction.
  38. Show roof/floor ceiling lines on all elevations & sections. Ceilings (except lightweight acoustic ceiling) shall be anchored to URM walls and braced back to the roof diaphragms. *A113.1.1*
  39. Call out cross walls on floor plans and dimension their length.
  40. Show all cracks and deteriorated areas on wall elevations and indicate how repairs are to be done.
  41. Use of partial infills is prohibited.
  42. Brace top of large infills (out of plane) to the diaphragm.
  43. Brace top of frames to diaphragm for lateral support (out of plane).
  44. At locations where wall thickness changes, tension anchors shall be attached to the thicker wall.
  45. Indicate all field welded connections on plans.
  46. The checked set of plans and calculations are part of these corrections. Address all items written there-in, re-submit, and allow sufficient time for rechecking.
  47. The checked set of plans and calculations are part of these corrections. Address all items written there-in and return those at verification time.
- C. CALCULATIONS**
1. This building is in Risk Category III or IV in accordance with Table 1604.5 of the LABC and shall be strengthened to meet Section 1613 of the LABC as a new building.
  2. Building with a Division 88 Rating Classification of III or II with an approved occupant load of 100 or more, cannot increase the total occupant load more than 10% of that which was previously approved under Division 88 or must be reanalyzed to show compliance with LABC Appendix A1 or to Chapter 16, as required for a new building, for Risk Category III or IV buildings as defined in LABC Table 1604.5. *LAEBC 407.4*
  3. Provide calculations determining mortar shear strength,  $v_tL$ , in accordance with Section A106.2.3.5.
  4. Use the following in computing seismic forces:
    - a. Include partition loads. *12.7.2 ASCE 7*
    - b. Include 25% of floor live load for storage and warehouse uses. *12.7.2 ASCE 7*
    - c. Distribute lateral forces over the height of the structure. *12.8.3 ASCE 7*
  5. Maximum load per anchor is limited to the strength values of Table A108.1(2). Where  $f'_m$  is unknown for pre 1933 unreinforced masonry, shear bolt strength values may be determined from Table 8-8B of the California State Historical Building Code.
  6.  $H/t$  exceeds limits of Section A113.5.1.
  7. Provide anchors across openings in the diaphragm adjacent to walls and design horizontal element to carry force.
8. Use of "government" anchors is limited as follows:
    - a. No allowable value given at roof level. Provide new anchors. *A107.3*
    - b. Allowable value(s) at floor level must be established by tests, which comply with Sec. A107.3. Test report prepared by approved testing laboratory must be submitted prior to issuance of building permit.
    - c. Specify spacing of government anchors or plans.
  9. When shear resisting elements are added in line with URM, rigidity distribution is required to check stability of URM. *A112.4.1*
  10. New shear walls of CMU which resist seismic forces shall be designed to resist 1.5 times the prescribed seismic forces. *TMS 402 Sec.7.3.2.6.1.2*
  11. Steel moment frames shall comply with Sec. 2205.2.2.
  12. Design of concrete grade beams shall use appropriate load factors.
  13. Allowable Roof Demand-Capacity-Ratio (DCR) is exceeded. Provide cross walls per Sec. A111.4.1.
- D. NOTES ON PLANS**
1. Specify all applicable time constraints on plans as required by compliance order:
    - a. Work shall commence within 30-days of permit issuance.
    - b. All work shall be completed within 180-days of permit issuance.
  2. Specify that the necessary permits from Public Works will be secured and the necessary barriers, protection fences, and/or canopies will be erected along public ways prior to starting construction. *3306.1*
  3. Specify that a separate mechanical permit will be secured for all electrical, plumbing, and heating-ventilating work.
  4. Specify that Building and Safety General Specification sheet E.Q.-1 is part of the plans and reproduce E.Q.-1 sheet or incorporate all applicable notes on plans.
  5. No door shall be placed so that, when opened, crosses over a building line. *3202.2*
  6. Specify that "Plans and details were developed based upon a field investigation by the responsible engineer and reflect the actual conditions of the building as observed."
  7. Provide note: At the start of the work, contractor and building inspector shall walk the job and settle areas such as pointing, crack repair, veneer and other details that need field verification such as thickness of URM walls, distance between floor/roof anchor lines, floor and roof sheathing and framing construction to match plans, mortar conditions, and field locations of shear tests. All deviations shall need approval from the plan check supervisor. *A105.3*
  8. All steel 3/16" or less in thickness which is exposed to weather shall be corrosion resistant steel designated ASTM A242/A588 with further provisions to prevent standing water, or steel made corrosion resistant by a coating of nonferrous metal or other coating approved by the Department.
  9. Structural Observation per Section 1704.6.1 is required for this project. The engineer of record shall prepare an inspection program, including the name(s) of the individuals or firms who will perform the work. The inspection program shall be shown on the first sheet of the structural plans.
  10. Where special inspection or testing is required; the registered design professional in responsible charge shall include a "Statement of Special Inspections" on the plans. *1704.3*



