COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

MULTI-FAMILY
PLAN REVIEW LIST

GENERAL PROJECT INFORMATION

PLAN CHECK NO. _____ DISTRICT NO. _____ INITIAL VALUATION _____

JOB ADDRESS _____ CITY _____ ZIP _____

OWNER _____ TELEPHONE ( ) _____

ARCHITECT _____ TELEPHONE ( ) _____

ENGINEER _____ TELEPHONE ( ) _____

APPLICANT _____ TELEPHONE ( ) _____

ADDRESS _____ CITY _____ ZIP _____

PROJECT INFORMATION

USE ZONE _____ CLIMATE ZONE _____ VHFHSZ: ☐YES ☐NO FLOOD ZONE: ☐YES ☐NO

BUILDING ELEMENT	SQ. FT.	NO. OF STORIES	CONSTR. TYPE	OCC. GROUP	$ / SQ. FT.	$ VALUE
				New Valuation:		

FIRE SPRINKLER AND CONSTRUCTION INFORMATION

SPRINKLER USED FOR HEIGHT INCREASE? ☐YES ☐NO

SPRINKLER USED IN LIEU OF ONE-HOUR CONSTRUCTION? ☐YES ☐NO

SPRINKLER USED FOR AREA INCREASE? ☐YES ☐NO

BUILDING FRONTAGE USED FOR AREA INCREASE? ☐YES ☐NO

PLAN CHECK ENGINEER AND CORRECTION INFROMATION

REVIEWED BY _____ DATE _____ TELEPHONE _____

RECHECKED BY _____ DATE _____ TELEPHONE _____

RECHECKED BY _____ DATE _____ TELEPHONE _____

APPROVED BY _____ DATE _____ TELEPHONE _____

Your application for a permit, together with plans and specifications, has been examined and you are advised that the issuance of a permit is withheld for the reasons hereinafter set forth. The approval of plans and specifications does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2014 edition of the County of Los Angeles Building Code, Table (T), Plumbing Code (PC), Mechanical Code (MC), Electrical Code (EC), Fire Code (FC), Building Code Manual (B.C.M.), 2010 National Design Specifications (NDS), 2008 AF&PA Special Design Provisions for Wind and Seismic (SDPWS), 2010 Minimum Design Loads for Buildings and Other Structures (3rd Printing) including Supplement No. 1 (ASCE 7).

For County of Los Angeles Building Code Amendments and B.C.M.s, visit www.dpw.lacounty.gov/bsd.

INSTRUCTIONS

- Corrections with circled item numbers apply to this plan check.
- In the left-hand margin of the circled corrections, please indicate the sheet number and detail or note number on the plans where the corrections are made. Resubmit marked original plans and two corrected sets of plans, calculations and this plan review list.
- Incomplete, unclear, or faded drawings or calculations will not be accepted.
- The plan check engineer will be available for conference and telephone calls between the hours of _____and _____on the following days: _____. **Appointments are recommended**.
- Incorporate all comments as marked on checked set of plans and calculations and these correction sheets.

GENERAL REQUIREMENTS

APPLICATION AND PERMIT

1. Application will expire on _____/_____/_____. Permit needs to be obtained prior to expiration date. (106.4.1.1)
2. Valuation is low. It should be $_____. Correct the application and pay a supplemental plan check fee of $_____ at the time of re-submittal. (107.2)
3. A separate application and permit(s) is/are required for: (106.1)
   a. Demolition work
   b. Retaining walls greater than four 4 feet in height measured from the bottom of the footing to the top of the wall OR supporting a surcharge.
   c. Each separate structure
   d. Fences greater than six (6) feet high
   e. Swimming Pool(s)
   f. Signs
   g. Fire sprinkler system
   h. Bridge
   i. Electrical work
   j. Mechanical work
   k. Plumbing work
   l. Storage Racks
   m. Mechanical Hood
   n. _____
4. Comply with protection of adjoining property by providing a written notice to the owners of adjoining buildings advising them that an excavation deeper than the foundation of the adjoining building and located less than excavation depth to the property line is to be made and that the adjoining buildings should be protected. Said notification shall be delivered not less than 10 days prior to the scheduled starting date of the excavations. (CA Civil Code Section 832, 3307.1)
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: Owners' signature must be verified by notarization or personal identification.
   b. For contractor building permits: Prior to the issuance of a building permit, the contractor shall have the following:
      i. A certificate of workers Compensation Insurance made out to the Contractors State License Board.
      ii. Notarized letter of authorization for agents.
      iii. Copy of Contractors State License or pocket ID.
6. At final submittal, two complete sets of plans are required and one additional architectural set that includes: a) a site plan, b) dimensioned floor plans, and c) elevations. The final three sets of plans shall be wet stamped and signed by the California registered architect or engineer when appropriate.

REFERRALS

ALL AGENCY APPROVALS are required prior to permit issuance. Please see the attached agency referral sheet for details.

7. Submit a geology report and soils report to Building and Safety for review. (1802.2)
8. (Soil)(Foundation)(Geology) report(s) must be approved by the Geotechnical & Materials Engineering Division. Provide a copy of approved report and Department approval letter.
9. A Grading Permit may be / is required and a separate grading permit application may need to be processed. Contact Drainage & Grading Section of Building and Safety Division to determine if a grading permit is required. (Appendix J103)

   A grading permit is required for the following:
   a. All excavations exceeding 2-ft. in depth (except for footings, basements and retaining walls). Note: the placement of excess material from such excavations may require a grading permit.
   b. All fills:
      i. Intended to support structures.
      ii. That obstructs or diverts a drainage course.
      iii. One foot or more in depth placed on natural slopes steeper than 5 units horizontal to 1 unit vertical.
      iv. 3-ft. or more in depth at its deepest point and greater than 50 cubic yards.
      v. 5-ft. or more in depth at its deepest point and greater than 20 cubic yards.
   c. The grading of access roads or pads for exploratory excavations.
10. Rough grading approval is required before a building permit can be issued. (Appendix J105.7)

SUPPLEMENTAL PLAN REVIEW COMMENTS/SHEETS

11. Refer to the attached sheets for supplemental plan review comments:
    a. 2013 Energy Standards Correction Sheet (effective July 1, 2014)
    b. Very High Fire Hazard Severity Zone Requirements
    c. Hillside Structures Plan Review (slope > 33.3%)
    d. Steel Moment Frame Plan Review
    e. Solid Waste Disposal
    f. Residential Green Building Standards Code Review
    g. Non-residential Plan Review
    h. _____
    i. Accessibility Requirements:
       i. General Accessibility.

ii. Multi-Family Residential Accessibility
iii. Accessible Plumbing Fixtures and Facilities.
iv. Public Housing Residential.
v. Transient Lodging Guest Rooms.
vi. Elevators and Platform Lifts.

12. Photocopy/blueprint the following on the plans: (Do NOT staple to the plans)
    a. Best Management Practice for Construction Activity (Attachment A) requirements.
    b. Security Requirements
    c. Structural Observation Program

ZONING

13. Submit a copy of the approved CUP or plot plan to Building and Safety Division. Show compliance with all applicable conditions on the plans.
14. Clearly show on the plot plan a paved parking area and driveway of 3 ½" of concrete or 1 ½" of asphalt on a 4" decomposed granite base minimum.

SITE PLAN

15. The address of the building, and the name and address of the owner(s), and person(s) preparing the plans are required on the first sheet of the plans. (106.4.3)
16. A complete plot plan showing property lines, lot dimensions, setbacks, street names and width, location of tanks and sewers, existing cesspools, septic tanks and sewage disposal systems. Proposed and existing buildings complete with their areas, occupancy groups, types of construction, distances between buildings, area separation walls, house number, north arrow, scale, parking layout, city/county boundary line, zone change boundary line, locations of all easements, highway dedication lines, street centerlines, storm drains, underground utilities, and overhead power lines are required. (106.4.3)
17. Show on site plans finish floor, finish surface, top of wall, and grade elevations, including contours and general drainage patterns. (106.4.3, 1803.3)
18. Construction in the Public Right Of Way and projection beyond the property lines or into the alleys shall comply with County of LA Building Code Chapter 32.
19. Note on the plans: "Pedestrians shall be protected during construction, remodeling and demolition activities as required by County of Los Angeles Building Code Chapter 33." (3306)
20. Maintain 5-ft. clearance between septic tank(s) and seepage pit(s) and minimum clearances to buildings and property lines of 5-ft. for the septic tank and 8-ft. for the seepage pit. (P.C. Appendix H T-H1.7)
21. Buildings adjacent to ascending or descending slopes shall maintain setbacks according to the requirements of Section 1808.7.
22. Provide temporary shoring plans for excavations that remove the lateral support from a public way or an existing building structure. Excavations adjacent to a public way require Public Works approval prior to issuance of a building permit. (3307)
23. Submit complete shoring plans for subterranean excavations, or provide a plan view and sections views showing temporary excavation slopes. (3304)
24. This site appears to contain high ground water, which must be lowered prior to construction. Provide plans showing the location of the proposed dewatering wells.
25. Show location and distance of active, abandoned or idle oil or gas wells with respect to building perimeters. Any wells within 300 feet of the structure must have a report and plans prepared by a registered design professional approved by County of Los Angeles Department of Public Works Environmental Program Division. (110.4)

CHAPTER 3 USE AND OCCUPANCY

USE AND OCCUPANCY

26. Specify the use of all rooms / areas on the floor plans. Provide an area breakdown by level.
27. The occupancy group specified for one or more areas within the building is incorrect. See plan check comment on sheet(s) _____.
28. One or more occupancies have been incorrectly categorized. Change occupancy designation as identified below:
    a. Group A-1 - Theaters and assembly spaces for viewing performances
    b. Group A-2 - Restaurants, bars, eating and drinking establishments with ≥ 50 occupants
    c. Group A-3 - Halls or rooms used for worship or recreation
    d. Group B - Business type uses, assembly areas with < 50 occupants, outpatient clinics not classified as Group I-2.1
    e. Group M – Mercantile/retail
    f. Group R-1 - Hotels and motels (transient) with < 30 day stay
    g. Group R-2 - Apartments, dormitories, extended-stay hotels with ≥ 30 day stay
    h. Group R-3 - for townhouses
    i. Group S-1 - Moderate hazard storage
    j. Group S-2 - Low hazard storage and parking garages
    k. Group U - Utility and miscellaneous structures
    l. _____

CHAPTER 4 SPECIAL DETAILED REQUIREMENTS

GROUP R USES

29. An automatic sprinkler system shall be provided in accordance with Section 903.2.8. (420.4)
30. Group R-1 and R-2 dwelling requirements shall comply with Section 420:
    a. Walls separating dwelling units in the same building, sleeping units in the same building, and walls separating dwelling or sleeping units from other occupancies in the same building shall be 1-hr. rated fire partitions, except for fully sprinklered Type IIB, IIIB or VB buildings which may be reduced to 1/2-hr. fire partitions. (708.3)
    b. Floor assemblies separating dwelling units in the same building, sleeping units in the same building, and floor assemblies separating dwelling or sleeping units from other occupancies in the same building shall be 1-hr. rated horizontal assemblies, except for fully sprinklered Type IIB, IIIB, or VB buildings which may be reduced to 1/2-hr. horizontal assemblies. (711.3)
31. For buildings with fuel-burning appliances and/or attached garages, provide an approved carbon monoxide alarm at: (420.6)
    a. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
    b. On every level of a dwelling unit including basements.
    c. In Group R-1, in addition to the above, on the ceiling of sleeping units or other locations within the sleeping unit in compliance with the manufacturer's installation instructions.
    d. Provide a note: "CARBON MONOXIDE ALARM shall be interconnected hard-wired with battery backup. Unit shall be SFM-approved."
    e. Battery carbon monoxide alarm is permitted in existing dwelling units where no construction is taking place.
    f. In covered multifamily dwellings as defined in Chapter 11A, all required carbon monoxide alarms shall be capable of supporting visible alarm notification appliances per NFPA 720.

OTHER USES AND OCCUPANCIES

32. Group U occupancies storing private or pleasure-type motor vehicles, shall not exceed 1000 sq. ft. or one-story in height. The allowable area may be increased to 3000 sq. ft. when no repair work is completed or fuel is dispensed within the Group U occupancy when the provisions of Section 406.3.2 are met. (406.3.1)
33. For Group S-2 occupancy, the wall fire-resistance rating shall be _____ hr. and the opening protection shall be (3/4-hr.) / (1-1/2-hr.) based on fire separation distance of _____ ft. (T-601, T-602, T-716.5, T-716.6)
34. Group S-2 occupancy shall be separated from _____ occupancy(ies) with a separation of _____ hr., fire doors of _____ hr., and glazing of _____ hr. Separation shall be fire barriers and/or horizontal assemblies. Provide construction details. (508.4, T-508.4)
35. Group S-2 enclosed parking garages require a mechanical ventilation system in accordance with the County of Los Angeles Mechanical Code. Provide plans and show how and where the system exhaust to the outside. Submit to the Mechanical Section for plan check. Approval is required prior to permit issuance. (406.6.2)
36. In Group S-2 parking garages with an area used for charging electric vehicles, ventilation shall be provided in accordance with County of Los Angeles Electrical and Mechanical Code. Please submit to the Electrical and Mechanical Section for compliance. (406.7.3)
37. This occupancy requires an automatic fire extinguishing system. (903.2.10, 903.2.18)
38. Motor-vehicle related occupancies shall comply with Section 406. Provide/show the following:
    a. Minimum headroom of 7-ft. 0-in., except as required per accessible requirements. (406.4.1)
    b. Guards in accordance with Section 1013, where the vertical distance to the ground or surface directly below exceeds 30-in. (406.4.2)
    c. 2-ft. 9-in. high vehicle barriers designed in accordance with Section 1607.8.3 where the difference in adjacent floor elevation is greater than 1-ft. (406.4.3)
    d. Vehicle ramps may not serve as exits. (406.4.4)
    e. Vehicle ramps used for both vertical circulation and parking shall not exceed a slope of 1:15 (6.67%). (406.4.4)
    f. Provide a vestibule providing a two doorway separation from any room in which there is a fuel-fired appliance. (406.4.7)
    g. Parking surfaces shall be of concrete or similar noncombustible and nonabsorbent materials. Asphalt is only permitted at ground level. (406.4.5)
    h. A floor system adequate to support a wheel load of 3,000 lbs or greater. (T-1607.1 & 1607.7)
39. Underground buildings having a floor level used for human occupancy more than 30-ft. below the lowest level of exit discharge shall comply with Section 405.

CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS

HEIGHTS AND AREAS

40. Show on the plans the proposed number of stories, occupancy groups, type(s) of construction, area justification, occupancy separations, and fire walls for this structure. Vent shafts and courts do not count as area. The mezzanine floor area must be included in the area of the story in which it is located. A single basement that is not a story above grade plane need not be included in the total allowable area, provided such basement does not exceed the area permitted for a building with no more than one story above grade plane. Provide an area breakdown by level.
41. Show the size, use, occupancy, and type of construction of all existing buildings on the site.
42. Show the maximum height of the structure on all elevation views and cross sections. (T-503)
43. Clearly show if the lower level is a basement as defined in 202 or a story above grade plane as defined in 202.
44. Provide allowable area modification calculations to comply with Section 506 for:
    a. Allowable area per floor (506.1)
    b. Allowable area for the entire building (506.4)
    c. Clearly identify whether accessory, separated, or nonseparated method is used. (508)
45. Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building if the height of each building and the aggregate area of buildings are within the limitations of Table 503 as modified by Sections 504 and 506. (503.1.2)
46. For the purposes of determining the required wall and opening protection and roof covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them. The imaginary line must be shown clearly on the plot plan. (705.31.2, 705.3)
47. Identify “Grade Plane” elevation for this project. Show the grade plane reference datum on all elevation and section drawings. (502.1)
48. For high-rise buildings, Group A, E, H, I, L, and R occupancies, the allowable area increase due to the installation of an automatic sprinkler system is NOT allowed in addition to the height and story increases allowed per Section 504.2. (506.3)
49. For Group R-2 buildings of Type VA construction, the sprinkler increase for height shall not exceed 4 stories or 60-ft. These increases are permitted in addition to the area increase per Section 506.3. (504.2)
50. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the area limitation in Table 503 is permitted to be increased by an additional 200% (IS=2) for buildings with two-stories or more and 300% (IS=3) for one-story buildings. (506.3)
51. On site plan, clearly delineate any frontage used to justify allowable area increases per Section 506.2. Complete and return the attached yard letter as part of the area modification. (506.2, BCM 506.2 A1)
52. Justify area frontage increase factor (If). Ratio of W/30 shall be limited to a value of 1.0 unless the building meets all the requirements of Section 507 except for the 60-ft. wide yards.
53. Yard at _____ is not accessible. It may not be used when calculating the area increase factor due to frontage. (506.2.2)

MIXED OCCUPANCY

54. The building as shown is a mixed-occupancy building. The building or portion thereof shall comply with Section 508.2 for accessory occupancies, 508.3 for nonseparated occupancies, or 508.4 for separated occupancies, or a combination of these sections. (508.3)
55. Justify the allowable area per story, total building area, and height for mixed occupancies separated in accordance with Section 508.4. (506.5)
56. For mixed occupancies separated in accordance with Section 508.4, a complete separation is required between Group _____ and Group _____ occupancies. Separation shall be fire barriers and/or horizontal assemblies, so as to completely separate the occupancies. Provide construction details. (508.4.4.1, T-508.4)
57. The aggregate area of all accessory occupancies shall not exceed 10% of the building area of the story in which they are located, and shall not exceed the tabular values in Table 503 without area increases. (508.2.1)
58. For buildings with mixed occupancies, the allowable area per story shall be based on the most restrictive provisions for either occupancy when the mixed occupancies are treated according to 508.3 (nonseparated). If treated per 508.4 (separated) the building area per story shall be such that the sum of the ratios of the actual building area divided by the allowable building area does not exceed 1.
59. Incidental uses shall be separated or protected, or both, in accordance with Table 509. Separation shall be fire barriers and/or horizontal assemblies, so as to completely separate the occupancies. Provide construction details. (509, T-509)

CHAPTER 6 TYPES OF CONSTRUCTION

TYPES OF CONSTRUCTION

60. Exterior walls shall have a fire-resistance rating not less than that specified in Table 601 and 602. Provide details of its construction. (602.1, 705.5)

61. An approved automatic sprinkler system shall be allowed to be substituted for 1-hr fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase per Section 506.3 or an allowable height increase per Section 504.2. The 1-hr substitution for the fire-resistance rating of exterior walls shall not be permitted. (T-601 footnote d)

62. This structure is type _____ construction. Show on the plans the required _____ hour roof, _____ hour exterior wall, _____ hour structural frame protection, and _____ hour floor construction. Detail clearly and cross-reference from plans to details. (T-601)

CHAPTER 7 FIRE-RESISTANCE-RATED CONSTRUCTION

EXTERIOR WALLS

63. Projections located where openings are required to be protected shall be fire-retardant-treated wood, heavy timber, or 1-hr. construction. (705.2.3)

64. Projections beyond the exterior wall shall not extend any closer to the line used to determine the fire separation distance than shown in T-705.2. Clearly show on elevations/cross section.

65. When two or more buildings are on the same property and they are not analyzed as one building, the buildings shall have an imaginary property line between them for the purpose of determining wall and opening protection and roof covering requirements. Clearly show the imaginary property line on the plot plan. (705.3)

66. When a new building is constructed on the same lot as an existing building, an assumed property line shall be placed between them at any point such that the exterior wall and opening protection requirements for the existing building will be maintained. (705.3)

67. No openings are permitted in any exterior wall located within _____ feet of the property line. (T-705.8)

68. The maximum area of unprotected or protected exterior wall openings in any story shall not exceed the values set forth in Table 705.8. Where both unprotected and protected openings are permitted, the total area shall be determined by Equation 7-2. (705.8, T-705.8)

69. Openings in exterior walls required to have protected openings shall have fire protection rating of (1/3) / (3/4) / (1-1/2) hour assemblies. (705.8.2, T-716.5, T-716.6)

70. Provide a minimum 30-in. high parapet at _____wall(s). (see 705.11 for exceptions)

71. Parapets shall have the same fire-resistance rating as the supporting wall. The uppermost 18" of the parapet wall facing the adjacent roof surface shall be of noncombustible face materials. (705.11.1)

INTERIOR WALLS

72. Provide a wall schedule and differentiate between fire walls, fire barriers, fire partitions, party walls, fire areas, shafts, smoke barriers, and smoke partitions, along with their fire-resistance ratings.

73. Each portion of a building separated by fire walls that comply with Section 706 may be considered a separate building. Fire walls shall not be considered to create separate buildings for the purpose of automatic fire sprinkler system requirements as set forth in Chapter 9. (706.1)

74. Clearly detail the (2) / (3) / (4) hour fire wall(s) to show compliance with Section 706:
    a. Detail how the fire wall(s) have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall, or shall be constructed as double fire walls per NFPA 221. (706.2)
    b. Fire walls shall be of noncombustible material, except in Type V Construction. (705.3)
    c. Extend vertically from the foundation to a point 30-in. above both adjacent roofs. (706.6)
    d. Fire walls to be continuous from exterior wall to exterior wall, plus at least 18-in. beyond exterior surface of exterior walls. (706.5)
    e. Total width of all openings is limited to 25% of the wall length in each story. (706.8)
    f. Each opening through a fire wall shall be protected in accordance with Section 716.5 and shall not exceed 156 sq. ft. (706.8)
    g. Combustible framing in fire walls shall be clearly detailed and meet the requirements of Section 706.7.
    h. Ducts and air transfer openings shall not penetrate fire walls. (706.11)

75. The building as shown contains party wall(s). A party wall shall be constructed as a fire wall in accordance with Section 706 without openings. (706.1.1)

76. Fire barrier continuity must be detailed in accordance with Section 707.5.

77. Openings in a fire barrier shall be protected in accordance with Section 716, limited to a maximum aggregate width of 25% and no opening shall exceed 156 sq. ft. (707.6)

78. Provide a fire barrier in accordance with Section 707 for:
    a. Shaft enclosures per Section 713.4.
    b. Interior exit stairways and ramps per Section 1022.1.
    c. Enclosures for exit access stairways and ramps per Section 1009.3.1.2.
    d. Exit passageways per 1023.3.
    e. Horizontal exits per Section 1025.1.
    f. Atriums per Section 404.6.
    g. Incidental uses at_____ per Table 509.
    h. Control areas per Section 414.2.4.

i. Separated occupancies per Section 508.4.
j. Fire areas per Table 707.3.10.

79. All structural elements supporting a fire barrier shall have the same fire-resistance rating as the fire barrier being supported. (707.5.1)

80. Provide a fire partition in accordance with Section 708.1 for:
    a. Walls separating dwelling units per Section 420.2.
    b. Walls separating sleeping units per Section 420.2.
    c. Corridor walls per Section 1018.1.
    d. Elevator lobby separation per Section 713.14.1.

81. Fire partition continuity must be detailed in accordance with Section 708.4.

82. Floor and roof assemblies required to have fire-resistance rating shall comply with the requirements of Section 711. Provide _____ hour horizontal assembly details.

83. Penetrations in fire-resistance-rated walls shall comply with Section 714.3. Through penetrations shall comply with Section 714.3.1.1 or 714.3.1.2, or as noted below: (713.3.1)
    a. Steel, ferrous or copper pipes may penetrate fire-resistance rated walls, provided the opening is protected as follows: (714.3.1 Exceptions)
        i. Item penetrating concrete or masonry walls is a maximum 6-in. nominal diameter and the area of the opening through the wall does not exceed 144 sq. in., concrete, grout or mortar is permitted where it is installed the full thickness of the wall or the thickness required to maintain the fire-resistance rating; or
        ii. When the annular space is protected with material that meets ASTM E 119 or UL 263.
    b. Penetrations shall be fire-stopped by a system installed as tested in accordance with ASTM E 814 or UL 1479, and shall have an F rating of not less than the required fire-resistance-rating of the wall penetrated. (714.3.1.2)
    c. Membrane penetrations of maximum 2-hr. fire-resistance-rated walls by steel electrical boxes are permitted, provided that each does not exceed 16 sq. in. in area and the total area of such openings does not exceed 100 sq. in. for any 100 sq. ft. of wall area, and the space between the wall membrane and the box does not exceed 1/8-in.. Additionally, outlet boxes on opposite sides of the wall shall be separated by a horizontal distance of not less than 24-in. (714.3.2 Ex. #1)
    d. Membrane penetrations by listed electrical boxes of any material are permitted provided such boxes have been tested for use in fire-resistance-rated assemblies, and the space between the wall membrane and the box does not exceed 1/8-in. unless listed otherwise. Additionally, outlet boxes on opposite sides of the wall shall be separated by the horizontal distance specified in the listing of the boxes. (714.3.2 Ex. #2)
    e. A fire sprinkler shall be permitted to be unprotected provided such space is covered by a metal escutcheon plate. (714.3.2 Ex. #5)
    f. Where walls are penetrated by other materials or openings larger than those mentioned above, they must be qualified by tests in accordance with Section 703.2.

84. Penetrations of fire-resistance-rated horizontal assemblies shall comply with Section 714.4. Through penetrations shall comply with Section 714.4.1.1.1 or 714.4.1.1.2, or as noted below: (713.4.1.1)
    a. Steel, ferrous or copper conduits may penetrate a single fire-resistance-rated floor assembly when the annular space is protected with material that meets ASTM E 119 or UL 263. (714.4.1.1 Ex. #1)
    b. Penetrating items, as noted above, with a maximum 6-in. nominal diameter shall not be limited to the penetration of a single fire-resistance rated floor assembly, provided that the area of the openings through each floor does not exceed 144 sq. in. (714.4.1.1 Ex. #2)
    c. Penetrations shall be fire-stopped by a system installed as tested in accordance with ASTM E 814 or UL 1479. The system shall have an F rating and T rating of not less than 1-hr. but not less than the required rating of the floor penetrated. (714.4.1.1.2)
    d. Membrane penetrations by listed electrical outlet boxes are permitted provided such boxes have been tested for use in fire-resistance-rated assemblies, and the space between the ceiling membrane and the box does not exceed 1/8-in. unless listed otherwise. (714.4.1.2 Ex. #4)
    e. A fire sprinkler shall be permitted to be unprotected provided such space is covered by a metal escutcheon plate. (714.4.1.2 Ex. #5)

85. Fire-resistance-rated assemblies shall be supported with a structural system having an equivalent fire-resistance-rated protection. (704.1)

86. Envelope ceilings cannot be used to provide fire protection for members of the primary structural frame supporting more than two floors or one floor and roof, or supporting a load-bearing wall or a non-load-bearing wall more than two stories high. (704.3)

87. Where columns are required to be fire-resistance rated, the entire column, including its connections, shall be protected. Columns must be individually fire protected. (704.2)

88. Note on plans: materials exposed within ducts or plenums shall be noncombustible or shall have a flame spread index < 25, and a smoke developed index < 50. (MC 602.2)

89. Required fire-rated corridors (including the space above the non-rated dropped ceiling) shall not be used as a return air plenum. (MC 602.1)

90. No mechanical duct penetrations are permitted (except for those independent systems serving the interior exit stairway or ramp) through walls or ceilings. (1022.5) (716.3.1)

91. Fire and/or smoke dampers are required at ducts and air transfer openings that penetrate fire walls, fire barriers, fire partitions, shaft enclosures, corridors, _____. Show all dampers and their required ratings on the mechanical plan. (717.5, T-717.3.2.1)

92. Smoke dampers shall be installed at penetrations in the following locations: (717.5)
    a. Corridors.
    b. Smoke barriers.
    c. Fire walls or fire barriers that serve as a horizontal exit.
    d. Smoke partitions.

93. Fire dampers shall be installed at penetrations in the following locations: (717.5)
    a. Fire walls.
    b. Fire barriers in other than high-rise buildings, Group A, E, H, I, L and R occupancies.
    c. Fire partitions.
    d. Exterior walls required to have protected openings.

94. Combination fire and smoke dampers shall be installed at penetrations in the following locations: (717.5)
    a. Fire barriers in high-rise buildings, Group A, E, H, I, L and R occupancies.
    b. Shaft enclosures.

95. Fireblocking shall be installed in combustible concealed locations in accordance with 718.2 in the following locations: (Provide details)
    a. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
        i. Vertically at the ceiling and floor levels.
        ii. Horizontally at intervals not exceeding 10-ft.
    b. At all interconnections between concealed vertical stud wall or partition spaces and concealed horizontal spaces created by an assembly of floor joists or trusses, and between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings, cove ceilings and similar locations.
    c. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall also comply with 1009.6.3.
    d. Where annular space protection is provided in accordance with Section 712.1.7 or 718.2.5.1,fireblocking shall be installed at openings around vents, pipes, ducts, chimneys and fireplaces with an approved material to resist the free passage of flame and the products of combustion.

96. Draftstopping shall be installed in combustible concealed locations in accordance with 718.3 and 718.4, respectively, at the following locations: (Provide details)
    a. In floor-ceiling assemblies of Group R occupancies above and in line with the dwelling unit and sleeping unit separations. (718.3.2)
    b. In attics and concealed roof spaces of Groups R-1 and R-2 above and in line with the dwelling unit and sleeping unit separations. (718.4.2)
    c. Show draft-stop construction on the plans. Draftstopping materials shall not be less than 0.5-in. gypsum board, 0.375-in. wood structural panel, 0.375-in. particleboard, 1-in. nominal lumber, cement fiberboard, batts or blankets of mineral wool or glass fiber, or other approved materials adequately supported. (718.3.1)
    d. Openings in the partitions shall be protected by self-closing doors with automatic latches constructed as required for the partitions. (718.4.1.1)

CHAPTER 8 INTERIOR FINISHES

INTERIOR FINISHES

97. Where interior finish materials are applied on walls, ceilings or structural elements required to have a fire-resistance rating or to be of noncombustible construction, they shall comply with the requirements of Section 803.11. Provide details and note accordingly.

98. The flamespread index of interior walls and ceiling finishes within the corridor, interior exit stairways, and exit passageways shall be Class _____. Clearly note on plans or finish schedule. (803.9, T803.9)

99. Indicate on plans that interior finish materials applied to walls and ceilings shall be tested as specified in Section 803. Provide details showing application in accordance with Section 803.1 and Table 803.9.

CHAPTER 9 FIRE PROTECTION SYSTEMS

FIRE PROTECTION SYSTEM

100. Fire barriers used to create separate fire areas shall have a fire-resistance rating in accordance with Section 707.3.9. (901.7)

101. An automatic sprinkler system is required throughout all buildings with a Group R fire area. Note on plans: "This building must be equipped with an automatic fire extinguishing system complying with (NFPA 13) / (NFPA 13R) / (NFPA 13D). The sprinkler system shall be approved prior to installation." (903.2.8, 903.3.1)

102. Increases in allowable building height, area, or reductions in building code requirements based on the installation of automatic sprinkler system is not permitted when utilizing NFPA 13R type residential sprinkler system. (903.2.8, 903.3.1.2, 504.2, 506.3, T-601)

103. An approved automatic sprinkler system is required throughout the (entire building) / (fire area) where the (building) / (fire area) contains any of the following: (903.2)
    a. Group_____ occupancy
    b. The fire area exceeds _____ sq. ft.

c. The fire area has an occupant load of _____

d. _____

104. An automatic sprinkler system shall be installed in all stories, including basements, where the floor area exceeds 1,500 sq. ft. where exterior wall openings in accordance with Section 903.2.11.1 is not provided on at least one side.

105. Show the locations on the plans of Class I, II or III standpipe (dry, wet, combination) systems where required in this building. (905)

106. Sprinkler heads are required in rubbish and linen chutes and in their terminal room. Chute sprinklers shall be accessible for servicing. Provide a section view through the shaft. (903.2.11.2)

107. A (manual) / (automatic) fire alarm system is required for Group _____ occupancy. (907.2)

108. Show location(s) of interconnected hard-wired smoke smoke alarms with battery backup in the following: (907.2.11)
    a. Group R-1:
        i. In sleeping areas.
        ii. In every room in the path of egress from the sleeping area to the door leading from the sleeping unit.
        iii. In each story within the sleeping unit, including basements.
    b. Groups R-2, R-2.1 R-3, R-3.1 and R-4:
        i. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
        ii. In each room used for sleeping purposes.
        iii. In each story within a dwelling unit, including basements.
        iv. In Group R-3.1, in addition to the above, throughout the habitable areas of the dwelling unit except kitchens.
    c. Provide a note: "Smoke alarm shall be interconnected hard-wired with battery backup and shall be installed in accordance with NFPA 72."

CHAPTER 10 MEANS OF EGRESS

EXITS

109. Clearly indicate occupancy groups and occupancy loads throughout the structure(s) and tabulate on the front sheet of the plans. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area. (1004.1)

110. The gross floor area is to be used in the occupant load calculation per Table 1004.1.2.

111. Submit an exit plan that labels and clearly shows compliance with all required egress features such as, but not limited to, common path of egress travel, required number of exits, occupant load, required width, continuity and travel distance. (1001.1)

112. The total width of means of egress in inches shall not be less than the total occupant load served by the means of egress multiplied by 0.3 inches per occupant for stairways and by 0.2 inches per occupant for other egress components. The width shall not be less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The net clear width shall be used in determining the provided exit width. (1005.3, 1005.3.2, 1005.5)

113. Where means of egress from an upper floor and a lower floor converge at an intermediate floor, the width of the exit from the intermediate floor shall be based on the sum of the occupant loads of such upper and lower floors. (1005.6)

114. The means of egress shall have a ceiling height of not less than 7-ft. 6-in. Protruding objects may not reduce the headroom below 80-in. above any walking surface and no more than 50% of the ceiling area of a means of egress may be reduced. (1003.2, 103.3.1)

115. Structural elements, fixtures, or furnishings shall not project horizontally from either side more than 4-in. over any walking surface between the heights of 27-in. and 80-in. above the walking surface. Exception: Handrails serving stairs and ramps are permitted to protrude 4.5-in. from the wall. (1003.3.3)

116. Two exits are required from: (1015.1, 1021.2)
    a. Space with occupant load exceeding the values in T-1015.1.
    b. Space where the common path of egress travel exceeds the limitations of Section 1014.3.
    c. Areas specified by Section 1015.3, 1015.4, and/or 1015.5.
    d. Stories exceeding the values specified in T-1021.2(1) and T-1021.2(2).
    e. Buildings with number of stories, number of occupants, and/or travel distance exceeding the maximums specified in T-1016.2.

117. Based on the occupant load, travel distance, use, and/or number of stories provide _____ exits from _____ room located on the _____ floor. (T-1015.1, T-1021.2(1), T-1021.2(2))

118. Where two or more exits of exit-access doorways are required, at least two must have a minimum separation of one-half of the overall maximum diagonal dimension of the building or area served measured in a straight line between the exit doors or exit access doorways. Two exits, separated by _____ feet at the floor and/or roof are required. (1015.2.1)

119. Elevators, escalators, and moving walks shall not be used as a required means of egress component. (1003.7)

120. The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in Chapter 10. The required capacity of a means of egress system shall not be diminished along the path of egress travel. (1003.6)

121. Egress from a room or space shall not pass through adjoining or intervening rooms or areas which are not accessory to the area served or which are high-hazard occupancy areas. (1014.2)

122. Egress shall not pass through kitchens, storage rooms, closets, and similar spaces. (1014.2)

123. Where elevation changes of less than 12-in. occur along the means of egress, sloped surfaces shall be used. Where the slope is greater than 1:20 (5%), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6-in. or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finishes. (1003.5)

124. This structure has ramps. Provide adequate detailing to show that the width, slope, landings, and handrails meet the requirements of Section 1010. Ramps required for the physically disabled must be a minimum of 4-ft. wide. (1010, 11B-405)

CORRIDORS

125. Corridor and egress balcony width shall be not less than ____-in., or as required by Section 1005.1. (T-1018.2. 1019.1)

126. Dead end corridors and egress balconies are limited to 20-ft. in length where more than one exit or exit access doorway is required. (1018.4, 1019.1)

127. Corridors shall be fire-resistance rated as required by Table 1018.1. Provide referenced sections and details at all corridors. (1018.1)

128. Fire-resistance rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms. (1018.6)

DOORS

129. The gate located at _____ is a component in a means of egress system. Show compliance with Section 1008. (1008.2)

130. Each leaf of door in the means of egress shall provide a minimum clear opening of 32-in. and a minimum height of 6-ft. 8-in., but in no case shall any swinging door leaf exceed 48-in. (1008.1.1)

131. Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy. (1008.1.2)

132. Space between two doors in a series shall be 48-in. minimum plus the width of a door swinging into the space. Doors in a series shall swing either in the same direction or away from the space between the doors. (1008.1.8)

133. Egress doors or gates shall be openable from the egress side without the use of a key, special knowledge or effort. Door handles, pulls, latches, locks, and other operating devices shall be installed 34 to 48-in. above the finished floor. Manually operated flush bolts or surface bolts are not permitted. The unlatching of any door or leaf shall not require more than one operation. (1008.1.9)

134. Plans must indicate/detail the floor or landing on each side of doors is not more than 1/2-in. lower than the threshold. Raised thresholds and floor level changes greater than 1/4-in. at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal. (1008.1.7)

135. Landing shall be provided on each side of doors. Such landings shall be at the same elevation on each side of the door. Landings shall have a width not less than the width of the door and a length measured in the direction of travel not less than 44-in. (1008.1.5, 1008.1.6)

136. Doors shall not project more than 7-in. into the required landing dimensions when fully opened, or more than one half into the required landing width when open in any position if the landing serves 50 or more occupants. Provide details showing compliance. (1008.1.6)

STAIRWAYS

137. Provide details for all interior and exterior stairways showing the following: (1009, 1012)
    a. Maximum 7-in., minimum 4-in. rise and minimum 11-in. run (tread).
        i. For stairways within dwelling units only, provide maximum 7.75-in. rise and minimum 10-in. run (tread). Where tread depth is < 11-in., a nosing between 0.75-in. and 1.25-in. shall be provided.
    b. The tolerance between the largest and smallest riser height and/or tread depth shall not exceed 0.375-in. in any flight of stairs.
    c. Minimum headroom over the stairs of 6-ft. 8-in.
    d. Minimum 36-in. clear width where the occupant load is less than 50 and 44-in. otherwise.
    e. Provide handrails at both sides. The handrail height shall be 34-in. to 38-in. above the nosing, with 1-1/2-in. clearance to the wall, and ends returned to the wall. Open handrails shall have intermediate rails or an ornamental pattern such that a 4-in. sphere in diameter cannot pass through.
    f. Handgrip portion of handrails shall not be less than 1-1/4-in. nor more than 2-in. in cross-sectional dimension having a smooth surface with no sharp corners.
    g. At least one handrail shall extend 12-in. beyond the top riser and one tread depth beyond the bottom riser.
    h. Stairway framing, connections, bracings, and footings.

i. One-hour construction for the enclosed usable space under the stairs.
j. Stairway landings(s) (36-in.) / (44-in.) / (48-in.)
k. 12-ft. maximum vertical rise without floor/landing.

138. Where alternative stairways are used, provide sufficient details to show compliance with Sections 1009.6, 1009.11, 1009.12, and/or 1009.13.

139. Spiral stairways shall meet the following: (1009.12)
   a. May only be used for egress within a dwelling unit or for an area not more than 250 sq. ft. and not more than 5 occupants.
   b. Submit shop drawings for spiral stairway showing compliance with Section 1009.12.
   c. Details clearly showing column top and base connections and footing.

140. This structure contains exit enclosures (interior exit stairways or interior exit ramps). Show compliance with the following: (1022)
   a. Exit enclosures shall NOT be used for any purpose other than means of egress.
   b. Openings are limited to those necessary for egress from normally occupied spaces.
   c. Provide 1-hr. / 2-hr. rated construction details.
   d. Exit enclosure opening protection shall be in accordance with the requirements of Section 716.
   e. Penetrations into and openings through an exit enclosure are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems, and electrical raceway serving the exit enclosure and terminating at a steel box not exceeding 16 sq. in. Such penetrations shall be protected in accordance with Section 714.

141. A barrier in the interior exit stairway is required to prevent accidental entry into the levels below the level of exit discharge. (1022.8)

142. Buildings 4 or more stories in height shall be provided with approved roof hatches openable to the exterior having an area of not less than 16 sq. ft. and a minimum dimension of 2-ft. (1009.16)

OTHER COMPONENTS

143. Detail guards when located along open-sided walking surfaces, mezzanines, equipment platforms, stairways, ramps, and landings that are located more than 30-in. above the floor or grade below. Have a minimum height of 42-in. (1013.3)
   a. Openings between intermediate rails or an ornamental pattern such that a 4-in. diameter sphere cannot pass through. (1013.4)
   b. Shall be designed for 50-plf applied in any direction at the top and to transfer the load through the supports of the structure. (1607.8.1)
   c. Shall be designed for a 200 lb concentrated load applied in any direction at any point along the top. (1607.8.1.1)
   d. Glass panel guards shall be designed for a factor of safety of 4 min. Specify approval number and manufacturer of glass panel guard on plans and provide details. (2407)

144. Provide emergency escape and rescue openings from basements and every sleeping room below the fourth story. Windows must meet all of the following: (1029)
   a. A net clear opening area of not less than 5.7 sq. ft.
   b. A minimum clear height of 24-in.
   c. A minimum clear width of 20-in.
   d. The bottom of the clear opening not greater than 44-in. measured from the floor.

145. Exterior exit balconies, stairways and ramps shall be located at least 10-ft. from adjacent lot lines and from other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance. (1019.4, 1026.5)

146. Exterior exit ramps and stairways shall be open a minimum of 35 sq. ft. on at least one side. The open area shall be located not less than 42-in. above the adjacent floor or landing level. (1026.3)

147. Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections. (1019.1)

148. Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required by corridors. (1019.2)

149. The long side of an egress balcony shall be at least 50 percent open, and the open area above the guard shall be distributed to minimize the accumulation of smoke or gases. (1019.3)

150. Note on plans: “Any time the building or portion of the building is occupied, the means of egress serving the occupied portion shall be illuminated at an intensity of not less than1 foot-candle (11 lux) at the walking surface level.” (1006)

151. The path of egress travel to exits and within exits in this building shall be identified by exit signs conforming to the requirements of Section 1011 and as noted below:
   a. Exit signs shall be readily visible from any direction of egress travel.
   b. Exit signs shall be located as necessary to clearly indicate the direction of egress travel.
   c. No point in a corridor shall be more than 100-ft. or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

152. Exit signs shall be internally or externally illuminated. Internally illuminated exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer’s instructions and Chapter 27. Externally illuminated exits signs shall comply with the graphics and power source requirements in Sections 1011.6.1 and 1011.6.3 respectively. When the face of an exit sign is illuminated from an external source, it shall have an intensity of not less than 5-foot-candles (54 lux). (1011.3).

153. The power supply for means of egress illumination shall be provided by the premise's electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following areas: (1006.3)
    a. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
    b. Corridors, interior exit stairways and ramps, and exit passageways in buildings required to have two or more exits.
    c. Exterior egress components at other than the level of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
    d. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
    e. Exterior landings, as required by Section 1008.1.6, for exit discharge doorways in buildings required to have two or more exits.
154. The emergency power system shall also be connected to an emergency electrical system which is to provide continued illumination for a duration of not less than 1-1/2 hr. in case of primary power loss. Continued illumination is to be provided from storage batteries, unit equipment, or an on-site generator and the installation of the emergency power system shall be installed in accordance with Chapter 27. (1006.3)
155. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1-foot-candle (11 lux) and a minimum at any point of 0.1-foot-candle (1 lux) measured along the path of egress at floor level. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. (1006.3.1)

CHAPTER 12 INTERIOR ENVIRONMENT

INTERIOR ROOM, LIGHT AND VENTILATION

156. Provide a door and window schedule. Show type/opening action and size of each.
157. Show the following on plans:
    a. At least one habitable room shall have a minimum net area of 120 sq. ft. (1208.3)
    b. Other habitable rooms shall have a minimum net area of 70 sq. ft. (1208.3)
    c. A kitchen shall have a minimum gross area of 50 sq. ft. (1208.3 Ex.)
    d. Habitable spaces shall not be less than 7-ft. in any plan dimension, except kitchens. (1208.1)
    e. Occupiable spaces, habitable spaces, hallways and corridors shall have a ceiling height of no less than 7-ft. 6-in. (1208.2)
    f. Bathrooms, toilet rooms, kitchens, storage rooms, and laundry rooms shall have a ceiling height of no less than 7-ft. (1208.2)
    g. Kitchen shall have a clear passageway of not less than 3-ft. (1208.1)
    h. A minimum 30-in. clear width for water closets and 24-in. clearance in front of water closet for _____ bathroom. (PC 407.5)
158. Minimum openable area of habitable rooms must be 4% of the floor area. This is deficient in _____. (1203.4.1)
159. In lieu of exterior openings for habitable rooms, a mechanical ventilating system meeting the requirements of the MC may be provided. Submit to the Mechanical Section for plan check. Approval required prior to permit issuance. (1203.1)
160. Rooms containing bathtubs, showers, spas and similar bathing fixtures shall be provided with an exhaust fan with a minimum capacity of 50 CFM. Ductless fans are not acceptable. (1203.4.2.1, MC T-4-4)
161. Aggregate glazing area of habitable rooms must be minimum 8% of the room floor area. This is deficient in _____. (1205.2)
162. In order to consider any room as a portion of an adjoining room, at least 1/2 of the common wall area shall be open and unobstructed and shall provide an opening of not less than 1/10 the floor area of the interior room or 25 sq. ft., whichever is greater. Show that the common wall between _____ and _____ complies. (1205.2.1)
163. Openings required for natural light and ventilation shall be permitted to open into a thermally isolated sunroom or patio cover provided that:
    a. For natural light a glazed area of not less than 1/10 of the floor area of the interior room or 20 sq. ft., whichever is greater. (1205.2.1 Ex.)
    b. For natural ventilation an openable area of not less than 8% of the floor area of the interior room or space, but not less than 20 sq. ft. (1203.4.1.1 Ex.)
164. Where openings below grade provide required natural ventilation, the outside horizontal clear space measured perpendicular to the opening shall be 1-1/2 times the depth of the opening measured from adjoining ground level to the bottom of the opening. (1203.4.1.2)
165. For the purpose of providing natural light or ventilation at exterior openings of buildings, yards shall not be less than 3-ft. in width for buildings two stories or less. For buildings more than two stories, the minimum width of the yard shall be increased by 1 foot for each additional story. (1206.2)
166. Porch over required windows at _____ must have a minimum clear height of 7-ft. with longer side at least 65% open and unobstructed. (1205.2.2 Ex. 1)
167. In other than dwelling units, toilet and bathing room floors shall have a smooth, hard, nonabsorbent surface such as Portland cement, ceramic tile or other approved material that extends upward onto the walls at least 4-in. (1210.1)

168. All shower compartments, regardless of shape, shall have a minimum finished interior area of not less than 1,024 sq. in. and shall be capable of encompassing a 30-in. diameter circle. Shower doors shall swing out and provide a minimum 22-in. unobstructed opening for egress. (PC 411.6, PC 411.7)
169. Shower compartments and walls above bathtubs with installed shower heads shall be finished with a smooth, nonabsorbent surface to a height not less than 70-in. above the drain inlet. (1210.2.3)
170. Occupancies and operations involving flammable or combustible hazards or other contaminant sources shall be ventilated in accordance with the Mechanical Code. (1203.5)
171. Provide a note on plans: "All stairways shall have an illumination level on tread runs of not less than 1 foot-candle (11 lux). (1205.4)
172. This plan contains _____ courts. Provide details of the proposed wall construction, opening protection and stair protection. (202, 1206.3, 1203.4.3,1027.4.2)
173. The width of courts shall meet the following: (1206.3)
    a. Not less than 3-ft. in width
    b. Not less than 6-ft. in width where openings occur on opposite sides
174. Courts shall not be less than 10-ft. in length unless bounded on one end by a public way or yard. (1206.3)
175. Courts located in buildings more than 2 stories in height shall be increased: (1206.3)
    a. 1-ft. in width for each additional story
    b. 2-ft. in length for each additional story
176. Access shall be provided at the bottom of courts for cleaning purposes. (1206.3.1)
177. Courts more than 2 stories shall be provided with horizontal air intake at the bottom not less than 10 sq. ft. in area and leading to the exterior of the building. (1206.3.2)
178. Courts shall be properly graded and drained to an approved disposal system. (1206.3.3)
179. Attic vents shall meet the following: (1203.2)
    a. Show ventilation type, size, and location on the plans.
    b. The net free ventilating area shall not be less than:
        i. 1/150 of the attic space OR
        ii. 1/300 provided at Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling in Climate Zones 14 and 16.
        iii. 1/300 provided at least 40% and not more than 50% of the required ventilation area is located within 3-ft. below the ridge or highest point of the space, with the balance of the required ventilation provided by eave or cornice vents.
    c. Openings shall have corrosion-resistant wire mesh or other approved material with 1/16-in. minimum and 1/4-in. maximum opening.
    d. A minimum of 1-in. airspace shall be provided between insulation and roof sheathing.
180. Show location of 20-in. x 30-in. attic access with 30-in. minimum headroom. (1209.2)
181. Under-floor vents shall meet the following requirements: (1203.3)
    a. Show ventilation type, size, and location on the plans.
    b. Openings shall be placed so as to provide cross ventilation of the under-floor space
    c. The net free ventilating area shall not be less than 1/150 of the crawl-space area.
    d. Openings shall have corrosion-resistant wire mesh or other approved material with 1/8-in. minimum and 1/4-in. maximum opening.
182. Show location of 18-in. x 24-in. minimum under-floor access opening. (1209.1)
183. Access to mechanical appliances in under-floor areas, in attic spaces, and on roofs or elevated structures shall be in accordance with the County of Los Angeles Mechanical Code. (1209.3, MC 904.11)

SOUND TRANSMISSION

184. Identify all airborne sound insulated wall assemblies and all airborne and impact sound insulated floor-ceiling assemblies on the floor plans.
185. Wall and floor-ceiling assemblies separating dwelling units or guest rooms from each other and from public areas such as interior corridors, garages and mechanical areas shall provide airborne sound insulation for walls, and both airborne and impact sound insulation for floor-ceiling assemblies.
186. Provide construction details of airborne sound insulated wall assemblies between _____ and _____. A sound transmission class (STC) rating of 50 is required. (1207.2)
187. Provide construction details of airborne sound and impact sound insulated floor-ceiling assemblies between _____ and _____. A sound transmission class (STC) rating of 50 and impact insulation class (IIC) of 50 is required. (1207.2, 1207.3)
188. The entrance doors to residential units from interior corridors shall have a minimum STC rating of 30. Solid-core 1-3/8-in. thick wood doors with acoustic seals all around perimeter including thresholds will meet this requirement. (BCM 1207 A1)
189. Sound transmission control between adjacent dwelling units and between dwelling units and adjacent public or service areas is required. Provide details and notes on the plans as prescribed in BCM 1207 A1.
190. Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. Provide construction details and notes on the plans as prescribed in BCM 1207 A2 and BCM 1207 A3. (1207.4)

CHAPTER 14 EXTERIOR WALLS

191. Provide veneer details showing method of anchorage, size and spacing of anchors. Comply with the prescriptive requirements in Section 1405, or provide calculations for anchorage.

CHAPTER 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

192. The minimum roof coverings installed on buildings shall comply with Table 1505.1 based on the type of construction of the building. (1505.1)
193. Identify on the plans the fire-retardant roof classification, manufacturer's name, and ICC/UL report number. (1506.3)
194. Provide specifications for roofing material and application.
195. Specify approved weatherproof walking surface material at decks and balconies.
196. Clay and concrete tile attachment shall comply with Table 1507.3.7. Note and/or show compliance on plans. (1507.3.7)
197. Roof slope is not adequate for the type of roof covering specified. The minimum roof slope for _____ roof is _____. (1507)
198. Show roof slope(s), drain(s) and secondary drain(s) or scupper(s) on the roof plan. Roof drainage system shall comply with the following requirements: (1503.4, PC 1108)
    a. Size the roof drains and overflow drains in accordance with Chapter 11 of the Plumbing Code.
    b. System shall be sized for minimum rain intensity of 3-in. per hour.
    c. Secondary roof drains having the same size as the primary roof drains shall be installed with the inlet flow line located a minimum 2-in. above the low point of the roof.
    d. Scuppers through parapet walls adjacent to the low point of the roof may be used as secondary roof drainage. Scupper openings shall be a minimum of 4-in. high and have a width equal to the circumference of the roof drain required for the area served.
199. Show that the penthouse and/or roof structures satisfy the requirements of Section 1509.2.

CHAPTER 24 GLASS AND GLAZING

200. Each pane of safety glazing installed in hazardous locations shall be identified by a manufacturer's designation specifying who applied the designation, the manufacturer or installer, and the safety glazing standard. The following shall be considered specific hazardous locations for the purpose of safety glazing. Glazing in: (2406)
    a. Swing doors.
    b. Fixed and sliding panels of sliding door assemblies and panels in sliding and bi-fold closet door assemblies.
    c. Storm doors.
    d. Unframed swinging doors.
    e. Doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs, and showers.
    f. Fixed or operable panels adjacent to a door where the nearest exposed edge of the glazing is within 24-in. arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60-in. above the walking surface.
    g. Fixed or operable panel, other than described in items e and f, which meets all of the following conditions:
        i. Exposed area of an individual pane greater than 9 sq. ft.
        ii. Exposed bottom edge less than 18-in. above the floor.
        iii. Exposed top edge greater than 36-in. above the floor.
        iv. One or more walking surfaces within 36-in. horizontally of the plane of the glazing.
    h. Guards and railings regardless of area or height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels.
    i. Walls and fences enclosing indoor and outdoor swimming pools and spas where all of the following conditions are present:
        i. The bottom edge of the glazing is less than 60-in. above a walking surface on the pool or spa side of the glazing.
        ii. The glazing is within 60-in. of a swimming pool or spa water's edge.
    j. Adjacent to stairways, landings, and ramps within 36-in. horizontally of a walking surface; when the exposed surface of the glass is less than 60-in. above the plane of the adjacent walking surface.
    k. Adjacent to stairways within 60-in. horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 36-in. above the nose of the tread.
201. Specify the approval number, manufacturer, and model number for skylights and indicate on the plans if they are glass or plastic Glass skylights shall comply with 2405. Plastic skylights shall comply with 2610.

CHAPTER 25 GYPSUM BOARD AND PLASTER

202. Provide a minimum 26-gage corrosion-resistant weep screed for stucco at the foundation plate line a minimum of 4-in. above the earth or 2-in. above paved areas. (2512.1.2)

203. Cement, fiber-cement or glass mat gypsum backers in compliance with ASTM C1178, C1288 or C1325 shall be used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas. Water-resistance gypsum backing board shall be used as a base for tile in water closet compartment walls when installed in accordance with GA-216 or ASTM C840. Regular gypsum wallboard is permitted under tile or wall panels in other wall and ceiling areas when installed in accordance with GA-216 or ASTM C840. Water-resistant gypsum board shall not be used in the following locations: (2509.2)
    a. Over a vapor retarder.
    b. In areas subject to continuous high humidity, such as saunas, steam rooms or gang shower rooms.
    c. On ceilings where frame spacing exceeds 12" O.C. for 1/2" thick and more than 16" O.C. for 5/8" thick.

STRUCTURAL REQUIREMENTS

204. Allowable values for structural design shall be per the 2014 County of Los Angeles Building Code, including all call outs and references.
205. Specify the roof and floor live loads, roof snow loads, wind design data including wind speed and exposure, and earthquake design data including Seismic Design Category and wall bracing method. Include references to design factors and span tables. (1603)
206. The lateral design shall be based on the most restrictive of either the wind or seismic forces per Los Angeles County Building Code Section 1609 and 1613.
207. Wind analysis that does not comply with the conditions of the simplified shall comply with Analytical procedure (ASCE 7-10, Chapters 26-31).
208. Seismic analysis that does not comply with conditions of Simplified Base Shear Design (ASCE 7-10 12.14) must comply with the Equivalent Force Procedure as set forth in ASCE 7-10 12.8.
209. The Site Coefficients are Fa=___ and Fv=___, per ASCE &-10 Tables 11.4-1 and 11.4-2.
210. The Architect or Engineer of record shall specify Ss & S1
211. The seismic response coefficient, Cs, is permitted to be calculated using a value of 1.5 for Ss for regular buildings with conditions per ASCE 7-10 Section 12.8.1.3
212. p=1.3, except where the condition on ASCE 7-10 12.3.4.2 are met.
213. Structural Observation is required per Section 1710.1. Photocopy/blueprint the attached LA County Structural Observation Program form on the plans.
214. The required snow load for this area is _____ psf. The tributary live load reduction in section 1607.10 is not permitted.
215. For the design wind load in this area, use basic wind speed of _____ mph (1609, ASCE7 Ch. 23-31.)
216. Cross-reference all calculations for columns, beams, shear walls, etc., from the calculations to the plans.
217. Delete notes and details on sheets _____ that do not apply to this project. (106.4.3)
218. Key or identify all sections and details as to their location on the plan or elevation views. (106.4.3)
219. Indicate the grade and species of framing lumber, treated mudsills, strength of concrete, mix of mortar and grout, grade and weight of masonry units, glued-laminated timbers, grades of reinforcing steel, pipes, tubes and framing steel, design soil pressures, and _____ _____.
220. NOTE ON THE PLANS: "The use of rolled steel sections and/or bolts manufactured outside the United States will require verification that the products comply with applicable ASTM Standards. Mill certificates will be required for all steel. Steel grades other than ASTM-A36 will require testing by an approved laboratory. All foreign bolts must be approved by County of Los Angeles Building and Safety prior to their use."
221. Note on the plans: "Fasteners for preservative-treated or fire-retardant-treated wood shall be of hot dipped zinc-coated galvanized steel in accordance with ASTM A 153. Field-cut ends, notches and drilled holes of preservative-treated wood shall be field-treated per AWPA M4." (2304.9.5)
222. Submit design and details of trussed rafters with a layout plan, complete calculations and connector plate design. Submit attached "Certificate of Approval" to building inspector prior to framing inspection. (2303.4)
223. Engineer or Architect of Record shall review, approve and stamp truss design for loads, location and suitability for intended use. (106.4.3) (2303.4)
224. Plywood roof panels shall be bonded with exterior glue. (2304.7.2)
225. For wood structural panel roofs and floors, specify panel index no._____, panel thickness, grades, nailing schedule and panel layout pattern. Note on the plans "Roof diaphragm nailing to be inspected before covering". Face grain of plywood shall be perpendicular to supports. Floors shall have tongue and groove or blocked panel edges. Wood structural panel spans shall conform to T-2304.7 (3) & T-2304.7 (5).
226. Studs in bearing walls are limited to 10-ft. in height unless an approved design is submitted. (T2308.9.1)
227. Provide details for the header support at the corner window(s) at _____. (106.4.3)
228. Studs supporting two floors, roof and ceiling, must be 3x4 or 2x6 studs at 16-in. O.C. max (T-2308.9.1). Submit calculations showing that the allowable stress in compression perpendicular to grain is not exceeded in the plates at the proposed stud spacing.

229. Provide details of the lateral support for the top and bottom of the interior non-bearing walls. (1607.14)

230. Clearly specify on the plans all wood structural panel walls, Portland cement (stucco) walls, and drywall shear walls. All shear panels shall conform to the height width ratio per 2306.3 and SDPWS T-4.3.4.

231. Provide a complete nailing and top and bottom connector schedule for each shear panel. (2306.3) Detail how shear walls or lateral force resisting elements are connected to roof and floor diaphragms. Reference the shear connection details to all shear walls or lateral force resisting systems. OR Detail the shear transfer connections which transfer lateral forces from horizontal diaphragms through intermediate elements and shear walls to the foundation.

232. Note on the plans: "Hold-down connector bolts into wood framing require 0.229-in. x 3-in. x 3-in. plate washers on the post opposite the hold-down," and "hold-downs shall be tightened to finger tight plus one-half wrench turn prior to covering the wall framing." (2305.5)

233. Where design shear values exceed 350 pounds per foot, foundation sill plates and all framing members receiving edge nailing from abutting panels shall be not less than a single 3x or 2-2x nominal or larger member. (2306.3, T-2306.3(2))

234. Portland cement plaster (stucco), gypsum lath and gypsum wallboard shear walls are not permitted below the top level in a multi-level building for structures assigned to Seismic Design Category D.

235. Portland cement plaster (stucco), gypsum lath and gypsum wallboard shear walls are not permitted in Seismic Design Categories E and F. (2306.7, T-2306.7)

236. Narrow shear panels, not meeting the height to width ratio of SDPWS T-4.3.4, shall meet the following criteria:

    a. All installations shall use the respective manufacturer's anchor bolt template, and otherwise be installed per the manufacturer's installation instructions and specifications.

    b. The use of narrow shear panels in line with other types or widths of panels requires justification by a rigorous engineering analysis. The analysis must account for the nonlinear force displacement behavior of each panel assembly and the distribution of the lateral forces shall be in accordance with the relative rigidities of the panels at the design load.

    c. The listed values of the panels shall be based on tests conducted in accordance with AC120 /SEAOCS protocol.

237. Provide referenced calculations showing the over-turning moments in all shear wall segments . (SDPWS 4.3.6.4.2)

238. The capacity of hold-down connectors that do not consider cyclic loading of the product shall be reduced to 75% of the allowable earthquake load values. (2305.5)

239. Show size, location and embedment length of hold-down anchors on the foundation plan. Note on the plans that hold-down hardware must be secured in place prior to foundation inspection. (ASCE7-10 12.8.5)

240. Provide details showing positive connection between beam ends, walls and supporting posts. (106.4.3)

241. Light frame cold-formed steel shear walls and diaphragms that are part of the lateral load resisting system shall be designed in accordance with AISI S213. Nominal shear values for shear walls framed with cold-formed steel studs other than 33 mils (20 gauge) shall be justified by complete analysis or tests. (2210.6)

242. Horizontal diaphragms shall not exceed a span to width ratio of 4 to 1. (SDPWS T-4.2.4)

243. Provide a diaphragm analysis for roof and floor to show diaphragm adequacy. Specify if diaphragms are to be blocked or unblocked per Table 2306.2.1 (3&4). (2306.2.1)

244. Provide drag strut(s) at_____. Show drag strut details.

245. For shear walls with openings, design the force transfer around the openings per SDPWS Section 4.3.5.2

246. Columns, beams, trusses, or slabs supporting discontinuous walls or frames of structures having irregularity Type 4 per ASCE 7-10 T-12.3.1 or vertical irregularity Type 4 per ASCE 7-10 T-12.3.2 shall have design strength to resist the maximum axial force that can develop in accordance with overstrength factors of ASCE 7-10 12.4.3.2 OR In case of discontinuity at any portion of the lateral load resisting system, such as for vertical or horizontal irregularity, concrete, masonry, steel, and wood elements supporting such discontinuous systems shall have the design strength to resist the maximum axial force that can develop in accordance with the load combinations with overstrength factors of ASCE 7-10 Section 12.4.3.2. (ASCE 7-10 12.3.3.3)

247. Masonry veneer details, anchors, backing, footings and support over openings are required. (2101.3)

248. Provide a vertical and longitudinal section through each glass block wall showing how it is supported at each edge and reinforced in each direction. Submit lateral calculations and show compliance with Chapter 7 of TMS 402/ACI 530/ASCE 5. (2110.1)

249. Precast panels, exterior non-bearing, non-shear wall panels, or elements that are attached to or enclose the exterior shall be designed to resist the forces and connections shall be in compliance with ASCE 7-10 12.11.

250. Provide details, properly referenced, of the anchorage system between the wood roof and floor diaphragms and the concrete or masonry walls. Minimum design force shall be 280-lb/lf. (1604.8, ASCE 7-10 12.11)

251. Provide calculations and details on the plans for the sub-diaphragm and continuous cross tie system required for all wood diaphragms providing lateral support to masonry or concrete walls. (1604.8.2)
    a. The wall anchorage shall provide a positive direction connection between the wall and floor or roof construction capable of resisting a horizontal force specified in Section 1604.8.2 & ASCE 7-10 12.11.2. In addition, a diaphragm to wall anchorage using embedded straps shall have the straps attached to or hooked around the reinforcing steel or otherwise terminated to effectively transfer forces to the reinforcing steel.
    b. Elements of the wall anchorage system shall be designed for the forces specified in Section 1604.8.2. The value of Fp used for the design of the elements of the wall anchorage system shall not be less than 280-lb/lf. of wall substituted for E.
    c. When elements of the wall anchorage system are not loaded concentrically or are not perpendicular to the wall, the system shall be designed to resist all components of the forces induced by the eccentricity.
    d. When pilasters are present in the wall, the anchorage force at the pilasters shall be calculated considering the additional load transferred from the wall panels to the pilasters. However, the minimum anchorage force at a floor or roof shall be that specified in "b" above. (ASCE 7-10 12.11.2.2.7)
    e. The strength design forces for steel elements of the wall anchorage system shall be 1.4 times the forces otherwise required above. (ASCE 7-10 12.11.2.2.2).
    f. Floor and roof diaphragms shall be designed to resist the forces per ASCE 7-10 12.10.1.
    g. The maximum diaphragm shears used to determine the depth of the sub-diaphragm shall not exceed 300-lb./ft.
    h. The maximum length-to-width ratio of the wood structural sub-diaphragm shall be 2-1/2:1 per ASCE 7-10 12.11.2.2.1.
    i. The wall anchorage shall not be accomplished by use of toenails or nails subject to withdrawal, wood ledgers or framing shall not be used in cross-grain bending or cross-grain tension.
    j. Connections of a diaphragm to the vertical elements in structures having vertical irregularities of ASCE 7 Table 12.3-2, shall be designed per the seismic design category application of the same table.
    k. The structures having a horizontal structural irregularity of Type 2 in ASCE 7-10 Table 12.3-1, diaphragm chords and drag members shall be designed considering independent movement of the projecting wings of the structure. Each of these diaphragm elements shall be designed for the more severe of the following two assumptions:
        i. Motion of the projecting wings in the same direction.
        ii. Motion of the projecting wings in opposing directions.
    l. When designing the diaphragm to comply with the requirements stated above, the return walls, and fins/canopies at entrances shall be considered. Seismic compatibility with the diaphragm by either seismically isolating the element or by attaching the element and integrating its load into the diaphragm.
252. Masonry shear walls shall be designed for 1.5 times the required seismic force for Seismic Design Categories D, E, and F, and comply with the requirements of TMS 402/SCI 530/ASCE 5. (2106.1)
253. Provide an analysis of all tilt up panels with openings. Show that the reinforcing in the panels, on each side of the openings, is adequate. (106.4.3)
254. For each of the metal decks provide the manufacturer and designation, height, complete welding information, reinforcing and thickness and type of fill. (106.4.3)
255. Bracing members and connections in steel braced frames shall be designed per AISC 341.
256. Concrete shear walls must be designed based on the requirements of Section 1905 and ACI 318-11.
257. Concrete shear wall reinforcement shall be terminated with required development length per ACI 318 beyond the boundary reinforcing at the vertical and horizontal end faces of wall sections.
258. Submit a statement of special inspections prepared by the registered design professional in responsible charge in accordance with Section 106.4.5 as a condition of permit issuance. The statement shall be in accordance with Section 1704.3. (1704.2.3)
259. The architect or engineer of record shall list all the deferred submittals on the plans and shall submit the deferred submittal documents to the building official, prior to installation. (106.4.4.2)
    a. Note on the plans: "The deferred submittal items shall be submitted to the architect or engineer of record who shall review and approve them, and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and approved and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the building official. Provide ample time for the building official to review the documents."
260. Detail the proposed stepped footings. (1809.3)
261. Calculations are required for retaining walls over 4-ft. in height, measured from the bottom of the footing to the top of the wall, including walls less than 4-ft. high supporting a surcharge or sloping earth, or impounding Class I, II, or III-A liquids.
262. For masonry or concrete walls below grade designed as restrained at top. NOTE ON THE PLANS: "The perimeter walls are not to be backfilled until the floor slabs are poured and cured."

263. Foundation walls enclosing a usable space below finished grade shall be waterproofed or damp-proofed in accordance with Section 1805.
264. Structural observation per Section 1704.5 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 drawings. (See attached sheet)
265. Note on the plans: "Compaction report shall be submitted to the Building Inspector prior to footing inspection."
266. Specify on plans the soil bearing pressure used in the design. Submit copy of soils' report to justify. (T-1804.2)
267. Structures assigned to Seismic Design Category C, D, E, or F shall not have elements of structural plain concrete. (1908.1.2)
268. For masonry structures, Type N mortar shall not be used as part of the vertical or lateral-load resisting system. (2103.8)
269. Specify the header size at door, window, and other openings in bearing walls. (2304.3.2)
270. Have the consulting soils/geotechnical engineer review and approve the foundation plans. (106.4.3)
271. Alteration, repair, addition and change of occupancy of existing structures shall comply with the provisions of Chapter 34 of the Building Code.
272. Please see additional comments on plans and calculations.

ADDITIONAL COMMENTS