CITY OF LONG BEACH

Community Development Department
Building and Safety Bureau
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PRC-01B

Plan Review Checklist
One- and Two-Family Dwelling

Site Address:	XX	Application No.:	XX
Scope of Work:	XX	Date:	XX
Plan Reviewer:	XX		
Telephone:	562-570-XXXX	email:	XX.XX@longbeach.gov

PART 1 – ARCHITECTURAL DESIGN

CHAPTER 3 BUILDING PLANNING

A. EXTERIOR WALLS

1. Exterior walls with a fire separation distance less than (3) (5) feet shall have a fire-resistance rating of not less than one hour, per CRC Table R302.1.
2. Permitted projections with a fire separation distance of less than (3) (5) feet shall have not less than one-hour fire- resistive construction on the underside per CRC Table R302.1.
3. Projections beyond the exterior wall shall comply with Table R302.1 and shall not extend to a point closer than 2 feet from interior lot line.
4. Except for approved foundation vents, openings in exterior walls of dwellings or accessory buildings with less than 3 feet fire separation distance per CRC Table R302.1 are not permitted.
5. Openings in exterior walls of non-sprinklered building at least 3 feet but less than 5 feet fire separation distance shall not exceed 25 percent of the wall area per CRC Table R302.1.
6. Penetrations of the exterior wall located with less than (3) feet fire separation distance shall be protected per CRC Table R302.1.
7. Building on the same lot shall be assumed to have an imaginary line between them to determine fire separation distance. (CRC302.1)
    a. For non-sprinklered buildings, the minimum distance between buildings can be 3 ft, but both the existing structure exterior wall and proposed structure wall facing each other will have to be 1-hr fire rated. If proposed building is 5 ft away from the existing building only the exterior wall facing the existing building will have to be 1- hr fire rated. If buildings are set back 10 ft apart, the walls facing each other do not need to be 1-hr fire rated.
    b. For sprinklered buildings, if the proposed building is 3 ft away from the existing building only the ext wall facing the existing building will have to be 1-hr fire rated. If buildings are set back 6 ft apart, the walls facing each other do not need to be 1-hr fire rated.

B. TOWNHOUSES

1. Walls separating townhouse units shall be constructed in accordance with Section R302.21 or R302.2.2 and comply with Sections R302.2.3 through R302.2.5

C. TWO-FAMILY DWELLINGS

1. Provide a 1-hour fire-resistance rated wall and/or floor assemblies for two-family dwelling separation. (CRC R302.3.1)

2. Show that 1-hour floor assemblies separating dwelling units extend to and are tight against exterior walls or vertical separation assemblies. (CRC R302.3.3.1)
3. Show that 1-hour wall assemblies separating dwelling units extend to and are tight against any of the following: the foundation, a fire protected floor or horizontal assembly, the underside of roof sheathing, a ceiling beneath an unhabitable attic with 5/8 inch Type 'X' gypsum board with an attic draft stop provided above and along the vertical assembly terminating at the ceiling and the structural framing supporting the ceiling has min ½ inch gypsum board. (CRC R302.3.3.2)
4. Show that the 1-hour wall and floor assemblies separating dwelling units are supported by construction having an equal or greater fire resistance rating.
5. When one dwelling unit in a two family dwelling is located above the other and is not equipped with an automatic sprinkler system, show compliance with both of the following: 1-hour rated wall and or floor assemblies separating the dwelling units, including an interior stairway serving as the means of egress for the upper unit, shall be constructed to limit the transfer of smoke, and a notification appliance connected to smoke alarms in the other dwelling unit shall be provided in each dwelling unit. (CRC R302.3.5)
6. Show that the shared accessory room is separated from each individual dwelling unit in accordance with Table R302.3.6. (CRC R302.3.6)
7. Openings from the shared accessory room or area directly into a sleeping room is not permitted. Other openings between the shared accessory room or area and dwelling units shall be provided with a 1-3/8 inch thick solid or honeycomb core steel door or a self-closing or automatic-closing 20 minute fire door. (CRC R302.3.6.1)

D. GARAGE AND CARPORT

1. Openings from a private garage directly into a room used for sleeping purposes are not permitted. (CRC R302.5.1)
2. Permitted openings between the garage and the dwelling shall be 1-3/8 inches thick solid wood doors, 1-3/8 inch thick solid or honeycomb core steel doors, or 20-minute fire-rated doors that are self-closing and self-latching. (CRC R302.5.1)
3. Ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material. (CRC R302.5.2)
4. Other penetrations of garage/dwelling ceilings and walls shall be of an approved material to resist the free passage of flame and products of combustion. (CRC R302.5.3)
5. The garage shall be separated from the dwelling and its attic area in accordance with CRC Table R302.6.
6. Show that the garage floor surface is an approved noncombustible material, and the parking area is sloped to a drain or toward the garage entrance. (CRC R317.1)

E. FIREBLOCKING

1. Provide fireblocking in the following locations: (CRC R302.11)
   a. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs vertically at the ceiling and floor level, and horizontally at 10-foot max intervals. Batts or blankets of mineral or glass fiber or other approved nonrigid materials shall be permitted for compliance with the 10-foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs
   b. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
   c. In concealed spaces between stair stringers at the top and bottom of the run.
   d. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.
   e. For the fireblocking of chimneys and fireplaces per CRC R1003.19.
   f. Fireblocking of cornices at the line of dwelling unit separation of two-family dwellings.
2. Provide fireblocking materials as follows: (CRC R302.11.1)
   a. 2-inch nominal lumber.

b. Two thicknesses of 1-inch nominal lumber with broken lap joints.

c. One thickness of 23/32 inch wood structural panels with joints backed by 23/32 inch wood structural panels.

d. One thickness of 3/4-inch particle board with joints backed by ¾ inch particle board, 1/2 inch gypsum board or 1/4 inch cement-based millboard.

e. Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.

f. Cellulose insulation installed as tested in accordance with ASTM E119 or UL 263.

F. DRAFTSTOPPING

1. Install draftstops when there is usable space both above and below the concealed space of a floor/ceiling assembly, so the concealed space area does not exceed 1000 square feet and is divided into approximately equal areas. (CRC R302.12)
2. Use ½ inch gypsum board, 3/8 inch wood structural panels, or other approved materials. Install draftstopping parallel to the floor framing members. (CRC R302.12.1.)

G. PROTECTION AGAINST DECAY & TERMITES

1. Provide an approved decay-resistant or preservative-treated lumber in the following locations: (CRC R304.1)

   a. In crawl spaces or unexcavated areas located within periphery of the building foundation, wood joists or the bottom of a wood structural floor where closer than 18 inches to exposed ground, wood girders where closer than 12 inches to exposed ground, and wood columns where closer than 8 inches to exposed ground.

   b. Wood framing members, including columns, that rest directly on concrete or masonry exterior foundation walls and are less than 8 inches from the exposed ground.

   c. Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.

   d. The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 1/2 inch on tops, sides and ends.

   e. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches from the ground or less than 2 inches from concrete steps, porch slabs, patio slabs and similar horizontal surfaces exposed to the weather.

   f. Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier.

   g. Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips or framing members

   h. Portions of wood structural members that form the structural supports of buildings, balconies, porches or similar permanent building appurtenances where those members are exposed to the weather without adequate protection from a roof, eave, overhang or other covering that would prevent moisture or water accumulation on the surface or at joints between members.

   i. Wood columns in contact with basement floor slabs unless supported by concrete piers or metal pedestals projecting not less than 1 inch above the concrete floor and separated from the concrete pier by an impervious moisture barrier.

2. Provide an approved pressure-preservative-treated wood for all wood in contact with the ground or embedded in concrete in direct contact with the ground that supports permanent structures for human occupancy. (CRC R304.1.2)

H. FLOOD RESISTANT CONSTRUCTION (CRC R306)

1. This site is in a designated flood zone. The flood designation is AE zone. The guideline for flood damage prevention is found in Chapter 18.40.290 of the LBMC.

2. Specify on the construction documents the required finish floor elevations of all structures and reference the elevation datum used (e.g. NGVD 1929 or NAVD 1988)
3. For new building and addition/alteration improvement that exceed 50 percent of existing value of the structure.
4. A completed Elevation Certification is required, signed by a licensed surveyor.
5. Show the elevation of the lowest floor per the Elevation Certificate on the construction documents.
6. Note to plans: “A final Flood Elevation Certificate executed by a licensed survey or civil engineer must be furnished to the City Inspector prior to the approval of the lowest floor framing.”
7. All new buildings, structures, and portions of buildings and structures, including substantial improvement and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood. (CBC 1612, CRC R306 and ASCE 24)
8. Within areas designated as AR, AR/A1-30, AR/AE, AR/AH, AR/AO, or AR/A, the following standards shall apply:
   a) All new construction in areas designated as developed areas shall use the lower of either the AR base flood elevation or the elevation that is three (3) feet above the highest adjacent grade.
   b) All new construction in areas that are not designated as developed areas shall comply with the following:
      i) Where the AR flood depth is equal to or less than five (5) feet above the highest adjacent grade, the lower of either the AR base flood elevation or the elevation that is three (3) feet above the highest adjacent grade shall be used.
      ii) Where the AR flood depth is greater than five (5) feet above the highest adjacent grade, the AR base flood elevation shall be used.

I. AUTOMATIC FIRE SPRINKLER SYSTEMS

1. Install an automatic residential fire sprinkler system in new townhouses and one- and two- family dwellings. (CRC R309.1 & R309.2)
2. Install an automatic fire sprinkler system in accordance with NFPA 13D. (CRC R309.2.1)

J. SMOKE AND CARBON MONOXIDE ALARMS

3. Install single- and multiple-station smoke alarms in the following locations: (CRC R310.3)
   a. In each sleeping room.
   b. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
   c. On each additional story of the dwelling, including basements and habitable attics, but not including crawl spaces and uninhabitable attics.
   d. Not less than 3 feet horizontally from a bathroom door or opening that contains a bathtub or shower unless this prevents the placement of a required smoke alarm.
   e. In the hallway and in the room open to the hallway where the room’s ceiling height exceeds the hallway’s ceiling height by 24 inches or more.
   f. Within the room to which a sleeping loft is open in the immediate vicinity.
4. Install smoke alarms and smoke detectors as follows: (R310.3.1, R310.3.3, NFPA 72 29.8.3.4)
   a. Not located where ambient conditions, including humidity and temperature are outside the manufacturer’s limits.
   b. Not located in unfinished attics or garages or other spaces where temperatures fall below 40^{o}F.
   c. Within 20 feet of a permanent cooking appliance. Ionization smoke detectors can be installed 10 feet or greater from a permanent cooking appliance, and photoelectric smoke detectors 6 feet or greater
   d. More than 3 feet from the air path of a forced air heating or cooling system and a suspended ceiling fan.
   e. In stairway locations where a door or other obstruction does not block rising smoke from reaching the smoke detector or alarm.

5. Provide the following note on the plans Smoke alarms shall be hardwired with battery backup and alarms interconnected. (CRC R310.4 and R310.6)
6. Battery operated smoke alarms are permitted in lieu of interconnection / hard-wiring of smoke alarms in existing areas where the construction does not involve the removal of interior finishes. (CRC R310.6)
7. Install carbon monoxide alarms or detectors outside of each separate sleeping area in the immediate vicinity of the bedrooms and on every level including basement in dwelling units that have fuel-fired appliances or attached garages. (CRC R311.3)
8. Provide the following note on the plans: Carbon monoxide detectors shall be hardwired with battery backup and alarms interconnected. (CRC R311.5 and R311.6)

K. ROOM AREAS AND CEILING HEIGHT

9. Provide dimensions for the habitable rooms, except kitchens, so that the floor area is at least 70 square feet and any horizontal dimension is at least 7 feet. (CRC R312.1 & 2)
10. Show the ceiling height as 7 feet minimum for habitable space, hallways, and portions of basements containing these spaces. Dimension the ceiling height for bathrooms, toilet rooms, and laundry rooms as 6'-8" minimum. (CRC R313.1)
11. Show that the height for the required floor area for rooms with sloped ceilings is not less than 5 feet and that not less than 50% of the required floor area has a ceiling height not less than 7 feet. (CRC R313.1 Exception 1)
12. Show the ceiling height above bathroom and toilet room fixtures so that the fixture is capable of being used for its intended purpose. For the shower or tub, dimension a 6'-8" height above a 30"x30" area at the shower head. (CRC R313.1 Exception 2)
13. Show the ceiling height for portions of a basement without habitable spaces at 6'-8". (CRC R313.1.1)

L. MEANS OF EGRESS

14. Provide at least one side-hinged egress door with a minimum clear width of 32 inches measured from the face of the door to the door stop when opened in the 90 degree position. The height shall be 6'-8". The egress door shall be readily openable from inside without the use of a key or special knowledge or effort. (CRC R318.2)
15. Provide a landing or finished floor area at required egress door dimensioned 3 feet in the direction of travel the width of the door, which shall have a threshold not more than 1-½ inches when door swings out or 7-3/4 inches when door swings in. (CRC R318.3 and CRC 318.3.1)
16. Dimension the hallway width at 3 feet. (CRC R318.6)
17. Dimension the minimum clear width of the stairs at 36 inches above the permitted handrail height and below the required headroom height. The minimum clear width at and below the handrail shall be 31-1/2 inches where the handrail is only one side and 27 inches where the handrail is on both sides (CRC R318.7.1)
18. Dimension the stairway headroom height as 6'-8" minimum vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway. (CRC R318.7.2)
19. Dimension the tread rise as 7-3/4 inches measured vertically between leading edges of adjacent treads. Riser height shall not exceed the smallest by more than 3/8 inch. Risers can be vertical or sloped from the underside of the nosing of the tread above at a 30 degree angle or less from the vertical. Open risers that are located more than 30 inches measured vertically to the floor cannot permit the passage of a 4 inch diameter sphere. (CRC R318.7.5.1)
20. Dimension the tread depth as 10 inches measured horizontally between the vertical planes of the foremost projection of the adjacent treads at a right angle to the treads leading edge. Tread depth cannot exceed the smallest by more than 3/8 inch. A landing shall be provided at the top and bottom of stairways. (CRC R318.7.5.2)
21. Show that the treads, landing, and floors of stairways have a radius of curvature at the nosing not greater than 9/16 inch or a bevel not greater than ½ inch. The nosing projection cannot be less than ¾ inch, not more than 1-1/4 inch, and not exceed the smallest nosing projection by more than 3/8 inch. A nosing projection is not required where tread depth is more than 11 inches. (CRC R318.7.5.3)

22. Provide a landing at the top and bottom of each flight of stairs. The width perpendicular to the direction of travel cannot be less than the width of the flight served and the depth of the landing in the direction of travel cannot be less than 36 inches. The top landing of an interior stairway is permitted to be on the other side of a door located at top of the stairway provided the door does not swing over the stairs. At exterior doors a top landing is not required for an exterior stairway of not more than two risers provided the door does not swing over the stairway. (CRC 318.7.6)
23. Show the walking surface of treads and landings of stairways are sloped no steeper than one unit vertical to 48 units horizontal (2 percent slope). (CRC R318.7.7)
24. Provide a handrail on at least one side of each flight of stairs with four or more risers. (CRC R318.7.8)
25. Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with ½ inch gypsum board. (CRC R302.7)
26. Winder treads shall comply with CRC Section R318.7.5.2.1.
27. Spiral stairs shall comply with CRC Section R318.7.10.1.
28. Provide a ramp to serve the egress door where the maximum slope of the ramp is 1 unit vertical in 12 units horizontal (8.3 percent slope). All other ramps shall have a maximum slope of 1 unit vertical in 8 units horizontal. (CRC R318.8.1)
29. Provide a landing at the top and bottom of each ramp, where doors open onto ramps, and where ramps change directions. The width of the landing perpendicular to the ramp cannot be less than the width of the ramp and the depth of the landing in the direction of the ramp slope cannot be less than 36 inches. (CRC R318.8.2
30. Provide handrails on at least one side of ramps with a slope in excess of 1 unit vertical in 12 units horizontal. (CRC R318.8.3)

M. EMERGENCY ESCAPE AND RESCUE OPENINGS

31. Provide an emergency escape and rescue opening in every sleeping room, rooms which a sleeping loft is open, habitable attics, and habitable basements. Emergency escape and rescue openings are required to open directly into a public way, yard or court that opens to a public way. (CRC R319.1)
32. Emergency escape and rescue openings shall be maintained free of any obstructions, other than those allowed by this section, and shall be operational from the inside of the room without the use of keys, tools or special knowledge. The window opening control devices and fall prevention devices shall be not more than 70 inches above the finished floor. (CRC R319.1.1)
33. Dimension all emergency escape and rescue openings to have a minimum clear opening area of 5.7 square feet or 5 square feet if located on the first floor, a minimum net clear opening height as 24 inches, a minimum net clear opening width as 20 inches, and the bottom of the opening no more than 44 inches from the finished floor. (CRC R319.2)
34. Provide window wells for emergency escape and rescue openings below grade. Window wells are required to have a minimum horizontal area of 9 square feet, with a minimum horizontal projection and width of 36 inches. The well area shall allow the emergency escape and rescue opening to be fully opened. (CRC R319.4)
35. Provide a ladder or steps for window wells greater than 44 inches deep. (CRC R319.4.2)
36. Bars, grills, covers and screens placed over emergency escape and rescue openings, bulkhead enclosuresor window wells shall comply with Section R319.4.4.
37. When replacing emergency escape and rescue openings, the replacement window shall be the manufacturers largest standard size window that will fit in existing frame or rough opening, be the same operating style as the existing window or a style that provides equal or greater opening area. (CRC R319.5)

N. HANDRAILS

38. Show the handrail height between 34 inches and 38 inches. (CRC R320.2)
39. Provide handrails so they do not project more than 4-1/2 inches on either side of the stairway or ramp. (CRC R320.3)

40. Provide handrails so they are no less than 1-1/2 inches from the wall. (CRC R320.4)
41. Provide handrails so that they are continuous above the nosing of the landing at the top of the flight to a point directly above the lowest nosing of the flight. Revise handrails so that they are continuous for the full length of the ramp. Return the end of the handrail to itself or toward a wall, guard, or walking surface. (CRC R320.5)
42. Provide a detail of the handrail cross section so that it complies with type I or type II (CRC R320.6).
    a. Type I have a circular cross section with an outside diameter of 1-1/4 inches minimum and 2 inches maximum. If not a circular cross section, the perimeter of the handrail shall be between 4 inches and 6-1/4 inches and a cross section area of 2-1/4 inches maximum. The edges shall have a radius of 0.01 inch minimum.
    b. Type II handrails have a perimeter greater than 6-1/4 inches and have a graspable finger recess area on both sides of the profile. The recess begins within 3/4- inch measured vertically from the tallest portion of the profile and have a depth of not less than 5/16 inch within 7/8 inches below the widest portion of the profile. The depth shall continue for 3/8 inch min to 1-3/4 inches maximum below the tallest portion of the profile. The width of the handrail above the recess is 1-1/4 inches minimum and 2-3/4 inches maximum. Edges have a radius of 0.01 inch minimum.

O. GUARDS

43. Provide 42 inch high guards at open-side of walking surfaces that are more than 30 inches above the floor or grade below within 36 inches horizontally to the edge of the open side. (CRC R321.1.1 & R321.1.2)
44. Provide a 34 inch high guard on the open side of the stairs. (CRC R321.1.2 Exception 1)
45. Show that the guard openings do not allow the passage of a 4 inch diameter sphere and the passage of a 6 inch diameter sphere at the opening formed by the riser, tread, and bottom rail. Guard openings on the open side of stairs cannot allow the passage of a 4-3/8 inch diameter sphere. (CRC R321.1.3)
46. Provide a guard at the operable windows located more than 72 inches high above grade and less than 24 inches above finished floor of the room. (CRC R321.2.1)

P. ELEVATORS AND PLATFORM LIFTS

47. Verify private residence elevator complies with ASME A17.1/CSA B44 by providing the specifications that show these specific safety codes. (CRC R323.1)
48. Verify the platform lift complies with ASME A18.1 by providing the specifications that show these specific safety codes. (CRC R323.2)

Q. GLAZING

49. Provide safety glazing in fixed and operable panels of swinging, sliding and bifold door assemblies. (CRC R324.4.1)
50. Provide safety glazing in an individual fixed or operable panel adjacent to a door where the bottom edge is less than 60 inches above the floor or walking surface and is: (CRC R324.4.2)
    a. Within 24 inches of either side of the door in the plane of the door in a closed position.
    b. On a wall less than 180 degrees from the plane of a door in the closed position within 24 inches of the hinge side of an in-swinging door.
51. Provide safety glazing in an individual fixed or operable panel that meets all of the following conditions: (CRC R324.4.3)
    a. Exposed area of an individual pane greater than 9 square feet.
    b. Bottom edge less than 18 inches above the floor.
    c. Top edge greater than 36 inches above the floor.
    d. One or more walking surfaces within 36 inches horizontally of the glazing.
52. Provide safety glazing in guards and railings. (CRC R324.4.4)

53. Provide safety glazing in walls, enclosures or fences facing hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers where the bottom edge of the glazing is less than 60 inches measured vertically above any standing or walking surface. (CRC R324.4.5)
54. Provide safety glazing where the bottom exposed edge is less than 36 inches above the plane of adjacent waling surfaces of flights of stairs, ramp runs, landings between flights of stairs and landings between ramp runs. (CRC R324.4.6)
55. Provide safety glazing adjacent to the landing at the bottom of a stairway where glazing is less than 36 inches above the landing and within a 60 inch horizontal arc less than 180 degrees from the bottom of tread nosing. (CRC R324.4.7)
56. Provide safety glazing in skylights, sloped glazing, and tubular daylighting devices. (CRC Section R324.6)

R. LIGHT, VENTILATION, AND HEATING

9. Provide aggregate glazing in all habitable rooms that are not less than 8 percent of the floor area to provide natural light, or provide artificial light that produces 6 footcandles at 30 inch height illumination. (CRC R325.1.1)
10. Provide aggregate glazing that is openable to the outdoors in all habitable rooms that is not less than 4 percent of the floor area or provide the required mechanical ventilation per the exceptions. (CRC R325.1.2)
11. For determining light and ventilation requirements of adjoining rooms verify an opening in the common wall is not less than one half the wall area, not less than one tenth of the floor area of the interior room, and not less than 25 square feet. (CRC R325.1.3)
12. Provide bathroom exhaust fan for each bathroom containing a bathtub, shower, or combination for purpose of humidity control. Window operation is not a permissible method for providing bathroom exhaust for humidity control. (CRC R325.2.1)
13. Minimum exhaust fan ventilation air rates shall comply with the California Mechanical Code. (CRC R325.3)
14. Relocate any mechanical and gravity outdoor intake openings so they are no less than 10 feet from exhaust vents, chimneys, plumbing vents, streets, or alleys. (CRC R325.4.1)
15. Provide a corrosion resistant screen, louver, or grill having an opening size ¼ inch minimum and ½” max in any dimension for air exhaust and/or intake openings. (CRC R325.5)
16. Provide a light source at all interior stairways. Indicate the light source is capable of illuminating treads and landings to 1 footcandle min measured from the center of the treads. Provide a light switch at each floor level since there are 6 or more risers. (CRC R325.6)
17. Provide a light source at the exterior stairways located at the top landing of the stairway. (CRC R325.7)
18. Dwelling unit shall be provided with heating facilities capable of maintaining a temperature of 68 °F at 3 feet above the floor and 2 feet from exterior walls in all habitable rooms. (CRC R325.8)

S. SANITATION

57. Dimension 30 inches clear width and 24 inches clear front of water closet. (CPC 402.5)
58. Change Shower door swing so that it swings out. Dimension the shower receptor so that it is no less than 1024 square inches of floor area and encompasses a 30 inch diameter circle minimum. (CPC 408.6)
59. Indicate that the bathtub and shower floors, walls above bathtubs with a showerhead, and shower compartments are finished with a nonabsorbent surface. Wall surfaces shall extend to a height of not less than 6 feet above the floor. (CRC R327.2)

T. AGING IN PLACE DESIGN AND FALL PREVENTION (FOR NEWLY CONSTRUCTED DWELLINGS)

1. Provide reinforcement where mentioned in this section. Reinforcement shall be no less than 2 by 8 inch lumber and shall be located between 32 inches and 39-1/4 inches above the finished floor flush with the wall framing. (CRC R328.1)
2. Provide water closet reinforcement on both side walls or one side wall and the back wall. (CRC R328.1)
3. Shower reinforcement shall be continuous where wall framing is provided. (CRC R328.1)

4. Provide continuous reinforcement for the bathtub or combo bath/shower on each end walls and the back wall. The reinforcement of a lower grab bar shall be provided within the bottom edge located no more than 6 inches above the bathtub rim. (See Exceptions; most of them allow floor mounted grab bars as an alternate) (CRC R328.1)
5. Provide a note that Information and/or drawings identifying the location of grab bar reinforcement shall be placed in the operation and maintenance manual. (CRC R328.1.1.1)
6. Provide a detail showing the electrical outlets, switches, and controls located no more than 48 inches from the top of the outlet box and not less than 15 inches from the bottom of the outlet box above the finished floor. (CRC R328.1.2)
7. At least one bathroom and one bedroom on the entry level shall provide a doorway with a clear opening not less than 32 inches measured when the door is positioned at 90 degrees from the closed position. (CRC R328.1.3)
8. Provide a detail showing doorbell buttons or controls are located no more than 48 inches above the exterior floor or landing measured from the top of the doorbell button assembly. (CRC R328.1.4)

U. FUTURE EV CHARGING

60. For new one-and two-family dwellings and townhouses with attached private garages, future EV charging shall be installed per CAL Green 4.106.4.1. See information bulletin BU-050 for further details regarding EV charging stations.

V. MISCELLANEOUS

61. Wood burning fireplace is prohibited per AQMD Rule 445.
62. Provide approved model (ICC or UL number) for factory-built gas fireplace.

CHAPTER 4 FOUNDATIONS

W. DRAINAGE & WATERPROOFING

63. Lots shall be graded to drain surface water away from foundation walls with a minimum fall of 6 inches within the first 10 feet. (CRC R401.3)
64. Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footing exceeds one unit vertical in ten units horizontal (10% slope) (CRC R403.1.5)
65. Concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade shall have drains provided in accordance with Section R405.1.
66. Foundation walls that retain earth and enclose interior spaces and floors below grade shall be damp proofed from the top of the footing to the finished grade. (CRC R406.1)

X. UNDER-FLOOR SPACE

67. Under-floor spaces, other than space occupied by a basement, shall be provided with ventilation openings through foundation or exterior walls. (CRC R408.1)
68. A net ventilation area of not less than 1 square foot for each 150 square feet under-floor space area shall be provided. (CRC R408.1)
69. One ventilation opening shall be within 3 feet of each external corner of the underfloor space with the least dimension of the covering not exceed 1/4 inch. (CRC R408.1)
70. A minimum access opening of 18 inches by 24 inches through a floor or 16 inches by 24 inches through a perimeter wall shall be provided to the under-floor space. (CRC R408.4)
71. Access openings to under-floor spaces where mechanical equipment is located shall be provided. (CRC R408.4)

CHAPTER 9 ROOF ASSEMBLIES

Y. ROOF COVERING

1. Specify roof covering as follows: (CRC R905.1)
   a. Roof slope on roof plan.
   b. Roof material.
   c. Roof covering shall be class C rated or better.
2. Require base flashing against a vertical sidewall to roof per R905.2.8.3.
3. Require drip edge at eaves and rake edges of shingle roofs per R905.2.8.5.
4. Show roof/deck drainage per CPC 1101.11.
   a. Size the roof drains and overflow drains
   b. System shall be sized for minimum rain intensity of 3” per hour.
   c. The roof drain and overflow drain must maintain independent lines to the yard box.
   d. Roof drainage is not permitted to flow over public property.
   e. Secondary roof drains having the same size as the primary roof drains shall be installed with the inlet flow line located a minimum 2” above the low point of the roof.
   f. 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” high and have a width equal to the circumference of the roof drain required for the area served.
5. Provide approved weatherproof walking surface materials at decks and balconies per R337.9.
   a. Where balcony or other elevated walking surfaces are exposed to the weather, and the structural framing is protected by an impervious moisture barrier, the construction documents shall include details for all elements of the impervious moisture barrier system. The construction documents shall include manufacturer’s installation instructions per CBC 107.2.5
   b. The impervious moisture barrier system protecting the structure supporting moisture-permeable floors shall provide positive drainage of water that infiltrates the moisture-permeable floor topping per CBC 2304.12.2.4.
   c. All elements of the impervious moisture barrier system shall not be concealed until inspected and approved per CBC 110.3.7.

PART 2 – STRUCTURAL DESIGN

A. GENERAL DESIGN REQUIREMENTS

1. Provide structural design calculations and plans stamped and signed by a licensed engineer or architect for the following structures and elements:
   a. Height of the structure is two stories or greater. (LBMC & CRC R301.1.3.2)
   b. One story structure with more than 11 feet 7 inches high measured from floor surface to ceiling above. (CRC R301.3)
   c. Floor, wall, or roof-ceiling elements are constructed of cold-formed steel, concrete, masonry, or structural insulated panels. (CRC R301.1.3.3)
   d. Prescriptive lateral design of CRC provision is not applicable.
2. Use of the CRC prescriptive lateral design methods is not permitted for the following structures:
   a. Height of the structure exceeds three stories. (CRC R301.2.2.7 & Table 602.10.3(3))
   b. Structure is on hillside with slope exceeding 3:1. (CRC R301.1.3)

c. Irregular portions of structures shall be designed in according with accepted engineering practice. Design for reminder of the buildings shall be permitted using the prescriptive provisions. (LBMC & CRC R301.2.2.6)

d. Intermodal shipping containers that are repurposed for use as buildings or structures shall be designed in accordance with the structural provisions in Section 3115 of the California Building Code.

CHAPTER 4 FOUNDATIONS

B. DESIGN AND CONSTRUCTION

1. Wood foundation systems shall not be permitted. (LBMC & CRC R401.1)
2. Concrete shall have a minimum specified compressive strength as shown in Table R402.2 but not less than 2,500 psi. (CRC R402.2)
3. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings. (CRC R403.1)
4. Minimum sizes for concrete and masonry footings shall be as set forth in Table R403.1(1) through R403.1(3) and Figure R403.1(1) or R403.1.3 as applicable.
5. Stepped foundation shall comply with CRC Section R403.1.5.

C. SEISMIC REINFORCING & ANCHORAGE

1. Footings shall have installed a minimum of one No. 4 bar at the top and one No. 4 bar located 3 inches to 4 inches from the bottom of the footing. (CRC R403.1.3.1)
2. Wood sole plates at all exterior walls and braced wall panels shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet on center and within 12 inches, but not less than seven bolt diameters, from the ends of each plate section. (LBMC & CRC R403.1.6)
3. Foundation anchor bolts shall be at least ½ inch in diameter and shall extend a minimum of 7 inches into concrete or grouted cells of concrete masonry units. A nut and washer shall be tightened on each anchor bolt. (CRC R403.1.6)
4. Interior bearing wall sole plates that are not part of a braced wall panel shall be positively anchored with approved fasteners. (CRC R403.1.6)
5. Columns shall be restrained to prevent lateral displacement at the bottom end. (CRC R407.3)

CHAPTER 5 FLOORS

D. SEISMIC REINFORCING & ANCHORAGE

1. Span for floor joists and girders shall be in accordance with Tables R502.3.1(1) and R502.3.1(2) (CRC R502.3)
2. Joists framing from opposite sides over a bearing support shall lap a minimum of 3 inches and shall be nailed together with a minimum of three 10d face nails. (CRC R502.6.1)
3. Joists shall be supported laterally at the ends as described in Section R502.7.
4. A load path for lateral forces shall be provided between floor framing and braced wall panels. (CRC R502.2.1)
5. Openings in horizontal framing shall be framed and constructed in accordance with R502.10.
6. Truss design drawings shall be provided to the building official and approved prior to installation. (CRC R502.11.4)
   a. Wood trusses shall be designed in accordance with approved engineering practice, and the drawings shall be prepared by a registered design professional. (CRC R502.11.1)
   b. Truss members and components shall not be cut, notched, spliced, or otherwise altered in any way without the approval of a registered design professional. (CRC R502.11.3)
7. Notches and holes in solid lumber joists and beams shall comply with Figure R502.8 and Section R502.8.1.

8. Cuts, notches, and holes bored in trusses, laminated veneer lumber, glue-laminated members or I-Joists are not permitted unless the effects of such are specifically addressed. (CRC R502.8.2)
9. Decks shall be either self-supporting or positively anchored to the primary structure. Toenails or nails subject to withdrawal shall not be used for such attachment. (CRC R507.1)
10. Wood/plastic composite deck boards, stair treads, guards, and handrail, shall comply with the requirements of ASTM D7032 & CRC Section 507.2.

E. FLOOR SHEATHING & CONCRETE FLOOR (GROUND)

1. All wood structural panel sheathing shall be identified by a grade mark or certificate of inspection issued by an approved agency. (CRC R503.2.1)
2. The maximum span for wood panel structural sheathing shall comply with CRC Table R503.2.1.1(1) or APA E30. (CRC R503.2.2)
3. Concrete slab-on-ground floors shall be a minimum 3.5 inches thick. (CRC R506.1)
4. A minimum 10-mil polyethylene or approved vapor retarder shall be installed in accordance with Section R506.2.3.

CHAPTER 6 WALL CONSTRUCTIONS

F. DESIGN AND CONSTRUCTION

1. Load-bearing dimension lumber for studs, plates and headers shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. (CRC R602.1)
2. Drilling and notching of studs and top plates shall be in accordance with Section R602.6.
3. Header spans for bearing walls shall comply with Section R602.7.
4. Foundation cripple walls shall be framed of studs not less in size than the studs above. Cripple walls shall be supported on a continuous foundation. (CRC R602.9)
5. Cripple walls exceeding 4 feet in height shall be framed with studs as required for an additional story. (CRC R602.9)

G. BRACED WALL PANELS

1. Diagonal Wood Board (DWB), Structural Fiberboard Sheathing (SFB), Particle Board Sheathing (PBS), Hardboard Panel Siding (SPS), and Portal Frame at Garage (PFG) are not permitted. (LBMC & CRC R602.10.3.2)
2. Walls braced to resist wind and seismic forces shall not exceed height to width ratios of 1:1 for gypsum board (GB) and Portland cement plaster (PCP). (LBMC & CRC Table R602.10.3(3))
3. Wood structural panel of minimum 15/32 inch is required. (LBMC & R602.10.4)
4. Alternate braced wall panels shall comply with LBMC Figure R602.10.6.1.
5. Portal Frame (PFH) at detached garage door openings shall comply with LBMC Figure R602.10.6.2.
6. Braced wall lines shall be provided in accordance with section R602.10.1.
7. Bracing length requirements constructed in accordance with intermittent bracing methods or continuous sheathing methods are per LBMC Table R602.10.3(3))
8. Mixing of bracing method is limited per CRC Section R602.10.4.1.
9. At corners, braced wall lines shall be permitted to angle out of plane with limits as set forth in CRC Section R602.10.1.4.
10. All vertical joints of panel sheathing shall occur over and be fastened to common studs. Horizontal joints in braced wall panels shall occur over and be fastened to common blocking of a minimum 1-1/2 inch thickness. (CRC R602.10.4.4)

11. In Seismic Design Categories other than D_2, cripple walls shall be braced with a length and type of bracing per CRC Section R602.10.2.
12. Braced walls of stone and masonry veneer shall comply with Section R602.10.6.5.

CHAPTER 8 ROOF-CEILING CONSTRUCTION

H. DESIGN AND CONSTRUCTION

1. Spans for ceiling joists and rafters shall be in accordance with section R802.4 and R802.5.
2. Purlins used to reduce rafter spans shall comply with Section R802.4.5.
3. Rafter or ceiling joists shall have at least $1^1/_2$ inches bearing on wood or metal or 3 inches on masonry or concrete. (CRC R802.6)
4. Framing for roof and ceiling openings shall comply with Section R802.9.
5. Ceiling joist and rafter connections shall comply with Section R802.5.2.
6. Ends of ceiling joists shall be lapped a minimum of 3 inches or butted over bearing partitions or beams and toenailed to the bearing member. (CRC R802.5.2.1)
7. Structural members that support rafters and ceiling joists with a roof slope of less than three units vertical in 12 units horizontal (25 percent slope) shall be designed as beams. Structural members include ridge beams, hips, and valleys. (CRC R802.4.4)
8. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition where not designed to carry and distribute the specific load at that point. (CRC R802.4.3)
9. A continuous load path to the foundation shall be provided. (CRC R802.11)
10. Cutting, boring, and notching of structural roof members shall comply with Section R802.7.
11. Truss design drawings shall be provided to the building official and approved prior to installation: (CRC R802.10.1)
    a. Wood trusses shall be designed in accordance with approved engineering practice, and the drawings shall be prepared by a registered design professional.
    b. Truss members and components shall not be cut, notched, spliced, or otherwise altered in any way without the approval of a registered design professional.
12. Exterior landings, decks, balconies, stairs, and similar exit facilities shall be positively anchored to the primary structure to resist both vertical and lateral forces or shall be designed to be self-supporting.
13. Wood structural roof panel sheathing shall comply with Section R803.2.

PART 3: ENERGY REQUIREMENTS FOR NEW CONSTRUCTION

1. Energy Storage System (ESS) Ready **[CEES 150.0(s)]**

A. One of the Following shall be met:

1. ESS ready interconnection equipment with a minimum, backed up capacity of 60A and a minimum of 4 ESS supplied branch circuits.
2. A dedicated raceway from the main service (MSP) to a panel board (subpanel) that supplies the branch circuits in section 150.0(s)(2) All branch circuits are permitted to be supplied by the MSP prior to the installation of an ESS. Trade size of the raceway shall be no less than 1 inch.
3. The subpanel must be labeled “Subpanel shall include all backed up load circuits.

B. A minimum of four branch circuits shall be identified and have their supply source collocated at a single panel board suitable to be supplied by the ESS. At least one circuit shall supply the refrigerator, one lighting circuit shall be located near the primary egress and at least one circuit shall supply a sleeping room outlet.

C. The main panel board shall have a minimum busbar rating of 225A.

D. Sufficient space shall be reserved to allow future installation of a system isolation equipment transfer switch within 3 feet of the main panel board. Raceways shall be installed between the panel board and the system isolation equipment/transfer switch location to allow the connection of backup power source.

2. Heat Pump Space Heater Ready **[CEES 150.0(t)]**

A. Systems using gas or propane furnace to serve individual dwelling units shall include the following:

1. A dedicated 240V branch circuit wiring shall be installed within 3 feet from the furnace and accessible to the furnace w/ no obstructions. The branch circuit conductors shall be rated at 50A minimum The blank cover shall be identified as “240V ready”

2. The Main electrical service panel shall have a reserved space to allow for the installation of double pole circuit breaker for a future heat pump space heater installation. The reserved space shall be permanently marked as “For Future 240V use”.

3. Electric Cooktop Ready **[CEES 150.0(u)]**

A. Systems using gas or propane cooktop to serve individual dwelling units shall include the following:

1. A dedicated 240V branch circuit wiring shall be installed within 3 feet from the cooktop and accessible to the cooktop w/ no obstructions. The branch circuit conductors shall be rated at 50A minimum The blank cover shall be identified as “240V ready”

2. The Main electrical service panel shall have a reserved space to allow for the installation of double pole circuit breaker for a future electric cooktop installation. The reserved space shall be permanently marked as “For Future 240V use”.

4. Electric Clothes Dryer Ready **[CEES 150.0(v)]**

A. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units shall include the following:

1. A dedicated 240V branch circuit wiring shall be installed within 3 feet from the clothes dryer location and accessible to the clothes dryer location w/ no obstructions. The branch circuit conductors shall be rated at 30A minimum The blank cover shall be identified as “240V ready”

2. The Main electrical service panel shall have a reserved space to allow for the installation of double pole circuit breaker for a future electric clothes dryer installation. The reserved space shall be permanently marked as “For Future 240V use”.

To request this information in an alternative format or to request a reasonable accommodation, please contact the Community Development Department at longbeach.gov/lbcd and 562.570.3807. A minimum of three business days is requested to ensure availability; attempts will be made to accommodate requests with shorter notice.