



Building and Safety Division

125 E. College Street, Covina, CA 91723
(626) 384-5460 <http://www.covinaca.gov/>

Information Bulletin:

15

RESIDENTIAL ADDITIONS

The following information is a courtesy guide for owner/builder's and designers on how to obtain required Building Code compliance through plan check for single family residential remodels, alterations, and additions. Prior to a formal plan check submittal, obtain all necessary preliminary reviews and approvals from the City Planning Division to assure all Zoning Code compliance is obtained. Compliance with the following items will help expedite construction plans through the Building and Safety Division plan review process:

INSTRUCTIONS:

1. This is **not** a complete example of all Code requirements regarding project submittals. Additional information may be necessary **or** not all items may be required for a given project.
2. Other Division and outside agency review and approvals may also be required. See the Planning and Public Works Divisions for additional plan review comments or criteria.
3. A minimum of four (4) sets of complete construction plans shall be submitted during the initial plan review submittal along with two sets of supporting documentation, (i.e. T-24, structural calculations, etc.)
4. Plans must be fully legible, on substantial paper, fully dimensioned, and drawn to scale per City Standards, (min. 1/8" scale, 1/4" recommended).
5. Complete submittals for plan check are required, with minor exceptions.
6. The following construction plan requirements are a list of general items needed for typical plan reviews of residential dwellings, renovations, remodels and additions. Depending on your specific project, any/all items may pertain to your construction plans:

- Site Plan (p. 2)
- Floor Plan/Electrical Plan (p. 3)
- Foundation Plan (p. 4)
- Roof /Framing Plan (p. 5)
- Section Drawing/Details (p. 6)





TABULATIONS

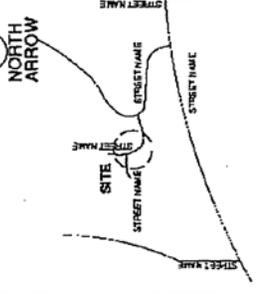
APPLICABLE CODES: CURRENT EDITIONS OF UBC, UPC, UMC, NEC AS ADOPTED AND AMENDED BY THE STATE OF CALIFORNIA TITLE 24 CCR AND THIS JURISDICTION
 OCCUPANCY GROUP: U3 (RESIDENCE)
 U1 (GARAGE)
 CONSTRUCTION TYPE: VN
 SPRINKLERS: _____ (YES OR NO)
 A.P.N.: _____
 LEGAL DESCRIPTION OF PARCEL: _____

ZONE: _____
 LOT AREA: _____ SF / _____ AC.
 BUILDING AREA: _____ SF
 EXISTING RESIDENCE: _____ SF
 ADDITION: _____ SF
 GARAGE: _____ SF
 TOTAL BUILDING AREA: _____ SF
 BUILDING HEIGHT: _____
 USE: I.E. SINGLE FAMILY RESIDENCE, GARAGE
 DESCRIPTION OF WORK: _____

SHEET INDEX

SHEET #	TITLE
1	FLOOR PLAN
2	FOUNDATION PLAN/ EXTERIOR ELEVATION
3	FRAMING PLAN
4	DETAILS/SECTION
5	

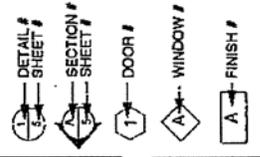
VICINITY MAP



NOTES

- PERMITS ARE REQUIRED FOR ELECTRICAL, MECHANICAL, PLUMBING, POOLS & SPAS, FENCES, RETAINING WALLS, DRIVEWAY APRONS, STREET USE.
- A SURVEY OF THE SUBJECT PROPERTY BY A LICENSED LAND SURVEYOR, REGISTERED UNDER THE STATE OF CALIF., IS REQUIRED TO VERIFY THE LOCATION OF PROPERTY LINES, VERIFY LOCATIONS OF STRUCTURES ON PROPERTY, AND/OR VERIFY GRADE ELEVATIONS.

SYMBOLS



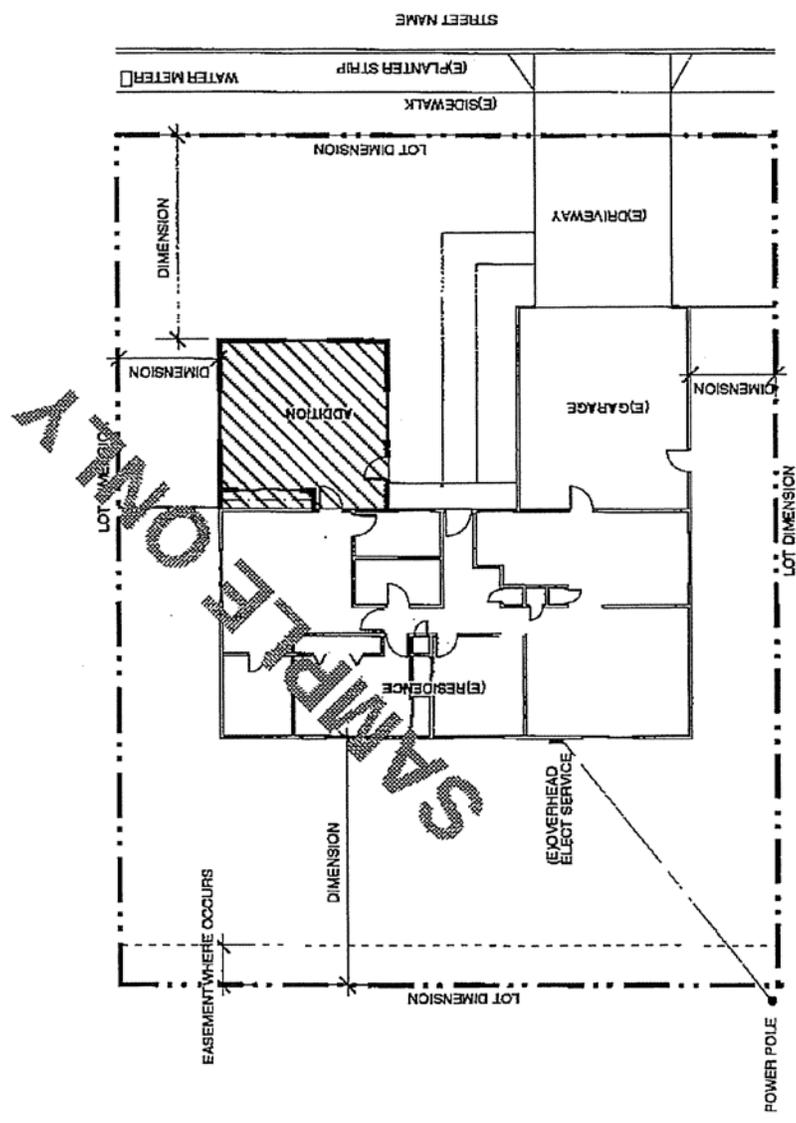
MATERIALS SPECIFICATIONS

TIMBER:
 JOISTS & RAFTERS: _____ OF NO.2
 4X/8X BEAMS & HEADERS: _____ OF NO.1
 2X4 STUD WALLS: _____ OF CONSTR. GRADE
 2X8 OR LARGER STUD WALLS: _____ OF NO.2
 BLOCKING/STRIPPING: _____ OF STANDARD
 PLYWOOD SHEATHING: _____ OSB OR CDX
 SHEAR WALLS: _____ STRUCT 1

FOUNDATIONS:
 MAX. SOIL BEARING VALUE: 1000 PSF
 (UNLESS OTHERWISE SPECIFIED BY SOILS INVESTIGATION).

CONCRETE/ REINFORCEMENT:
 FOUNDATION - 2500 PSI
 #3 & #4 BARS - GRADE 40
 #5 BARS & LARGER - GRADE 60

CONCRETE BLOCK:
 LIGHT WEIGHT UNITS, GRADE 'N'
 F'm = 1500 PSI
 TYPE 'S' MORTAR, 2000 PSI



PLOT PLAN
 NORTH ARROW
 SCALE

OWNER'S NAME _____
 OWNER'S ADDRESS _____
 PROJECT ADDRESS _____
 OWNER'S PHONE NUMBER _____

PLOT PLAN
 DATE: _____

SHEET NUMBER

WALL SCHEDULE	
EXISTING WALL	
RECESSED WALL STUD SIZE AND SPACING	

INSULATION SCHEDULE	
CEILING: R-30	WATER HEATER: R-12
WALL: R-13	DUCTS: R-4.2
FLOOR: R-19	

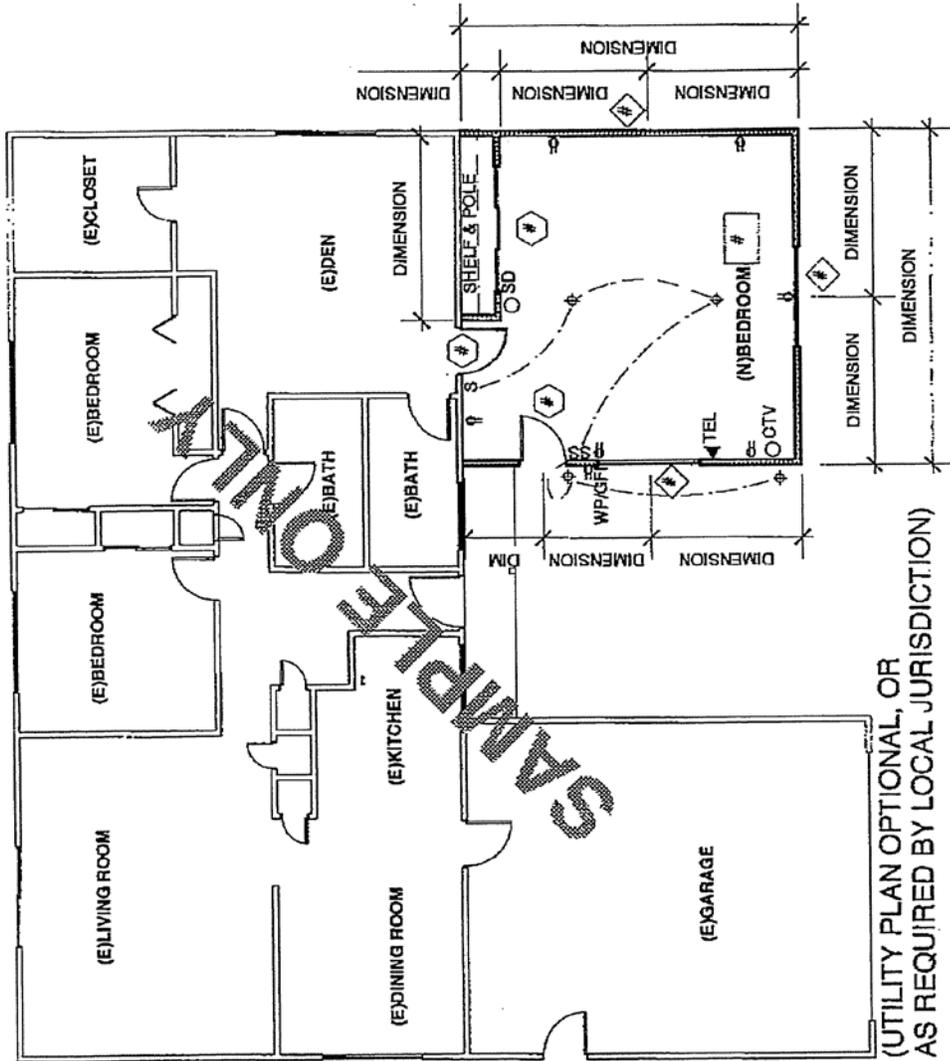
FINISH SCHEDULE	
FLOOR, WALL, CEILING	
A	CARPET, 1/2" GYP. BD, 1/2" GYP. BD.
B	
C	

DOOR SCHEDULE	
DOOR #	DOOR SIZE AND TYPE
1	3-0x6-8, SOLID CORE
2	
3	

WINDOW SCHEDULE	
WINDOW #	WINDOW SIZE AND TYPE
A	6-0x4-0, SLIDER, TEMP GLASS, DJAL GLAZE
B	
C	

UTILITY SCHEDULE	
S	SWITCH
DE	DUPLEX OUTLET
OWP/GFI	WATERPROOF/GFI OUTLET
OW 2-40	2-40V OUTLET
⊙	RECESSED DOWNLIGHT
⊕	CEILING MOUNTED FIXTURE
⊖	WALL MOUNTED FIXTURE
TL	TRACK LIGHT
FL	FLUORESCENT STRIP
2x4	2x4 FLUORESCENT FIXTURE (RECESSED)
FAN	FAN
FAN/LIGHT COMBO	FAN/LIGHT COMBO
OSD	SMOKE DETECTOR
FG	GAS
HB	HOSE BIB
TM	THERMOSTAT
TEL	TELEPHONE
TEL/DATA	TEL/DATA/ DUPLEX OUTLET

HVAC:	BTU/HR Output
WATER METER SIZE	
ELECTRICAL SERVICE SIZE	

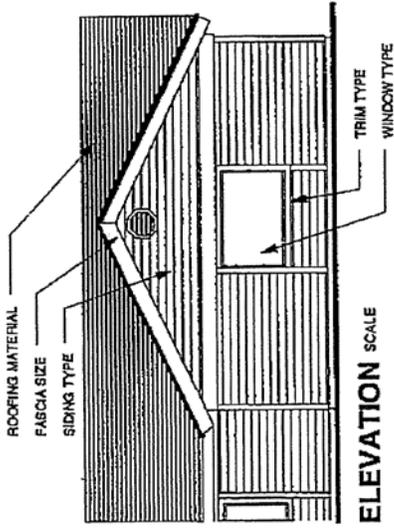


(UTILITY PLAN OPTIONAL, OR AS REQUIRED BY LOCAL JURISDICTION)

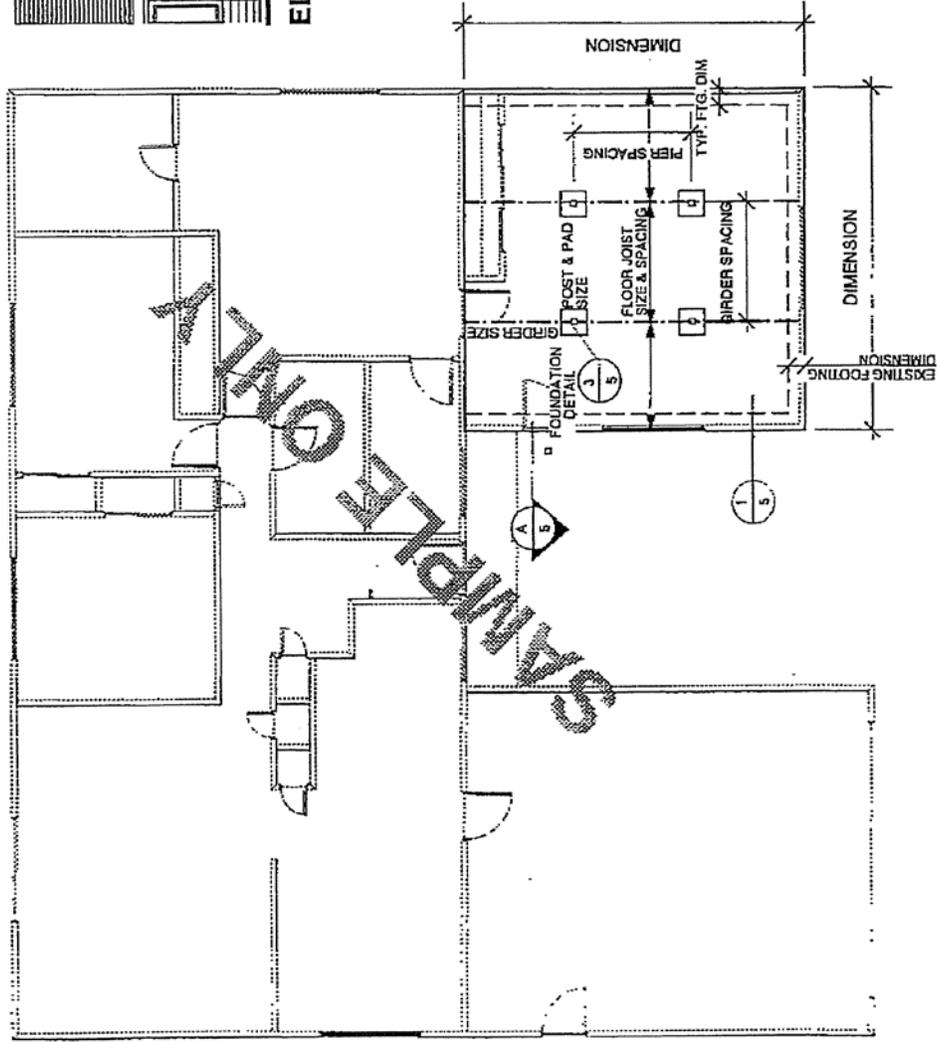
NORTH ARROW



FLOOR PLAN/UTILITY PLAN SCALE 1/8" = 1'-0"



FOUNDATION NOTES
FLOOR SHEATHING AND NAILING PER LARUCP TYPE V SHEET, OR
SLAB THICKNESS & REINFORCEMENT PER LARUCP TYPE V SHEET



FOUNDATION PLAN SCALE 1/4" = 1'-0"
NORTH ARROW

SHEAR WALL SCHEDULE

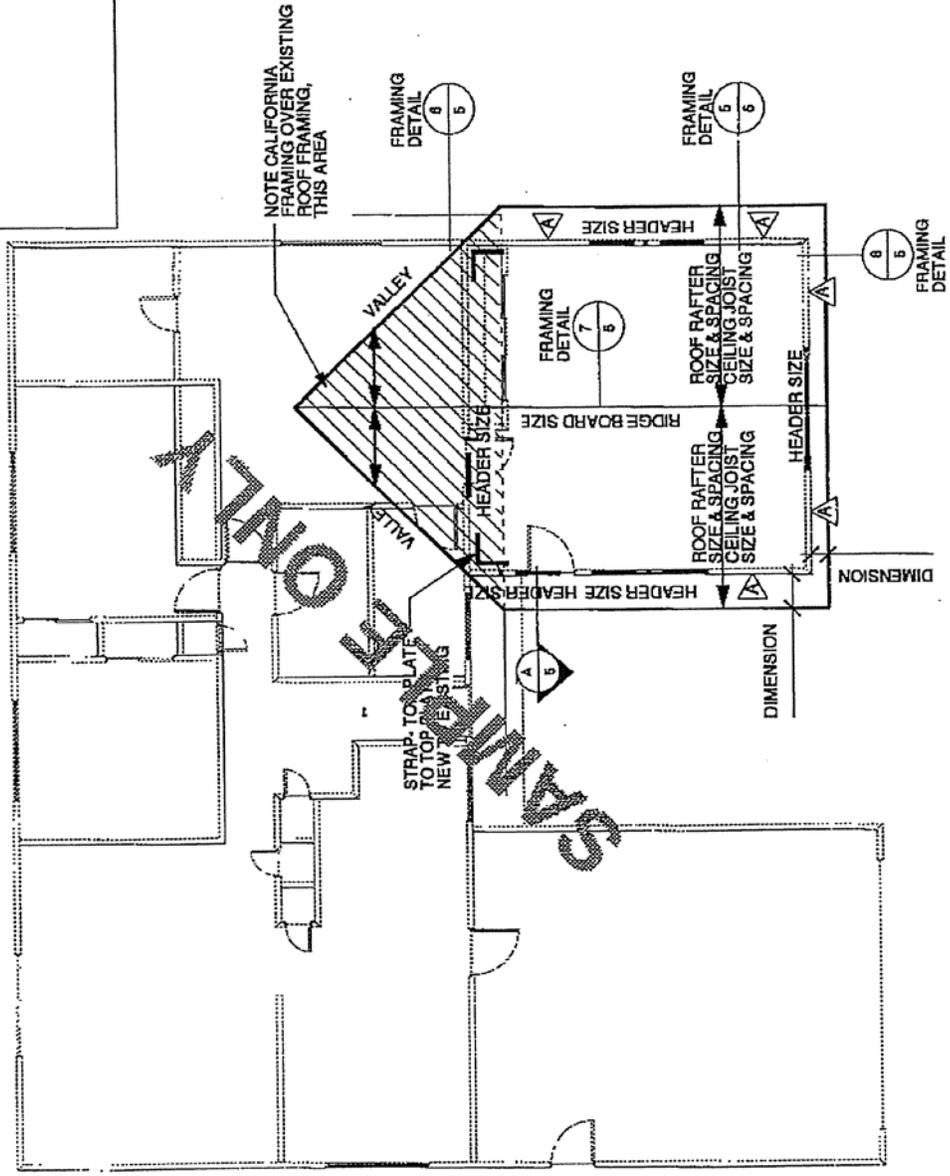
MARK	PLY	NAIL	EN. SPACING	BOLTS
△				

SHEAR WALL PER TYPE V NAIL SIZE NAIL SPACING ANCHOR BOLT SIZE & SPACING

NOTES:
 PROVIDE APPROPRIATE NOTES FROM LARUCP TYPE V CONSTRUCTION SHEET

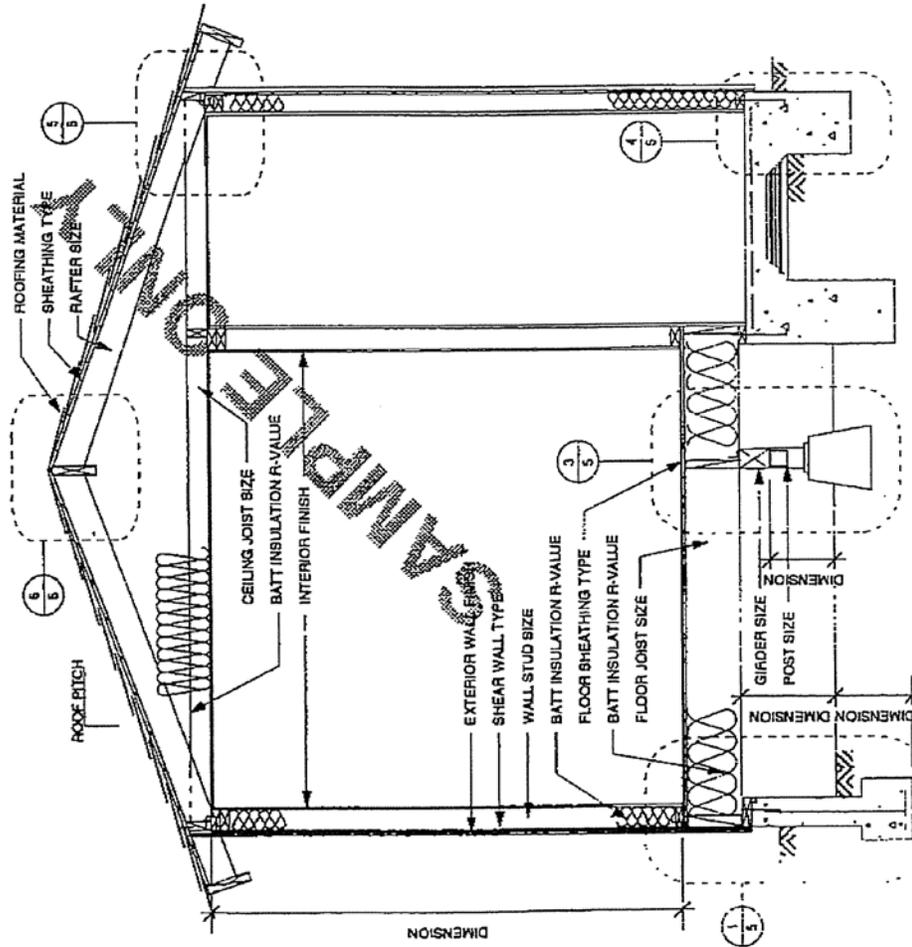
ROOF FRAMING NOTES

1. ROOF SHEATHING AND NAILING PER LARUCP TYPE V SHEET
2. ROOF PITCH, ROOFING TYPE, ICBO NO., AND ROOFING MATERIAL WEIGHT

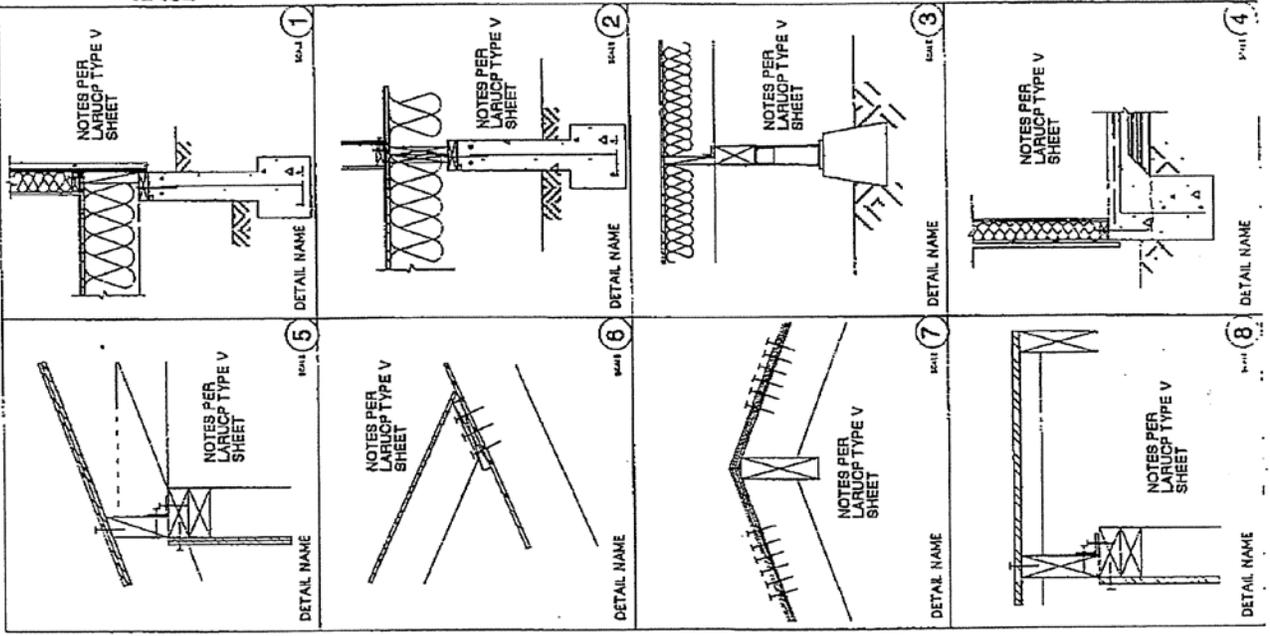


NORTH
 ARROW

ROOF FRAMING PLAN SCALE 1/8" = 1'-0"



A SECTION
SCALE



In addition to the general construction plan requirements presented in this handout, a general list of Building, Electrical, Plumbing, Mechanical and Energy Efficiency Code compliance requirements are listed herein to assist in the expediting of plan design, plan review, and approvals.

As required by the City Building Codes, construction plans must show “in detail” how a project will comply with all minimum Code requirements that may pertain to a specific project, prior to building permit issuance:

Code references following each item refer to the **Covina Municipal Code**, the **2013 California Residential Code**, the **2013 California Fire Code**, the **2014 L.A. County Fire Code**, the **2013 California Building Code**, the **2013 California Building, Electrical, Mechanical, Plumbing and Energy Codes** as adopted with amendments by the **City of Covina**.

GENERAL REQUIREMENTS

1. List all applicable Codes (2013 Codes), occupancies (R-3/U), seismic design category (D2) and construction types (V-B) on the cover sheet of the building plans. **R106.1**
2. **4** sets of complete building plans and **2** sets of supporting documentation, soil reports, structural calculations, and Title 24 Energy compliance packages shall be submitted at the time of initial plan review submittal. **R106.1**
3. Incomplete, inconsistent, faded or illegible drawings and/or calculations and specifications are unacceptable. Plans shall be standard 24" x 36" and printed upon substantial paper. **R106.3**
4. The designer of record shall list all deferred submittal items (when applicable) on the cover sheet of the construction plans. **Provide a note:** “All deferred submittal items shall be reviewed and certified by the designer of record prior to required plan review submittal and approvals by the Building and Safety Division. Work involving all deferred submittal items shall not commence until the designer of record and Building and Safety Division have reviewed and approved the deferred items as necessary.” **R106.4**
5. **Add this note on the site plan when applicable:** “For single family residential properties with existing swimming pools and spas; additions, alterations, or renovations that require a building permit require all suction outlets of the existing swimming pool and spa be upgraded so as to be equipped with approved and listed anti entrapment cover(s). The required anti entrapment cover(s) shall comply with current ASTM or ASME Standards in accordance with **California Health and Safety Code, Section 115920**. The City building inspector shall verify compliance prior to project final approvals.”
6. A soil report with a study of liquefaction potential is required for all newly constructed dwellings, two story additions to an existing dwelling, or as otherwise determined by the Building Official within the City of Covina. **R106.1, R401.4.1. Exception:** The Building Official may waive the required soils report with a study of liquefaction potential if an existing report is available and within close proximity on the same block and said report is in accordance with this Code or may be validated as such by the soils engineer.

Soils engineer shall provide:

1. Provide recommendations and design parameters for the foundation and excavations
2. Soil parameters for seismic design per **CBC 1613A**
3. Provide recommendations regarding the mitigation of potential liquefaction
7. Plans and supporting calculations require the wet stamp; signature and expiration date of a California licensed engineer or architect in responsible charge of the project upon final submission of plans. **R301.1.3.1 Exception:** Single story type V wood framed dwellings without a basement and their accessory structures that comply with the prescriptive requirements of the 2013 CRC or CBC.
8. Provide the owner and designer's name, address, and **contact information** on the cover sheet of the plans. Designers are required to sign each sheet of the building plans. **R106.1.1**
9. After the plans have been reviewed two times and have provided the service covered by the plan review fee. Plan review fees will be charged by the hour until approved.
10. Provide site/plot plan; show size and location of all buildings/structure(s), setbacks, use, construction type and distance between each existing and proposed building and property lines. Show complete outline of parcel on the plot plan as well as all easements and their dedicated size and use. **R106.2**
11. Drainage plan/site plan must show how water will drain away from the proposed foundation and off the site. Grade shall fall a minimum of 6 inches within the first 10 ft away from the building or drains/swales shall be constructed to ensure drainage away from the foundation. Provide a minimum 2% slope away from foundations where impervious surfaces are within 10 ft **R401.3**
12. **Approved carbon monoxide alarm(s)** listed in accordance with UL 2024/2075 shall be installed in dwelling units and in sleeping units within which fuel-burning appliances are installed and in dwelling units that have attached garages. Carbon monoxide alarms shall receive their primary power from the building wiring and shall be equipped with a battery back up and be interconnected. **R315.1**
13. **Approved smoke alarms** listed in accordance with UL 217 shall be installed in each sleeping room as well as outside each separate sleeping area in the immediate vicinity of the sleeping (bed) rooms, and each story including basements. All smoke alarms shall receive their primary power from the building wiring and shall be equipped with a battery back up and be interconnected. **R315.1**
14. **Provide this note:** Where a permit is required for alterations, repairs, or additions exceeding \$1,000, existing dwellings that have attached garages or fuel-burning appliances shall be provided with **carbon monoxide alarm(s)** in accordance with **R315.1. Exception:** Hard wiring and interconnection is not required within existing dwelling units where there is no commercial power supply or any alteration or repair does not result in the removal of wall and ceiling finishes or there is no access by means of attic; basement or crawl space.
15. **Provide this note:** Where alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, **smoke alarms** listed in accordance with UL 217 shall be installed as required for new construction. **R315.2.3.2 Exception:** Hard wiring and interconnection is not required within existing dwelling units where there is no commercial power supply or any alteration or repair does not result in the removal of wall and ceiling finishes or there is no access by means of attic; basement or crawl space.
16. **Provide this note:** Basements, habitable attics, and every sleeping room shall have at least one operable emergency escape and rescue opening. Windows shall have a minimum clear net opening area of 5.7 sq. ft, or a minimum 5.0 sq. ft if located at grade level. In addition to the minimum clear net opening area, the minimum clear opening height shall be 24 inches, and the minimum clear opening width shall be 20 inches. The window shall have a finished sill height of 44 inches above the finished floor. Emergency escape and rescue openings shall be operable from the inside without the use of keys, tools, or any special knowledge. Emergency escape and rescue openings shall provide direct access to a public way, yard or court. **R310.1**
17. **Vertical egress** – Habitable floors more than one story above or below the level of the egress door may have no point located more than 50 ft from an egress stairway. **R311.4**

FLOOR PLANS

18. Submit a legible and complete floor plan. Clearly identify and dimension all rooms or spaces in the dwelling and/or accessory structure. Regarding existing dwelling alterations and additions thereto, clearly identify all “existing” and “proposed” rooms, spaces, and alterations. Floor plans shall be dimensioned to ¼ inch scale, typical.
19. Provide a complete “scope of work” regarding all residential renovation and remodel projects and detail accordingly.
20. Provide complete wall, finish, and window/door schedules. **R106.1**
21. Show the location and type of water heater on the floor plan. Clarify existing or proposed.
22. Show the location of the a/c condenser on the floor/site plans. See the Planning Division regarding Zoning Code setback requirements for all exterior equipment/appliances.
23. Water closet (toilet) to provide a minimum 30 inch clear width and 24 inch clear space in front of fixture. Clearly dimension on plans. **CPC 402.5**
24. Show all proposed construction including any porches, balconies, breezeways, carports, etc. Clearly identify (cross hatch) all proposed work on the site plan.
25. Show on the floor plan the location and type of heating source for the proposed project. The Heat source must provide a minimum of 68 degrees at 3 ft above finished floor for all habitable rooms. **R303.8** When an existing heat source is used and the conditioned area is increased as with habitable room additions, heating load calculations may be necessary to justify the adequacy of the existing heat source.
26. Rooms containing bathtubs, showers, spas, and similar fixtures shall be mechanically ventilated. Provide and show mechanical exhaust ventilation on the floor plan. A minimum rate of 50 CFM intermittent ventilation or 25 CFM continuous ventilation is required and must meet the minimum requirements of **ASHRAE 62.2, 2013 T-24 CMC 4.506.1**
27. Provide and show the local exhaust ventilation for the kitchen. A minimum rate of 100 CFM is required. Duct sizing and lengths shall meet the requirements of **ASHRAE 62.2, 2013 T-24 CMC Chapter 5**
28. Show on the floor plan an approved barrier (bollard, etc.) to protect all gas utilization appliances (water heater, dryer, etc.) from physical damage by moving vehicles in the garage. **CPC 507.13.1**
29. Provide approved agency listing number (**ICC ES Report #**) for factory-built fireplaces and chimneys.
30. There shall be a landing or floor on each side of each exterior door. The depth and width of the landing at exterior doors shall be 36" minimum. **R311.3**
31. Minimum hallway width shall be not less than 36." **R311.6**
32. Porches, balconies, landings, or any other raised floor open-sided walking surface located more than 30" above the floor or grade below shall have guards not less than 42" in height measured vertically above the adjacent walking surface. **R312**
33. Attics which exceed 30 sq. ft and have a vertical height of 30" or more as measured from the top of the ceiling framing to the underside of the roof framing must be provided with an access opening of not less than 22" x 30" which must be located in a hallway or other readily accessible location. **R807.1**

STAIWAYS/HANDRAILS/GUARDS

34. Required guards shall not have openings from the walking surface to the required guard height which allow the passage of a sphere 4" in diameter. **R312.4 Exception:** The triangular openings at the open side of a stair formed by the riser, tread, and bottom rail of a guard may be 6" maximum in diameter. Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4 3/8" in diameter.
35. All stairs with 4 or more risers shall have at least one handrail installed in accordance with **R311.7.7 - R11.7.7.3**

36. Handrails shall be placed not less than 34" or more than 38" measured vertically from the sloped plane adjoining the tread nosing. **R311.7.7.1**

37. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1 ½ inches between the wall and handrail. **R311.7.7.2**

38. The handgrip portion of circular handrails shall have an outside diameter of not be less than 1 ¼" or more than 2" in cross sectional dimension and shall be a "graspable" shape. If the handrail is not circular, it shall have a perimeter dimension of at least 4" and not greater than 6 ¼" with a maximum cross sectional dimension of 2 ¼". **R311.7.7.3**

39. Handrails shall not project more than 4 1/2" on either side of a stairway. **R311.7**

40. All stairways shall be provided with illumination in accordance with **R303.6**.

41. Stairways and their associated landings shall not be less than 36" in clear width. **R311.7.1**

42. The minimum headroom in all parts of the stairway shall not be less than 6 ft 8" inches measured vertically from the sloped line adjoining the tread nosing or from the landing on that portion of the stairway. **R311.7.2**

43. The maximum riser height of stairways shall be 7 ¾" and shall be measured vertically between leading edges of adjacent treads with variances no more than 3/8". **R311.7.4.1**

44. The minimum tread depth shall be 10" and shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads with variances by no more than 3/8". **R311.7.5.2**

45. Winding stairways shall have a minimum tread depth of 6" and a minimum tread depth of 10" measured between the vertical planes of the foremost projection of adjacent treads at intersections with the walk-line. **R33.7.5.2.1**

46. Enclosed accessible space under stairs shall have walls, the under stair surface, and any soffits protected on the enclosed side with a minimum ½" gypsum board. **R302.7**

LIGHT, VENTILATION AND SANITATION

47. All habitable rooms shall have an aggregate glazing area of not less than 8% of the floor area of such rooms **R303.1 Exceptions**

48. Natural ventilation shall be through the use of windows, doors, louvers, or other approved openings to the outdoors. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum opening area to the outdoors shall be 4% of the floor being ventilated. **R303.1 Exceptions**

49. For the purpose of determining light and ventilation requirements, any room shall be considered as a portion of an adjoining room when at least 50% of the area of the common wall is open and unobstructed and provides as opening of not less than 1/10 of the floor area of the interior room but not less than 25 sq. ft. **R303.2**

50. Required glazed openings shall open directly onto a street, public way, or a yard or court located on the same lot as the building. **R303.7 Exception:** Required glazed openings may face into a roofed porch where the porch abuts a street, public way, yard, or court and the longer side of the porch is at least 65% unobstructed and the ceiling height is not less than 7 ft.

51. Use of sunroom additions and patio covers as defined in Section **R202**, shall be permitted for natural ventilation purposes if in excess of 40% of the exterior sunroom walls are open, or are enclosed only by insect screening. **R303.1 Exception 3.**

52. Every dwelling unit shall be provided with a water closet, lavatory, and a bathtub or shower. **R306.1**

53. Each dwelling unit shall be provided with a kitchen area and every kitchen area shall be provided with a sink. **R306.2**

54. Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such surfaces shall extend to a height of not less than 6 ft above the floor. **R307.2**

ROOMS/ DIMENSIONS

55. Every dwelling unit shall have at least one habitable room with a floor area not less than 120 sq. ft. **R304.1**

56. Other habitable rooms shall have a floor area of not less than 70 sq. ft. **R304.2 Exception:** Kitchens.

57. Habitable rooms shall not be less than 7 feet in any horizontal dimension. **R304.3 Exception:** Kitchens

58. Habitable rooms, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a finished ceiling height of not less than 7 feet. **R305.1 Exceptions**

SAFETY GLAZING

59. All glass located in an area considered to be hazardous must comply with the safety glazing provisions of R308.4:

1. Glazing in all fixed and operable panels of swinging, sliding, and bi-fold doors, except decorative glazing and associated openings or where a 3 inch sphere is unable to pass.
2. Glazing adjacent to a door where the nearest vertical edge is within 24" arc of the door in a closed position and whose bottom edge is less than 60" above the floor or walking surface. **Exception***
3. Glazing in windows that meets all of the following conditions: **R 308**
 - Exposed area of an individual pane is greater than 9 sq. ft, and
 - Exposed bottom edge is less than 18" above the floor, and
 - Exposed top edge is 36" above the floor, and
 - 1 or more walking surfaces are within 36" horizontally of the plane of glass
 - **Exceptions***
4. Glazing in railings regardless of area or height above walking surface. **R 308.4.4**
5. Tub, shower, hot tub, whirlpool, sauna and steam room enclosures and any glazing in a bathroom wall enclosure, where the bottom edge is less than 60" above the walking surface. **Exception:** Glazing more than 60 inches horizontally from the water edge of a whirlpool, hot tub, or bathtub. **R308.4.5**
6. Glazing in walls and fences used as a barrier for indoor/outdoor swimming pools and spas when the bottom edge of the glazed area is less than 60 inches above a walking surface within 5 ft of the water's edge. **R308.4.5**
7. Glazing within 36 inches horizontally of a walking surface and adjacent to stairways, landings, or ramps when the exposed surface is less than 60 inches above the plane of the walking surface. Exception: A rail, guard or wall is installed in accordance with **R308.4(5)**
8. Glazing within 60" horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 60 inches above the nose of the tread. **R308.4.5**

ROOFING/VENTILATION

60. Indicate minimum class A roofing/decking materials. Specify ICC ESR research report number and the materials used in the proposed roofing/decking assembly, such as felt, cap sheet, weight of material per roofing square, etc. **R902.1**

61. Specify roof pitch and finished height of the building/roof structure as shown from finished grade. **R106.3**
62. Specify thickness, material and span of roof sheathing. **R106.3, Table R503.2.2.1(1)**
63. Provide roof (attic) ventilation and supporting calculations in accordance with **R806**.
64. Enclosed attics and rafter spaces where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space and shall be protected from the elements. A minimum 1 inch air space is required between the roof sheathing and insulation where eave or cornice vents occur. Corrosion resistant screening is required where openings are greater than ¼ inch in diameter. The total net free ventilating area shall not be less than 1/150 sq. ft of the area of the space ventilated, except that a reduction to 1/300 sq. ft is permitted provided that at least 50% and not more than 80% of the required ventilating area is provided with ventilators located in the upper portion of the space to be ventilated at least 3 ft above eave or cornice vents with the balance of the required ventilation to be provided by eave or cornice vents. **R806.1**
65. Roof flashing shall be installed in accordance with this Code at all wall and roof intersections, wherever there is a change in roof slope or direction and around all roof openings and penetrations. All metal flashing shall be corrosion resistant with a thickness of not less than (0.019) inches (No. 26 gage galvanized sheet metal). **R903.2.1**
66. Unless roofs are sloped to drain over roof edges, roof drains shall be installed at each low point of the roof and installed in accordance with **R903.4**.
67. Where required for roof drainage, scuppers shall be placed level with the roof surface in a wall or parapet. **R903.4.1**
68. Where roof drains are required, overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 2 inches above the low point of the roof, or overflow scuppers having 3 times the size of the roof drains and having a minimum opening height of 4 inches shall be installed in the adjacent parapet walls with the inlet flow located 2 inches above the low point of the roof served. **R903.4.1**
69. Asphalt shingles shall be used only on roof slopes of 2 units vertical in 12 units horizontal (2:12) or greater. For slopes between (2:12) and (4:12), double underlayment shall be installed in accordance with R905.2.7. **R905.2.2**
70. Within climate zone 8 (City of Covina) and as specified in the 2013 California Energy Standards, a radiant barrier is required for all prescriptively designed buildings in accordance with **Table 151-C Component Package D**.

ELEVATIONS/SECTIONS

71. Specify exterior finish materials (7/8" stucco, type of underlayment, lath, weep screed, veneer, siding, etc.) on the elevation drawings and include associated ICC ESR research report numbers, manufacturer, model #, etc. **R106.3**
72. Provide complete building height dimensions to scale from finished grade to finished floor lines, ceilings, and top of roof. **R106.3**
73. **Add this note:** An approved address display is required and shall be clearly visible as required by the local fire authority. Numbers shall be a minimum 4" high with ½" stroke and contrast the background surface of the building. **R319.1**

FOUNDATIONS

74. **Add this note to foundation plan:** Concrete comprehensive strength shall be 3000 psi @ 28 days. For single family dwellings and their associated accessory structures, special inspection is not required; however proof of design mix shall be submitted to the building inspector. **R404.1.2.3.1**
75. Specify pressure treated plates/sills. **R317**
76. Specify minimum depth, width, and thickness of footing and foundation walls. **R403.1.4**
77. Show location, size, and reinforcement of proposed pads and footings. **R403.1.1**
78. **Add a note to foundation plan:** "All hold downs and anchor bolts for required shear/brace walls shall be set in place by template prior to foundation inspection." **R106.3**

79. **Add this note to foundation plan:** Foundation plates and sills shall be anchored to the foundation in **SDC D2** with minimum 1/2" anchor bolts and approved plate washers (3" x 3" x .229"). Bolts shall be spaced not more than 6 feet apart. There shall be a minimum of 2 bolts per sill/plate. Bolts shall not be located more than 12 inches, or closer than 7 bolt diameters from sill plate ends. Embed bolts at least 7" into reinforced masonry or concrete. **R403.1.6**

80. **Add this note to foundation plan:** The hole in required plate washers is permitted to be diagonally slotted with a width up to 3/16" larger than the bolt diameter and a slot length not to exceed 1 3/4", provided a square 2 inch cut washer is placed between the washer and the nut. **R602.11.1**

81. An approved 3 1/2" corrosion-resistant or plastic weep screed shall be provided at or below the foundation plate line on all exterior stud walls and should be placed a minimum of 4 inches above earth or 2 inches above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. Blocking of the weep screed with finish materials is prohibited. **R703.6.2.1**

82. When not providing a complete separation from the existing building, indicate how the proposed foundation/footing will positively anchor to the existing foundation. **R106.3**

83. Wood framing members including sheathing supported by exterior foundation walls shall provide a minimum 6" clearance to exposed earth or shall be of preservative treated lumber or naturally resistant to decay. **R317**

RAISED FLOOR FRAMING/DECKS

84. Access openings through the raised floor shall be 18" x 24" minimum in all new raised floor areas and shall be shown on the plans. Openings through a perimeter foundation wall shall not be less than 16"x 24". When any portion of a through wall access is below grade, an area way not less than 16" x 24" shall be provided. The bottom of the areaway shall be below the threshold of the access opening. Through wall access openings shall not be located under a door. **R408.4**

85. Provide a cross sectional detail for isolated piers and include all required minimum clearances from grade to wood framing or specify pressure treated or decay resistant lumber. In SDC D2, a positive post cap and base connection is required to prevent lateral displacement. **R317, R407.3, R502.9**

- **Pier posts** - 8" minimum clearance to grade
- **Girders** - 12" minimum clearance to grade
- **Floor joists**- 18" minimum clearance to grade

86. Decks and walks supported by attachment to exterior walls shall be positively anchored to the primary structure and designed for both vertical and lateral loads. (Typically, minimum 1/2" x 5" lag bolts @ 16" on center, staggered). Toe nailing is unacceptable. **R502.2.2**

87. Ends of wood girders entering concrete or masonry foundation walls shall provide a minimum 1/2" clearance on the tops, sides, and ends of girders or shall be pressure treated or decay resistant lumber. **R317.1(4)**

88. For required interior brace/shear wall lines, provide a complete load path capable of transferring all loads from their point of origin through the load resisting elements to the foundation. **R301.1, R502.9, Table R602.3(1)**

89. Provide raised floor ventilation and supporting calculations. The minimum net area of ventilation openings shall not be less than 1 sq. ft per 150 sq. ft of under-floor space area, unless the ground surface is covered by a Class 1 vapor retardant material. When a vapor retardant material is used, the minimum net area of ventilation openings shall not be less than 1 sq. ft per 1500 sq. ft of under-floor space area. One such ventilation opening shall be within 3 ft of each corner of the building. Openings shall be covered with approved materials and the least dimension shall not exceed 1/4". **R408.1. Exception***

90. **Provide this note:** The under-floor grade shall be cleaned of all vegetation and organic material. All wood forms used for the placement of concrete shall be removed before the building is occupied or used for any other purpose. All construction materials shall be removed before the building is occupied or used for any purpose. **R408.5**

WOOD FRAMING

91. Specify species/grade of framing lumber, grade of structural steel, strength of concrete/mortar/grout, grade of masonry units, and grade of reinforcing steel. **R106.3**
92. Provide a complete nailing schedule in accordance with **Table R602.3(1)**
93. Provide a complete cross-section of the framing at the location indicated. **R106.3**
94. Specify the size, spacing, direction, and extent of roof rafters, hip and valley rafters, ridge board/beams, ceiling joists and floor joists. **R106.3**
95. Hip/valley rafters and ridge boards shall be one size larger than roof rafters. **R802.3**
96. Provide details showing supporting arrangements and a complete load path of all hip and valley rafters at the ridge board or beam to bearing wall or other approved bearing support (beam, etc.) below. **R802.3.1**
97. Design ridge/hip/rafters as a beam where roof pitch is less than 3:12. Show location and size of supporting column(s). **R802.3**
98. When a header joist span does not exceed 4 ft, the header joist may be a single member the same size as the ceiling joist or roof rafter. Single trimmer joists may be used to carry a single header joist that is located within 3 ft of the trimmer joist bearing point. **R802.9**
99. Trimmer and header joist or rafters shall be doubled and of sufficient size to support all loads when the span of the header exceeds 4 ft. Approved hangers shall be used when the span exceeds 6 ft. Tail joists 12 ft or greater in length shall be supported at the header by framing hangers or approved ledger strips. **R802.9**
100. Where ceiling joists are not connected to the roof rafters at the wall top plates, indicate rafter or collar tie size, spacing, (maximum 4 ft o.c.) location, and # of fasteners or design ridge as a beam. **R802.3.1, Table R802.5.1(9) Table R602.3(1)**
101. When purlins are installed to reduce roof rafter spans, purlins shall not be smaller in size than the roof rafters supported and be reinforced by minimum 2" x 4" purlin braces to bearing walls that shall be sloped at not less than 45° horizontal. **R802.5.1**
102. Floor joists under and parallel to bearing partitions shall be doubled or be sized to support the load (beam). **R502.4**
103. Bearing partitions perpendicular to floor joists shall not be offset from supporting girders/beams, or other bearing walls more than the floor joist depth unless specifically designed to carry the additional loads. **R502.4**
104. The ends of each joist, rafter, beam, or girder shall have not less than 1 ½" of bearing on wood or metal or not less than 3" on masonry or concrete. **R502.6**
105. Joist framing from opposite sides over a bearing support or partition shall be lapped a minimum of 3" and shall be nailed together with a minimum 3 10d face nails. **R502.6**
106. Specify required header size(s) for all openings in walls. **Table R502.5(1)**
107. Specify the size, grade of lumber, and spacing of all wood framed walls. **R602.3**
108. The size, height limitations and spacing of wood framed studs shall be in accordance with **Table R602.3 (5)**.
109. Prescriptive wall bracing shall comply with either the intermittent bracing method or the continuous sheathing method as outlined in **Tables R602.10.2 or Table R602.10.4.1**.
110. Indicate required length and type of brace wall segments for each brace wall line on the framing/foundation plans in accordance with **R602.10, Table R602.10.1.2(2), Table R602.10.2 or Table R602.10.4.1, all with City of Covina amendments**.
111. Prescriptive brace wall designs in accordance with **R602.10** and City of Covina amendments shall comply with the following:
1. **For (WSP) wood structural panel brace walls:** Minimum 15/32" C.D.X.-structural 1 plywood or O.S.B panels with 6 - 6 - 12 nailing using 8d common nails.

2. A minimum 4 ft panel width is required on one face of the wall with a 2:1 height/width ratio for WSP panels and at each end of a brace wall line in SDC D2. **Exceptions:** Brace wall panels may begin no more than 8 ft from the end of each brace wall line provided compliance is shown with **Figures R602.10.1.4.1 and R602.10.1.4(4)**.
 3. 25 ft maximum spacing on center between brace wall panel segments in both longitudinal and transverse directions is required.
 4. At least two minimum ½" x 10" or larger anchor bolts per plate section with approved 3" x 3" x ¼" steel plate washers per panel. **R602.11.1, R403.1.6**
 5. Anchor bolts shall not be spaced more than 60" on center. **R403.1.6**
 6. Framing clips for shear block transfers through the roof/floor diaphragm (A35, LPT4, etc.) at 24" on center maximum.
 7. A 4 ft maximum offset out of plane from the designated brace wall line provided that the total out to out offset of brace wall panels in a brace wall line is not more than 8 ft in accordance with **Figures R602.10.1.4**
 8. No openings or penetrations are allowed in brace walls.
 9. **For PCP (portland cement plaster) brace walls:** See section **R703.6**, a maximum 16" stud spacing, 1 ½" 11 gauge, 7/16" head nails at 6" spacing or 7/8" and a 2:1 height/width ratio for PCP panels.
112. Interior brace/shear wall segments shall extend to the roof diaphragm and through to the foundation. Provide shear transfer detail(s) and a complete load path as required per **R301.1 and R403.1.2 with City of Covina amendments**.
113. In lieu of the required minimum 4 ft wide brace wall panels in SDC D2, alternate brace wall panels may be used in accordance with **R602.10.3.2 and Figure R602.10.3.2 with City of Covina amendments**.
114. In lieu of the required minimum 4 ft wide brace wall panels in SDC D2, portal frame brace wall panels may be used at garage door openings in accordance with **R602.10.3.3 and Figure R602.10.3.3 with City of Covina amendments**.
115. Show location and size of posts which support beam. Specify post-beam connectors to prevent lateral displacement. **R502.9**
116. Specify metal tie straps max. 4 ft. on center for connection of roof beams/rafters at ridge.
117. Design uninhabitable residential attic storage use area for 20# per square foot per **Table R301.5**
118. Attics served with fixed stairs and habitable attic spaces shall be designed using a 30# live load per **Table R301.5**.
119. Irregular structures of unusual shape or size, or of split level construction shall be designed for lateral forces as specified in **R301.2.2.2.5 and 2010 CBC 1604, CBC 2305**.
120. Hold down connector bolts into wood framing members (posts) requires approved steel plate washers. **BMC 2305.4**.

2013 T-24 ENERGY STANDARDS REQUIREMENTS – RESIDENTIAL

121. Show on the plans the following to facilitate review for compliance with energy conservation standards:
1. On the cross sections, show the insulation envelope; call out all R-values of insulation for wall, roof, and floor (slab or raised floor) assemblies corresponding to the associated energy calculations in accordance with climate zone 8 requirements.
 2. Provide notes/details for the required radiant barrier installation in climate zone 8.
 3. All new roof finish products installed within climate zone 8 on steep slope roofs (greater than 2/12) and weighing 5 p.s.f. or greater; must be listed and approved CRRC cool roof rated products. Exc.

122. Provide energy design calculations showing compliance with prescriptive or performance methods per 2013 Title 24 Energy Standards requirements.
123. Provide (2) hard copies of supporting 2013 T-24 energy compliance documentation upon plan check submittal. In addition, all CF-1R documents and MF-1R mandatory measures must be copied on the construction plans.
124. Show required and approved high efficiency luminaries in the kitchen, bathroom, garages, laundry room and utility rooms. **24 CAC. 150(k)**
125. Approved high efficiency luminaries must be pin based lighting fixtures or approved LED type. Screw based lighting fixtures are not permitted.
126. All other habitable rooms (living, family, dining, sleeping, etc.) require high efficiency lighting fixtures or shall be controlled by approved occupancy sensors or dimmers.
127. All non high efficiency lighting installed within bathrooms must be controlled by approved vacancy sensors.
128. Provide whole house ventilation in accordance with **ASHRAE 62.2**.

ELECTRICAL

129. Show the location and size (in amperes) of the main electric service panel and any sub panels on the site/floor plans.
130. Electrical panels are not allowed in fire rated walls, clothes closets, and bathrooms.
131. Supporting electrical load calculations in accordance with **2013 CEC, Article 220** are required for all single family dwellings and associated accessory structures rated 400 amperes or greater. **BMC, Article 81-1**.
132. A minimum 100 amp electrical service is required for all newly constructed dwellings.
133. Grounding and bonding shall be provided in accordance with **2013 CEC, Article 250**.
134. All receptacles installed in the following locations shall have Ground Fault Circuit Interrupter protection in accordance with **2013 CEC, 210.8**:
 1. Bathrooms
 2. Private garages and accessory buildings not intended as habitable space such as storage, work shops, etc.
 3. Outdoors
 4. Crawl spaces
 5. Unfinished basements
 6. Kitchen – where receptacles are install to service counter tops
 7. Laundry, utility, and wet bar sinks – where the receptacle is installed within 6 ft of the outside edge of the sink
135. **Provide a note:** All outlets installed in dwelling unit bed rooms, family rooms, dining rooms, living rooms, parlors, dens, libraries, sun rooms, recreation rooms, closets, hallways, or similar rooms or areas shall be protected by a listed “combination type” arc-fault circuit interrupter, installed to provide protection of the branch circuit. **2013 CEC, 210.12 (B)**
136. **Provide a note:** In all areas specified in CEC 210.52, all new 15 and 20 ampere dwelling unit receptacles shall be listed tamper-resistant receptacles. **2013 CEC 406.11**
137. Show a complete electrical floor plan layout (lights, plugs, switches, etc) and include an accurate symbols legend.
138. Receptacles are required from all entrances or doorways into rooms or spaces within 6 ft and 12 ft there after; and within 10 ft in hallways. In addition, all walls 2 ft or greater in length require an electrical outlet.
139. Provide GFCI protected outlets at kitchen countertops to meet **CEC 213-52 (c)** requirement that no point on wall above counters be more than 24" from an electrical outlet measured horizontally along the wall line.

140. **Provide a note:** A minimum of (1) 20 amp dedicated circuit is required for all GFCI protected bathroom receptacles. No other outlets may be served by this circuit. Exc.

141. **Provide a note:** A minimum of (1) 20 amp dedicated circuit is required for new laundry room facility receptacles. No other outlets may be served by this circuit.

142. **Provide a note:** A minimum of (2) or more 20 amp dedicated small appliance branch circuits are required for all new kitchen counter top receptacles and all kitchen, pantry, breakfast room, and dining room or similar area receptacles. No other outlets may be served by these circuits. **2013 CEC 210.52 (B)**

PLUMBING /MECHANICAL

143. A thermostatic mixing /pressure balancing valve is required in all new tub/shower installations.

144. Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a smooth, non absorbent surface to a height not less than 72 inches. **R 307.2**

145. Show how gas fueled appliances (water heater and/or furnace, etc.) will be provided with combustion air and how products of combustion will be vented to outside air **CMC 701**

146. Gas appliances (water heaters, FAU etc.) installed in garages, warehouses or other areas subject to mechanical damage shall be guarded against such damage by protective barriers (bollard) or be located out of the path of travel for vehicles. **CMC 308**

147. Heating and cooling equipment located in a garage that generates a glow, spark, or flame capable of igniting flammable vapors shall be installed with the pilots and burners or heating elements and switches at least 18" above the finished floor. **CMC table 501.1**

148. Water heaters shall meet the first hour rating requirements of **CPC Table 5-1**. Provide a note on the floor plan that calls out the required 1st hour rating in accordance with the Plumbing Code.

149. Water heaters shall provide protection from seismic (earthquake) damage. 1 ½" metal strapping shall be provided and positively secured at the upper and lower 1/3 of the water heater and a minimum 4" away from controls. **CPC 507.2**

150. Water heaters where leakage could cause damage such as in attics, floor/ceiling assemblies or floor/sub floor assemblies shall be provided with a water tight corrosion resistant pan beneath the water heater with a minimum ¾ inch drain to an approved location. **CPC 507.4 Discharge from the relief valve into the water heater pan is prohibited.**

151. For FAU or other heating appliances located in attic space, please provide the following: **CMC 904.11**

1. 22" x 30" inch minimum scuttle to attic or largest piece of equipment
2. 24 inch wide catwalk from attic access to FAU (may not exceed 20' in length).
3. Hardwired disconnect switch for permanent appliances. exc. **CEC 904.10.1**
4. 30" x 30" inch working platform at control side of FAU.
5. 120 volt service outlet
6. Service light next to appliance with light switch next to the access opening