



Date: _____

County of San Diego, Department of Planning and Land Use
RESIDENTIAL BUILDING CODE PLAN CHECK
BUILDING DIVISION

*** CUSTOMER INFORMATION VERSION ***

One- and two-family residences, associated garages, and other accessory structures

The items listed below are commonly omitted from plans submitted for review. Advance preparation by applicants to satisfy these requirements will help expedite the plan review process. Be advised: Just as specific items on this list may not apply to specific projects, this list also does not necessarily include all requirements for all projects; other items may apply. Please use this list as a guide only.

A. GENERAL REQUIREMENTS

1. The approval of plans and specifications does not permit the violation of any section of the building code, county ordinances, or state law. The following list does not necessarily include all errors and omissions. (See the 2010 *California Residential Code*, Section R105.4)
2. The following supplements may be required for approval. Compliance with these items must be obtained prior to permit issuance:
 - Minimum construction specifications (DPLU #081)
 - Stormwater Intake Form (LUEG:SWa) and Minor Stormwater Management Plan (LUEG:SWb)
 - Sample stormwater BMP presentation (DPLU #272)
 - Eave construction guidance document (DPLU #198)
 - Special inspection summary (DPLU #006)
 - List of approved special inspection agencies and construction material testing laboratories
 - Other : _____
3. **Please read your Conditions of Approval list.** We recommend you satisfy the "Structural Approval" (i.e., this building code review) and "Planner Approval" conditions (if required) **before** submitting your plans to the fire district for review. Additionally we recommend you retain all previously reviewed sets until permit issuance.
4. Plans must incorporate the necessary information on printed sheets. Plans in pen or pencil, with crossed out or taped on information, or with white-out will not be accepted.

B. PLAN REQUIREMENTS

1. Include **current** County of San Diego minimum construction specifications (DPLU #081) with signature on full-size sheet in plans. An AutoCAD template of DPLU #081 is available at <http://www.sdcounty.ca.gov/dplu/bldgforms/index.html>.
2. Specify on plans the project will comply with the following building codes and associated County of San Diego amendments:
 - 2010 *California Residential Code* and/or 2010 *California Building Code* as applicable
 - 2010 *California Green Building Standards Code*
 - 2010 *California Electrical Code*
 - 2010 *California Plumbing Code*
 - 2010 *California Fire Code*
 - 2008 *California Building Energy Efficiency Standards*
3. Provide on sheet _____ an itemized "Scope of Work" describing project scope and identifying structures included on this permit.
4. Scope of work on plans does not match scope on permit application. See DPLU technician to revise permit application scope.
5. Provide fully dimensioned plot plan drawn to scale and indicating the following:
 - Lot dimensions with property lines and any easements identified
 - Size and use of each structure on the lot
 - Dimensions from structures to property lines (measured at right angles to structures)
 - Dimensions between structures (measured at right angles to structures)
6. Plans are incomplete. Plan check will proceed with submittal of complete plans. Use this list as a guide in preparing plans.

5201 RUFFIN ROAD, SUITE B, SAN DIEGO, CA 92123 • (858) 565-5920 • (888) 336-7553

HTTP://WWW.SDCDPLU.ORG

7. The plans must be prepared using accepted drafting procedures and practice. We recommend you retain the services of an experienced design professional to help you prepare your plans and respond to the circled corrections on this list.
8. Provide two sets of calculations prepared, stamped, and signed by California-licensed civil engineer or architect for:
 - Vertical load supporting system
 - Lateral load (wind/seismic) resisting system
 - Retaining walls
 - Other _____
9. Each sheet of structural plans must bear the stamp and wet signature of a California-licensed civil engineer or architect.
10. Special inspection required for the following (CBC 1704, CBC 1707):
 - Concrete anchors
 - Wood shear walls, diaphragms, and/or other seismic elements per CBC 1707.3
 - High-strength concrete
 - Masonry
 - High-strength bolts
 - Field welding
 - Moment frames
 - Other _____
11. Complete DPLU #006 special inspection summary (or equivalent) – listing elements required per item B.10 – and make a permanent part of plans. Specify certified special inspector and phone number on the form.
12. Provide **large, clear** note on **plot plan**: “Special inspection required. See special inspection form on sheet _____.”
13. Clearly distinguish on plans between proposed (new), as-built (non-permitted), and existing (permitted) construction.
14. Provide certification report(s) for all non-permitted and as-built construction per the following:
 - Produced, signed, and stamped by California-licensed engineer or architect
 - Certifies construction matches plans submitted for permit
 - Specifies measures performed for certification with hidden construction verified by testing and/or destructive examination
 - Addresses structural/life safety, electrical, plumbing, and mechanical systems

Exception: In lieu of certification reports, applicant may submit detailed certification plan – subject to plan checker approval – specifying how existing construction will be examined and noncompliant construction will be remedied
15. Name, label, and specify on floor plans the use of all rooms and spaces.
16. Foundation and framing plans shall be the same orientation as floor plans.
17. Provide legend/definitions for all symbols, shaded areas, etc., used on plans.
18. Remove all “build per code” and “not for construction” notes from plans.
19. Provide sheet index coordinated with plans.

C. SITE REQUIREMENTS

1. Post site identification cards and call for site inspection. Once the site inspection has been completed, call (858) 565-5920 to confirm the results. Additional correction items may apply based on the results.
2. Project may be located in a watercourse or flood area. Department of Public Works approval is required.
3. Project located in Alquist-Priolo Earthquake Fault Zone. Provide geotechnical report prepared, stamped, and signed by California-licensed civil engineer demonstrating proposed building(s) will not be constructed across trace of active fault.
4. Minor grading permit and rough grading approval from this department are required.
5. Rough grading approval from Department of Public Works is required.
6. Compaction report required (2 copies).
7. Certification form DPLU #073 required (2 copies).
8. Compaction reports more than 5 years old must include an update letter by a California-licensed civil engineer.
9. *Note on the plans:* “The inspector will recheck for expansive soils and/or grading requirements at first foundation inspection.”
10. Indicate on plot plan the location and square footage of land-disturbance activity.

11. Provide Waste Discharge Identification Number (WDID) obtained from the State Water Resources Control Board (SWRCB) when total area of land disturbance is 1 acre or more. To obtain the WDID, state regulations require filing a Notice of Intent (NOI) and fee with the SWRCB. Contact the SWRCB for Stormwater Pollution Prevention Plan (SWPPP) requirements.
12. Provide completed and signed Stormwater Intake Form (pages 1-2 of form LUEG:SWa) to determine stormwater management plan requirements.
13. Project requires completed Minor Stormwater Management Plan (pages 1-6 of form LUEG:SWb) indicating the following:
 - Project information and applicant's signature
 - Impervious area calculations (page 1 – use sheet 2 of DPLU #272 as a guide)
 - Erosion control BMPs (page 3, table I, sections A, B, and/or C)
 - Sediment control BMPs (page 3, table I, section D)
 - Site management BMPs (page 3, table I, sections E and F)
 - Low impact development BMPs (page 4, table II)
 - Post-construction/permanent BMPs (page 5, table III)
14. Project requires Major Stormwater Management Plan. Provide a copy for review.
15. Provide BMP plan per the following (we recommend the DPLU plot plan AutoCAD template with BMP legend available for download at <http://www.sdcountry.ca.gov/dplu/bldgforms/index.html>):
 - Indicating general direction of site drainage
 - Identifying location of proposed erosion control BMPs per Minor/Major SWMP
 - Identifying location of proposed sediment control BMPs per Minor/Major SWMP
 - Identifying location of proposed site management BMPs per Minor/Major SWMP
 - Identifying location of proposed low impact development and permanent BMPs per Minor/Major SWMP
 - Including table or legend defining each BMP symbol (see DPLU #272 sample plan)

D. DESIGN REQUIREMENTS

1. Provide complete dimensions on floor plans, building sections, and exterior elevations.
2. Provide dwelling room dimensions complying with the following (CRC R304):
 - At least one habitable room with minimum 120 square feet of floor area
 - Minimum 70 square feet of floor area for all other habitable rooms
 - Habitable rooms not less than 7 feet in any horizontal dimension

Exception: Kitchens exempt from dimensional requirements
3. Provide minimum 7-foot ceiling height in all habitable rooms, hallways, bathrooms, and laundry rooms. (CRC R305.1)

Exception: In rooms with sloping ceilings, minimum 50% of required floor area at minimum 7-foot ceiling height acceptable with no portion of required floor area at less than 5-foot ceiling height
4. Space labeled _____ is considered habitable room sleeping room.
5. Space labeled _____ does not meet definition of patio cover, patio enclosure, or sunroom and is considered habitable room unless reconfigured. (County Building Code 92.2.RAPPH 101)
6. Specify the following on floor plans at each window or on window schedule coordinated with floor plans:
 - Width
 - Height
 - Operation type (e.g., slider, casement, single-hung, awning)
7. Specify the following on floor plans at each door or on door schedule coordinated with floor plans:
 - Width
 - Height
 - Operation direction (e.g., swing path, slider, pocket)
8. Provide at least one of the following in each habitable room to achieve adequate lighting (CRC R303.1, CRC R303.2):
 - Glazed window and/or door area to exterior of at least 8% of room's floor area
 - Artificial lighting specified on utility plans producing 6-foot-candle illumination over room area at 30 inches above floor
 - Unobstructed opening to adjacent room per the following:
 - o Minimum 50% of common wall between rooms
 - o Minimum 10% of floor area of interior room
 - o Minimum 25 square feet
 - o Adjacent room with glazed window and/or door area to exterior of at least 8% of both rooms' combined floor area

9. Provide at least one of the following in each habitable room to achieve adequate ventilation (CRC R303.1, CRC R303.2):
 - Openable window and/or door area to exterior of at least 4% of room's floor area
 - Mechanical ventilation specified on utility plans per one of the following:
 - o System capable of providing room with 0.35 air changes per hour
 - o Whole-house system capable of supplying 15 cfm per occupant
 - Unobstructed opening to adjacent room per the following:
 - o Minimum 50% of common wall between rooms
 - o Minimum 10% of floor area of interior room
 - o Minimum 25 square feet
 - o Adjacent room with openable window and/or door area to exterior of at least 4% of both rooms' combined floor area
10. Provide one of the following in each bathroom, powder room, and water closet compartment (CRC R303.3):
 - Minimum 3 square feet of window glazing, at least half of which is openable
 - Artificial lighting and mechanical ventilation exhausted to exterior
11. Specify tempered glass at the following locations requiring safety glazing (CRC R308.4):
 - Glazing in swinging, sliding, and bi-fold doors
 - Glazing within 24-inch arc of door in closed position and within 60 inches of floor or walking surface
 - Exception:** Glazing with intervening wall or barrier between door and glazing
 - Exception:** Glazing in walls on latch side of and perpendicular to plane of door in closed position
 - Glazing adjacent to showers, bathtubs, hot tubs, whirlpools, and saunas and within 60 inches of standing/walking surface
 - Glazing within 36 inches horizontally and 60 inches vertically of stairway, ramp, or landing walking surfaces
 - Glazing within 60 inches horizontally and 60 inches vertically of bottom stairway tread
 - Glazing per the following within 36 inches horizontally of walking surfaces:
 - o Exposed area of individual pane minimum 9 square feet
 - o Bottom edge of glazing within 18 inches of floor
 - o Top edge of glazing more than 36 inches above floor
12. Where operable windows located more than 6 feet above adjacent grade or surface below, the lowest part of the clear window opening shall be minimum 24 inches above the finished floor. (CRC R612.2)
 - Exception:** Windows with openings not allowing passage of 4-inch-diameter sphere when in largest opened position
 - Exception:** Windows provided with fall prevention devices, window guards, or window opening limiting devices

E. EGRESS REQUIREMENTS

1. Door operations and dimensions shall comply with the following (County Building Code 92.2.R311.2):
 - Doors shall be side-hinged swinging type
 - Exception:** Sliding doors acceptable at exterior doors not required for egress and interior doors
 - Exception:** Overhead vehicle doors acceptable as egress from garages
 - Minimum 32-inch clear width
 - Exception:** Minimum width not applicable at exterior doors not required for egress and interior doors
 - Minimum 78-inch clear height
2. Dimension on floor plans level landing per the following on each side of each door (County Building Code 92.2.R311.3):
 - Width not less than door width
 - Minimum 36-inch depth
 - Exception:** Landing not required at top of interior flight of stairs if door does not swing over stairs
 - Exception:** Landing depth not required at exterior balconies less than 60 square feet and only accessible from door
 - Maximum 1-1/2 inches lower than top of door threshold
 - Exception:** Maximum 7-3/4 inches lower than top of door threshold if door does not swing over landing
3. Provide at least one route of egress complying with the following from all occupiable spaces (County Building Code 92.2.R311.4, CRC R311.6):
 - Egress through doors complying with items E.1 and E.2
 - Minimum 36-inch hallway width
 - For levels more than one story above or below the grade-level exterior egress door serving that level, maximum 50-foot travel distance from any occupiable point to egress stairway or ramp
 - Egress from any occupiable space does not require travel through garage
4. Provide at least one emergency egress door or window complying with the following at each sleeping room and basement (CRC R310.1, CRC R310.2):
 - Minimum 5.7-square-foot clear opening area
 - Exception:** Minimum 5.0-square-foot clear opening area acceptable for grade-level room
 - Minimum 24-inch clear opening height
 - Minimum 20-inch clear opening width
 - Maximum 44-inch sill height above floor
 - Opening directly to public way or yard/court opening to public way
 - Where sill height is below grade level, window well provided per CRC R310.2

5. Provide stairway dimensions complying with the following on floor plans and building sections (CRC R311.7):
 - Minimum 36-inch clear width with maximum 4-1/2-inch handrail encroachment
 - Minimum 6-foot-8-inch headroom
 - Minimum 36-inch-deep landings at top and bottom of each stairway with width equivalent to stairway width
 - Exception:** Landing not required at top of interior flight of stairs provided door does not swing over stairs
 - Maximum 12-foot vertical rise on one stairway flight between floors or landings
6. Dimension stairway risers and treads complying with the following (CRC R311.7):
 - Maximum 7-3/4-inch riser height
 - Minimum 10-inch tread depth
 - For winder treads, minimum 10-inch tread depth at 12 inches from inside edge and minimum 6-inch tread depth at any point within stairway clear width
7. Spiral stairways acceptable with the following alternative dimensions to items E.5 and E.6 (CRC R311.7.9.1):
 - Minimum 26-inch clear width
 - Minimum 6-foot-6-inch headroom
 - Maximum 9-1/2-inch riser height
 - Minimum 7-1/2-inch tread depth at 12 inches from inside edge
8. Dimension and detail stairway handrails complying with the following (CRC R311.7.7):
 - Provided on at least one side of each continuous stairway flight with four or more risers
 - Located minimum 34 inches and maximum 38 inches vertically above sloped plane adjoining tread nosings
 - Continuous for full length of stairway flight
 - Exception:** Handrails may be interrupted by newel posts at turns
9. Provide coordinated connection details specifying the following stairway elements designed for CRC R301.5 stair live loads:
 - Stringer sizes
 - Landing joists and beams
 - Hangers
10. Provide guard complying with the following at any open-sided walking surface – including balconies, decks, stairs, ramps, and landings – located more than 30 inches vertically above adjacent floor or grade within 36 inches horizontally of open-side edge (CRC R312):
 - Minimum 42-inches high above walking surface
 - Exception:** Minimum 34-inch-high guard acceptable at open side of stairs
 - Openings in guard may not allow passage of 4-inch-diameter sphere
 - Exception:** At open sides of stairs, openings in guard may not allow passage of 4-3/8-inch-diameter sphere, while triangular openings formed by riser, tread, and bottom rail of guard may not allow passage of 6-inch-diameter sphere
11. Provide coordinated connection details specifying the following for guard systems including glass (CRC R301.5):
 - Glass shall be tempered
 - Glass thickness (any structural glass designed with safety of factor of 4 considering CRC R301.5 guardrail loads)
 - Member sizes designed for CRC R301.5 guardrail loads
 - Means of connection (member-to-member and guardrail to supporting structure) for CRC R301.5 guardrail loads

F. ADDITIONAL LIFE SAFETY REQUIREMENTS

1. Indicate smoke detectors – interconnected and hard-wired with battery back-up – in the following locations on floor plans or utility plans (CRC R314):
 - Within each sleeping room
 - Outside each separate sleeping area in immediate vicinity of bedrooms
 - On each story of dwelling
2. Indicate carbon monoxide alarms – interconnected and hard-wired with battery back-up – in the following locations on floor plans or utility plans in dwelling units with fuel-burning appliances or an attached garage (CRC R315):
 - Outside each separate sleeping area in immediate vicinity of bedrooms
 - On each story of dwelling
3. Note on plans automatic residential fire sprinkler system shall be installed for the following (County Building Code 92.2.R313):
 - New one- and two-family dwellings and townhouses
 - New attached garages
 - Detached garages, additions, and alterations per local fire authority (applicant advised to consult with local fire authority)

4. Dwellings and garages shall be separated per the following (County Building Code 92.2.R302.6, CBC 704.9):
 - Minimum 1/2-inch gypsum board on garage side of walls separating garage from dwelling and attics
 - Minimum 5/8-inch Type X gypsum board on floors/ceilings separating garage from habitable rooms above with minimum 1/2-inch gypsum board on walls supporting such floors/ceilings
 - Where garage located within 6 feet of dwelling on same lot, minimum 1/2-inch gypsum board on interior side of garage and dwelling exterior walls
 - Self-closing and self-latching doors complying with one of the following:
 - o Minimum 1 3/8-inch-thick solid wood
 - o Minimum 1 3/8-inch-thick solid or honeycomb core steel
 - o 20-minute fire rating

Exception: Rated door not required where garage and dwelling both sprinklered
 - Openings prohibited from garage into dwelling unit sleeping room
 - Ducts in garage and ducts penetrating walls between garage and dwelling shall be minimum 26-gage sheet steel with no openings into garage
 - Minimum 5-foot high corner guards or metal jacketing for fire-protected columns and posts subject to vehicular impact
5. Specify on floor plans or foundation plans garage slabs/floors of noncombustible material with minimum 1% slope directed to drains or main vehicle entry doorway. (CRC R309.1)
6. Exterior walls with proximity to property lines shall comply with the following (CRC R302.1):
 - Walls (provide details specifying CBC Table 720.1(2) assembly number or alternate listed assembly):
 - o 1-hour fire rating for exposure to both sides within 3 feet of property line (sprinklers)
 - o 1-hour fire rating for exposure to both sides within 5 feet of property line (without sprinklers)
 - Projections (detail any rated construction):
 - o Prohibited within 2 feet of property line
 - o 1-hour fire rating within 3 feet of property line (sprinklers)
 - o 1-hour fire rating within 5 feet of property line (without sprinklers)
 - Openings:
 - o Prohibited within 3 feet of property line
 - o Maximum 25% of wall area within 5 feet of property line (without sprinklers)
 - Penetrations (specify listing number and manufacturer of fire-stopping material):
 - o 1-hour fire-rated penetrations of walls within 3 feet of property line (sprinklers)
 - o 1-hour fire-rated penetrations of walls within 5 feet of property line (without sprinklers)
7. Dwelling units in two-family dwellings shall be separated per the following (CRC R302.3, CRC R302.4, CRC R302.5):
 - Walls (provide details specifying CBC Table 720.1(2) or Gypsum Association assembly):
 - o 1-hour fire rating extending from foundation/floor to roof sheathing

Exception: 30-minute fire rating acceptable if sprinklered

Exception: Wall assemblies need not extend through attic if draftstops and ceiling constructed per CRC R302.3
 - o Airborne sound insulation with minimum 50 STC rating (provide details specifying Gypsum Association assembly)
 - Floors/ceilings (provide details specifying CBC Table 720.1(3) assembly number or alternate listed assembly):
 - o 1-hour fire rating with supporting construction of equal or greater fire rating

Exception: 30-minute fire rating acceptable if sprinklered
 - o Airborne sound insulation with minimum 50 STC rating and impact sound insulation with minimum 50 IIC rating (provide details specifying Gypsum Association assembly)
 - Doors:
 - o Self-closing with active latch bolt
 - o 45-minute fire rating

Exception: 20-minute fire rating acceptable if 1/2-hour wall assembly allowed (sprinklered)
 - Fire-rated penetrations (specify listing number and manufacturer of fire-stopping material) per CRC 302.4
8. Each townhouse shall be considered a separate building and separated per CRC R302.2.

G. ELECTRICAL, PLUMBING, AND MECHANICAL REQUIREMENTS

1. Note on plot plan whether or not property is connected to electrical grid. If not connected, provide complete plans for system generating electrical power and add this system to the permit scope of work.
2. Provide an electrical legend identifying all symbols used.
3. On the floor plan or electrical plan, show the location of all electrical panels (meter panels and sub panels). Provide a 30-inch-wide by 36-inch-deep workspace in front of all panels. Panels are not allowed in bathrooms. (CEC 110.26)
4. Indicate location of heating units and water heaters on floor plan. (CRC R303.8)
5. Gas-fired water heaters and furnaces located in bedrooms or bathrooms shall comply with one of the following (CPC 505.1, CMC 904.1):
 - Installed in dedicated closet with listed, gasketed, self-closing door with all combustion air from the outdoors
 - Water heater or furnace shall be a direct-vent appliance

6. Indicate on floor plans access openings per the following to attics housing mechanical or plumbing appliances (CMC 904.11):
 - Minimum 22 inches by 30 inches or size of largest appliance component
 - Located maximum 20 feet from appliance where attic passageway height less than 6 feet
7. Indicate on floor plans or utility plans location of dryer vent per the following (CMC 504.3.2):
 - Minimum 4-inch diameter
 - Maximum 14-foot combined horizontal and vertical length with two 90-degree elbows
 - Two feet deducted from maximum length for each elbow in excess of two
8. *Note on floor plans or utility plans* (applies to new buildings only): "Mechanical exhaust fans from bathrooms shall comply with the following (CALGreen 4.507.1):
 - ENERGY STAR compliant and ducted to terminate outside building
 - Controlled by readily accessible humidistat – unless fan functions as component of whole-house ventilation system – with controls capable of adjustment between relative humidity range of 50% to 80%
9. Note on plot plan if the property is serviced by propane (LPG) or natural gas.
10. Indicate on plot plan location and size of any propane tanks. Dimension minimum 10-foot clearance to structures and property lines for maximum 500-gallon capacity propane tanks. (CFC Table 3804.3)
11. LPG appliances not allowed in crawlspaces, pits, or basements; LPG piping not allowed in slabs within structure. (CMC 303.7)
12. Specify manufacturer, model, and ICC, UL, WH, or equivalent listing report number – UL and ANSI *standard* numbers are insufficient – demonstrating the following for each prefabricated fireplace, wood stove, or pellet stove (CRC R1004.1, CALGreen 4.503.1):
 - Gas fireplaces are direct-vent sealed-combustion type (applies to new buildings only)
 - Wood stoves and pellet stoves comply with U.S. EPA Phase II emission limits (applies to new buildings only)
 - Chimney shrouds are part of the approved fireplace assembly
13. Masonry fireplaces must be constructed per county details (make completed DPLU #180 a permanent part of plans) or engineered design with coordinated structural details and calculations. (CRC R1001)

H. ENERGY EFFICIENCY REQUIREMENTS

1. Provide complete energy efficiency compliance documentation. Project shall comply with the 2008 Building Energy Efficiency Standards for low-rise residential buildings.
2. The following completed energy forms shall be completed and made a permanent part of plans with compliance statements signed (CF-1R shall be registered for projects requiring HERS verification and/or diagnostic testing):
 - CF-1R: Certificate of compliance for new buildings and additions greater than 1000 square feet
 - CF-1R ADD: Certificate of compliance for additions 1000 square feet or less
 - CF-1R ALT: Certificate of compliance for alterations to existing construction
 - MF-1R: Mandatory measures summary
3. Designer's license number shall be on CF-1R form. If designer is unlicensed, owner shall sign compliance statement for designer.
4. Project shall comply with energy requirements for climate zone _____.
5. Building orientation in compliance documents must be consistent with plot plan and floor plan.
6. Specify on building sections R-values of wall, ceiling, raised-floor, and slab-perimeter insulation as required by CF-1R form.
7. In order to accommodate the required insulation thickness, a minimum rafter/stud depth of _____ will be required.
8. Fenestration indicated on floor plans and elevations shall comply with the following:
 - Area and orientation matching CF-1R form
 - For prescriptive submittals, total fenestration within maximum allowed area
 - For prescriptive submittals, west-facing fenestration within maximum allowed area
 - _____ maximum U-factor and/or _____ maximum SHGC
9. Provide the following cool roof information on CF-1R form:
 - Cool Roof Rating Council (CRRC) Product ID Number;
 - Roofing product type;
 - Roofing product weight (< 5 psf or ≥ 5 psf);
 - Aged solar reflectance and thermal emittance or solar reflectance index (make SRI worksheet a permanent part of plans)

10. Specify on CF-1R form the efficiency, type, and capacity/size of each of the following proposed appliances:
 - Heating units
 - Cooling units
 - Water heaters
11. Specify on plans any special features required per CF-1R form (e.g., shading screens, thermal mass, etc.).
12. Provide **large, clear** note on **roof plan or elevations**: “Radiant barrier is required.”
13. *Note on the plans*: “At least half the installed wattage of luminaires (except lighting internal to cabinets) in kitchens shall be high efficacy; low efficacy fixtures must be switched separately. Lighting internal to cabinets shall use no more than 20W of power per linear foot of illuminated cabinet.”
14. All luminaires in bathrooms, garages, laundry rooms, utility rooms, and other rooms or areas that are not a kitchen shall either be high efficacy or controlled by a vacancy sensor (or dimmer switch for other rooms only). Specify one of these measures for each new or remodeled room.
15. Specify high-efficacy luminaires or manually switched, low efficacy luminaires controlled by motion sensor and photocontrol, astronomical time clock, or energy management control system (EMCS) for each outdoor lighting fixture.
16. *Note on the plans*: “A mechanical exhaust system, supply system, or combination thereof shall be installed for each dwelling unit to provide whole-building ventilation with outdoor air complying with ASHRAE Standard 62.2-2007 as adopted by the California Energy Commission.”
17. *Note on the plans*: “An intermittently or continuously operating local mechanical exhaust system (with outdoor air) shall be installed in each kitchen and bathroom complying with ASHRAE Standard 62.2-2007 as adopted by the California Energy Commission. Intermittent local ventilation exhaust airflow rates shall be 50 cfm in bathrooms and 100 cfm in kitchens. Continuous local ventilation exhaust airflow rates shall be 20 cfm in bathrooms and 5 ach (air changes/hour) in kitchens based on kitchen volume.”
18. Doors between garages and occupiable spaces (enclosed spaces including habitable spaces, bathrooms, closets, halls, storage and utility areas, etc.) shall be gasketed or made substantially airtight with weather stripping.
19. Provide **large, clear** note on **plot plan**: “Properly completed and signed Installation Certificates (CF-6R forms) shall be provided to the inspector in the field. For projects requiring HERS verification and/or diagnostic testing, the CF-6R forms must be registered.” Forms are available at <http://www.sdcounty.ca.gov/dplu/bldg/energy-stds.html>.
20. Provide **large, clear** note on **plot plan**: “HERS verification and/or diagnostic testing required. Properly completed (forms **may not** be filled out by hand), registered, and signed Field Verification and/or Diagnostic Testing Documentation (CF-4R forms) shall be provided to the inspector in the field.” Forms available at <http://www.sdcounty.ca.gov/dplu/bldg/energy-stds.html>.

I. ROOF ASSEMBLY REQUIREMENTS

1. Specify roof material and underlayment.
2. Specify ICC, UL, or equivalent listing report number and manufacturer for roofing material (tile, metal, built-up, etc.).
3. *Note on roof plan or elevations*: “Roofing shall have a class A fire rating.” (County Building Code 92.2.R902 and County Building Code 92.1.1505.1)
4. *Note on roof plan or elevations*: “Cool roof required.”
5. Specify roof pitch.
6. Specify on plans layer-by-layer assembly of any built-up roofing systems – include coordinated assembly number from manufacturer’s listing report – to verify required fire rating achieved at roof pitch proposed.
7. Roof pitch is not adequate for roof type specified (CRC R905). Provide minimum pitch of _____.
8. Specify 1/4:12 minimum roof pitch for drainage on roof plan **or** design to support accumulated water. (CRC R903.4, CBC 1611.1, CBC 1611.2)
9. Detail roof drains, overflows, and scuppers and indicate location on roof plan per the following (CRC R903.4):
 - Drains installed at low point of each roof
 - Any scuppers placed level with roof surface in walls or parapets
 - Overflows or scuppers provided per one of the following:
 - o Overflows same size as roof drains and installed 2 inches above low point of roof
 - o Scuppers three times size of roof drains with minimum 4-inch opening height and installed 2 inches above low point of roof in adjacent parapet walls
 - Separate drain and overflow outlets required

10. Indicate on plans approved waterproof decking material for balconies/decks over interior spaces (CRC R903.1). Specify manufacturer and ICC, UL, or equivalent listing report number.
11. Indicate on roof plan location and size of attic vents per the following (CRC R806.1, CRC R806.2):
 - Minimum 1 foot of net vent area required for every 150 square feet of attic area (verify with calculation on roof plan)
 - Exception:** Net vent area of 1/300 attic area acceptable if between 50% and 80% of vents located in upper portion of attic minimum 3 feet above eave or cornice vents with balance of required vents provided by eave or cornice vents (as allowed per item J.8)
 - Exception:** Net vent area of 1/300 attic area acceptable with vapor barrier on warm-in-winter side of attic insulation
 - Vents positioned to provide cross ventilation to each attic area
12. Indicate on roof plan location and sizes of skylights. Specify manufacturer and ICC, UL, or equivalent listing report number. (CRC R308.6)

J. WILDFIRE-RESISTIVE CONSTRUCTION REQUIREMENTS

1. Indicate on plan location and size of fuel modification zone per the following (County Fire Code 96.1.4907.2):
 - Dimension minimum 100-foot fuel modification zone from perimeter of each structure
 - Fuel modification zone may not cross property lines or encroach into open space easements
 - If lot dimensions do not allow full 100-foot fuel modification zone, *note on plot plan:* "Entire lot is fuel modified."
2. Relocate structure labeled _____ to achieve 30-foot fire setback from property lines. (County Fire Code 96.1.4907.1.1)
3. In roof coverings where the profile creates space between the roof covering and combustible roof decking, specify one of the following means of protecting spaces at eave ends (County Building Code 92.1.705A.2):
 - Fire-stopping with approved materials (e.g., non-combustible birdstops for curved tile)
 - One layer of No. 72 ASTM cap sheet installed over combustible decking
 - Otherwise constructed to prevent intrusion of flames and embers
4. Exposed valley flashings shall be constructed with minimum 26-gauge corrosion-resistant metal installed over minimum 36-inch-wide single layer of No. 72 ASTM cap sheet running full length of valley. (County Building Code 92.1.705A.3)
5. Any roof gutters shall be provided with means to prevent accumulation of leaves and debris. (County Building Code 92.1.705A.4)
6. Skylights shall be tempered glass. (County Building Code 92.1.705A.5)
7. All vents (roof, foundation, combustion-air, etc.) shall comply with the following (County Building Code 92.1.706A.1):
 - Protected by louvers and 1/8-inch noncombustible, corrosion-resistant mesh
 - Exception:** Approved vents resisting intrusion of flames and embers
 - Turbine attic vents equipped to allow rotation in only one direction
8. Vents prohibited in eaves, eave overhangs, soffits, or cornices. (County Building Code 92.1.706A.2)
 - Exception:** Approved vents resisting intrusion of flames and embers
 - Exception:** Gable-end vents allowed if located minimum 12 inches below lowest eave/rake projection
 - Exception:** As allowed by building official and local fire authority and per eave details in guidance document DPLU #198
9. Detail eaves, soffits, and fascias per guidance document DPLU #198. (County Building Code 92.1.706A.3)
10. Specify exterior wall finish complying with one of the following (County Building Code 92.1.707A.1):
 - Noncombustible material (stucco, cement fiber board, masonry, etc.)
 - Exception:** Minimum 3/4-inch wood siding or 3/8-inch plywood installed over 1/2-inch fire-rated gypsum board
 - Ignition-resistant material
 - Heavy timber
 - Log wall construction (smallest horizontal dimension minimum 6 inches)
11. Enclose underfloor areas to the ground with exterior wall construction per item J.10. (County Building Code 92.1.709A.4.2.2)
12. Specify on window and door schedules exterior windows, exterior glazed doors, glazed openings within exterior doors, and glazed openings within exterior garage doors complying with one of the following (County Building Code 92.1.708A.2):
 - Multi-paned glass with minimum one tempered pane (vinyl frames shall have welded corners and metal reinforcement in interlock area)
 - Glass block units
 - Minimum 20-minute fire-rated (provide listing or test report)

13. Specify on door schedule exterior doors complying with one of the following (County Building Code 92.1.708A.3):
 - Exterior surface or cladding of noncombustible or ignition-resistant material
 - Solid-core wood minimum 1-3/8-inch thick
 - Minimum 20-minute fire-rated
14. Detail patio cover, carport, and trellis construction complying with any of the following (County Building Code 92.1.709A.1):
 - Noncombustible material
 - 1-hour fire-rated material
 - Approved exterior fire-retardant treated wood
 - Modified heavy timber (minimum 2x tongue-and-groove sheathing, 4x6 rafters/beams, 6x6 posts/columns)
15. Detail deck, balcony, and exterior stair construction complying with the following (County Building Code 92.1.709A.1):
 - Framing (any of the following):
 - Noncombustible material
 - 1-hour fire-rated material
 - Approved exterior fire-retardant treated wood
 - Modified heavy timber (minimum 4x8 joists/treads, 4x10 or 6x8 beams/stringers, 6x6 posts/columns)
 - Decking and tread material (any of the following):
 - Noncombustible material
 - 1-hour fire-rated material
 - Approved exterior fire-retardant treated wood
 - Approved alternative decking material meeting test requirements of County Building Code 92.1.709A.1.4
16. Paper-faced insulation prohibited in attics or other ventilated spaces. (County Building Code 92.1.711A.1)
17. Specify on plans any portion of a fence or other structure within five feet of building shall be constructed per one of the following (County Building Code 92.1.712A.1):
 - Noncombustible material
 - Approved exterior fire-retardant treated wood
 - Material meeting same fire-resistive standards as exterior walls of building

K. VERTICAL LOAD SUPPORTING SYSTEM REQUIREMENTS

1. Provide a complete roof/floor framing plan.
2. Provide engineered design per *California Building Code* due to the following (CRC R301.1.3):
 - Structure exceeds conventional framing limits of CRC R301
 - Structure exceeds two stories
 - Structural elements of steel, concrete, masonry, structural insulated panels, or alternative systems
3. Framing shall comply with all recommendations made in engineering calculations.
4. Justify the following loads used in design (CRC R301.4, CRC R301.5):
 - Roof live load (psf)
 - Roof dead load (psf)
 - Floor live load (psf)
 - Floor live load (concentrated loads)
 - Floor dead load (psf)
5. Provide complete structural detailing for the project.
6. Cross-reference all framing details with the appropriate plans.
7. Delete all non-applicable details from plans.
8. Specify plywood grade, thickness, panel span rating, and nailing for roof/floor sheathing. (CRC Table R503.2.1.1(1))
9. *Note on plans:* "Plywood shall be continuous under California fill."
10. Specify on framing plans the size, orientation, span, and spacing as applicable for the following structural elements:
 - Rafters
 - Ceiling joists
 - Beams
 - Floor joists
 - Headers
 - Posts
 - Columns
11. Provide two complete sets of truss drawings and coordinate with roof framing plan. (CRC R802.10.1)

12. Identify trusses on roof framing plan by file/ID/sequence number or make truss layout a permanent part of plans.
13. Design trusses for bearing at perpendicular interior shear walls.
14. Detail 1/2-inch clearance between trusses and non-bearing walls.
15. Indicate on roof framing plan support for ridge/hip/valley intersections. (CRC R802.3)
16. Detail rafter-tie connections at conventionally framed areas and specify connection nailing. (CRC R802.3.1)
17. Provide metal straps across ridge beam and rafters.
18. Specify camber requirements and combination symbol for all glue-laminated wood members on plans.
19. *Note on plans:* "A certificate of conformance for glue-laminated wood members is required prior to framing inspection."
20. Specify the make and model number of all proposed truss/beam/joist hangers.
21. Specify size and type (double stud, post, etc.) of support for beams/headers – 4x12 and larger – and girder trusses.
22. Detail all beam-to-post, post-to-beam, and post-to-footing connections.
23. Specify stud size and spacing for all walls. (CRC R602.3.1)
24. Balloon frame walls of rooms with sloping ceilings (rake walls). Specify on plans which walls are balloon framed.
25. Specify on plans fasteners for preservative-treated-wood (in all applications) and fire-retardant-treated-wood (in exterior applications) shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3)
 - Exception:** 1/2-inch or greater steel bolts exempt from preservative-treated-wood requirement
 - Exception:** Fasteners other than nails, timber rivets, wood screws, and lag screws may be mechanically deposited zinc-coated steel

L. LATERAL LOAD RESISTING SYSTEM REQUIREMENTS

1. Provide engineered lateral design per *California Building Code*. Building does not meet the following bracing requirements of CRC R602.10:
 - Shear walls not constructed per acceptable bracing methods of CRC R602.10.2, CRC R602.10.4, or CRC R602.10.5
 - Shear walls exceed maximum allowed height per CRC R602.10
 - Braced wall line spacing exceeds 25 feet or does not meet alternate provisions of CRC R602.10.1.5
 - Insufficient cumulative shear wall length within braced wall line(s) per CRC Table R602.10.1.2(1) for wind loads
 - Insufficient cumulative shear wall length within braced wall line(s) per CRC Table R602.10.1.2(2) for seismic loads
 - Shear wall spacing within braced wall line(s) exceeds 25 feet per CRC R602.10.1.4
 - Shear walls offset more than 4 feet from braced wall line(s) or more than 8 feet from other offset shear walls in same braced wall line(s) per CRC R602.10.1.4
 - Shear walls not located at ends of each braced wall line or do not meet alternate provisions of CRC R602.10.1.4.1
 - Individual shear wall length less than minimum required per CRC R602.10.3
2. Site is located in CRC Seismic Design Category E. Provide engineered lateral design per *California Building Code*. (CRC R301.2.2.4)
3. Justify the 0.2-second spectral response acceleration, S_s , and 1-second spectral response acceleration, S_1 , used in the engineering calculations. (CBC 1613.5.1)
4. Justify the response modification coefficient, R , used in the engineering calculations. (CBC 1613.1)
5. Justify the redundancy factor, ρ , used in the engineering calculations. (CBC 1613.1)
6. Shear walls and lateral load resisting elements shall comply with all recommendations made in engineering calculations.
7. Specify on framing plans location, type, and length of all shear walls and coordinate with shear-wall schedule.
8. Shear wall types may not be mixed within the same braced wall line. (CRC R602.10.1.1)
9. Specify nail size and spacing for all shear walls and roof/floor diaphragms. Specify any required blocking. (CBC Table 2306.2.1(2), CBC Table 2306.3)
10. Indicate on roof framing plan 2x ridge blocking for roof diaphragm nailing.
11. Provide shear-transfer connection details for shear walls at roof, floors, and foundation. Cross-reference all shear-transfer details with the appropriate plans. (CRC R602.10.6)

12. Make manufacturer's structural detail sheet(s) for engineered shear panels (e.g., Strong-Wall, Hardy Frame, TJ, Shear Max, etc.) a permanent part of the plans.
13. Provide details for interior shear walls indicating shear transfer from roof/floor diaphragm above.
14. Provide shear-transfer details at openings in shear walls. (CBC 2305.1.1)
15. Provide drag straps on each side of bay windows and flush beams where plate lines are interrupted.
16. Where shear wall forces exceed 350 pounds per foot, all framing members receiving edge nailing from abutting panels shall be minimum 3-inch nominal members or double 2-inch nominal members. (CBC Table 2306.3)
17. Specify construction of cripple walls per the following (CRC R602.9, CRC R602.10.9):
 - Framed with studs equivalent to studs above
 - If more than 4 feet high, framed with studs required for an additional story
 - If less than 14 inches high, solid block construction or sheathed/nailed on at least one side with wood structural panel
 - Braced per provisions of CRC R602.10.9
18. Specify location/type of hold-downs on foundation plan (grade-level hold-downs) and framing plan (upper-level hold-downs).

M. FOUNDATION REQUIREMENTS

1. Provide a complete and fully dimensioned foundation plan.
2. Foundation elements shall comply with all recommendations made in soils/compaction report and engineering calculations.
3. Site inspection revealed presence of expansive soils. Provide soils report with foundation design recommendations.
Exception: Single-story structures at locations where moderately expansive soil conditions exist may comply with the requirements for expansive soil foundation design per form DPLU #065 in lieu of providing a soils report
4. Indicate on foundation plan location and size of underfloor vents per the following (CRC R408.1):
 - Minimum 1 foot of net vent area required for every 150 square feet of underfloor area (as demonstrated by calculation provided on foundation plan)
 - At least one vent located within 3 feet of each corner of building
5. Indicate on foundation plan location of minimum 18-inch by 24-inch access openings to all underfloor areas. (CRC R408.4)
6. Dimension underfloor clearance off grade of 18 inches for floor joists and 12 inches for floor girders **or** specify preservative-treated wood. (CRC R317.1)
7. Dimension the following vertical clearances for wood framing, sheathing, and siding at exterior walls **or** specify preservative-treated wood (CRC R317.1):
 - Minimum 8 inches for wood sill plates above adjacent natural grade
 - Minimum 6 inches for wood studs, sheathing, and siding above adjacent natural grade
 - Minimum 2 inches for wood studs, sheathing, and siding above adjacent concrete slab
8. Dimension the following vertical clearances for wood posts and columns **or** specify preservative-treated wood (CRC R317.1.4):
 - For posts in crawl spaces and supported by concrete piers or metal pedestals:
 - o Minimum 8 inches above natural grade
 - For posts exposed to weather and supported by concrete piers or metal pedestals:
 - o Minimum 6 inches above natural grade
 - o Minimum 1 inch above concrete slab
9. Detail wall sill plate anchorage to foundations per the following (CRC R403.1.6, CRC R602.11.1, CBC 2308.12.9):
 - Minimum 1/2-inch-diameter anchor bolts
Exception: Minimum 5/8-inch-diameter anchor bolts required in Seismic Design Category E
 - Minimum 7-inch embedment into concrete or masonry
 - Bolts spaced maximum 6 feet on center
Exception: Maximum 4 feet on center for buildings more than two stories in height
 - Minimum two bolts per sill plate section with one bolt located maximum 12 inches and minimum seven bolt diameters from each end of each section
 - Steel plate washers per the following provided between sill plate and nut of each anchor bolt:
 - o Minimum 3 inches by 3 inches by 0.229 inch
 - o If standard cut washer placed between plate washer and nut, hole in plate washer may be diagonally slotted with maximum 3/16-inch larger width than bolt diameter and maximum 1-3/4 inch slot length
10. Provide footing details specifying all dimensions and reinforcement. Cross-reference all details with foundation plan.

11. Provide a step footing detail. (CRC R602.11.2)
12. Unless otherwise specified by soils report, dimension minimum 7-foot horizontal distance from bottom leading edge of footings to daylight.
13. Provide adequate footings under all bearing walls and shear walls.
14. Provide adequate spread footings under posts/columns (where required due to post/column load).
15. Specify on foundation plan slab thickness, reinforcement, and moisture barrier. (CRC R506.1, CRC R506.2)
16. Provide details specifying the following for concrete or masonry wall construction:
 - Maximum overall height
 - Maximum height of any retained soil
 - Maximum stem wall height
 - Wall type (cantilevered or restrained)
 - Wall material (concrete or masonry) with required material strength
 - Wall thickness
 - Vertical and horizontal reinforcement:
 - o Bar size and spacing
 - o Bar position (edge or center) with dimension from face of wall
 - Footing/key dimensions and reinforcement
 - Means of restraint (restrained walls)
 - Drainage system behind walls retaining soil
 - Waterproofing for walls retaining soil and adjacent to usable space

N. SUPPLEMENTAL ADDITION AND ALTERATION REQUIREMENTS

1. Provide floor plan for existing rooms adjacent to addition/alteration with door sizes, window sizes, and types indicated – including doors/windows to be removed – to verify compliance with light, ventilation, and egress requirements.
2. Indicate smoke detectors and carbon monoxide alarms shall be installed – battery-powered alarms acceptable – in existing construction in locations specified items F.1 and F.2.
3. Provide framing and/or foundation plans for existing structure at _____ to verify existing construction adequate to support proposed added loads.
4. Detail means of achieving positive connection between addition(s) and existing construction at the following:
 - Plate lines (detail on framing plans)
 - Footings and slabs (detail on foundation plans)
5. Detail installation of hold-downs and/or anchor bolts in existing foundations. Specify manufacturer and listing number of epoxy, expansion anchors, wedge anchors, etc., as applicable.

O. ADDITIONAL REQUIREMENTS (MAY BE APPLICABLE)

Acknowledgement: This material is based upon work supported by the Department of Energy under Award Number DE-EE0000902.

Disclaimer: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.