Pikes Peak REGIONAL Building Department

RESIDENTIAL PLAN REVIEW

This packet is provided to assist in assembling a successful residential plan review submittal. The information is a summary of plan review requirements and is not intended as a substitute for the Code. Consult government departments in the jurisdiction of the site for additional criteria that may be applicable.

RESIDENTIAL BUILDING CODES

Jurisdictions served by Pikes Peak Regional Building Code adopted the following codes pertaining to residential:

2023 Pikes Peak Regional Building Code (PPRBC)
2021 International Residential Code (IRC)
2021 International Existing Building Code (IEBC)
2021 Int'l Energy Conservation Code (IECC)
CO Model Electric Ready and Solar Ready Code (CMERSRC)
2021 Int'l Swimming Pool and Spa Code (ISPSC)
2023 National Electrical Code (NEC)*

*Or most recent adopted edition by the State of Colorado

The International Fire Code and amendments are adopted by the Fire Authority. Plans are reviewed for compliance with this code by the fire department.

PIKES PEAK REGIONAL BUILDING DEPARTMENT (RBD)

RBD enforces building codes through plan reviews and site inspections; tests and grants licenses to building and mechanical contractors; registers electrical and plumbing contractors who are licensed by the state of Colorado; oversees floodplain management; assigns addresses; and issues permits to build, alter, convert, repair, move or demolish structures.

Pikes Peak Regional Building Department provides services to:

- Colorado Springs
- Fountain
- Manitou Springs
- Palmer Lake
- City of Woodland Park
- El Paso County
- Green Mountain Falls
- Monument
- Town of Calhan

RESIDENTIAL PLAN REVIEW OVERVIEW

"Residential" is defined as detached one- and two-family dwellings, townhouses, and their accessory structures. (Condominium projects of 3 or more units per building are classified as "Commercial.") Plans may be drawn and submitted by a homeowner who intends to obtain the permit, a design professional licensed by the state of Colorado, or a contractor who holds a Building Contractor C (home builder) license or higher license.

SITE SPECIFIC PLANS

These are residential construction plans for a determined site (site specific). Your plan requires reviews and approvals from the zoning department in the jurisdiction where the site is located, and RBD's Floodplain, Enumeration (addressing), Construction, Mechanical (HVAC), Electrical, and Plumbing departments. If plans are modified during construction, the plans usually require another review and approval (called a "splice").

MASTER PLANS

A master plan is used to build two or more identical one- or two- family homes on unspecified sites. After the master plans are reviewed and approved by RBD's Construction, Mechanical (HVAC) , Electrical, and Plumbing departments, the builder may obtain permits to build homes based on the plans. The building permit is issued for a site plan that is reviewed and approved by RBD, Zoning, Enumeration (addressing), and in some cases Fire and/or Utility departments. The site specific soils report and foundation design are provided in the field.

Master plans are valid for the code cycle in which it was approved. Construction is required to meet the codes in effect at the time the permit is issued and will be inspected accordingly. Master plans may only be used by those with at least a Building Contractor C license. An approved master plan may not bear **.** any handwritten modifications (red lines) and all options must be clearly identified.

SPLICE (PLAN CHANGE) PROCEDURES

Plans may be modified after the Permit is issued, and is referred to as a "splice". Splices may be submitted electronically through the permit holder's dashboard when they are logged into their PPRBD.org account. The "ADD SPLICE" button can be found on the Permit Details screen for each project. To process a paper splice, present one copy of the revised sheet(s) to the plan review counter to obtain your Plan Label. Paper splices will need to be scanned after final approval. There will be a fee to process a splice, with the minimum being $50.

PLAN REVIEW FEES

The plan review fee is paid when the submittal is checked in at the front counter or online prior to completing an electronic submittal. The fee is calculated as a percentage of the building permit fee that is based on the square footage of the proposed construction, (refer to the current permit fee schedule). RBD may assess additional fees in the following circumstances:

- A $50 review fee for each option after two options (5 for engineer stamped) on a master plan, payable when the permit is issued.
- Review of changes to an approved and permitted plan (splice) is $50 per hour, payable prior to the next inspection.
- After the second review of a plan, a $100 per hour fee is assessed for all additional plan reviews.
- After the second submittal of a plan, a resubmittal fee of $100 per submittal will be assessed.

Plan review or other fees may be charged by the Zoning and Fire departments in the jurisdiction where the site is located

TYPES OF CONSTRUCTION

Components and requirements for residential plans differ between conventional and unconventional construction.

Conventional construction

Residential plans of conventional construction do not require the seal and signature of a design professional licensed by the State of Colorado with the exception of the soils report, foundation design, and pre-engineered trusses. Conventional components include:

- A foundation of poured in place or block concrete with or without footers as loading and soils conditions dictate;
- Wood framed walls of nominal 2x hem-fir or better quality lumber spaced in compliance with the Code;
- Headers, beams and posts of dimensional lumber, engineered wood laminate products, or listed steel products;
- Floor framing that consists of either dimensional truss lumber or approved engineered joist or product; and
- Roof framing that consists of either dimensional lumber or approved engineered rafter or truss product.

Unconventional construction

Residential plans that differ from conventional construction must be sealed and signed by a design professional licensed by the State of Colorado. Examples of unconventional construction include:

- Steel beams to include all connections and splices
- Block or poured concrete walls, including approved insulated concrete forms (ICF), that extend beyond foundation
- Earth-sheltered or bermed
- Steel stud or post-and-beam
- Pre-engineered metal
- Structural Insulated Panel (SIP)
- Log homes/Pole barns
- Adobe or masonry brick
- Straw or tire bale
- Any conventional elements that exceed the limitations of the IRC

PREPARING THE RESIDENTIAL PLAN PACKAGE

One complete plan is required and can be submitted via paper or electronically. The approved plan must be on the building site at all times and accessible to the inspectors. Electronic submittal will need to be printed and on the building site at all times and accessible to the inspectors. The scanned image will be retained at the Pikes Peak Regional Building Department.

The following information is important for each sheet of your plans package:

- *Builder's name, address, phone numbers Architect, Engineer and Design Professionals' names, addresses, phone numbers*
- *Accurate and complete address of the building site*
- *Master plan number (if applicable)*

DRAWINGS

The plan must be in a clear and legible format on substantial paper, plastic or fabric material, or electronic means as approved by the Regional Building Official. With the exception of the site plan, plans are drawn to a scale no smaller than 1/8 inch = 1 foot, (1/4 inch = 1 foot is preferred). Lettering must be no smaller than 1/8 inch in height. Clarity is important for accurate review and transfer of plans to public record. Plans that do not meet these criteria can be rejected.

DIMENSIONS

Dimensions (stated in English units) must be noted on all floor plans, elevations and sections. The conventional method for stating dimensions of openings is foot-inch by foot-inch for doors and windows. State any variation from this format on your plans for accurate measurement conversion.

CHECKING IN PLANS FOR REVIEW

Before checking in plans for review, make certain all information is included and accurate. Plans cannot be amended until the conclusion of the review process that includes the required governmental departments. Incomplete or inaccurate information will require correcting and resubmitting plans for another reivew which will case a delay.

RESUBMITTAL PROCEDURES

Paper plans are required to complete an entire review cycle before they are released to the applicant or submitter. Electronic submittals provide a "progress set" during the review process that is available through the submitter's web portal. It is up to the submitter to provide the redlined plan set to the design team. All plans must be resubmitted using the same format as the original submittal: paper or electronic. When resubmitting an electronic plan, complete revised documents, not single corrected sheets, must be provided. Paper plan re-submittals allow for a new page to be inserted into the plan set and the old page removed. ALL old pages are to be returned with the corrected set at time of re-submittal, regardless of the reason the page was replaced. Insertion of new sheets and removal of old sheets must occur PRIOR to the plan being resubmitted.

PERMITTING

In order to obtain the permit once the plans are approved, additional information may be required. For new homes, a tap fee receipt or septic permit must be provided. Contact Regional Building Department to verify all permitting requirements prior to permitting.

PLAN REVIEW DEPARTMENTS

Contact information is listed in the typical order of the review process, and includes most departments. After plans are submitted for review, you may track the progress on our web site, under PLAN CHECK, by the assigned plan number or project address.

Pikes Peak Regional Building Department		
Plan Review	719-327-2885	www.pprbd.org
Enumeration	719-327-2960	www.pprbd.org
Floodplain Management	719-327-2898	www.pprbd.org
Elevators (if app)	719-327-2880	www.pprbd.org
Development Services (Zoning)		
Calhan	719-347-2586	www.calhan.co
Colorado Springs DRE	719-385-5982	www.coloradosprings.gov
El Paso County Dev. Serv.	719-520-6300	www.co.elpasoco.com
Fountain Planning & Zoning	719-322-2028	www.fountaincolorado.org
Green Mountain Falls	719-684-9414	www.gmfco.us
Manitou Springs Planning	719-685-4398	www.manitousprings_co.gov
Monument Planning	719-481-2954	www.townofmonument.net
Palmer Lake	719-481-2953	www.ci.palmer_lake.co.us
Woodland Park Planning	719-687-5202	http://city-woodlandpark.org
Fire Authority*		
Colorado Springs	719-385-5982	www.coloradosprings.gov
NE Teller (Woodland Park)	719-687-1866	www.netellerfire.org
Engineering		
Colorado Springs	719-385-5979	www.coloradosprings.gov
El Paso County	719-520-6460	www.co.elpasoco.com
Health (septic)		
El Paso County Heath Dept.	719-578-3199 #3	www.co.elpasoco.com HEASepticinfo@elpasoco.com
Utilities*		
Colorado Springs Utilities		
Applications and Permits	719-668-8111	www.csu.org
Gas/Electrical Division	719-668-8259	www.csu.org
Wastewater and Water Div.	719-668-8259	www.csu.org

**Suburban communities located outside of the city of Colorado Springs are served by several different utility providers and fire districts. Please call the appropriate phone number listed above under "Zoning" for information. Links to most cities and townships served by Regional Building Department are also available on our website.*

GUIDELINES FOR RESIDENTIAL CONSTRUCTION PLANS

This list is intended to be used as a guideline for preparing a completed plan submittal.
Additional requirements may be requested during the plan review process.

Plot plan *(Site specific plans only)*

Scaled to standard engineer's scale (1" = 20' recommended)

A site/plot plan review is required for all new construction plans. Contact the zoning department having jurisdiction for additional information.

- **Complete street address.**
- **Legal description of property. Property lines and dimensions.** Include side, front and rear yards.
- **All site improvements,** including existing and proposed new construction (deck, patio enclosure, garage, etc.)
- **Tax Schedule number** (County Clerk & Recorder)

Energy Code Documentation

- IECC Certificate
- For masters, one certificate is required for each below grade option:
  - Basement
  - Crawlspace
  - Walkout
  - Slab on grade
- Supporting documentation, when applicable, for the compliance method chosen
  - For masters, supporting documentation must be provided for each below grade option.

Foundation plan

- Type of foundation
- Type of under floor space
  - Basement
  - Crawl space (specify conditioned or vented)
  - Not excavated

Structures will be required to have a soils report and engineered foundation design at the time of first inspection.

Mechanical Documentation

- Residential HVAC Equipment Certificate
- Duct Design when forced air system is used, along with calculations
- Heat loss calculations
  - For masters, provide only the worst case heat loss calculation for each below grade option
    - Basement
    - Crawlspace
    - Walkout
    - Slab on grade

Floor plans

Complete architectural floor plan for each level, including basement, that identifies:

- All interior dimensions
- Intended use of each room or area
- Location and dimension of each door
- Location and dimension of each window and type:
  - Single/double hung
  - Casement
  - Sliding
  - Fixed
- Window well size
- Safety glass (tempered) where required
- Mechanical equipment location specified as:
  - Furnace/boiler, gas or electric indicated with thermal input values in BTU/hr
  - Water heater, gas or electric indicated
  - Floor drain
  - Vent stack
- Attic and crawl space access, location and size
- Fireplaces as listed appliances with fuel source identified
- Smoke and carbon monoxide detector locations
- Area in square feet of each habitable room

GUIDELINES FOR RESIDENTIAL CONSTRUCTION PLANS (CONT)

Roof plan (solar ready requirements)

- Show orientation of building indicated in degrees from true north to determine solar ready zones
- Where roof slopes fall within 110 and 270 degrees and exceed 600 square feet, 300 square feet of solar ready zones must be indicated
- Solar ready zones must be a minimum dimension of 5’ and equal 80 square feet to qualify. Multiple zones are allowed.

Interior sections/details

A minimum of one dimensioned section through the entire building is provided that identifies:

- Foundation
- Elevations of each level
- Framing material/description
- Floor levels
- Number of plates
- Finish grades, if known
- Insulation (match or exceed Energy Certificate)
- Stairs
  - Material
  - Rise/run dimensions
  - Handrail, guardrail
  - Head clearance
  - Landing
  - Stringer connection detail
  - Fire protection on underside, if any

Exterior elevations (Master plans show options)

- Finished grade (if known)
- Floor and plate heights
- Roof slope or pitch
- Roof material
- Exterior finish (wood, stucco, etc.)
- Attic ventilation information
- Crawl space ventilation information
- Chimney heights & distance to roof
- Roof drainage requirements

Floor framing plan

Complete structural plan per floor that identifies:

- Framing material:
  - Dimensional lumber
  - Engineered product (I joists)
  - Pre-manufactured product (floor trusses)
- If engineered material, include manufacturer and model description
- Spacing
- Post, beam and header size and locations
- Bearing walls, indicate stud size and spacing
- Number of trim & king studs for beams and headers
- Hangers and tie downs (at location on plans)
- If framing involves any steel to steel connections, provide details. Drawings may require the seal of a design professional licensed by the State of Colorado.

GUIDELINES FOR RESIDENTIAL CONSTRUCTION PLANS (CONT)

Roof framing plan

Complete structural plan that includes:

- Framing material:
  - Rafters
  - Engineered product (I joists)
  - Pre-manufactured product (roof trusses)
- Spacing
- Over-framing shaded and noted
- Post, beam and header locations, size & material
- Bearing walls, indicate stud size and spacing
- Number of trim & king studs for beams and headers
- Hangers and tie downs (either at location on the plans or as a schedule on the plans)
- If engineered wood trusses are used, provide the following information.
  - Detail of each truss component produced by the manufacturer, stamped by a Colorado licensed design professional
  - Label all trusses on the roof framing plan with alphanumeric labels corresponding to the details (Note: Truss manufacturer layouts are not accepted in lieu of framing plans.)
  - Label all girder trusses with the number of plies and indicate size and species of bearing chord or web
  - Specify all truss to truss connections

Fire Resistive Construction

Information must be provided on plans to detail all fire resistive construction requirements:

Exterior walls:

- Locations of rated exterior wall(s)
- Fire protection details for rated exterior walls
- Listed assembly for all rated wall sections
- Listed assembly for rated rim section
- Listed assembly for all rated projections including but not limited to eaves, cantilevered floors, and decks
- Exterior wall opening percentages when exterior wall is required to be rated

Two-Family Dwellings:

- Fire protection details for dwelling unit separation
- Listed assembly for separation at walls
- Listed assembly for separation at floor rims
- Listed assembly for separation through attic, OR listed assembly for rated roof/ceiling assembly

Townhomes:

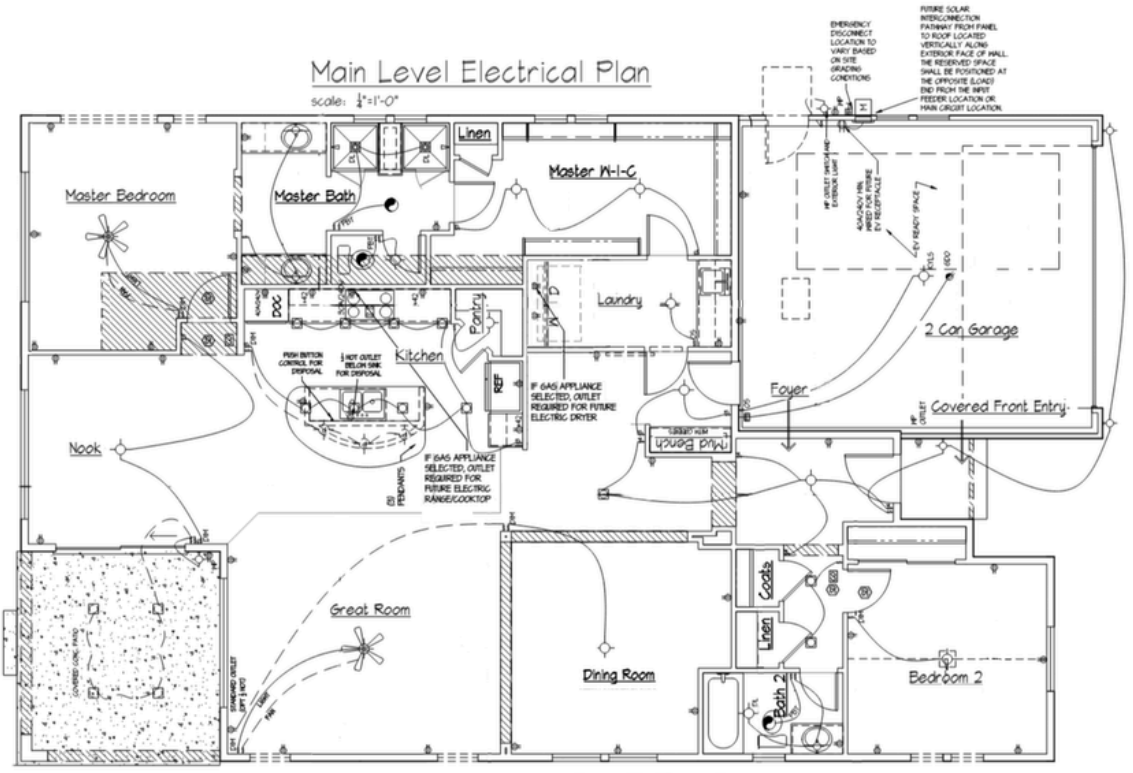
- Fire protection details for dwelling unit separation
- Listed assembly for separation at walls
- Listed assembly for separation at floor rims
- Listed assembly for separation through attic

Electrical Plans

- Provide overall floor plan, minimum scale 1/8” = 1’-0”, with 1/8” minimum lettering.
- Show interior and exterior lighting controls, when required by unamended 2021 IECC R404.2 and R404.3. Installation per the 2024 IECC R404.1 and R404.2.1 requirements are acceptable.
- Show location of electrical emergency disconnect and electrical panel location.
- Provide generic fixture schedule.
- Show kitchen cabinet layout.
- If using Total Building Performance compliance path per 2021 IECC R405, indicate the requirement for an air barrier installed behind the electrical or communications box or air-sealed boxes.
- Plan note requiring compliance with 2021 IECC R402.4.6 to limit air leakage through electrical and communication outlet boxes installed in the building thermal envelope.

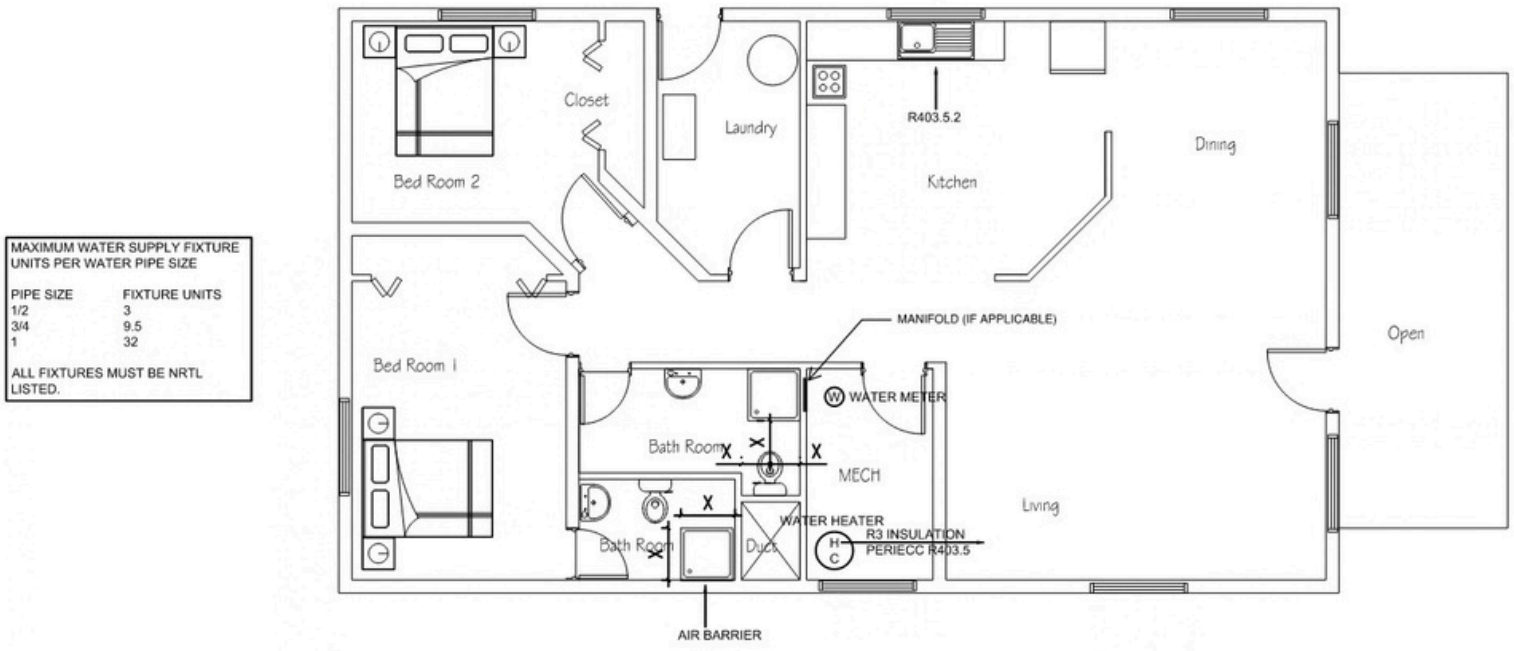
CO MERSRC Requirements

- Pathway shown for future routing of conduit from the roof to the electrical service panel.
- Number and location of EV ready spaces(s) in garage and locations of conduit and termination points serving the aforementioned parking space(s). A minimum 2-pole 40 amp GFCI breaker, conduit, conductor, and receptacle for EV charger.
- Plan note requiring a 2-pole breaker space for each proposed combustion appliance and 2-pole breaker space at the opposite end of the bus for solar ready.



Plumbing Plans

- Provide overall floor plan, minimum scale 1/8” = 1’-0”, with 1/8” minimum lettering.
- Show locations of hot water pipe insulation per 2021 IECC R403.5.2 on plan or call out required location in note form.
- Show dimension of shower pan(s).
- Show minimum clearances at all water closet(s) per 2021 IRC P2705.1 (Side to side and front).
- Show air barriers for tubs and showers on exterior walls (See 2021 IECC R402.4.1.1).
- Show water meter location and location of manifold (if applicable).
- Include the following notes on the Plumbing Plan:
  - Maximum fixture units allowed per supply water pipe size: 1/2” pipe = 3 fixture units, 3/4” pipe = 9.5 fixture units, 1” pipe = 32 fixture units.
  - All fixtures must be listed by NRTL (Nationally Recognized Testing Laboratory)
- If utilizing a recirculation or demand plumbing system, show the location of the hot water loop on plans.
- If selecting reduced energy use in service water-heating as the Additional Energy Efficiency Option on the 2021 IECC Certificate, per IECC R408.2.3, indicate which of the three efficiencies is being met.



Plumbing Plan (example)