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## SINGLE FAMILY / DUPLEX / ADDITIONS / DETACHED INLAW OR GUEST HOUSE (Habitable Structures) RESIDENTIAL PLAN SUBMITTAL REQUIREMENTS

### How to Apply for a Building Permit:

- Visit our online portal at [www.carsoncity.gov/building](http://www.carsoncity.gov/building)
- Click on the link called "Online Portal – Submit Your Building Permit Application Onsite"
- Click on the box called "Login or Register" to either create an online account or log into your account to start the permit process.

### Submittal:

- Upload one complete set of digital plans with supporting documents in PDF format, ensure pages are accurately named/labeled, and that the pages face the same way and are fully legible. Minimum Plan size is 36"X24", landscape format, all pages to be uniform in size. Embed all supporting documents.
- Documents submitted for review are required to be stamped or sealed, pursuant to the legal requirements for that specific design professional.

### General Plan Submittal Requirements: (As dictated by the scope of the project):

Carson City's building codes have been strengthened by adoption of the 2018 Edition, International Residential Code ("IRC"), chapters 2 through 43 and Appendices A, B, C, G, H, J and K as amended, Title 15.05.020 of the Carson City Municipal Code.

- Plans shall be fully dimensioned and drawn to a minimum 1/4"-1'-0" scale or greater. Interior elevations or details shall be drawn to a minimum 1/2"-1'-0" or greater scale. The scale shall be indicated on each page and on each separate detail or elevation.
- **Cover Sheet**
  - Indicate the design professionals involved with the project, with address and contact number.
  - Indicate all contractors involved with the project, with address, and project manager's name and contact numbers.
  - Sheet Index
  - Clearly show the location of all buildings, septic system components, wells, water lines, other existing utilities, a North arrow, and a vicinity map.
- **Design Criteria**
  - Construction Codes
  - Building Construction Type
  - Total square footage of proposed construction – For additions; provide a square footage breakdown of existing area versus proposed area.
  - Occupancy Type(s)
  - Indicate the project Roof Snow Load, with site elevation.
  - Indicate the Seismic designation.
  - Indicate the Wind Load
  - List if Fire Sprinklers and/or Fire Alarms will be required
  - List of all Deferred Submittals- Deferred Truss Calcs will no longer be Accepted. If you do not have these, your submittal is incomplete, and you will need to wait to submit.
  - List of Required Special Inspections if Applicable
  -

When Ready to submit your Plans via the Online Portal, please use the Naming Convention Below:

Please do your best to Embed all Supporting Documents within the Plan Set. i.e.: Approved SUP, Special Inspection Packet, ResCheck, Fireplace Specs, ESR reports, etc.

- ✓ **Plan Naming Convention shall include the date of submittal followed by the plan type and project name:**
- ✓ **01-01-2024 PLAN SET**
- 01-01-2024 STRUCTURAL CALCS**

**Plan Requirements: If your plans are missing the following details, they are considered incomplete.**

- **Site Plan**

- Provide North Arrow
- Site plan shall be drawn to an approved engineering scale (1" =10', 1" =20' & 1" =30'). Indicate on the Site Plan the approved engineering scale used.
- Provide APN (Assessor Parcel Number) and address of proposed project.
- Show the complete parcel, with all property lines dimensioned
- Show all easements
- Show all existing structures on the property.
- Indicate by hatching, shading, or coloring the proposed structure or addition
- Provide dimensioned minimum Planning Division established setback lines around inside perimeter of the property line – this is commonly referred to as the "Building Envelope".
- Provide dimensioned setback lines between the proposed construction and the property lines
- Provide dimensioned setback lines between the proposed construction and other structures on the same parcel (existing and proposed).
- Utilities: Show all utility laterals to the building (water, sewer, power, TV, phone, septic, replacement field). For parcels served by City water and sewer, a completed Water and Sewer Application must accompany the permit application.
- Wells and septic systems: Existing and proposed wells and septic systems shall be shown. Show all wells within 100' of septic systems.
- Indicate the street name(s) that border the property
- Right-of-way improvements: All existing and proposed right-of-way improvements including curb, gutter, and sidewalk shall be shown. (See attached Carson City Engineering Division Driveway Requirements).
- direction of the hydrant and distance from your property line. (Ex. "Hydrant is 200'-0" from property line, west on Elm Street")
- If the proposed project is in a flood zone, provide flood zone(s) boundary lines and designate the flood zone(s), per FEMA's designations.
- Properties where the change in elevation (topography) is equal to or greater than 5%, a Topographical Site Plan showing the location of the proposed construction in relationship to the top and bottom of slopes, with elevation lines clearly noted at 2'-0" intervals. Plan must also indicate cut and fill lines.

- **Drainage Plan**

- Provide a Drainage Plan that shows the direction and percentage of flow around the perimeter of the proposed construction. The finished grade must have **a minimum of 6" (six inches) (5% min.) of fall for the first 10'-0"** away from the foundation; however, finished grade must not allow drainage to flow towards neighboring structures or cross property lines. Drainage should either flow toward the public right of way or be designed to be retained on the property.

Note: Retention basins or areas on residential properties may require supporting design documentation prepared by a Nevada licensed engineer, which will be reviewed by the Carson City Engineering Division of Development Services.

- Properties **where the change in elevation (topography) is equal to or greater than 5%**, a Topographical Drainage Plan showing the location of the proposed construction in relationship to the top and bottom of slopes, with elevation lines clearly noted at 2'-0" intervals. Plans must clearly indicate drainage away from the proposed structures foundation to the public right of way.

- **Grading and drainage:** The following are the minimum requirements for grading and drainage information:

- Accurate contours and spot elevations indicate the topography of the existing ground and structures within the limits of the improvements and surrounding areas.
  - Finished grades by contours and/or spot elevations indicating proposed drainage patterns and grading.
  - Finished grades at corners of all structures, curb returns, driveways, patios, and grade breaks.
  - Pad and finished floor elevations for all levels.
  - Elevations of top and toe of slopes, and setback from property boundary. Indicate angles of all slopes as a ratio. The location where all cuts and fills match existing ground shown in a continuous and obvious manner.

- Drainage patterns indicated with arrows.
  - Slopes away from structure and slopes of all swales indicated in percent.
  - A grading table showing cut and fill quantities.
  - Total area to be cleared.
- **Existing Floor Plan** (*Applicable for all Additions or Remodels*)
    - Provide a complete architectural floor plan layout for each level or story. Dimension all walls, openings, and construction points prior to the proposed construction.
    - Indicate and label the “use” of each room within the dwelling or structure. Ex.: “Bedroom #2”, “Laundry Room”, “Kitchen”, “Garage”, etc. NOTE: The Carson City Building Division will not accept the designation of “Bonus Room”. The “use” for an individual area or room must be specific.
    - Provide all window locations, sizes, and type (fixed, slider, casement, etc.)
  - **Existing Building Elevations** (*Applicable for all Additions or Remodels that affect the exterior*)
    - Show all four sides of the structure
    - Dimension the overall vertical height, dimensioned from finish grade to the ridge
    - Indicate roof pitch slopes
    - Specify all exterior finishes (siding/stucco/brick) and any special features.
  - **Exterior Elevations** (*Proposed Construction*)
    - Show all four sides of the structure
    - Dimension the overall vertical height, dimensioned from finish grade to the ridge
    - Dimension wall heights from bottom of mudsill/sole plate to top of top plate for each floor.
    - Indicate roof pitch slopes
    - Horizontally dimension roof overhang lengths
    - Specify all exterior finishes (siding/stucco/brick) and any special features. For stucco finishes, include the ICC Evaluation Services Report (ESR) number for system.
  - **Floor Plan**
    - Provide an architectural floor plan layout for each level or story. Dimension all walls, openings and construction points.
    - Indicate and label the “use” of each room within the dwelling or structure. Ex.: “Bedroom #2”, “Laundry Room”, “Kitchen”, “Garage”, etc. NOTE: The Carson City Building Division will not accept the designation of “Bonus Room”. The “use” for an individual area or room must be specific.
    - Provide all window locations, sizes, and type (fixed, slider, casement, etc.), and window installations must meet the egress requirements from sleeping rooms, and the natural light and ventilation requirements for habitable rooms.
    - Note all required firewall(s), with materials and locations. IF APPLICABLE
    - Provide all door locations, sizes, types and direction of swing. Ex.: “3-0 x 6-8 French Door at Master Bedroom”, etc.
    - Provide section details, drawn to scale and fully dimensioned for all stairways, handrails and guards. For stairways, indicate the rise and run, with number of risers. In addition to a section of the guards, include an elevation to verify the spacing between the intermediate railing and/or architectural design feature of the guard.
    - Show location and size of attic access(es) (min. 22x30).
    - Show the location of all underfloor access(es) (min. 18 x 24)
    - Call out all room ceiling style types and heights.
    - Provide locations of all plumbing fixtures (bathtubs/showers/sinks), water heater(s), hose bibs, any other plumbing equipment and required back flow prevention device, if a lawn sprinkler (irrigation) system is included.
    - Provide location of all built-in kitchen and bathroom cabinets, and fixed appliances (both interior and exterior).
    - Provide location of each type of heating, cooling and ventilation unit equipment.
    - Indicate the seismic anchorage requirement for mechanical equipment.
    - Provide a detail or note addressing the seismic requirements for the hot water heater.
    - Provide all location(s) of fireplace(s) along with the required ICC/UL listing number; for masonry fireplaces, provide required details and installation from manufacturer.
    - Indicate the location of all shear / braced wall lines, with shear wall / bracing method and nailing schedule.
  - **Building Sections**
    - Show as many building sections as necessary to clearly show all framing details. A minimum of two sections are required, with section views that bisect the structure in two opposite directions. Provide complete sections (half sections are unacceptable). Include garage section and all open covered porch and patio areas.

- For habitable rooms or areas with various ceiling heights (sloped), provide a room cross-section that has floor and ceiling dimensions at the lowest and highest areas.
  - Specify the wall finishes. Ex.: 1/2" Sheetrock, 5/8" Type X Sheetrock, etc.
  - Call out roof sheathing type and size.
  - Call out roof slope and type of roof covering.
  - Provide details or note all required connections of columns, posts and beams.
  - Indicate location of insulation with R-value in ceiling, walls, under-floor or stem-walls.
  - Provide dimensions for all points of construction.
  - Buildings finished with a "stucco" type exterior plaster, include separate dimensioned design details showing the separation between the weep screed and finished grade, and between the weep screed and a hard surface (concrete, pavers, etc.)
- **Foundation Plan**
    - Dimension all construction points
    - Provide a plan view of the foundation footprint, with the location and size of all piers and column footings
    - Indicate through a solid line the stem wall location on the Foundation Plan
    - Indicate through a broken line the interior edge of a monolithic foundation or turned down footing location on the Foundation Plan
    - Clearly indicate all step footings & stem walls
    - Provide foundation sectional details for the foundation (footing/stem wall and monolithic), spread footings, piers, etc. These details must be to scale and fully dimensioned with all reinforcement steel indicated.
    - Indicate the anchor bolt size, with spacing and plate washer size
    - Indicate the manufacturer and product number of all structural hardware
    - Indicate the location of all structural hardware required to be installed within the foundation.
- **Floor Framing Plan**
    - Indicate the location & sizes of all underfloor foundation vents.
    - Show floor joist layout (scaled to match indicate spacing), with joist type, sizes, and "on center" (O.C.) spacing noted.
    - Show the location of all beams and girder, with wood size, species and grade notes. (Ex.: 4"x 8" DF #1)
    - Specify all the manufacturer and product number for all joist hangers, post bases, hold down hardware, etc.
    - Show the location of all joist hangers, post bases, hold down hardware, etc.
    - Show the location of all double joists for bearing walls
    - Show floor framing around all openings through the joists. Indicate the wood size, species and grade of all floor headers. Specify all hardware used to frame this opening.
    - Provide location of required under-floor access opening and size (min. 18" x 24"), with how this opening will be framed. Specify all hardware used to create this opening.
    - Specify the size and type of floor sheathing
- **Roof Framing Plan**
    - Provide a scaled and dimensioned layout of all engineered trusses. This is an plan view of the roof framing, independent of the truss calc package provided as part of the plan submittal
    - Provide location of all girder trusses as per truss drawings.
    - Conventional "cut and stacked" Roof Framing Plans must show the rafter layout and spacing, with the rafter wood size, species and graded specified. Show the ridge beam, with the ridge wood size, species and grade specified. The design of this roof system must comply with the prescriptive requirements for "Conventional Light-Frame Construction", per the applicable code (IBC or IRC).
    - Provide attic ventilation calculations.
    - Provide locations, types and size of all attic roof vents.
    - Show location and size of attic access (min. 22"x30").
    - Provide and call out all beam and header locations, indicate the wood size, species and grade.
    - Provide any special framing details or special connections.
    - Call out all locations and types of mechanical hardware.
    - Show all roof features (skylights) with required details.
    - Provide location, size and spacing for all roof joists, rafters, and ridge beams.
    - Provide under-floor ventilation calculations
- **Electrical Plan(s)**
    - Provide a separate Electrical Floor Plan, with all rooms identified, showing the locations of all doors and windows.
    - Provide the location of all electrical receptacle outlets, switches and light fixtures.
    - Provide locations of all required smoke detectors throughout structure.

- Indicate the required location of all required GFCI receptacle outlets, and the location of all exterior GFCI protected outlets within weatherproof boxes.
  - Indicate the location of all AFCI protected outlets (receptacles/lights/switches)
  - Identify any 240-volt receptacle outlets (Include circuit rating in amperes for all 220-volt receptacles).
  - Indicate the location of all electrical panels (Main & Branch Circuit / Feeder)
  - Provide exhaust fan(s) with switch, in bathrooms and water closet compartments, which do not have an exterior operable window.
  - Provide location of all built-in kitchen and bathroom cabinets and fixed appliances (both interior and exterior) with all electrical serving these areas.
  - Provide location of all electrical disconnects in relationship to fixed appliances. (A/C's, Electric Hot Water Heaters, etc.)
  - Electrical load calculations may be requested by Carson City Building Division staff – Typically, this is applicable to large SFD's (3,000 ft<sup>2</sup> or greater) or dwellings that are completely electric, without natural gas or propane heat.
- **Plumbing Plan(s)**
    - Project that involves a sewage ejector pump as part of the design must include the following information:
      - The manufacturer's specifications and installation instructions for the proposed sewage ejector pump.
      - Provide a Drain, Waste and Vent (DWV) isometric, with the piping size and type clearly noted. Isometrics must include the developed length of the discharge pipe to the gravity drain when installed inside of the structure.
      - For whole house or building ejectors installed outside the footprint of the structure, provide a Site Plan with the piping sizes, valve locations, and electrical to unit.
      - Indicate the location of the required audio/visual ejector system alarm.
      - Residential **projects that exceed 3,000 ft<sup>2</sup>** (new construction or combined total square footage of the existing and the proposed), which use a gas piping system (natural gas or LPG) must include a one-line gas piping system diagram. This diagram must include Btu rating of each appliance, the developed length of each pipe branch, and the size and material of each pipe branch. Furthermore, provide calculations that clearly indicate the methodology used to size the gas piping system.

NOTE: These aspects of Plumbing System design may exceed the average Owner/Builder's skill level. Unfortunately, the Carson City Building Division is prohibited by State law from providing design advice.

- **Mechanical Plan(s)**
  - Every dwelling unit shall be provided with heating facilities capable of maintaining a room temperature of 68 degrees F at 3 feet above the floor & 2 ft. from exterior walls in all habitable rooms. Show basis for compliance. (R303.10.)
  - Provide size of HVAC system proposed, in tonnage.
  - Provide and show sufficient clearances to provide a working space of 30" in depth, width and height for appliances installed in attics and crawl spaces. (304.3)
  - Show the location of a minimum 22"x30" attic access opening with a minimum of 30" clear height above. Attics with appliances installed in the attic shall have an opening of at least as large as the equipment with a minimum size of 22" x 30". (304.4)
  - Provide and show how heat-producing appliances in garage will be protected from automobile damage. (305.1.1)
  - Provide and show the termination of environmental air ducts a minimum of 3 feet from the property line and 3 feet from openings into the building. (502.2)
  - Provide and show a minimum of 100 square inches for makeup air when a domestic clothes dryer is installed in a closet designed for the installation. (504.4.1)
  - Provide and show clothes dryer moisture exhaust duct.
- **Structural Plan(s) & Structural Detail Sheet(s)**
  - **To be Designed by a Structural Engineer and include Current Stamp/Seal.**
  - **Special Inspection Packet- Complete with all required Signatures- EMBEDDED WITHIN STRUCTURAL PLAN SHEET PAGES; CALCS MAY BE SUBMITTED IN THEIR OWN FILE DUE TO SIZE.**
  - Structural Observation Form- IF APPLICABLE
  - All Structural Plans will be reviewed by an Engineer, please allow time for this review.
- **Truss Letter and Truss Calcs**
  - Letter and Calcs with Current Engineer Seal must be submitted for review. Plans will not be accepted or issued without Letter and Calcs.

## Carson City Engineering Division of Public Works Residential Driveway Requirements

The following is a guide to some of the requirements of the Carson City Engineering Division of Development Services for residential projects. These requirements are in addition to requirements from other Carson City Departments and Divisions.

### Driveways

- Driveways must be a minimum of 5 ft to 10 ft from all property lines.
- Maximum driveway width is 27 ft for homes with two car garages.
- Minimum spacing between driveways is 50' from driveway center to driveway center. See *Figure 1*. Contact Development Engineering for more information.
- Minimum setback from a curb return is 20'. See *Figure 1*.

Driveway approaches must meet the requirements of the Americans with Disabilities Act. Contact the Carson City Engineering Division of Development Services for more information

Driveway locations relative to easements may be more restrictive than building setbacks. Contact the Carson City Engineering Division of Public Works for more information

