



Factory Assembled Structures Program

## **Park Model Recreational Vehicles – Plan Review Guidelines and Submittal Process for Licensed Professional Plan Approvals**

Plan reviews from approved Licensed Professionals (LP) can serve as the required plans that factories must have to obtain FAS insignia on Park Model Recreational Vehicles for Washington State. This document provides general guidance for licensed professionals and manufacturers about the typical drawings and other information that must be submitted in professionally approved plans for Park Model RVs (PMRVs).

Each PMRV model design plan must include the drawings and information necessary to evaluate conformance with the applicable codes and standards. Use the following checklist to be sure your plans submitted for LP review are complete. Plan reviewers, including approved licensed professionals are not involved in designing or assisting the manufacturer in completing their design plans and forms.

Plans must indicate compliance with the current edition of ANSI A119.5 (WAC 296-150P-0330(2)). Plan drawings must be neat, legible, and drawn to a recognized architectural “scale”. Each page of the drawing set needs to have a drawing name, for example; “floor plan”, “details”, “plumbing”, etc., a drawing number and the date prepared or last revision.

PMRV’s must be designed, and the plans reviewed to the following requirements (WAC 296-150P-0330):

- ANSI A119.5; Park Model Recreational Vehicles Standard (current edition) – including all applicable referenced publications referenced in 1-1.2/ Appendix C of this standard. Primarily:
  - NFPA 70; National Electrical Code Chapter 552 Park Model Recreational Vehicles
- Washington State Motor Vehicle Laws Title 46 RCW
  - A special transportation permit is required for all “park model” units – RCW 46.44.170
  - 16 foot maximum height (from the road surface to highest point) – RCW 46.44.090
  - 14 foot maximum width - RCW 46.44.092. For units wider than 14 feet include a reference in the plans to the specific RCW that allows the additional width.
  - Park models are limited to a floor area of 400 square feet in the set up mode. RCW 46.04.622
- Federal regulations:
  - Manufacturers must notify all consumers that Park Model RVs built to ANSI A119.5 are not for use as a primary residence or for permanent occupancy in accordance with Title 24 CFR 3282.15(c). A temporary notice must be displayed in the kitchen of all PMRV units. Park Models that do not display this notice must meet the federal standard for manufactured homes (Title 24 CRF 3280).
- FAS program limitations and clarifications:

- Park model RVs must be designed as a “single-quarters” for temporary recreational, camping, or seasonal use (see A119.5 definition of PMRV). PMRVs are not approved to be duplex/multi-family units, hotels, motels, camp stores, bath/shower facilities, medical units, transient housing, accessory dwelling units, tiny houses, or similar. Please contact FAS for properly classifying these other types of units.
- All lofted spaces or areas, with a ceiling height of 5’0” or greater must be included in the gross trailer floor area (A119.5, def.)
- PMRV units utilizing “Alternate materials, Equipment and Procedures” (A119.5 1-2.3) must have the alternate materials, designs or methods approved in writing from FAS in accordance with WAC 296-150P-0140. NOTE – this limitation does not apply to loft areas – see the next item.
- Loft areas, and any designs using “Alternative Engineering Systems” (A119.5 definition) must include stamped structural analysis, designs, and details, (stamped by the licensed design engineer, or architect) for those components, connections, vertical load paths, and similar, that are not specifically provided for in Chapter 5 of the A119.5 standard.
- Exterior porches are limited to the specific provisions of ANSI A119.5, including 5-11.4.8. Typically, this limits the porch to the end of the unit. Any alternate design must meet all requirements of the A119.5 standard and be approved by FAS in accordance with WAC 296-150P-0140.

### **Checklist for PMRV model plans:**

#### **At the front of your PMRV model package, include the following:**

- A copy of the authorization letter from us for each licensed professional.
- A completed “plan approval request” form. Completed form [F622-006-000](#) - see instructions.
- A copy of this checklist marked to show what items were reviewed.

#### **Next, include each of these:**

- Engineering calculations. Calculations are required for all non-prescriptive structural designs (units exceeding 8’-6” in width per section 5 of ANSI A119.5). A Washington State registered professional engineer (PE) or a Washington State registered Architect must stamp the engineering calculations in accordance with WAC 196-23.
- Truss drawings. If the design utilizes trusses, include a drawing for each type of roof or floor truss. Truss drawings must be stamped by a Washington registered PE.
- Cover drawing with:
  - Information identifying the person or company submitting the plans with mailing address, phone and email contact information. Also, include the factory address. This information can be combined with the floor plan drawing.
  - List any prescriptive structural provisions used to design the PMRV unit. This would be specific code sections and table numbers from chapter 5 of the ANSI A119.5 standard and could include such items as floor joists, wall studs, wall headers, roof joists. This information can be combined with the structural plan drawing.

- Floor Plan of the PMRV, and plan of any other floor levels in the PMRV such as lofts. The plan needs to show:
  - The locations of the exterior and interior walls.
  - The overall dimensions of the PMRV and the dimensions of any window bays, box-outs or other similar construction.
  - Interior dimensions for rooms and width of hallways.
  - Label each room showing its use (e.g. bedroom, living room etc...).
  - Locations and sizes of doors, windows and skylights. Identify which windows are for emergency escape (you can add “esc” to the window size callout).
  - Location of any safety glazing.
  - Cabinets, equipment, appliances and fixture locations.
  - Interior stairs, location, orientation and run.
  - Exterior porches, decks, stairs, awnings.
  - Locations of handrails and guardrails at stairs, porches, lofts etc...
- Outside Elevations showing:
  - Siding and roofing materials (call out types or products)
  - Window and door configurations and swings
  - Roof eaves and overhangs.
  - Exterior porches, decks, awnings, and guardrails.
- Cross Section(s) – a major transverse section through the unit showing:
  - The main material components of the floor, wall and roof assemblies including: framing materials, sheathing type exterior coverings, type of insulation in each assembly, location/type of vapor retarder, interior finish, etc.
  - Vertical and horizontal dimensions showing overall width and height from road surface to highest point of roof and the finished floor to ceiling dimensions for all areas. Multiple sections may be required if there are areas of varying ceiling height, etc.
  - Roof eave and overhangs.
  - Locations of roof vents, baffles, etc.
  - Show the complete structural load paths from the roof through the supporting structure and into the chassis support locations under the floor of the PMRV.
  - Cross sections should be drawn at 1/2” scale or larger.
- Structural Plans and Framing Plans (required for all units exceeding 8’-6” in width).
  - Wall headers, beam sizes, locations, column sizes, locations, and section/detail reference tags.
  - Structural framing drawings for floors and roof where the spacing and layout of the structural members is not obvious from the structural floor plan and cross section. If you are using multiple types of trusses in a roof or floor, then provide a truss plan showing the location of each type of truss in the assembly. These may be part of the engineered truss drawings from the truss manufacturer.
- Construction/Section Details (required for all units exceeding 8’-6” in width).
  - Relevant structural details including connections of trusses/ rafters to the ridge-beam and sidewalls.
  - General fastening schedule or code section references.
  - Truss bracing details.

- Ridge beam fabrications details.
- Section details are normally drawn at  $\frac{3}{4}$ " scale or larger.
- Chassis (required for all units exceeding 8'-6" in width)
  - All frame components such as steel beams, axles, cross-members, outriggers headboard and towing hitch.
  - Welding callouts showing how each of the chassis components is welded together. The welding callouts need to show the location, type and length of each weld.
  - A detail or details showing the connection of the PMRV floor to the chassis.
  - A detail or details showing how the chassis is connected to the foundation system.
- Blocking Plan and Details
  - Pier and blocking locations with spacing dimensions.
  - Point load locations corresponding with the framing plans
  - Hold down/strap connection points (if applicable) corresponding to framing plans.
  - Tie-down or special connection locations.
  - Details of footings and pier construction
- Electrical Plan Drawing or layout of the park model unit showing the locations of:
  - Appliances.
  - Electrical equipment such as the electrical panel(s)
  - Required working space width and depth per NEC 110.26A - Working space depth and width shall be identified with dash lines and in inches or feet.
  - Rooms and spaces properly identified
  - HVAC equipment and water heaters.
  - Disconnects for equipment such as HVAC, water heaters, (Indicate if fused or non-fused)
  - Receptacles, lights and switches.
  - Ground fault circuit interrupter receptacles/devices shall be identified "GFCI" – GFCI protection shall be installed in a readily accessible location. A GFCI receptacle located behind an appliance such as a refrigerator is not considered readily accessible. GFCI protection located in panel board is considered readily accessible.
  - Identify all devices/equipment with a circuit number(s) consistent with a circuit(s) on the panel schedule drawing.
  - Smoke alarms.
  - Carbon monoxide detectors.
  - The electrical plan shall indicate the "wiring methods" utilized (interior and exterior). Chapter 3 of the National Electrical Code describes wiring methods. Examples: NM-B cable, EMT, RMC, LFMC, FMC – do not use words such as "Romex"
  - Contain symbol legend or shall be provided on an additional electrical plan drawing.
  - Electrical drawing shall indicate the currently adopted NEC year
- Electrical Panel Schedules indicating:
  - Panel Identification
  - System Voltage, Phase, Bus Rating, bus AIC rating
  - Main CB Amp rating/setting and Main CB AIC rating, or Main Lug Only,
  - Each branch circuit number (shall be shown as actual installation (odd numbers on left and even numbers on the right)
  - Each branch circuit breaker rating/setting
  - Circuit identification/description (Clear, evident, specific purpose)

- Connected VA or KVA on each circuit phase
- Total connected KVA
- Size of each branch circuit conductor
- Circuit breakers that are lockable per NEC 110.25
- Identify each circuit breaker that is a GFCI, AFCI, or a combination AFCI/GFCI circuit breaker. (If GFCI protection is provided via a GFCI circuit breaker, it should not be identified on floor plan drawing as a GFCI receptacle) Only the method of protection used shall be identified.)
- A “One-line Feeder” Diagram indicating:
  - Distribution equipment identification
  - System Voltage and phase (single phase or three phase)
  - Feeder overcurrent protective device sizes/ratings
  - Bus ratings and AIC ratings of main electrical distribution equipment
  - Feeder conductor sizes, type of conductor, and counts (including grounding electrode conductors (GEC) and/or equipment grounding conductors (EGC)). Example (3) 3/0 XHHW-CU, (1) #4 XHHW-CU (EGC)
  - Feeder raceway sizes, types, and counts. (Examples of types: RMC, EMT, schedule 80 PVC)
- Electrical load calculation(s) for the PMRV showing:
  - A total electrical load calculation in accordance with NEC 552
- Potable water line drawing in plan or isometric view. Indicate:
  - The type of piping material.
  - All fixture locations.
  - Pipe size and locations along with changes in direction.
  - Indicate where the water service and the water heater connect along with shut off valves required in these locations.
  - Indicate the size, and type, of the water heater
  - Note seismic strapping for tank-type water heaters.
  - The pressure relief valve (PRV) with the overflow pipe discharging to the exterior of the unit.
- Drain/waste/vent (DWV) piping system shown in isometric view. Indicate:
  - Type of pipe material.
  - The sewer connection location
  - All fixture locations.
  - All pipe runs with the pipe size, changes in direction.
  - Locations of clean-outs, traps and vents through the roof.
- Gas System (if applicable) in plan or isometric view. Indicate:
  - List the type (propane or natural gas), and pressure of the gas piping system.
  - The type of pipe material.
  - Locations, length and size of each part of the gas piping system along with changes in direction.
  - Label the points where gas appliances connect to the system.
  - List the BTU input rating of each appliance connected to the system.
  - Indicate where the gas service connects to the system.

- Indicate where all shut off valves are located where required at the service and at each appliance.
- Mechanical drawing showing
  - The location of all equipment such as furnaces, heaters, heat pumps, mini-split HVAC system components. List the make, model and size of equipment.
  - Locations of controls such as thermostats and timers.
  - Locations, type and size of ductwork and registers that are part of a forced air heating system.
  - The exterior termination locations of all exhausts and condensate drains.

**Submitting approved plans to FAS:**

The manufacturer or their agent sends plans approved by the licensed professional to the FAS program electronically. The submittal for each PMRV model must be a complete package with all of the necessary drawings, forms and other documents in a single PDF. Files with multiple models, partial submittals or submittals from multiple sources are not accepted.

**Use the following instructions to send your approved LP reviewed plans to FAS:**

- 1.) Plans from approved Licensed Professionals must bear their review approval stamp and be a single flattened PDF file for each PMRV model that contains the drawings, forms and other documents required by the plan checklist above.
- 2.) Email [FAS1@lni.wa.gov](mailto:FAS1@lni.wa.gov) to inform us that you would like to submit a plan(s) reviewed by a licensed professional. The email must include:
  - a) The manufacturer name and manufacturer number (the same one you use for plan approval requests/insignia requests)
  - b) Email addresses for any factory contact that will be submitting plans to your account.
- 3.) You will receive an email from the BOX.com cloud system linking you to a document folder for plan uploads. If you do not have a BOX.com account, you will be prompted to create a free one for current and future submittals (see attachment). You will also be able to access approved plans through this box.
- 4.) Upload your documents to the BOX.com account. The upload should contain a flattened PDF of the LP approved plan for each PMRV model. The file name for each plan must include the manufacturer name and the model name/number you have used on the “plan approval request” form. For example, PMRVManufacturer\_BestUnit.pdf, or similar.
- 5.) Once you upload plans, we will send you a unique permit number (FP number) and a link to pay your plan review fees online by credit card. When the fees are received the plan(s) will move to “in line” status for acceptance processing.

6.) Once your plans are accepted and an FAS plan approval number has been added you will be emailed a BOX link to access the plans. You will need to print/retain the copies of the approved plan at each factory that is producing units to those plans.

7.) You can use this plan number to request audits and inspections (unless you have an approved QC manual and passed an initial factory audit) and to order insignia.