



1/1/09

## **Details and Specifications for Custom and Model Home Construction**

*The details and specifications listed below are for custom-built homes, or for any of the models designed and offered by The Powell Group to their clients.*

### **Structural and Exterior Shell related Materials and Building Methods**

#### **Crawlspace**

- Footings are prepped and inspected to above building code requirements with 9"-10" thick concrete, 24" wide, and 2 - #4 continuous rebar.
- Foundation walls that have an excess of 12" of back fill are waterproofed and a foundation drain is installed.
- Termite pretreatment is completed by a licensed installer.
- All grades are sloped away from structure to obtain positive water drainage.
- Sub-floors over crawlspaces are typically #1 grade 2x10 SYP joist @ 16" O.C., not to exceed a clear span of 14'. If over 14' clear span, then #1 grade 2x12 SYP joists @ 16" O.C. will be used.

#### **Basements**

- Footings are prepped and inspected to above building code requirements with 9"-10" thick concrete, 24" wide, and 2 - #4 continuous rebar.
- All backfilled walls have #6 rebar dowels set into the footing that extends into the foundation wall. In the same block cell as the rebar dowel, a full height #6 bar is placed from top to bottom in the wall. This is typically 40" O.C. or less. All CMU walls are filled solid with concrete. Also, horizontal ladder-wire reinforcement is used 16" O.C.
- Our waterproofing product for basements is a spray-on rubberized membrane by Wall-Guard, and comes with a lifetime guarantee.
- Foundation drains are installed on all backfilled walls.
- Day lighted walls are 2x6 stud framed at 16" o.c. with blocking at mid wall height.
- Typical wall height is 9'-4" from top of slab to top of block.
- Termite pretreat is completed by a licensed installer.
- Under slab plumbing is installed and inspected.
- The Basement concrete slab is poured using 3000-psi concrete with fiber mesh and 6x6 welded wire reinforcement.
- Basement windows and doors are installed per plan.
- The subfloor is typically pre-engineered floor trusses, which allow for all finish out mechanicals to be installed in webs.
- These last four items technically represent a partial roughed-in basement or 1/3 finished basement due to the fact that so many items are prepped for future finish out.



### **Porch/Deck Construction**

- All deck framing is constructed from pressure treated lumber. Typically multi-2x10 headers and girders, and pressure treated 2x8 floor joists are used. If greater spans deem necessary, then 2x12 headers/girders and 2x10 joists will be used.
- Pressure treated 5/4x6 decking is typical. Cedar or composite decking can be used as an optional upgrade.
- Porch roof framing is heavy timber 4x6 or 4x8 rafters with 2x8 T/G decking.
- All open deck floors receive a specifically designed galvanized flashing that adds a second level of water infiltration protection that is well in excess of building code requirements.

### **Subflooring**

- Advantec 3/4" T/G subfloor is used as the 1<sup>st</sup> floor subflooring which has a 50 year manufacturer's warranty

### **1<sup>st</sup> Floor Walls**

- Some shells are framed using 2x4 or 2x6 exterior stud walls with a mixture of exterior log sidings – 2x8 round, 1x12 chink groove siding, board and batten, cedar shakes, or vertical channel rustic.
- Other shells are constructed with solid log walls.
- The logs, log siding, and exterior porch beams are pressure treated with a natural solution called PEG-Plus that helps to minimize the shrinkage, settling, checking, and twisting that occurs heavily in inferior products. In addition, safe biocides such as Borate, mildecides, and fungicides are pressure injected into the logs, through in through which helps to repel insects, mold, mildew, and fungi. This product carries a Limited Lifetime manufacture's warranty. The logs are custom-cut and pre-drilled for the 3/8" lag bolt locations, and for electrical wiring chases. This is easily done by working from our comprehensive construction plans created by our in-house architectural deign department. The interiors of log walls are sanded after completion for a clean finished appearance. There are many different log profiles and corner options to choose from.

### **2<sup>nd</sup> Floor Systems**

- Heavy timber beams can be used no matter if the home is log or stud framed. Beams are 4x8 or 6x8 depending on the span, with a 2x8 T/G decking.
- After installing the T/G decking, felt paper is applied to protect the finished under side of the T/G until the roof has been dried in.

### **2<sup>nd</sup> Floor Walls**

- Typically all 2<sup>nd</sup> floor walls and gable-end walls are 2x4 or 2x6 stud framed with an exterior siding. All exterior stud framed walls receive a Tyvek house wrap.



## **Roof Framing**

- We choose to use pre-engineered I-joists as our form of “stick” framing. There are several reasons for this.
  1. They are pre-engineered to carry specific loads and spans based on a home’s individual design criteria.
  2. They are straight, true, and light weight, which aids in installation.
  3. By stick framing the roof this allows us to get the home dried-in quicker and also has finish-out advantages, such as, the use of canister lights and a drywall ceiling finish if a homeowner so desires. Heavy timber collar ties are also installed for code requirements and aesthetics.

## **Roof Sheathing and Shingles**

- We install 5/8” OSB roof sheathing on all custom homes and on all models except the Laurel and the Hideout, which have 7/16” OSB.
- Atop this we use a new product called Surefoot Titanium Paper instead of #30 felt. This is a higher quality, longer lasting and safer, Tyvek based roofing paper.
- A 30-year architectural shingle is applied as the final roof, however a ribbed metal roof or standing seam metal can be used as an optional upgrade.

## **Windows and Doors**

- In all custom homes and the majority of the models, we use Andersen 200 or 400 series windows, which come with many options. All are double insulated panels, Low-E, tilting, double hung or casement, with screens. Color options of Sandtone, Terratone, and Forest green are available in the 400 series. The Laurel and Hideout models come with M/W all vinyl windows, double hung, double insulated, Low-E and in color beige.
- All trap-glass is custom made to fit double insulated glass, Low-E, and tempered where needed.
- All sliding, French, and patio doors will be by the same manufacturer for options, style, color, etc.
- Front doors are typically a rustic style door from Jeldwen or Simpson.
- All window and door nailing flanges are sealed with caulk and exterior tape at installation.

## **Exterior Trim**

- All soffits are 1x8 T/G and installed with either continuous or round soffit vents.
- Typically all fascias will be 7/8”x12 with a 7/8”x6 cap fascia (both are rough sawn for a more rustic look) for a double reveal fascia.
- Exterior window/door trim may either be 7/8”x4, 7/8”x6, 2x4 or 2x6 depending on exterior finish of home.
- All exterior siding and trims (except soffits) are meticulously hand-nailed, not gun-nailed, with 8d or 10d hot-dipped galvanized siding nails to ensure the strongest installation method with the best-finished appearance. Gun-nailing typically will leave an indentation in the surface of the wood around the nail head. This will pose a water-sealing problem (times 10,000 indentions) when staining and caulking the exterior of your home.



### **Exterior Staining and finishing**

- Each shell's exterior, either logs or framed with siding, is cleaned and pressure washed as needed to prepare for staining. After completion of prepping, the 1st coat of stain is hand-brushed onto the wood surfaces. Next all log corners, window/door trims, butt joints and any other needed areas are caulked. Caulking after the 1st coat of stain is applied helps to insure that the wood is protected behind the bead of caulk. Last, the final coat of stain is hand-brushed onto the wood surfaces and over the caulking. Applying the stain by hand-brushing gives a far superior coating than by spraying or other methods.
- We use Olympic Maximum semi-transparent, exterior stain, with a 5-year warranty on all house exteriors including the porches, decks and handrails.
- Gutters are installed and piped away to add the final finishing touch to the shell's exterior.

### **Interior Trim and Finish related Materials and Building Methods**

#### **Ceiling Finishes on 1<sup>st</sup> and 2<sup>nd</sup> Floors**

- If the home has a heavy timber second floor system, then the 1<sup>st</sup> floor ceilings that are under the beams will have a 2x8 T/G ceiling. All 2<sup>nd</sup> floor and vaulted ceilings will be 1x8 T/G white pine paneling.

#### **Interior Wall Finish of the Exterior Walls**

- If the exterior walls of the home are log, then the interior wall finish (inside log face) will be the finished log. If the exterior walls of the home are stud framed, then the client has the choice of a mixture between 1x8 or 1x12 T/G paneling and drywall (60/40% mix). In the Laurel model, the wall finish will be drywall with a slick or knockdown finish.

#### **Interior Wall Finish of the Interior Walls**

- In the majority of model homes and all custom homes there will be a mixture (60/40% mix) of 1x8 or 1x12 T/G paneling and drywall, to be determined by owner.
- In the Laurel model, the wall finish will be drywall.
- All drywall will be slick finished or knockdown, to be determined by owner.
- All drywall will be painted with two coats of flat paint.
- All T/G and white pine trim will receive two coats of water-based varnish.



### **Floor Finish**

- All baths to be ceramic tile, the kitchen can be either ceramic tile or hardwood flooring.
- In the majority of model homes and all custom homes, all other floors such as great room, dining room, kitchen, all bedrooms, loft, and closets to be ¾" x 3 ¼", #1 grade red oak, white oak, or yellow pine. Other wood species available as an optional upgrade. In the Laurel model, the loft, bedrooms, and their closets are carpet.
- All hardwoods will be sanded and receive 3 coats of poly finish.

### **Cabinets**

- All kitchen/bath cabinetry to be custom built from red oak, white oak, or white pine. Other wood species available as an optional upgrade.
- All fronts and doors are solid wood construction.
- All cabinet box construction is from birch plywood.
- Please refer to the "Custom Cabinet Specification" sheet for a complete listing of details.

### **Counter Tops**

- Kitchens to be solid surface Granite tops.
- Baths to be cultured marble or Formica laminate. Granite tops are available in baths as an optional upgrade.

### **Mill Work and Trim**

- All interior doors to be stain grade, solid T/G pine, with arched-top design or stain grade 6-panel pine doors.
- All door hardware to be Schlage, antique brass, lever/lever or knobbed handles.
- All door and window casing to be 1x4 white pine and base boards to be 1x6 white pine, corner trims are 1x2 white pine.
- Standard treads are 5/4 yellow pine with 1x\_ white pine risers. However, 4x12 heavy timber white pine stringers and treads are available as an optional upgrade.
- Stair handrails and loft rails are custom made from white pine.
- All shelves and rods are included for all closets.

### **HVAC**

- A minimum of a 13-seer, Trane, electric heat pump will be designed and installed by the mechanical contractor based on the home's square footage and energy efficiency needs for heating and air conditioning. If a finished basement is desired, then a 2nd 13-seer, Trane unit will be sized and installed for that floor's square footage needs. More energy efficient systems, with 15 or 19 seer ratings, are available as an optional upgrade.



## **Electrical**

- Permanent electric power provided by Duke or REMC will be hooked up to the home.
- A minimum 200 AMP service will be installed in each house. However, some home's square footage requirements may increase the amperage needs and a second panel will be added.
- A minimum allowance of \$1500 is included for all light fixtures and ceiling fans. The allowance increases based on the square footage of the home.

## **Plumbing**

- Water lines to be installed using CPVC and PVC for all waste lines.
- Rough-in to be tested and inspected.
- Kitchen sink is typically stainless steel, double bowl with single or double levered faucet (Delta or equivalent).
- Bath sinks are pre-molded cultured marble or Aquaglass/Kohler drop-in sinks.
- Toilets typically are Kohler or equivalent.
- Tubs are Aqua-Glass with a tile surround with customizing options available.
- Showers are custom made with tile floor, and walls with customizing options available such as; bench, inset shelves, or tile design. The Laurel model's tub and shower are both fiberglass units with no ceramic tile.
- The water heater will be a minimum size of a 50-gallon Whirlpool for smaller homes and 80-gallon Whirlpool on all others. Each carries a lifetime warranty. More energy efficient on-demand gas and/or electric water heaters are available as an optional upgrade.
- The septic system is included with an allowance starting at \$2,500.00 for a 2-bedroom, and up, and will be installed according to the specific County's Heath Department's site permit with the necessary waste line hooked up to the house.
- The well will be installed according to the specific County's Heath Department's site permit with an allowance of \$6,000.00 and will be permanently hooked-up to the home.

## **Miscellaneous Items Included (some items listed previously)**

- Jobsite and home to be cleaned up from all construction materials.
- The driveway will be top coated with a finished layer of stone/gravel.
- There will be a finished stone/gravel walkway from driveway to the nearest deck entrance.
- A ventless gas log unit with stone hearth and surround up to 60" with wood mantel.
- Electric power (permanently) hooked to the house.
- All new appliances with a \$3000.00 allowance.
- Septic system and well.
- Average site excavation for home, driveway, and septic drain field.



The Powell Group, being a custom home development company, is completely focused on the individual custom options that our clients might be interested in implementing into their home, so do not hesitate to modify our standard finishes.

All building inspections will be made by the County Building Inspection Department to State and County required building codes. The Powell Group insures that all building inspection department requirements will be met and satisfied 100%, and we will obtain the Certificate of Occupancy (C.O.) for the homeowner.

We would like to take this time to thank you for considering our company for your home building needs. The Powell Group's business principles are built on a solid foundation of honesty, quality craftsmanship, and complete customer service. We are accustomed to working with non-local or long distance clients. Thus, we understand the importance of trust and accountability to our client's needs.

Sincerely,

Brad Powell  
President