



Guardian Certified Home

Inspection Program Requirements

Each home must be inspected at the phases of construction detailed below:

1. Pre-Placement Inspection

- a. This is an inspection that occurs after the slab / foundation is prepared for concrete placement, however it is prior to the concrete installation. This will include a visual inspection of all structural re-enforcement and stabilizing mechanisms in place in order to maintain the integrity of the structural items during concrete placement. There are many items to look for during this inspection: The items required to be inspected (as applicable) are as follows:
- b. Address labeled so as to ensure the proper home is being inspected.
- c. Engineering plans onsite and available for inspection.
- d. Rough grading of lot in place to prevent unnecessary water intrusion into forms. If during a rainy season (climate) relief trenches for rain water to be installed at lowest point in the foundation forms to allow natural drainage of foundation forms. Concrete is NOT to be installed in forms with standing water, and pump trucks are NOT to be used to push water out of the form with concrete.
- e. Minimum 6 mil vapor barrier installed above all foundation soils, and below all re-enforcing materials. Plastic sheeting installed in a manner so as to allow concrete to completely fill the areas needed to comply with the home's engineering design. The vapor barrier must be secured in place and overlapped 6"-12" at seams to help prevent foundation moisture from migrating through the slab.
- f. Piping to be visually inspected for leaks / cracks or damage.
- g. Piping to be protected from damage by concrete materials. This can be provided using larger size piping as sleeves in areas that concrete will be installed. In heavy termite infestation probability areas, as described in the International Residential Code applicable to the area in which the home is constructed, it is recommended to use fiber impregnated mastics instead of pipe sleeves to protect the piping from damage by the concrete. This

allows for protection of the piping materials without increasing the risk of termite infestation.

- h. Piping not to be installed in beam intersections without engineering approval.
- i. Piping only installed in beam, when installed in accordance with engineering specifications for displacement of concrete. Piping must be perpendicular to beam, and run the shortest distance available for pipe in that area. If large amounts of piping are needed for a tub / shower / lavatory / water closet the engineer of record needs to be contacted prior to proceeding.
- j. Piping must be separated from all post tension cables in order to prevent breaking during stressing of cable tendons.
- k. Plans are to be reviewed by inspector onsite, and all items of the plan must be correct and accurate before proceeding. As engineering is site specific, there may be other items that need to be checked depending on the design for that home, however all of the following items must be checked when installed:
 - i. Beam sized in accordance with the engineering design specifications.
 - ii. Beam locations in accordance with the engineering design specifications.
 - iii. Beam depth in accordance with the engineering design specifications, and depth of beam is maintained at all foundation drops / transitions. The correct beam depth / width must always be present.
 - iv. Beam transitions in accordance with the engineering design specifications.
 - v. Beams must penetrate into compacted fill or virgin soil in accordance with the engineering design specifications.
 - vi. Beams that are oversized beyond engineer of record's allowable tolerances will require additional re-enforcement (cable tendon or re-enforcement bars) per engineering design. If the site specific detail page does not address the situation the engineer of record will need to be contacted for an approved correction method.
 - vii. Pads installed in accordance with the engineering design specifications.
 - viii. Pad sized in accordance with the engineering design specifications.
 - ix. Pad depth to allow for proper amount of concrete in accordance with the engineering design specifications.
 - x. Pad location in accordance with the engineering design specifications.
 - xi. Re-enforcement members are of sufficient material type / grading in accordance with the engineering design specifications.
 - xii. Re-enforcement location in accordance with the engineering design specifications.
 - xiii. Re-enforcement secured in place so as to prevent displacement during the concrete installation.
 - xiv. (Post Tension Only) Cables secured at each end and supported so as to prevent sagging at beams, pads, intersections.
 - xv. (Post Tension Only) Clamps installed to each cable outside of forms to maintain the integrity of the cable installation during the concrete installation.
 - xvi. (Post Tension Only) All cables free of kinks / bends that would prevent proper elongation after the concrete placement.

- xvii. (Post Tension Only) Cables installed per engineering specifications with sufficient room away from corners and top of slab so as to prevent blowout during elongation process.
- xviii. Re-enforcement bars of sufficient size and shape to meet all engineering specifications.
- xix. Re-enforcement bars installed in a manner to maintain integrity at joints / intersections.
- xx. All protrusions to slab, architectural additions to be evaluated in accordance with the plans, and no items to be added to the home without first being evaluated by the engineer of record and integrated as part of a system built engineering design.

2. Placement Inspection

- a. This is an inspection that occurs after the slab / foundation is prepared for concrete placement at the time of concrete installation. This will include a visual inspection of all structural re-enforcement and stabilizing mechanisms in place during concrete placement. There are many items to look for during this inspection. The primary focus of this inspection is the concrete installation, and the integrity of the mix. The items required to be inspected (as applicable) are as follows:
- b. Address labeled so as to ensure the proper home is being inspected.
- c. Engineering plans onsite and available for inspection.
- d. Pre-placement Inspection report is provided for review, and all noted corrections from this inspection are completed in accordance with engineer of records' specifications.
- e. Foundation form is dry and free of standing water. Concrete is NEVER to be installed in forms with sitting water, and pump trucks are NEVER to be used to push water out of the form with concrete.
- f. Concrete is to be visually inspected for proper slump / aggregate in accordance with engineering specifications / documentation from concrete provide (delivery ticket).
- g. If a slump is visually inspected, and doubt is present as to the consistency, quality, or compliance with engineering specifications regarding concrete a slump test is to be taken on each truck of suspicion. This process must take place until the inspector feels confident that correct material is being installed.
- h. If any portion of the concrete delivered is found to be out of compliance with engineering specifications, that portion of concrete is to be rejected from the slab and the truck number should be noted so as to prevent the same material being delivered later on the same job.
- i. Any discrepancies with the information above will require contacting a manager of the Guardian Certified Home Provider in order to achieve a solution.

3. Elongation Inspection

- a. This is an inspection that occurs 7-10 days after the slab / foundation concrete installation has been completed (concrete must be at least 70% of its required strength). This will include a measurement of all cable marking in relation to the slab. Each measurement must include a reduction of the form material used for paint marking on the post-tension cables (usually 1.5"). There are many items to look for during this inspection. All slab anomalies must be noted and engineer of record contacted regarding verification of foundation integrity. The primary focus of this inspection is the post tensioning cables, and the integrity of the components / slab.

- b. Each home must be plotted on the inspection report and all cables installed in the foundation noted for location reference.
- c. Each cable must be marked with the measurement of elongation (inches) within 1/8".
- d. Each live-end anchor must be visually inspected to verify anchoring wedges are secure and foundation is not damaged from the post-tensioning of the cables.
- e. Dead ends must be inspected to verify concrete coverage in order to prevent corrosion.
- f. Dead ends must be inspected to verify foundation is not damaged from the post-tensioning of the cables.
- g. All cables must be tensioned according to engineering specifications. If a cable has been damaged or not stressed (tensioned) then the home must be corrected prior to certification. The inspector is to notify engineer of any discrepancies of site installation.
- h. Foundation is to be inspected for damages / defects. If any discrepancy is noticed, the engineer is to be notified right away.

4. FrameNET Inspection

- a. This is an inspection that occurs after all structural framing, mechanical rough, electrical rough, plumbing rough, and drainage plane components have been installed. The exterior brick veneer / stucco / stone finish components are NOT to be installed until this inspection has been completed and passed. The items required to be inspected (as applicable) are located below. Since it is impossible to anticipate every construction technique / code requirement the items below are the minimum inspection criteria, and any code / site specific engineering requirement must be inspected and deemed to be in compliance prior to Guardian Home Certification.
- b. Structural Framing
 - i. Checking plans to determine compliance with structural engineering requirements.
 - ii. Grading of lumber present.
 - iii. Spacing of rafters.
 - iv. Spans of rafters between support points.
 - v. Purlin bracing and locations to support roof structure and properly transmit loads to the corresponding foundation.
 - vi. Ceiling joist sizing and spacing.
 - vii. Spans of ceiling joists between support points.
 - viii. Fastening of ceiling joists and support to prevent racking.
 - ix. Location and accessibility of mechanical platform if installed.
 - x. Access way –Catwalk to mechanical platform if present before mechanicals are installed.
 - xi. Attics requiring access are framed with an opening that meets code requirements.
 - xii. Stud spacing and grading complies.
 - xiii. Addition of studs to support beams and structural loads.
 - xiv. Notches and boring of structural members does not exceed code allowances.
 - xv. Foundation anchorage installed per code.
 - xvi. Wall bracing is installed and supported as per design or code minimums.

- xvii. Fastening of structural members meets or exceeds code.
- xviii. Headers and structural support are intact and are within span charts listed in the code and are in accordance with engineered drawings on-site.
- xix. Structural straps or other notching/boring corrective measures that are in place at time of inspection are fastened securely and properly as per manufacturers specs.

c. Plumbing Rough

- i. Notches and boring of structural members does not exceed code allowances.
- ii. A pressure test of the gas supply system with a duration of at least ten minutes.
- iii. The drain/waste/vent system is filled with water, tested and proved to be watertight.
- iv. The water supply system is filled with water, tested and proved tight under a water pressure not less than the working pressure of the system, or for piping systems other than plastic, by an air test of not less than 50psi.
- v. If a manabloc system is installed, the following items are verified:
 - 1. All valves are in the open position and all valves are labeled.
 - 2. The manabloc system in total is properly installed according to manufacturer's instructions.
 - 3. There are no leaks in the water supply pipes.
- vi. Proper fall on all drain lines.
- vii. Properly sized water supply pipes throughout.
- viii. Properly sized vent pipes throughout.
- ix. Properly sized gas supply pipes throughout.
- x. Properly sized traps and trap arms throughout, and installed in all required locations.
- xi. Installation of clean-outs in all required locations.
- xii. Main water supply cut-off is in proper location.
- xiii. Installation of piping insulation in required locations.
- xiv. Installation of water heater(s) per manufacturer's instructions.
- xv. Water heater(s) are properly located in relation to the attic/storage access.
- xvi. Proper installation and fall of water heater drain line(s) and temperature & pressure relief drain line(s).
- xvii. Proper installation of water heater venting system(s), (including clearance to combustibles).
- xviii. Water heater venting system(s) terminate in approved locations above the roofline.
- xix. Water heater venting system(s) consist of approved material.
- xx. Proper installation of water heater drain pan.
- xxi. Proper installation of gas supplies to gas-fired appliances.
- xxii. Proper installation and use of flexible lines at gas supplies.

- xxiii. Clearance of 15-1/2" from commode drains to walls and 15" to tubs/showers, future cabinets.
- xxiv. Stack vents terminate in approved locations above the roofline.
- xxv. Installation of pipe protection at top and sole plates, and studs as required.
- d. Electrical Rough
 - i. Notches and boring of structural members does not exceed code allowances.
 - ii. Securing of conductors throughout structure.
 - iii. Installation of conductors/wiring meets code.
 - iv. Placement and location of conductors is accordance with code requirements.
 - v. Verification that possible load/amperage reductions in wiring is not occurring through tight cavities or undersized raceways, or verifying that any possible reductions were accounted for in the wire sizing.
 - vi. Checking wire bundling to ensure compliance with code.
 - vii. Verifying outlet boxes are installed in accordance with manufacturer's specifications and local code requirements.
 - viii. Grounding electrodes are properly sized per system requirements and placed in accordance with code requirements.
 - ix. Verifying installation of Ufer grounding system and connection/accessibility requirements are in accordance with code.
 - x. Lighting is spaced per plan and International Residential Code requirements.
 - xi. Smoke detectors are placed in accordance with plan and local code requirements.
 - xii. Verifying the smoke detectors are spaced in accordance with manufacturer's specifications and does not impede the required distance from specific fixtures, appliances, or building assemblies.
 - xiii. General use/ convenience receptacles are spaced in accordance with code.
 - xiv. Receptacles are in place to service all equipment maintenance required as per the local International Residential Code.
 - xv. GFCI locations are wired as needed for appliance circuits, garages, exterior, bathing areas, and other required locations.
 - xvi. Verification of mechanical equipment wiring and receptacles within footage parameters.
 - xvii. Shut-off or disconnect wiring is installed in the proper locations.
 - xviii. Meter box is present and height requirements are met regarding the branch feeder wiring.
 - xix. All branch feeder connections at weather-head currently present are water tight.
- e. Mechanical Rough

- i. Notches and boring of structural members does not exceed code allowances.
- ii. All ducts strapped $\leq 4'$ spacing.
- iii. No sagging in ducts so as to help prevent condensation.
- iv. Ducts are separated from each other.
- v. Separation of ducts from chimney chases to help prevent condensation.
- vi. Proper location and installation of return air chases.
- vii. Corners and interior of register boxes properly sealed.
- viii. Ducts properly connected to register boxes.
- ix. Installation of HVAC system per manufacturer's instructions.
- x. Proper fall and termination of primary and secondary drain lines.
- xi. Proper installation of secondary drain pan(s).
- xii. Proper installation of furnace venting system(s), (including clearance to combustibles).
- xiii. Furnace venting system(s) consist of approved material.
- xiv. Furnace venting system(s) terminate in approved locations above the roofline.
- xv. Clothes dryer exhaust vents are of approved material and terminate in approved locations.
- xvi. Clothes dryer exhaust vents do not exceed maximum required length.

5. Energy Insulation Inspection

- a. This is an inspection that occurs after all thermal envelope, insulation, sealing, window, mechanical ducting, and drainage plane components have been installed. The exterior brick veneer / stucco / stone finish components are NOT to be installed until this inspection has been completed and passed. The items required to be inspected (as applicable) are located below. Since it is impossible to anticipate every construction technique / code requirement the items below are the minimum inspection criteria, and any code / site specific engineering requirement must be inspected and deemed to be in compliance prior to Guardian Home Certification.
- b. Drainage plane is flashed and continuous from top plate to sole plate.
- c. Drainage plane penetrations sealed and flashed.
- d. Insulation is installed without voids, gaps, misalignment, and compression achieving a grade level I installation.
- e. Double exterior wall spaces totally filled with insulation.
- f. Insulation filled behind blocking and boxes for switches and outlets.
- g. Sheathing installed on attic side of every vertical wall 12" or higher open to attic or porch.
- h. Areas of exterior fireplaces, exterior tubs, and exterior chases must have sheathing on the exterior of the wall. This sheathing must be secure and airtight. Sheathing needs to be secured with numerous nails and foam sealed or caulked to not allow any air to enter into the compartment. The insulation must be secured by either straps or sheathing, whichever you prefer. On exterior fireplaces, the

fireplace must be brought into the conditioned space by insulating the exterior walls under the same requirements as above.

- i. All exterior wall sheathing is attached to top plate.
- j. Insulation aligned with the floor, when floor is over unconditioned space.
- k. Insulation R-value labeled on insulation for inspector to see.
- l. Insulation cut to fit around wires, piping, and other obstructions.
- m. Foam sealing present at all exterior corners and exterior tees.
- n. Foam sealing present at all top plate / bottom plate holes and chase blocking that separates conditioned space from unconditioned space. This includes all electrical penetrations through ALL top plates, bottom plates, thermal envelope perimeter floor joists, and fire blocking. These areas need to be sealed in accordance with the electrical code.
- o. Check for proper installation of Baffles. Baffles are required in each bay to allow for the air space below the radiant barrier, therefore allowing the radiant barrier to perform as designed. Each rafter bay above the top plate, with a baffle or without, will need a piece of scrap insulation material installed (wind block) to prevent any blown insulation from falling into the soffit areas. Where radiant barrier is not used, the baffles are required in each bay, and the scrap insulation above the top plate is required to prevent blown insulation from entering the Soffit area.
- p. Baffles extended along sloped ceiling 18" past horizontal connection measured from ceiling to baffle tip at a 90 degree perpendicular angle.
- q. All 2nd and 3rd floor perimeters frame blocked to stop unconditioned air intrusion from floor joists to unconditioned spaces.
- r. All brick cantilever systems are sealed from the outside conditions. It is important that this blocking application be applied directly to the underside of floor joist system.
- s. All chases are blocked at top plates below the ceiling joists to stop air intrusion.
- t. All starter collars attached to the plenum to have mastic to seal collar to plenum.
- u. All duct connections have mastic applied to the collar; inner liner is slide over collar with mastic already in place and zip strap applied over the inner liner. Strap is tightened to attach inner liner to the collar. Insulation and radiant barrier film are brought over the collar connection and another zip strap applied to keep insulation and radiant barrier in place. There is NO need to seal the duct insulation/radiant barrier lining to the collar or duct connection.
- v. Mastic at areas where returns are utilizing floor cavity. All framing sealed to the sheetrock. All duct board plenums sealed silver side to silver side.
- w. Gas lines and / or electrical lines are not run through return air or supply ducting.
- x. If building pest control treatment system is used, verify that the tubing is on the exterior portion of the stud bay. If not installed at the rear of the building cavity, insulation will need to be spliced around to fill cavities. (Check manufacturer's specifications.)

- y. Bay windows are installed to make sure the side walls, the bottom sill portion, and the ceiling portion have the required cavity allowance for installation of insulation. Frame block to seal off all outside air intrusion.
- z. All dog-house style fireplace configurations are totally sealed from outside air intrusion. This means NO use of continuous soffit vents or blocking is present between every rafter to stop air intrusion. Insulate all walls and apply sheathing. Insulate all rafters and apply sheathing. No ventilation is required in this roof system.
- aa. Windows have Low E coating on inside of outer pane of glass. Average of window SHGC and U-Values match Projected Rating.

6. Energy Final Inspection

- a. This is an inspection that occurs after all interior finishes, attic insulation, weather stripping / sealing, mechanical components, and exterior veneers have been installed. The items required to be inspected (as applicable) are located below. Since it is impossible to anticipate every construction technique / code requirement the items below are the minimum inspection criteria, and any code / site specific engineering requirement must be inspected and deemed to be in compliance prior to Guardian Home Certification.
- b. This inspection consists of two parts: A visual inspection and a testing inspection.
- c. The visual inspection includes:
 - i. Attic insulation has been installed and achieves minimum R-Value per projected rating with insulation markers.
 - ii. Knee Wall / Hot Wall sheathing present and installed correctly.
 - iii. Holes in the thermal envelope or HVAC system are sealed and corrected by testing to meet or exceed applicable International Energy Conservation Code requirements.
 - iv. All doors are weather stripped.
 - v. All windows are installed and free from holes.
 - vi. All drywall openings are sealed around rough supply boot flanges before trim is installed. All return air framed openings are sealed to the backside of the drywall before trim is installed. (This is verified by means of a Blower Door/Duct Blaster Testing)
 - vii. HVAC system sealing is completed. This includes rough boot flanges sealed to the interior finish, all return air pathways sealed to interior finishes. (This is verified by means of a Blower Door/Duct Blaster Testing)
- d. The testing inspection includes:
 - i. BLOWER DOOR: Test the infiltration levels in the home using a Blower Door with the home depressurized to -50 Pascals from present ambient air pressure.
 - ii. DUCT BLASTER: Test the duct leakage to outside by pressurizing /depressurizing the HVAC distribution system to 25 Pascals in order to

measure the total system leakage. This does not include testing of the mechanical exhaust fans for ERV / HRV systems.

7. Final Code Inspection

- a. This is an inspection that occurs after all interior finishes, attic insulation, weather stripping / sealing, mechanical components, exterior veneers, and landscaping components have been installed. The items required to be inspected (as applicable) are located below. Since it is impossible to anticipate every construction technique / code requirement the items below are the minimum inspection criteria, and any code / site specific engineering requirement must be inspected and deemed to be in compliance prior to Guardian Home Certification.
- b. Exterior Drainage (Visual Only)
 - i. Grading 6" in 10' (or equivalent drainage if lot does not afford 10' in any direction).
 - ii. Drains to approved drainage system at street or behind home.
 - iii. Does not drain to other lots.
 - iv. Home's exterior drainage plane allows typical weather components to drain to approved exterior lot grading system.
 - v. Exterior veneers have proper counter flashing, weep screeds, weep holes, drainage items as applicable.
 - vi. Proper clearance to grading from all exterior veneers at time of inspection. (All exterior landscaping items must be completed in order to verify compliance with this code / manufacturer's requirement.)
 - vii. Inspection of roofing system to ensure completion and watertight installation. (Guardian Certified Inspectors are not required to go on the roof, or remove shingle components to verify fastening requirements have been met.)
 1. Shingles installed and sealed.
 2. Roof jacks installed and sealed.
 3. Flashing installed.
 4. Roof penetrations protected from UV light degradation unless rated for continuous exposure to the sun.
 - a. Plumbing vents
 - b. Flue Pipes
 - c. Chimney Vents
- c. Emergency Egress / Fire Safety
 - i. Fire extinguishing systems as applicable per code (currently not required in Texas).
 - ii. Fire separation between dwellings maintained in accordance with the code. (It is the responsibility of the builder to ensure proper drywall components are installed. Guardian Certified Inspectors are NOT to perform destructive testing, and are NOT required to verify code compliance with items that cannot be visually inspected.)
 - iii. Stairs
 1. Tread Depth

2. Tread Consistency (continuous and maximum 3/8" various throughout the flight of stairs with all variations within code maximums)
3. Riser Height
4. Riser Consistency (continuous and maximum 3/8" various throughout the flight of stairs with all variations within code maximums)
5. Landing location
6. Landing size
7. Handrail
 - a. Location
 - b. Continuous from top of flight to bottom
 - c. Height
- iv. Tempered glazing in all hazardous locations
- a. Electrical Trim Out / Installation of fixtures
 - i. Location and function of:
 1. GFCI receptacles
 2. Arch fault circuits
 3. Smoke detector
 4. Convenience receptacles
 5. Lighting switches
 - ii. Sizing of A/C Condenser Breaker
 - iii. Illumination code minimums are met
 - iv. Branch service clearances
 - v. Breaker Panel
 1. Main shut-off location and accessibility
 2. Proper labeling (permanent / legible / definitive markings)
 3. Proper allocation of circuits (i.e. minimum 2 small appliance circuits in kitchen)
 - vi. Proper grounding system
- b. Mechanical Trim Out / Installation of fixtures
 - i. Equipment
 1. Rated for use in home's application
 2. Installation in accordance with manufacturer's specifications
 3. Ventilation (as applicable)
 - ii. Accessibility for service
 1. Catwalks
 2. Attics
 3. Mechanical rooms
 4. Crawlspace
 - iii. Clearance to combustibles
 - iv. Combustion ventilation delivered
 - v. Mechanical ventilation installed per code
 - vi. Condensation drains
 1. Location

- 2. Sizing
 - 3. Material
 - vii. Emergency drains
 - 1. Location
 - 2. Sizing
 - 3. Material
 - viii. Shut-off switches
 - 1. Location
 - 2. Labeling
- c. Plumbing Trim Out / Installation of fixtures
 - i. Clearances / Air Gaps
 - ii. Accessibility for service
 - 1. Cabinets
 - 2. Sinks
 - 3. Tubs
 - iii. Cleanout locations
 - iv. Fixture functionality
 - 1. Hot / Cold water orientation
 - 2. Free of leaks / drips
 - 3. Drainage
 - 4. Clearance to electrical / mechanical components
 - 5. Clearance to walls / doors to allow functionality
 - 6. Minimum residential requirements are met
 - a. Kitchen lavatory
 - b. Bathing area / fixture
 - c. Water closet installed (toilet)
 - d. Bathroom lavatory
- d. Inspection of exterior veneers to determine code compliance
 - i. Continuous and contiguous from top of roof to foundation
 - ii. Flashing and drainage intact within manufacturer's / code requirements
 - iii. Clearances to grading / landscaping / hardscaping (patios / walks / porches) / concrete
 - iv. All penetrations sealed with approved material rated for climatic conditions
 - v. Junctions between dissimilar materials sealed / gasketed to maintain continuity of drainage plane. Maintain may be required for certain materials as all materials have limitations of lifespan.
- e. Foundation Elevations
 - f. Each home is to have foundation elevations measured using a digital water level with reference to a position on the slab. All final flooring components are to be installed at the time of this measurement. One measurement every 100 ft² is to be recorded on the plan drawing attached to the Final Code Inspection. Each flooring type is to be noted in the location the measurement was taken on the home plan / elevation measurements of the Final Code Inspection report.

- ii. Grading and drainage arrows are to be marked showing the flow of water from the perimeter of the home.
- i. Design Features
 - i. Attic accesses and equipment catwalks in compliance with code standards