Residential Plan Review

Revision 4-17-2013

City approved plan shall be left on site for building inspection purposes

REQUIREMENTS FOR THE PROPERTY AT:_____

BUILDING

Y	NA	
[]	[]	**1.** Engineered wood truss or engineered framing designs shall be provided on site at the time of the inspection.
[]	[]	**2.** Zero lot line wall(s) are to be one hour rated. This area extends to 3 feet from the property line and does include accessory buildings when used per **R302.1-Exterior Walls of the 2009 International Residential Code. (***Revision 06-21-2012)*
[]	[]	**3.** Openings in walls and roofs adjacent to the zero lot line developments shall comply with **2009 International Residential Code**.
[]	[]	**4.** Rain gutters shall be installed on the zero lot side and carry the water away from the zero lot side.
[]	[]	**5.** Zero lot closed unroofed areas shall be provided with drains carried to locations other than the zero lot side and **shall not** be tied into the City sewer system.
[]	[]	**6.** Smoke detectors shall be hard wired and installed in such a way that if one unit responds all units will activate. Dwellings with attached garages and or fuel-fired appliances shall have carbon monoxide/smoke detectors located to the exterior of each sleeping area within 8 feet of the entry door.
[]	[]	**7.** Roofs should a have metal drip edge and roofing must be installed per manufacturers and/or Building Code requirements.
[]	[]	**8.** Attics shall be vented to code. Use of clamshell vents, running roof vents, powered vents or other such approved devices are required to meet these needs. Fifty (50%) percent of the venting shall be located near the highest points in the attic, the remaining fifty (50%) percent along the eaves.

[] **[]** **9.** Ridge boards, hips and valleys shall be one size larger than rafters and shall be supported at both ends to structurally bearing members. Purlins and collar ties shall be installed to code.

[] **[]** **10.** All installations of the building components shall comply with the adopted City Building codes and State statues of the State of Texas. It is the duty of the contractor to obtain copies and be knowledgeable of these codes and laws.

[] **[]** **11.** Paved off street parking conforming to Zoning requirements is to be provided in addition to any sidewalks required by zoning. See Chapter 28, Off-Street Parking – Code of Ordinances City of Converse Texas

[] **[]** **12.** Provide brace wall details conforming to the International Residential Code 2009 edition or engineered designed plans. Engineered plans will require an installation letter after erection approving the installation stamped by the engineer.

[] **[]** **13.** Landings shall be provided at all exterior doors conforming to code.

[] **[]** **14.** All openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inch thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or 20-minute fire-rated doors. No door from a private garage shall open into a sleeping area. Ceilings under habitable spaces above shall be 5/8 Type X sheet rock with a one hour rated separation. Penetrations in this assembly are to be sealed to a one hour listed assembly.

[] **[]** **15.** All windows in bedrooms shall have a window capable of being used as an egress. If no approved exterior door from such room is installed, a window equipped with a full clear opening, without the use of a key or tool must be provided. The window shall be 5.7 square feet except at grade where the net may be reduced to 5 square feet, and have a clear open height of twenty-four (24”) inches or greater with a minimum width of twenty (20”) inches. The sill shall not be more than forty-four (44”) inches above finished floor. Windows 24 inches or less shall be equipped with fall protection per code. Windows within twenty-four (24) inches of the vertical edge of a door in the closed position where the bottom edge is less than sixty (60) inches above the standing or walking surface and in areas that meet all of the following conditions; an individual pane greater than nine (9) square feet, the bottom edge is less than eighteen (18) inches above the floor, the top edge is greater than thirty-six (36) inches and have one or more walking surfaces within thirty six inches horizontally of the glazing shall be considered hazardous and require tempered or safety glazing with a visible label on each pane.

[] [] **16.** Guardrails are required on porches greater than (30") thirty inches above finished grade and shall be *thirty-six (36") inches* in height. *Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads. Handrails in dwellings are required on both sides of stairs unless otherwise permitted by code*. Grip style and type to comply with R311.7.7.3. All openings in guardrails and handrails shall comply with the Building Code (4 inches or less). Structural strength shall conform to IRC requirements. (*revised 06-20-12)*

[] [] **17.** Portable storage buildings are accessory structures as defined in the state adopted **International Residential Code** and shall comply with City of Converse Code of Ordinances.

[] [] **18.** The new "**wolmanized**" lumber uses Copper Azole, Alkaline Copper Quat (ACQ), Chromated Copper Arsenate or Sodium Borate which require special fasteners and should not be allowed to contact galvanized metal, conventional fasteners or anchors. Do not mix stainless steel fasteners with galvanized hangers, as these metals will react with one another and rapidly rust away. Approved fasteners will be Double-dipped galvanized, stainless steel or Hot-dipped galvanized.

[] [] **19.** **R303.8 Required Heating** states that every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68 degrees F. or 16 degrees C. at a point 3 feet above the floor and 2 feet from the exterior walls in all habitable rooms. The installation of one or more portable space heaters shall not be used to achieve compliance with this Section. (*Revised 10-06-2005)*

[] [] **20.** **Lintels** over openings shall comply with **Table 703.7.3.1 IRC 2009** or be engineered.

ELECTRIC

Y NA

[] [] **21.** Hydro massage tubs shall have an accessible access door to insure the spa motor is readily accessible. The spa motors shall be bonded to the cold water supply system.

[] [] **22.** Electric outlets are to be installed per **National Electric Code** requirements. Walls two (2') feet or wider require a 125 volt 15/20 ampere duplex receptacle. NO wall space shall be more than six (6') feet to such an outlet. All lighting is to be switched. Stairway lighting shall have switches located immediately adjacent to the stairway. Counter top outlets are to be installed starting at the flood rim of the sink two (2') feet on either side where required and so no space on the counter is more than two (2') feet from such an outlet. Special consideration is required at

rough-in for backless counter tops and islands. Clothes closets shall conform to lighting requirements found in **Article 410 of the National Electric Code**. Restrooms shall have a separate circuit. Recessed lights shall be covered unless approved for direct insulation contact. (For complete requirements see the **National Electric Code**) Arc fault breakers are required for all locations except for garages and single bathroom. Ceiling Fans shall be installed with approved listed ceiling boxes designed to support the weight of the fan.

[] **[]** **23.** Sufficient access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment. See **Article 110-26 of the 2014 National Electric Code** for specific requirements.

MECHANICAL

Y **NA**

[] **[]** **24.** It is recommended that all vertical air conditioning closets be 4'x4' to allow full access to all sides of units for installation. It is required the return air system be fire resistant. Horizontal attic units shall be provided with a walkway, work area, electric outlets and access as provided for by the **2012 International Residential Code**. P-Traps shall be installed on primary drains and vented per the plumbing code.
(revised 06-22-2012)

[] **[]** **25.** Bathrooms, water closet compartments and other similar rooms shall be provided with window at least three (3) square feet in size with one half (1/2) of the window capable of being opened. If an exhaust fan is installed which must exhaust directly to the exterior and is in compliance with **R303.3 Bathrooms, Exception** then the window is not required. **(**r*evised 06-20-2012)*

[] **[]** **26.** A duct test per the state adopted **International Energy Conservation Code, edition 2009 ICC, Section 503 and IRC 2009 edition Section N1103.2.2 Sealing** for all new construction. The word "New" will be defined as a replacement or as a new installation. This section shall not apply to alterations to an existing system.

[] **[]** **27.** A programmable thermostat shall be installed in accordance with **Section N1103 Systems, N1103.3.1 Controls.**

PLUMBING

Y	NA	
[]	[]	**28.** Vents and exhausts are to be terminated on the exterior and on Zero lot homes not less than three (3') feet inside the zero side. Drain waste vents from the sewer system shall be a minimum of ten (10') feet from this line. No drain discharge outlets shall be located on the zero lot side.
[]	[]	**29.** Drain waste vent lines, electrical or other systems shall not be allowed to cut, notch or bore through more than forty (40%) percent of the cross sectional area of bearing wall studs or 60% of non-bearing studs. At no time shall more than 2 successive studs be bored. A stud member may be bored up to sixty (60%) percent if in a bearing wall the stud is doubled and not more than two (2) successive studs are bored. Top plates in bearing and non-bearing walls cut more than fifty (50%) percent shall be reinforced with twenty-four (24) gauge steel angle spanning the distance between adjacent studs on both sides of the plate. The one exception to this requirement is when the entire side of the wall with the notch or cut is covered by wood structural panel sheathing. (See ***IRC 2009, R602.6 and R602.6.1***) (*revised 07-05-12)*
[]	[]	**30.** *All interior water heaters shall be installed with an approved disconnecting means and have an emergency metal pan equipped with a full sized drain to an approved location. (See* ***IRC P2803.6.1****.)* If the plumbing system is backflow protected or has a Pressure reducing valve at the water supply source, an expansion tank(s) shall be installed at each water heater sized for each unit. *(revised 07-05-12)*
[]	[]	**31.** Floor drains are to be primed.
[]	[]	**32.** All exterior hose bibs to be backflow protected.
[]	[]	**33.** Fixtures in the bathroom shall conform to ***IRC 2009- R307 Toilet, Bath and Shower Spaces***. See ***Figure R307.1 Minimum Fixture Clearances*** for measurements.
[]	[]	**34.** Static water pressure within the residence shall not exceed 80 PSI. Bathtubs and Showers shall have mixing valves to limit water temperature to 120 degrees Fahrenheit using ASSE 1070 or where such device conforms to the ***IRC P2708.3***
[]	[]	**35.** Plumbing vents in islands and areas which, do not permit installation of normal vents, shall be loop vented and a relief vent, which may be flat vented, ran to the nearest wall. This will need to occur at the plumbing rough-in. The plumber shall be notified of this requirement.

[] [] **36.** Hot water lines shall be insulated on all recirculation systems within a dwelling to comply with the State Adopted 2009 Energy Code.

CITY CODE REQUIRMENT

Y NA

37. City approved plans shall be left on site for building inspection purposes.

[] [] **38.** The address shall be posted so that it is visible from the street.

[] [] **39.** Sanitation means shall be provided for workers on site.

[] [] **40.** All construction debris is the responsibility of the contractor to remove from the site. ***Burning the debris is not permitted.***

[] [] **41.** A **RES-check** form is required for the energy inspection. The city is **Zone 2A**. The total square footage of the window area will determine the insulation, window and door energy values. See the attached form and look at Climate **Zone 2A**. The worst case requirements would be for a house with 25% of the wall being windows and doors which would require a window with a **U-Factor of .52**, a **solar heat gain coefficient of .40**, ceiling insulation of **R-30**, wall insulation of **R-13**, floor insulation of **R-13**, basement wall insulation of **R-6**, and an unvented crawl space wall with **R-6** insulation. All factory stamps or stickers must be left on till after the energy inspection. The **REScheck** program can be downloaded from **WWW.Energycodes.gov** if you desire to adjust the different components to be more cost effective. Federal Tax Credits for some of these required items can be found at http://www.energystar.gov/index.cfm?c=Products.pr_tax_credits#s8

Y NA

[] [] **42.** The city has a "**free board**" requirement of construction in the Flood Zones of **one (1) foot above the base flood** elevation. Your surveyor will mark your site with a reference pin to establish a bench mark for these measurements. No habitable areas are allowed in the 100-year flood zones. Temporary storage, hobby rooms, building entries, outside seating, and garages are allowed. Each room or enclosure in the 100-year areas shall be provided with a **minimum of two openings on two opposing walls** with a net clear opening of **one square inch per square foot of floor space**. These openings shall be **one foot or less above the finished floor of each area**. The building department recommends that a one- (1) to two- (2) inch opening be run under the entire wall length through out the interior and

exterior of the building. Sediment from flooding accumulates in areas where there is little or no water movement. This generally deposits several inches and many pounds of mud in the building. These openings will alleviate this problem.

[] **[]** **43.** Sidewalks, driveways, curbs and gutters, other pavements and approaches to city right of ways shall comply with the Texas Architectural Barriers Act. City staff before the installation of concrete shall approve driveway tie-ins. See the City of Converse, Code of Ordinances – Chapter 40 Sections 40-414 through 40-444 for specific requirements for privately owned pavements and their design.

Common Inspections

For the Foundation

Set-back verification for zoning
Steel installation or footing inspection of the slab or building support.

1. *The Design engineer shall inspect all **residential** engineered foundation systems.*
2. A letter (***see text on page three***) shall be executed by the design engineer certifying his/her responsibility for the system.
3. City inspectors shall inspect in accordance with the current practice.
4. Any questions or determinations regarding this policy shall be addressed to the Director of Planning and Zoning.

Electric rough-in or grounding of steel foundation
Plumbing rough in which includes the water pipe and drain, waste, vent system or DWV

For the erection of the lumber and drying-in of the structure

Framing, building code items, fastening of the wood elements, roof system and fire wall if needed
Decking / Fastening
Wind Brace
Insulation, which includes windows, doors, wall and attic batting or spray in, mechanical duct and cooling lines,
Framing, bored hole fill, and frame work sealing
Electric rough-in
Plumbing top-out
Mechanical rough-in and associated access work

The driveway curb cut is to be inspected by the Public Works Department.

For the Final Inspection of the building for a Certificate of Occupancy

Building final with the driveway completed
Electric final
Plumbing final
Mechanical final
Energy/insulation final

An engineer's letter for the installed drainage system stating that it has been constructed per original design specifications is required before the Certificate of Occupancy will be issued.

Codes to be utilized

2014National Electric Code – Adopted by the State of Texas
2011 National Fire Protection Code – Life Safety Code 101 (when required)
2009 International Existing Building Code
2009International Residential Code
2009 International Fire Code (when required)
2009 International Energy Conservation Code
2009 International Plumbing Code (when required)
2009 International Mechanical Code (when required)
2009 International Building Code (when required)
Texas Architectural Barriers Code (when required)
American Disabilities Act (when required)
City Flood Ordinance and FEMA Guidelines (when required)
City Zoning Ordinances
City Sign Ordinance (when required)
City Landscape Ordinance (when required)
City Dumpster Screening Ordinance (when required)
City Fire Sprinkler Ordinance (when required)
City of Ordinances (where required)

Some of the above referenced codes have locally adopted amendments more stringent then the referenced code requirements. Copies may be purchased at the permit window.

Building loads shall be based on 105 mile per hour three-second gust, a wind speed of 90 miles per hour, 5 pounds per square foot snow load and the freeze line is 12 inches. Check with the Texas Board of Architectural Examiners at (http://www.tbae.state.tx.us) and the Texas Board of Professional Engineers at http://www.tbpe.state.tx.us for state required plan stamps. *(Revised 09-11-2014)*