

CITY OF LLANO INSPECTION CHECKLIST

Residential Building Final

2009 Codes

References are to the 2009 International Residential Code

Please verify the following before calling for a building final inspection

Permits and Plans

Permit and approved plans are on site and accessible to the inspector. (R105.7)
Permit information is correct (address, permit number, description of work, etc.) (R106.1)
All other finals are approved. (R109) (Check with the local jurisdiction for required finals.)
FEMA elevation certificate by licensed surveyor for construction in flood hazard areas. (R106.1.3)

Exterior

House numbers plainly visible legible from the street or road fronting the property minimum 4" and of contrasting color. (R319)

All exterior windows, penetrations and openings caulked. (R703.1.1)

Chimney terminations are 2' above any roof/structure within 10' and not less than 3" above the highest point where the chimney passes through the roof. (R1003.9)

Spark arresters installed on top of chimney. (R1003.9.1)

6" distance from soil to wood siding/trim. (R317.1, #5)

The grade at the foundation falls away from the building a minimum of 6" within the first 10". Minimum slope 5% where less than 6" fall in 10". Swales (if using) minimum 2% slope. (R401.3 & exception)

Carports not open on at least two sides will be inspected as garages and all fire separation requirements will apply. (R309.2)

Decks, stairs and walkways

Verify that deck placement, setback, size and materials are per approved plans.

Deck is positively attached and supports both lateral and live loads (40lb/ sq.ft. minimum) R301.5, R502.2.2.

All deck material treated or naturally resistant to decay. Cuts, notches, and holes are treated with preservative. (R317.1, R317.1.1, R317.1.5 & R317.2)

Fasteners and hardware for pressure preservative and fire-retardant-treated wood shall be of hot-dipped galvanized steel, stainless steel, silicon bronze or copper. (R317.3, R317.3.1 and manufacturer's requirements)

Joists can be untreated if approved weatherproof decking membrane is used. Note: soffits allowed when ventilated. (R317.1.2)

Ledger for decks bolted/lagged to structure with minimum 3/8's" bolts/lags, a minimum 16" o.c., or per approved plan. (R502.2.1)

Deck lateral connections require a minimum (2) 1,500 lb. hold-down tension devices, installed in not less than two locations (ends) per deck, installed and connected to interior parallel joists per IRC figure R502.2.2.3. (R502.2.2.3) (exception decks < 30" above grade).

Cantilevers blocked at bearing line if >12". (Table R502.3.3(2), note „e")

Bottom of footings are minimum 12" below grade for freeze protection. (Table R301.2 .(1) – local jurisdiction, R403.1.4)

Where deck is >30" vertical above the grade plane, within 6" horizontal, a guard is installed. (R312.1 & Ch. 2 Grade plane definition)

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6'8" minimum headroom at stairways measured vertically from the nose of the treads, landings or platforms. (R311.7.2)

All stairs are provided with illumination, and light switch at each floor level of 6 or more risers. (R311.7.8 & R303.6)

Stair nosing $\frac{3}{4}$ " - $1\frac{1}{4}$ " required when solid risers are installed except when the tread depth is 11" minimum. (R311.7.4.3)

Open risers don't allow passage of 4" sphere, except stairs with a rise of 30" or less. (R311.7.4.3)

Radius of curvature at the leading edge of the tread is not over $\frac{9}{16}$ ". (R311.7.4.3)

The greatest nosing projection doesn't exceed the smallest by $>\frac{3}{8}$ ". (R311.7.4.3)

Stair riser maximum $7\frac{3}{4}$ " , treads minimum 10". (R311.7.4)

Stair riser/tread maximum dimension doesn't exceed smallest by $>\frac{3}{8}$ ". (R311.7.4)

Guards don't allow passage of 4" sphere. (R312.3)

Guards installed at the sides of stairs don't allow the passage of $4\frac{3}{8}$ " sphere.

Triangle formed by riser, tread and bottom element of guardrail doesn't allow passage of 6" sphere. (R312.3)

Guards adjacent to floor surfaces over 30" from adjacent floor or grade are a minimum 36" height to the top of the guard. (R312.1)

Open sides of stairs with a total rise of 30" above the floor or grade below have guards minimum 34" in height when measured vertically from the stair nosing to the top of the guard. (R312.1 & R312.2 exceptions 1 & 2)

Handrails and guards capable of withstanding 200 lbs. applied in any direction at any point on the rail. (IBC 1607.7.1.1)

Handrail at stairs with 4 or more risers. (R311.7.7)

Handrail minimum 34" to maximum 38" above nose of tread to top of handrail. (R311.7.7.1)

Type I handrails with circular cross sections $1\frac{1}{4}$ " - 2" diameter. (R311.7.7.3)

Type I handrails with noncircular cross sections have a perimeter dimension of 4" - $6\frac{1}{4}$ " with a maximum cross section of $2\frac{1}{4}$ ". (R311.7.7.3)

Type II handrails with perimeters greater than $6\frac{1}{4}$ " require a graspable finger recess area on both sides of the profile. The minimum & maximum width above the recess is $1\frac{1}{4}$ " - $2\frac{3}{4}$ ". (See section for details.) (R311.7.7.3)

Handrail returns to wall, maximum $4\frac{1}{2}$ " off wall with minimum $1\frac{1}{2}$ " clear space from inside of rail to wall. (R311.7.1, R311.7.7.2)

Glazing at stairs/walkways is safety glass when located within 36" horizontally and 60" vertically from walking surface. (See section for exceptions) (R308) See windows and glazing on this checklist.

Glazing adjacent to stairways within 60" horizontally of the bottom tread of stairway in any direction when the exposed surface of the glass is less than 60" above the nose of the tread. (R308.4 exception #8)

The floor landing at the exit door not more than 1.5" lower than the top of the threshold. (R311.3.1)

Exterior doors have landings, minimum 36"x 36", or per size of door opening. The floor or landing at the exit door shall not be more than 1.5" lower than the top of the threshold. Floors or landing at doors other than the exit door don't have to meet this requirement. May step down $7\frac{3}{4}$ " below door opening unless the door swings over the landing. Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door. (R311.3)

Interior

Single family garages separated from the residence and its attic area by not less than $\frac{1}{2}$ " gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than $\frac{5}{8}$ " type x gypsum board or equivalent. Structures supporting a floor/ceiling assembly are protected by minimum $\frac{1}{2}$ " gypsum board or equal. (R309.1, R309.2, IBC 406.1.4)

Garage door to house is weather stripped. (IRC N1102.4.1)

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Primary heat source cannot be woodstove. Any woodstove or pellet stove must be EPA certified. (R303.8.3)

Sheetrock joints and fasteners taped at walls and ceilings adjacent to conditioned spaces. (IRC N1102.4.1)

Ducts in garages which penetrate the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet metal and can have no openings into the garage. (R302.5.2)

Other penetrations through garage walls and ceilings are filled with approved material to resist free passage of flame and smoke. (R302.5.3, R302.11 #4)

1 3/8" solid door or 20-minute fire-rated door between house and garage. (R302.5.1)

Attics

Attic accesses required to areas exceeding 30 square feet and which have a vertical height of 30" or greater. (R807.1)

Accesses located in hallways or other readily accessible location. (R807.1)

Garage ceiling attic access unobstructed 22"x30", with approved gasketed door assembly. (R302.5.1, R807.1)

Access door s from conditioned spaces to unconditioned spaces shall be weatherstripped and insulated to a level equivalent to insulation on the surrounding surfaces.(IRC N1102.2.3)

Proper insulation and thickness is installed. (IRC Table N1102.1)

Blow-in insulation has not filled/blocked baffles. Maintain 1" clearance between roof sheeting and insulation. (R806.3)

Blow in insulation must have 1" clearance to gas fired exhaust vents. (See mechanical final checklist)

Crawl Space

Floor crawl access 18" x 24". (R408.4)

Openings through a perimeter wall to crawl 16" x 24". (R408.4)

Ventilation at crawl space unobstructed by insulation. (R408.1)

Venting at crawl as shown on plan, with on opening within 3" of each corner and minimum 1sq.ft. / 150sq.ft. (R408.1, R408.2)

Vapor barrier is Class I, covering crawl completely, wall to wall, with all seams lapped 6" when there is exposed earth in unvented crawl space. (IRC 1102.2.9)

R-19 insulation is installed against bottom of floor and secured in place. (IRC Table 1102.1)

Pressure treated wood posting installed at basements or cellars or supported by piers or metal pedestals projecting 1" above floor or finished grade and 6" above exposed earth and separated by an approved impervious moisture barrier. (R317.1.4)

Pressure treated wood posting installed in crawlspaces or unexcavated areas, supported by a concrete pier or metal pedestal 8" above exposed earth and separated by an approved impervious moisture barrier. (R317.1.4)

Interior posts at basements or cellars, 1" above floors and 6" above exposed earth and are separated by an approved impervious moisture barrier, unless pressure treated. (R317.1)

Remove all debris from the crawl space. (R408.5)

Where required, flood resistant construction in flood hazard areas (treated/water resistant materials, flood vents, etc.) R322.

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Stairs and Handrails

6'-8" minimum headroom at stairways measured vertically from the nose of the treads, landings or platforms. (R311.7.2)

Stair riser maximum 7 3/4", treads minimum 10". (R311.7.4)

Stair riser/tread maximum dimension doesn't exceed smallest by >3/8". (R311.7.4)

Open risers permitted when opening between treads do not allow passage of 4" sphere. (R311.7.4.3)

Handrail at stairs with 4 or more risers. (R311.7.7)

Handrail minimum 34"/maximum 38" above nose of tread. (R311.7.7.1)

Where floor levels differ >30" at stairs or ramps a guard is required. (R312.1)

Guards do not to allow passage of 4" sphere. (R312.3)

Guards at sides of stair treads do not allow passage of 4 3/8" sphere. (R312.3, #2)

Guard minimum 36" height. (R312.2)

Open sides of stairs with a total rise of 30" above the floor or grade below shall have guards minimum 34" in height when measured vertically from the stair nosing. (R312.2 #1)

Glazing at stairs/walkways is safety glass when located within 36" horizontally and 60" vertically from walking surface. (See section for exceptions) (R308)

Glazing adjacent to stairways within 60" horizontally of the bottom tread of stairway in any direction when the exposed surface of the glass is less than 60" above the nose of the tread. (R308.4 #7)

Type I handrails with circular cross sections 1 1/4" - 2" diameter. (R311.7.7.3 #1)

Type I handrails with noncircular cross sections have a perimeter dimension of 4" - 6 1/4" with a maximum cross section of 2 1/4". (R311.7.7.3 #1)

Type II handrails with perimeters greater than 6 1/4" require a graspable finger recess area on both sides of the profile. The minimum & maximum width above the recess is 1 1/4" - 2 3/4". (See section for details.) (R311.7.7.3)

Handrail returns to wall, maximum 4 1/2" off wall with minimum 1 1/2" clear space from inside of rail to wall. (R311.7.1, R311.7.7.2)

Smoke Alarms / Automatic Sprinkler Systems

Smoke alarms required when interior alterations, repairs or additions requiring a building permit occur. (R314.3.1)

Alarms are interconnected and hard wired unless the area of work does not result in the removal of interior wall or ceiling finishes exposing the structure unless there is an attic, crawl space, or basement available which could provide access for the hard wiring. (R314.4)

Smoke alarms at every floor level, top of stairs, in each bedroom and in hallways serving bedrooms. If doors separate stairways/hallways, smoke alarm is placed at each side of door. When ceiling levels vary >24" between hallways and adjacent rooms, a smoke alarm is placed at both ceilings. (If a room has a closet it qualifies as a bedroom.) (R314.3, NFPA 72)

Smoke alarms shall be listed and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72. (R314.1)

Final inspection for automatic sprinkler system (where required) approved prior to building final.

Windows and Glazing

Bedroom window sill not more than 44" from floor to bottom of window opening. Minimum 5.7sq.ft. clear

opening, 20" minimum width, and 24" minimum height. Grade floor openings may have a minimum 5 sq.ft.

clear opening. (R310)

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Emergency escape and rescue openings must be operational from the inside without the use of keys, tools, or special knowledge.

Safety glazing installed in hazardous locations is marked with type and thickness. Mark is acid etched, sandblasted, ceramic-fired, embossed or made by other permanent means. (R308.1)

Safety glazing is installed at hazardous locations (R308.4)

1. Glazing in swinging doors except jalousies.
 2. Glazing in fixed and sliding panels of sliding door assemblies and panels in sliding and bifold closet door assemblies.
 3. Glazing in storm doors.
 4. Glazing in all unframed swinging doors.
 5. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any portion of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60" above any standing or walking surface.
 6. Glazing in fixed or operable panels adjacent to a door where the nearest vertical edge is within a 24" arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60" above the walking surface. Except where there is an intervening wall or partition between door and glazing or where the door accesses a closet 3" or less in depth.
 7. Glazing in a individual fixed or operable panel, when all of the following apply:
 - 7.1. Expose area of an individual pane greater than 9 sq.ft.
 - 7.2. Bottom edge less than 18" above the floor.
 - 7.3. Top edge greater than 36" above the floor.
 - 7.4. One or more walking surfaces within 36" horizontally of the glazing.
- Exception: Where a protective 1 1/2" wide bar is installed on the accessible side of the glazing 34"- 38" above the floor and capable of withstanding a load of 50lbs per linear foot.
8. Glazing in railings regardless of area or height above a walking surface. Includes structural baluster panels and nonstructural in-fill panels.
 9. Glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas where the bottom edge of the glazing is less than 60" above a walking surface and within 60 " horizontally of the water's edge.
 10. Glazing adjacent to stairways, landings and ramps within 36" horizontally of a walking surface when the exposed surface of the glass is less than 60" above the plane of the adjacent walking surface. Except where a handrail or guard is installed per IBC Sections 1013 & 1607.7.
 11. Glazing adjacent to stairways within 60" horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 60" above the nose of the tread.

Exception: When the side of stair, landing or ramp has a guard or handrail with balusters or infill panels and the plane of the glass is more than 18" from the railing. (R308.4)