

Summary

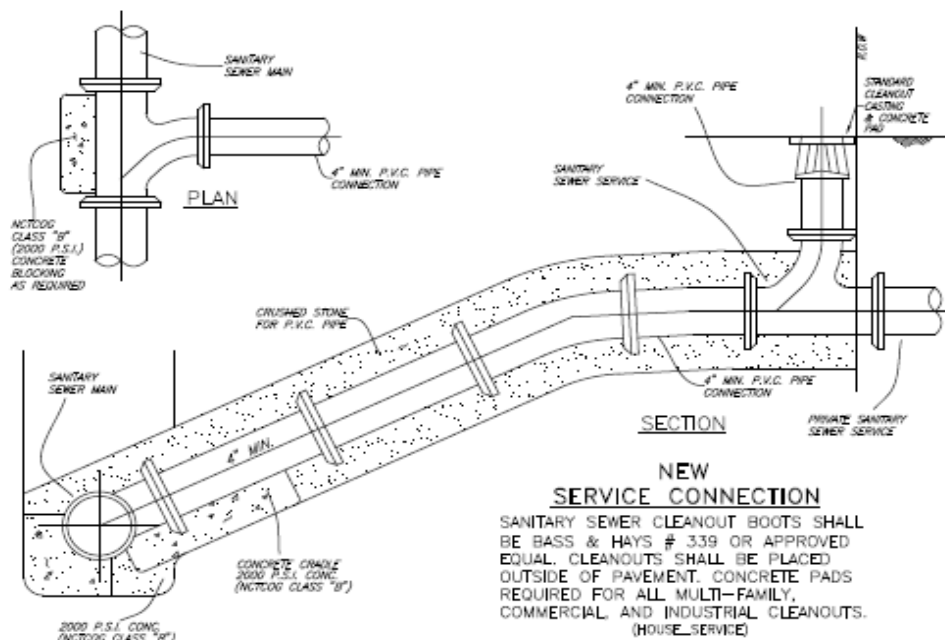
This guideline has been prepared to assist the builder, designer, and his/her field supervisor. Builders are encouraged to share the content of this guideline with their administrative staff, architects, engineers, subcontractors, and material suppliers.

*****NOTE:** This guideline should not be interpreted as all-inclusive. It is to be used as a guideline only. This guideline will be available online and will be updated periodically to reflect building code changes, newly adopted ordinances, and any other information pertinent to residential construction. All builders currently building residential structures within the city of Denison will be responsible for obtaining the most current publications available.

SWPPP Maintenance Inspections

1. 4' high windscreen all along the 2 sides if existing fence is in place windscreen does not have to be installed in those areas and if no fence or alley in back of the lot must have windscreen installed.
2. Must have City dumpster on site after slab is poured.
3. Must have temporary sanitary facilities at a rate 1 for every 10 workers/ one per 2 lots max.

MAIN SEWER TAP (Include Main Sewer Tap info along with SWPPP Inspection)



**DO NOT REMOVE THE SDR 35 WYE AT THE LATERAL,
ALSO DO NOT REMOVE THE CONCRETE CRADLE**



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

T-Pole

1. Address must be posted on the T-pole brace.
2. Ground fault protection (GFCI) on all outlets.
3. Pole must be braced in two directions and grounded.
4. Plugs and breakers must be located in a weather proof enclosure.
5. Neutral bar must be bonded to the panel.
6. Maximum meter base height shall be 6'
7. Aluminum wire is NOT ALLOWED for branch circuits
8. Must have working clearance in front of t-pole.

Plumbing Rough

1. Address must be posted on site.
2. Proper fittings used in system. See **Main Sewer Tap** instructions on previous page.
3. Properly size vents, traps, and trap arms.
4. Minimum 1" water service with cut-off valve. There shall be a full open valve near the entrance of the water service into the building.
5. Hose-bib with tamper proof vacuum breaker installed. Water line must be tested and tight under water pressure not less than the working pressure of the system. For piping systems other than plastic, by an air test of not less than 50 PSI.
6. Sewer line shall be 4" minimum with the same size double cleanout just before it enters the building. The connection to the sewer stub out shall be glued.
7. Drain lines shall be installed to comply with the 2018 IRC (or the current IRC adopted by Denison).
8. All glue joints will have purple primer.
9. A water test is required on all drain lines.
10. Copper lines must be sleeved or taped where exposed to concrete.
11. All underground PVC and copper shall be bedded with sand.
12. Form board survey (with Top of Forms listed on survey) will be uploaded to mygov before this inspection.

Foundation Pre-Pour / Strap-Tie Hold Downs

1. Address must be posted on t-pole and at front of lot.
2. Block outs for tubs and showers must be in place.
3. Must have water test on DWV piping.
4. Rough grading for positive drainage away from slab must be done after concrete placement and removal of forms.
5. Exposed copper must be sleeved and protected.
6. Install concrete encased electrode (UFER) ground in concrete 20'
7. LSTHD/STHD shall be properly installed per the manufacturer instructions at this time (this will be required) if on plans with no alternatives
8. Sleeve PVC through beams with pipe sleeve 2 pipe sizes larger. Sleeve to run from pad to pad. Protect PVC Rises through slab. Protect water supply inside forms.
9. This inspection is only to verify that all drain, waste, and vent piping under slab going vertical is protected with a wrap and that all piping going horizontal between beams is protected with sleeves and or wrapping. Per 2018 IRC Section P2602, specifically P2603.3 and P2603.4



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

Exterior Sheathing

1. Wind bracing must conform to the 2018 IRC. Nailing per 2018 IRC or per approved drawings.
2. Vapor Barrier Must be installed at brick ledge behind sheathing.
3. Tape around all doors and windows and seal all seams, holes and penetrations through sheathing.
4. Verify all shear wall openings are braced and strapped according to shear wall opening detail per plan.
5. Verify all let in bracing, structural sheathing or X bracing is installed per plan detail.

Framing/MEP rough ins

1. Wrap all exposed wood in brick pockets.
2. Verify all shear wall openings are braced and strapped according to shear wall opening detail per plan.
3. Verify all let in bracing, structural sheathing or X bracing is installed per plan detail.
4. Verify hold down straps are installed per plan detail and nailed into a stud pack.
5. All locations where structural sheathing over laps must be blocked and nailed at seams.
6. Verify post detail to ensure post are secured properly at base and braced at top according to plan detail.
7. All bottom plates on masonry or concrete foundations will be pressure treated. Plates shall be secured by ½" diameter anchor bolts 6' on center and within 12" of the ends, and a minimum 2 per board. In compliance with the 2018 IRC or per engineer plans.
8. Lumber grade, joist and rafter spans must comply w/ 2018 IRC and installed per span charts and engineer plans.
9. Rafters and ceiling joist 2 x 12 and larger shall be blocked at points of bearing, and 2 x 12 and larger shall have bridging at intervals not exceeding 8'.
10. Purlin bracing must be the same size as the rafter with 2 x 4 braces installed 4' on center at not less than a 45-degree angle. Braces over 8' in length shall be braced.
11. Fur downs, chimney(s), ceilings of different heights, arches, vertical and horizontal spaces over 10' in length must be fire blocked.
12. Openings from garage to sleeping room not permitted. Separation between the garage & residence & its attic area require minimum ½" gypsum board applied to the garage side with opening protection not less than 1-3/8" solid or honeycomb core steel or 20-minute fire rated door. Habitable rooms above garage shall be separated by minimum 5/8" Type X gypsum board or equivalent.
13. Stairs, landings, handrails and guardrails must comply with section R311.7 of the 2018 IRC.
14. Metal fireplaces shall be installed according to the manufacturer's instructions.
15. Provide insulation stop/guard around metal chimneys and flue pipes to prevent accumulation.
16. Brick ties must be in place where applicable.
17. Pull-down stairs for access to attics shall have a 300 pound per tread load capacity. Pull-down stairs must be deployed for all inspectors that require attic access.
18. Verify fire blocking installed between rafters for lots that have 5' side yard setbacks.



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

Electrical Rough

1. No aluminum or copper clad aluminum conductors are permitted on branch circuits.
2. Check panel for size, bonding, and bonding bushing.
3. Panel must be grounded to concrete encased electrode (UFER).
4. Receptacles are required to be located so that no point in a wall space is more than 6 feet from a receptacle.
5. Two separate 20AMP circuits are required in the kitchen.
6. GFCI required on all outdoor, bathroom, garage, and kitchen, bar sink, hydro massage bathtubs, spa, hot tub, and bathhouse receptacles.
7. Romex must be stapled within 8" of a non-metallic box.
8. Metal boxes shall be grounded and Romex secured to the box.
9. All Romex in an air duct must be sleeved.
10. All single family dwellings must have a service disconnecting means located on the exterior.
11. Smoke detector alarms shall be installed in each sleeping room at least 3' from any air vent, outside each sleeping area in the immediate vicinity of the bedroom, any room with doors installed such as media, study or similar type, and on each additional story of the dwelling including basements. When more than one is required the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all alarms. Installed per 2018 IRC and 2023 NEC requirements and manufactures instructions.
12. Carbon Monoxide detectors shall be installed at every floor level as close to each bedroom as possible and must be installed per 2018 IRC and 2023 NEC requirements and manufactures installation instructions.
13. Cover electrical panels from paint or drywall overspray during construction.
14. Spa motor and plug shall accessible and the GFCI be protected and the motor bonded.
15. All branch circuits that supply 125 volt 15 & 20 amp receptacles in dwelling unit bedrooms shall be ARC Fault protected.
16. All insulation in walls, ceilings, ductwork, and windows shall comply with the 2018 IRC.
17. Gas lines shall be bonded at entrance or at water heater visible at inspection.
18. Ceiling-suspended fan outlets must be rated at 70lbs.

Mechanical Rough

Metal ducts must be mechanically fastened by means of at least three sheet metal screws or rivets equally spaced around the joint and are made airtight by approved tapes, mastics or gaskets.

1. Flex ducts shall be installed and supported in accordance with manufacturer's installation instructions.
2. Condensate drains must be tied into a working p-trap. P-Trap must be insulated.
3. Attic coils must have a secondary condensate drain pan with a minimum 3/4" drain to discharge outside over a window or to conspicuous location.
4. The electric wiring in return air plenums must be in metallic conduit, with termination in metal boxes.
5. Exhaust fan ducts shall terminate outside and shall be minimum 4".
6. The dryer vent metal duct maximum length is 35' with only 2 90 degree bends (2'shall be deducted for each 90 degree turn), where fittings are to be used, and the maximum length shall be reduced per Table G2439.5.5.1 or per manufactures installation instructions. The duct must terminate outside with a backdraft damper.
7. Insulation for A/C ducts and refrigerant lines must meet the 2015 IECC requirements.
8. Mechanical storage equipment areas shall comply with the 2015 IECC.
9. All wood burning/ gas fireplaces must have fresh air intake from the outside the structure.
10. All plenum spaces must be in compliance with the 2018 IRC requirements.



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

Masonry Fireplace

1. There must be a minimum of a 2" clearance from combustible construction.
2. Firebox walls must be minimum 10" of solid brick or 8" where a firebrick w ¼" joints max lining is used.
3. A metal damper shall be installed a minimum 8" above the top of the fireplace opening.
4. A minimum 4" thick concrete or masonry hearth and a minimum 2" thick hearth extension supported by non-combustible material.
5. Factory built fireplaces shall be installed in accordance with manufactures instruction.

Plumbing Top Out

1. All vents must extend through the roof a minimum of 6" with flashing properly installed.
2. All plumbing shall be installed per the 2018 IRC.
3. There shall be a minimum of 1 outside anti siphon protected hose bib in front and 1 at the rear.
4. There shall be a full open valve near the entrance of the water service into the building.
5. Check for proper use and size of fittings, trap size, trap arms and vents.
6. All copper lines and stub outs shall be strapped and supported.
7. All horizontal drains installed through 2x4's shall have stud shoes installed.
8. Cleanouts must be installed above arm tie-ins.
9. Nail guards shall be used where pipes penetrate walls and plates within 1.25" from face of stud.
10. All water pipes in exterior walls or within 12" of an exterior wall shall be insulated.
11. All water heaters must be in an approved drip pan with a drain. Water heaters in a garage must be elevated 18" above the floor and protected from physical damage. Pressure and temperature relief drains shall be run full size in rigid copper or CPVC pipe and terminate without threads.
12. Appliance vents shall be installed minimum 1" from any combustible material for double walled pipe.
13. Working water test is required on DWV and a 5' head pressure for drains.
14. Approved shower pans must be installed, tested, and weep holes shall be open.
15. Gas valve required within 6' of appliances.
16. Gas piping shall be tested with a diaphragm gauge and test pressure shall be to local amendments.
17. Gas piping shall be bonded.
18. Gas piping shall not be run in return air ducts or combustion air openings.
19. Combustion air outlets will be installed within 12" of ceiling and within 12" of the floor for fuel fired appliances in enclosed spaces.
20. All hose-bibs must be frost proof and protected when passing through masonry material.
21. Water heater installation shall comply with 2015 IECC regulations.
22. Gas fireplace requires a cly valve.

Building Brick Tie

1. Ties must be at less No 22 US gage x 7/8" corrugated or No 9 gage wire and shall have a hook embedded in mortar joint (R703.7.4.1)
2. Should be installed 32" on center horizontally and 24" on center vertically (R703.7.4.1)
3. If there is a wall opening greater than 16" in either dimension ties should be placed around perimeter of the openings and shall be spaced no more than 3' on center and no more than 12" from opening (R702.4.1.1)



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

Sheetrock

1. Nailed on 16" center framing [R702.3.5]
 - A. 3/8" sheetrock must be nailed off 7" apart 3/8" min to 1/2" max from edges on the ceilings and 8" apart min 3/8" min to 1/2" max on the edges on the walls
 - B. 1/2" sheetrock must be nailed off 7" apart 3/8" min to 1/2" max from edges on the ceilings and 8" apart min 3/8" min to 1/2" max on the edges on the walls
 - C. 5/8" sheetrock must be nailed off 7" apart 3/8" min to 1/2" max from edges on the ceilings and 8" apart min 3/8" min to 1/2" max on the edges on the walls
2. Screws on 16" center framing [R702.3.5]
 - A. 3/8" sheetrock must be nailed off 12" apart 3/8" min to 1/2" max from edges on the ceilings and 16" apart min 3/8" min to 1/2" max on the edges on the walls
 - B. 1/2" sheetrock must be nailed off 12" apart 3/8" min to 1/2" max from edges on the ceilings and 16" apart min 3/8" min to 1/2" max on the edges on the walls
 - C. 5/8" sheetrock must be nailed off 12" apart 3/8" min to 1/2" max from edges on the ceilings and 16" apart min 3/8" min to 1/2" max on the edges on the walls
3. Perimeter Blocking on ceilings must have 2" to nail to on edges of sheet rock [R702.3.7(2)]
4. Water-resistant gypsum board to be used in any adhesive applications of tile or other nonabsorbent finishes where used on the ceiling 1/2" most have 12" center between joist and 5/8" can be on 16" centers. Not permitted in tub or showers areas (R702.3.8)
5. Fiber-cement, fiber-mat reinforced cementitious backer units, glass mat gypsum backers and fiber-reinforced gypsum backers shall be used in as backers for wall tile in tub and shower areas and wall panels in shower areas
6. Type-X must be used in garage ceilings beneath habitable rooms shall be nailed off on 6" center and min of 3/8" to 1/2" on the edges.

Insulation and Energy Compliance

1. Third party certificate of compliance form with inspection report must be uploaded to mygov before building final is scheduled Including wall rough in inspection for 3rd party.

Electric Utility Final/Meter Release

1. Wires in meter base shall have anti-oxidant applied to the aluminum wires.
2. Meter base connected to the panel with a metal conduit shall be bonded.
3. Bond the neutral bus to the panel.
4. Approved colored wires only to the hot lugs.
5. Proper size feeder wires to the panel.
6. Proper identification of the neutral wire
7. Two forms of grounding will be required from 2023 NEC Sec. 250.52; Concrete-Encased Electrode and Rod and Pipe Electrode.
8. Label the panel including location of the bonds.
9. Check gas piping bond and cold water bond if applicable.
10. Complete all wiring and install all fixtures including cover plates.
11. Check jet tubs for GFCI and proper bonding.
12. Weather proof covers installed on exterior plugs.
13. Light fixtures at all exits.
14. Stairway for access to attic units w/ a minimum 300-pound capacity and a 24" catwalk w/ 30" platform in front of the unit. Attic ladder must be deployed for all inspections requiring attic access.
15. Conduit and disconnect must be installed for A/C condensers. Disconnects require proper clearance.
16. Home should be 100% dried in HVAC equipment must be installed and wired.



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

Gas Utility Final/Meter Release

1. Gas test required with diaphragm gauge minimum 3psi.
2. All shut off valves to equipment are installed.
3. All connections should be capped or connected.
4. Gas valve required within 6' of appliances.
5. All furnace and water heater vents connected and through roof.
6. Gas bond connected.

Public Works Final

1. Items on the public works final can be found on the [checklist here](#).

Final Document Verification

1. Termite protection form, third party energy final with pass results, engineer letter for foundation inspection and final drainage survey must be uploaded into the correct folder in MyGov.

Finals include building, electrical, mechanical, plumbing, fence, and irrigation.

1. Smoke and CO2 detector(s) shall be interconnected, operational, and in proper locations.
2. Texas basements will require detectors to be pre-wired.
3. Attic access must be installed and have a catwalk to furnaces and/or water heaters.
4. Door hardware shall be installed.
5. Weather stripping must be installed on all exterior doors and attic access openings.
6. All windows shall be operational and shall not be cracked or broken.
7. A/C equipment to be operational and mounted on level concrete pad raised at least 3" above grade.
8. Combustion air openings shall be installed in all mechanical rooms that contain gas fired appliances.
9. Check electrical panel for breaker sizes and labeling.
10. Disconnect for A/C correct size and labeled with proper clearance. 125-volt receptacle accessible and within 25'.
11. List location of cold water ground in panel legend.
12. Cold water, gas piping bond, and ground rod clamps must be tight.
13. All receptacles, switches, fixtures, and appliances shall be installed and completed including covers.
14. Check gas fixtures for proper valves, connectors, flue pipe and clearances.
15. Check for traps and hot and cold water connection at all fixtures.
16. Air gap fittings at dishwasher are not required if the dishwasher has one included.
17. Address must be installed in a location visible from the street.
18. Sidewalks shall be installed and free of chips and cracks.
19. Driveways (number of spaces should match garage/carport width).
20. Fences (materials, setbacks, kickboards, corner lot enhancements, etc.).
21. Landscape shall be installed (city of Denison requirements).
22. Sod (all disturbed soil areas need re-vegetation).
23. Blown insulation must be in place with certification paperwork.
24. AFCI's and GFCI's must be operable at all installations.
25. House must be move in ready. Lot and street must be clean from debris and mud.
26. Dryer duct box need sticker stating duct size and developed length.
27. Final grade should slope away from home to property line and to the street. No lot-to-lot drainage allowed.
28. Landings required outside exterior doors.



Helpful Tips for Successful Residential Inspections

City of Denison
300 W. Main
Denison, Tx
75020
(903) 465-2720

Construction Site Standards for City of Denison Builders

These guidelines have been created in order to establish uniform standards for the installation and maintenance of required systems. This is to be considered the standard for all residential building sites within the city limits and the ETJ.

Due to variances in site elevations and grade, some sites may have modified standards in order to meet the requirements.

Standards

Porta-let All residential sites are required to have 1 porta-let per lot; with the exception that if one builder is building on side by side lots 1 porta-let may serve both lots. Porta-lets must be maintained in sanitary condition and must be removed prior to issuance of the CO.

City Dumpster City dumpster required on all construction sites.

Debris Fence Barriers All lots and sites are required to set up debris fence barriers to help contain lightweight materials and debris to the project site. Debris fence may be removed when the project is ready for the final inspection.

Erosion Control Systems All residential lots must maintain properly installed silt fence, curlex, and storm drain inlet protection for the duration of land disturbing activities, i.e. grading, excavating, and primary construction, etc. Silt fences and curlex may be moved out of the way for excavation and other activities such as final grade, but must be replaced until sod or other approved soil stabilization devices are in place. Vegetation must be located on both the front and back of the lot in order to remove the erosion controls and obtain a CO.

Address and Signs All lots must have a company/builder sign located at the front and back of the lot facing the street. The lot address must be clearly posted and be easily seen from the street at the front and rear of all new structures prior to requesting first inspection. Addresses painted on the curb are not acceptable. It is highly recommended that independent and private builders include a contact number on their sign.