

Fox Inspection Group

Frame Inspection Report



13802 Arroyo Grande, Cypress, TX 77433
Inspection prepared for: Jorge Galeano
Real Estate Agent: Aaron Greeley - CB&A, Realtors

Date of Inspection: 9/21/2023 Time: 9:00 AM
Age of Home: 2023 Size: 3001
Order ID: 108701

Inspector: Josh Burk
TREC P.I. 22850/ MAT 1256

Email: josh@foxinspectiongroup.com



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Inspection

1. Type Of Home

Type of Home:Single Family Home

2. Foundation Type

Foundations Type: Post Tension Slab on Grade

3. Walls

Anchorage:Nails, Straps, Bolts

Is bottom sill plate pressure preservative treated:Yes

Exterior walls double platted and joints offset:Yes

Non-bearing walls Size: 2" X 4" @, 2" X 6" @

Do drilling & notching of non-load walls meet requirements:No

Bearing walls Size:2" X 4" @, 2" X 6" @

Do notching & boring of load bearing walls meet requirements:Yes

Are windows and doors framed with Jack Studs or Trimmers:Yes

Type of exterior wall bracing:Structural Sheathing

Lintels properly installed above windows and doors:Not Present

Exterior masonry in place at the time of this inspection:No, but onsite

4. Roof Structure

Roof Structure Type:Rafters

Rafter Size(s):2" X 6", 2" X 10"

Purlin Size(s):2" X 6"

Purlins Properly Spaced:Yes

Ridge Board Size(s):2" X 8"

Hip/ Valley Ridge Size(s):2" X 8"

Ceiling Joist Size(s):2" X 6", 2" X 8", 2" X 10", 2" X 12", O/W 12", O/W 16"

Roof Sheathing Thickness:7/16th Catagory

Flashing, Felt paper, Drip edge in proper location:Yes

5. Roofing Material

Roofing Material:Composition Asphalt Shingles

Flashing (Drip edge flashing, Jack flashing, Step flashing, Counter flashing) properly installed:No

Does roof ventilation meet current building standards:Yes

Are Eave or Cornice vents installed so insulation shall not block the free air flow:Yes

6. Electrical

Electrical Service Entrance Type:Below Grade (Buried)

Service Size:??? Amps

Electrical Panel Location:Garage, Exterior; South

7. HVAC

Heating Type:Natural Gas
Number of Units:1
Location of Heating Unit:Attic
Central A/C:Yes
Condensing Unit in Place: No
Evaporator Coil in Place:Yes
Ductwork in Place:Yes
Attic Walkway properly decked:Yes
30 Inch work clearance on control side of unit:Yes
Service light & receptacle:Yes

8. Plumbing

Water Supply Source:Public
Waste Water:Public
Water Meter Location:Front of Property
Main Water Shutoff:Garage
Main Clean out Location:Exterior/ Location; Southwest corner
Gas Meter Location:Exterior/ Location South exterior;
Water Distribution Material:PEX
Proper Plumbing Ventilation:Yes
Are roof level vent stacks painted to help protect from UV breakdown:No
Are water lines properly secured to studs and ceiling joist to help prevent knocking:No
Are water lines properly protected from puncture:No
Water Heater Type:Natural Gas
Number of Water Heaters:1
Water Heater Capacity:50 Gallons
Water Heater Location:Attic

9. Mechanical Exhaust Vents

Are bathroom and utility mechanical exhaust vents terminated to the exterior of the house:Yes

10. Dryer Exhaust Flue

Does the dryer flue meet current mechanical installation standards:Yes

Before Sheetrocking

1. Foundation

I	NI	NP	D
X			X

Post tension cable live ends are exposed/ not cut back at all four corners.

Framing straps appear to have been placed to close to edge during the pour, causing concrete to spall; between garages.

INSPECTION PHOTOS:



Framing straps appear to have been placed to close to edge, causing concrete to spall; between garages.



Framing straps appear to have been placed to close to edge, causing concrete to spall; between garages.



Post tension cable live ends are exposed/ not cut back at all four corners



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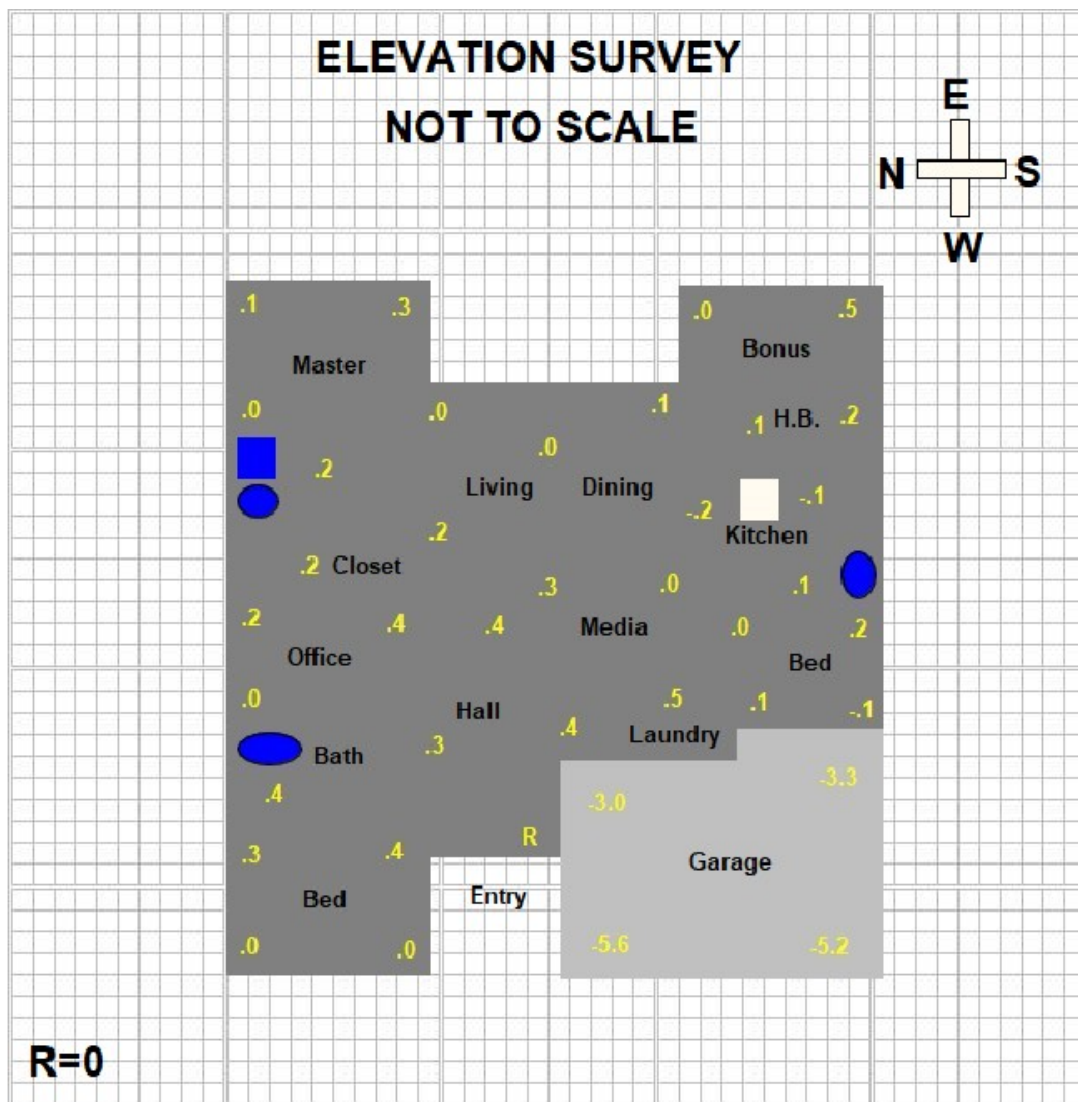
Post tension cable live ends are exposed/ not cut back at all four corners



Post tension cable live ends are exposed/ not cut back at all four corners



Post tension cable live ends are exposed/ not cut back at all four corners



A foundation elevation survey was conducted during the inspection. The floor plan drawing (not to scale) below represents data gathered using a Zip Level. Measurements are listed to the nearest 1/10th of an inch. The greatest variance was 0.5 to -0.1

2. Fire Blocking

I	NI	NP	D
X			

No significant deficiencies or anomalies observed at the time of inspection.

3. Walls

I	NI	NP	D
X			X

INTERIOR:

Insulation was present at time of inspection. This prevents a full visual inspection.

Kitchen island was not framed at time of inspection.

Garage wall stud is not flush with sole plate. May cause a bow in sheetrock; South wall.

Blocking loose, not square above master bedroom entrance.

Vertical insulation missing at exterior wall behind/ below South guest tub.

Non load bearing framing/ stud above fireplace is damaged and are not completely nailed in place properly.

Kitchen cabinet blocking is/ appears missing along West wall. Recommend reviewing plans to verify if there are upper cabinets to be installed at this location and add the additional blocking to properly attach/ support cabinetry.

Framing above single bay garage header is not square/ leaning to the right.

Improperly/ excessively notched framing at South guest bathroom.

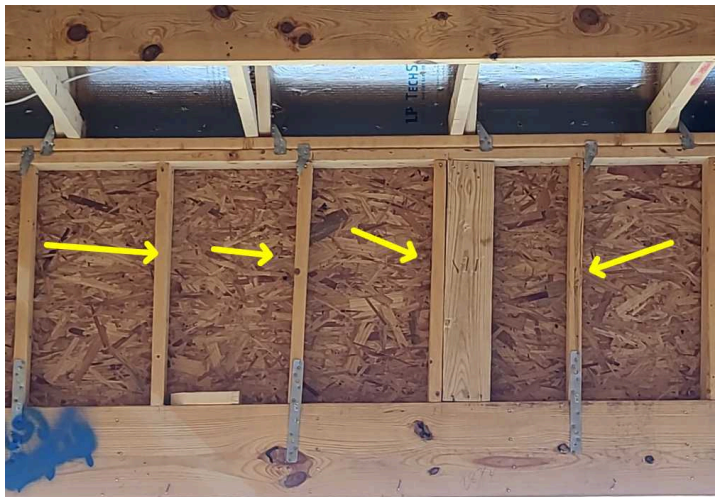
Wall framing not properly attached to foundation, missing a threaded bolt, washer, and or a nut; Northwest corner/ bedroom, and garage.

EXTERIOR:

Repair holes/tears in house wrap.

INSPECTION PHOTOS:

Framing above single bay garage header is not square/ leaning to the right.



Framing above single bay garage header is not square/ leaning to the right.



Wall framing not properly attached to foundation, missing a washer, and a nut; garage



Wall framing not properly attached to foundation, missing a washer, and a nut; garage



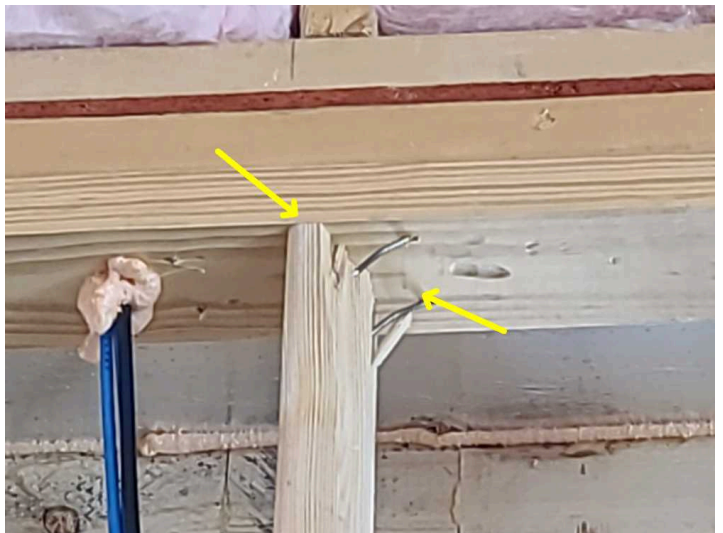
Garage wall stud is not flush with sole plate. May cause a bow in sheetrock.



Garage wall stud is not flush with sole plate. May cause a bow in sheetrock.



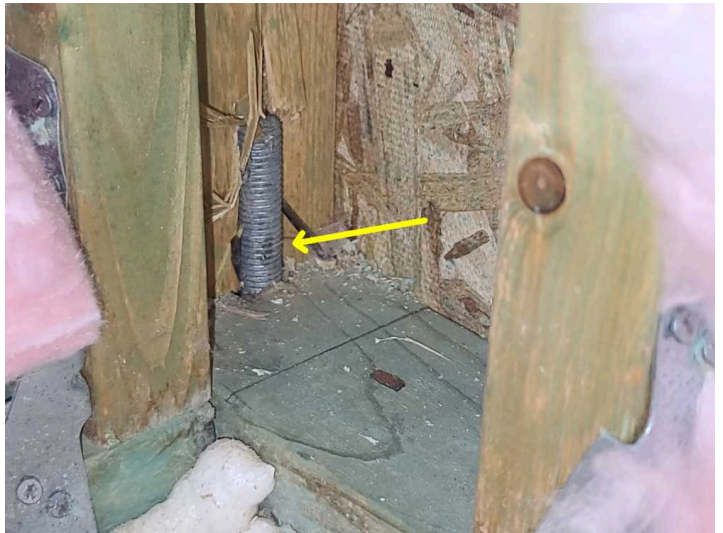
Framing/ stud above fireplace is damaged and are not completely nailed in place properly.



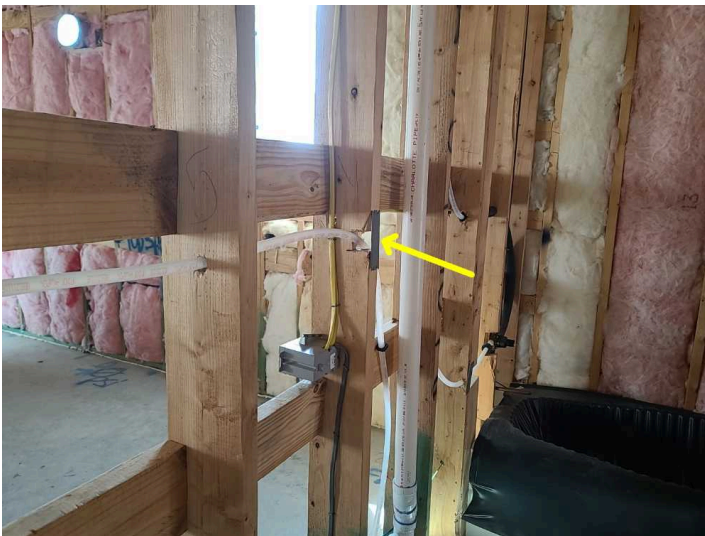
Framing/ stud above fireplace is damaged and are not completely nailed in place properly.



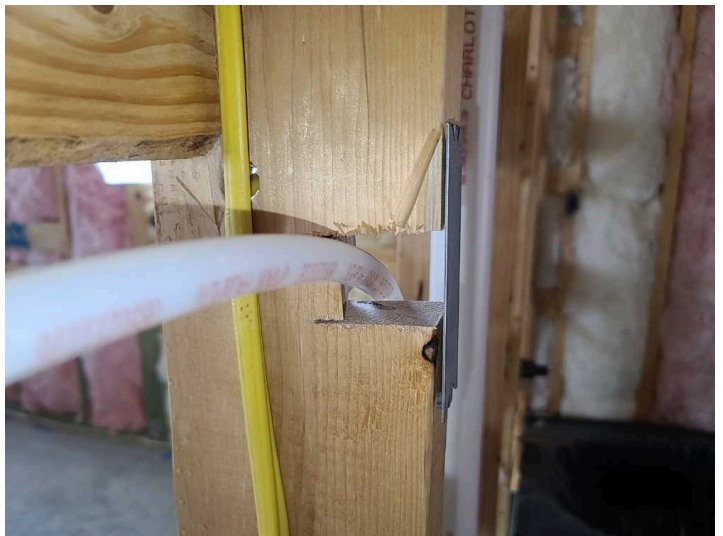
Wall framing not properly attached to foundation, missing a washer, and a nut; Northwest corner/ bedroom



Wall framing not properly attached to foundation, missing a washer, and a nut; Northwest corner/ bedroom



Excessively notched framing at South guest bathroom.



Excessively notched framing at South guest bathroom.



Vertical insulation missing at exterior wall behind/ below South guest tub.



Vertical insulation missing at exterior wall behind/ below South guest tub.



Kitchen cabinet blocking is missing along West wall



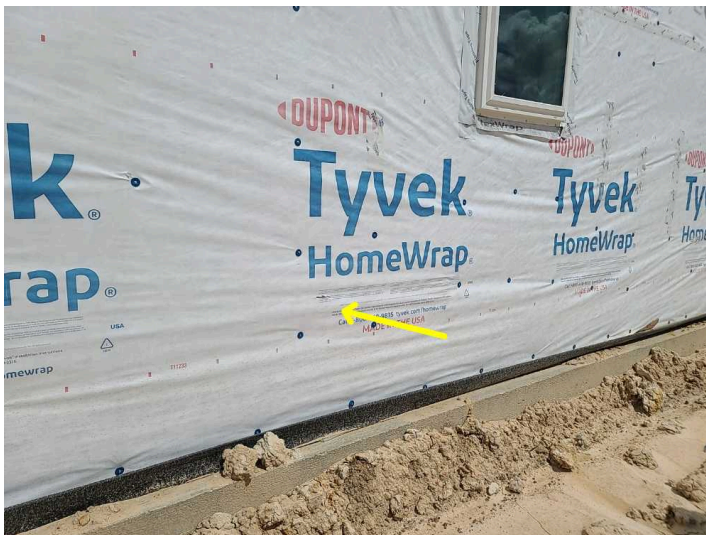
Kitchen cabinet blocking is missing along West wall. Additional blocking is needed to properly attach/ support cabinetry.



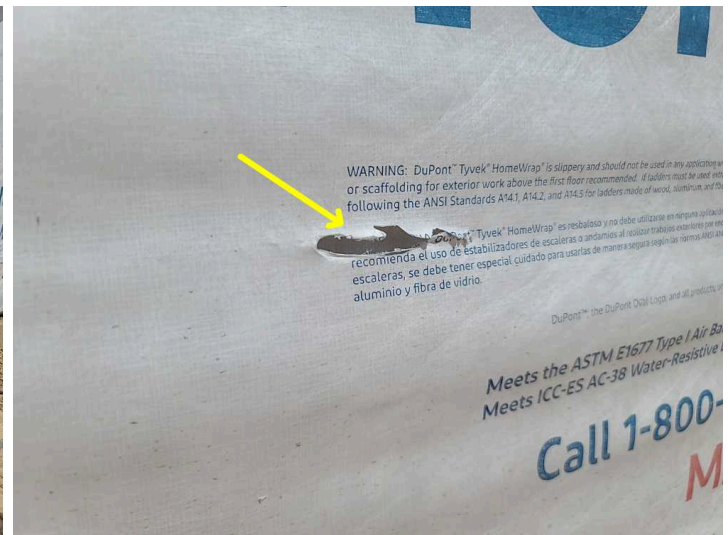
Blocking loose, not square above master bedroom entrance.



Blocking loose, not square above master bedroom entrance.



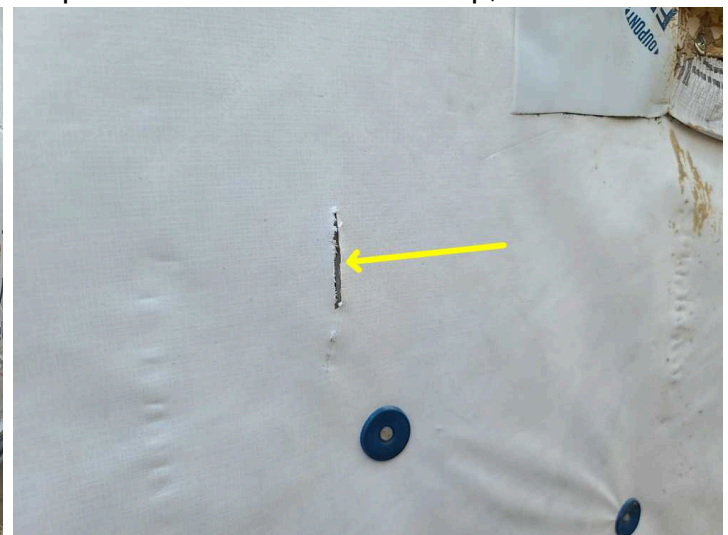
Repair holes/tears in house wrap; South exterior.



Repair holes/tears in house wrap; South exterior.



Repair holes/tears in house wrap; North exterior.



Repair holes/tears in house wrap; North exterior.

4. Ceiling

I	NI	NP	D
X			X

Insulation was present at time of inspection. This prevents a full visual inspection.

Joist hanger missing nails/ fasteners at one or more locations; attic access.

Cracked/ split/ damaged ceiling joist observed at media room ceiling.

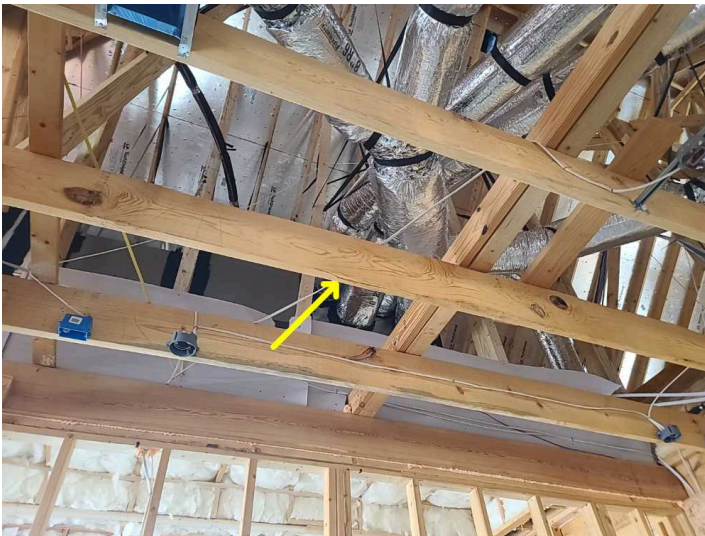
INSPECTION PHOTOS:



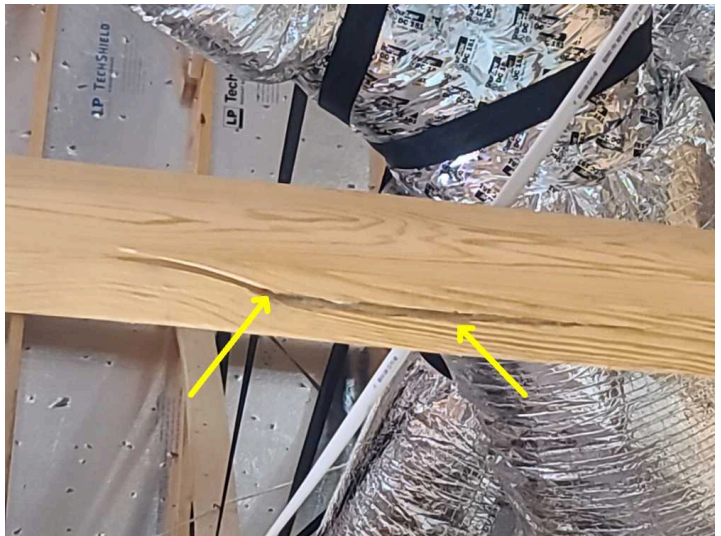
Joist hanger missing nails/ fasteners at the attic access.



Joist hanger missing nails/ fasteners at the attic access.



Cracked/ split/ damaged ceiling joist observed at media room ceiling.



Cracked/ split/ damaged ceiling joist observed at media room ceiling.

5. Roof Structure

I	NI	NP	D
X			X

Insulation was present at time of inspection. This prevents a full visual inspection of the roof structure.

Purlin strut is damaged and is not properly bearing on the top plate. Needs repair; near HVAC.

Damaged / cracked / split rafter observed above; guest bedroom.

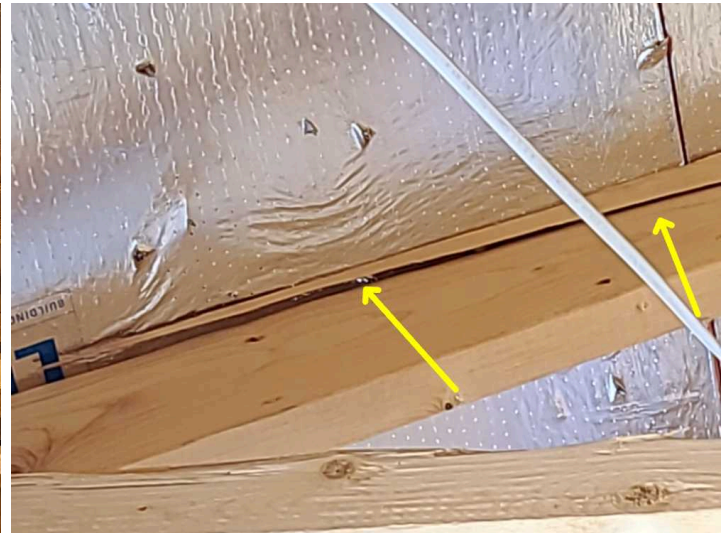
Several ends of rafters were observed to be not cut flush with corresponding components, some degree of misfit was observed, average/mediocre framing. Area that needs repair is above attic access.

Rafters warped North side of attic above entry hall. Roof decking is not rated for the distance between rafters. May cause sags in roof decking and or soft spots.

INSPECTION PHOTOS:



Damaged / cracked / split rafter observed above; guest bedroom.



Damaged / cracked / split rafter observed above; guest bedroom.



Ends of rafters were observed to be not cut flush with corresponding components; Area that needs repair is above attic access.



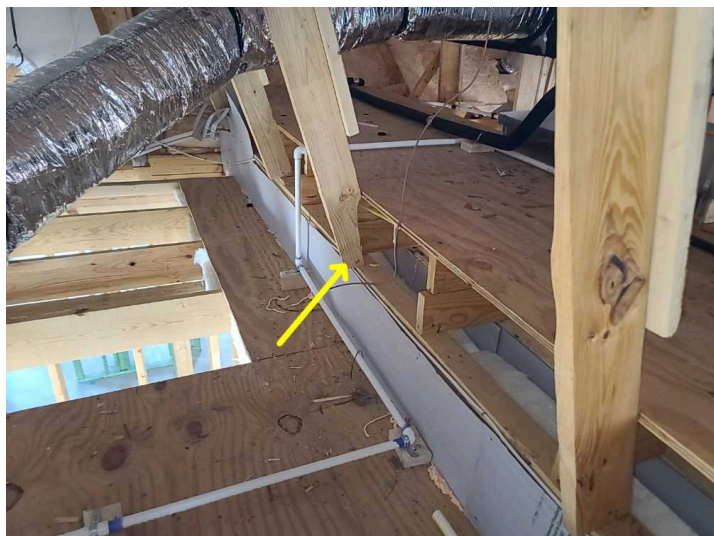
Ends of rafters were observed to be not cut flush with corresponding components; Area that needs repair is above attic access.



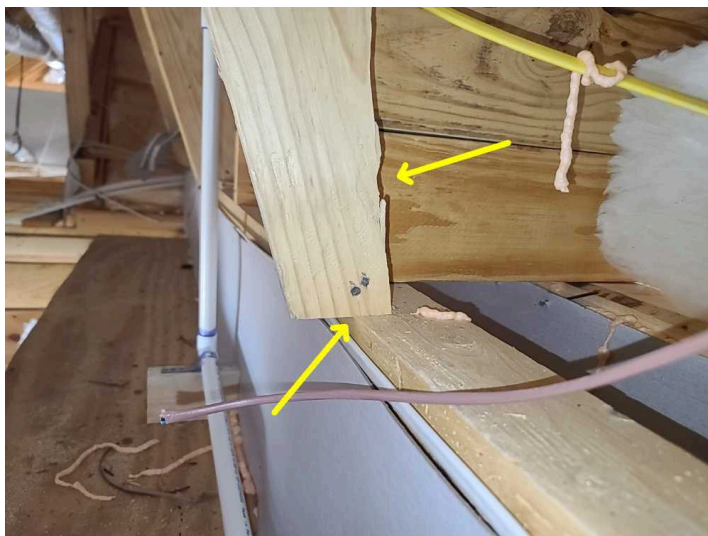
Rafters warped North side of attic above entry hall.



Rafters warped North side of attic above entry hall. Roof decking is not rated for the distance between rafters



Purlin strut is damaged and is not properly bearing on the top plate. Needs repair; near HVAC.



Purlin strut is damaged and is not properly bearing on the top plate. Needs repair; near HVAC.

6. Roof Covering

I	NI	NP	D
X			X

Observed "dead valley" roof configuration(s) on the rooftop. This area is a potential source of debris buildup/water penetration.

Due to the weather / height of house / pitch of roof, not all roof surfaces were walked.

Metal drip edge is lifted/ bent at the East roof edge above back patio. When drip edge is not properly installed, water dripping off of the edge of the roofing can be drawn by capillary action into the exposed edges of the plywood which can cause the plywood sheathing and the fascia begun to rot.

Recommend painting all exposed metal above roof line to prevent rusting and extend service life.

Rubber gasket of one or more drain waste vents was observed to have an inverted rubber gasket. This condition can allow rainwater to accumulate and penetrate.

Storm collar not properly positioned on water heater vent pipe, daylight observed in attic.

Recommend the addition of rain gutters to help improve drainage. Houses located in areas with known expansive or collapsible soils are required to have a roof drainage system (Most commonly rain gutters installed completely around the perimeter of house) that will disperse / discharge water a minimum of 5 feet from the perimeter of the structure, or to an approved drainage system. Ref: IRC 801.3

INSPECTION PHOTOS:



Storm collar not properly positioned on water heater vent pipe, daylight observed in attic.



Storm collar not properly positioned on water heater vent pipe, daylight observed in attic.



Rubber gasket of drain waste vents have an inverted rubber gasket



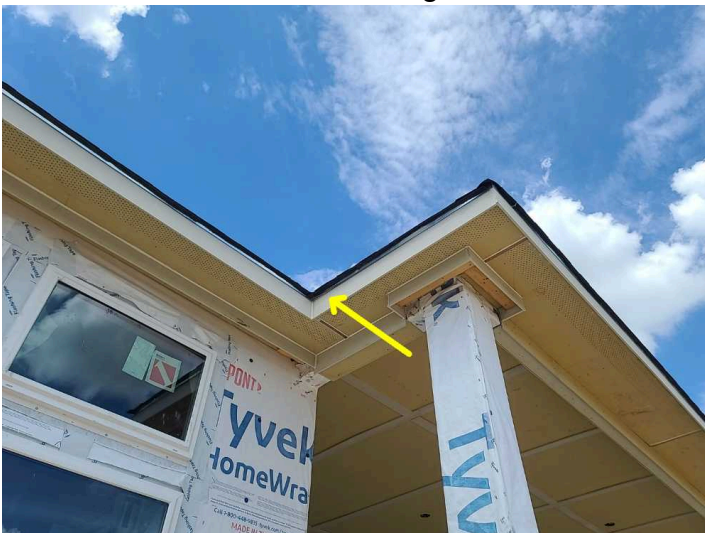
Rubber gasket of drain waste vents have an inverted rubber gasket



Rubber gasket of drain waste vents have an inverted rubber gasket



Rubber gasket of drain waste vents have an inverted rubber gasket



Metal drip edge is lifted/ bent at the East roof edge above back patio.



Metal drip edge is lifted/ bent at the East roof edge above back patio.

7. Electrical

I	NI	NP	D
X			X

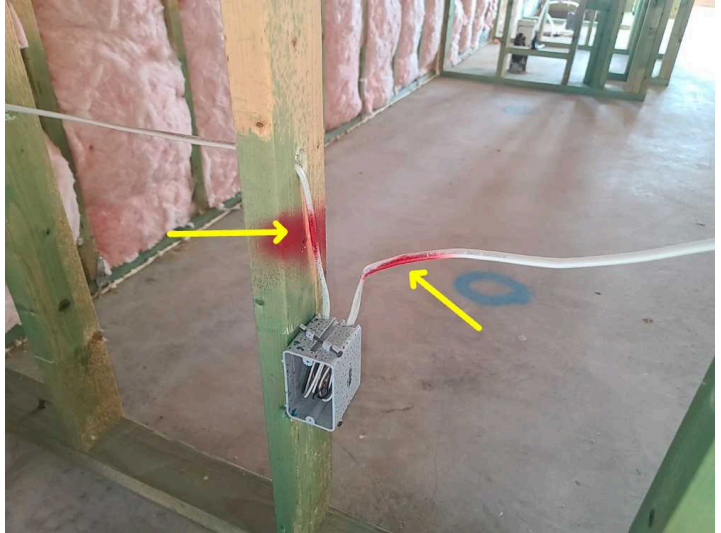
Electrical/ fixture boxes are not properly secured in place, pulled loose for added framing; bonus/ flex room ceiling.

Electrical wiring is not properly secured in place, within twelve inches of leaving a junction box; office, bonus/ flex room ceiling.

Nail plates missing at one or more locations.

INSPECTION PHOTOS:

Nail plates missing at Northwest bedroom



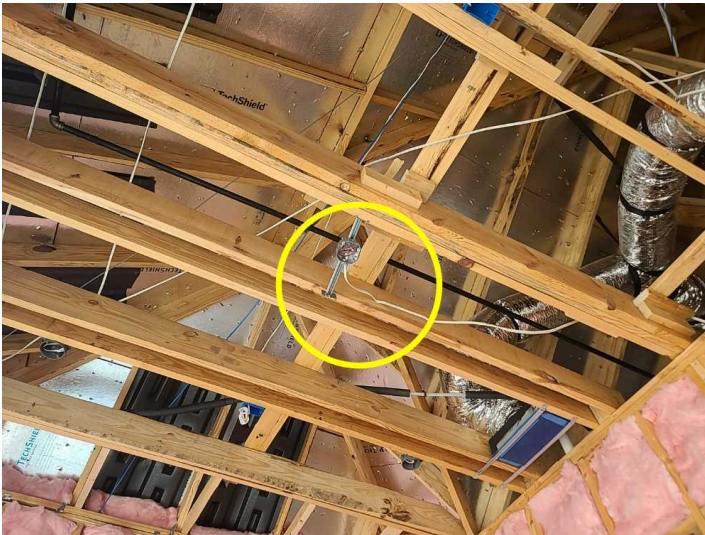
Electrical wiring is not properly secured in place, within twelve inches of leaving a junction box; office



Nail plates missing at office near tub



Nail plates missing at office near tub



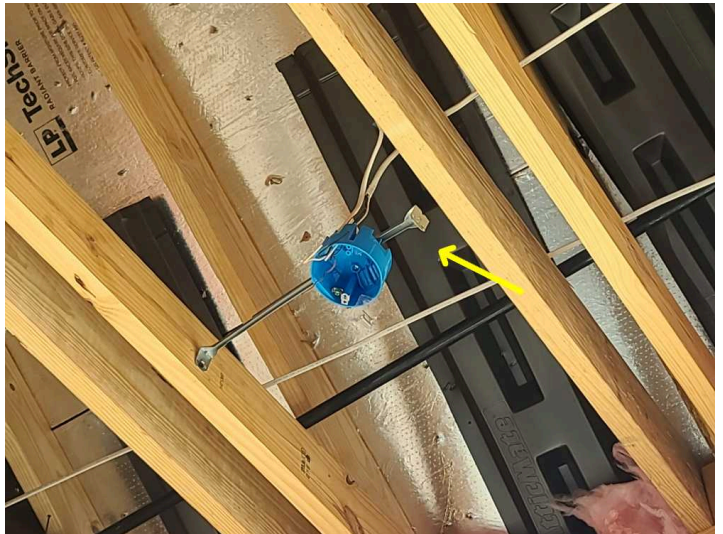
Fixture boxes are not properly secured in place, pulled loose for added framing; bonus/ flex room ceiling.



Fixture boxes are not properly secured in place, pulled loose for added framing; bonus/ flex room ceiling.



Electrical wiring is not properly secured in place; bonus/ flex room ceiling



Electrical/ fixture boxes are not properly secured in place,bonus/ flex room ceiling.



Nail plates missing near kitchen



Nail plates missing near kitchen

8. Mechanical

I	NI	NP	D
X			X

Unable to determine age/make/size of the evaporator unit, data plate damaged/ worn/ covered in mastic at time of inspection.

HVAC supply register boxes are not square with each other due to framing changes. Recommend reinstalling before sheetrock; bonus/ flex room ceiling.

Possibly improperly located, thermostats are typically/ supposed to be located near the return air chase. Thermostat is located in the middle of at least three returns. Recommend consulting building plans and or a qualified HVAC technician.

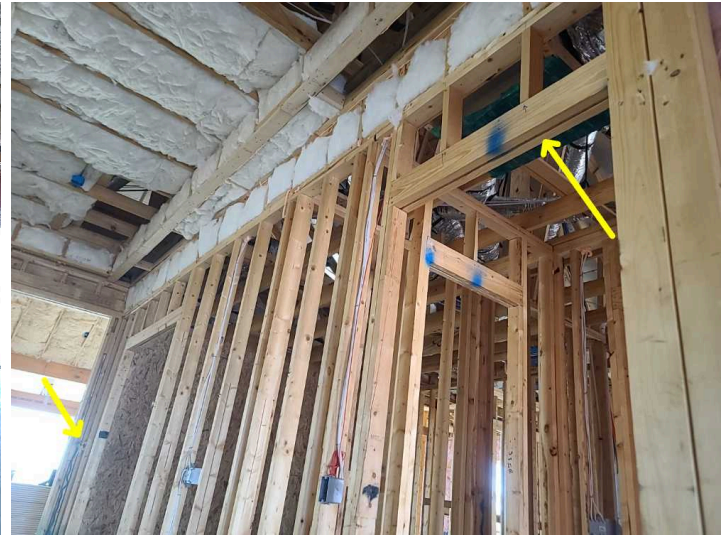
The exhaust vent pipe is in contact with or does not have required minimum 1" clearance from combustible material, [wooden roof decking / framing].

Some flex ducts observed to be improperly routed with sharp bends and/or excess material in bends. Improper routing increases frictional loss in the duct and reduces heating and cooling efficiency. Radius at the centerline of the bend should be no less than the diameter of the duct; bonus/ flex room.

INSPECTION PHOTOS:



Thermostats are typically/ supposed to be located near the return air chase.



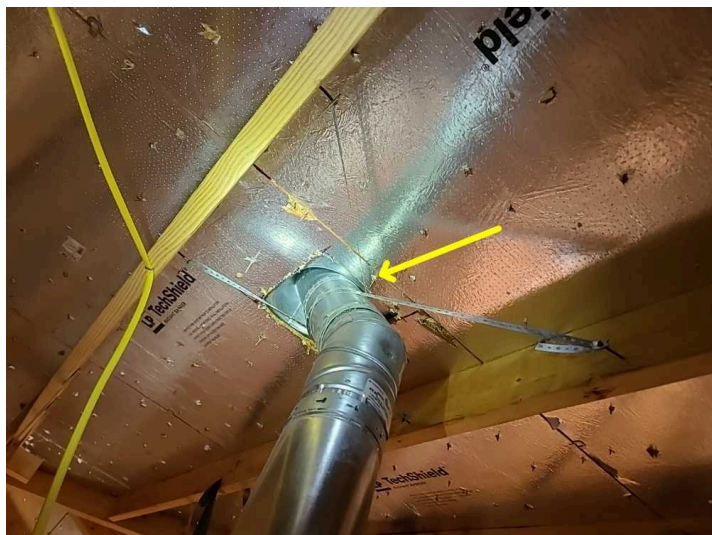
Thermostat is located in the middle of at least three returns. Recommend consulting building plans and or a qualified HVAC technician



Flex duct excess material in bends; bonus/ flex room.



HVAC supply register boxes are not square with each other due to framing changes. Recommend reinstalling before sheetrock; bonus/ flex room ceiling.



The furnace exhaust vent pipe is in contact with or does not have required minimum 1" clearance from combustible material



The furnace exhaust vent pipe is in contact with or does not have required minimum 1" clearance from combustible material

9. Plumbing

I	NI	NP	D
X			X

Fiberglass tub securing clips are not properly seated at tub lip; Northwest guest bedroom.

Refrigerator, sink water supply lines and sink drain at laundry room that are per plan were not present at time of inspection. Should be addressed before sheetrock. Consult construction manager.

Lower drain valve of water heater extends over drain pan, should valve leak, water will not be contained in drain pan Standard Plumbing Code 1213.7.2

Damage observed to the body of the water heater. Possibility of hidden damage to the unit.

Improper slope of the drain waste vent line observed. The line does not tilt downhill for drainage of condensate; office exterior wall.

The exhaust vent pipe is in contact with or does not have required minimum 1" clearance from combustible material, [wooden roof decking / framing].

Water supply line not properly secured at; bonus room ceiling, and refrigerator area.

Gas line not properly supported or secured at; laundry room.

Nail plates missing at one or more locations.

INSPECTION PHOTOS:

Fiberglass tub securing clips are not properly seated at tub lip; Northwest guest bedroom.



Fiberglass tub securing clips are not properly seated at tub lip; Northwest guest bedroom.



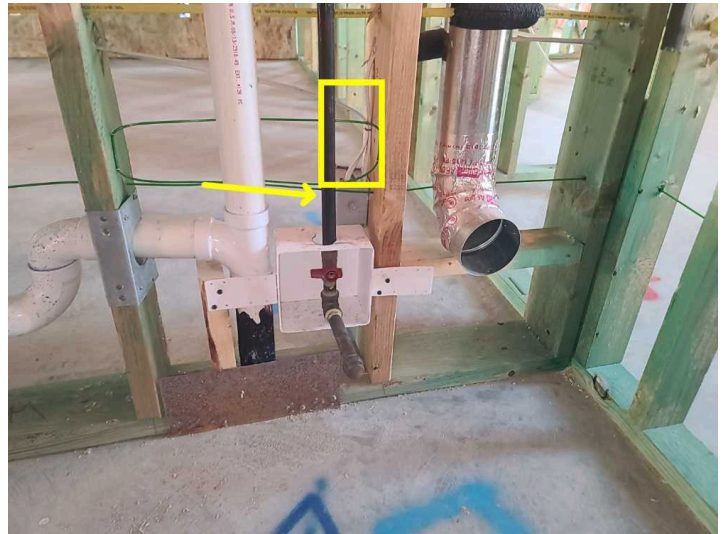
Sink water supply lines and sink drain at laundry room were not present at time of inspection. Should be addressed before sheetrock.



Refrigerator water supply line at laundry room was not present at time of inspection. Should be addressed before sheetrock



Nail plates missing at Northwest corner bedroom



Gas line not properly supported or secured at; laundry room.



Improper slope of the drain waste vent line observed. The line does not tilt downhill for drainage of condensate; office exterior wall



Water supply line not properly secured at; bonus room ceiling



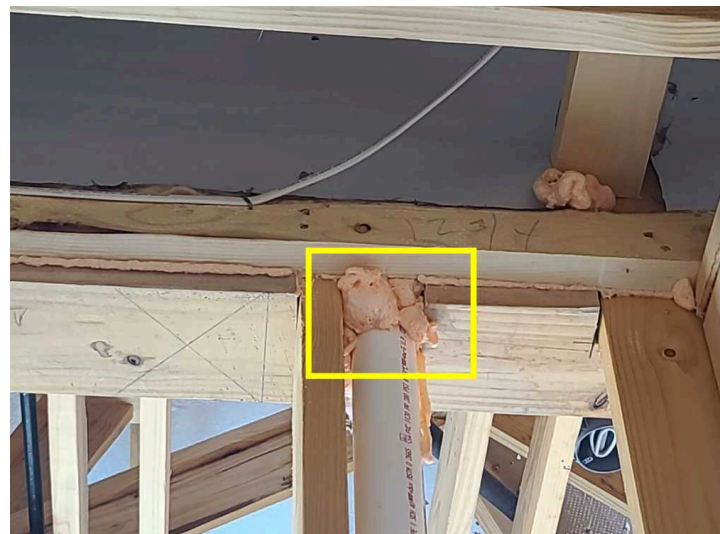
Water supply line not properly secured at; refrigerator area



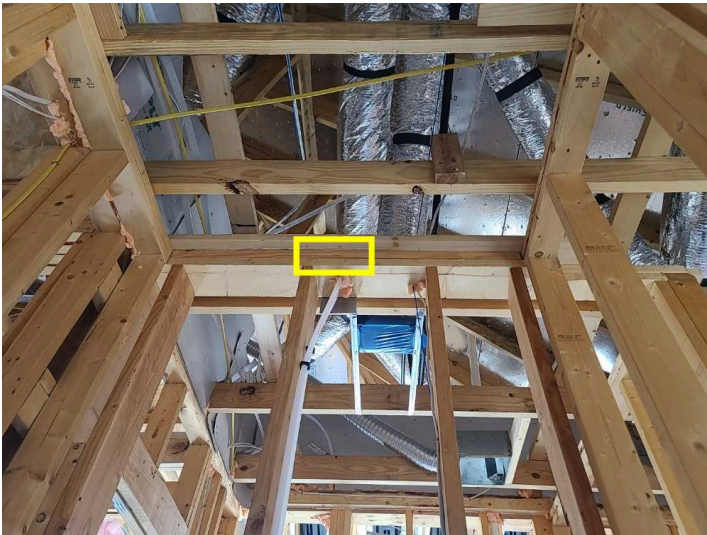
Nail plates missing at half bath



Nail plates missing at half bath



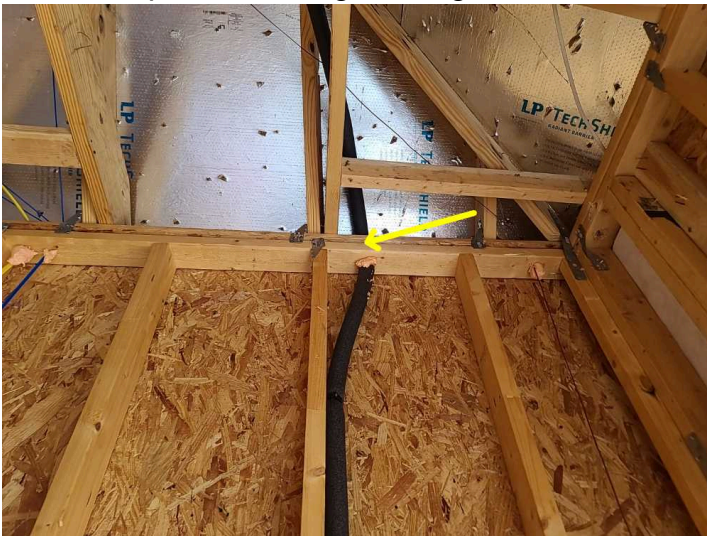
Nail plates missing at half bath



Nail plates missing at refrigerator nook



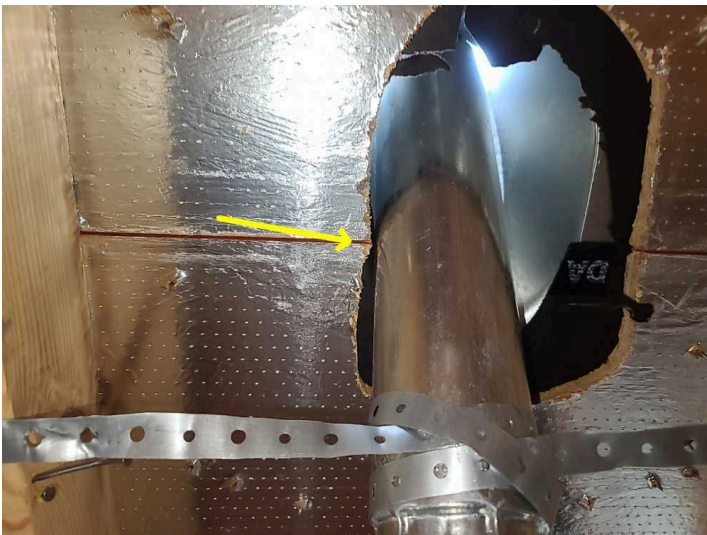
Nail plates missing at refrigerator nook



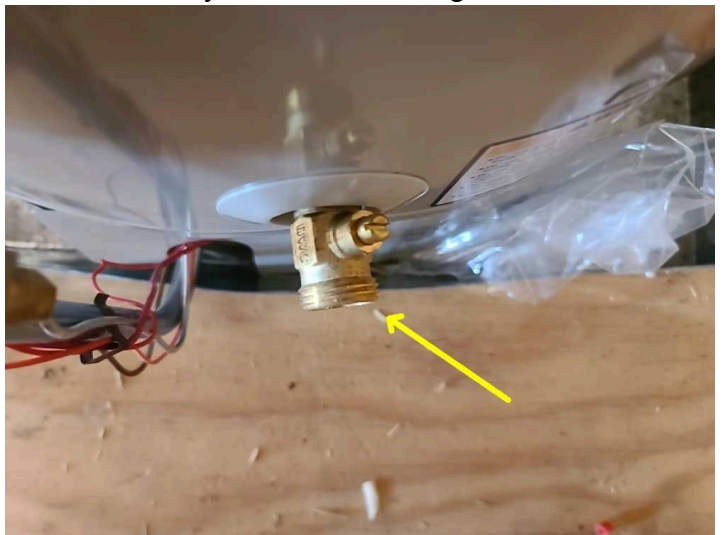
Nail plates missing at garage



Damage observed to the body of the water heater.
Possibility of hidden damage to the unit.



Exhaust vent pipe is in contact with or does not have required minimum 1" clearance from combustible material



Lower drain valve of water heater extends over drain pan, should valve leak, water will not be contained in drain pan

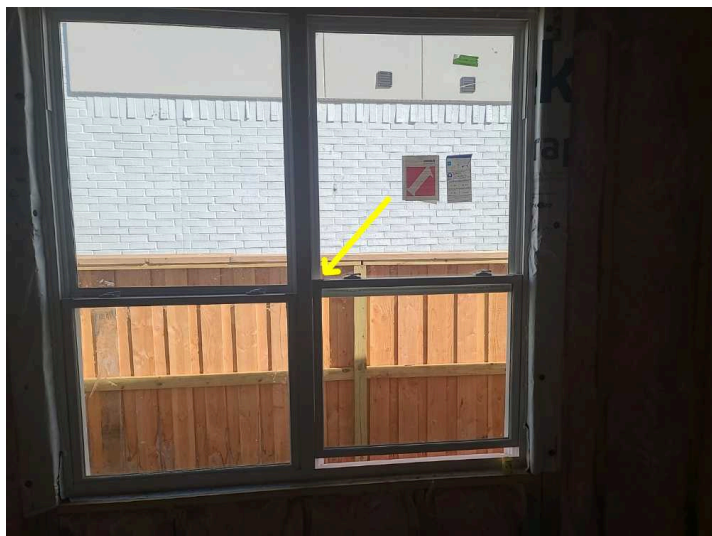
10. Windows/Door

I	NI	NP	D
X			X

One or more of the double pane thermal windows observed to have lost their seals. This has resulted in condensation and/or fog like film to develop between the panes of glass. The thermal pane windows no longer function as designed when they lose their seals. The windows that have noticeably lost their seals are listed but may not be limited to the following: Garage attic, Special Notice: Signs of lost seals in the thermal pane windows may appear and disappear as temperature and humidity change. Some windows with lost seals may not be evident at the time of this inspection. Windows are only checked for obvious fogging. If some lost thermal pane window seals were noted, we recommend all windows be rechecked by a window specialist for further evaluation.

Lower window frames/ sills are not square/ not level. Possibly causing window not to seal, or close properly. Flanges need adjustment; South bedroom, and bonus/ flex room.

Sash lock is improper, installed backwards, a right side sash latch installed on the left; office window.

INSPECTION PHOTOS:

Sash lock is improper, installed backwards, a right side sash latch installed on the left; office window. Sash lock is improper, installed backwards, a right side sash latch installed on the left; office window.



Lower window frames/ sills are not square/ not level. Flanges need adjustment; South bedroom



Lower window frames/ sills are not square/ not level. Flanges need adjustment; South bedroom



Lower window frames/ sills are not square/ not level. Flanges need adjustment; bonus/ flex room



Lower window frames/ sills are not square/ not level. Flanges need adjustment; bonus/ flex room



Garage attic windows lost their seals

Code References

International Residential Code for One & Two Family Dwellings

R403.1.6 Foundation anchorage. When braced wall panels are supported directly on continuous foundations, the wall wood sill plate or cold-formed steel bottom track shall be anchored to the foundation in accordance with this section.

The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. In Seismic Design Categories D0, D1 and D2, anchor bolts shall be spaced at 6 feet (1829 mm) on center and located within 12 inches (305 mm) of the ends of each plate section at interior braced wall lines when required by Section R602.10.9 to be supported on a continuous foundation. Bolts shall be at least 1/2 inch (13 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or concrete. Interior bearing wall sole plates on monolithic slab foundation shall be positively anchored with approved fasteners. A nut and washer shall be tightened on each bolt of the plate. Sills and sole plates shall be protected against decay and termites where required by Sections R319 and R320. Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1.

R408.5 Removal of debris. The under-floor grade shall be cleaned of all vegetation and organic material. All wood forms used for placing concrete shall be removed before a building is occupied or used for any purpose. All construction materials shall be removed before a building is occupied or used for any purpose.

Exhaust Vent Terminations

M1501.1 Outdoor discharge. The air removed by every mechanical exhaust system shall be discharged to the outdoors. *Air shall not be exhausted into an attic, soffit, ridge vent or crawl space.*

M1507.2 Recirculation of air. Exhaust air from *bathrooms and toilet rooms* shall not be recirculated within a residence or to another dwelling unit and shall be exhausted directly to the *outdoors*. (Refer to M1501.1 outdoor discharge) Exhaust air from bathrooms and toilet rooms shall not discharge into an attic, crawl space or other areas inside the building.

Brick Ledge Flashing

R703.7.5 Flashing. Flashing shall be located beneath the first course of masonry above finished ground level above the foundation wall or slab and at other points of support, including structural floors, shelf angles and lintels when masonry veneers are designed in accordance with Section R703.7. See Section R703.8 for additional requirements.

Brick ledge supported of the roof structure

R703.7.2.2 Support by roof construction. A steel angle shall be placed directly on top of the roof construction. The roof supporting construction for the steel angle shall consist of a minimum of three 2-inch by 6-inch (51 mm by 152 mm) wood members. The wood member abutting the vertical wall stud construction shall be anchored with a minimum of three 5/8-inch (16 mm) diameter by 5-inch (127 mm) lag screws to every wood stud spacing. Each additional roof member shall be anchored by the use of two 10d nails at every wood stud spacing. A minimum of two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer wythe in accordance with Figure R703.7.2.2. The maximum height of the masonry veneer above the steel angle support shall be 12 feet, 8 inches (3861 mm). The air space separating the masonry veneer from the wood backing shall be in accordance with Sections R703.7.4 and R703.7.4.2. The support for the masonry veneer on wood construction shall be constructed in accordance with Figure R703.7.2.2.

The maximum slope of the roof construction without stops shall be 7:12. Roof construction with slopes greater than 7:12 but not more than 12:12 shall have stops of a minimum 3 inch x 3 inch x 1/4 inch (76mm x 76mm x 6mm) steel plate welded to the angle at 24 inches (610 mm) on center along the angle or as approved by the building official.

R703.8 Flashing. Approved corrosion-resistant flashing shall be applied shingle-fashion in such a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashing shall be installed at all of the following locations:

1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage.
2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.
3. Under and at the ends of masonry, wood or metal copings and sills.
4. Continuously above all projecting wood trim.
5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction.
6. At wall and roof intersections.
7. At built-in gutters.

R703.7.4.1.1 Veneer ties around wall openings. Veneer ties around wall openings. Additional metal ties shall be provided around all wall openings greater than 16 inches (406 mm) in either dimension. Metal ties around the perimeter of openings shall be spaced not more than 3 feet (9144 mm) on center and placed within 12 inches (305 mm) of the wall opening.

R602.6 Drilling and notching studs. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no greater than 40 percent of the stud width, the edge of the hole is no closer than 5/8 inch (15.9 mm) to the edge of the stud, and the hole is not located in the same section as a cut or notch. See Figures R602.6(1) and R602.6(2).

Exceptions:

1. A stud may be bored to a diameter not exceeding 60 percent of its width, provided that such studs located in exterior walls or bearing partitions are doubled and that not more than two successive studs are bored.
2. Approved stud shoes may be used when installed in accordance with the manufacturer's recommendation.

R602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie of not less than 0.054 inches thick (1.37 mm) (16 ga) and 1 1/2 inches (38 mm) wide shall be fastened to each plate across and to each side of the opening with not less than eight 16d nails at each side or equivalent. See Figure R602.6.1.

Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.

E3508.1 Grounding electrode system. Where available on the premises at each building or structure served, electrodes specified in Sections E3508.1.1, E3508.1.2 and E3508.1.3, and any made electrodes specified in Section E3508.2, shall be bonded together to form the grounding electrode system. Interior metal water piping located more than 5 feet (1524 mm) from the point of entrance to the building shall not be used as part of the grounding electrode system or as a conductor to interconnect the electrodes that are part of the grounding electrode system. The bonding jumper shall be sized and installed in accordance with Section E3509. The unspliced grounding electrode conductor shall run to any convenient grounding electrode available in the grounding electrode system. Such conductor shall be sized based on the largest grounding electrode conductor required for any of the available electrodes.

R806.1 Ventilation required. Enclosed attics and [enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters](#) shall have cross ventilation [for each separate space](#) by ventilating openings protected against the entrance of rain or snow. Ventilating openings shall be provided with corrosion-resistant wire mesh, with 1/8 inch (3.2 mm) minimum to 1/4 inch (6 mm) maximum openings.

R806.2 Minimum area. The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted, provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a vapor barrier having a transmission rate not exceeding 1 perm is installed on the warm-in-winter side of the ceiling.

R806.3 Vent and insulation clearance. Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a 1-inch (25 mm) space shall be provided between the insulation and the roof sheathing and at the location of the vent.

Roof-Ceiling Construction - Wood Roof Framing

R802.3 Framing details. Rafters shall be framed to ridge board or to each other with a gusset plate as a tie. Ridge board shall be at least 1-inch (25.4 mm) nominal thickness **and not less in depth than the cut end of the rafter.** At all valleys and hips there shall be a valley or hip rafter not less than 2-inch (51 mm) nominal thickness **and not less in depth than the cut end of the rafter.** Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than three units vertical in 12 units horizontal (25-percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams.

SECTION M1305 APPLIANCE ACCESS

M1305.1 Appliance access for inspection service, repair and replacement. Appliances shall be accessible for inspection, service, repair and replacement without removing permanent construction. Thirty inches (762 mm) of working space shall be provided in front of the control side to service an appliance. Room heaters shall be permitted to be installed with at least an 18-inch (457 mm) working space. A platform shall not be required for room heaters.

Water Heater

P2803.6.1 Requirements for discharge pipe. The discharge piping serving a pressure-relief valve, temperature-relief valve or combination valve shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater.
3. **Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.**
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to an indirect waste receptor or to the outdoors. Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an air gap located in a conditioned area.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
11. Not have a threaded connection at the end of the piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section P2904.5 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.

M1305.1.2 Appliances in rooms. Appliances installed in a compartment, alcove, basement or similar space shall be accessed by an opening or door and an unobstructed passageway measuring not less than 24 inches (610 mm) wide and large enough to allow removal of the largest appliance in the space, provided that a level service space of not less than 30 inches (762 mm) deep and the height of the appliance, but not less than 30 inches (762 mm), is present at the front or service side of the appliance with the door open.

M1305.1.3 Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space at least 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), where such dimensions are large enough to allow removal of the largest appliance.

Exception: The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.

M1305.1.3.1 Electrical requirements. A lighting fixture controlled by a switch located at the required passageway opening and a receptacle outlet shall be provided at or near the appliance location in accordance with Chapter 38.