

**CLARK COUNTY
DEPARTMENT
OF
BUILDING**



**RESIDENTIAL INSPECTION
CHECKLISTS**

GENERAL NOTES

- This checklist is intended for use as a **GUIDE** to assist and promote consistency in the application of all the codes and standard practices within Clark County. This list is for use of county inspectors and for the public in general.
- This checklist is intended for wood frame structures. The information in this checklist is not, nor was it ever intended to be, all-inclusive. It does not include all code or individual plan requirements. It is intended to reflect local policies, procedures and practices within Clark County. This checklist does not waive any specific code requirement not listed or allow for the decrease in the requirements of an engineered design. It also does not add requirements where the minimum of the code has been met.
- All approved plans, documents and revisions to plans must be maintained on site and available for review at all times the building is under construction.
- All plans and paperwork will be reviewed before performing any inspection.
- The owner, permit holder or responsible person on the job site is responsible for establishing safe access to perform all inspections.
- In the event that ladders are necessary to perform inspections, all ladders and equipment shall meet minimum OSHA standards. Inspectors are not responsible for setting up or moving ladders from one location to another, within or to other buildings or structures.
- Inspectors are not responsible for unscrewing/unbolting of items to verify information that is part of an inspection.

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

FOUNDATION FOOTING (2222)

1. Pad cert submitted and approved prior to any inspection being performed
2. Pad level and built **5 feet** outside of house footprint
3. Verify location of house, front and side and rear setbacks per site plan
4. Verify any encroachments into **3 foot** setback of pop-outs (requires plans check approved detail for 1 hour construction)
5. Verify any encroachments into **5 foot** setback (requires plans check approved detail for modified 1 hour construction)
6. **3 feet** or less setbacks require plans check approval of system being used
7. Footing depth a minimum of **12 inches** into undisturbed soil
8. Bottom of footings shall be clean and level
9. Check for zone of influence in relationship to retaining walls and property lines
10. Verify all footings for size, location and per details
11. Reinforcement in place per plan for location, size and grade of steel
12. Steel in footings and special locations, with proper lap per engineering
13. Check shear plans to verify hold-down type and locations
14. All hold downs are templated into place
15. Ufer in place and approved under the electrical permit

BASEMENT

1. A second pad cert is required when construction will be over fill material around basement walls
2. Verify footing size and location
3. Connection of walls to footings and keying of slab to the walls
4. Verify proper connection of footing to walls
5. Verify dampproofing/waterproofing requirements
6. Check requirement and location of drainage at foundation
7. Proper protection of dampproofing/waterproofing materials from damage and leaking
8. Check backfill material over drainage pipe is per plan for size and thickness

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RESIDENTIAL FOOTING (2222)

CONCRETE SLAB ON GRADE (2229)

1. Items under slab in and approved (plumbing, mechanical, electrical inspections)
2. Verify the slab thickness is per plan
3. check stem wall width and steel requirements
4. Verify requirement for vapor barrier, if required, installed per plan
5. Check all notes relating to the slab for construction detail requirements
6. Post tension cables are properly supported, straight and level, or per plan detail (1 in 6 maximum deviation from straight)
7. Cable jacketing not damaged or properly repaired
8. Forms level and supported
9. Plumbing piping in or thru concrete wrapped where required for movement

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RESIDENTIAL CONCRETE SLAB ON GRADE (2229)

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FLOOR/ROOF SHEATHING (2235/2236)

1. Check for QAA contract requirements for wood or other related items
2. Review QAA report for completeness and verify accuracy of the report
3. County approved truss calculations or engineering design on site
4. Follow truss layout plan and verify truss calculations for each truss
5. Attachment of trusses to top plate and bearing locations per engineer of record
6. Look for broken, damaged, or modified trusses
7. All truss repairs require County approval of engineered repair
8. Verify blocking locations and completeness of blocking
9. Drag strapping and blocking, locations and connections are per plan
10. Verify gable end bracing requirements and spacing
11. Over-build areas, verify grade, size and bracing requirements of all members
12. Ventilation openings through overbuild areas
13. Verify sheathing material grade type, thickness and span rating
14. Minimum **1/8 inch** edge and end spacing of sheathing
15. Sheathing installed perpendicular to roof framing
16. Minimum width of sheathing **24 inches** unless all edges blocked
17. Minimum grade "C" exposure rating for exposed underside (eves) edge material (starter board)
18. Minimum **6 and 12** edge and field nailing of all sheathing
19. Spacing and size of nails or staples
20. Over and/or under driven nailing
21. Shear transfer nailing locations and requirements
22. Chimney anchoring
23. Crickets for any roof obstruction wider than **30 inches**

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RESIDENTIAL FLOOR/ROOF SHEATHING (2235/2236)

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SHEAR WALLS (2239)

1. Check for QAA contract requirements
2. Review QAA report for completeness and verify accuracy of the report
3. Verify framing materials for proper wood species and grade of lumber
4. Verify all shear wall types, nailing requirements and location of shear walls
5. Anchor bolts with **3x3** square washers (Seismic zone D) on all exterior walls, shear walls and interior load bearing walls
6. Top plates breaks minimum **4 foot** separation, lapped and nailed or strapped
7. Hold downs complete and on proper size framing member (not on trimmers)
8. All structural framing details are complete and per plan
9. Verify sizes and location of all headers, king studs, trimmer studs
10. Verify beam sizes, with load transfer to foundation
11. All transfers/drag, straps and miscellaneous hardware in place
12. Verify all points of bearing are continuous to the foundation
13. Epoxy repair reports complete and ready for turn-in (inspector to pick up report and return to office)
14. Verify continuous shear diaphragm from foundation to roof sheathing, unless shown different on approved plans
15. Second floor shear walls transfer to the first floor

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RESIDENTIAL SHEAR WALL (2239)

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ROOF UNDERLAYMENT (2268)

1. Proper roof underlayment material is being used or approved to be used
2. Underlayment seams lapped **2 inches** on sides, **6 inches** on ends and secured to roof
3. Flashings in place for valleys and roof penetrations
4. Wall flashings and transitions per details
5. Battens installed, if required
6. Minimum 4:12 roof slope for tile roof material
7. Minimum 1:12 roof slope for roll roof material

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RESIDENTIAL ROOF UNDERLAYMENT (2268)

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FRAMING (2244)

1. Finish floor certification must be submitted and approved before inspection can be made
2. All roughs and required inspections approved prior to framing approval
3. Check for any QAA requirements for wood, steel, welding, etc., verify field report
4. Review QAA report for completeness and verify accuracy of the report
5. Completeness of fireblocking, **10 foot** vertically
6. Fire block framing penetrations every **10 feet** horizontally
7. Fireblocking at ceiling line, drop ceiling line, or soffit lines
8. Fireblock top plate penetrations sealed with Class one flame spread material
9. Check for floor truss draftstopping areas exceeding **1000 sq. ft.**
10. Maximum bored holes **40%** bearing and exterior studs, **60%** others
11. Maximum notches **25%** bearing and exterior studs, **40%** others
12. Top plates more than **50%** bored or notched have metal strap with 8 nails each side
13. Trade damage to studs, shear walls, trusses and structural members
14. Verify stair max **7 ¾ inch** rise and min **10 inch** run
15. Landing width min **36 inches** or width of stairs whichever is greater
16. Landing length min **36 inches** in direction of travel
17. Verify stairway head room clearance minimum **6 feet 8 inches**
18. Attic access opening, location and minimum **22 inches x 30 inches**
19. Attic ventilation **1/150** or **1/300** plus combustion air requirement (see Mechanical)
20. Escape/rescue window size min. **20 inches** wide, **24 inches** high, **5.7 square feet** of area
21. Escape/rescue window sill height maximum **44 inches**
22. second story windows minimum sill height of **24 inches**
23. Fireplace clearance to framing
24. Fireplace hearth extensions
25. Fireplace opening to combustibles

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RESIDENTIAL FRAMING (2244)

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EXTERIOR LATH (2249)

One Coat

1. Review for compliance to ES report for foam and stucco system being used
2. Verify installers card
3. Weep screed location and tight to framing with **4 inch** clearance to earth or **2 inch** clearance to concrete
4. Verify double layer weather barrier paper over wood sheathing
5. Foam tongue and groove joints tight with the tongue going up,
6. Foam vertical joints touching and on framing members
7. Lath tight and lapped properly
8. Lath shall have **2 inches** horizontal and **6 inches** vertical end laps
9. **6 inch** on center nailing of lath field and perimeter
10. Verify nail/staple length in relation to foam thickness
11. Caulking of penetrations per the ES report requirements **AND** for energy code requirements for sealing the moisture barrier
12. Verify doors and window openings flashed and weather tight
13. Check if foam is cut back at **45° angle** minimum from windows and doors or per ES report details
14. Outside corner edges shall have the foam held back from the edge or lath doubled around the corner (corner bead)
15. Minimum **2 inch** transitions lap through corners from lath to high rib ceilings
16. Verify proper attachment of pop-outs
17. Electrical panel flashed and weather tight
18. Verify thermal barrier material for separation from foam materials and heat producing appliances in an attic

Three Coat Stucco

1. Weep screed location and tight to framing with clearance to earth or concrete
2. Verify double layer weather barrier paper over wood sheathing
3. Lath tight and lapped properly
4. Lath shall have **2 inches** horizontal and **6 inches** vertical laps
5. Verify doors and window openings are flashed and weather tight
6. **6 inch** on center nailing of lath field and perimeter (for shear, see plans)
7. Electrical panel flashed and weather tight
8. Minimum **2 inch** transitions lap through corners from lath to high rib ceilings
9. Caulking of penetrations for energy code requirements for sealing the moisture barrier

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RESIDENTIAL EXTERIOR LATH (2249)

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INSULATION (2252)

WALLS

1. Verify compliance to energy calculations (wall, ceiling and knee wall insulation requirements)
2. Quality of insulation work is right, behind boxes, around pipes and wires, tight into all corners with no gaps
3. Check glazed openings for U-value (smaller the number the better)
4. Verify solar heat gain coefficient for each window type (smaller the number the better)
5. Verify sealing around window and door frames
6. Verify insulation in concealed locations (double shear, behind tubs/showers, behind fireplaces, floor joists)
7. Verify baffles provided for eve vents with blown attic insulation
8. For blown-in insulation depth markers installed every **300 square foot** area

ATTIC

1. Check blown attic insulation is to proper depth
2. Blown insulation is uniform in thickness
3. Batts are placed together for full coverage
4. Energy calcs posted in the building (attic most common)
5. Verify clearance to lights and B-vents per their listing
6. Verify installer cert and bring into office
7. Verify weather stripping of attic access opening
8. Insulation secured to back side of access opening
9. Weather stripping on access opening

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DRYWALL (2259)

1. Check shear plans for drywall shear locations
2. Verify shear locations and nail schedule requirements
3. General drywall application, field and edge nailing (**8 inches o.c. for walls, 7 inches o.c. for ceilings and 12 inches o.c. for screws**)
4. Verify electrical boxes are within **1/4 inch** of the face of the wall and there is not gaps greater than **1/8 inch** around the boxes
5. Verify sealing/weather-stripping/caulking around all penetration of the building envelope
6. Check for router damage to electrical wires in boxes
7. In wet location, verify material being installed per its' manufactures instructions or code requirements
8. **5/8 type X** in garages, under stairs and where required per plan
9. Garage ceilings with habitable space above shall be **5/8 type X** and attached with **1 7/8 inches** long nails or screws spaced **6 inches** on center
10. Fire caulk penetrations in garage wall and rated walls (**2006 IRC**)
11. Attic access is cut out and in an accessible location
12. Caulking of garage and ceiling areas required for air barrier separation of conditioned space to unconditioned space per energy code requirements

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RESIDENTIAL INTERIOR LATH/DRYWALL (2259)

BUILDING FINAL (2299)

1. Verify all clearances approved and sub trade finals approved before inspection is made
2. Verify site drainage per plan and in place
3. Finish site grading done, **6 inch** clearance from earth to wood items **2 inch** clearance to concrete
4. Special landscape requirements in place (site plan)
5. Address is proper size (**3 inches < 25 feet, 6 inches >25 feet**), posted, illuminated
6. Roofing complete and cleaned off
7. Attic tile vents in place (right number)
8. Self closing door **1 3/8 inch** thick or **20 minute** rating
9. **26 gauge** duct penetrations with no openings into garage area
10. Smoke detectors installed and tied together with battery backup
11. Smoke detectors are in all the required locations
12. Stairway handrails size, (min **1 1/4 inch** max **2 5/8 inch**) with return to wall
13. Stairway handrails mounting height **34-38 inches** to top of rail
14. Guardrails pattern (<**4 inch** sphere)
15. Guardrail height min **36 inches**
16. Door landings in place, size and slope
17. Safety glazing locations verified (next to doors, stairs, tubs)

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RESIDENTIAL BUILDING FINAL (2299)
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BLOCK WALLS

FOOTINGS (2222)

1. Verify type of wall (county plan or engineered)
2. Verify location of walls from site plan
3. Private property line walls need notarized approval of both land owners
4. Footings minimum **12 inches** deep, **9 inches** thick
5. Width per plan
6. If retaining wall, size per plan
7. Steel in place with **3 inch** clearance to earth
8. Minimum **20 inch** lap on all steel

PREGROUT (2226)

1. Verify height of wall **6 foot** maximum without Variance
2. Total wall height, retainer and block wall **15 feet** high
3. Vertical steel in cells
4. Intermediate and top bond beam in place **OR** alternate Durawall every other course in bed joint
5. Vertical steel into top block
6. Pilasters/expansion joint locations per plan
7. If retaining wall, damp proofing in place
8. If retaining wall, drainage holes **2 inches** diameter in wall every **8 feet** or per plan

FINAL (2299)

1. Wall grouted
2. If required, cap in place
3. No steel protruding from top of wall
4. Drainage around wall completed
5. Maximum **24 inches** backfill next to standard wall

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BLOCK WALLS

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GROUNDING ELECTRODE (3319)

1. The main grounding electrode in new construction is to be a concrete encased electrode (UFER) per the Southern Nevada Electric Code Amendments
2. Verify the electrode is of the proper size, length and location in the bottom of the footing (min **20 feet #4 rebar** in bottom **3 inches** of footing, with minimum 2" encasement)
3. Existing structures may have a grounding electrode of any type prescribed in NEC as limited by the Southern Nevada Electrical Code Amendments

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May 1, 2007

RESIDENTIAL GROUNDING ELECTRODE (3319)

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UNDERGROUND ELECTRICAL (3311)

1. This inspection is for wiring outside the footprint of the building. Wiring within the footprint but under the slab is “slab electrical”
2. The wiring method and all associated fittings used are correct for an underground application
3. Burial depth is the depth required by the NEC
4. Direct burial cables such as USE or UF are provided with S loops at each end and protected by conduit to the required burial depth or **18 inches** below grade
5. Metallic elbows and fittings that do not have earth coverage of **18 inches** are to extend in metallic raceways back to a panel board, box or other enclosure due to grounding requirements. (Appropriate corrosion protection shall be required on metallic raceway when installed below grade)
6. Rigid non-metallic conduit that is subject to physical damage shall be Schedule 80 RNMC
7. Warning tape at **12 inches** above the Service lateral conductors is provided and tape is verified prior to approval of underground electrical

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RESIDENTIAL UNDERGROUND ELECTRICAL (3311)

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RESIDENTIAL SLAB ELECTRICAL (3321)

1. No direct buried cables below slab
2. Conduits are supported and installed as prescribed in the International Building Code
3. Any conductor used under the slab required to be in conduit and wet location conductors (i.e. THW, THWN, THHW, UF, etc.)
4. Conduit runs are continuous and not reduced in mid-run
5. Metallic elbows and fittings that do not have earth coverage of 18 inches are to extend in metallic raceways back to a panel board, box or other enclosure due to grounding requirements
6. Rigid non-metallic conduit that is subject to physical damage shall be Schedule 80 RNMCM

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RESIDENTIAL SLAB ELECTRICAL (3321)

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ROUGH ELECTRICAL (3331)

Panelboards (All Panels)

1. Read and review the listing information on the panel label
2. The panelboard is the correct type for the location such as “Wet Location”, etc. and installed per its’ listing
3. The panelboard is listed and installed per the terms of its’ listing and any installation instructions provided by the manufacturer (including adjustable depth panels)
4. Used electrical equipment shall not be used without the prior approval of the Building Official
5. Oxide inhibitor is required on all aluminum conductors at their terminations
6. Grounding Electrode Conductor, when required, is sized per Table 250.66
7. Grounding Electrode Conductor, when required, is terminated in an approved method and on the correct buss
8. Only one grounded conductor (neutral) is permitted under a single screw on any buss unless it is listed for multiple conductors
9. No panels are to be installed in bathrooms or clothes closets
(Special conditions may permit a clothes closet installation)
10. Number of cables terminated in cable connectors per listing of the cable connector
11. All wiring methods terminating in the panel are terminated, secured and supported as required for that wiring method
12. No circuit breaker **spaces** higher than **6 feet, 7 inches** above the floor or grade level
13. The electrical components of the panel are not damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives or corrosive residues
14. All unused openings are closed using knock out seals of the appropriate thickness and type
15. Any back-fed breaker, that the conductors are not factory installed on, must be held to the buss with a positive means such as clips, screws or bolts.

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RESIDENTIAL ROUGH ELECTRICAL (3331)

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Service Equipment

1. Verify the service is the correct size and the service disconnect is located on the exterior of the building
2. Verify the service equipment is listed and identified as “Service Equipment” or “Suitable for Use as Service Equipment”
3. Height of the center of the meter is no less than **48 inches**, and not more than **75 inches** above the floor or finish grade level
4. Service entrance raceway is rigid metallic or intermediate metal conduit
5. Service riser is bonded to the service enclosure, if it does not terminate at a factory or Myers type hub
6. Service is connected to the grounding electrode with the conductor sized per Table 250.66 and is terminated in an approved manner
7. Bond metal water piping system and gas piping and exposed structural metal frame to the service equipment with conductor sized per Table 250.66
8. Grounding electrode conductor and main bonding jumper are not terminated in the utility side of the enclosure (line side)
9. Phone and CATV grounds are not terminated on the inside of the service equipment enclosure. A typical installation would be terminated on a separate clamp on the re-bar stub of the concrete-encased electrode.
10. Check to see that the service will comply with Nevada Power Standards as detailed in FIG-E-021, as well as NEC working clearances. Both requirements will be checked again at electrical final.

Sub Panels at Detached Structures

1. A concrete-encased electrode is required at detached structures provided with power per ‘05’ Amendments
2. Sub panels in a detached building may have a three or four-wire feeder. A feeder without a grounding conductor shall terminate outside of the building.
3. A disconnecting means is not required to be located on the exterior of the building, if the building is an accessory to a single-family dwelling (and the feeder contains an equipment grounding conductor.)
4. If the sub panel is fed with a four-wire feeder, or a metallic piping system connects the two buildings, the grounded conductor (neutral) must be isolated
5. If the sub panel is fed with a three-wire feeder and there is no metallic piping that connects the two buildings, the grounded conductor (neutral) bonds to the equipment enclosure (and the grounding electrode)
6. Metallic water piping system and gas piping system are required to be bonded to the sub panel

7. More than one branch circuit requires a grounding electrode to be connected to the grounding buss in the sub panel (per NEC). The grounding electrode conductor is sized per Table 250.66
8. A main breaker is required if the panel contains more than 6 breakers.

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RESIDENTIAL ROUGH ELECTRICAL (3331)

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Feeders

1. Feeders are sized per Table 310.15 (B)(6)
2. Feeder contains an equipment grounding conductor, where required
3. Conductors run under slab or underground are wet location conductors or cables
4. Conductors are identified with the correct color for their use
5. SE or SER or UF Cables installed inside of the building are to be installed as required in Article 334 for non-metallic sheathed cable
6. Feeders installed in raceways shall have that raceway installed per the appropriate section of the code for that raceway

Required Outlets

1. Every hallway 10 feet long or longer shall contain at least one 120 volt receptacle outlet and a switch controlled light with switching at every end and within 6 feet of each bedroom door
2. Every interior stairway with six or more risers shall have a luminaire to illuminate the stairway, controlled by a three-way switch located at the top and bottom of the stairs to control the luminaire at either location
3. The 120 volt receptacle outlets are placed throughout habitable rooms on every wall space that is a minimum **2 feet** wide. These outlets shall meet the **6 feet** and **12 feet** rule *Note: Fixed glazing and railings are considered wall space*
4. Lighting outlets are provided in all rooms and switched where required to be switched
5. Switch controlled lights are installed illuminating all exits that have grade level access with the exception of roll up garage doors
6. Switches are provided at each keyed exterior entry and no switches are behind any active door with the door in the fully open position
7. Light, switch, and 120 volt service receptacle are provided for attic or under floor equipment requiring servicing, with the switch located at the usual point of entrance into the space (if under floor, GFCI protection is required)
8. Appliances not permitted to be cord and plug connected shall be hard wired and provided with a disconnecting means
9. Bathrooms require at least one 120 volt outlet within **36 inches** of each basin and all receptacles in a bathroom are to be GFCI protected
10. One GFCI protected outlet shall be required in the following locations; garage, on the exterior front and rear of the dwelling. These receptacles are to be within **6 feet, 6 inches** of grade or floor level
11. Kitchen countertops, **12 inches** wide or wider, require an outlet with outlets spaced at maximum **4 feet** on center. No point on the counter top is to be more than **24 inches** from an outlet. All countertop outlets shall be GFCI protected
12. Peninsula and island countertops that serve a kitchen are to have one receptacle for each four foot of countertop measured in the long dimension

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RESIDENTIAL ROUGH ELECTRICAL (3331)

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Branch Circuits

1. Kitchen shall have a minimum of two 20 amp small appliance branch circuits to serve the kitchen countertops. All countertop receptacles shall be GFCI protected
2. Kitchen countertop outlets are equally divided with no more than **five** duplex outlets per circuit. Outlets for gas ranges and electric clocks may be on a small appliance branch circuit and are not counted in the load limitation of **five** outlets per circuit. Limit of **five** applies to any circuit that appears on the countertop
3. Microwave oven, range hood, dishwashers and similar equipment in the kitchen require an individual dedicated 20 Amp branch circuit per the Southern Nevada Electrical Code Amendments.
4. Outlets in the kitchen, dining room, nook and/or pantry are on 20 Amp small appliance branch circuits that feed no other outlets or rooms
5. The laundry is provided with an individual 20 Amp branch circuit. This circuit must serve the clothes washer and may serve one additional outlet in the laundry area, such as the 120 volt outlet for a gas dryer (duplex is two)
6. Bathroom 120 volt receptacle outlets shall be on a 20 Amp branch circuit with only bathroom receptacle outlets on that branch circuit unless the circuit serves a single bathroom. All bathroom 120 volt receptacles shall be GFCI protected
7. Forced Air Unit (FAU) is provided with an individual branch circuit with no other outlets except for the unit and equipment associated with the unit such as condensate pumps, air cleaners or humidifiers
8. Branch circuits used exclusively for luminaires may be a 15 Amp branch circuit
9. Branch circuits used for general use outlets or both general use outlets and luminaires shall be a 20 Amp branch circuit
10. Branch circuits for dedicated appliances such as air conditioning equipment or water heaters, shall be sized as required for the specific appliance
11. All bedroom outlets are required to be protected with Arc-Fault Circuit Interrupters (AFCI) and shall not be wired with multi-wired branch circuits unless there is a listed two pole AFCI available from the equipment manufacturer

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RESIDENTIAL ROUGH ELECTRICAL (3331)
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Nonmetallic Sheathed Cable (NM Cable) (Romex)

1. Cables installed **1-1/4 inch** from face of studs or otherwise protected from damage
2. Cables secured within **8 inches** of plastic SG boxes without clamps or within **12 inches** for boxes with clamps. Cables supported every **4 and ½ feet** thereafter where run parallel to framing and every 6 feet where run perpendicular to trusses spaced **2 feet** on center
3. Re-identify white wires permitted to be used as hot conductors
4. Verify all receptacles are wired with #12 conductors (Southern Nevada Electrical Code Amendments)
5. Cable is not in contact with truss gang plates or other abrasive construction elements that may damage the cable
6. No unprotected Cables located within **6 feet** of attic access opening
7. All neutrals in multi-wire branch circuit are pigtailed together
8. Cables must be stapled flat and not on their edge
9. Four-wire circuits must be used on all new 240 volt ovens, ranges, cook tops, and dryers

Boxes

1. Boxes must be rigidly secured to the structure
2. **3 inches** of wire out of boxes before any joints, including ground wires
3. All boxes in walls and ceilings shall be within **¼ inch** of finished surface in non-combustible walls and flush if combustible surface. Use of box extensions (goof rings) are acceptable and must be verified at final
4. Tie all ground wires in each box together. No tek or sheet metal screws are permitted to be used on grounding conductor connections
5. Metallic boxes must be properly grounded
6. Snap switches, including dimmers, shall be grounded unless installed in a metal box and self-grounding devices are used and properly installed. Grounding pigtails must be present at time of rough
7. Plastic boxes that use connectors have only non-metallic connectors installed
8. Non-metallic boxes with plaster rings (mud rings or box extensions) are to be the non-metallic type
9. Plastic boxes are to have no metallic fasteners on the inside of the box unless the box is listed for such use
10. No box is to be field modified
11. Boxes in fire rated walls are steel or are of the appropriate fire rating of the firewall and meet any opening size limitation or offset requirement set by the other codes

Smoke Detectors

Smoke detectors are interconnected with a single cable containing four conductors (12-3 WG or 14-3 WG) (circuit AFCI protected)

RESIDENTIAL ROUGH ELECTRICAL (3331)

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FINAL ELECTRICAL (3399)

Panelboards

1. Panel cover opens and closes with a full 90⁰ degree door swing
2. Two spare full size breaker spaces (Southern Nevada Amendment)
3. Check label and only use breakers approved by the manufacturer for that panelboard. Check multi-wire branch circuits and 240 volt loads to verify correct phase configuration. Some panel manufacturers only allow mini-breakers in certain locations.
4. No paint or overspray on panel buss bars and connections
5. Working clearance in front of all panels (min **30 inches wide 36 inches** deep)
6. Splices are allowed in panels
7. All breakers in the panel are to be legibly marked and labeled to clearly indicate the area and loads served
8. Oxide inhibitor on all aluminum conductors
9. All circuits phased correctly. Use caution on phases of branch circuits connected to multi-wire branch circuits
10. All breakers are clearly labeled to indicate the loads served
- 11. Any multi-wire branch circuit that terminates on a single yoke of a device is to be terminated on a 2 pole breaker**
12. Check all breakers for correct wire size and corresponding breaker size
13. All bedroom branch circuits are protected with arc-fault breakers

Receptacles

1. In the garage, all receptacles shall be GFCI protected, except circulation pump, sprinkler clock or similar dedicated equipment occupying fixed spaces and for receptacles over **6 feet, 6 inches** above the floor
2. A 20 amp receptacle is required on any individual branch circuit with a single outlet
3. All outside receptacles are to be GFCI protected, including overhead, and any receptacle outlet on the roof or within **25 feet** of A/C equipment
4. All 15 and 20 amp receptacles in wet locations require bubble type covers
5. All receptacles serving kitchen counter tops and any bathroom receptacles shall be GFCI protected

6. In the unfinished basements, all receptacles shall be GFCI protected, except circulation pump, sprinkler clock or similar dedicated equipment occupying fixed spaces and receptacles over **6 feet, 6 inches** above the floor

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL FINAL ELECTRICAL (3399)

PAGE 1 of 2

Light Fixtures

1. Required lighting fixtures are installed in all locations that require fixtures. Bedrooms, living rooms, and dens may have switched receptacles in lieu of light fixtures. Rooms with ceiling fans may have those outlets blanked off, provided there are switched receptacle outlets in the room
2. Closet light clearances of **6 inches** for recessed and fluorescent, **12 inches** for surface incandescent with no open or exposed lamps
3. Fluorescent and bar lights mounted over outlet boxes are required to have access to box (large KO). Chain hung fixtures have a #18 grounding conductor to the fixture and there is no tension on the conductors
4. All lighting fixtures in wet locations are sealed or installed with a gasket at the walls, with a drip hole provided at the bottom of the seal
5. Check fixtures that are installed in the tub zone **3 feet** horizontal and **8 feet** vertical and verify GFCI protection for all fixtures permitted to be in the tub zone. Fixtures in the **tub zone** are required to be suitable for a **damp location**, or wet location if subject to spray.
6. All lighting luminaries are to be listed

Arc-Fault Protection

1. All bedroom outlets are to be protected by Arc-Fault Circuit Interrupters including wet bar receptacles (if in the bedroom). In bedrooms, any receptacle within **6 feet** of a sink is also required to be GFCI protected in addition to the requirement for AFCI protection
2. Cord and plug connected room A/C units in any room require arc-fault or LCDI installed in the factory cord

Appliances

1. The appliance is listed and installed to the terms of its' listing
2. Manufacturers' installation instructions are on site and the appliance is installed in compliance with those instructions
3. Disconnecting means shall be in line of sight of the appliance and within **50 feet**
4. All disconnecting means are to be accessible

5. If cord connections are permitted, check cord length to verify that length limitations are not exceeded
6. Only appliances listed to be cord and plug connected may be cord and plug connected. All others must be hard wired and be provided with an approved disconnecting means
7. Circuit breakers that are not within line of sight and maximum of **50 feet** of an appliance, used as a disconnect under the lockout section, have to be capable of being locked individually

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RESIDENTIAL FINAL ELECTRICAL (3399)

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TEMPORARY POWER POLE (3380)

1. Temporary power permits are to include all sub-panels connected to the service to be included on the scope of work of the permit or a separate permit is to be issued for the distribution system
2. Generators supplying other than portable wiring and portable equipment shall require a permit and be installed per FIG-E-005
3. Grounding rod required for each pole
4. All equipment shall be listed and free from damage
5. Temporary power systems may not use used equipment without the prior approval of the Building Official
6. Distribution conductors on the load side of the service are to traverse only the property under the control of the developer that holds ownership of the property where the temporary power pole is located
7. Service drops and all overhead conductors are to meet the height requirements of Section 230.24 (B) for services and Section 225.18 for overhead conductors on the load side of the service
8. Service equipment, raceways, fittings and all boxes are rain tight
9. All loads shall be connected
10. All 120 and 240 volt receptacles of 30 amps or less shall have GFCI protection for personnel
11. All GFCI breakers or receptacles shall be a class "A" GFCI (maximum of 6MA trip settings)
12. Branch circuits in any raceway serving temporary power receptacle outlets that is not continuous (has a coupling in the run) shall have an equipment grounding conductor installed
13. All covers are to be in place and breakers identified
14. All openings in dead-front covers shall be closed
15. Extension cords used for temporary power are to be for extra-hard usage as described in Article 400 and protected from accidental damage and meet OSHA standards



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PLUMBING GENERAL

Notes and Considerations

Plumbing plans are not required in residential applications with the exception of gas drawings or isometrics. Gas plans may be drawn by the contractor of record or a Nevada Design Professional.

General Inspections

1. Verify fixture (water (wsfu's) drainage (dfu's) counts
2. Proper fittings for directional changes
3. All piping wrapped (protected) or sleeved passing through concrete
4. Verify from plot plan or civil drawing the requirements for sewer backwater (BWV) and water pressure reducing valves (PRV).

Prohibited Fittings

1. Combination fittings used to catch fixture trap arms
2. Sanitary tee on its back (drainage)
3. Double combination fitting use in the horizontal
4. Side inlet ¼ bend fitting
5. Double Wisconsin or Nawlins fitting (single are ok)
6. Trap and trap arm shall be the same size (reduction may be made on the inlet side of the trap only)

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

GENERAL PLUMBING
PAGE 1 of 1
BUILDING SEWER (4455)

1. Transition cement limited to two locations, the street connection between the building sewer and the utility tie in **OR** 2 feet outside the building between the building drain and building sewer connection.
2. **¼ inch** per foot minimum fall or grade (**1/8 for 4 inch** pipe and larger)
3. Test tee can be setout of the excavation hole. This is for safety of the inspector and the installer.

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable

UNDERGROUND PLUMBING (4412)
Drain, Waste and Vent Piping

1. Sizing per Table 7-3 and 7-5 (don't forget the footnotes)
2. Cleanout sizing per Table 7-6 Amended by Ordinance
3. **Where a 2 ½ inch cleanout is required a 2 inch cleanout may be used in residential applications.
 - a. **1 ½ inch pipe** **1 ½ inch c.o.**
 - b. **2 inch pipe** **1 ½ inch c.o.**
 - c. **2 ½ inch** ****2 ½ inch c.o.**
 - d. **3 inch** ****2 ½ inch c.o.**
 - e. **4 & larger** **3 ½ inch c.o.**
4. Cleanouts with raised square heads, or slotted heads at least to grade.
5. Cleanouts may be placed in a yard box.
6. Jim Caps or Hubless Blind Plugs can be used as a cleanout access.
7. A double cleanout fitting with a single riser is approved.
8. Two combination fittings may be used in lieu of a two way cleanout between the building drain and the building sewer. The combination fitting closest to the house shall be placed in the direction of flow (to allow cleaning towards the street) and the combination downstream shall be placed against flow (to allow cleaning towards the house). Both cleanout risers shall be brought at least to grade or placed in a yard box.
9. **10 foot** head water test, (tested in sections or in its entirety or **5 pound** air test. **NOTE:** Plastic pipe **shall not be tested with air.**
10. Cleanouts may be removed to assure that water has reached all parts of the plumbing system. Screws placed in the piping and removed upon request may also be used to verify water has reached all parts of the plumbing system.
11. **¼ inch** per foot minimum fall or grade (**1/8 for 4 inch** pipe and larger)
12. Connection of building sewer to utility lateral required.
13. Cleanouts installed at underground or locations marked with a brightly **colored paint.**
14. Cleanouts shall be at all “sink locations”, urinals, and horizontal changes of direction exceeding **135 degrees** and horizontal drain lines greater than **5 feet** off the main line.
15. Cleanout extensions shall be from a wye branch or drainage fitting.

16. Branch lines greater than 5 feet off the main line shall have a required cleanout, this includes lines connecting the drainage from the first floor to the second or third floor levels.
17. Back water valves where required by plot or civil plan.
18. Back water valves shall be no greater than 24 inches deep unless they are of the **Mainline or Cleancheck** type or placed in a vault for access.

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL UNDERGROUND PLUMBING (4412)

PAGE 1 of 1

WATER PIPING (4425)

1. Sizing per Table 6-4 and 6-5 (remember the footnotes)
2. Backflow devices Table 6-2
3. Minimum air gap Table 6-3
4. Air chamber devices Table 6-6
5. Pressure regulator valve (PRV) required where the psi is greater then **80 psi**
6. Accessible strainer ahead of PRV or integral of the device
7. Minimum of **12 inches** of cover on piping below grade
8. Water lines should have working pressure on the system or a **50 psi** air test
9. All water piping shall be supported per Table 3-2
10. Sleeving material on copper piping below grade and passing through concrete
11. Check for water hammer arresters at quick closing valves in copper piping systems
12. Pex piping installed to manufacturers' installation instructions and supported at **32 inches** on center
13. Pex piping to have "slack" for expansion and contraction
14. PE in stem wall, sleeved, sleeve to be a minimum **6 inches** above stem wall with the PE termination **6 inches** above the sleeve before any transition
15. Piping within **1 inch** of edge of framing members shall be protected by 18 gauge nail plates

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL WATER PIPING (4425)

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GAS PIPING (4422)

Gas Piping General

1. Sizing of gas system per Table 12-1 and 12-3 (low pressure)
2. Metal gas systems to be a minimum of **6 inches** above grade or structure
3. Support per Table 3-2 and 12-2
4. Shut off valves shall be accessible and installed outside of the appliance
5. Shut off valves located in the attic shall be above the insulation and above the platform on the firebox side of the appliances

Underground Gas Piping

1. PE tubing buried below grade a minimum of **18 inches** to top of pipe
2. PE installations using heat fusion shall have the applicators card on site
3. 18 gauge yellow tracer wire shall be attached to the PE piping and extended a minimum of **6 inches** above grade on each end
4. Metallic gas piping buried below grade shall be a minimum of **12 inches**
5. Metallic gas piping below grade shall be factory coated pipe with all pipe scrapes and fittings protected with a minimum of four wraps of **ten mil** tape
6. No gas piping shall be installed under any building or structure unless properly sleeved and vented
7. Sleeves shall be minimum schedule 40 and $\frac{1}{2}$ **inch** larger than pipe and **12 inches** beyond slab
8. When beneath concrete sleeving shall be in place and vented to the atmosphere
9. Copper tube gas piping applications rated K, L or ACR are allowed

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL GAS PIPING (4422)

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ROUGH PLUMBING (TOP-OUT) (4441)

1. Pipe and fittings properly used and supported
2. Piping within **1 inch** of edge of framing members shall be protected by 18 gauge nail plates
3. Tub and shower pans installed per manufacturers' installation instructions
4. Nail or screw in each of the flange holes for showers and tubs
5. Access panel to Jacuzzi pump and GFCI outlet
6. Water closet flanges measured for side and back clearances
7. Joints at roof around pipes to be water tight by approved flashing material
8. Check all supports of piping according to Table 3-2
9. Trap arm lengths:
 - 1 ½ **3 feet, 6 inches**
 - 2 **5 feet, 0 inches**
 - 3 6 feet, 0 inches
10. Trap arm minimum length two times the diameter of the trap arm
11. Trap arm may be increased one pipe size as long as the trap arm is the same as the trap
12. Back to back or side to side fixtures use double fixture fitting
13. Second floor – check tub and shower pans are filled with water for test
14. Second floor – Closet flange holes shall be filled with corrosion resistant screws
15. Access panels minimum **12 inches** by **12 inches** for concealed slip joints
16. Clothes washer standpipe minimum **18 inches**, maximum **30 inches** above the trap weir
17. Island sink vented properly to the nearest wall and foot vent to have cleanout
18. Vent piping terminating a minimum of **6 inches** above the roof
19. Vents shall rise a minimum of **6 inches** above flood rim of the fixture with drainage fittings
20. All vents shall be level or grade back to the fixture before offsetting horizontally

21. Aggregate vent area shall not be less than the minimum building drain
22. Wet vent limited to one and two fixture unit fixtures and vertical applications only
23. Wet vent piping to be one pipe size larger than the upper most fixture
24. Minimum size wet vent **2 inches**
25. Wet vent shall be in the same story
26. All needed cleanouts shall be installed and accessible
27. Clean out extensions shall be from a wye or wye and 1/8 bend
28. No cleanouts required above the first floor

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL ROUGH PLUMBING (TOP-OUT) (4441)

PAGE 1 of 2

29. Pex piping supported every **32 inches** horizontally or per manufacture
30. A full way valve shall be installed on the cold water supply piping
31. Shower and tub/shower combination shall have individual control valves of the pressure balance or thermostatic mixing valve types for scald protection
32. An expansion tank or temperature relief valve shall be installed on the cold side of the water heater to control thermal expansion
33. A full way valve shall be installed on the cold side of the water heater supply
34. A temperature and pressure relief line shall be installed at the water heater and terminated to the outside of the building
35. Water heater shall be on a stand a minimum of **18 inches** from the floor to the burner or element. In the 2000 UPC/UMC, if the equipment has a sealed combustion chamber, the equipment may sit directly on the garage floor
36. Water heaters in furred space shall have a corrosion resistant pan with a minimum **¾ inch** drain
37. Water heaters and other mechanical equipment shall be protected from damage by adequate barriers
38. Built up shower pans shall have water proof membrane and 2 part drain installed for test up to dam level

B-Vents

1. Minimum clearances to combustibles will be stamped on the B-Vent section
2. Directional arrows shall be pointed upward

3. Shall terminate a minimum of **4 feet** from any vertical surface
4. No limit on **45⁰ degree** offsets
5. Only one **60⁰ degree** offset permitted
6. Minimum vent size of **3 inches**
7. Shall terminate **1 foot** above the roof into an approved vent cap
8. vents **4 feet** from property lines

Combustion Air Openings

1. If the volume of the area in which gas fired appliances are located is equal to 50 cubic feet per 1000 BTU's, combustion air openings are not required
2. See Chapter 5, Table 5-2. Take the volume of the room; width times length times height (maximum height 8 feet) WxLxH. This number, when greater than the BTU rating of the appliance, needs no additional combustion air

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL ROUGH PLUMBING (TOP-OUT) (4441)

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FINAL PLUMBING (4499)

1. Verify working clearances for cleanouts
2. Verify all backflow prevention devices are installed
3. If property has irrigation, verify that pressure vacuum breaker is installed a minimum of **12 inches** above all downstream piping
4. **1 inch** air break at water softener backwash line terminating in washer box
5. Main water shut-off shall be accessible and not in contact with soil
6. Dishwasher air gap fitting shall be a minimum of **1 inch** above flood level rim of the sink
7. Verify water conservation aerators are in place
8. Locate all cleanouts and verify accessibility
9. No double traps on any fixtures
10. Water heater set level
11. Water heater strapped or anchored to the building
12. verify minimum efficiency rating of water heater from the energy calculations
13. T & P terminated minimum **6 inches**, maximum **24 inches** above grade and pointing downward
14. Single wall vent connectors to be a minimum of **6 inches** from combustibles
15. Combustion air requirements met in garage and attic
16. Gas valves installed and properly capped or plugged
17. Final gas test air pressure at minimum **10 psi for 15 minutes** (low pressure) Gauge to be max 2 times test pressure and 1/10 pound increments
18. **60 psi for 30 minutes** (medium pressure) Gauge to be max 2 times test pressure and 1 pound increments

19. If gas test passes, issue gas tag
20. Hot water heater seismic zone strapping shall be a minimum of two straps; one in the upper one-third and one in the bottom one-third and/or **4 inches** above the controls
21. Gas flex connectors maximum length **3 feet**, except range max **6 feet**
22. Gas flex connector to be rated for the BTU demand

Vent Connectors

1. Single wall metal pipe cannot be in a concealed location
2. Minimum **6 inches** separation from combustibles for single wall
3. Connectors shall rise a minimum of $\frac{1}{4}$ **inch** per foot
4. A minimum of three sheet metal screws shall attach the single wall to the draft diverter and single wall to the B-Vent
5. Roof termination shrouds must be listed for system used

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL FINAL PLUMBING (4499)

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MECHANICAL INSPECTION CHECKLIST

General Notes

Mechanical plans are not required in residential applications with the exception of gas piping drawing or isometrics. Gas plans may be drawn by the Contractor of Record or the Nevada Design Professional.

Rough Mechanical (5551)

1. Verify HVAC equipment sizes, BTU ratings and location requirements per name plate listing
2. Verify clearances and approved uses (indoor, outdoor, vertical or horizontal applications)
3. Minimum size attic access openings **22 inches by 30 inches**, or largest piece of equipment to remove
4. Catwalk minimum **2 feet** wide and maximum **20 feet** long working platform and minimum clearances
5. Gas shut off shall be accessible and within **3 feet** of the appliance, if required
6. Combustion air opening requirements, if applicable using Table 7-1 UMC
7. Condensing line set insulated, supported and attachment to unit and exit through a wall supported flashing.
8. The line set shall be sealed at the exterior and protected from damage
9. Condensate waste line terminate primary to the exterior

10. Condensate lines: secondary shall terminate in a visible location for quick detection
11. Condensate lines shall be properly supported per Table 3-2 UPC (PVC every **4 feet** horizontally)
12. If PVC piping is used for condensate lines, the piping shall have primer applied to all pipes and fittings before gluing
13. Duct sizes, locations and UL-181 listings, class 1 flex duct
14. Duct insulation requirements per the energy calculations
15. Check flex duct for support every **4 feet**, sags, kinks, mechanical bands and proper connections UL-181 tape
16. Supply registers supported on two opposite sides
17. Return air grills supported on all sides
18. Proper insulation of ducts, wye branches, connections, fittings and metal plenums with minimum R-6 insulation or per Energy calculations

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL ROUGH MECHANICAL (5551)
PAGE 1 or 2

Vents

1. B-Vent supported with min 1 inch clearance to combustibles, with flow up
2. Horizontal run limited to 75% of vertical height
3. Offsets limited to one not more than 60⁰
4. Termination min **4 feet** from property line, roof slope and property lines
5. Size of B-Vent per unit output

Environmental Air Duct

1. Dryer Vents – Kitchen Exhausts – Bathroom Exhaust Fans
2. Kitchen hood duct smooth interior
3. Verify size, length and support ducts
4. Dryer exhaust – **14 feet** with 2-90's rule. In excess of this rule, the duct sizes and length shall be engineered and on site
5. No screws in dryer vent connections
6. Vent terminations to have back draft dampers
7. Dryer vent requires a non-screened back draft damper. Back draft dampers are not required when terminating in the vertical position
8. Verify means for natural ventilation for bath, water closets areas or provide exhaust 50 CFM fan

Manufactured Fireplaces

1. All fireplaces shall be installed per the manufacturer's installation instructions, including mantles, clearances and venting
2. Check fire stopping
3. Standoffs not removed (no combustibles below stand-offs)
4. Check combustion air per the appliance listing and Chapter 7
5. Remove all loose material from fireplace chase (wood/paper/insulation) per its listing for distance to combustibles

Outdoor Fireplaces

1. All fireplaces shall be installed per their listing
2. Fireplace use in an outside application shall be listed for external use
3. Non-listed fireplaces will be reviewed and plans check approved for use as an alternate method on a case by case basis
4. Decorative fire rings, or fire pits listed appliances ONLY
5. All shut off valves within **3 feet** and per the plumbing code

Note: This is not a complete list and is not inclusive of all construction methods, materials or practices. Check Lists are intended to serve as a reference point for a basic inspection only. Compliance with all the provisions of applicable codes shall be required.

RESIDENTIAL ROUGH MECHANICAL (5551)

PAGE 2 of 2

FINAL MECHANICAL (5599)

1. Verify equipment placement, installation and identification
2. verify SEER rating of equipment per the energy calculations
3. Equipment in garages, with ignition sources, to be minimum **18 inches** above the floor
4. Duct penetration through garage membrane shall be a minimum of **26 gauge** thickness with no openings into the garage area
5. Equipment installed at grade level shall be supported on a level non-combustible platform a minimum of **3 inches** above final grade
6. Verify disconnect and over current protection within sight of each piece of equipment
7. Verify all registers and filters are installed
8. Verify that the thermostat is installed
9. Decorative appliances shall be installed per their listing with logs, glass doors, ember strip
10. Decorative appliance dampers shall be permanently blocked open
11. Verify decorative appliance vent connectors for clearances and terminations with approved caps
12. Verify exhaust terminations for screens as required for environmental air ducts
13. Verify operation of dryer back draft damper installed

14. Verify combustion air duct requirements and location
15. Verify protection of equipment in garages by bumper guards, bollards, raised platform or outside the travel path of traffic
16. Gas line flex connectors not through metal housing of appliance and maximum **3 feet** long
17. Gas flex to be sized to meet BTU demand of appliance

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RESIDENTIAL FINAL MECHANICAL (5599)
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