

2018 NEW CASTLE COUNTY RESIDENTIAL FINAL CHECKLIST WITH 2012 IECC

(2018 IRC)(2015 IMC)(2015 IPC)(2015 IFGC)(2012 IECC)(NCC Chapter 6)(Chapter 40)

Rev 1/23/19

Pass **Corr** **N/A**
1.

GENERAL

- Permit displayed at worksite Ch 6 6.03.012(Q)
- Access provided to all areas to be inspected Ch 6 6.03.018(A,D)
- NCC approved, stamped building and L & G plans available at site Ch 6 6.03.013(B3a)
- Blower door and duct test received, where applicable 2012 IECC 402.4 & 403.2.2
- Info on drawings shall clearly indicate the extent of the work Ch 6 6.03.013(B)
- All revisions to approved drawings have been submitted to & approved by NCC Ch 6 6.03.013(B1)
- All required child permits issued: Ch 6 6.03.012(A)
 - Decorative Appliance
 - Plumbing – in and out
 - HVAC
- As-built survey approved when required Sec 40.22.230(C)
- All required inspections completed to date: Ch 6 6.03.018(E,F)
 - Footings
 - Underground Plumbing
 - Lath
 - Foundation
 - Pre-slab
 - Gas Test
 - Exterior Framing
 - Weather Barrier
- Required third-party inspection reports received & approved by NCC Ch 6 6.03.018(C),(E),(G),(H)
- Final electric inspection approval on site Ch 6 6.03.018 (A,E), DE Title 24, Ch 14 Sec 1420
- Self-cert inspections (DWV, U/G, S/W) received & approved or witnessed IPC 312, DE Code 214.1
- Contractor Verification Form properly completed Ch 6 6.03.002
- All equipment and materials installed in accordance with the manufacturer's installation instructions

2.

E&S CONTROLS (FOR INCLEMENT WEATHER LETTER WITHOUT STABILIZATION)

- Silt fence per approved plan & functioning E&S Handbook 3.1.2-1, Ch 6 6.03.013
- Driveway gravel base installed at a minimum

3.

EXTERIOR

- Piping protected (ex., paint) and sleeved through wall IFGC 403.8, 404.4, 404.7, 404.8
- Structure appears weather-tight and complete IRC 701.2, 703.1
- 5' fire separation required when polypropylene siding used IRC 703.14.2
- Verify fuel burn appliance direct vent terminates outside per manufacturers specs IFGC 503.3, 503.6.6
- Check heater/water heater vent horizontal termination IMC 804.3.4, 804.3.5
 - 12" or more above grade
 - 7' or more above walkways
 - 3' or more above any forced air inlet located w/in 10'
 - 4' or more below or horizontally from any door, window or gravity air inlet
 - 1' or more above any door, window or gravity air inlet
 - 3' or more from any interior corner formed by 2 walls perpendicular to each other
 - Not directly above or w/in 3' horizontally from an oil tank vent or gas meter
- Vertical termination
 - 3' or more above force air inlet located w/in 10'
 - located below an adjacent roof structure, the termination shall be located at least 3' from such structure
 - 4' or more below or horizontally from any door, window, or gravity air inlet
 - 1' or more above or horizontally from any door, window, or gravity air inlet
 - Vent cap installed to prevent entry of rain
 - 3' or more horizontally from any portion of the roof structure
- A/C Pad Level mfr specs, IMC 304.10
- Roof covering appears complete; including drip edge and kick out flashing IRC 903, 904, 905
- Flashing & code compliant or approved underlayment where required IRC 905
- Chimney minimum 36" above roof penetration and 24" higher than any portion of the roof within 10' IFGC 503.5.4, IRC 1003.9
- Minimum 1 - 3" plumb. vent extending at least 12" above the high side of the roof P904.1, 903.1
- Mechanical vent termination to a listed cap or roof assembly IFGC 503.6.4, 503.6.6
 - Must terminate at least 8' from a vertical wall or similar obstruction
 - 12" diameter or smaller vents terminate in accordance with Fig 503.6.4 (12" minimum height)
- Frost-proof hose bibs with anti-siphon device installed IPC 608.15.4.2
- Decks installed per NCC Deck Checklist, footing Inspection performed or footing certification & pictures

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- provided Ch 6 6.03.018(C),(E),(F)
- All exposed wood weather protected (paint, vinyl, aluminum, etc.) IRC 701.2, 703.1
 - Decay resistant wood installed against masonry (sheathing, door jambs, wood beam pocket) IRC 317, Ch 6 R317.1
 - All flashings and weep holes installed per code IRC 703.7, 703.1, 703.8, 903.2
 - Exterior plaster and manufactured stone installed per code ASTM 926 and 1063, IRC 703.7, Ch 6 R703.7
 - Weep screeds IRC 703.7.2.1
 - Thickness IRC (T) 702.1(1)
 - Appears to be fully weather resistant IRC 703.1
 - All penetrations sealed and protected, including gas piping IPC 305.5, 305.7, IFGC 404.4
 - Rain & sump water directed away from dwelling, 5' from foundation walls (gutters, splash blocks or pipes) IRC 801.3
 - Window wells provided on below grade egress windows and access panels IRC 310.2.3, 310.2.3.1
(Depth over 44" requires attached ladder, with rungs 12" wide, 18" max height, project min 3")
 - Driveway installed per plan Ch 6 6.03.018(F), 6.03.013
 - Average grade slope not to exceed 14% Ch 12 12.03.003(3)
 - 15" diameter or greater pipe installed under driveway where roadside swales are used Ch 12 12.03.003(3)
 - Subdivision sidewalk per record plan at dwelling location 5' wide min Ch 40 21.163(E),(C)
 - UDC required landscaping complete 40.23.200, 40.04.210, Ch 6 6.03.013
 - Capped cleanouts on sanitary line (brought up to grade in yard) IPC 708
 - Exhaust openings protected, back draft damper for clothes dryer IMC 504.4, 401.5
4. **CRAWL SPACE**
- 16" height x 24" width access opening in perimeter wall or 18"x24" in floor IRC 408.4
 - 18" minimum clearance between exposed earth & bottom of beam or decay protected IRC 317.1
 - Ventilation required (not less than 1 ft² per 150 ft² of under-floor area and vents shall be located within 3' of each corner) IRC 408.1
 - **Exception:** where exposed earth is covered with 6 mil vapor barrier, sealed 6" up wall, and perimeter walls are insulated, with continuously operated exhaust or conditioned air supplied to 1cfm per 50 ft² IRC 408.3
 - If perimeter walls insulated, must extend from floor down to finished grade and then vertically or horizontally for and additional 24 inches IECC 402.2.10
 - Provide access to mechanical equipment 30" high 22" wide min. or large enough for appliance removal not more than 20' in length from the opening to the appliance IMC 306.4
 - Vapor barrier installed between base course (or subgrade w/no base course) & concrete IRC 506.2.3
5. **FIREWALL RATING OF ATTACHED GARAGES (ONE HOUR WITH LIVING SPACE ABOVE)** IRC 302.5, Ch 6 R302.6
- Fire rating includes all supporting walls (2 layers of 5/8 drywall provides one-hour rating)
 - Columns attached per mfr. specs & fire protected when supporting living space above
 - Min 1 3/8" solid wood, steel or 20 min. fire rated door into dwelling, self-closing IRC 302.5.1
 - Duct penetrations properly fire rated where required or dampers provided IMC 607.1, 607.5.3, Ch 6 R302.6
 - Verify penetrations of fire assembly are sealed with approved material Ch 6 R302.6, IRC 302.11
(proper fire blocking installed, access panels should be rated) and installed per manufacturer instructions
6. **GARAGES**
- Verify protective barrier from vehicle damage or hung 6 feet above floor IMC 304.7
 - Verify ignition source is 18" above floor level IMC 304.3
 - Installed and vented per manufacturer installation instructions
 - Concrete flatwork (floor) complete per NCC approved plan Ch 6 6.03.013
 - Floor is pitched toward garage door and non-combustible IRC 309.1
 - 4" minimum step at entrance into dwelling Ch 6 R309.1
 - Garage door(s) installed per plan & man specs, Ch 6 6.03.013
 - Verify any untreated wood separated from concrete and masonry OR treated wood used IRC 317.1, Ch 6 R317
7. **BASEMENT**
- Minimum ceiling height
 - Ceiling height 6' 8" (6'4" under beams, girders, ducts and other obstructions) Ch. 6 R305.1.1
 - Ceiling height above bathroom fixtures is high enough so that the fixture can be used for its intended purpose. Showers or tubs equipped with a showerhead have a ceiling height at least 6'8" for a space at least 30"x30" at the showerhead. IRC 305, fig 307.1

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- Walls installed per plan Ch 6 6.03.013
- Floors above basements with protected with 1/2" sheetrock, 5/8" wood structural panel, or equivalent unless basement protected by sprinklers, floor is over a crawlspace with no fuel fired or electric powered heating appliance, or floor is constructed of minimum 2x10 sawn lumber IRC 302.13
- Basement emergency egress installed with drain, separate egress for **each** basement bedroom IRC 310, Ch 6 R310.6
- Decay resistant lumber with correct fasteners properly installed where visible sill plates, wood entering masonry, wood resting on concrete or masonry found wall) IRC 317
- Verify beam support, attachment, and installation Ch 6 R407.3, IRC 407.3, 502.6 502.8, 502.8.2
 - Exposed beam & joist cutting & notching does not exceed code or manufacturer's specs
- All penetrations of foundation wall sleeved and sealed watertight IPC 305.3, 305.5, 305.7
- Sump pit and pump properly installed per manufacturer specifications Ch 6 R405.2.3
 - Cover and check valve installed IPC 1113.1.4
 - Check operation and discharge so as to prohibit recycling Ch 6 R405.1.1
 - 18" diameter or 20" square minimum, 24" deep from top of basement floor Ch 6 R405.1.2, IRC 405.2.3
- Where visible, verify decay resistant lumber with correct fasteners properly installed (sill plates, wood entering masonry, wood resting on concrete or masonry found. wall) IRC 317, Ch 6 R317.1
- Where visible, verify bearing, notching and boring of beams and joists IRC 502.6, 502.6.1, R502.8
 - Minimum bearing: 1 1/2" wood/metal, 3" masonry, 3" joist laps
 - Notches on ends no greater than 1/4 of depth (dimensional lumber) Fig. IRC 502.8
 - No notches greater than 1/6 of the joist or middle 1/3 of the span (dimensional lumber)
 - No holes bored w/in 2" of top, bottom or another hole & not greater than 1/3 the depth of the joist
 - No holes in engineered products, except where permitted by manufacturer IRC 502.8.2

8. **INTERIOR**

- Drywall finished and painted per approved construction documents, Ch 6 6.03.013
- Trim completed per plan, Ch 6 6.03.013
- Garage drywall taped and spackled (per industry standards), 1 hour rated IRC 302.6, Ch 6 R302.6
- Verify fireplace hearth size, damper size, clearances, gas shut off valve within 5' of the appliance mfr specs, IRC 1001
- All floor coverings complete per plan, Ch 6 6.03.013

9. **STAIRWAYS (EXCLUDING BILCO STAIRS) IRC 311.7**

- Headroom (6'8") measured on rake of tread vertically to beam, joist, drywall, etc. IRC 311.7.2
- Handrails (4 or more rise) minimum 34", maximum 38") IRC 311.7.8
 - TYPE I HANDRAIL:
 - Circular Cross Section. O.D. 1 1/4" to 2"
 - Non-circular (perimeter dimension 4" to 6 1/4"), (maximum cross section 2 1/4")
 - TYPE II HANDRAIL:
 - Perimeter greater than 6 1/4"
 - Finger recess provided per code
 - Handrail end returned to wall or terminated in newel post
- Stair width – minimum 36" above handrail IRC 311.7.1
- Guards (36" min. ht on platform, 34" along stairs, 200 lb force resistance & max 4" spacing) at walking surfaces over 30" & doorways w/o steps, IRC 312, 301.5
- Treads 10" minimum , max variation 3/8" IRC 311.7.5.2
- Risers maximum height 7 3/4", maximum height variation 3/8", bottom riser exception at slopes IRC 311.7.5.1
- Landing - min. 3' by 3', top & bottom of stairway, floor or landing not required at top of interior flight of stairs, provided a door does not swing over the stair, pie landings are permitted IRC 311.7.6
- Risers over 30 inches above the floor below are closed to less than a 4 inch opening IRC 311.7.5.1
- Interior doors in the path of egress shall be min 2'6", bathrooms shall be min 2'4" Ch 6 R311.2

10. **SMOKE AND CARBON MONOXIDE(CO) DETECTORS IRC 314, 315, Ch 6 R314.2.2, R315.2.2**

- Inside & outside in the immediate vicinity of each sleeping room & on each story
- Hardwired: check for battery backup type, and battery installed
- Hardwired: check for inter-connection of all smoke alarms
- Wireless smoke alarms now permitted
- Combination smoke/carbon monoxide alarms comply with UL 217 and UL 2034

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Additions require smoke detectors & carbon monoxide detectors through house as per new construction with exceptions

11.

PLUMBING

- Verify no pipe leaks IPC 312
- Verify backflow prevention if lawn irrigation system installed IPC 608.16.5
- Pipe supported (4' oc) and sloped per code (3" to 6" pipe = 1/8" per foot) IPC (T) 308.5, (T) 704.1
- Sep. of water supply and sanitary (5' apart or water line 1' above) IPC 603.2
- Fixtures in contact with walls & floors shall be caulked (tub spouts, faucets, etc.) IPC 405.5
- Hose bib in place with labeled shutoffs & anti-siphon device IPC 606.2, 606.4, 608.15.4.2
- Plumbing pipes protected from freezing in unheated areas IPC 305.6, 305.7
- All future plumbing capped with an approved cap or plug IPC 704.4
- Verify dishwasher air gap mfr specs, IPC 409, 802.1.6
- Verify hot water supply to fixtures is on the left side IPC 607.4
- Verify mechanical ventilation and exhaust for bathing fixtures without window IMC (T) 403.3, 501.2, R303.3
- Verify access panels (for whirlpool tubs) 12x12 min unless >24" a 18x18 panel is required IPC 421.5, 606.3
- Check for anti-scald shower valve (showers, tub-shower combination), max temp 120° IPC 424.3
- Verify shut off valves, and full-open valves IPC 606.1, 606.2
- Verify traps and max distance from outlet to vent IPC 1002.1, (T) 906.1
- Verify plumbing fixture clearances IRC Fig 307.1
 - toilets 15" to center line & 21" front clearance
 - shower stalls 30" x 30" min, 24" front clearance
 - bath tub and lavatory, 21" front clearance
 - lavatory clearance 2" to tub, 4" to side wall, toilet and other lavatories

12.

WORKING STOVE

IRC Ch 2 def. "kitchen" & "habitable space"

- Verify stove operation mfr specs
- Verify approved flexible gas connector (6' max length) IFGC 411.1.3.1
- Verify shut off valve and termination fitting (within 5' of appliance) mfr specs, IFGC 409.5
- Verify anti-tip device installed and working mfr specs
- Verify gas stove is vented if equipped mfr specs

13.

LAUNDRY ROOM

- Clothes dryer vent roughed in properly when dryer space is provided: IMC 504
 - Terminates outdoors with a back draft damper
 - 35' max unless model instructions provided
 - Male end of duct extends in direction of airflow
 - No screws or other obstructions to airflow
 - Vertical sections equipped with cleanout
 - Minimum 4" nominal diameter duct
 - Attic dryer duct insulated to a minimum of R-2
 - Duct has a smooth interior finish (no flex)
 - Transition ducts not over 8', not within concealed space, listed as dryer transition
- Source for make-up air where required (in enclosure & exhausting more than 200 CFM) IMC 504.6
- If laundry sink is provided with threaded hose bib, anti-siphon fitting is required IPC 608.15.4.2
- Laundry standpipe (18" minimum/42" maximum above trap, 2" diameter) IPC 406.3, 802.3.3
- Verify approved flexible gas connector (6' max.) IFGC 411.1.3.1
- Verify shut off valve and termination fitting within 5' of appliance mfr specs, IFGC 409.5

14.

WINDOW AND DOOR INSTALLATION

- PATH OF EGRESS DOOR SIZING:** Ch 6 R311.2, IRC 311.2
 - Main egress door 3'0" (32" clear opening, no keyed locks), Interior doors 2'6", Bath/powder room doors 2'4"
- EGRESS WINDOWS/DOORS IN SLEEPING & BASEMENT AREAS** IRC 310
 - 20" minimum opening width, 24" minimum opening height
 - Clear net opening 5.7 ft² (820 in²)
 - Sill height max. 44" above finished floor
 - Grade floor clear net openings 5 sq. ft. (720 in²) when sill height max. 44" above or below grade

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- SAFETY GLAZING REQUIREMENTS** (below 60" above floor or walking surface) IRC 308.4
 - Doors (full height) & sidelights
 - Shower/tub enclosure
 - Glazing in all railings
 - Within 60" vertical & horizontal of pools, hot tubs, bath tubs, showers, sauna, steam rooms or spas
 - Within 60" of the bottom tread of a stair in any direction
 - Within a 24" arc of a door edge on either side in the plane of the door and along the perpendicular wall towards which the door swings unless the door enters a closet 36" or less in depth
 - Within 36" horizontally of stairways, ramps, & landings (18" with an intervening railing & guard)
 - Single pane over 9 ft², less than 18" from floor, top over 36" off floor & walking surface(s) within 36" (must meet all 4 conditions to be required)
- WINDOW SILLS OVER 72" ABOVE FINISHED GRADE MUST BE AT LEAST 24" ABOVE FINISHED FLOOR** IRC 312.2
 - **Exceptions:** windows that do not open over 4" or have guards complying with ASTM F2006 or F2090

15.

WATER HEATER INSTALLATION

- Relief valve with blow off pipe (rigid metallic, 6" max above floor) IPC 504.4, 504.6
- Full open valve on supply (cold) line IPC 503.1, 606.1(8)
- Approved vent connector & gas shut-off valve installed per manufacturer specs IMC 803
- 2 or more connectors enter a common vent or chimney, smaller enters above the larger IMC 803.7
- First 12" of hot and cold water lines are rigid metallic pipe
- Verify venting, including hangers man specs, IFGC 503
- Verify clearance to combustibles man specs, IMC (T) 308.4.2
- Pan and drain pipe required where leakage could cause damage IPC 504.7

16.

HEATER & A/C INSTALLATION

- Verify gas test & number of appliances IFGC 406
- Verify operation and equal amount of supply and return air IMC 403.1
- Verify no gas pipe installed in circulating air ducts, clothes chute, chimney, gas vent IFGC 404.3
- Only heater condensate lines can discharge to sanitary when home is slab-on-grade Ch 6 R303.11

17.

ATTIC

- Access IRC 807.1
 - Required in areas exceeding 30 ft². & 30" or more in height
 - Access opening: 22" X 30" with 30" headroom at any point above the opening
 - Located in a hallway or readily accessible location
 - Large enough to allow removal of largest appliances, light, 24" wide floor to unit IMC 306.3
- Appliances in attics installed correctly IMC 306.3, IFGC 306.3, 306.4
 - Attic access and passageway are large enough to remove HVAC unit & are unobstructed along their length in an area not less than 30 inches high & 22 inches wide and are no more than 20 feet long
 - Walkway is continuous & at least 24" wide with a 30" x 30" square service floor on the service side
 - A light required near the unit with the switch located at the attic access opening
 - Electrical receptacle on or near the attic unit
 - Condensing units in or above finished space equipped with an auxiliary drain pan and secondary drain or floatation-type shut-off switch IMC 307.2.3
- Townhouse separation: openings in roof shall not be located w/in 4' of fire walls IRC 302.2.2 exception
- Final check for insulation in attic (R-value per code) compliance report or IECC 401.2
- Attic ventilation per plan for soffit, ridge or gable vent (baffles when necessary) IRC 806

18.

AIR BARRIER/ENERGY REQUIREMENTS (BOLD ITEMS ARE MANDATORY)

- Verify all prescriptive or performance items complete (verify documentation and certification) IECC 401.2
- Certificate posted in or on the electrical panel** IECC 401.3
- Whole house ventilation system required IECC 403
- Verify insulation installed per RESCheck or table 402.1.1 (R49, R20, R19, R10/13) IECC 402.1.1, 402.2.1
- Access hatches and doors from conditioned to unconditioned spaces shall be weather-stripped and insulated to a level equivalent to the surrounding surfaces. (e.g. attic, crawlspace)** IECC 402.2.4
- Floor insulation shall maintain permanent contact with the underside of the subfloor** IECC 402.2.7

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- Walls in conditioned basements shall be insulated from the top of the wall down to 10' or the basement floor, whichever is less IECC 402.2.8
- Programmable thermostat installed for at least one forced-air furnace** IECC 403.1.1
- Duct insulation installed to a min R-6, ducts in attics shall be R-8 IECC 403.2.1
- Verify at least 75% if the lamps in permanently installed light fixtures are high efficacy IECC 404.1
- Mechanical system piping insulated to a min of R-3** IECC 403.3
- Circulating service hot water piping insulated to a min of R-3, piping to manifold R-3** IECC 403.4.2
- All outdoor air intakes and exhaust shall have dampers (e.g. dryer, kitchen, bath fan)** IECC 403.5
- Duct tightness and blower door test report received, filter boxes sealed, ducts sealed** IECC 403.2.2
- Verify building thermal envelope intact (sealed, gasketed, or caulked)** IECC 402.4.1
 - Joints, seams and all penetrations
 - Garage walls and ceilings
 - Attic access openings
 - Rim joist junction
 - Knee walls
 - Recessed lighting, Speakers
 - HVAC register boots
 - Fireplace tight fitting flue dampers & outdoor combustion air (wood burning only)
- If performance approach is used, verify all mandatory items are complete IECC 405.2

Inspector: _____ Permit Number: _____

Date: _____ Inspection Results: Pass Partial Corrections Required

I hereby certify that this residence has been built to comply with all applicable New Castle County Building Codes and that all contractors that have worked on this permit were properly licensed by New Castle County in accordance with NCC Chapter 6 6.03.002, 6.03.003, and 6.03.004.

Builder _____ Date _____