

# COA – Residential Building Construction Plan Review Checklist

Have all other City of Allentown (COA) departments approved this project? A PA-UCC review will not begin until all these departments have approved this project when required?

- ☐ Zoning – Ord. Ch. 660
- ☐ Land Development – Ord. #350 [Not required if building a single family dwelling on an existing lot of record]
- ☐ Historic – Ord. Ch. 328
- ☐ Floodplain – Ord. Ch. 298
- ☐ Engineering – Ord. Ch. 411, Sewer Ord. Ch. 490, Water Ord. Ch. 633, Utilities Ord. Ch. 609

**Documents required (The COA does not scan documents over 5 pages):**

**IRC Code Section**

- ☐ One (1) set of drawings are included in this permit application. **106.1.1**
- ☐ One (1) set of submittals are included in this permit application. **106.1.1**
- ☐ One (1) Site plan is included in this permit application. **106.2**

-OR-

- ☐ One (1) PDF of all documents required (with notations and review letter if 3<sup>rd</sup> party approved). Applicant is required to print a field copy of approved stamped plans to always keep on-site.

## **Ch. 3 Building Planning:**

Table 301.2(1) Climatic and Geographic Design Criteria							
Ground Snow Load Ord. 225	Wind Design				Seismic Design Category		
	Speed (mph)	Topographic Effects	Special Wind Region	Windborne Debris Zone			
40 psf.	115	YES	B	NO	B		
Subject to Damage From			Winter Design Temp	Ice Barrier Underlayment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp
Weathering	Frost Line Depth	Termite					
Severe	36"	Moderate to Heavy	20°F	Yes	Yes	1500 or Less	51°F
Elevation	Latitude	Winter Heating	Summer Cooling	Altitude Correction Factor	Indoor Design Temperature	Design Temperature Cooling	Heating Temperature Difference
384'	N41°	10°F	88°F	0.988	70°F	75°F	60
Cooling Temperature Difference	Wind Velocity Heating	Wind Velocity Cooling	Coincident Wet Bulb	Daily Range	Winter Humidity	Summer Humidity	
13	15	7.5	73	Medium	50%	50%	

### **Ch. 3 Building Planning:**

<b>Y</b>	<b>N/A</b>	<b><u>IRC Code Section</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Single family dwellings with walls less than 5' from a lot line must have fire rated exterior walls	<b><u>Table 302.1(1)</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Townhouse common walls must be 1-hr rated.	<b><u>302.2.2 #1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Two family dwelling common walls/ceilings must be 1-hr rated.	<b><u>302.3</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Through penetrations of fire rated walls/floors must be protected or grouted (ex. beam pockets)	<b><u>302.4.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Door to attached garage must be a 20-min. door	<b><u>302.5.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Garage ceiling must be 5/8" drywall if habitable rooms are above	<b><u>Table 302.6</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Enclosed closets under stairs must have a ½" drywall walls and ceiling.	<b><u>302.7</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Fire blocking required between floors and under stairs.	<b><u>302.11</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Draft stopping required in concealed floor/ceiling assemblies greater than 1,000 s.f.	<b><u>302.12</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Underside of I-joist and open truss floors must have a ½" drywall ceiling.	<b><u>302.13</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Habitable rooms must have 8% window area to floor area ratio.	<b><u>303.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Bathrooms must have 3 s.f. openable window or mechanical exhaust	<b><u>303.3</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Whole house mechanical ventilation required	<b><u>303.4</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Stairways must have a light; three-way switch required at top and bottom if 6 or more risers	<b><u>303.7</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Exterior stairways must have a light at the top landing	<b><u>303.8</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Heat required to achieve 68°F in habitable rooms.	<b><u>303.10</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Habitable rooms must be min. 70 s.f. except kitchens, also min. 7' in any dimension	<b><u>304.1, 304.2</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Sloping ceilings less than 5' height do not count toward 70 s.f. habitable area	<b><u>304.3</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Ceilings min. 7', except bathrooms, laundry rooms and non-habitable basements may be 6'8".	<b><u>305</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Connections must be made to the water/sewer system.	<b><u>306</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Water closets, lavatories, tubs, and showers must have clearances per Figure 307.1	<b><u>Figure 307.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Shower surround must extend 6' above the floor.	<b><u>307.2</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Tempered glazing required in the following locations:	
	Doors	<b><u>308.4.1</u></b>
	Sidelights	<b><u>308.4.2</u></b>
	Windows more than 9 s.f. in a single pane and less than 18" above finish floor	<b><u>308.4.3</u></b>
	Glazing within 60" horizontally and vertically from a shower, tub, hot tub, etc.	<b><u>308.4.5</u></b>
	Glazing at the bottom of a stair landing	<b><u>308.4.7</u></b>

**Y    N/A**

**IRC Code Section**

- ☐ ☐ Skylight curbs required on low-slope roofs **308.6.8**
- ☐ ☐ Carports are open on 2 or more sides. Otherwise, it is a garage. **309.2**
- ☐ ☐ Basements, habitable attics, and each sleeping room must have a 5.7 s.f. emergency escape and rescue opening. Note that sprinklered basements sleeping rooms have an exception, and basement and 1<sup>st</sup> fl. requires 5.0 s.f. openings. Window sill height is no more than 44" a.f.f.; window well area is 9 s.f.; permanent ladders required for window wells more than 44" deep. **310**
- ☐ ☐ 1 egress door required min. 32". Door must not require a key to open from inside. **311.2**
- ☐ ☐ Landings must comply with 311.3 **311.3**
- ☐ ☐ Hallways must be min. 3' wide **311.6**
- ☐ ☐ Stairways must be min. 3' wide **311.7.1**
- ☐ ☐ Stairway headroom must be min. 6'8" **311.7.2**
- ☐ ☐ Stairway risers must be max. 8¼", treads min. 9" **PA UCC**
- ☐ ☐ Stairs must have a landing at the top and bottom **311.7.6**
- ☐ ☐ Handrails are required on stairs with 4 or more risers **311.7.8**
- ☐ ☐ Ramps must comply with slopes of 311.8.1 **311.8.1**
- ☐ ☐ Guards are required where open edge has a 30" drop **312.1**
- ☐ ☐ Window on 2<sup>nd</sup> floor or above with sills 24" or less a.f.f. requires opening protection device **312.2.1**
- ☐ ☐ Townhouses require an automatic sprinkler system. **313.1**
- ☐ ☐ 1-2 family dwellings do not require an automatic sprinkler system. **PA UCC**
- ☐ ☐ Interconnected smoke alarms required on each story, in each bedroom, and outside each sleeping area **314.3**
- ☐ ☐ A CO detector is required outside each sleeping area if required by 315.2.1 **315.3**
- ☐ ☐ Pressure treated wood required in areas listed in 317.1 #1-7, 317.1.2, and 317.1.4 **317.1**
- ☐ ☐ Termite protection required at top of foundation wall **318.4**
- ☐ ☐ Site address required min. 4" height and ½" width **319.1**
- ☐ ☐ Buildings in a floodplain must comply with IRC 322 **322**
- ☐ ☐ Habitable attics are not considered a story **325.6**

#### **Ch. 4 Footings and Foundations:**

<b>Y</b>	<b>N/A</b>	<b><u>IRC Code Section</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Site should be graded away for 10' from the foundation unless a swale is built.	<b><u>401.3</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Concrete must comply with "Severe" column of Table 402.2	<b><u>Table 402.2</u></b>
<b>Y</b>	<b>N/A</b>	<b><u>IRC Code Section</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Footings must be continuous, including stepped footings	<b><u>403.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Footing size must be as per Table 403.1(1) Light Frame, 403.1(2) Brick Veneer, or 403.1(3) Masonry	
<input type="checkbox"/>	<input type="checkbox"/> Rebar clearance 3" to earth, 1½" to forms	<b><u>403.1.3.5.3</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Footing depth 36" min.	<b><u>403.1.4.1 #1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Footings must be level, no more than 1:10 slope, or must be stepped	<b><u>403.1.5</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Anchor bolts 2 per plate within 12" of end of plate and every 6' max.	<b><u>403.1.6</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Footings adjacent to significant slopes must comply with 403.1.7	<b><u>403.1.7</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Foundation vertical rebar must be provided if required by Table 404.1.2(2), 404.1.2(3), or 404.1.2(4)	
<input type="checkbox"/>	<input type="checkbox"/> Foundation horizontal rebar (1) #4 within 12" of top of wall and (1-2) #4 mid-height on wall	<b><u>Table 404.1.2(1)</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Concrete min. strength 2,500 psi	<b><u>404.1.3.3.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Foundation wall must extend 6" above finish grade (4" if exterior wall is brick)	<b><u>404.1.6</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Foundation drainage required unless there is slab-on-grade construction	<b><u>405.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Foundation damp proofing required from top of footing to finish grade unless slab-on-grade	<b><u>406.1</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Steel columns must be painted, not just primed	<b><u>407.2</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Wood columns min. 4x4, steel columns min. 3" dia.	<b><u>407.3</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Crawl space ventilation must comply with Sec. 408	<b><u>408.1</u></b>

#### **Ch. 5 Floors:**

<b>Y</b>	<b>N/A</b>	<b><u>IRC Code Section</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Floor joist spans: use tables 502.3.1(1) or 502.3.1(2)	
<input type="checkbox"/>	<input type="checkbox"/> Openings for stairs, attic access, or other openings must comply with 502.10	<b><u>502.10</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Cantilever back spans must comply with Tables 502.3.3(1) or 502.3.3(2)	
<input type="checkbox"/>	<input type="checkbox"/> Truss design must be submitted prior to the framing inspection	<b><u>502.11.4</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Concrete slab on grade must be 3½" thick concrete on 4" gravel base, 6-mil. vapor barrier	<b><u>506</u></b>
<input type="checkbox"/>	<input type="checkbox"/> Decks must comply with 507	<b><u>507</u></b>

## **Ch. 6 Wall Construction:**

**Y    N/A**

**IRC Code Section**

☐ ☐ Stud size must comply with Table 602.3(5)

☐ ☐ Header spans

**Table 602.7(1)**

**Y    N/A**

**IRC Code Section**

☐ ☐ Double jack studs required to support headers with greater than 8' span

**Table 602.7.5**

☐ ☐ Wall bracing: sheathing or other means allowed in 602.10

**602.10**

☐ ☐ Garage opening framing must comply with Figure 602.10.6.3, 1,000 lb. strap required

**Figure 602.10.6.3**

☐ ☐ Masonry (block) wall construction thickness

**606.4.1**

## **Ch. 7 Wall Covering:**

**Y    N/A**

**IRC Code Section**

☐ ☐ Interior drywall application must comply with Table 702.3.5

☐ ☐ Water resistive barrier (ex. Tyvek) on exterior walls

**703.2**

☐ ☐ Pan sill flashing required at exterior windows and doors

**703.4**

☐ ☐ Wall covering methods (Stucco, stone and brick veneer, EIFS, vinyl, etc) must comply with 703

**703**

## **Ch. 8 Roof-Ceiling Construction:**

**Y    N/A**

**IRC Code Section**

☐ ☐ Fire-retardant-treated roof sheathing on townhouses within 4' of common walls (302.2.4 Exception) **802.1.5**

☐ ☐ Wood rafter spans must comply with Table 802.4.1(1)-802.4.1(6) [Interpolate snow loads]

☐ ☐ Wood ceiling joist spans must comply with Table 802.5.1(1) or 802.5.1(2)

☐ ☐ Engineered truss roof design must be submitted prior to the framing inspection

**802.10.1**

☐ ☐ Hurricane clips required

**802.11.1**

☐ ☐ Sheathing thickness: 5/8" min.

**Table 803.1**

☐ ☐ Roof ventilation min. area: 1/150 of area of attic

**806.2**

☐ ☐ Attic access 22"x30" min. with 30" vertical headroom

**807.1**

## **Ch. 9 Roof Assemblies:**

**Y N/A**

**IRC Code Section**

- ☐ ☐ Crickets or saddles must be installed above chimneys **903.2.2**
- ☐ ☐ Ice/water shield required from edge to 24" inside exterior wall, at the rake wall, and at valleys **905.1.2**
- ☐ ☐ 2:12-4:12 pitch roofs require double underlayment; 4:12 and greater pitch single underlayment **905.2.2**

## **Ch. 10 Chimneys and Fireplaces:**

**Y N/A**

**IRC Code Section**

- ☐ ☐ Must terminate 3' above roof and must comply with other clearances per IRC 1003.9 **1003.9**

## **Ch. 11 Energy Efficiency:**

**Designer must select method of compliance AND comply with the mandatory requirements for all methods.**

### **Method #1: 2018 IRC**

**1102.1**

**Y N/A**

**IRC Code Section**

- ☐ ☐ Insulation and fenestrations must follow Climate Zone 5 **Table 1102.1.2**

Fenestration U-Factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and Depth	Crawl Space Wall R-Value
0.30	0.55	R-49	R-20 cavity or R-13 cavity plus 5 c.i.	R-13 on outside or R-17 on inside	R-30	R-10 c.i. or R-19 cavity	R-10 for 2 feet	R-15 c.i. or R-19 cavity

### **Method #2: PA Alternative 2021**

**1101.4**

**Y N/A**

**IRC Code Section**

- ☐ ☐ Must select 'entry option' from Climate Zone 5 **PA Alt. 2021 Table 104**
- ☐ ☐ Insulation and fenestrations must follow Climate Zone 5 **PA Alt. 2021 Table 301**

Fenestration U-Factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value and Depth	Crawl Space Wall R-Value
0.30	0.55	R-49	R-20 cavity or R-13 cavity plus 5 c.i.	R-13 on outside or R-17 on inside	R-30	R-10 c.i. or R-13 cavity	R-10 for 2 feet	R-10 c.i. or R-13 cavity

**Method #3: ResCheck****1101.3****Y    N/A****IRC Code Section**☐ ☐ Entire thermal envelope must be listed and shown to comply**1105.4.2.1 #2**☐ ☐ ResCheck must be signed by the person who generated the report**1105.4.2.1 #5****Provisions for ALL COMPLIANCE METHODS****1101.13 #2****Y    N/A****IRC Code Section**☐ ☐ Sunroom insulation must comply with 1102.2.13**1102.2.13**☐ ☐ Air barrier must be installed to create a complete envelope and follow Table 1102.4.1.1☐ ☐ Blower door test at completion of project must achieve 3 or less air changes per hour**1102.4.1.2**☐ ☐ Air barrier must be installed to create a complete envelope and follow Table 1102.4.1.1☐ ☐ Blower door test at completion of project must achieve 3 or less air changes per hour**1102.4.1.2**☐ ☐ A thermostat must be provided for each heating and cooling system**1103.1**☐ ☐ Duct leakage testing at project completion required showing 4 cfm / 100 s.f. or less**1103.3.4**☐ ☐ Framing cavities cannot be used as supply ducts**1103.3.6**☐ ☐ Mechanical system heated or cooled fluids must be insulated to R-3**1103.4**☐ ☐ Heating and cooling equipment must be sized per ACCA Manual S/J**1103.7**☐ ☐ At least 90% of lighting fixtures must be LED**1104.1****Ch. 12-24 Mechanical:****Y    N/A****IRC Code Section**☐ ☐ A service space 30"x30" must be provided on all sides of the appliance**1305.1.1**☐ ☐ A switch controlled luminaire and a receptacle outlet must be provided near appliances**1305.1.2.1**☐ ☐ Attic equipment and B-vents installed with 1" min. clearance to combustibles**1306.2.2**☐ ☐ Appliance ignition in garage must be elevated 18" above floor**1307.3**☐ ☐ Appliances in garage must have motor vehicle protection**1307.3.1**☐ ☐ Furnace must be sized per Manual S based on building load calculations**1401.3**☐ ☐ Furnace condensate must be trapped and vented and terminate in a readily accessible location**1411.3**☐ ☐ Attic furnaces / air handlers must have a drain pan or a water level detection / shutoff**1411.3.1**☐ ☐ A/C refrigerant lines must be insulated to R-4**1411.6**☐ ☐ Exhaust must terminate at least 3' from openable windows and doors and 10' from intake openings **1504.3**

<input type="checkbox"/> <input type="checkbox"/> Supply and return duct sizing	<u><b>1601.1</b></u>
<input type="checkbox"/> <input type="checkbox"/> Flex duct max. ½" per foot sag	<u><b>1601.4.4</b></u>
<input type="checkbox"/> <input type="checkbox"/> Metal duct must be supported at 10' o.c. with 18 gauge straps	<u><b>1601.4.4</b></u>
<input type="checkbox"/> <input type="checkbox"/> Combustion air vents provided in accordance with 2407	<u><b>2407</b></u>
<input type="checkbox"/> <input type="checkbox"/> Gas shutoff valves must be within 6' of each appliance	<u><b>2420.5.1</b></u>

#### **Ch. 25-33 Plumbing:**

<b>Y</b>	<b>N/A</b>	<b><u>IRC Code Section</u></b>
<input type="checkbox"/> <input type="checkbox"/> Water and drainage pipes must be protected if installed less than 1 ½ " from face of framing		<u><b>2603.2.1</b></u>
<input type="checkbox"/> <input type="checkbox"/> Piping must be secured and supported		<u><b>2605.1</b></u>
<input type="checkbox"/> <input type="checkbox"/> Proper sweep for drainage fittings		<u><b>3005.1</b></u>
<input type="checkbox"/> <input type="checkbox"/> Min. slope ¼" per foot, except 1/8" per foot for 3" and larger pipe		<u><b>3005.3</b></u>
<input type="checkbox"/> <input type="checkbox"/> Trap length and size per Table 3105.1		<u><b>Table 3105.1</b></u>
<input type="checkbox"/> <input type="checkbox"/> Kitchen island vent 6" above highest fixture		<u><b>3112.2</b></u>

#### **Ch. 34-43 Electrical:**

<b>Y</b>	<b>N/A</b>	<b><u>IRC Code Section</u></b>
<input type="checkbox"/> <input type="checkbox"/> Service location identified & load calculations are provided		<u><b>Ch. 36</b></u>
<input type="checkbox"/> <input type="checkbox"/> Gas bonding per Table 3908.12		<u><b>3609.7</b></u>
<input type="checkbox"/> <input type="checkbox"/> (1) 20A GFI branch circuit for laundry		<u><b>3703.3</b></u>
<input type="checkbox"/> <input type="checkbox"/> (1) 20A GFI branch circuit for bathroom receptacles		<u><b>3703.4</b></u>
<input type="checkbox"/> <input type="checkbox"/> Receptacles every 12' and within 6' of openings; all walls more than 2' wide must be served		<u><b>3901.2</b></u>
<input type="checkbox"/> <input type="checkbox"/> (2) 20A Branch Circuits for Kitchen		<u><b>3901.3</b></u>
<input type="checkbox"/> <input type="checkbox"/> Kitchen counter receptacles 4' apart and within 2' of end of countertop segment		<u><b>3901.4</b></u>
<input type="checkbox"/> <input type="checkbox"/> Appliance outlets within 6' of appliance location		<u><b>3901.5</b></u>
<input type="checkbox"/> <input type="checkbox"/> Outdoor outlets at front and back of dwelling and at any balcony, deck, or porch.		<u><b>3901.7</b></u>
<input type="checkbox"/> <input type="checkbox"/> Hallways 10' or longer must have an outlet		<u><b>3901.10</b></u>
<input type="checkbox"/> <input type="checkbox"/> Foyers greater than 60 s.f. must have an outlet		<u><b>3901.11</b></u>
<input type="checkbox"/> <input type="checkbox"/> HVAC equipment must have a service receptacle within 25'		<u><b>3901.12.5</b></u>
<input type="checkbox"/> <input type="checkbox"/> GFI receptacles in bathrooms, garages, accessory buildings, outdoors, crawl spaces, unfinished basements, countertop and sink receptacles, laundry, dishwasher, and within 6' of a tub or shower.		<u><b>3902</b></u>



☐ ☐ AFCI for branch circuits in kitchens, dining rooms, living rooms, bedrooms, sunrooms, closets, hallways, rec rooms, and laundry room. **3902.16**

☐ ☐ Copper ground 4 AWG if 200amp service connected to water, secondary 6AWG to ground rod **Table 3908.12**