COA – Residential Building Construction Plan Review Checklist

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

□ Zoning – Ord. Ch. 660	
\Box Land Development – Ord. #350 [Not required if building a single family dwelling on an existing lot of red	ord]
☐ 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):	Code Section
\square One (1) set of drawings are included in this permit application.	<u>106.1.1</u>
\square One (1) set of submittals are included in this permit application.	<u>106.1.1</u>
\square One (1) Site plan is included in this permit application.	<u>106.2</u>
-OR-	
☐ One (1) PDF of <u>all</u> documents required (with notations and review letter <u>if</u> 3 rd party approved). Applican	t is required to

Ch. 3 Building Planning:

Table 301.2(1) Climatic and Geographic Design Criteria								
Ground	Wind Design				Seismic			
Snow Load	Speed	Topographic	Special	Windborne	Design			
Ord. 225	(mph)	Effects	Wind	Debris Zone	Category			
			Region					
40 psf.	115	YES	В	NO	В			
Subjec	t to Damage	From	Winter	Ice Barrier	Flood	Air Freezing	Mean	
Weathering	Frost Line	Termite	Design	Underlayment	Hazards	Index	Annual	
	Depth		Temp	Required			Temp	
Severe	36"	Moderate	20°F	Yes	Yes	1500 or Less	51°F	
		to Heavy						
Elevation	Latitude	Winter	Summer	Altitude	Indoor	Design	Heating	
		Heating	Cooling	Correction	Design	Temperature	Temperature	
				Factor	Temperature	Cooling	Difference	
384'	N41°	10°F	88°F	0.988	70°F	75°F	60	
Cooling	Wind	Wind	Coincident	Daily Range	Winter	Summer		
Temperature	Velocity	Velocity	Wet Bulb		Humidity	Humidity		
Difference	Heating	Cooling						
13	15	7.5	73	Medium	50%	50%		

Ch. 3 Building Planning:

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

Y	N/A	IRC Code Section
	☐ Skylight curbs required on low-slope roofs	<u>308.6.8</u>
	\square Carports are open on 2 or more sides. Otherwise, it is a garage.	<u>309.2</u>
Wir	\square Basements, habitable attics, and each sleeping room must have a 5.7 s.f. emergency escape e that sprinklered basements sleeping rooms have an exception, and basement and 1 st fl. required above sill height is no more than 44" a.f.f.; window well area is 9 s.f.; permanent ladders required than 44" deep.	es 5.0 s.f. openings.
	\square 1 egress door required min. 32". Door must not require a key to open from inside.	<u>311.2</u>
	☐ Landings must comply with 311.3	<u>311.3</u>
	☐ Hallways must be min. 3' wide	<u>311.6</u>
	☐ Stairways must be min. 3′ wide	<u>311.7.1</u>
	☐ Stairway headroom must be min. 6'8"	311.7.2
	☐ Stairway risers must be max. 8¼", treads min. 9"	UCC
	\Box Stairs must have a landing at the top and bottom $\underline{\bf 31}$	<u>1.7.6</u>
	☐ Handrails are required on stairs with 4 or more risers	<u>311.7.8</u>
	\square Ramps must comply with slopes of 311.8.1	<u>311.8.1</u>
	\square Guards are required where open edge has a 30" drop	<u>312.1</u>
	☐ Window on 2 nd floor or above with sills 24" or less a.f.f. requires opening protection device	312.2.1
	\square Townhouses require an automatic sprinkler system.	<u>313.1</u>
	\square 1-2 family dwellings do not require an automatic sprinkler system.	PA UCC
	\Box Interconnected smoke alarms required on each story, in each bedroom, and outside each sle	eeping area 314.3
	\square A CO detector is required outside each sleeping area if required by 315.2.1	<u>315.3</u>
	\Box Pressure treated wood required in areas listed in 317.1 #1-7, 317.1.2, and 317.1.4	<u>317.1</u>
	\square Termite protection required at top of foundation wall	<u>318.4</u>
	☐ Site address required min. 4" height and ½" width	<u>319.1</u>
	☐ Buildings in a floodplain must comply with IRC 322	<u>322</u>
	☐ Habitable attics are not considered a story	<u>325.6</u>

Ch. 4 Footings and Foundations:

Y N/A IRC Code Section

	\square Site should be graded away for 10' from the foundation unless a swale is built.	<u>401.3</u>
	☐ Concrete must comply with "Severe" column of Table 402.2	<u>Table 402.2</u>
Υ	N/A	IRC Code Section
	\square Footings must be continuous, including stepped footings	<u>403.1</u>
	\Box Footing size must be as per Table 403.1(1) Light Frame, 403.1(2) Brick Veneer, or 403.1(3) Ma	asonry
	☐ Rebar clearance 3" to earth, 1½" to forms	403.1.3.5.3
	☐ Footing depth 36" min.	403.1.4.1 #1
	\square Footings must be level, no more than 1:10 slope, or must be stepped	403.1.5
	\square Anchor bolts 2 per plate within 12" of end of plate and every 6' max.	403.1.6
	☐ Footings adjacent to significant slopes must comply with 403.1.7 <u>40</u>	<u>3.1.7</u>
	☐ Foundation vertical rebar must provided if required by Table 404.1.2(2), 404.1.2(3), or 404.1	.2(4)
	\Box Foundation horizontal rebar (1) #4 within 12" of top of wall and (1-2) #4 mid-height on wall	Table 404.1.2(1)
	☐ Concrete min. strength 2,500 psi	4.1.3.3. <u>1</u>
	☐ Foundation wall must extend 6" above finish grade (4" if exterior wall is brick)	404.1.6
	\square Foundation drainage required unless there is slab-on-grade construction	<u>405.1</u>
	\Box Foundation damp proofing required from top of footing to finish grade unless slab-on-grade	<u>406.1</u>
	\square Steel columns must be painted, not just primed	<u>407.2</u>
	☐ Wood columns min. 4x4, steel columns min. 3" dia.	<u>407.3</u>
	☐ Crawl space ventilation must comply with Sec. 408	<u>408.1</u>
<u>Ch.</u>	5 Floors:	
Y	N/A	IRC Code Section
	\square Floor joist spans: use tables 502.3.1(1) or 502.3.1(2)	
	\square Openings for stairs, attic access, or other openings must comply with 502.10	<u>502.10</u>
	\Box Cantilever back spans must comply with Tables 502.3.3(1) or 502.3.3(2)	
	\square Truss design must be submitted prior to the framing inspection	<u>502.11.4</u>
	\Box Concrete slab on grade must be 3½" thick concrete on 4" gravel base, 6-mil. vapor barrier	<u>506</u>
	☐ Decks must comply with 507	<u>507</u>

Ch. 6 Wall Construction:

Y	N/A	IRC Code Section
	\square Stud size must comply with Table 602.3(5)	
	☐ Header spans	<u>Table 602.7(1)</u>
Υ	N/A	IRC Code Section
	\square Double jack studs required to support headers with greater than 8' span	<u>Table 602.7.5</u>
	\square Wall bracing: sheathing or other means allowed in 602.10	<u>602.10</u>
	\Box 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	<u>606.4.1</u>
<u>Ch.</u>	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	<u>703.2</u>
	$\hfill\square$ Pan sill flashing required at exterior windows and doors	<u>703.4</u>
	\square Wall covering methods (Stucco, stone and brick veneer, EIFS, vinyl, etc) must comply wit	h 703 <u>703</u>
<u>Ch.</u>	8 Roof-Ceiling Construction:	
Υ	N/A	IRC Code Section
	☐ Fire-retardant-treated roof sheathing on townhouses within 4' of common walls (302.2.4)	4 Exception) 802.1.5
	☐ Wood rafter spans must comply with Table 802.4.1(1)-802.4.1(6) [Interpolate snow load	s]
	\square Wood ceiling joist spans must comply with Table 802.5.1(1) or 802.5.1(2)	
	$\hfill\square$ Engineered truss roof design must be submitted prior to the framing inspection	<u>802.10.1</u>
	☐ Hurricane clips required	<u>802.11.1</u>
	☐ Sheathing thickness: 5/8" min.	<u>Table 803.1</u>
	\square Roof ventilation min. area: 1/150 of area of attic	<u>806.2</u>
	☐ Attic access 22"x30" min. with 30" vertical headroom	<u>807.1</u>
<u>Ch.</u>	9 Roof Assemblies:	
Υ	N/A	IRC Code Section
	\square Crickets or saddles must be installed above chimneys	903.2.2

\Box Ice/water shield required from edge to 24" inside exterior wall, at the rake wall, and at valleys <u>905.1.2</u>							.1.2	
□ □ 2:12-4:12	\square 2:12-4:12 pitch roofs require double underlayment; 4:12 and greater pitch single underlayment 905.2.2							.2.2
Ch. 10 Chimneys	and Fireplac	es:						
Y N/A	•						IRC Co	de Section
				tile a the contract		20 4002 0		
☐ ☐ Must terr	minate 3° abo	ove root an	d must comply v	vith other cleara	inces per ii	RC 1003.9	<u>100</u>	<u>3.9</u>
Ch. 11 Energy Eff	ficiency:							
Designer must se	elect method	of compli	ance AND comp	ly with the man	datory red	uirements fo	or all methods	5.
Method #1: 2018	B IRC						110	2.1
Y N/A							IRC Co	de Section
☐ ☐ Insulation	n and fenestr	ations mus	t follow Climate	Zone 5			<u>Tab</u> l	e 1102.1.2
Fenestration	Skylight	Ceiling	Wood Frame	Mass Wall R-	Floor	Basement	Slab	Crawl
U-Factor	U-Factor	R-Value	Wall R-Value	Value	R- Value	Wall R-Value	R-Value and	Space Wall
			N-Value		Value	K-Value	Depth	R-Value
0.30	0.55	R-49	R-20 cavity or	R-13 on	R-30	R-10 c.i.	R-10 for 2	R-15 c.i.
			R-13 cavity plus 5 c.i.	outside or R- 17 on inside		or R-19 cavity	feet	or R-19 cavity
	1	1	,				•	,
Method #2: PA A	Alternative 20)21					<u>110</u>	<u>1.4</u>
Y N/A							IRC Co	de Section
☐ ☐ Must sele	ect 'entry opt	ion' from (Climate Zone 5				PA Alt. 2021	Table 104
☐ ☐ Insulation	n and fenestr	ations mus	t follow Climate	Zone 5			PA Alt. 2021	. Table 301
Fenestration	Skylight	Ceiling	Wood Frame	Mass Wall R-	Floor	Basement	Slab	Crawl
U-Factor	U-Factor	R-Value	Wall	Value	R-	Wall	R-Value	Space
			R-Value		Value	R-Value	and Depth	Wall R-Value
0.30	0.55	R-49	R-20 cavity or	R-13 on	R-30	R-10 c.i.	R-10 for 2	R-10 c.i.
			R-13 cavity plus 5 c.i.	outside or R- 17 on inside		or R-13 cavity	feet	or R-13 cavity
			pius 5 c.i.	17 on misue		Cavity		cavity
Method #3: ResCheck 1101.3								
Y N/A IRC Code Section								
☐ ☐ Entire the	☐ Entire thermal envelope must be listed and shown to comply <u>1105.4.2.1 #2</u>							
□ □ ResCheck	k must be sigr	ned by the	person who gen	erated the repo	rt		<u>110</u>	5.4.2.1 #5

Pro	visions for ALL COMPLIANCE METHODS		1101.13 #2
Y	N/A	<u>IR</u>	C Code Section
	☐ Sunroom insulation must comply with 1102.2.13	1102.2.	<u>13</u>
	$\hfill \square$ Air barrier must be installed to create a complete envelope and follow Table 1102.4.1.1		
	$\hfill\square$ Blower door test at completion of project must achieve 3 or less air changes per hour		1102.4.1.2
	\Box Air barrier must be installed to create a complete envelope and follow Table 1102.4.1.1		
	$\hfill\square$ Blower door test at completion of project must achieve 3 or less air changes per hour		1102.4.1.2
	$\hfill \square$ A thermostat must be provided for each heating and cooling system		<u>1103.1</u>
	\Box Duct leakage testing at project completion required showing 4 cfm / 100 s.f. or less		<u>1103.3.4</u>
	☐ Framing cavities cannot be used as supply ducts		<u>1103.3.6</u>
	☐ Mechanical system heated or cooled fluids must be insulated to R-3		<u>1103.4</u>
	$\hfill\Box$ Heating and cooling equipment must be sized per ACCA Manual S/J		<u>1103.7</u>
	\square At least 90% of lighting fixtures must be LED		<u>1104.1</u>
<u>Ch.</u>	12-24 Mechanical:		
Y	N/A	<u>IR</u>	C Code Section
	☐ A service space 30"x30" must be provided on all sides of the appliance		<u>1305.1.1</u>
	$\hfill \square$ A switch controlled luminaire and a receptacle outlet must be provided near appliances		<u>1305.1.2.1</u>
	\square Attic equipment and B-vents installed with 1" min. clearance to combustibles		1306.2.2
	\square Appliance ignition in garage must be elevated 18" above floor		<u>1307.3</u>
	☐ Appliances in garage must have motor vehicle protection	<u>1307.3.</u>	<u>1</u>
	$\hfill\Box$ Furnace must be sized per Manual S based on building load calculations	<u>1401.3</u>	
	\Box Furnace condensate must be trapped and vented and terminate in a readily accessible lo	cation	<u>1411.3</u>
	\square Attic furnaces / air handlers must have a drain pan or a water level detection / shutoff		<u>1411.3.1</u>
	☐ A/C refrigerant lines must be insulated to R-4		<u>1411.6</u>
	\Box Exhaust must terminate at least 3' from openable windows and doors and 10' from intak	e openin	gs 1504.3
	☐ Supply and return duct sizing		<u>1601.1</u>
	☐ Flex duct max. ½" per foot sag		<u>1601.4.4</u>
	\square Metal duct must be supported at 10' o.c. with 18 gauge straps		<u>1601.4.4</u>
	☐ Combustion air vents provided in accordance with 2407		2407

	\square Gas shutoff valves must be within 6' of each appliance	<u>2420.5.1</u>				
Ch. 25-33 Plumbing:						
Y	N/A <u>I</u>	RC Code Section				
	\Box Water and drainage pipes must be protected if installed less than 1 ½ " from face of framing	<u>2603.2.1</u>				
	\square Piping must be secured and supported	<u>2605.1</u>				
	☐ Proper sweep for drainage fittings	3005.1				
	\square Min. slope ¼" per foot, except 1/8" per foot for 3" and larger pipe	3005.3				
	☐ Trap length and size per Table 3105.1	<u>Table 3105.1</u>				
	☐ Kitchen island vent 6" above highest fixture	<u>3112.2</u>				
<u>Ch.</u> :	34-43 Electrical:					
Y	N/A <u>I</u>	RC Code Section				
	\square Service location identified & load calculations are provided	<u>Ch. 36</u>				
	\square Gas bonding per Table 3908.12	<u>3609.7</u>				
	\square (1) 20A GFI branch circuit for laundry	<u>3703.3</u>				
	\square (1) 20A GFI branch circuit for bathroom receptacles	<u>3703.4</u>				
	\square Receptacles every 12' and within 6' of openings; all walls more than 2' wide must be served	3901.2				
	\square (2) 20A Branch Circuits for Kitchen	<u>3901.3</u>				
	☐ Kitchen counter receptacles 4' apart and within 2' of end of countertop segment	<u>3901.4</u>				
	☐ Appliance outlets within 6' of appliance location	<u>3901.5</u>				
	☐ Outdoor outlets at front and back of dwelling and at any balcony, deck, or porch. 3901.	<u>7</u>				
	☐ Hallways 10' or longer must have an outlet	<u>3901.10</u>				
	☐ Foyers greater than 60 s.f. must have an outlet	<u>3901.11</u>				
	☐ HVAC equipment must have a service receptacle within 25′	<u>3901.12.5</u>				
□ coui	☐ 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. 3902					
□ roor	\square AFCI for branch circuits in kitchens, dining rooms, living rooms, bedrooms, sunrooms, closets, hallways, rec rooms, and laundry room. $\underline{3902.16}$					

 $\ \square$ Copper ground 4 AWG if 200amp service connected to water, secondary 6AWG to ground rod

Table 3908.12