POST FRAME ACCESSORY STRUCTURE PLAN REVIEW

City of Wadsworth

JOB ADDRESS _____ *DATE* _____

NAME _____

Type	OK	Not OK	See Back	Comments
Structure Use			#1	☐ Approved ☐ Requires Engineered Design
Footer Size, Depth,			#2	____" Dia. x ____" Thick x ____"Deep
Footer Uplift Protection			#3	See Back For Required Uplift Protection Options
Posts				4" x 6" Minimum (6" Wall Thickness) 8' OC
Door Header			#4	
Top Girders			#5	
Location on Lot			#6	See Back if Closer Than 3' to Property Line or Adjacent to Dwelling.
Building Height				Maximum Height Without Zoning Variance is 16', Max Wall Height Per Building Code is 16', Roof 20'
Wall Bracing			#7	See Back For Details
Knee Bracing			#8	See Back For Details
Sheathing / Decay			#9	See Back For Details
Stick Framed Roofing			#10	See Back For Details
Garage Floor Drains		→		Garage Drains Must be Connected to the Sanitary Sewer
Trusses			#11	
Gable Trusses			#12	
Man Door			#13	
Ventilation			#14	
Spouting Drainage		→	#15	
Concrete			#16	
Fasteners/Hardware		→	#17	See Back for Requirements
Other:		→	#18	
		→		See Code Section324 Attached

SEE ADDITIONAL BUILDING REQUIREMENTS ON REVERSE SIDE →

ADDITIONAL BUILDING REQUIREMENTS:

1) Approved Post frame structures are residential, single story accessory structures, not attached to the dwelling, solid structural sheathing with 36' maximum building width (incl. overhang), max 16' wall height, and 20' total height. Max post spacing 8' o.c. Attic storage requires engineered trusses.
2) Footer dimensions: 24' Width+ Overhangs = 18" Dia. x 9" Thick; ≤28' Width+ Overhangs = 20" Dia. x 10" Thick; ≤36' Width+ Overhangs = 22" Dia. x 11" Thick. 48" of Fill is Required Above Footers _____
3) Two 2x6's 12" long attached to each side of the base of the post w/ 5-16d hot dipped galv. nails per side; *or* 2-#5 x 9" rebar thru the post at 3" and 9" from the base in opposite directions with a 12" concrete collar.
4) Door header carrying roof loads: 16'3" opening - 2 ply 1-3/4"x11-7/8" LVL or (5ply Douglas Fir 2x12) to 30' deep. 18'3" door – 2 ply 11-7/8" LVL to 24' deep, 14" to 36' deep. Gable End Opening: 10': 2-2x8, 12': 2-2x10, 16': 2-2x12. See Table 324.4.5.
5) 2" x 8" girders for buildings up to 16' wide; 2"x 10" girders up to 24' wide; 2" x 12" up to 32' wide. Girders to be bolted to posts with 2, ½" through bolts, 2, 1/2" lag bolts per side, or 3, 3 -5/8" Ledgerlock per side.
6) Walls within 3' of a property line must have a 1 hour fire rating on both sides of the wall. Install 5/8" drywall or rated plywood on interior and exterior of wall and soffits. Overhangs and projections shall not be fire rated on the underside when >3' from the line, and not permitted < 2' from the line. No window or door openings are permitted < 3'. Garages <3' from a dwelling on the same lot require ½" interior drywall on the wall&attic.
7) Walls require structural wood panels (1/2" OSB/plywood), solid metal or other engineered system. 2x6 Bracing must be provided between posts from the skirt board to the header on each side of the building at 25' on center and 12' maximum from the ends, and attached to the wall girts with 2-10d nails and columns with 2 -16d nails.
8) A 2x6 knee brace shall extend from the post to the top chord of the adjacent truss or rafter at a 45° angle and be attached with 3-10d nails. The brace must attach to the post with 3-16d hot dipped galvanized nails 18" below the bottom chord for walls to 10', 24" for walls to 11', 36" for walls to 12', and 48" for walls to 16'.
9) Skirting must extend to exterior grade, be rated for ground contact, and must be able to contain interior fill.. All structural framing within 8" of the ground or exposed to the weather must be pressure treated. All non-pressure treated wood, siding, and OSB/plywood sheathing must be kept 6" above ground and 2" above exterior concrete.
10) Ceiling joists or 2x4 rafter ties shall be attached to each rafter in the bottom 1/3 of the attic. In addition, 1x4 *collar* ties located in the upper 1/3 of the attic must be at least 4' oc., or ridge straps. If no rafter ties, a ridge beam designed to support all loads and be supported on each end by direct bearing or hangers.
11) Trusses require hold downs on each end. Bottoms must be continuously braced per manufacturer generally perpendicular to trusses 10' on center – ("rat runs') if no drywall ceiling.
12) Trussed gables must be braced to manufacturer specifications. They must bear on a beam and are not designed to carry any load. Use common trusses on ends if no bearing is provided.
13) A side hinged 2668 access door is required in all garages. Doors connected to dwelling are acceptable.
14) Net free ventilating area of attics in heated structures must be 1/150 to 1/300 of attic square footage. Builder is responsible for ventilating calculations.
15) Downs spouts are required on all new structures and are required to be connected to the storm sewer unless alternative approval (such as a drywell – see handout) has been received from the City of Wadsworth.
16) Concrete floors must be separated from posts and skirting by expansion joint, felt paper or other approved method.
17) All nails, bolts, screws, or hangers in contact with ACQ or CAB treated lumber must be hot dipped galvanized, stainless steel, or have a zinc 185 coating. This includes foundation anchor bolts, and framing/siding nails. In no case can aluminum be in contact. Hanger fasteners must have similar coatings.
18) Accessible permit and visible address numbers must be posted at jobsite to receive inspections. Obtain any required electrical inspections prior to rough or final bldg. approvals.

The Requirements Of This Review Have Been Examined And Accepted By:

_____

Builder, Agent or Responsible Party **Date**

INSPECTION GUIDELINES

City of Wadsworth, 120 Maple St.

Hours: 7:30a.m. – 4:30 p.m.

Bldg and Elec Inspections..330-335-2753

Building inspections should be requested by 9:00 a.m. the day the inspection is needed by scheduling an inspection at (330) 335-2753 or leaving a message on voice mail, which is available 24 hours a day.

Call OUPS Before You Dig-800-362-2764

Post Frame Construction Inspections:

Footer - REQUIRED

- Holes are inspected for width, depth, and location before concrete is poured. The perimeter of the proposed construction should be clearly marked by stakes, string or paint, and the property lines should be indicated. You may also call for a pre-footer "Stake" inspection before the holes are dug if there is any question whether the proposed deck will encroach into the required setbacks or easement:

Rough Frame

- Framing is to be inspected before siding is installed if through bolts are not used for girders.

- **Final Building Inspection - REQUIRED FOR ALL STRUCTURES WHEN COMPLETED.**

SECTION 328
POST FRAME ACCESSORY STRUCTURES

*328.1 **Post frame accessory structures.** The following requirements serve as minimum standards for post and frame structures within all of the following structural limitations:*

1. *Residential accessory structures,*
2. *Single story,*
3. *Solid exterior structural sheathing or metal roof, and solid wall panels,*
4. *No attic storage,*
5. *Maximum building width of thirty six feet including the overhang,*
6. *Maximum wall height of sixteen feet,*
7. *Maximum mean roof height of twenty feet, and*
8. *Maximum post spacing of eight feet.*

Post and frame structures and portions thereof outside the above structural limitations of this standard shall be accompanied by structural calculations as required by the residential building official or designed under the provisions of Section 106.5 of the Residential Code of Ohio (RCO). Post and frame structures shall comply with the structural design requirements of Section 301 of the RCO.

*328.2 **Definition.** Post frame accessory structures consist of primary members (wood posts, beams & single span roof trusses or ceiling joist and rafters) and secondary members (wood roof purlins, wall girts, bracing & sheathing) where all loads are transmitted from the sheathing and the secondary members to the primary members which transfer all combined loads to the soil through vertical posts bearing on footings embedded in the ground. See Figure 328.*

*328.3 **Footings and foundations.** Footings and foundations shall comply with applicable provisions of 401. Post frame structures shall have poured in-place concrete footings installed below all posts. The top of the footing shall be a minimum of 48 inches below finished grade and have footing diameters complying with Table 328.3.*

TABLE 328.3
POST FRAME PIER FOOTING DIAMETERS[1, 2, 3, 4]

	BUILDING WIDTH (length of truss) INCLUDING OVERHANG (feet)			
	24	28	32	36
Diameter (inches) 20# roof snow load	18	20	22	22
Diameter (inches) 30# roof snow load	18	22	24	26

1. *Pier footing thickness shall be a minimum one-half of the diameter of the footing.*
2. *Based upon 2000 PSF soil bearing capacity and truss loads of 20 or 30 PSF live or snow load top chord, 10 PSF dead load top chord, 5 PSF dead load on the bottom chord and no live load on the bottom chord.*
3. *Fractional widths shall be rounded to the next higher pier footing diameter.*
4. *Table not to be used in Ohio case study areas.*

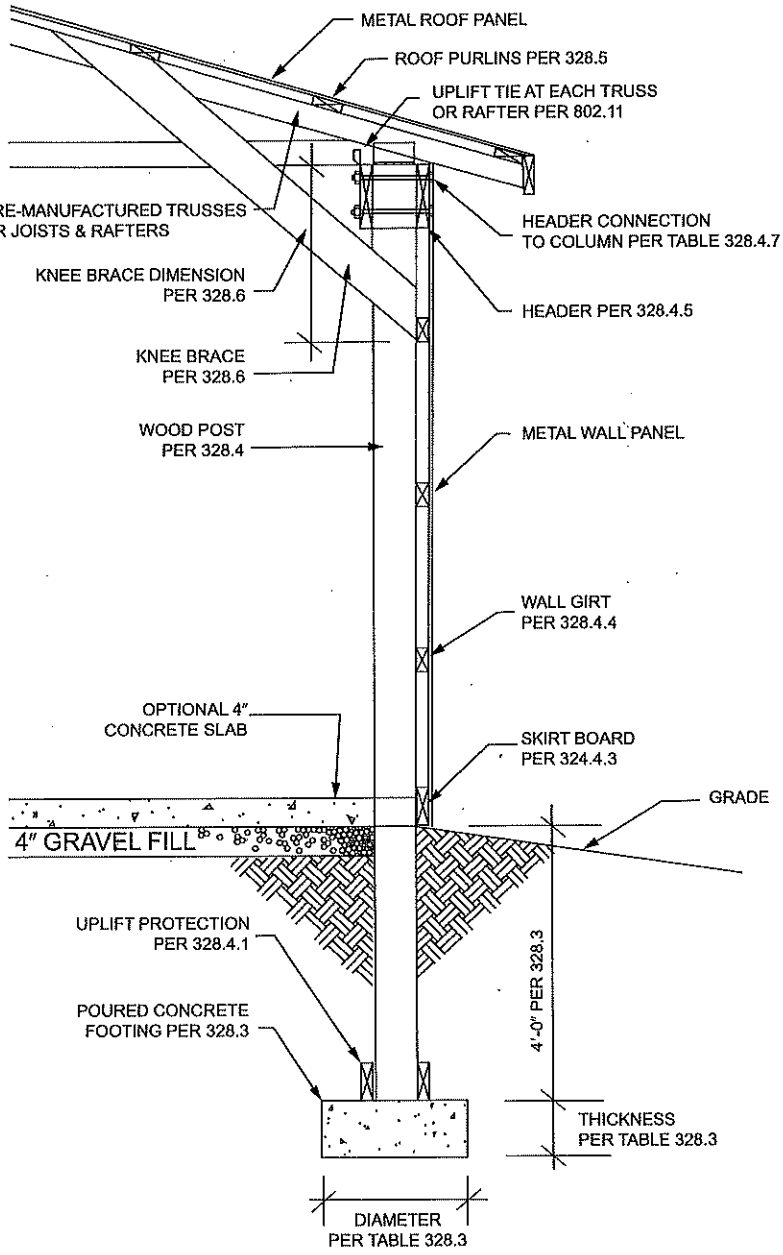

FIGURE 328
POST AND FRAME WALL SECTION
(NO SCALE)

328.4 Post and wall construction. *Posts shall be three (3) ply unspliced, reinforced spliced or solid wood and shall not be less than 4 inch by 6 inch nominal size. Posts shall comply with the requirements of Section 317.*

328.4.1 Uplift protection: *Posts shall have uplift protection by one of the following methods:*

1. *Two 2 × 6 × 12 inch post uplift protection blocks attached to each side of the base of the post. The post uplift blocks shall be placed horizontally, attached per Table 328.7 and comply with Section 317;*
2. *12 inch high, concrete collar poured on top of footing around the post, with 2-#5 × 9 inch rebar placed through the post at 3 inches and 9 inches from bottom of post in opposite directions. The rebar ends must be 1 $^{1}/_{2}$ inches from the soil. See Figure 328.1;*

328.4.2 Post Spacing. *The maximum spacing for posts shall be (eight) 8 feet on center.*

328.4.3 Skirt Boards. *Skirt boards shall be treated lumber meeting the requirements of Section 317 and attached per Table 328.7.*

328.4.4 Wall girts. *Wall girts shall be not less than 2 x 4 inches nominal and spaced not more than twenty-four (24) inches on center.*

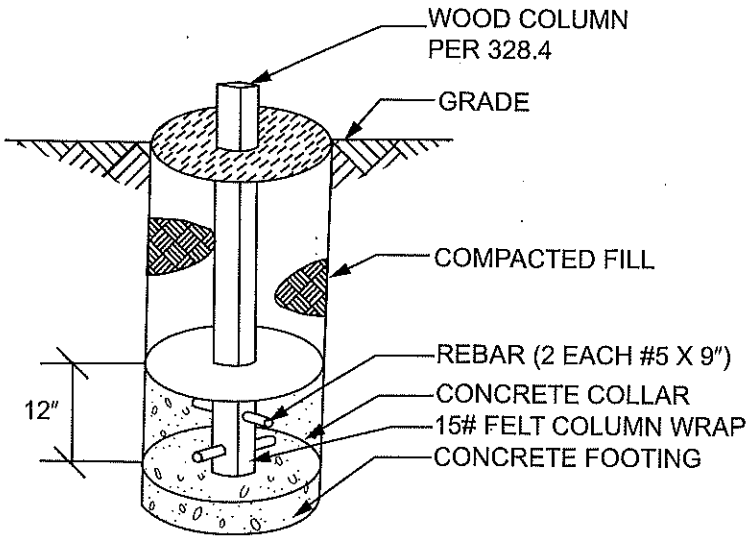

FIGURE 328.1
POST UPLIFT PROTECTION EXCEPTION
(NO SCALE)

328.4.5 Load bearing beams and headers: *Load bearing beams and headers shall comply with Table 502.5(1).*

Exceptions:

1. *Bearing beams are not required if the trusses or ceiling joists and rafters bear directly on the posts.*
2. *Headers in the gable-end wall which do not support more than five square feet of wall area per lineal foot of header shall be sized per Table 328.4.5.*

TABLE 328.4.5
GABLE END HEADER SIZES

Opening Width (feet)	10	12	16
Header Size (inches)	2-2 × 8	2-2 × 10	2-2 × 12

328.4.6 Bracing. *Wall bracing shall be provided to resist all racking and shearing forces and must comply with the applicable provisions of section 602.10 or by installing 2x6 diagonal cross braces in the bays between adjacent posts as described in this section. The diagonal cross braces shall be placed from the top header or girt to the next adjacent post at the skirt board. The cross bracing shall be placed or installed on all sides of the building and shall be spaced at a maximum of 25 feet on center and within 12 feet of the corners of the building and attached per Table 328.7. Any splices of the diagonal brace required due to excessive length, must lap over two consecutive wall girts.*

328.4.7 Beams supporting trusses or rafters and ceiling joists attachment to column. *Bearing beams supporting roof trusses or rafters and ceiling joists shall be connected to the posts by one of the following methods:*

1. *Bolts that are $^1/_2$ inch diameter through-bolted to the side of the post;*
2. *Bolts that are $^1/_2$ inch diameter, directly attached to a 3-ply post notch, enclosing the truss or rafter at the top of post; or*
3. *Other fasteners with minimum shear or withdraw values stated in Table 328.4.7*

328.4.7.1 Number of fasteners. *The minimum numbers of through bolts or other fasteners with minimum shears or withdraw values required per Table 328.4.7.*

TABLE 328.4.7
BEAM OR TRUSS CONNECTION AT POSTS MINIMUM FASTENERS OR TOTAL SHEAR OR WITHDRAW VALUES [a,b,c]

	BUILDING WIDTH (Length of Truss) INCLUDING OVERHANG (feet)			
	24	28	32	36
Shear or withdraw (pounds) 20 lb snow load	3360	3920	4480	5040
Number of Bolts, 20 lb roof snow load	2	2	2	3
Shear or withdraw (pounds) 30 lb roof snow load	4320	5040	5760	6480
Number of Bolts, 30 lb roof snow load	2	3	3	3

a. *Based upon truss loads of 20 or 30 PSF live or snow load top chord, 10 PSF dead load top chord, 5 PSF live load on the bottom chord and no live load on the bottom chord.*
b. *Based upon post spacing at intervals not exceeding 8 feet.*
c. *When beams are attached at each side of the column and fasteners do not extend through both beams such as through-bolts, the required values are one-half the amount shown above for each beam.*

328.5 Roof purlins. *Roof purlins shall be a minimum of 4x2 SPF#2 laid flat for spans up to 4 feet, and 4x2 SPF#2 laid on edge for spans up to 8 feet. Roof purlins shall be spaced not more than 24 inches on center.*

328.6 Knee bracing. *A 2 x 6 brace shall extend from the post to the top chord of the truss or rafter adjacent to the post at a*

45 degree angle. The vertical distance down from the bottom chord of the truss or ceiling joist to the point where the brace attaches to the posts shall be in compliance with Table 328.6 as shown on Figure 328. Trusses or rafters must be spaced such that they align with the post intervals. Attachment of knee brace shall be per Table 328.7.

TABLE 328.6
KNEE BRACE VERTICAL DISTANCE

Wall Height	Vertical Dimension
8'-0" and 9'-0"	1'-6"
10'-0" and 11'-0"	2'-0"
12'-0" and 13'-0"	3'-0"
14'-0" through 16'-0"	4'-0"

328.7 Attachment details. *Structural fastener details for post and frame buildings shall comply with Table 328.7.*

328.8 Roof trusses. *Engineered roof trusses, where used, shall be accompanied by drawings sealed by the registered design professional responsible for their preparation and shall be submitted to the residential building official for approval prior to the framing inspection. The truss design shall comply with Sections 802.10 and 802.11 and shall account for all loads imposed on the truss as a result of the prescriptive requirements of this section.*

TABLE 328.7
STRUCTURAL FASTENERS

FASTENER SCHEDULE FOR STRUCTURAL MEMBERS		
Description of Building Element	**Number and Type of Fastener**	**Attachment type**
Uplift blocking to post	5-16d Hot Dipped Galvanized	Each block
Skirt board to post	2-16d Hot Dipped Galvanized	Face nail
Wall girt to post	2-16d Hot Dipped Galvanized	Face nail
Diagonal cross bracing to post	2-16d Hot Dipped Galvanized	Face nail
Diagonal cross bracing to skirt board	2-10d Hot Dipped Galvanized	Face nail
Diagonal cross bracing to wall girts, beam, or header	2-10d	Face nail
Knee brace to post	3-16d Hot Dipped Galvanized	Face nail
Knee brace to top chord of truss or rafter	3-10d	Face nail
Knee brace to bottom chord of truss or ceiling joist	3-10d	Face nail
Roof purlin to truss or rafter with span of 2' or 4'	2-16d	Face nail
Roof purlin to truss or rafter with span of 8'	Mechanical fastener with uplift protection greater than 225 pounds.	Per manufacturer installation manual