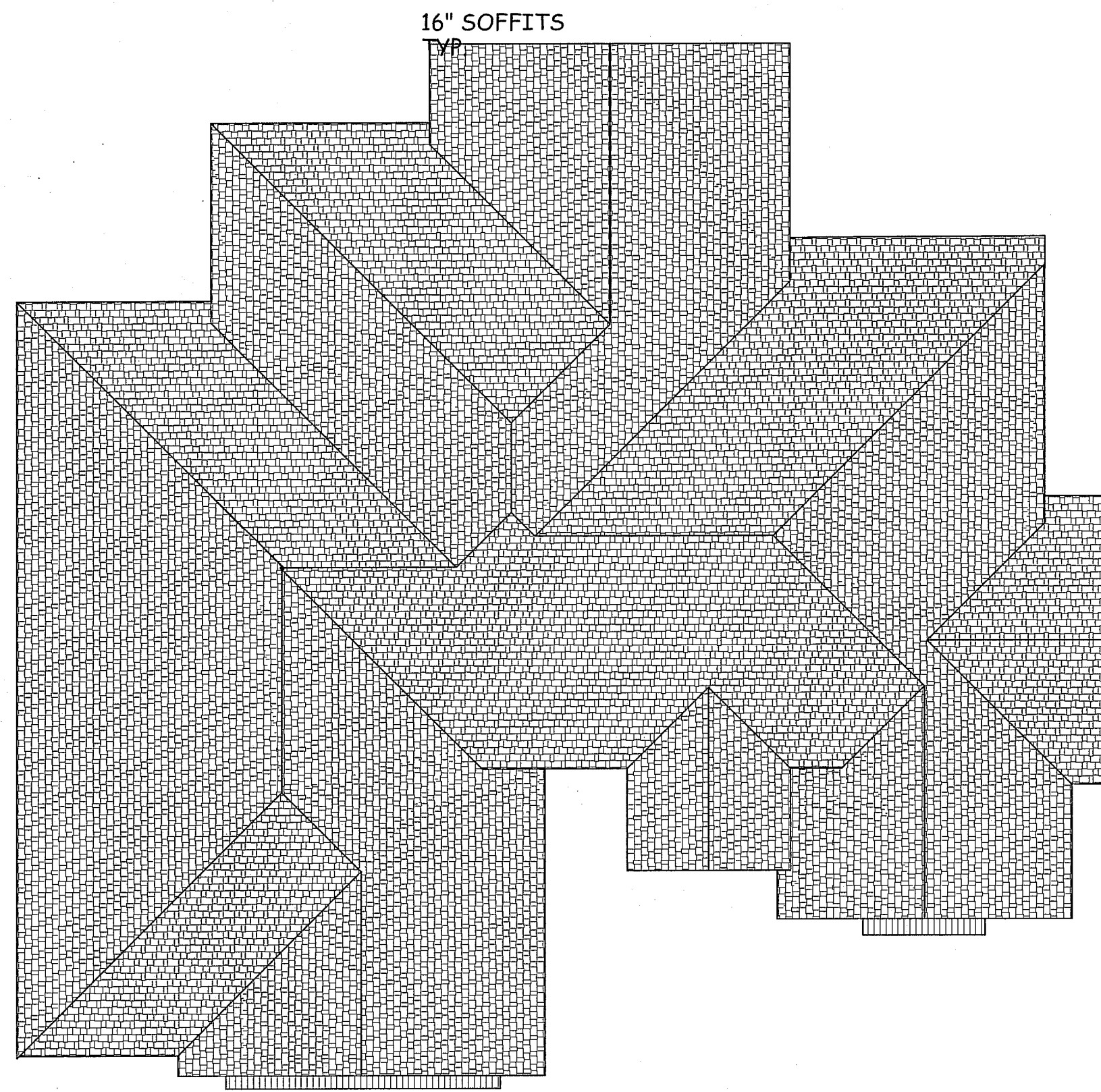
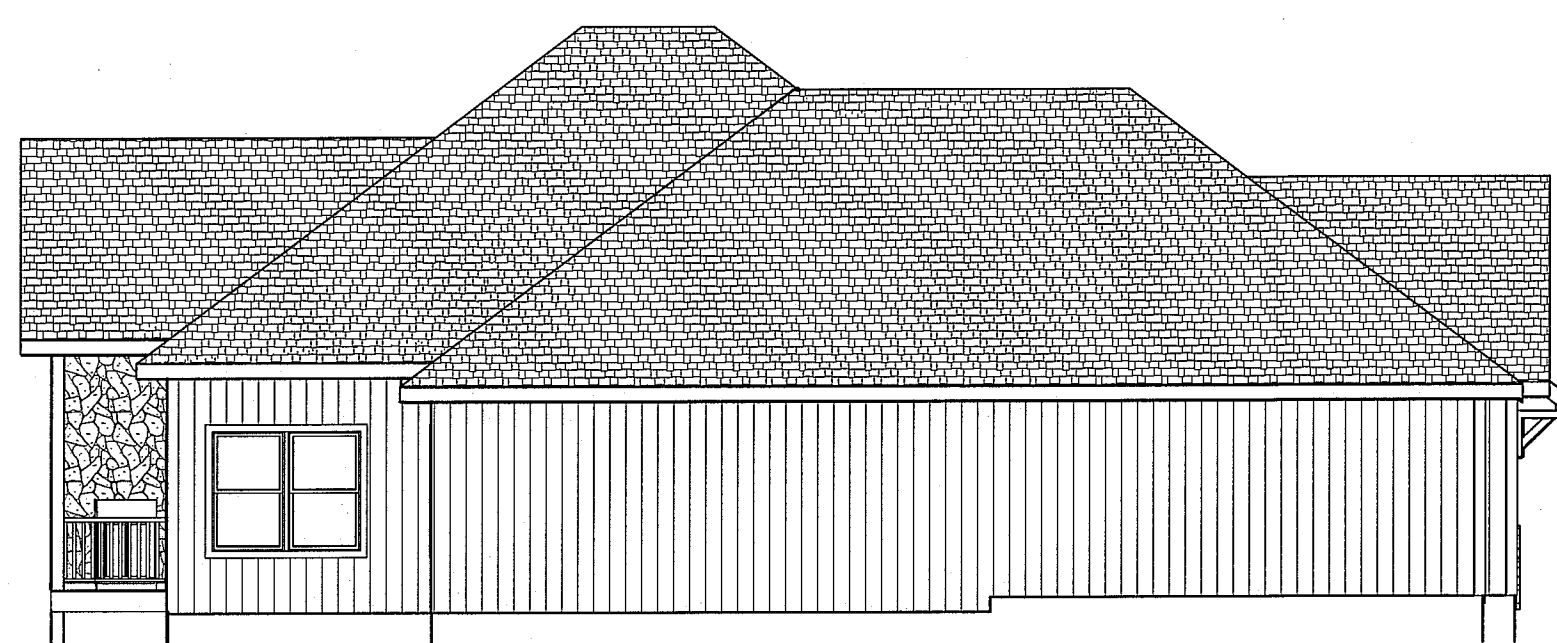




ROOF PLAN
1/8" = 1'-0"
ROOF PITCHES 9/12
RAFTERS 2 X 6 DF NO 2 @ 16" OC TYP.
HIPS AND RIDGES 2 X 8 DF NO 2 TYP.



LEFT EL.
1/8" = 1'-0"

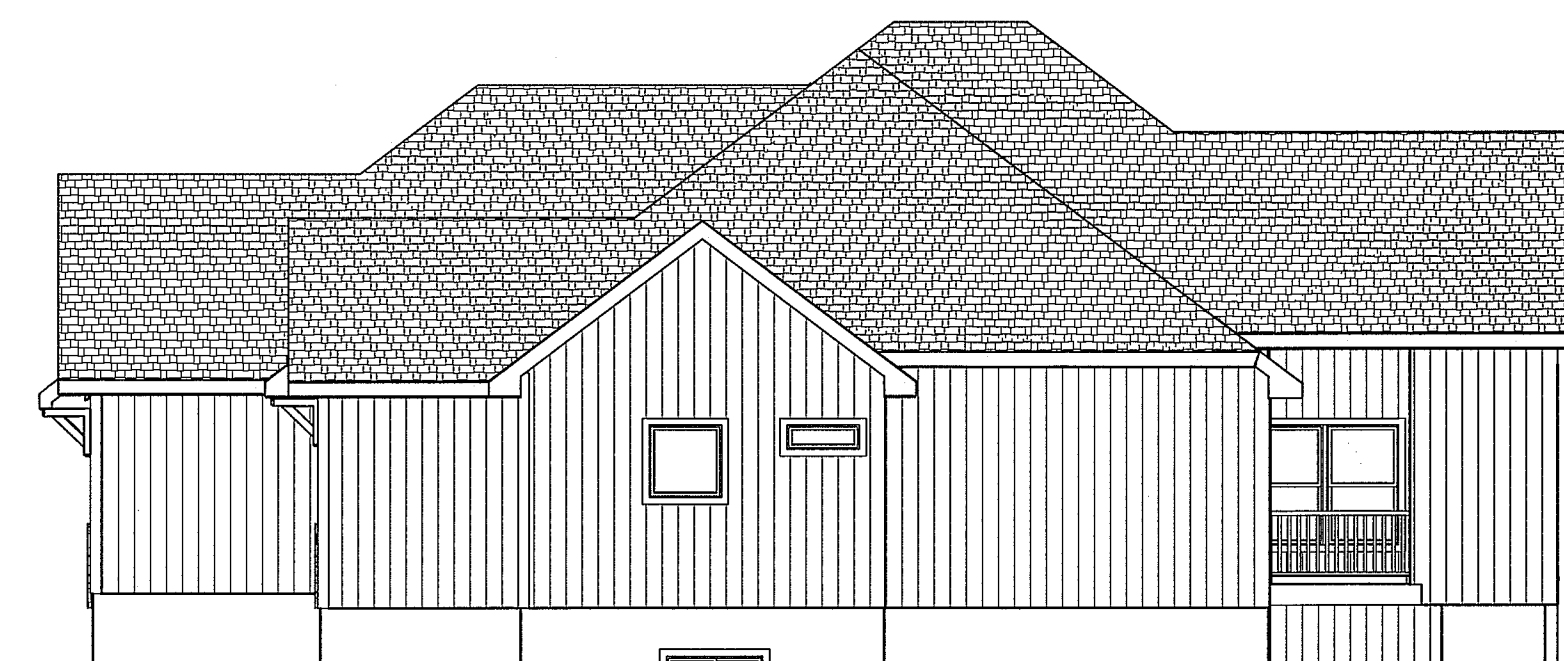
3 SIDES LP PANEL SIDING



REAR EL.
1/8" = 1'-0"



FRONT EL.
STUCCO, STONE, AND SHAKE SIDING



RIGHT EL.
1/8" = 1'-0"

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
07/26/2021

STATE OF MISSOURI
JOSEPH A. TOWNS P.E.
M.O. LIC # 22017
PROFESSIONAL SEAL
APPLIES TO STRUCTURAL
ELEMENTS ONLY

BUILD IN ACCORDANCE WITH
2018 INTERNATIONAL
RESIDENTIAL CODE AND
LOCAL CODES.

NICK ZVACEK HOMES
LOT 131 MONTICELLO
4821 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

DATE
3-8-21

PLAN NO.

3403

SHEET NO.

1 OF 5

BUILT IN ACCORDANCE WITH
2018 INTERNATIONAL
RESIDENTIAL CODE AND
LOCAL CODES.

NICK ZVACEK HOMES
LOT 131 MONTICELLO
4821 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0"

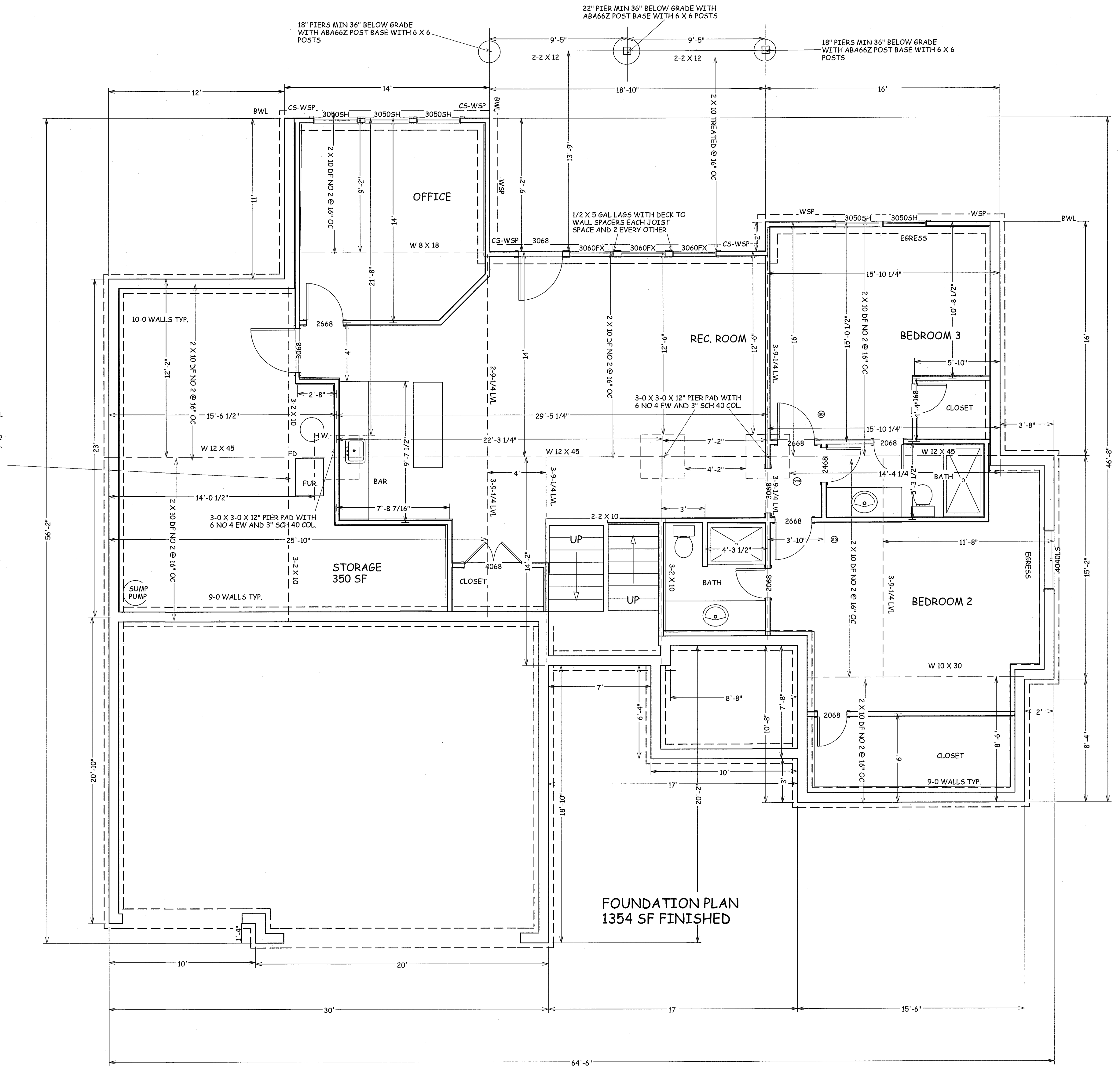
DATE
3-8-21

PLAN NO.
3403

SHEET NO.

2 OF 5

COMBUSTION AIR CALCULATIONS
INPUT CAPACITY
FURNACE = 100,000 BTU/HR
H.W. HEATER = 50,000 BTU/HR
TOTAL = 150,000 BTU/HR
50 CUBIC VOLUME REQ. PER 1,000 BTU/HR
VOLUME IN UNFINISHED
350 X 9 = 3,150 CU. FT.
SINCE UNFINISHED AREA DOES NOT
PROVIDE SUFFICIENT VOLUME FOR NORMAL
INFILTRATION, INSTALL 2 METAL LOUVER
VENTS IN WALL BETWEEN FAMILY ROOM
AND FURNACE ROOM. ONE VENT SHALL BE @
MIN. WITHIN 12" OF THE TOP OF THE WALL,
AND ONE VENT SHALL COMMENCE WITHIN
12" OF THE BOTTOM OF THE WALL. EACH
VENT SHALL PROVIDE A MINIMUM FREE
AREA OR 150 SQUARE INCHES (1" PER 1,000
BTU/HR) SINCE METAL LOUVERS HAVE 75%
FREE AREA, MINIMUM LOUVER SIZE
REQUIRED = 150/75 = 200 SQ. IN.



JOSEPH A. TOWNS P.E.
MO. LIC. E 22017
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NICK ZVACEK HOMES
LOT 131 MONTICELLO
4821 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1-0

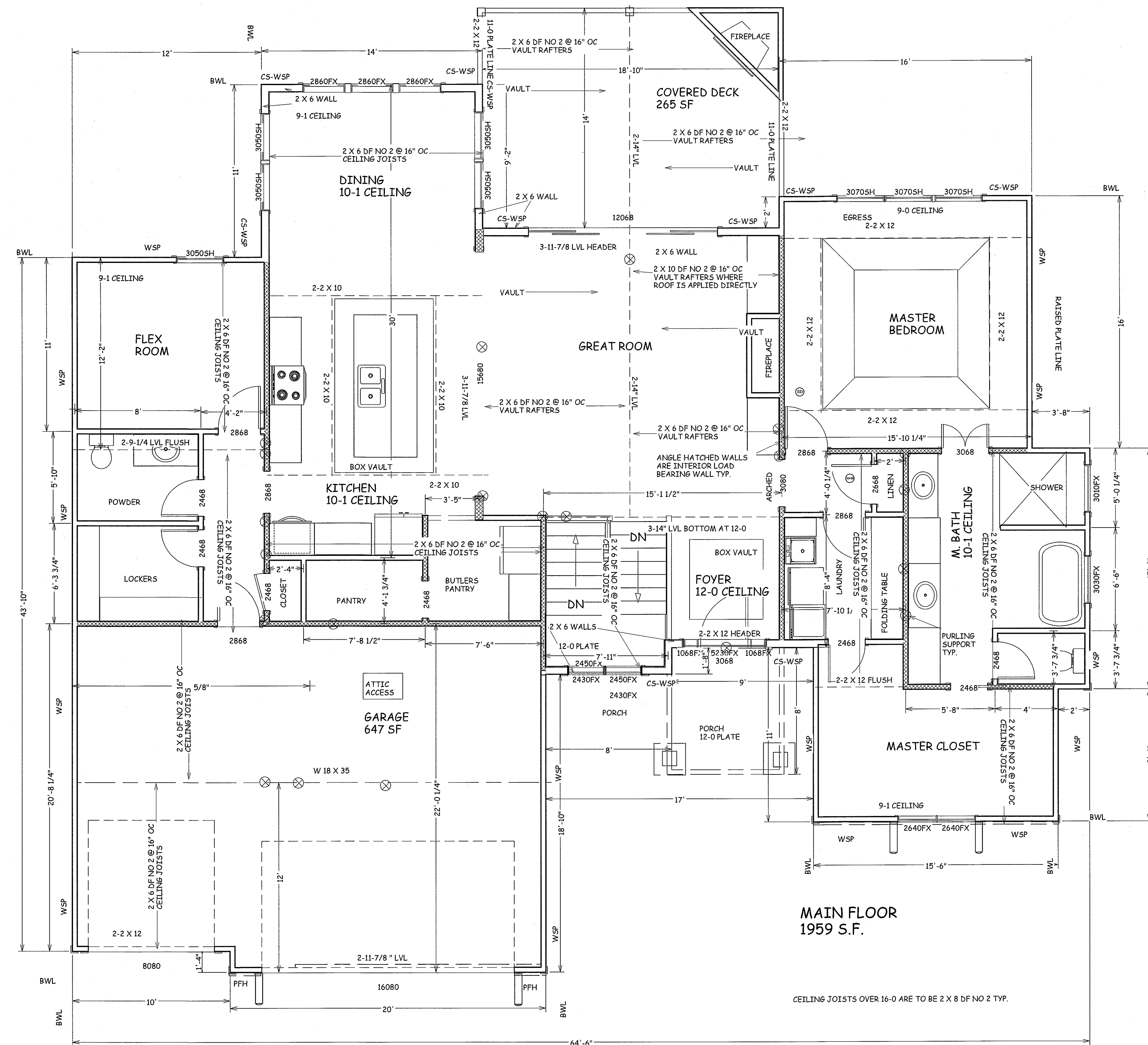
DATE
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PLAN NO.

3403

SHEET NO.

3 OF 5



JOSEPH A. TOWNS P.E.
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NICK ZVACEK HOMES
LOT 131 MONTICELLO
4821 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0

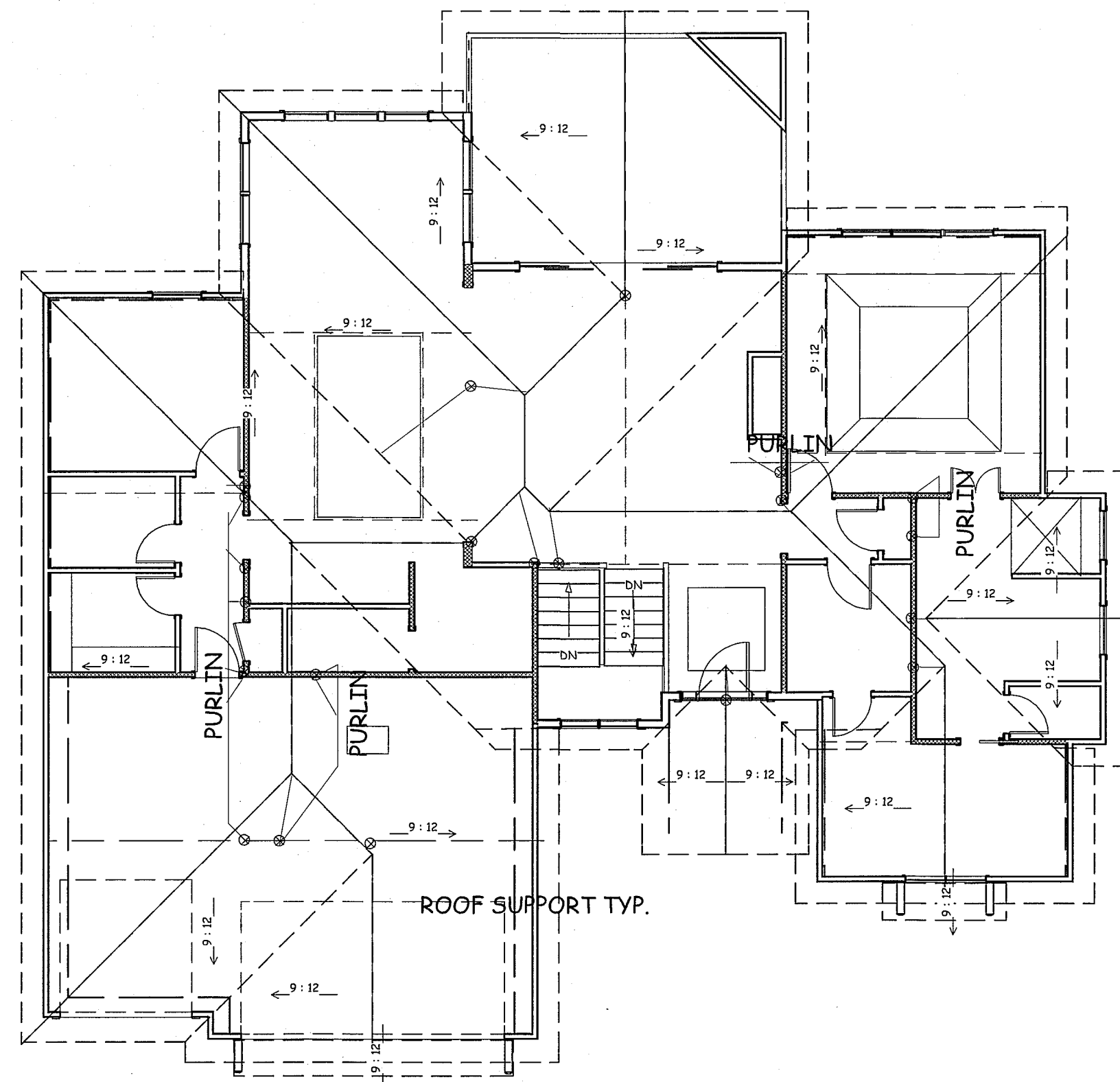
DATE
3-8-21

PLAN NO.

3403

SHEET NO.

4 OF 5



PURLIN PLAN
1/8" = 1'-0

ENERGY CONSERVATION CODE
THE FOLLOWING VALUES ARE NEEDED.

R-15 IN WALLS

R-49 IN ATTICS

R-38 IN VAULTS
R-30 REDUCTION FOR VAULTS IS ONLY FOR 500 SF
PF AREA

R-19 IN FLOORS OVER UNCONDITIONED SPACES

R-10 IN CRAWL SPACE WALLS

BASEMENT WALLS R-13 CAVITY OR R-10 CONTINUOUS

SLABS SHALL BE R-10 FOR A DEPTH OF 2 FOOT

A WINDOW U FACTOR OF .35 OR BETTER

DUCTWORK NEEDS TO HAVE AN R-8 VALUE

DUCTWORK NEEDS TO HAVE AN R-8 VALUE

DUCTWORK NEEDS TO HAVE AN R-8 VALUE

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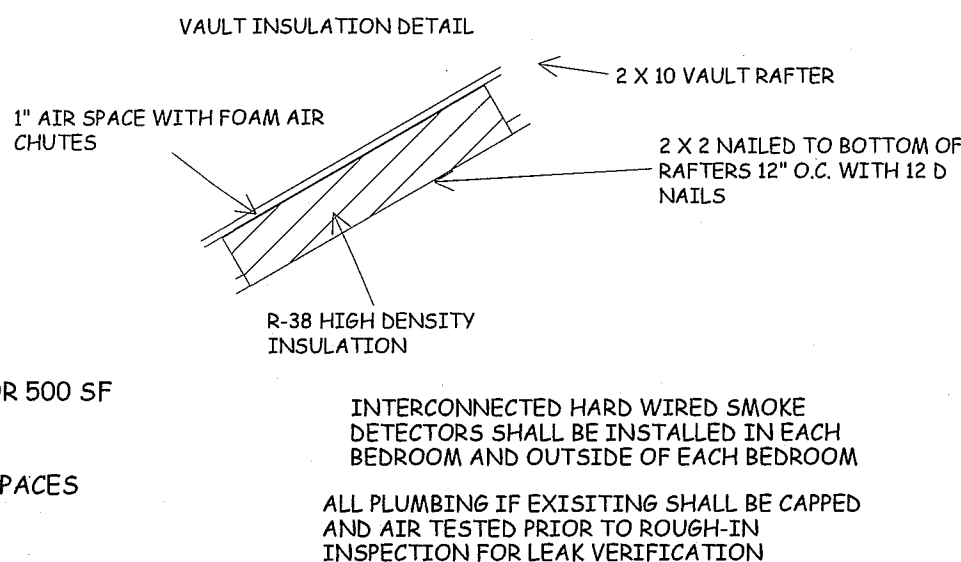
DUCTWORK NEEDS TO HAVE AN R-8 VALUE

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DUCTWORK NEEDS TO HAVE AN R-8 VALUE



TYPICAL WALL SECTION

WINDOW SAFETY GLAZING PER 308

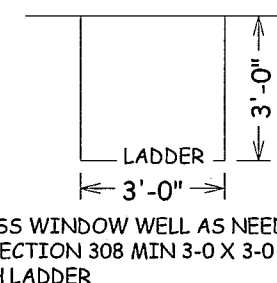
SAFETY GLAZING REQUIRED ALONG WALKING SURFACES AND
STAIRS LOCATED WITHIN 36 INCHES HORIZONTALLY OF THE STEPS.
SAFETY GLAZING REQUIRED IF EXPOSED SINGLE PANEL IS IN
EXCESS OF 9 SQUARE FEET OR THE BOTTOM EDGE OF THE GLAZING
IS LESS THAN 18 INCHES ABOVE THE FINISHED FLOOR.

SAFETY GLAZING REQUIRED WHERE THE NEAREST EXPOSED EDGE OF
THE GLAZING IS WITHIN 24 INCHES OF EITHER VERTICAL EDGE OF
THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM
EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A
WALKING SURFACE. SAFETY OR TEMPERED GLAZING IS REQUIRED.

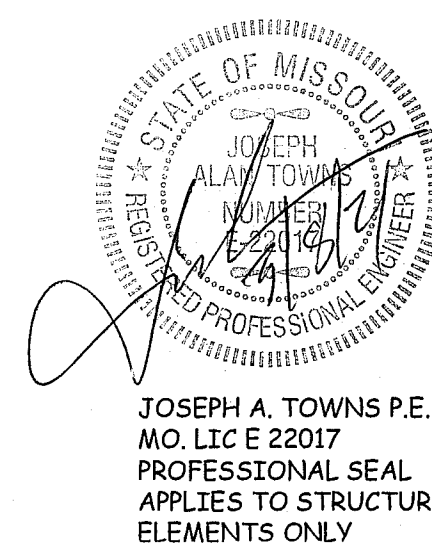
WINDOWS ARE TO HAVE FALL
PROTECTION PER IRC 312.2

WINDOW EGRESS
REQUIREMENTS

BEDROOM WINDOW EGRESS MINIMUM FOR A DOUBLE HUNG
WINDOW IS 34 INCH CLEAR WIDTH MIN. AND 24 INCH CLEAR
HEIGHT MIN. WITH A CLEAR OPENABLE AREA OF 5.7 SQUARE FEET
MIN.
A CASEMENT OR SLIDER WINDOW MINIMUMS ARE 20 INCH CLEAR
WIDTH MINIMUM AND 41 INCH CLEAR HEIGHT MINIMUM. WITH A
MINIMUM 5.7 SQUARE FOOT OF OPENABLE AREA.
OPENING OF EGRESS WINDOW NOT MORE THAN 42"
FROM THE FLOOR



ALL POINT LOADS SHALL HAVE A MINIMUM OF 2 STUDS UNLESS NOTED OTHERWISE



BUILT IN ACCORDANCE WITH
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NICK ZVACEK HOMES
LOT 131 MONTICELLO
4821 NE FREEHOLD CT
LEE SUMMIT MO

SCALE
1/4" = 1'-0"
DATE
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3403
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TABLE R602.10.3(1) BRACING REQUIREMENTS BASED ON WIND SPEED						
EXPOSURE CATEGORY B • 30-FOOT MEAN ROOF HEIGHT • 10-FOOT WALL HEIGHT • 2 BRACED WALL LINES		MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE ^a				
Ultimate Design Wind Speed (mph)	Story Location	Braced Wall Line Spacing ^b (feet)	Method LFB ^c	Method GB	Methods DWB, WSP, SFB, FBS, PCP, HPS, BV-WSP, ABW, PFH, FCF, CS-SFB	Methods CS-WSP, CS-G, CS-PF
≤ 115		10	3.5	3.5	2.0	2.0
		20	6.5	6.5	3.5	3.5
		30	9.5	9.5	5.5	4.5
		40	12.5	12.5	7.0	6.0
		50	15.0	15.0	9.0	7.5
		60	18.0	18.0	10.5	9.0
		10	7.0	7.0	4.0	3.5
		20	12.5	12.5	7.5	6.5
		30	18.0	18.0	10.5	9.0
		40	23.5	23.5	13.5	11.5
		50	29.0	29.0	16.5	14.0
		60	34.5	34.5	20.0	17.0
		10	NP	10.0	6.0	3.0
		20	NP	18.5	11.0	9.0
		30	NP	27.0	15.5	13.0
		40	NP	35.0	20.0	17.0
		50	NP	43.0	24.5	21.0
		60	NP	51.0	29.0	25.0

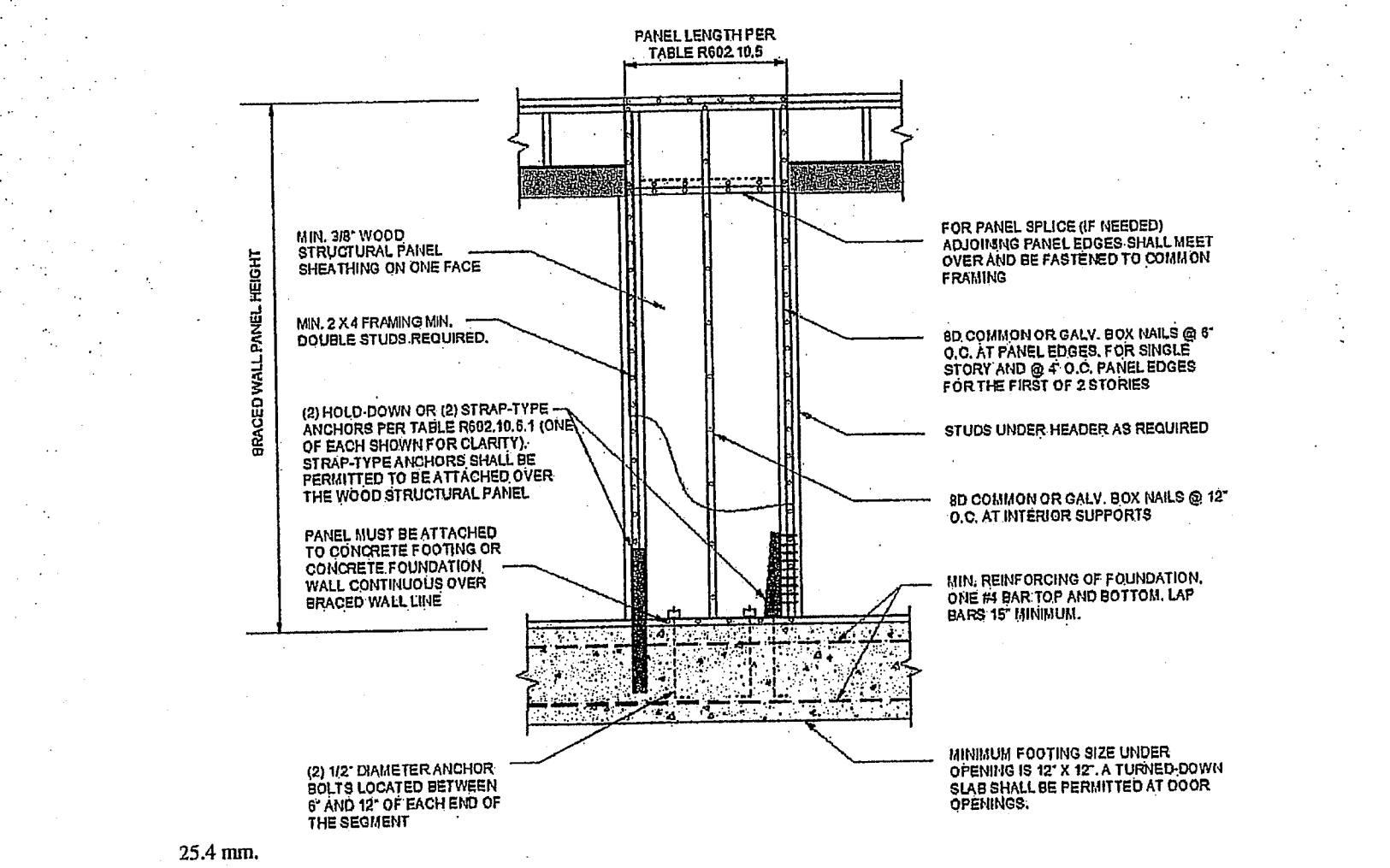


FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL

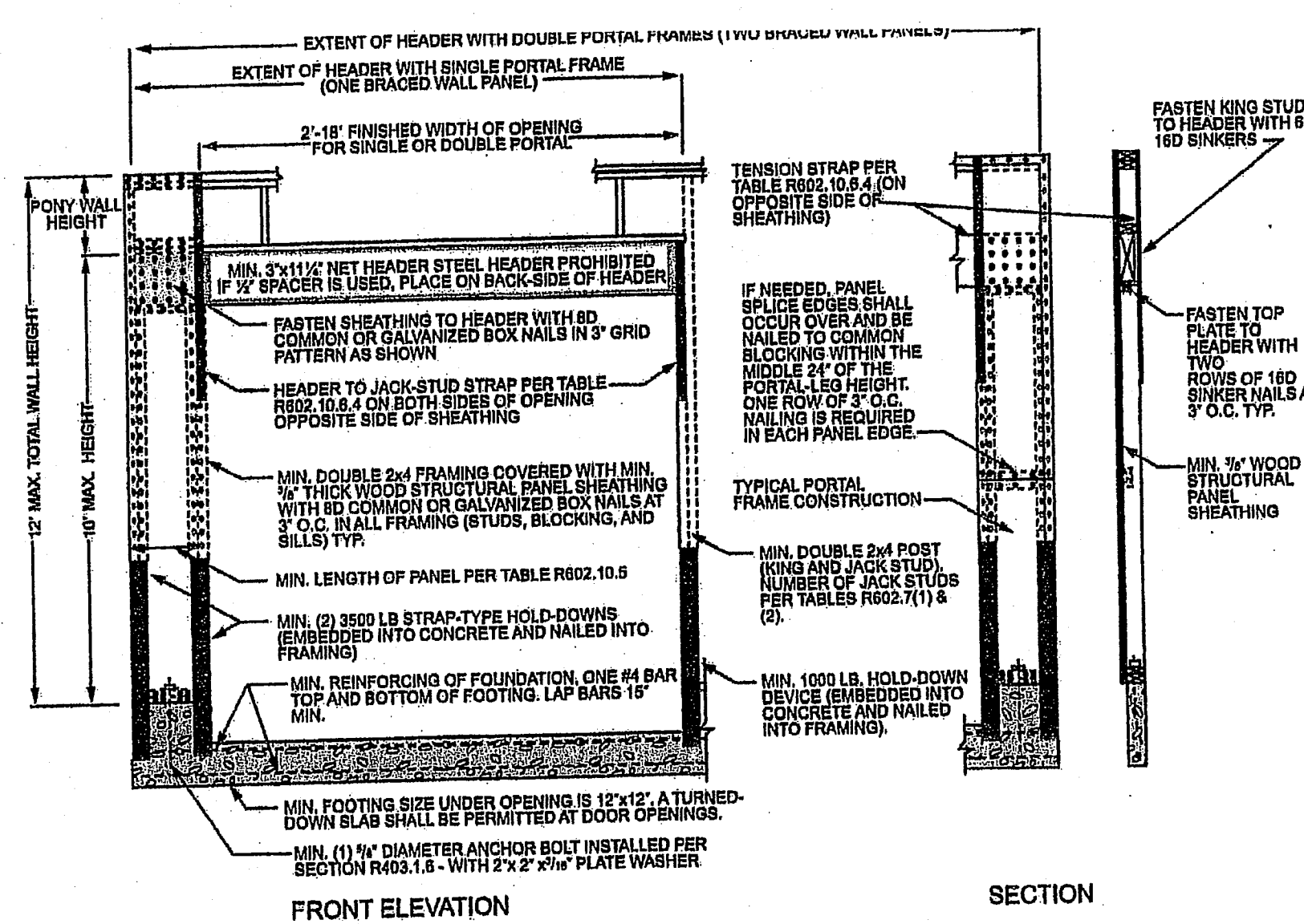


FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS

TABLE R602.10.4 BRACING METHODS				
METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a	
			Fasteners	Spacing
LFB Let-in bracing	1 x 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing		Wood: 2-8d common nails or 3-8d (2 1/2" long x 0.113" dia.) nails Metal strap: per manufacturer	Wood: per stud and top and bottom plates Metal: per manufacturer
DWB Diagonal wood bracing	1/2" (1" nominal) for maximum 24" stud spacing		2-8d (2 1/2" long x 0.113" dia.) nails or 2 - 1 1/4" long staples	Per stud
WSP Wood structural panel (See Section R604)	1/8"		Exterior sheathing per Table R602.3(3) Interior sheathing per Table R602.3(1) or R602.3(2)	6" edges 12" field Varies by fastener
BV-WSP Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	1/8"	See Figure R602.10.6.5	8d common (2 1/2" x 0.131") nails	4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts
SFB Structural fiberboard sheathing	1/2" or 3/4" for maximum 16" stud spacing		1 1/2" long x 0.12" dia. (for 1/2" thick sheathing) 1 1/4" long x 0.12" dia. (for 3/4" thick sheathing) galvanized roofing nails	3" edges 6" field
GB Gypsum board	1/2"		Nails or screws per Table R602.3(1) for exterior locations Nails or screws per Table R702.3.5 for interior locations	For all braced wall panel locations: 7" edges (including top and bottom plates) 7" field
FBS Particleboard sheathing (See Section R605)	1/4" or 1/2" for maximum 16" stud spacing		For 1/4" - 6d common (2" long x 0.113" dia.) nails For 1/2" - 8d common (2 1/2" long x 0.131" dia.) nails	3" edges 6" field
PCP Portland cement plaster	See Section R703.7 for maximum 16" stud spacing		1 1/2" long, 11 gage, 1/8" dia. head nails or 1/4" long, 16 gage staples	6" o.c. on all framing members
HPS Hardboard panel siding	1/4" for maximum 16" stud spacing		0.092" dia., 0.225" dia. head nails with length to accommodate 1 1/4" penetration into studs	4" edges 8" field
ABW Alternate braced wall	1/4"		See Section R602.10.6.1	See Section R602.10.6.1

TABLE R602.10.5 MINIMUM LENGTH OF BRACED WALL PANELS						
METHOD (See Table R602.10.4)	MINIMUM LENGTH ^a (inches)					CONTRIBUTING LENGTH (inches)
	8 feet	9 feet	10 feet	11 feet	12 feet	
DWB, WSP, SFB, FBS, PCP, HPS, BV-WSP	48	48	48	53	58	Actual ^b
GB	48	48	48	53	58	Double sided = Actual Single sided = 0.5 x Actual
LFB	55	62	69	NP	NP	Actual ^b
ABW	SDC A, B and C, ultimate design wind speed < 140 mph	28	32	34	NP	48
	SDC D _s , D _i and D _o , ultimate design wind speed < 140 mph	32	32	34	NP	NP
CS-G	Adjacent clear opening height (inches)	24	27	30	33	36
CS-WSP, CS-SFB	≤ 64	24	27	30	33	36
	68	26	27	30	33	36
	72	27	27	30	33	36
	76	30	29	30	33	36
	80	32	30	30	33	36
	84	35	32	32	33	36
	88	38	35	33	33	36
	92	43	37	35	35	36
	96	48	41	38	36	36
	100	—	44	40	38	38
	104	—	49	43	40	39
	108	—	54	46	43	41
	112	—	—	50	45	43
	116	—	—	55	48	45
	120	—	—	60	52	48
	124	—	—	—	56	51
	128	—	—	—	61	54
	132	—	—	—	66	58
	136	—	—	—	—	62
	140	—	—	—	—	66
	144	—	—	—	—	72
METHOD (See Table R602.10.4)	Portal header height					48
	Supporting roof only	16	15	16	Note c	
	Supporting one story and roof	24	24	24	Note c	
	PFH	24	27	30	Note d	
CS-PF	SDC A, B and C	16	18	20	Note e	1.5 x Actual ^b
	SDC D _s , D _i and D _o	16	18	20	Note e	Actual ^b

For Slt: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.
NP = Not Permitted.
a. Linear interpolation shall be permitted.
b. Use the actual length when it is greater than or equal to the minimum length.
c. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.2, but wall height shall be permitted to be increased to 12 feet with pony wall.
d. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.3, but wall height shall be permitted to be increased to 12 feet with pony wall.
e. Maximum header height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height shall be permitted to be increased to 12 feet with pony wall.

TABLE R602.10.4—continued BRACING METHODS				
METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a	
			Fasteners	Spacing
PFH Portal frame with hold-downs	1/4"		See Section R602.10.6.2	See Section R602.10.6.2
PFH Portal frame at garage	1/4"		See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel		Exterior sheathing per Table R602.3(3) Interior sheathing per Table R602.3(1) or R602.3(2)	6" edges 12" field Varies by fastener
	CS-G ^b Continuously sheathed wood structural panel adjacent to garage openings		See Method CS-WSP	See Method CS-WSP
	CS-PF Continuously sheathed portal frame		See Section R602.10.6.4	See Section R602.10.6.4
	CS-SFB ^c Continuously sheathed structural fiberboard		1 1/2" long x 0.12" dia. (for 1/2" thick sheathing) 1 1/4" long x 0.12" dia. (for 3/4" thick sheathing) galvanized roofing nails	3" edges 6" field

For Slt: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m², 1 mile per hour = 0.447 m/s.
a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D_s, D_i, and D_o.
b. Applies to panels used to garage door openings where supporting gable end wall or roof load only. Shall only be used on one wall of the garage. In Seismic Design Categories D_s, D_i, and D_o, roof covering dead load shall not exceed 3 psf.
c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R602.7(1). A full-height clear opening shall not be permitted adjacent to a Method CS-G panel.
d. Method CS-SFB does not apply in Seismic Design Categories D_s, D_i, and D_o.
e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D_s through D_o only.

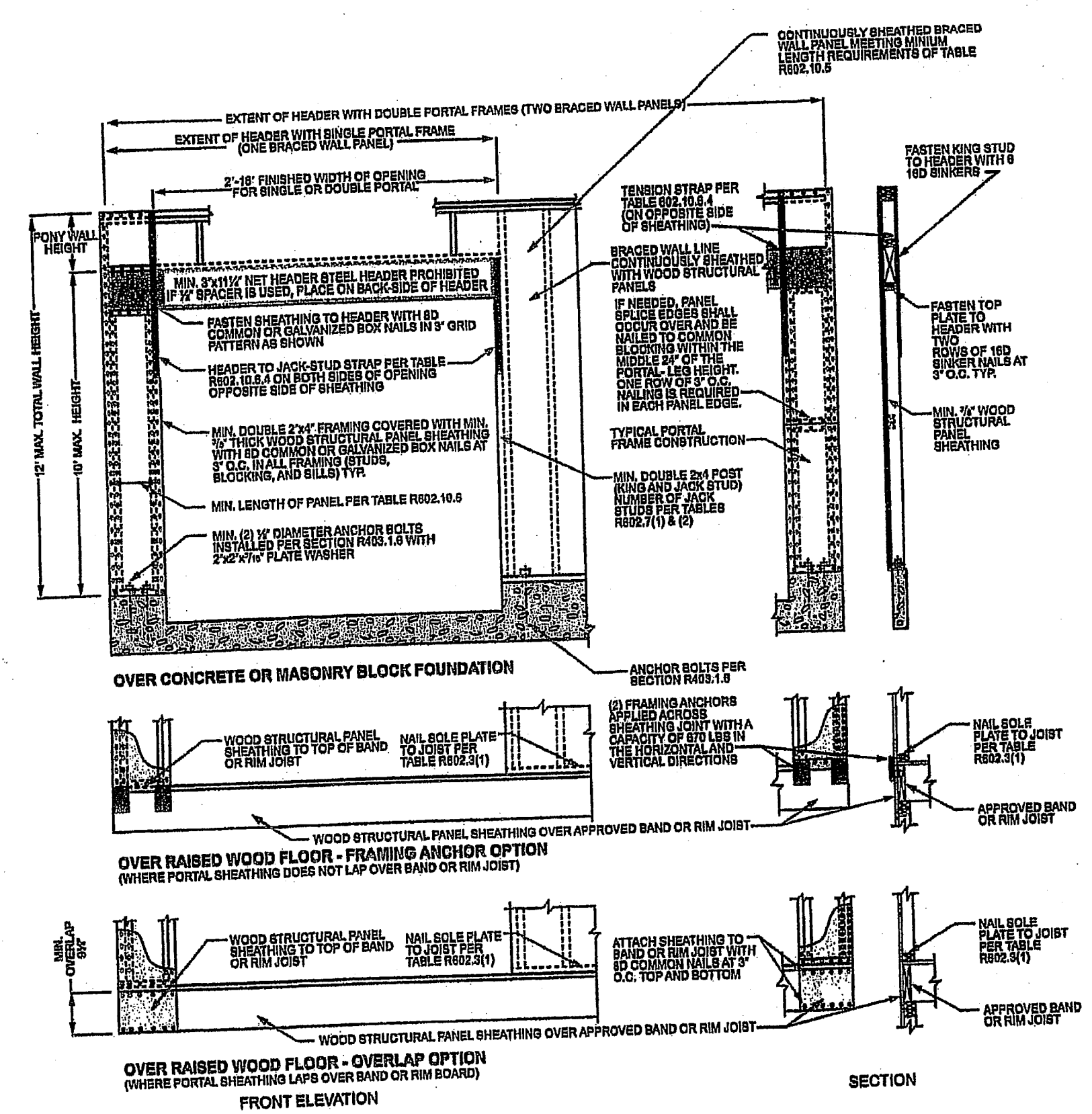


FIGURE R602.10.6.4
METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION

BRACE WALL DETAILS
WIND SPEED 115 MPH
WIND EXPOSURE A
SEISMIC DESIGN CATEGORY A

