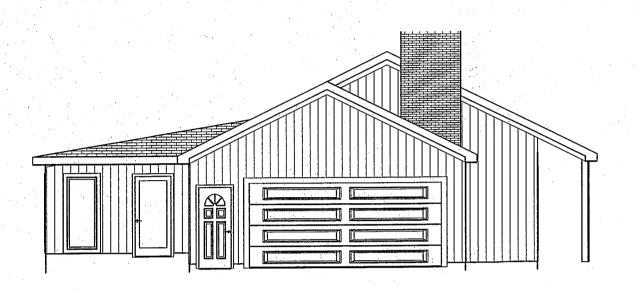
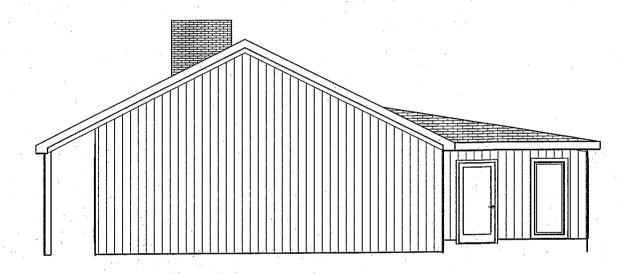
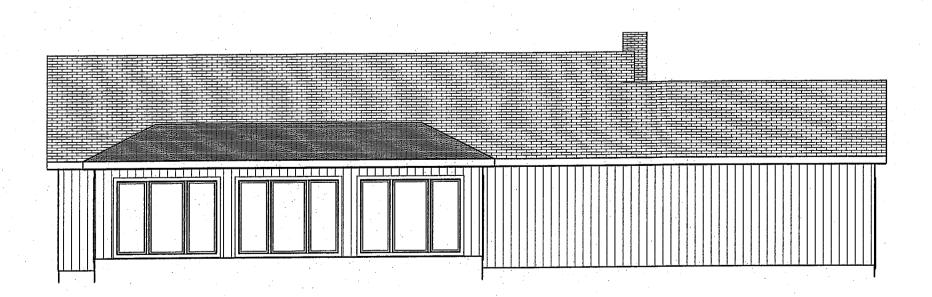
EXISTING FRONT EL. 1/8" = 1-0



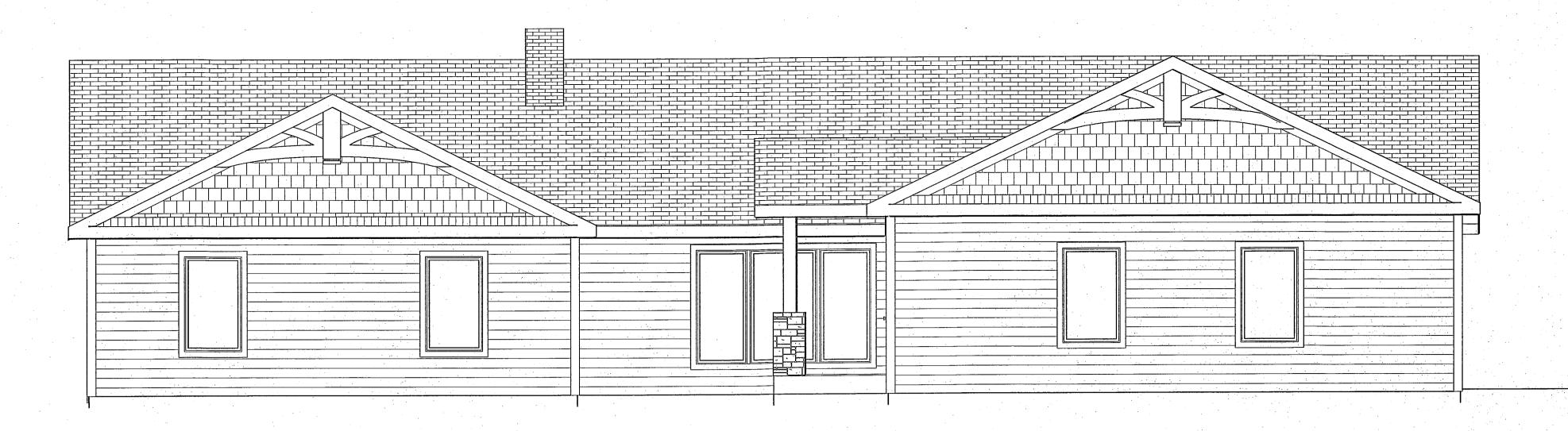
EXISTING LEFT EL. 1/8 = 1-0



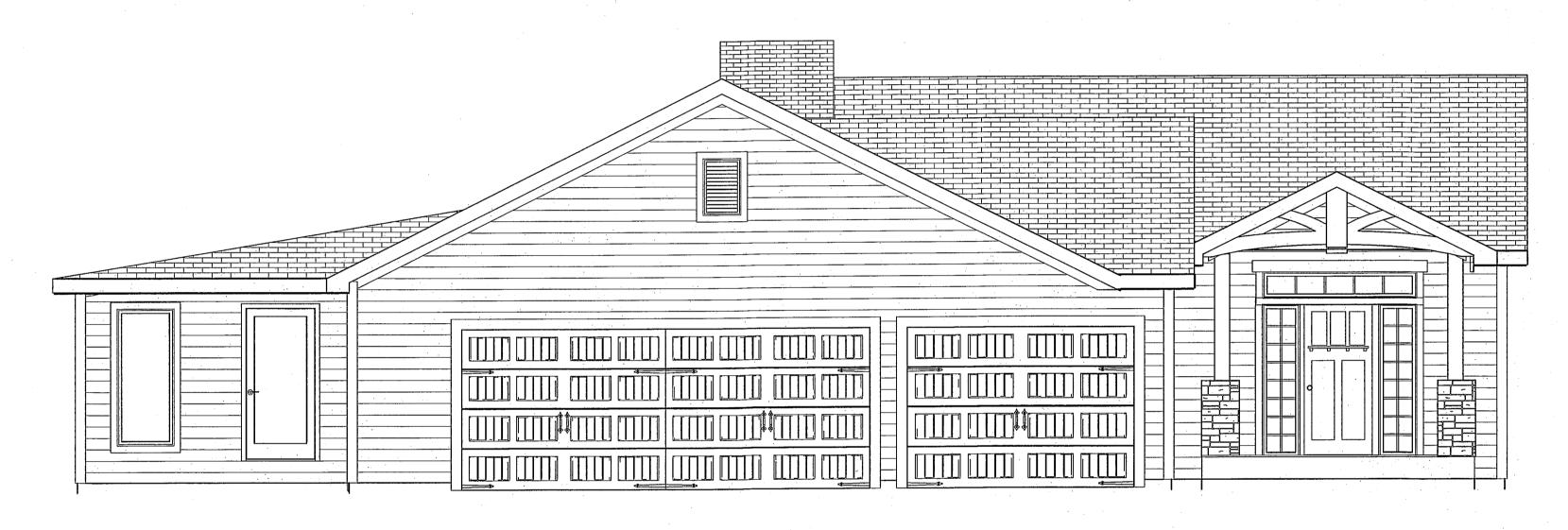
EXISTING RIGHT EL. 1/8 = 1-0



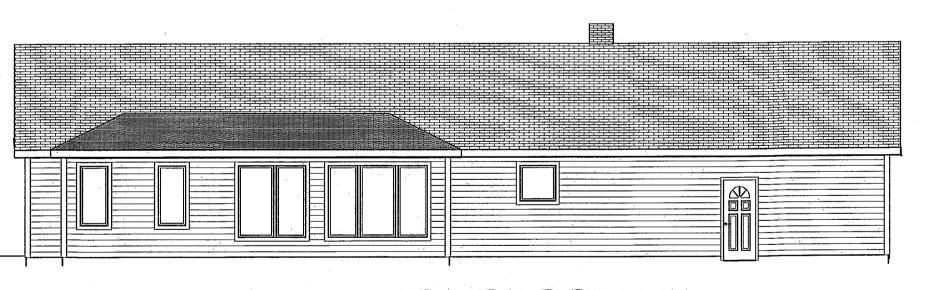
EXISTING REAR EL. 1/8 = 1-0



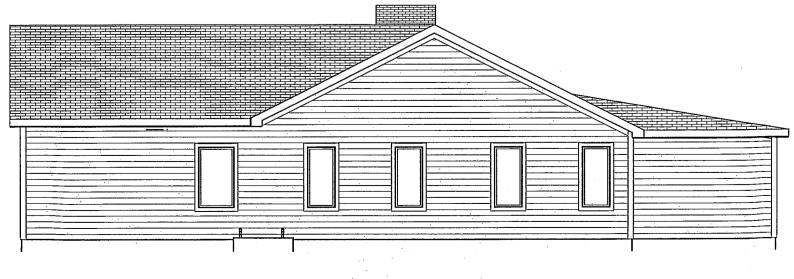
NEW FRONT ELEVATION



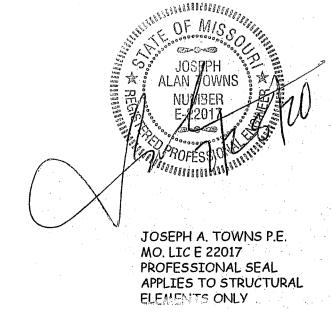
NEW LEFT ELEVATION



NEW REAR ELEVATION 1/8" = 1-0



NEW RIGHT ELEVATION 1/8" = 1-0



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

> REMODEL AND ADDITION 1400 NE WOODS CHAPEL LEE SUMMIT MO

SCALE 1/4" = 1-0

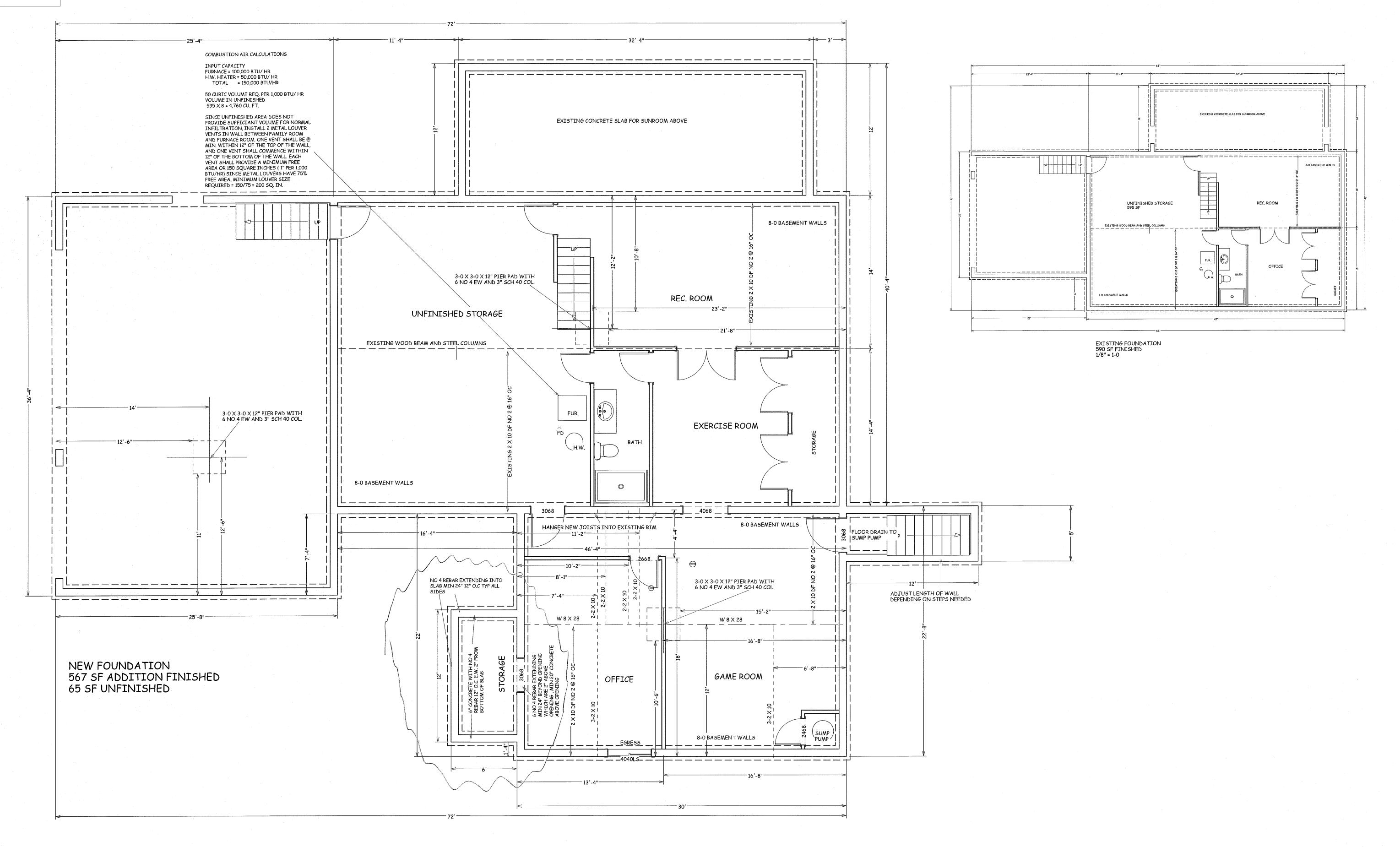
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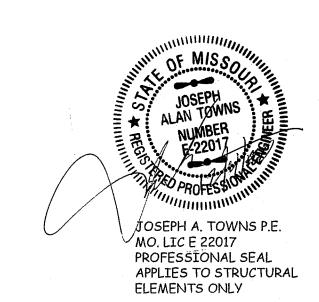
7-27-20

PLAN NO.

3149

SHEET NO.





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

RHOADS RES.
REMODEL AND ADDITION
1400 NE WOODS CHAPEL
LEE SUMMIT MO

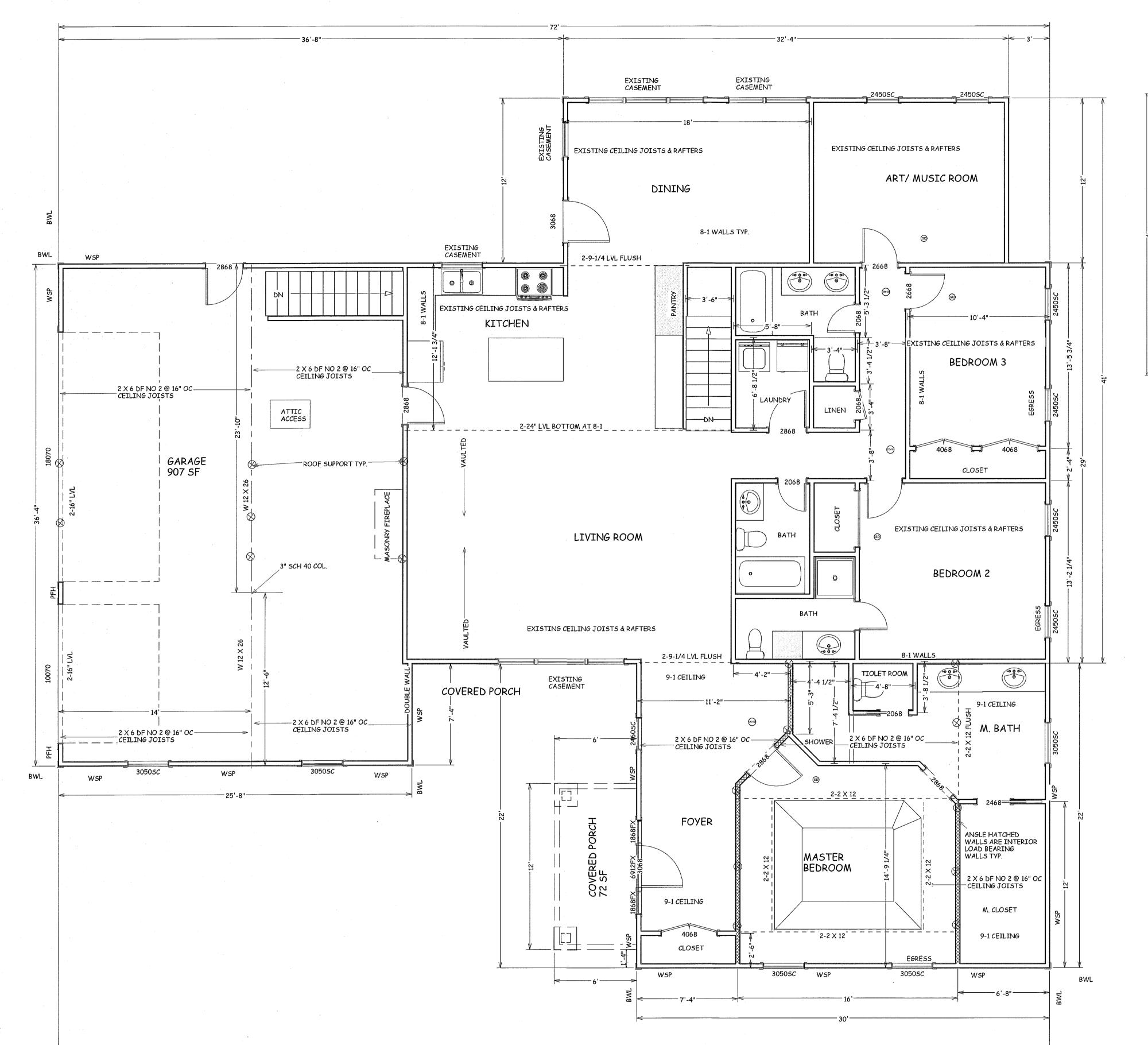
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DATE 12-4-20

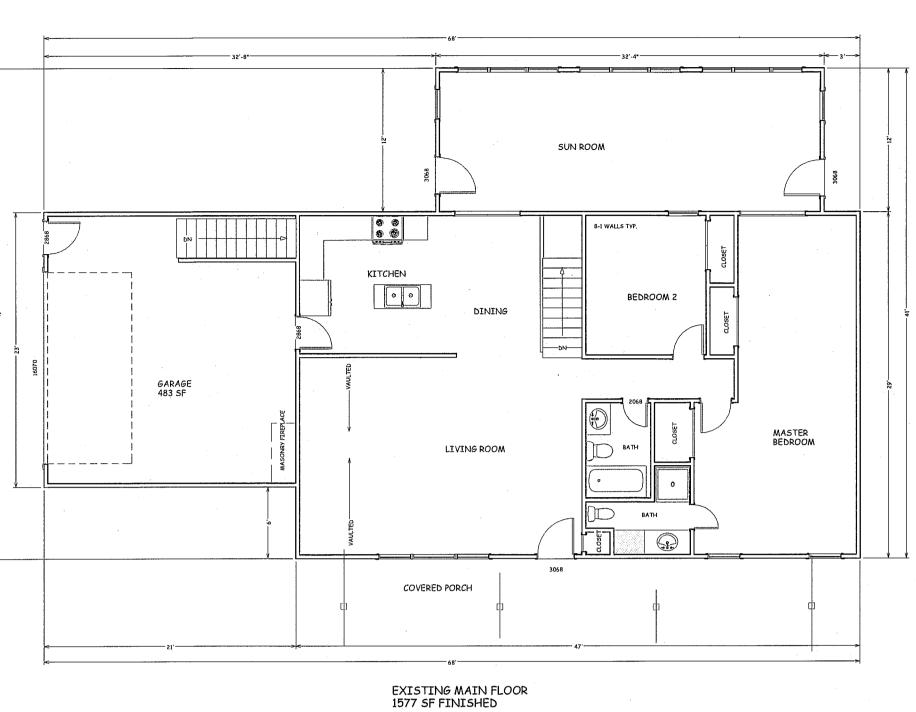
PLAN NO.

3149

SHEET NO.



NEW MAIN FLOOR 660 SF ADDITION FINISHED



BUILD IN ACCORDANCE WI-2018 INTERNATIONAL RESIDENTIAL CODE AND

> RHOADS RES. REMODEL AND ADDITION 1400 NE WOODS CHAPEL LEE SUMMIT MO

SCALE 1/4" = 1-0

DATE

7-27-20

LAN NO.

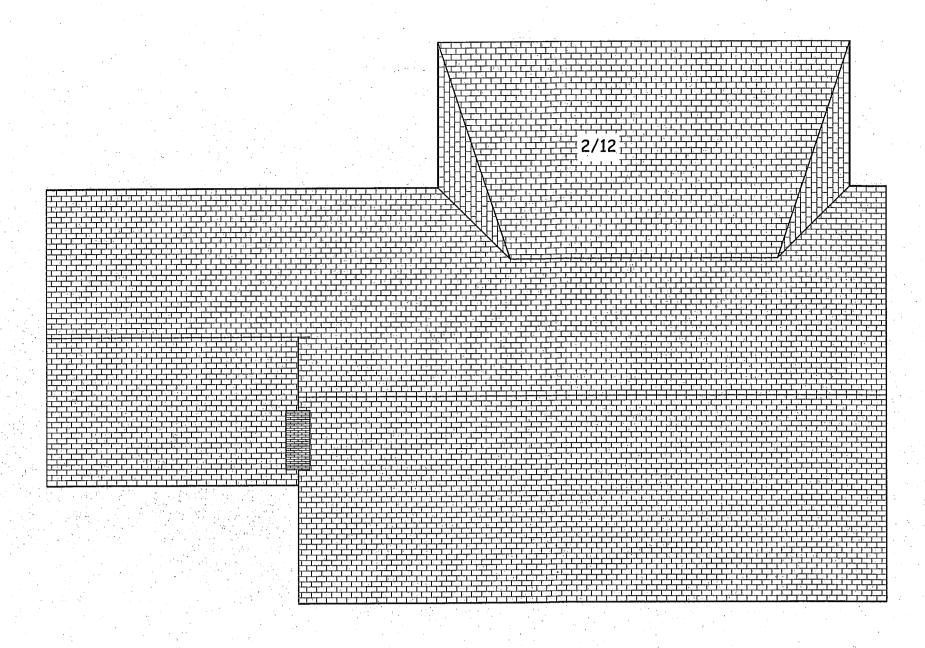
3149

SHEET NO.

JOSEPH A. TOWNS P.E.

MO. LIC E 22017
PROFESSIONAL SEAL
APPLIES TO STRUCTURAL
ELEMENTS ONLY

3 OF 6



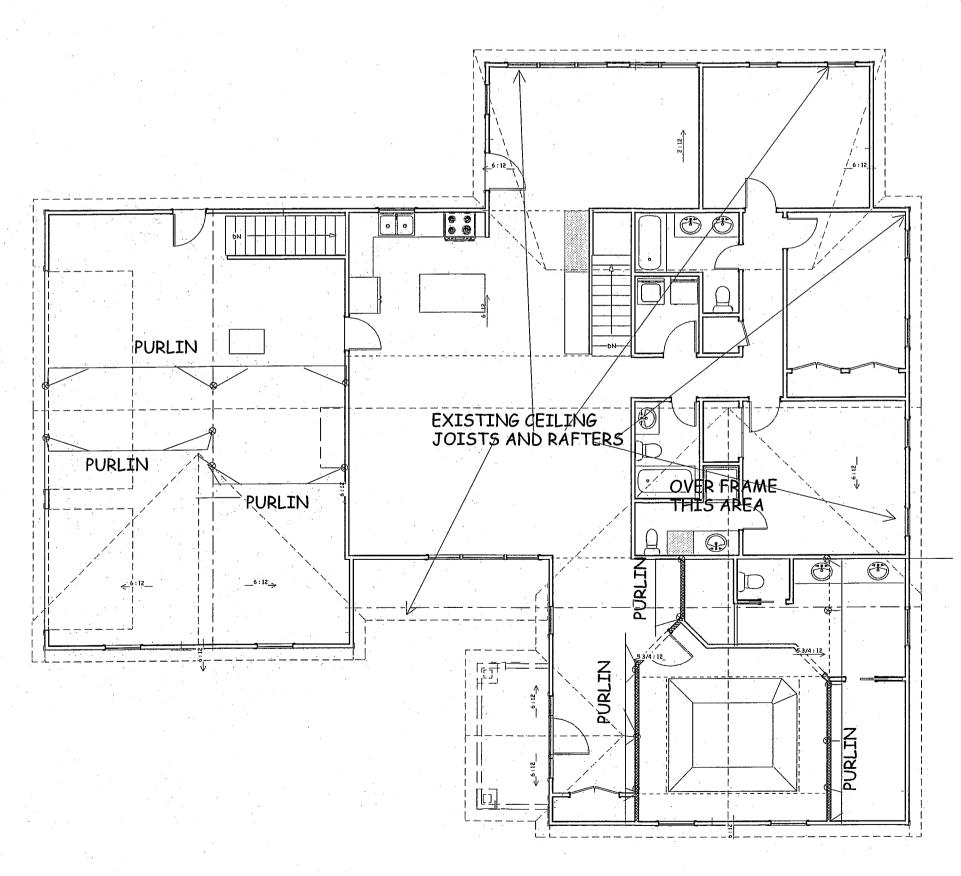
EXISTING ROOF PLAN

1/8 = 1-0

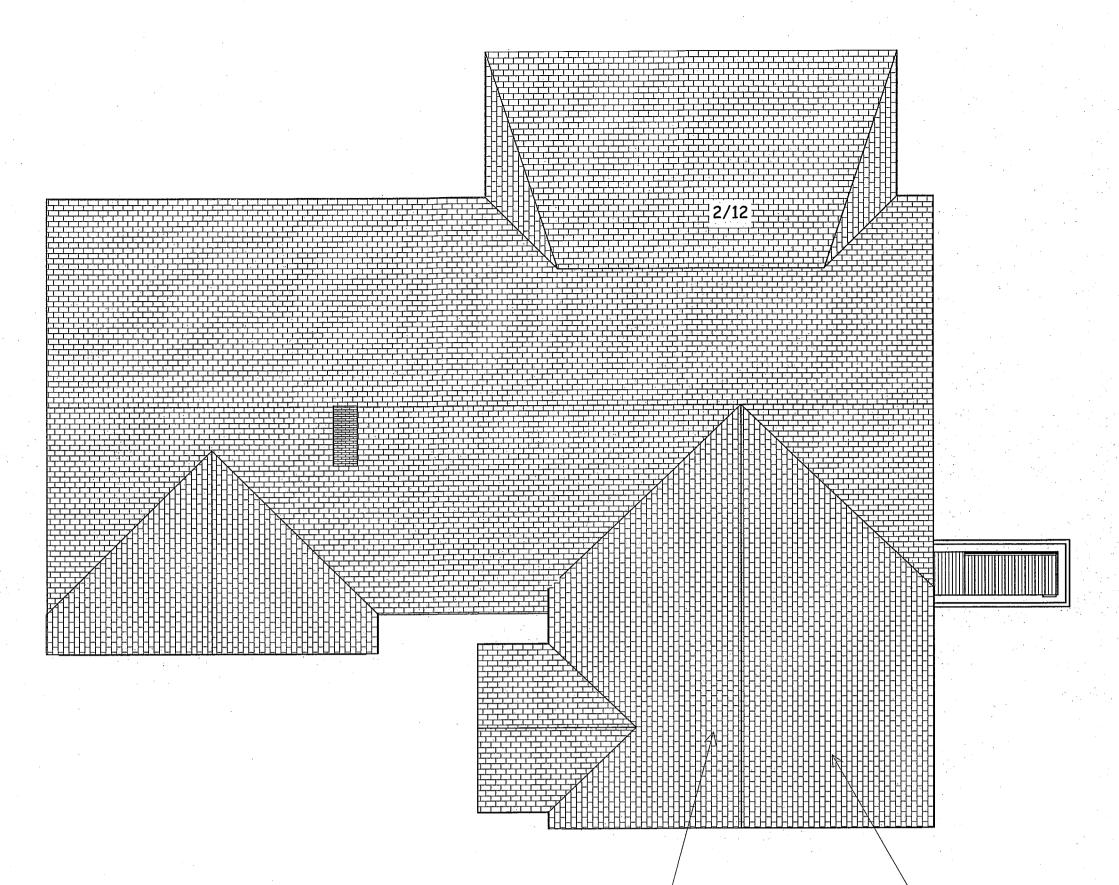
ROOF PITCHES 6/12 U.N.O.

RAFTERS 2 X 6 DF NO 2 @ 16" OC TYP.

HIPS AND RIDGES 2 X 8 DF NO 2 TYP.



PURLIN PLAN 1/8 = 1-0



ADJUST ROOF PITCH TO MATCH MAIN RIDGE 5-3/4 / 12

NEW ROOF PLAN

1/8 = 1-0

ROOF PITCHES 6/12 U.N.O.

RAFTERS 2 X 6 DF NO 2 @ 16" OC TYP.

HIPS AND RIDGES 2 X 8 DF NO 2 TYP.

RHOADS RES. REMODEL AND ADDITION 1400 NE WOODS CHAPEL

SCALE 1/4" = 1-0

DATE

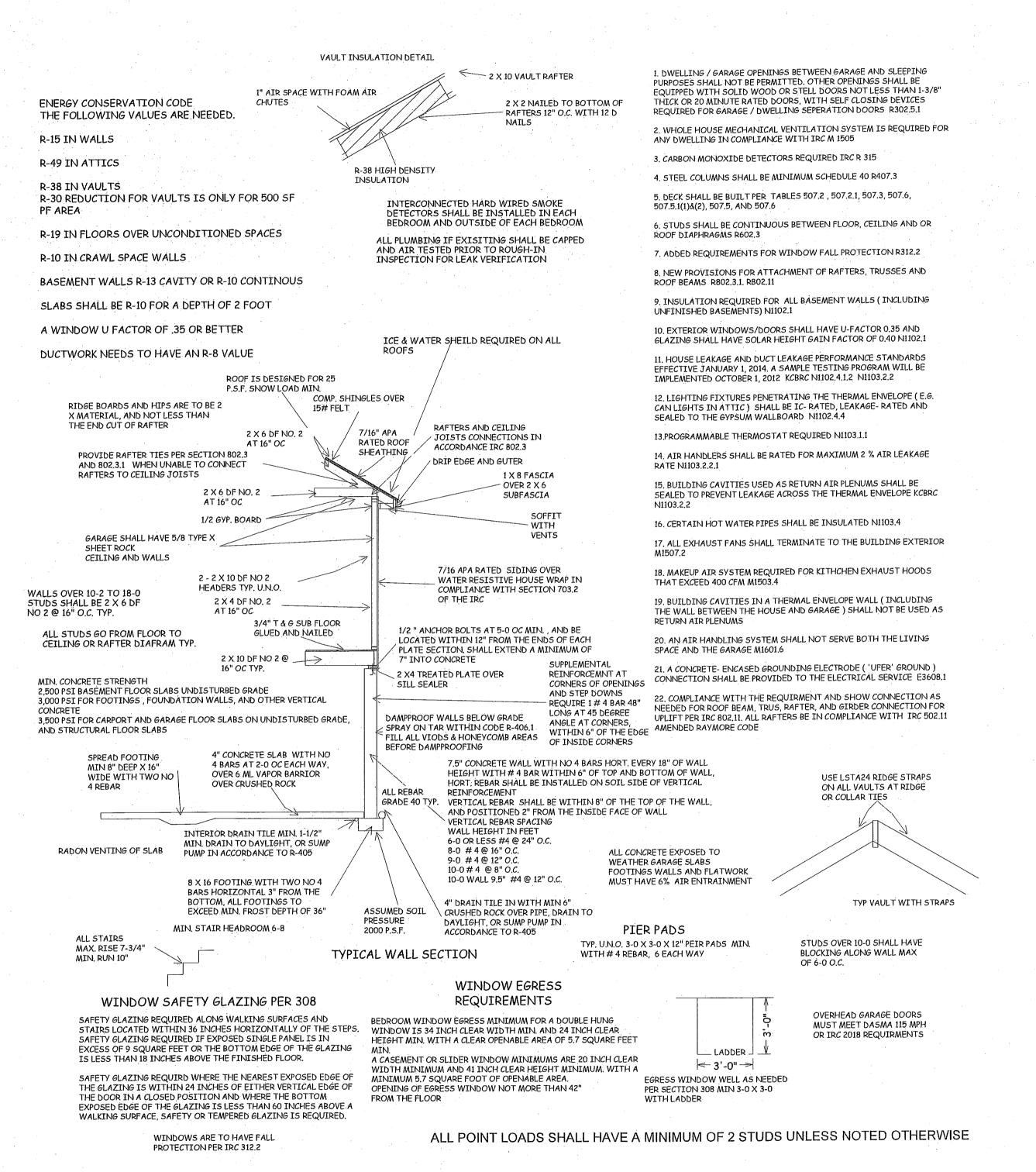
7-27-20 PLAN NO.

3149

SHEET NO.

4 OF 6

JOSEPH A. TOWNS P.E. MO. LIC E 22017 PROFESSIONAL SEAL APPLIES TO STRUCTURAL ELEMENTS ONLY



BUILD IN ACCORDANCE WITH 2018 INTERNATIONAL RESIDENTIAL CODE AND LOCAL CODES

RHUADS KES.
REMODEL AND ADDITION
1400 NE WOODS CHAPEL
LEE SUMMIT MO

SCALE 1/4" = 1-0

DATE

7-27-20

PLAN NO.

3149

JOSEPH A. TOWNS P.E.

JOSEPH ALAN TOWNS

MO. LIC E 22017 PROFESSIONAL SEAL APPLIES TO STRUCTURAL

ELEMENTS ONLY

EXPOSURE CATEGORY B 90-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					
Uilimate Design Wind Speed (mph)		Braced Wall Line Specing* Method LIB ^b (feet)		Method QB	Methods DWB, WBP, 8PB, PBS, PCP, HPS, BV-WSP, ABW, PFH, PFC, CS-SFB	Methods CS-WSP, CS-G, CS-FF		
		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		
	\Box	30	18.0	18.0	10.5	9.0		
≤ 115	\triangle	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	5.0		
		20	NP	18.5	11.0	9.0		
	A	30	NP	27.0	15.5	13.0		
		40	NP	35.0	20.0	17.0		
		50	NP	43.0	24.5	21.0		
		50 60	NP	51.0	29.0	25.0		

		PANEL LENGTH PER TABLE R602 10.5	
		# # # # # # # # # # # # # # # # # # #	
HEIGHT	MIN. 3/8° WOOD STRUCTURAL PANEL SHEATHING ON ONE FACE		FOR PANEL SPLICE (IF NEEDED) ADJOINING PANEL EDGES SHALL MEET OVER AND BE FASTENED TO COMMON FRAMING
BRACED WALL PANEL HEIGHT	MIN. 2 X 4 FRAMING MIN. DOUBLE STUDS REQUIRED.		8D COMMON OR GALY. BOX NAILS @ 6' O.C. AT PANEL EDGES, FOR SINGLE STORY AND @ 4' O.C. PANEL EDGES FOR THE FIRST OF 2 STORIES
BRACEL	(2) HOLD DOWN OR (2) STRAP-TYPE		STUDS UNDER HEADER AS REQUIRED 8D COMMON OR GALV. BOX NAILS @ 12"
	PANEL MUST BE ATTACHED TO CONCRETE FOOTING OR CONCRETE FOUNDATION WALL CONTINUOUS OVER		O.C. AT INTERIOR SUPPORTS MIN. REINFORCING OF FOUNDATION.
•	BRACED WALL LINE		ONE #4 BAR TOP AND BOTTOM, LAP BARS 15" MINIMUM.
			MANAGE FOOTING SIZE UNDER
	(2) 1/2" DIAMETER ANCHOR BOLTS LOCATED BETWEEN 6" AND 12" OF EACH END OF THE SEGMENT		MINIMUM FOOTING SIZE UNDER OPENING IS 12" X 12". A TURNED-DOWN SLAB SHALL BE FERMITTED AT DOOR OPENINGS.

FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL

12' MAX, TOTAL WALL HEIGHT HEIGHT HEIGHT HEIGHT HEIGHT HEIGHT	TABLE R602, 10.6.4 (ON	
	MIN. FOOTING SIZE UNDER OPENING IS 12"x12". A TURNED-DOWN SLAB SHALL BE PERMITTED AT DOOR OPENINGS. MIN. (1) 1/4" DIAMETER ANCHOR BOLT INSTALLED PER SECTION R403.1.6 - WITH 2"x 2" x3/16" PLATE WASHER. FRONT ELEVATION	SECTION

4 mm, 1 foot = 304.8 mm.

25.4 mm.

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

			BRACING METHO		
		· · · · · · · · · · · · · · · · · · ·		CONNECTION CRITERI	Α= !
ME	THODS, MATERIAL	MINIMUM THICKNESS	FIGURE	Fasteners	Spacing
	LIB	1 × 4 wood or approved metal straps			Wood: per stud and op and bottom plates
	Let-in-bracing	at 45° to 60° angles for maximum 16″ stud spacing		Metal strap: per manufacturer	Metal: per manufacturer
	DWB Diagonal wood boards	3/4" (1" nominal) for maximum 24" stud spacing		2-8d $(2^{1}/_{2}^{"} \log \times 0.113^{"} \text{ dia.})$ nails or $2 - 1^{3}/_{4}^{"} \log \text{ staples}$	Per stud
	WSP Wood			Exterior sheathing per Table R602.3(3)	6" edges 12" field
	structural panel (See Section R604)	³ / ₈ "		Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener
sthods	BV-WSP* Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	⁷ / ₁₆ "	See Figure R602.10.6.5	8d common $(2^1/2^n \times 0.131)$ nails	4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts
Intermittent. Bracing Methods	SFB Structural fiberboard sheathing	¹ / ₂ " or ²⁵ / ₃₂ " for maximum 16" stud spacing		$1^1/_2$ " long × 0.12" dia. (for $^1/_2$ " thick sheathing) $1^3/_4$ " long × 0.12" dia. (for $^{25}/_{32}$ " thick sheathing) galvanized roofing nalls	3" edges 6" field
mittent	Shouting			Nails or screws per Table R602.3(1) for exterior locations	For all braced wall panel locations: 7" edges (including top
Inter	GB Gypsum board	1/2"		Nails or screws per Table R702.3.5 for interior locations	and bottom plates) 7"
	PBS Particleboard sheathing (See Section R605)	³ / ₈ " or ¹ / ₂ " for maximum 16" stud spacing		For ${}^{3}I_{8}$ ", 6d common (2" long \times 0.113" dia.) nails For ${}^{1}I_{2}$ ", 8d common (2' I_{2} " long \times 0.131" dia.) nails	3" edges 6" field
	PCP Portland cement plaster	See Section R703.7 for maximum 16" stud spacing		$1\frac{1}{2}$ " long, 11 gage, $\frac{7}{16}$ " dia. head nails or $\frac{7}{8}$ " long, 16 gage staples	members
	HPS Hardboard panel siding	7/16" for maximum 16" stud spacing		0.092" dia., 0.225" dia. head nails with length to accommodate 11/2" penetration into studs	4" edges 8" field
	ABW Alternate braced wall	3/8"		See Section R602.10.6.1	See Section R602.10.6.1

TABLE R602.10.4

		M LENGTH OF BRACED WALL PANELS MINIMUM LENGTH* (Inches)				СОИТЯІВИТІМЯ LENGTH	
METHOD (See Table R602.10.4)			Wall Height				(inches)
			9 feet	10 feet	11 feet	12 feet	
TOWN WED SER PE	SS, PCP, HPS, BV-WSP	8 feet 48	48	48	53	58	Actual ⁶
	GB	48	48	48	53	58	Double sided = Actual Single sided = 0.5 × Actua
and the second of the second o		55	62	69	NP	NP	Actual ⁶
	SDC A, B and C, ultimate design wind speed < 140 mph	28	32	34	38	42	48
ABW	SDC D_0 , D_1 and D_2 , ultimate design wind speed < 140 mph	32	32	34	NP	NP	
	S-G	24	27	30	33	36	Actual ^b
	Adjacent clear opening height (inches)						
	≤ 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	
CS-WSP, CS-SFB	100		44	40	38	38	
	104		49	43	40	39	Actual ^b
	108		54	46	43	41	.]
	112		_	50	45	43	
	116		1	55	48	45	<u> </u>
•	120	 .		60	52	48	
	124				56	51	
	128		1		61	54	
	132				66	58	
	136	,				62	
	140	-	 	-		66	
	144					72	
	ETHOD			ortal header		1 12 1 1	
(See Table R602,10.4)		8 feet	9 feet	10 feet	11 feet	12 feet	
	Supporting roof only	16	16	16	Note c	Note c	 4 8
PFH	Supporting one story and roof		24	24	Note c	Note c	
	PFG	24	27	30	Note d	Note d	
	SDC A, B and C	16	18	20	Note e	Note e	
CS-PF	\overline{SDC} $\overline{D_0}$, $\overline{D_1}$ and $\overline{D_2}$	16	18	20	Note e	Note e	Actual ⁶

For SI: 1 inch = 25,4 mm, 1 NP = Not Permitted. a. Linear interpolation shart of performed.
b. Use the actual length where 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 PFG 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.

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

				CONNECTION CRITERIA			
METHODS, MATERIAL		Minimum Thickness	FIGURE	Fasteners	Specing		
Methods	PFH Portal frame with hold-downs	3/8"		See Section R602.10.6.2	See Section R602.10.6.2		
Intermittent Braxing Methods	PFG Portal frame at garage	7/ ₁₆ "		See Section R602.10.6.3	See Section R602.10.6.3		
	CS-WSP Continuously sheathed wood structural panel	3/8" IIII		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		
Continuous Sheathing Methods	CS-G ^{b,c} Continuously sheathed wood structural panel adjacent to garage openings	inuously sheathed d structural panel lacent to garage		See Method CS-WSP	See Method CS-WSP		
	CS-PF Continuously sheathed portal frame	teathed 1/16"		See Section R602.10.6.4	See Section R602,10.6.4		
Contir	CS-SFB ³ Continuously sheathed structural fiberboard stud spacing		$1\frac{1}{2}$ " long × 0.12" dia. (for $\frac{1}{2}$ " thick sheathing) $1\frac{3}{4}$ " long × 0.12" dia. (for $\frac{25}{3}$ " thick sheathing) galvanized roofing nails	3" edges 6" field			

For SI: 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.

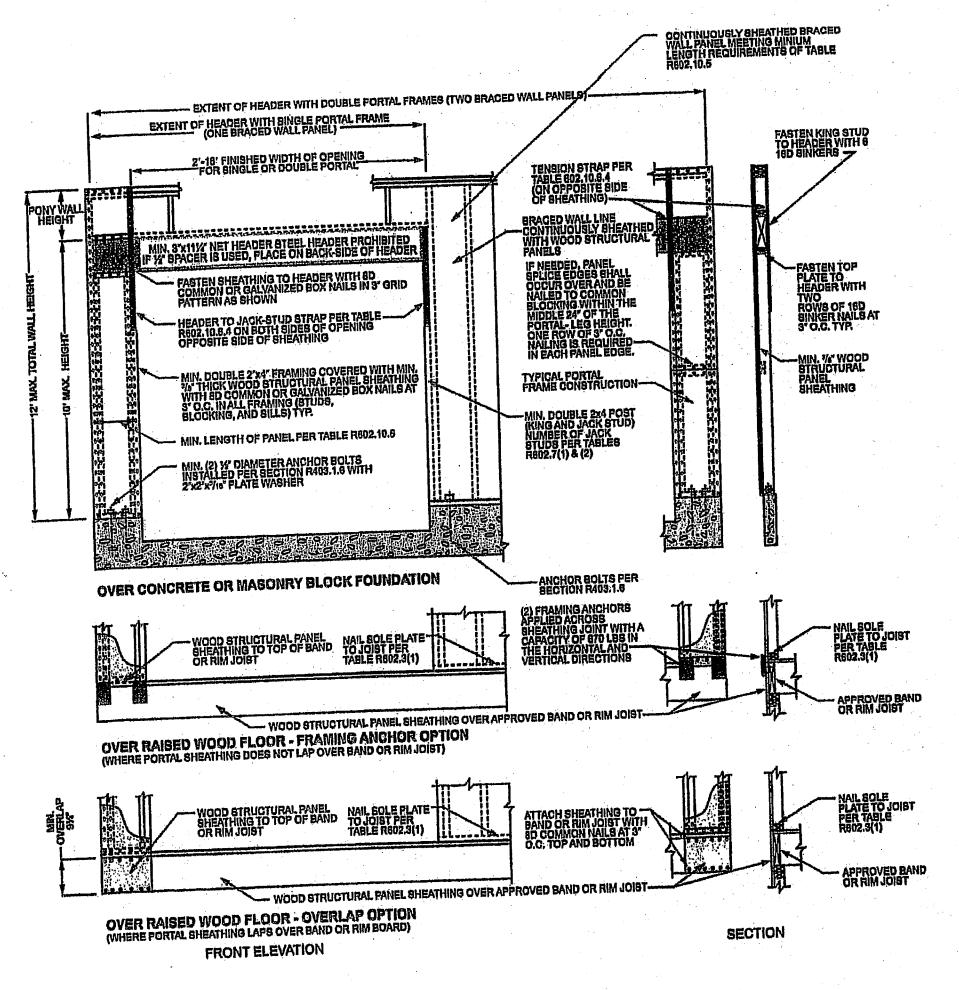
a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D₀, D₁ and D₂.

b. Applies to panels next to garage door opening where supporting gable end wall or roof load only. Shall only be used on one wall of the garage. In Seismic Design Categories D₀, D₁ and D₂, roof covering dead load shall not exceed 3 psf.

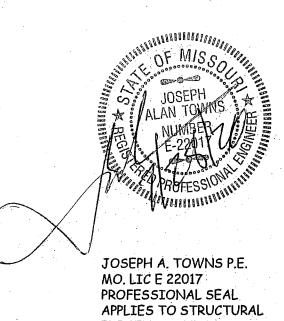
c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R602.7(1). A full-height clear opening shall not be permitted adjacent to a Method CS-G panel.

d. Method CS-SFB does not apply in Seismic Design Categories D₀, D₁ and D₂.

e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D₀ through D₂ only.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.



ELEMENTS ONLY

SCALE 1/4" = 1-0

> DATE 7-27-20

PLAN NO.

3149

SHEET NO.