New Duplex Residence for: WEST 5TH STREET VILLAS UNERSTALL CONSTRUCTION CO

West Fifth Street, Washington, Missouri 63090

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION, INCLUDING ALL SHORING AND BRACING, AND ALL REQUIRED SAFETY PRECAUTIONS

APPDEVIATIONS

	ABBREVIATIONS		
See M	IEP, Structural & Civil Drawings for additional abbr	eviations	
		Insul	Insulation
Ac	Acoustical	Jt.	Joint
Adj	Adjustable	KO	Knock out panel
Alum	Aluminum	Lav.	Lavatory
a	at	LP	Liner Panel
AP	Access Panel	 Ма. Т.	Marble Threshold
В	Brick	mas	Masonry
Bm	Beam	MC	Mechanical Contractor
BS	Brick Shelf	Met., M	Metal
Btm .	Bottom	MBM	Metal Building Manufacturer
By Owner	Furnished and delivered by Owner.	mld	Molding
D g G W (10)	Installed by Contractor (Shown	MO	Masonry Opening
	with solid lines)	MJR	Masonry Joint Reinforcing
CES	Carpet Edge Strip	MT	Metal Threshold
CG	Corner Guard	MES	
ChBd	Chalk Board	NIC	Metal Edge Strip Not In Contract, Installed 4
CJ		NIC	
CMU, CM	Control Joint	NID	furnished by Owner(shown dotted)
i i	Concrete Block Masonry Unit	NR N+c	Napkin Receptacle
Col	Column	N.T.S.	Not To Scale
Conc., C	Concrete	00	on center
Cont	Continuous	opng	opening
Conv	Convector	opp_	opposite
CP, CPT	Carpet	Pa, P	Paint
CR	Coat Rack	PC	Plumbing Contractor
- •	Channel	PH	Paper Holder
CL	Centerline	PL, plas. lam.	Plastic Laminate
CW	Cold Water	₽ly	Plywood
CŤ	Ceramic tile	PTD	Paper Towel Dispenser
DAS	Dovetail Anchor Slot	Pt. Fig.	Point Figure
DF	Drinking Fountain	PL	Plate
DJ	Dummy Joint	Pres.	Present
DP	Dampproofing	R	Rubber
DPH	Dual paper holder	RAG	Return Air Grille
DS	Downspout	RD	Roof Drain
DW, D	Drywall	Recep.	Receptacle
ea.	each	Ref.	Refrigerator
EC	Electrical Contractor	Reinf.	Reinforced, reinforcement
Elect.	Electric	RM	Removable Mullion
EP	Electric Panel	Ø	Round
ES	Edge Strip	5Д	Shelf angle
exp	expansion	SAR	Supply Air Register
Extr	Extruded	SD	Soap Dispenser
Ex, Exist.	Existing	sh	shelves
FAP	Fire Alarm Panel	5 4 P	Shelf & Pole
FCU	Fan Coil Unit	55	Stainless Steel
FD	Floor Drain	St	Steel
FDC	<u> </u>		
	Fire Dept. Connection	Susp	Suspended
FE	Fire Extinguisher	5q.	Square
FEC	Fire Extinguisher Cabinet	Ta Bd.	Tackboard
FHC	Fire Hose Cabinet	TB	Towel Bar
FHEC	Fire Hose & Extinguisher Cabinet	<u>†C</u>	Top of concrete
FHCS	Flat Head Countersunk	TD.	Towel Dispenser
Fín.	Finished	Tel.	Telephone
Fl., Flr.	Floor	T.O.M.	Top of Masonry
FRT	Fire Retardent Treated	T P	Tack Panel
Ga	Guage	⊤W⊨	Through Wall Flashing
Gal∨.	Galvanized	Тур.	typical
GB	Grab Bar	uŇo	Unless Noted Otherwise
GC	General Contractor	Y	Vinyl
GI	Glass	yac	Vacuum
GT	Structural Glazed Tile	VAP	Visual Aid Panel
HC	Handicapped	VCPB	Vinyl Coated Particle Board
	Heating Ventilating & Air Conditioning	VCT	Virgi Coated article Doard

Vinyl Composition Tile Vapor Barrier window

INSTRUCTIONS TO READERS

I. DO NOT SCALE THE DRAWINGS as a means of obtaining exact dimensions.

2. These documents are <u>copyrighted</u> by the Architect. Architect reserves all rights to these documents which are not to be reproduced, copied, assigned to any third party or used on any project in whole or in part without the written permission of Robert Horn Architects. 3. The registered Architect's seal affixed to drawings, specifications, reports or other documents indicates that the Architect prepared or directed the preparation of these documents or worked directly with another registered Architect that prepared or directed the preparation of these documents. Documents not exhibiting the seal shall not be assumed to be authorized by the Architect.

4. Changes to documents or other instructions -- written or otherwise -- not approved by the Architect will be the sole responsibility of the

VB

WDW, win

Wood

Waterproofing Welded Wire Fabric

Heating, Ventilating & Air Conditioning

Hot Water

Handrail

Hollow Metal

Hot & Cold Water

HW

HCW

5. The architectural services contracted orally or in writing by the Owner determines, in part, the extent of the information shown in the documents. Lack of information about some aspect of the project is not necessarily the result of an error or omission on the part of the Architect. 6. The Architect accepts no responsibility for the consequences of the use of these documents or any other written or oral instructions by persons inexperienced, unqualified or for any other reason unable to read, understand and comprehend them correctly. 1. It is the Contractor's (installer, subcontractor, tradesman, material supplier, general contractor, etc.) responsibility to be familiar with any local,

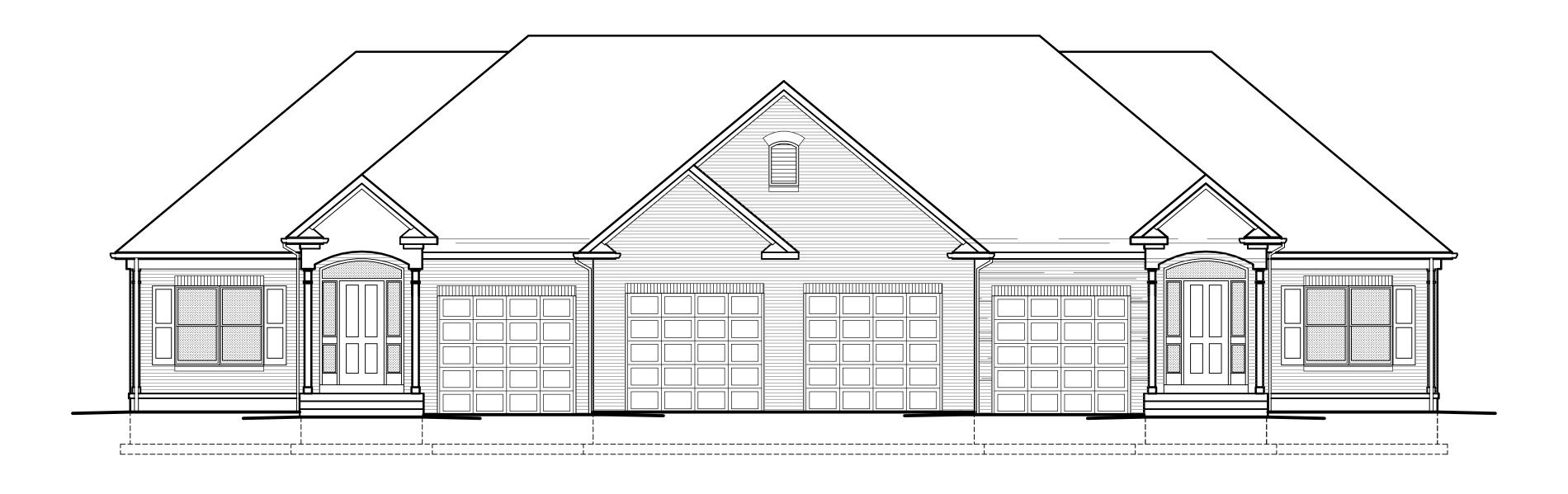
city, county, state or federal regulations, codes, ordinances, etc., that may apply to their work, materials, equipment or methods of construction.

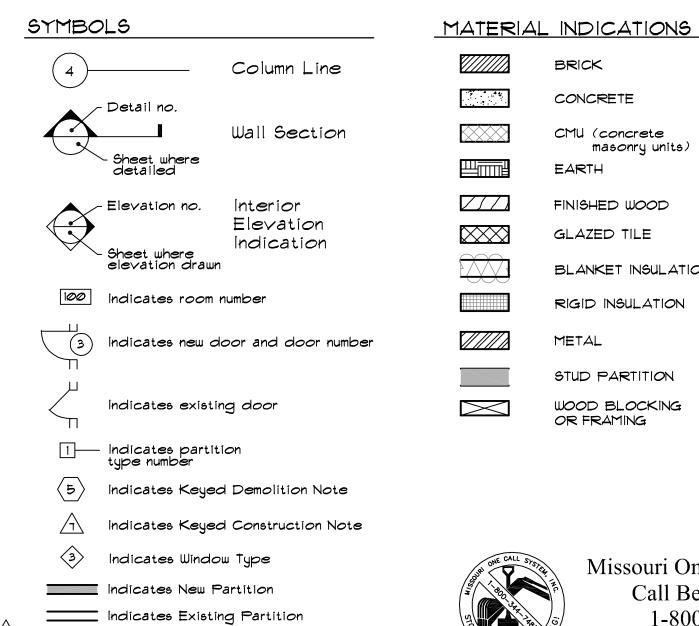
8. The Architect has not intended for these documents to describe each and every single component or method of construction needed to construct the project, but to develop documents -- that when used by competent tradesman and material suppliers -- will sufficiently describe explicitly or implicitly the appropriate materials and methods of assembly.

9. The contents of these documents -- as well as any other written or oral communications issued by the Architect for this project -- are furnished to the party that contracted orally or in writing for the services on the condition that the Architect's total liability is limited now and forever to the party that contracted for the services, and to the fee paid for the services.

10. The Architect shall not be held responsible for Contractor's construction means, methods, techniques, sequences, procedures, or safety precautions, or any programs incident thereto.

1. The Architect shall not be held responsible for Contractor's failure to perform work in accordance with the Contract Documents. 12. The Architect shall not be held responsible for acts or omissions of the Contractor or any subcontractor or their agents or employees or any other persons performing any of the work





Indicates Revision and Revision Number

** See Demolition, Plumbing, Mechanical and Electrical Drawings for additional symbols

CONCRETE CMU (concrete masonry units) FINISHED WOOD GLAZED TILE BLANKET INSULATION RIGID INSULATION STUD PARTITION WOOD BLOCKING

OR FRAMING



Missouri One Call System, Inc. Call Before You Dig! 1-800-DIG-RITE (1-800-344-7483)

Min. 24" wood structural panel or 32" structural fiberboard sheathing corner return	See Table R602.3(1) for fastening	
16d nail @ 12" o.c.	Orientation of studs may vary. See R602.3(2).	Gypsum wa req'd \$ ins accordanc of the IRC
Optional nonstructural filler panel	Gypsum wall board as req'd \$ installed in accordance w/ Chapter T of the IRC	160 nail @
See Table R602.3(1) for fastening	Continuous wood structural panel or structural fiberboard braced wall line	Min. 24" wo panel or 3 fiberboard corner reti
OUTSIDE C	CORNER DETAIL	

NOT TO SCALE

vary. See R602.3(2). ıall board as 🤇 nstalled in nce w/ Chapter ' Continuous wood structural panel or structural fiberboard braced wall 12" o.c. ood structural See Table R602.3(1) for 32" structural rd sheathing

Orientation of studs may

INSIDE CORNER DETAIL NOT TO SCALE

BUILDING DATA		
BUILDING CODE	2009 IRC	
BUILDING DEPARTMENT	CITY OF WASHINGTON	
FIRE DEPARTMENT	WASHINGTON FIRE PROTECTION DISTRICT	
BUILDING TYPE	MULTI-FAMILY	
NUMBER OF UNITS	2	
GROSS AREA	5,2Ø7 SF	
UNIT AREA	1,864 SF	
NUMBER OF STORIES	1	
BEDROOMS / UNIT	2	
BATHS / UNIT	2	
GARAGE SPACES / UNIT	2	

	SHEET IN	DEX				
<u></u> •	PRELIMINARY	● FO	R CONST	RUCTIO	NC	
CODE REVIEW / BIDDING		REVISION				
SHEET #	SHEET DESCRIPTION		7.0.			
AØ	Cover Sheet		•			
Δl	Foundation Plan		3			
A2	Basement Floor Plan		3			
Д3	Roof Plan		0			
Д4	Electrical Plan		0			-
Д 5	Elevations		•			1
A6	Elevations		0			
ΑT	Details		0			
AS	Schedules		3			
A9	Specifications		0			
						1
						1
						1
						1

NOTE:
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NUMBER A-2007026206 Kenneth R. Scheer #A-2007026206

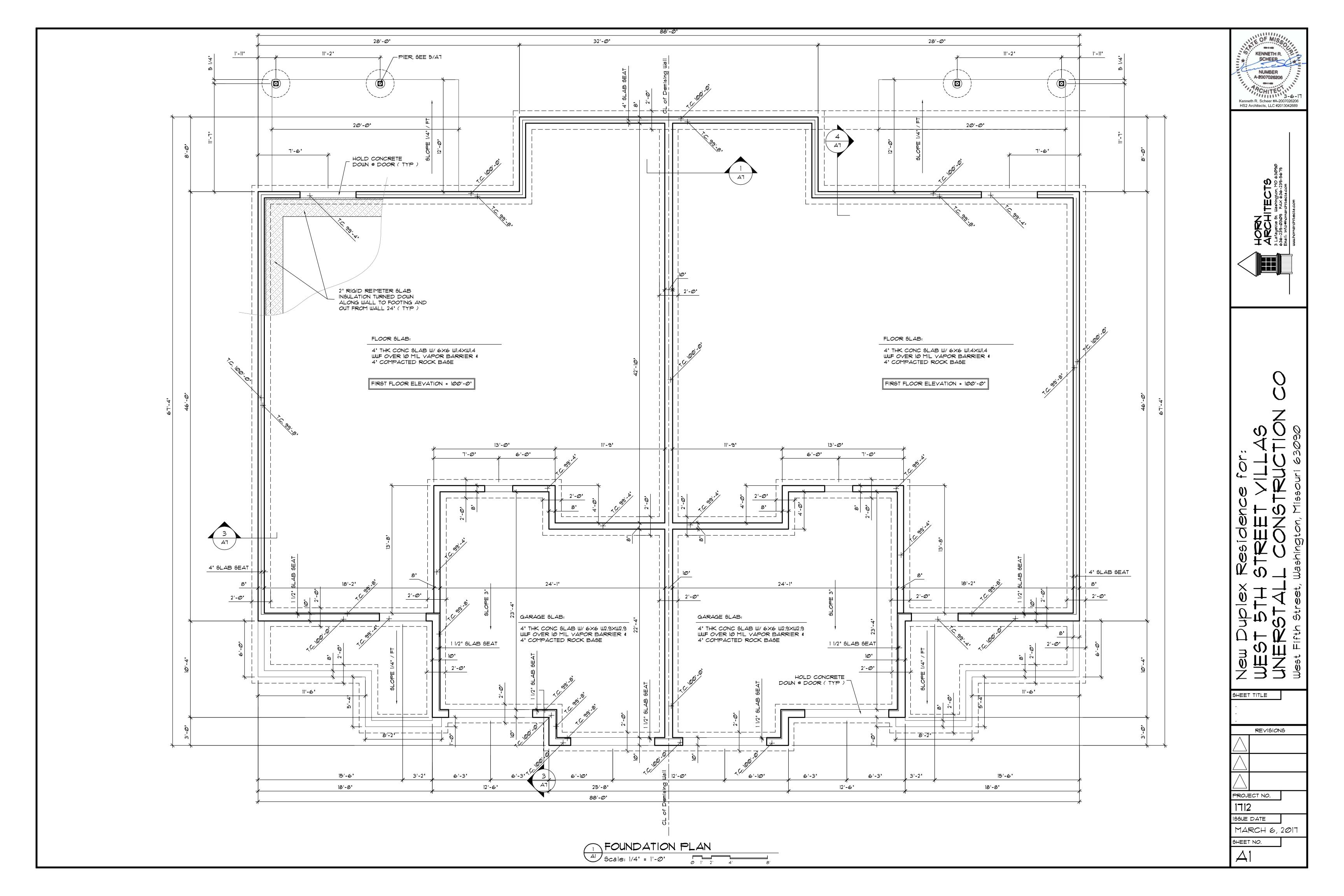
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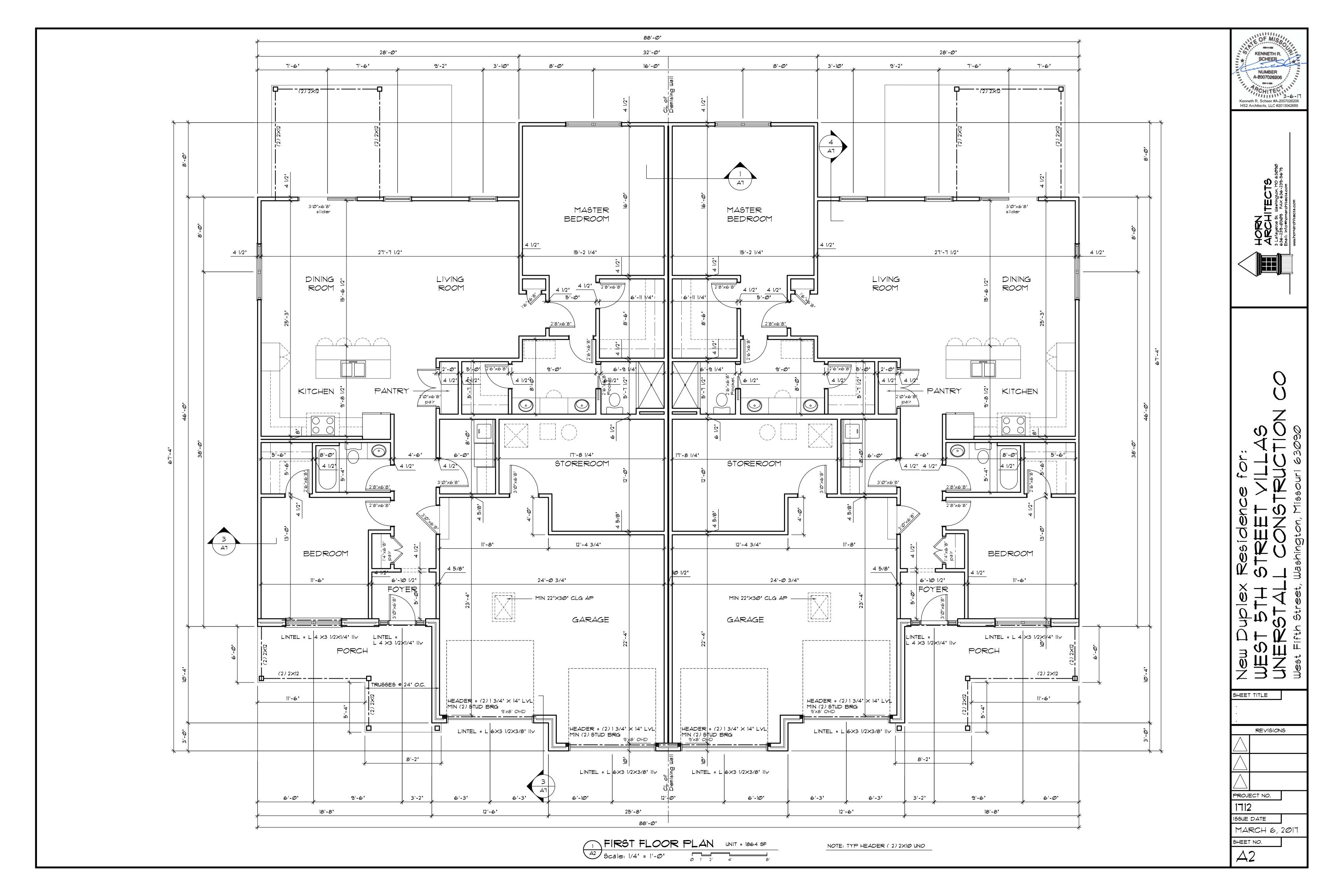
REVISIONS

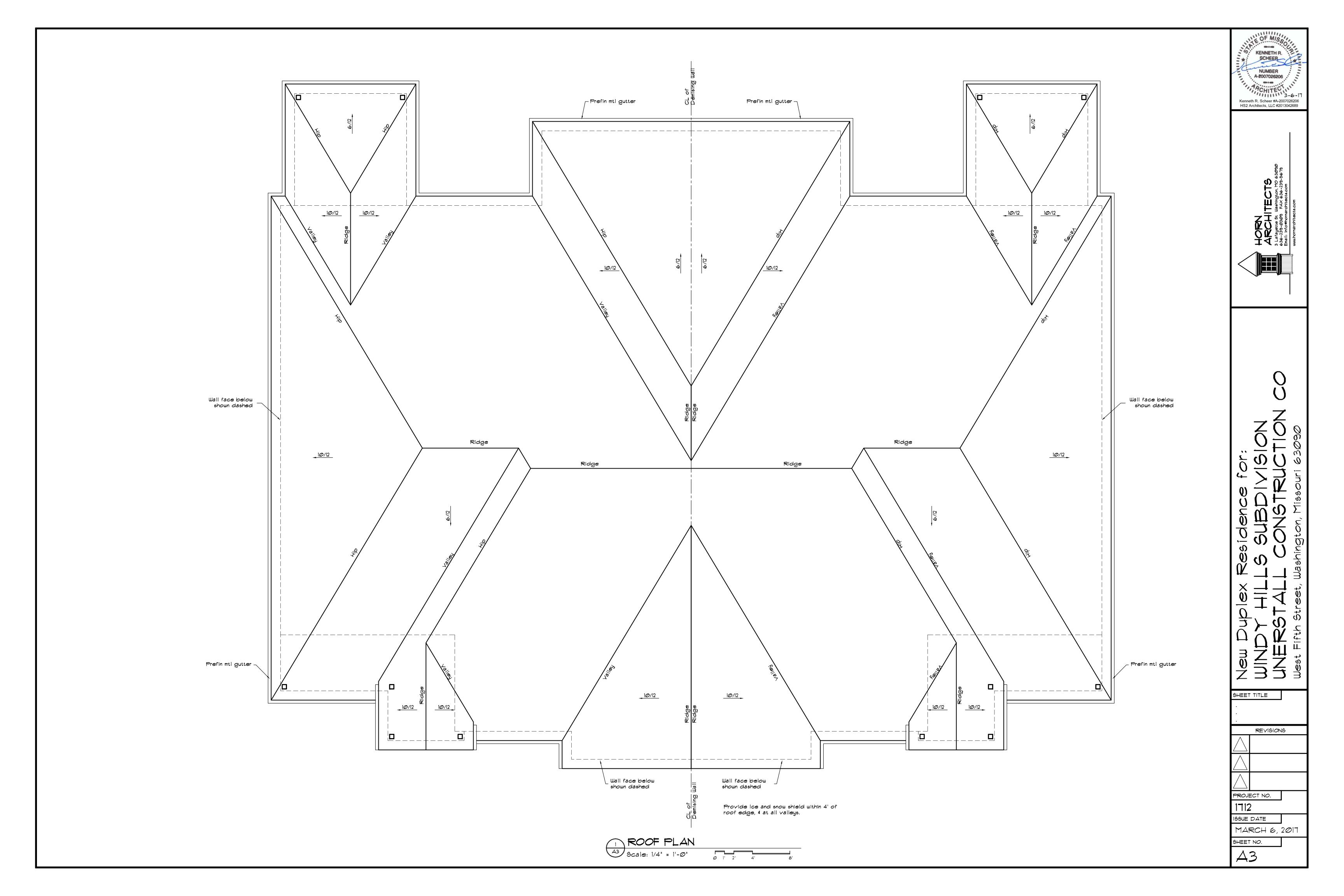
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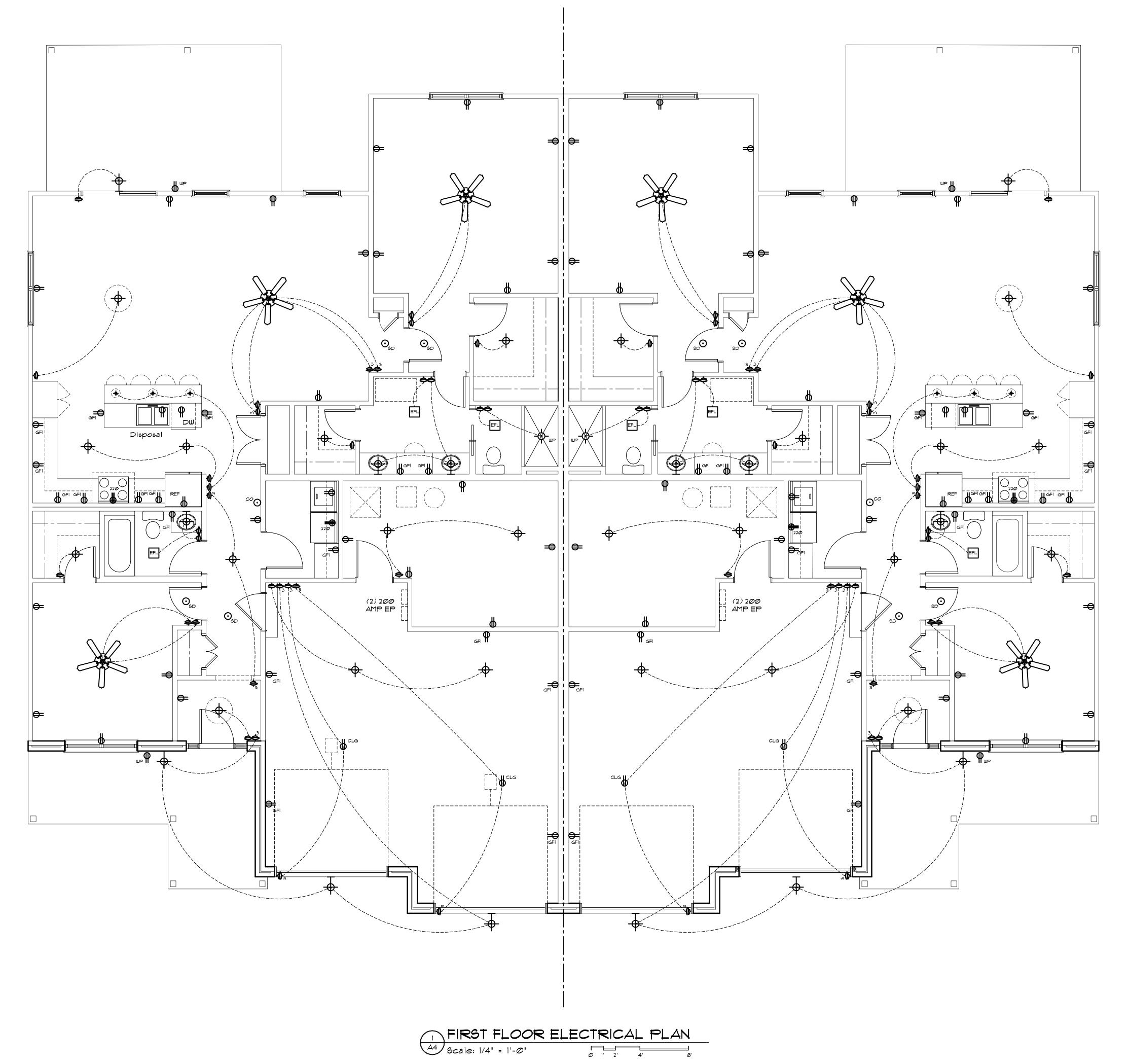
SSUE DATE MARCH 6, 2017

SHEET NO.









ELECTRICAL LEGEND

📤 3-way Switch (4=4way)

Ceiling mounted duplex

GF Ground Fault Interrupt Duplex

 \bigoplus_{+48} Duplex, * = location above fir

Duplex receptacle

220 volt outlet

 $oldsymbol{\Delta}_{\mathsf{TV}}$ Television

↑ Thermostat↑ Doorbell

+ ☐ Intercom + ☑ Central Vac.

Junction boxSpeaker

 $O_{\!\!\! ext{SD}}$ Smoke Detector

Oco Carbon Monoxide Detector

 $oldsymbol{\Lambda}_{ extsf{T}}$ Telephone outlet

- Recessed fixture

Recessed wall washer

Surface mounted light

; Pendant hung light

Wall mounted light

EFL Exhaust Fan/Light HLF Heat Lamp/Fan

CF = Ceiling Fan CFL = Ceiling Fan w/ Light

Recessed adjustable eye

Surface mounted light, Pull Chain

NUMBER A-2007026206 CHITE 3-6-17 Kenneth R. Scheer #A-2007026206 HS2 Architects, LLC #2013042689

HORN
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New Duplex Residence for:
WEST 5TH STREET VILLAS
INFROTAL CONSTRICTOR

SHEET TITLE

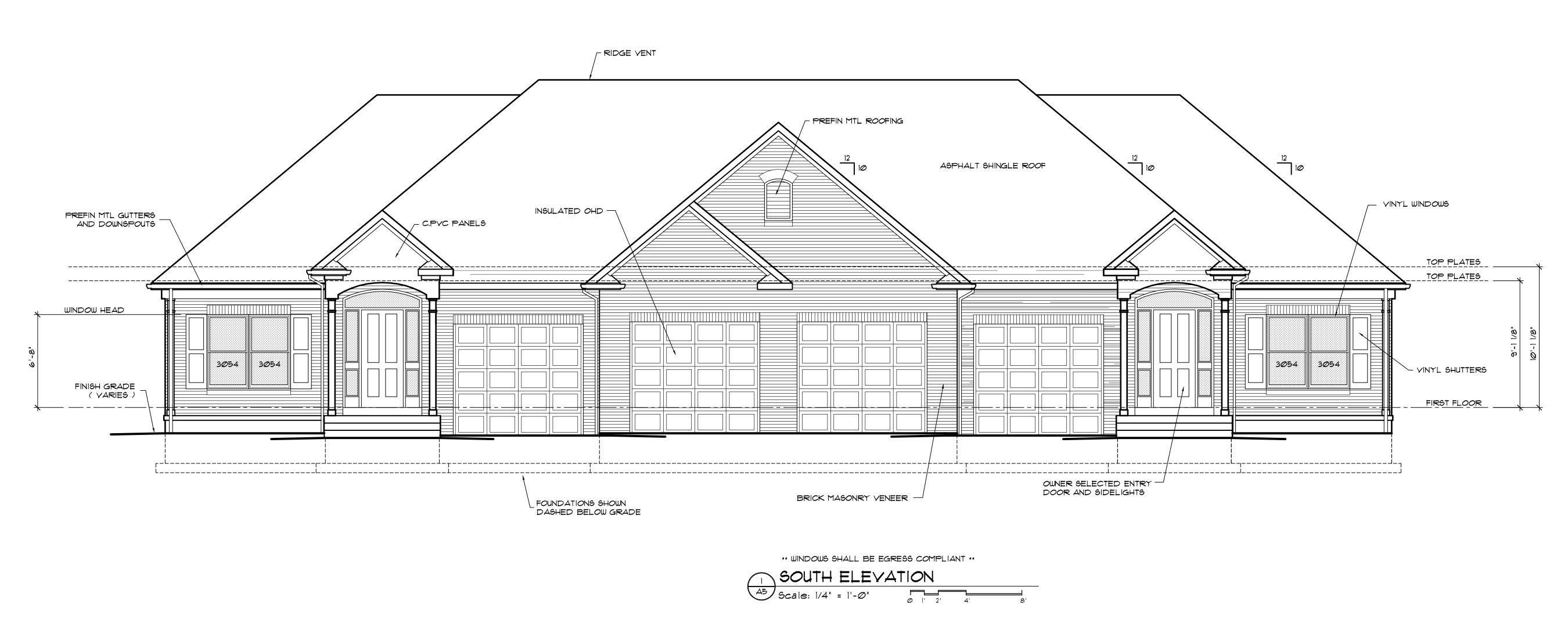
ELECTRICAL PLAN

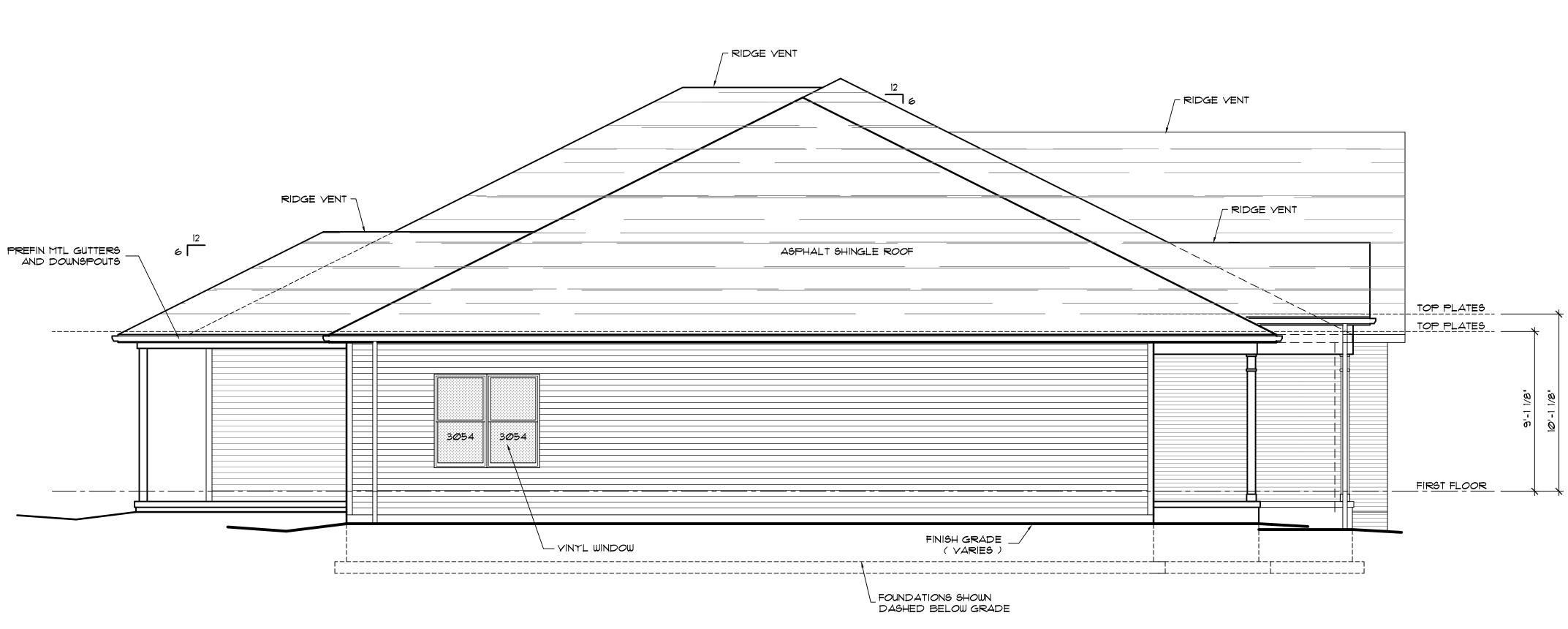
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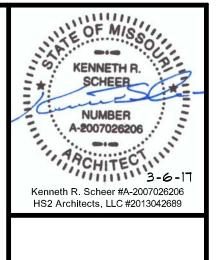
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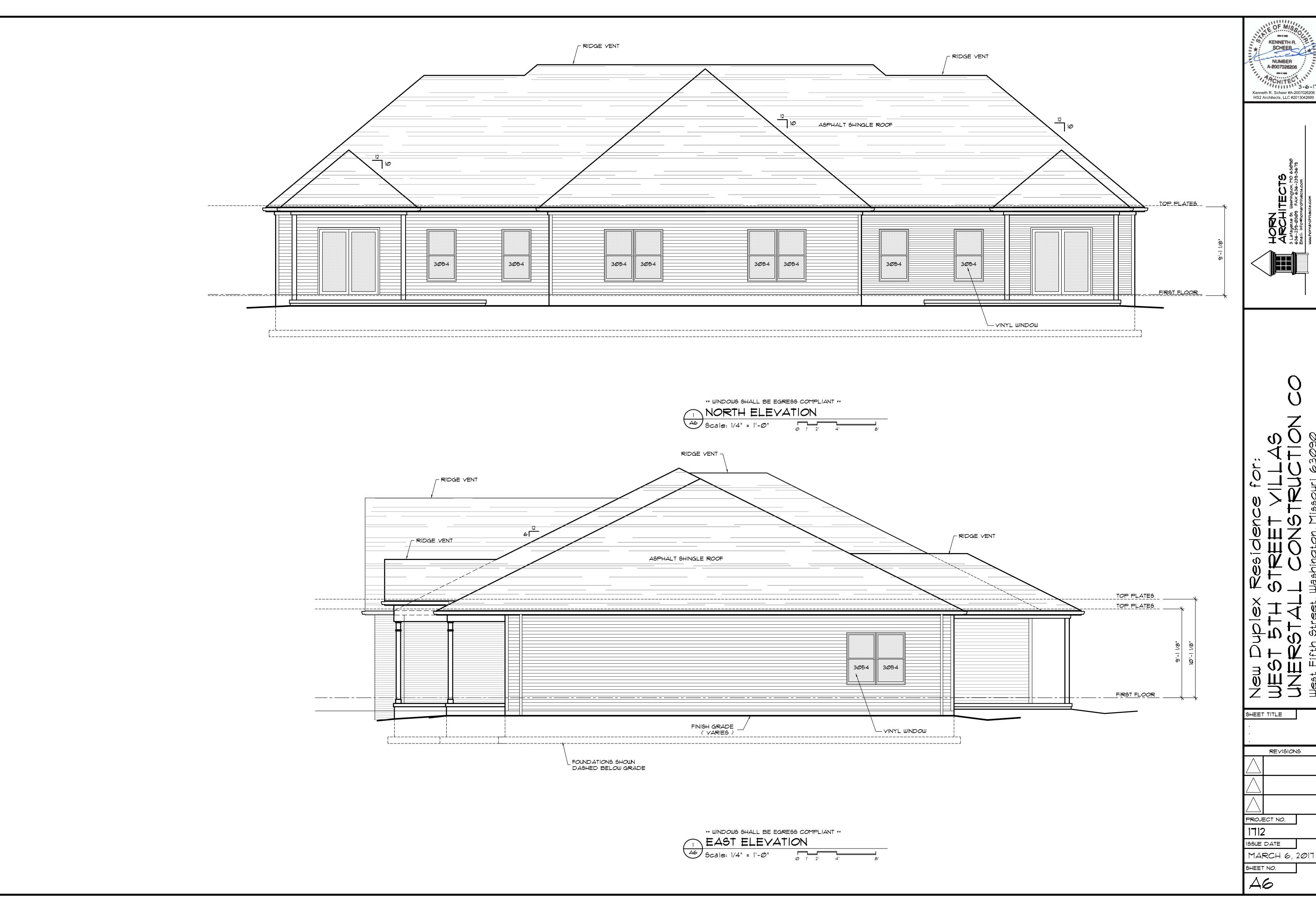
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REVISIONS

PROJECT NO.

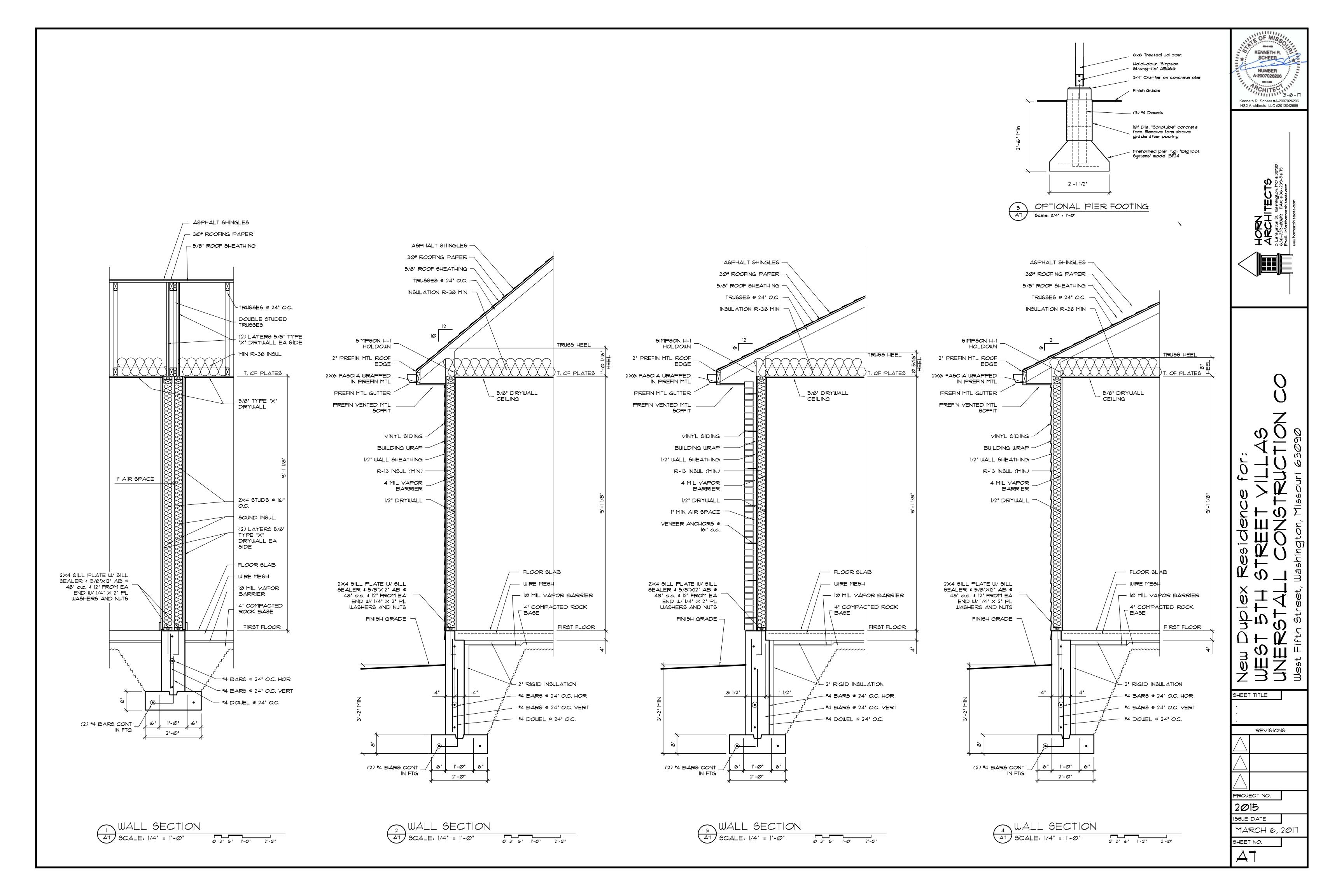
ISSUE DATE MARCH 6, 2017 SHEET NO.

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A-2007026206 Kenneth R. Scheer #A-2007026206 HS2 Architects, LLC #2013042689

REVISIONS



		Number & Type		
ITEM	DESCRIPTION OF BUILDING ELEMENTS	of Fastener (abc)	SPACING OF FASTENER	
	ROOF			
1	Blocking between joists or rafters to top plate, toe nail	3 - 8d		
2	Ceiling joists to plate, toe nail	3 - 8d		
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3 - 10d		
4	Collar tie rafter, face nail or 1 1/4" x 20 ga ridge strap	3 - 10d		
5	Rafter to plate, toe naîl	2 - 16d		
6	Roof rafters to ridge, valley or hip rafters:			
	Toe nail Face nail	4 - 16d 3-16d		
	WALL			
٦	Built-up corner studs	1Ød	24' o.c.	
8	Built-up header, 2 pieces with 1/2" spacer	160	16' o.c. along ea. edge	
9	Continued header, two pieces	160	16" o.c. along ea. edge	
10	Continuous header to stud, toe nail	4 - 8d		
11	Double studs, face nail	10d	24' o.c.	
12	Double top plates, face nail	10d	24' o.c.	
13	Double top plates, minimum 24" offset of end joints, face nail in lapped area	8 - 16d		
14	Sole plate to joist or blocking, face nail	160	16' o.c.	
15	Sole plate to joist or blocking a braced wall panels	3 - 16d	16' o.c.	
16	Stud to sole plate, toe nail	3 - 8d or 2 - 16d		
דו	Top or sole plate to stud, end nail	2 - 16d	**	
18	Top plates, laps at corners & intersections, face nail	2 - 10d		
19	I" brace to each stud & plate, face nail	2 - 8d 2 staples 3/4"	**	
20	I" x 6" sheathing to each bearing, face nail	2 - 8d 2 staples 3/4"		
21	I" x 8" sheathing to each bearing, face nail	2 - 8d 3 staples 1 3/4		
22	Wider than 1' x 8' sheathing to each bearing, face nail	3 - 8d 4 staples 1 3/4"	"	
	FLOOR			
23	Joist to sill or girder, toe nail	3 - 8d		
24	I" x 6" subfloor or less to each joist, face nail	2 - 8d 2 staples 3/4"		
25	2" subfloor to joist or girder, blind and face nail	2 - 16d		
26	Rim joist to top plate, toe nail (roof applications also)	8d	6" o.c.	
27	2' planks (plank & beam - floor & roof)	2 - 16d	at each bearing	
28	Built-up girders and beams, 2" lumber layers	10d	Nail each layer as follow 32" o.c. a top & btm & staggered. 2 nails a enc & at ea. plate	
29	Ledger strip supporting joists or rafters	3 - 16d	At each joist or rafte	

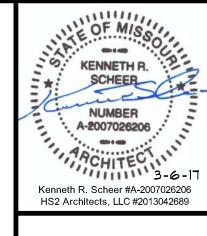
		ABLE R602.3(1) 2009 IRC - CONTINUED IER SCHEDULE FOR STRUCTURAL MEMBI	ERS		
			SPACING OF FASTENERS		
ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER (b,c,e)	Edge (inches)	s intermediate (Supports (c,e (inches)	
		tural panels, subfloor, roof & interior wall sheathing ning & particleboard wall sheathing to framing	to		
30	3/8" - 1/2"	6d common nail (subfloor wall)j 8d common nail (roof)	6	12(g)	
31	19/32" - 1"	8d common nail	6	12(g)	
32	1/8" - 1/4"	10d common nail or 8d deformed nail	6	12	
		Other Wall Sheathing, h			
33	1/2" structural cellulosic fiberboard sheathing	1 1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16ga. 1 1/4" long	3	6	
34	25/32" structural cellulosic fiberboard sheathing	1 3/4" galvanized roofing nail, 7/16" crown or 1" crown staple 16ga. 1 1/2" long	3	6	
35	1/2" gypsum sheathing (d)	1 1/2" galvanized roofing nail± staple galvanized, 1 1/2" long± 1 1/4" screws, Type W or	٦	٦	
36	5/8" gypsum sheathing, (d)	P3/4" galvanized roofing nail± staple galv., I 5/8" long± I 5/8" screws, Type W or S	٦	Т	
	Wood structur	ral panels, combination subfloor underlayment to fr	aming		
37	3/4" and less	6d deformed nail or 8d common nail	6	12	
38	7/8" and 1"	8d common nail or 8d deformed nail	6	12	
39	1 1/8" and 1 1/4"	10d common nail or 8d deformed nail	6	12	

- a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.171 inch, and 100 ksi for shank diameters of 0.142 inch or less.

- Ø.177 inch, and 100 ksi for shank diameters of Ø.142 inch or less.
 b. Staples are 16 gage wire and have a minimum 7/16 inch on diameter crown width.
 c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48" or greater.
 d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically
 e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
 f. For regions having basic wind speed of 100 mph or greater, 8d deformed nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, upto 35 feet maximum.
 g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. when basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48 inch distance from ridges, eaves, and gable end walls and 4 inches on center to gable end wall framing.
- center for minimum 48 inch distance from ridges, eaves, and gable end walls and 4 inches on center to gable end wall framing.

 h. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253. fiberboard sheathing shall conform to ASTM C208.

 Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.



SHEET TITLE

PROJECT NO.

ISSUE DATE

SHEET NO.

MARCH 6, 2017

REVISIONS

GENERAL REQUIREMENTS

1. Summary of Work: The Contractor shall provide for the work outlined in these documents. Any modification to the scope work shall be approved by the Owner prior to commencement of the work.

performed as part of the contractors services shall be performed in strict accordance with all applicable codes and standards required by the Governing

2. Applicable Codes and Standards: All work outlined in these documents, and

Insurance: The Contractor shall carry all required insurance, and shall provide the Owner with proof of such insurance.

4. Warranty: The Contractor shall warrant all work for a period of one year from the date of substantial completion. All product and equipment warranties shall be provided to the Owner at the completion of the project.

5. Testing: All required testing services shall be provided by the Owner, and performed by an independent test service. This may include, but is not limited to Soils Testing, Concrete Testing, or Hazardous Materials Evaluation # Testing.

6. General requirements of the Work:

a. All Materials shall be new and of good quality b. All work shall be performed in a neat and professional manor. c. The job site shall be kept clean, and free of debris and rubbish d. The Cont. shall provide all req. safety precautions and barriers

e. The contractor shall be responsible for all shoring and bracing f. The Cont. shall be responsible for means and methods of const.

Project Close Out:

a. Project and job site are to be cleaned and left free of debris b. All Labels, Stickers, or tags are to be removed c. All Product manuals and warranties are to be submitted to the Owner

d. All temp. utilities, safety barriers, or facilities are to be removed

SITEWORK, EXCAVATING AND GRADING

A. Include all clearing, excavating, and filling necessary to complete the work Distribute earth evenly, removing exposed debris. B. Top six inches of top soil are to be stock piled during excavation and is to be evenly distributed latter for final grading

C. All footings shall be excavated a minimum of $\frac{2!-6!}{6!}$ below grade, and shall extend to virgin soil. The bottom of all footings shall be neat and free of any debris or vegetation

D. All backfill shall be free of large rocks, vegetation, and debris. Backfill shall be carefully placed and compacted. Additional backfilling in areas of settlement shall be provided. Backfill & finish grading shall be placed to provide a minimum of 1/2" per foot of slope away from the building. E. Fill at areas of pavement or walks shall be carefully placed and

compacted with drainage running away from the pavement to the best extent possible. F. Proper siltation and erosion control measures shall be placed by the Contractor to prevent storm water run off and erosion on the site. Embankments shall be carefully constructed and protected against erosion,

subsidence, and settlement. G. Compaction at fill areas shall meet the following requirements (ASTM D1557 Modified Proctor Compaction Test)

95% I. Foundations 2. Floor Slabs, & Walks 95%

90% 3. Paved Areas 4. Lawns or unpaved areas 85%

H. Any excess earth of shall be placed elsewhere on the site as directed by the Owner.

TERMITE CONTROL

Provide subterranean termite control soil treatment chemicals in concentrations acceptable for FHA standards and passing the U.S. Forestry Service five year test.

Application shall be performed by a licensed pest control treatment firm, and shall be applied in accordance with the MFG recommendations.

3. Treatment shall be applied under the entire area of the building and at concrete slabs on grade. Apply at an intensified rate along both sides of foundations at areas where utilities or other items penetrate the foundation walls.

4. Treatment shall be guaranteed for five years

DRAINAGE PIPING SYSTEMS

1. Storm water Piping System a. Provide rigid schedule 40 PVC piping system at the perimeter of the foundation for Downsbouts

b. Provide all necessary fittings including: clean outs, Downspout shoes, and related accessories.

c. Slope piping to drain to daylight as directed by the Owner

Subsoil Drainage System

a. Draintile shall be flexible, perforated, PVC pipe w/filter fabric wrap. Slope draintile to drain to daylight or sump pit as indicated or directed by the Owner b. Provide all necessary fittings including, &clean outs. c. Provide 3/4" clean rock drainage bed around draintile

_ANDSCAPE, SEEDING AND SODDING

A. Provide seeding at areas disturbed during construction, including construction and storage areas. All areas shall be evenly fine graded as to restore them to their original condition, and shall be free of debris, vegetation, rocks, and large clumps of earth.

B. Provide sod at areas to steep to be seeded.

C. Provide soils testing and site evaluation as recommend by the NRCS (USDA Natural Resources Conservation Service) to determine proper fertilizer and seed types. Fertilizer and seed application rates, application procedures, and soil preparation are to be in accordance with MFG recommendations.

D. Protect seeded areas against erosion by spreading straw at a rate of 2.5 Tons per acre to a uniform depth across the seeded area. Provide anchored straw bales, erosion fence, or erosion mats at swales. Valleys, steep slopes, or against walks or paved areas

E. Maintenance and watering of the seeded or sodded area shall be in accordance with seed MFG recommendations. Wash down or otherwise clean areas adjacent to the work area effected by the seeding and sodding operation

CONCRETE

Excavation and Subgrades: General Contractor shall provide for basic grades. Final Subgrades shall be excavated by machine or by hand, as necessary, by the Subcontractor responsible for pouring that item.

2. All Concrete materials shall meet the following standards: a. ASTM C94 - "SPECIFICATION FOR READY-MIXED CONCRETE

b. ACI 301 - "SPECIFICATION FOR STRUCTURAL CONCRETE" c. ACI 117 - "STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS"

d. CRSI - "MANUAL OF STANDARD PRACTICE", e. ACI 318 - "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"."

3. Concrete shall have a 28 day compressive strength as follows: a. Exterior walls and flatwork: 4,000 psi.

b. Footings, Piers, Pads and Grade beams: 3,000 psi

e. Welded Wire Fabric: ASTM A185, supplied in Flat Sheets

a. Minimum Grade ASTM A615, Grade 60. Use ASTM A706, Grade 60 where bars are to be welded

b. Lapped at splices minimum 24". c. Free of form oil, dirt and other foreign matter. d. Protected by a minimum of 2" of concrete in members exposed to soil, gravel or weather and a minimum of 3" of concrete in footings, pads, piers, and grade beams.

f. Portland Cement: ASTM C150 q. Fly Ash: ASTM C618, Class C, or F

and folded up at exterior slab edge

n. Aggregate: ASTM C33, uniformly graded i. Air Entrainment Mixtures: ASTM C260 Air content 5.5 to 7.0 percent for concrete exposed to freezing and thawing, 2.0 to 4.0 % elsewhere

j. Chemical Admixtures: ASTM C494 of type required for design mix. Do not use admixtures containing calcium chloride. k. Fiber Reinforcement: ASTM CIII6, Type III, synthetic fibers, 1/2" to 1", 1.5 lbs per

l. Compacted Chrushed rock Base: 3/4" Minus chrushed limestone under slabs m. Vapor barrier under slabs shall be 10 Mil Polyethylene vapor barrier, lapped 4"

5. Formwork: Braced as needed to remain square, plumb and true to line and level.

6. Anchor bolts: Minimum 5/8" ϕ x 12" diameter with nuts and flat washers. Provide AB @ 48" O.C. 4 Min of 12" from ea end. Min of (2) AB per section of sill. Sill sealer is specified in division T

T. Bearing for all wall footings, grade beams, frostwalls, pads, piers and other load bearing members shall be a minimum 1'-0" below virgin soil and a minimum 2'-6" below adjoining finish grade.

8. All form ties on both sides of exposed walls and on the sides of walls exposed to soil, gravel or weathering conditions shall be removed and spot patched...

9. Footing steps: Coordinated with existing site conditions. Steps that may be shown on the drawings are approximate.

10. Slabs and wall perimeter insulation shall be Dow Chemical Co. Styrofoam SM, 2" thick or similar approved.

a. Honeycomb and Air pockets are not acceptable and shall be repaired promptly and in such a manner as to prevent leaks and an unsightly appearance by the contractor responsible for pouring that item. Take extreme care to prevent these b. Exterior walks and paved areas shall have a broom finish

c. Interior floor slabs, and garage slabs shall have a steel trowel finish d. Exposed aggregate slabs shall have a smooth pea gravel aggregate

12. Control Joints shall be provided in all slabs to prevent cracking. control joints shall be sawn to a depth of 1/4 the thickness of the slab, and shall be placed in a regular pattern not to exceed 12' in each direction. Control joints shall also be provided at all column centerlines and corners to prevent diagonal shrinkage cracks

STEEL AND MISCELLANEOUS METALS

A. MATERIALS: All materials shall comply with the following standards. ANSI/AISC 360 - "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AISC 303 - "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", RCSC - "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", AWS D1.1 - "STRUCTURAL WELDING CODE - STEEL 1. Struct. Shapes. plates, bars and angles (except W shapes): ASTM A36 (Fy=36 KSI)

2. W Shapes: ASTM A992 (Fy + 50 KSI)

3. Steel tubing square and rectangular HSS: ASTM A500, Grade B (Fy= 46

4. Steel pipe: ASTM A53, Type E or S, Grade B, (Fy = 35 KSI)

5. Anchor Bolts: ASTM F1554, Grade 36 6. High strength bolts: ASTM A325, or ASTM F1852 TC Bolts, and AISC

Specifications

7. Welding: ETØxx electrodes 8. Grout: ASTM C1107, nonmetallic, shrinkage resistant. Pack grout solidly between bearing plates / base plates and the bearing surface.

B. Shop prime all materials w/ lead-free rust inhibitive primer unless noted

otherwise C. All exposed steel in exterior locations (lintels) shall be hot dipped

galvanized D. Field assemble and fasten per AISC specifications

E. Lintels shall have a minimum of 8" bearing on masonry

PLASTIC FABRICATIONS

. Provide Cellular PVC Trim Boards for exterior Architectural trim indicated on drawings as MFG by AZEK or equal.

2. Cellulary PVC Trim Boards shall meet the following standards:

a. ASTM D570 - Water absorbption of plastics

b. ASTM D638 - Tensile properties of Plastics c. ASTM D790 - Flexural Properties of plastics

d. ASTM DI761 - Mechanical Fasteners in Wood

e. ASTM D696 - Coefficient of liner expansion in plastics f. ASTM E84 - Surface burn charachteristics of Bldq materials

q. ASTM D635 - Rate of burn of plastics h. ASTM D3679 - Standard specifications for rigid PVC siding

3. Store. Handle, 4 Install Cellular PVC Trim Boards in accordance with MFG recommended installation proceedures. Allow for thermal expansion and contraction of the materials as directed by MFG. Use only MFG recommended stainless steel or galvanized fasteners, and PVC adhesives

4. Sealants shall be Urethane, Polyurethane, or acrylic based sealants without silicone

4. Finish Cellular PVC TRim boards in accordance with MFG recommended finishing procedures. Use only finishing materials recommended by the MFG \$ applied in an approved method.

VINYL SIDING

1. Vinyl Siding shall be: Wolverine "American Legend" series or equal vinyl siding. Siding shall be a double 5" Clapboard with a wood grain finish and a 9/16" projection. The siding shall have a nominal wall thickness of .042'

2. Owner shall select siding color from MFG full color line.

3. Siding shall meet or exceed the following standards: a. Flame Spread Index - 20, ASTM E84 b. Radiant heat test rating shall meet NFPA 268

c. Siding shall meet ASTM D3679, Specifications for Rigid PVC. d. Siding shall meet ASTM D5206, 150 MPH Wind Load Testing 4. Provide all accessories and trim necessary for a complete installation in accordance with

MFG recommendations and the construction documents 5. Siding shall be installed in a professional manor, and in accordance with MFG recommendations, including preparation of substrate, handling, and storage of the materials.

6. Leave the project site clean and free of debris, removing waste materials from the site. 1. Provide MFG standard warranty, including MFG "Lifetime Fade Protection" warranty.

WOOD MATERIALS

. Framing lumber to be graded and stamped by recognized agency (WWPA, SPIB, AFPA, etc.). and shall comply w/ AFPA ND9 - "National Design Specification for Wood Construction"

a. 2x4 \$ 2x6 No. 2 or better, spruce, pine or fir.

3. Structural Joist and Beams: #2 Douglas Fir Fb 1250, E 1,700,000 *2 Douglas Fir South Fb 1200. E 1.300.000 #2 Hemlock or Fir Fb 1100, E 1,400,000

b. 2x8, 2x10, 2x12 - Southern Pine No. 2.

#2 Dense, #2 KD Southern Pine E 1,600,000 Laminated Veneer Lumber (LVL) Fb 2600, E 2,000,000 Comply w/ ASTM D5456 Wood "I" Joist shall comply w/ ASTM D5055, sizes and series as indicated on drawings

4. Preservative treated materials: AWPA C2 Lumber & AWPA C9 Plywood. Treat wood members in contact w/ masonry, concrete, or wood members exposed to the exterior.

5. Roof sheathing: 5/8" APA rated sheathing. Exposure I or exterior. Oriented strand board shall be: "Oxboard" or "Structurwood". Plywood shall be Southern Pine or Fir. Particle board, flakeboard or waterboard is <u>not acceptable.</u> Install with clips and minimum 8d coated coolers at maximum 6" o.c. at edges and 12" o.c. at intermediate supports.

6. Mud Sills or Floor Sleepers Over New or Existing Concrete: *2 or better .40 pressure treated Southern Pine (yellow pine).

7. Wall Sheathing: 1/2" APA rated sheathing. 32/16 span rating. Exposure I or exterior. Oriented strand board shall be: "Oxboard" or "Structurwood". Plywood shall be Southern Pine or Fir. Particle board, flakeboard or waterboard is not acceptable. Support all edges w/2x framing materials. Add solid 2x blocking between studs, joists or rafters if needed to support all edges. Nail w/ minimum 6d coated coolers at maximum 6" o.c. at edges and 12" o.c. at intermediate supports.

8. Subfloor: 3/4" T&G APA rated subfloor. Minimum 48/24 span rating. Exposure I or exterior. Oriented strand board shall be: "Oxboard" or "Structurwood". Plywood shall be Southern Pine or Fir. Particle board, flakeboard or waterboard is not acceptable. Glued and screwed to joist at a maximum of 6" o.c.

9. Metal Covered Exterior Trim: milled from 1" and 2" nominal stock: #2 or better pine .40 pressure treated Southern Pine (Yellow Pine)

10. Standing and running Interior Trim: Painted finger jointed pine. 11. Metal framing anchors: Hot dip galvanized steel of Structural capacity, type and size

required. All rafters & trusses are to be anchored w/ metal framing anchors 12. Adhesives for field glueing panels to framing - ASTM D3498 (AFG-Ø1).

13. All fastening shall in accordance with the applicable building code 4 MFG standards. Fasteners shall be of a type recommend by the product MFG for the application required.

14. Double top plates shall be installed on top of all walls. 15. Exterior Trim, Fascia, etc: Ix size indicated rough sawn cedar, or hand selected No I pine

METAL-PLATE CONNECTED WOOD TRUSSES

unless noted otherwise.

1. Comply with TPI I - "National Design Standard for Metal-Plate Connected Wood Truss Construction", TPI HIB - "commentary and recommendations for handling, installing \$ bracing metal-plate connected wood trusses", and AFPA NDS - "National Design Specification for Wood Construction".

2. Trusses shall be designed by the MFG to accommodate spans indicated, and to carry loads prescribed by the building code and local conditions. MFG shall provide shop drawings and calculations for the truss design sealed by a Licensed Engineer.

3. Connector plates - TPI 1, fabricated from hot-dip galvanized steel sheet complying with ASTM A653, G60 coating.

4. Metal framing anchors - hot-dip galvanized steel of structural capacity, type and size required, simpson or equal.

5. Anchor trusses to all supports using metal framing anchors.

ASPHALT SHINGLE ROOF SYSTEM . Asphalt Shingles shall be Tamko "Heritage 30" series or equal, color as selected by Owner.

Shingles shall comply with the following standards: a. UL Class A Fire Resistance Rating - UL790/ASTM E 108 b. Wind resistance - ASTM D3161, Type I, UL 2390 ASTM D6381, Class H (150 MPH), ASTM

2. Provide MFG standard 30 year warranty w/ 10 year Algae Relief Limited cleaning warranty

3. Install over 30* roofing paper, and in accordance w/ MFG Recommendations.

4. Provide "Ice Shield" at low sloping roofs & valleys.

5. Provide stock ridge vents and accessories as required 6. Provide painted metal roof edge of color selected by the Owner

FLASHINGS AND SHEET METALS Materials: Gutters, downspouts, base & counter flashings, chimney caps, & othe Misc. items shall

be stock prefinished zinc coated steel sheet metal, color as selected by Owner a. Flashings - 24 gauge

b. Gutters - 24 gauge (Profile as indicated on Dwg's) c. Downspouts - 24 gauge (Profile as indicated on Dwg's) e. Other items - .24 gauge f. Provide wire guards or Owner app. leaf guard sys. in gutters

q. Sealant at joints shall be silicone 2. The color shall be as selected by the Owner. Finish shall be Kynar 500

3. Soffit vents and fascias shall be prefinished vented or plain sheet, as noted on the

drawings. 4. Installation: Install a Flashings and Sheet Metal items in a clean professional manor allowing for expansion as required. Seal all joints and seams as req, for a water tight installation. Gutters are to be left free of obstructions. Extend all flashings up a min. of 8" on vertical surfaces, and out a min. of 8" on roof surfaces. Step flashings as required, with a min 4" lap.

GYPSUM WALLBOARD

3. Drywall installation

1. Gypsum board shall be of type and thickness indicated below UNO. a. Walls Residential Construction - 1/2" Drywall EA side b. Walls Res. Const. between Gar. & Liv. Space- 5/8" Type"X" EA Side

c. Walls Commercial Construction - 5/8" Drywall d. Ceilings w/ Frmng @ 24" O.C. - 5/8" Drywall e. Provide Water resistant fire rated drywall a all wet or humid areas.

f. Provide fire rated drywall as indicated on Drawings 2. Accessories

a. Joint treatment: Perf-A-Tape and joint compound system or USG Ready Mix joint Compound

b. Cornerbead: #103 Dur-A-Bead @ all exterior corners c. Caulking: USG acoustical Sealant

d. Joint Control: USG #093

0.177" dia. power-driven fasteners @ 24" o.c.

NOT acceptable. b. Tape and sand all exposed joints, screws, nail dimples, or other irregularities in the drywall to produce a smooth sound, flat surface. c. Finishing Gypsum board: Level 4 finish.

4. Light Gauge Metal Framing:

a. Metal studs: 20 gauge minimum galvanized metal studs @ centers indicated. b. Metal runners: 20 gauge minimum galvanized metal

c. Metal furring: USG "Z" galvanized metal furring channel (1") or as indicated d. Metal Furring channels: USG "hat shaped" galvanized metal furring channel. e. Metal trim: 200 series f. Channels: 1 1/2" cold rolled channels, 20 ga minimum

g. Metal CH studs: USG "CH" studs galvanized metal. 5. Metal Framing Installation: a. Install metal framing in accordance w/manufacturer's printed instructions. b. Install continuous runner tracks sized to match studs, align accurately. Secure tracks w/

c. Secure studs in partition walls to top and bottom runner tracks by welding or screw fastening at both inside # outside flanges. d. Set studs plumb. e. Install supplementary framing, blocking and bracing in metal framing system as necessary.

a. shall be screwed at the tapered edges and in the field of the sheet. Metal corner beads

shall be mechanically attached to the substrate. Crimping the corner bead into the drywall is

f. Install diagonal bracing spaced at 8" o.c. max as reg'd to anchor partitions to overhead g. Where solid core or double doors occur, provide 2 studs at jambs 7 one additional stud not more than 6" away. Fasten jambe studs together so they act as a single unit. h. Frame both sides of expansion and control joints w/ separate studs.

HERMAL & MOISTURE PROTECTION

plumbing walls and clg's below toilets.

Sill sealer shall be plastic foam type.

2. Minumum isulation around heated spaces, exterior walls, and ceilings of unfinished spaces shall a. Attic, Roof, & Transitional Spaces - 10" R 38 Unfaced batts

b. 2x4 exterior walls - RI3 Unfaced Batts

c. 2x6 exterior walls - RI9 Unfaced Batts

3. Perimeter rigid foundation insulation: Blue styrofoam TG brand 2" thick extruded polystyrene foam by Dow Chemical Company or equal.

4. Perimeter Thermal Break Insulation: 1/2" thick thermal break polystyrene. strofoam or similar

expanded plastic insulation 5. Sound Attenuation Blankets: Owens Corning or USG Inc, "Thermafiber Sound Attenuation Fire Blankets" 3" THK Fiberglass, unfaced. Provide at areas indicated on drawings, and at all

6. Vapor Barrier shall be 10 Mil Polyethylene below concrete slabs, and 4 Mil Polyethylene at exterior framed walls

7. Wind Seal shall be "Tyvek" or other approved wind seal over exterior walls with siding, or 8. Caulking shall be provided as follows:

a. Exterior joints shall be caulked w/ MFG best 20 year paintable, sunlight resistant

caulking. Caulking on unpainted surfaces shall be of an approved color to match the surrounding

<u>PLUMBING</u>

1. All plumbing installations shall be in strict accordance with all Governing codes and standards 2. Contractor shall be responsible for obtaining all necessary permits, inspections,

and approvals for the work. Contractor shall be responsible for verifying all fixture types, requirements,

finishes, and exact locations with the Owner. Contractor shall be responsible for coordination of his work with other trades. 5. Contractor shall be responsible for all digging, cutting, patching, ETC related to his work and shall make required repairs thereafter. In no case shall Contractor cut into any major structural element without the approval of the Architect / Structural Engineer. The contractor requiring the opening shall be responsible for verifying the existence of any concealed utilities or services within the surface and shall pay all cost of repairing or replacing any such surfaces or utilities which are

6. Seal all penetrations of fire rated walls, floors, or ceilings in accordance with all Governing Codes and Standards. Sealing assembly / materials shall be UL listed. Plumbing supply, waste, and vent piping size and type shall not be less than is

required by the Governing Codes and Standards. 8. Coordinate water supply and metering with the local authority, or water well

Coordinate waste piping with the local authority, or on-site septic system installer. 10. Contractor shall be responsible for all excavation procedures and shall provide adequate protection to any adjacent structures. Backfill all excavations to 95% proctor density. Subgrade where disturbed shall be replaced w/6" of new

II. All waste and vent piping shall be schedule 40 PVC or no-hub cast iron. no-hub cast iron shall be used in all return air plenum spaces. 12. Extend Plumbing vents thru roof and maintain required separation distance from

HVAC rooftop equipment. Water supply piping shall be hard tempered copper pipe, Type K shall be used below grade and Type L above grade w/ wrought copper fittings. Make soldered joints w/ lead free solder and flux. Water piping shall be insulated w/ 1/2" thk min

14. Water hammer arrestors shall be installed at ends of long pipe runs, near batteries of fixtures, and near fast closing valves. Air chambers shall be at least 12" in length and the same size as the fixture supply. 15. Provide shut-off valves at main entrance into bldg, all fixture supplies, water

penetrations for exposed connections to fixtures. Provide access panels to all clean outs and valves. 18. The Contractor shall Test and verify that the Plumbing Systems are installed in a professional manor, free of leaks and in accordance of Governing Codes and

16. Provide a chrome plated brass escutcheon plate fastened in place for all wall

Standards. 19. The Contractor shall clean and sterilize the water system. 20. Provide hookups for all appliances including icemakers(ref), dishwashers, etc.

<u>MECHANICAL</u>

fiber insulation.

heaters, hose bibs, or other equipment

I. All Mechanical installations shall be in strict accordance with all Governing codes and standards.

The system design, fuel source, and features are to be reviewed and approved by

the Owner prior to construction. Equipment locations shown on the drawings are generic, and final locations shall be approved by the Owner. Systems shall be designed with high efficiency, low noise output equipment.

Provide programmable system controls selected by the Owner with a min of "on-auto", and night setback features. 4. Contractor shall be responsible for obtaining all necessary permits, inspections, and approvals for the work.

5. Contractor shall be responsible for preparing all design calculations, including any required heat loss and heat gain calculations. Contractor shall be responsible for coordination of his work with other trades. Contractor shall be responsible for all digging, cutting, patching, ETC related to his work and shall make required repairs thereafter. In no case shall Contractor cut into any major structural element without the approval of the Architect / Structural Engineer. The contractor requiring the opening shall be responsible for verifying the existence of any concealed utilities or services within the surface and shall pay all cost of repairing or replacing any such surfaces or utilities which are

Governing Codes and Standards. Sealing assembly / materials shall be UL listed. Coordinate electrical and or plumbing connections with the associated trades including power supply, condensate drains, etc.. 10. Contractor shall be responsible for all excavation procedures and shall provide adequate protection to any adjacent structures. Backfill all excavations to 95%

proctor density. Subgrade where disturbed shall be replaced w/6" of new

8. Seal all penetrations of fire rated walls, floors, or ceilings in accordance with all

Provide access panels where required. The Contractor shall Test and balance the Mechanical Systems to ensure they are installed in a professional manor, and in accordance of Governing Codes and

13. The Contractor shall replace all filters prior to Occupancy. 14. Provide MFG standard equipment warranty, and one year parts and labor warranty.

damaged.

compacted material.

ELECTRICAL

All electrical installations shall be in strict accordance with all Governing codes and 2. Contractor shall be responsible for obtaining all necessary permits, inspections, and approvals for the work.

equipment loads, and exact locations with the Owner.

Contractor shall be responsible for coordination of his work with other trades. The Drawings indicate a "schematic Layout" and show approximate locations. Exact Locations shall be coordinated by the Contractor and field verified prior to rough-in. 6. Contractor shall be responsible for all digging, cutting, patching, etc. related to his work and shall make required repairs thereafter. In no case shall Contractor cut into any major

structural element without the approval of the Architect / Structural Engineer. The

Contractor shall be responsible for verifying all fixture types, requirements, finishes,

contractor requiring the opening shall be responsible for verifying the existence of any concealed utilities or services within the surface and shall pay all cost of repairing or replacing any such surfaces or utilities which are damaged. Seal all penetrations of fire rated walls, floors, or ceilings in accordance with all Governing Codes and Standards. Sealing assembly / materials shall be UL listed.

shown on drawings. Raceways shall be compatible an suitable for use and locations. Keep raceways at least 6" away from flues, hot water pipes, and steam pipes. Protect stub-ups \$ stub-outs from damage and foreign matter. Conceal conduit & EMT within finished walls, ceilings and floors UNO.

9. Conductors shall be copper wire #12 AWG Min. 60° conductor insulation for wires up to \$

Conduit shall be 3/4" Min. UNO. Provide empty conduit w/ pull strings for future wiring as

including #1 AWG, 75° insulation above #1, AWG UNO Max voltage drop for branch circuits shall be 3%. 10. Contractor shall be responsible for all excavation procedures and shall provide adequate protection to any adjacent structures. Backfill all excavations to 95% proctor density.

Subgrade where disturbed shall be replaced w/6" of new compacted material.

all circuits, Water heater 120 V. air-duct equipment, ETC. Ground rods tops shall be 2" below finish floor or grade. 12. Panelboard breakers shall be 20 AMP UNO. Refer to panelboard schedule for sizes and type. Buses shall be hard drawn copper, 98% conductivity. Compression type terminators

Grounding shall comply w/ NEC \$ local requirements. Install insulated grounding conductors in

and ground lugs. Mounting heights shall be typical as follows UNO on the drawings. Switches = 48" AFF

Receptacles = 18" AFF

Telephone = Center of wall hung device 54" AFF Telephone / Data -center = 18" AFF Thermostat - center = 54" AFF

14. Coordinate building service and meetering equipment w/ utility company The Contractor shall Test and adjust all of the electrical systems to verify the performance of all systems and subsystems installed

SMOKE AND CARBON MONOXIDE DETECTORS

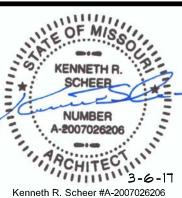
U.L listed smoke detectors shall be located on each floor level in the vicinity of all bedroom entrance doors (bedroom hallway) and within each bedroom. Locate bedroom KENNETH R. hallway detector upstream from any return air grille, if applicable. Floor levels that do not SCHEER contain bedrooms shall have the detector located at the ceiling near the stairway. In split level residences a smoke detector installed on the upper level shall suffice for the adjacent lower level provided the lower level is less than one full story below the upper NUMBER level. If there is an intervening door between the adjacent levels a smoke detector shall A-2007026206 -

be installed on both levels. When more than one detector is required within the dwelling unit, the detectors shall be Interconnected so that activation of one alarm will activate all alarms throughout the

3. The smoke detectors shall be AC powered and have battery backup. The installation shall also meet NFPA 72-07.

A carbon monoxide alarm is required outside of sleeping areas, in the immediate vicinity of the sleeping areas, if the dwelling unit contains a fuel fired appliance or has an attached or basement garage

5. The carbon monoxide detector shall comply with UL2034-2008.



HS2 Architects, LLC #2013042689

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SHEET TITLE

REVISIONS

PROJECT NO.

SSUE DATE

MARCH 6, 2017

BHEET NO.