



# GENERAL NOTES

# A. ALL CONSTRUCTION SHALL CONFORM WITH THE 2015 INTERNATIONAL RESIDENTIAL CODE (IRC). AS AMENDED BY MONTGOMERY COUNTY

## B. ALL CONSTRUCTION SHALL CONFORM WITH ALL APPLICABLE LOCAL CODES/AMENDMENTS.

# DESIGN CRITERIA: (PER SECTION R301 OF IRC 2015)

BUILDING CODES:

- A. THE DESIGN DEAD LOADS FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND INDICATED IN THE GENERAL NOTES.
- B. THE MINIMUM DESIGN UNIFORMLY DISTRIBUTED LIVE LOADS FOR ALL NEW FRAMING SHALL BE AS FOLLOWS: LL=40 PSF / DL=10 PSF

FLOOR LOAD (U.O.N.) SLEEPING RMS. / ATTIC WITH FIXED STAIR GARAGE FLOOR ROOF LIVE LOAD

LL=30 PSF / DL=10 PSF LL=50 PSF / 2000# POINT MIN. 30 PSF ATTIC AND TRUSS BOTTOM CHORD LL=20 PSF (LIMITED STORAGE) LL=10 PSF (NO STORAGE)

C. ROOF SNOW LOAD DESIGN CRITERIA: GROUND SNOW LOAD (Pq)=

30 PSF (40 PSF ELEVATIONS IN EXCESS OR 900')

D. WIND LOAD DESIGN CRITERIA: BASIC WIND SPEED=

TOPOGRAPHIC EFFECTS= E. EARTHQUAKE LOAD DESIGN CRITERIA:

SEISMIC DESIGN CATEGORY= F. SUBJECT TO DAMAGE FROM:

WEATHERING FROST LINE DEPTH TERMITE

SEVERE MODERATE TO HEAVY

115 MPH

TEMPERATURE AND FLOODING: WINTER DESIGN TEMPERATURE ICE BARRIER UNDERLAYMENT REQUIRED FLOOD HAZARDS AIR FREEZING INDEX MEAN ANNUAL TEMPERATURE

RADON PROTECTION REQUIRED

13° F YES JULY 2, 1979 300 55° F YES

THE STABILITY OF THE STRUCTURE IS DEPENDENT UPON THE DIAPHRAGM ACTION OF THE FLOORS AND ROOF. THE CONTRACTOR IS RESPONSIBLE FOR THE METHOD OF CONSTRUCTION AND SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE STRUCTURE AND TO SUPPORT CONSTRUCTION LOADS DURING CONSTRUCTION, INCLUDING SOILS ON WALLS FROM BACK FILLING PRIOR TO PLACING SLABS ON GRADE. DESIGN OF ALL BRACING IS THE CONTRACTOR'S RESPONSIBILITY.

# SPREAD FOOTING FOUNDATIONS:

- A. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 30" BELOW FINISH GRADE FOR FROST PROTECTION.
- B. ALL FOOTINGS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
- C. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.

# CONCRETE SLAB-ON-GRADE:

- A. ALL SLABS ON GRADE, UNLESS OTHERWISE NOTED, SHALL CONSIST OF A 4 INCH THICK CONCRETE SLAB REINFORCED WITH ONE LAYER OF 6"X6"-WI.4XWI.4 WELDED WIRE FABRIC AND PLACED OVER A 6 MIL POLYETHYLENE VAPOR RETARDER AND 4 INCHES OF COMPACTED GRANULAR BASE. ALL EDGES OF VAPOR RETARDER SHALL BE LAPPED A MINIMUM OF 6 INCHES AND TAPED. MAXIMUM AGGREGATE SIZE OF GRANULAR BASE SHALL BE 1/2 INCH.
- B. FILL DEPTHS UNDER SLAB SHALL NOT EXCEED 24 INCHES FOR CLEAN SAND OR GRAVEL AND 8 INCHES FOR COMPACTED SOIL. SLABS ON GREATER FILL SHALL BE ENGINEERED SUPPORTED SLABS. COORDINATE WITH ENGINEER WHERE
- PLACE CONCRETE PER ACI 302. CONTRACTOR SHALL READ, UNDERSTAND \$ FOLLOW GUIDELINES SET FORTH FOR PREPARING SUBGRADE, PLACING, CONSOLIDATING, FINISHING AND CURING CONCRETE SLABS.

# CAST IN PLACE CONCRETE:

- A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)" AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".
- B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
  - RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305). RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
  - RECOMMENDED PRACTICE FOR CONCRETE FORM WORK (ACI 341).
- C. ALL CONCRETE, UNLESS OTHERWISE NOTED, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 5%-7%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE I" AND MAXIMUM SLUMP SHALL BE 4" (3" FOR SLABS ON GRADE). ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM CI50 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C33.
- ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM AI85. LAP ALL REINFORCING BARS A MINIMUM OF 48xBAR DIA. (EX. - LAP I/2" BAR 24") AND ALL W.W.F. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.

# STRUCTURAL AND MISCELLANEOUS STEEL

- A. ALL STEEL CONSTRUCTION SHALL CONFORM TO THE THIRTEENTH EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
- B. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 GRADE 50 OR ASTM A36 AT THE CONTRACTORS OPTION.
- C. ALL MISCELLANEOUS STEEL (ANGLES, PLATES, ETC.) SHALL CONFORM TO ASTM A36 HAVING A MINIMUM YIELD STRENGTH OF FY=36,000 PSI.
- D. ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A501 HAVING A MINIMUM YIELD STRENGTH OF Fy=36,000 PSI OR TO ASTM A53, TYPE "E" OR "S" GRADE "B", HAVING A MINIMUM YIELD STRENGTH OF Fy=35,000 PSI.
- E. ALL STRUCTURAL STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE "B", HAVING A MINIMUM YIELD STRENGTH OF Fy=46,000 PSI.
- F. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE OR SINGLE PLATE SHEAR CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH THE AISC "STEEL CONSTRUCTION MANUAL" WITH A MINIMUM EDGE DISTANCE OF I-I/2 INCHES AND BOLT SPACING OF 3 INCHES.
- G. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL

# **MOOD FRAMING:**

- A. ALL WOOD FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" PUBLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
- B. ALL NEW LUMBER SHALL BE SPRUCE-PINE-FIR NO. 2 OR BETTER. ALL NEW PRESSURE TREATED LUMBER SHALL BE SOUTHERN PINE NO. 2 OR BETTER.
- C. NAILING OF ALL WOOD FRAMING SHALL MEET THE MINIMUM RECOMMENDED REQUIREMENTS PROVIDED IN THE NAILING SCHEDULE OF THE IRC BUILDING CODE.
- D. PROVIDE DOUBLE JOISTS OR HEADERS ALONG EACH SIDE OF FLOOR OR ROOF OPENINGS, UNDER THE CENTERLINE OF PARTITION WALLS PARALLEL TO JOIST SPANS, AND ABOVE ALL WALL OPENINGS UNLESS OTHERWISE INDICATED.
- E. THE CONTRACTOR SHALL CUT OR NOTCH THE WOOD FRAMING ONLY AS REQUIRED AND IN ACCORDANCE WITH THE IRC BUILDING CODE, THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION", OR AS SHOWN ON THE CONTRACT
- F. PROVIDE DOUBLE OR TRIPLE STUDS AT ALL CORNERS, SIDES OF OPENINGS, AND BENEATH ALL WOOD BEAMS AND LINTELS, UNLESS OTHERWISE INDICATED.
- G. WOOD TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE'S "NATIONAL DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION" FOR THE DESIGN LOADS INDICATED ON THE CONTRACT DOCUMENTS.
- H. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR ALL WOOD TRUSSES INCLUDING MEMBER LAYOUT, WOOD SPECIES AND GRADE, MEMBER SIZES, TRUSS BEARING CONNECTION DETAILS, CAPACITY OF CONNECTOR PLATES AND THE SIZE AND LOCATION OF ALL REQUIRED BRIDGING THE CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE APPLICABLE START OR JURISDICTION REVIEWING THE PROJECT
- I. THE CONTRACTOR SHALL PROVIDE TRUSS TIES EQUIVALENT TO OR BETTER THAN THE UPLIFT LOADS INDICATED ON THE TRUSS SHOP DRAWINGS.

# STAIRS, HANDRAILS and GUARDS:

- A. STAIRS SHALL COMPLY WITH SECTION R3II OF THE IRC. STAIRWAYS SHALL NOT BE LESS THAN 36 INCHES IN CLEAR WIDTH AT ALL POINTS ABOVE THE PERMITTED HANDRAIL HEIGHT AND BELOW THE REQ'D HEADROOM HEIGHT; 31.5 INCHES WHERE A HANDRAIL IS INSTALLED ON ONE SIDE; 27 INCHES WHERE HANDRAILS ARE INSTALLED ON BOTH SIDES.
- B. MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6 FEET 8 INCHES.
- C. MAXIMUM STAIR RISER HEIGHT SHALL BE 7-3/4 INCHES AND MINIMUM TREAD DEPTH SHALL BE LO INCHES. (UNLESS NOTED OTHERWISE IN CONTRACT DRAWINGS.)
- D. HANDRAILS SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH STAIRWAY WITH FOUR OR MORE RISERS. HANDRAILS SHALL BE A MINIMUM OF 34 INCHES AND A MAXIMUM OF 38 INCHES ABOVE TREAD NOSING.
- E. PORCHES, BALCONIES, RAMPS OR RAISED FLOOR SURFACES LOCATED MORE THAN 30 INCHES ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT
- F. REQUIRED GUARDS SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES WHICH DO NOT ALLOW PASSAGE OF A SPHERE 4 INCHES OR MORE IN DIAMETER.

# **WINDOWS AND DOORS:**

- A. ALL WINDOW NUMBERS INDICATE MODEL NUMBERS FOR "ANDERSEN" WINDOW UNITS.
- B. WINDOWS INDICATED ON DRAWINGS AS "EGRESS" SHOULD MEET BUILDING CODE REQUIREMENTS PER SECTION R310 OF THE IRC.
- C. WINDOWS IN DOORS, SIDE LIGHTS AND WINDOWS WITHIN 24" OF DOORS SHALL BE PROVIDED WITH SAFETY GLASS TO COMPLY WITH SECTION R308 OF THE IRC.
- D. GLASS AT TUBS AND SHOWER ENCLOSURES SHALL BE PROVIDED WITH SAFETY GLASS TO COMPLY WITH SECTION R308 OF THE IRC.

# Proposed New Spec. Home For:

# Farnsworth Homes

10201 Menlo Avenue SilverSpring, Md.

# SCOPE OF WORK

CONSTRUCTION OF NEW SPEC. HOME ON 10201 MENLO AVENUE., SILVER SPRINGS MD

# INSULATION & MOISTURE PROTECTION:

- A. PROVIDE 30 Ib. BUILDING FELT OR PAPER AT BRICK VENEER WITH FLASHING AT OPENING TO PREVENT MOISTURE PENETRATION BEHIND THE VENEER.
- B. PROVIDE MINIMUM ONE LAYER OF 15 lb. ROOFING FELT AT THE ROOF TO PROVIDE A WATER-RESISTANT BASE FOR FIBERGLASS COMPOSITION ROOF SHINGLES.
- C. AN ICE BARRIER, IF REQUIRED, THAT CONSISTS OF TWO LAYERS OF UNDERLAYMENT CEMENTED TOGETHER OR OF A SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET, SHALL BE USED IN LIEU OF NORMAL UNDERLAYMENT AND EXTEND FROM THE LOWEST EDGES OF ALL ROOF SURFACES TO A POINT AT LEAST 24 INCHES INSIDE THE EXTERIOR WALL LINE OF THE BUILDING
- D. PROVIDE INSULATION TO ACHIEVE MINIMUM R-VALUES AS FOLLOWS: CEILINGS: R-49 (R-38 IF UNCOMPRESSED EXTENDS OVER WALL TOP PLATE) EXTERIOR FRAME WALLS: R-20 (TOTAL WALL ASSEMBLY) BASEMENT (CONCRETE) WALLS: R-10 CONTINUOUS

R-13 CAVITY FLOORS OVER UNCONDITIONED SPACE: R-19 WINDOWS / GLASS DOORS: U-FACTOR ≤ 0.35 SKYLIGHTS: U-FACTOR < 0.55

- E. THE CONTRACTOR SHALL PROVIDE CORROSION-RESISTANT METAL FLASHING ABOVE ALL WINDOW AND DOOR OPENINGS TO PREVENT MOISTURE PENETRATION. SIMILAR FLASHING SHALL BE PROVIDED AT ROOF VALLEYS AND ROOF OPENINGS, WOOD OR METAL COPINGS AND SILLS.
- F. THE CONTRACTOR SHALL PROVIDE PERFORATED SOFFITS AT THE ROOF EAVES AND A CONTINUOUS RIDGE VENT AT THE ROOF TO PROVIDE REQUIRED ATTIC

# SPECIALTIES:

- A. SMOKE ALARMS SHALL COMPLY WITH SECTION R314 OF THE IRC. SMOKE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM AND OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS AND ON EACH ADDITIONAL STORY OF THE HOUSE INCLUDING THE BASEMENT.
- B. SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE HOUSE WIRING. WHEN PRIMARY POWER IS INTERRUPTED, SMOKE ALARMS SHALL RECEIVE POWER FROM A BATTERY
- C. CARBON MONOXIDE ALARMS SHALL COMPLY WITH SECTION R315 OF THE IRC. CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS
- D. CARBON MONOXIDE ALARMS ARE REQUIRED IN DWELLING UNITS WHICH HAVE FUEL-FIRED APPLIANCES OR ATTACHED GARAGES.

# MECHANICAL, ELECTRICAL & PLUMBING:

- A. H.V.A.C. DESIGN AND INSTALLATION TO BE PERFORMED BY LICENSED MECHANICAL CONTRACTOR IN COMPLIANCE WITH ALL APPLICABLE CODES.
- B. ELECTRICAL DESIGN AND INSTALLATION TO BE PERFORMED BY LICENSED ELECTRICAL CONTRACTOR IN COMPLIANCE WITH ALL APPLICABLE CODES.
- C. PLUMBING DESIGN AND INSTALLATION TO BE PERFORMED BY LICENSED PLUMBING CONTRACTOR IN COMPLIANCE WITH ALL APPLICABLE CODES.
- D. IF REQUIRED, FIRE SPRINKLER SYSTEM TO BE DESIGNED AND INSTALLED BY LICENSED SPRINKLER CONTRACTOR IN COMPLIANCE WITH ALL APPLICABLE

# PROJECT GENERAL NOTES:

- WALL DIMENSIONS ARE FROM OUTSIDE FACE OF FRAMING AND ARE AS FOLLOWS
  - INTERIOR PARTITIONS = 3-1/2" (2x4 WOOD STUDS @ 16" O.C.) 5-1/2" (2x6 WOOD STUDS @ 16" O.C.) EXTERIOR WALLS (INSULATED) = 6" (2x6 STUDS @ 16" O.C. PLUS 1/2" SHEATHING) EXTERIOR WALLS (NON-INSULATED) = 4" (2×4 STUDS @ 16" O.C. PLUS 1/2" SHEATHING)
- B. THE CONTRACTOR AND HIS ASSOCIATED SUBCONTRACTORS ARE RESPONSIBLE TO THOROUGHLY REVIEW ALL DRAWINGS. ANY INCONSISTENCIES OR ERRORS ARE TO BE REPORTED TO THE DESIGNER FOR CLARIFICATION OR CORRECTION PRIOR TO THE START OF CONSTRUCTION OR MANUFACTURING OF PRE-FABRICATED
- C. IF THE CONTRACTOR MODIFIES OR DEVIATES FROM THESE PLANS FOR ANY REASON WITHOUT NOTIFYING CADDWORKS, INC., THE PLAN'S CODE COMPLIANCE BECOMES THE CONTRACTOR'S RESPONSIBILITY
- D. SIZING/SPACING OF ALL PRE-ENGINEERED WOOD FRAMING PRODUCTS (MICROLAMS, PARALLAMS, & FLOOR/ROOF TRUSSES) TO BE ENGINEERED/VERIFIED
- E. FLOOR FRAMING TO BE ACCOMPLISHED WITH PRE-ENGINEERED WOOD "I" JOISTS; MANUFACTURER'S AGENT TO DESIGN JOIST LAYOUT AND PROVIDE ENGINEERED SHOP DRAWINGS; FLOOR SYSTEM TO BE DESIGNED WITH L/480 LIVE LOAD DEFLECTION MIN. (L/600 IN AREAS TO BE FINISHED WITH TILE).
- F. ROOF FRAMING TO BE ACCOMPLISHED WITH PRE-ENGINEERED WOOD TRUSSES; MANUFACTURER'S AGENT TO DESIGN TRUSS LAYOUT AND PROVIDE ENGINEERED
- G. THE STAIR MANUFACTURER SHALL VERIFY EXISTING FIELD CONDITIONS PRIOR TO FABRICATION OF STAIR; STAIR TO BE BUILT IN COMPLIANCE WITH ALL APPLICABLE CODES.
- H. THESE DOCUMENTS ARE  ${\underline{\sf NOT}}$  TO BE SCALED. DIMENSIONS SHALL GOVERN ON ALL DRAWINGS. ANY OMISSIONS OR AREAS OF DISCREPANCY SHALL BE REFERRED TO CADDWORKS, INC. PRIOR TO CONSTRUCTION.

# DRAWING INDEX

# **GENERAL INFORMATION**

GENERAL NOTES IRC-CHARTS

# **ARCHITECTURAL**

- AOOI FOUNDATION PLAN A002 FIRST FLOOR PLAN
- A003 SECOND FLOOR PLAN
- A004 FRONT ELEVATION
- A005 RIGHT SIDE ELEVATION
- A006 REAR ELEVATION
- A007 LEFT SIDE ELEVATION
- SOOI TYP SECTION.
- SOO2 SECTION "A"
- SOO3 SECTION "B"
- SOO4 SECTION "C" SOO5 IST FLOOR FRAMING PLAN
- SOO6 2ND FLOOR FRAMING PLAN

SECTION

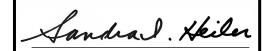
- SOOT ROOF FRAMING PLAN
- 5008 IST FLOOR LATERAL BRACING
- SOO9 2ND FLOOR LATERAL BRACING SOIO LATERAL BRACING DETAILS ECOOI FOUNDATION & IST FLOOR
- ECOO22ND FLOOR & ROOF INSULATION PLANS

INSULATION & INSULATION

**Montgomery County** 

**APPROVED** 

**Historic Preservation Commission** 



# **REVIEWED**

By Dan.Bruechert at 1:05 pm, May 23, 2019

SHEET NO

PROJ. NO.: 1452

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APPROVED Montgomery County **Historic Preservation Commission** 

Sandral. Kkiler

**REVIEWED** 

By Dan.Bruechert at 1:05 pm, May 23, 2019

# HEADER SPAN CHART

GIRDER SPANS <sup>a</sup> AND HEADER SPANS <sup>a</sup> FOR INTERIOR BEARING WALLS											
HEADERS &			BUI	LDING W	IDTH° (fe	eet)					
GIRDERS	SIZE	2	0	2	8	3	6				
SUPPORTING		SPAN	ИЛа	SPAN	ГИ	SPAN	ИЛа				
	(2) 2×6	4-6	I	3-11	I	3-6	1				
	(2) 2×8	5-9	1	5-0	2	4-5	2				
	(2) 2xlO	7-0	2	6-1	2	5-5	2				
ONE FLOOR ONLY	(2) 2xl2	8-1	2	7-0	2	6-3	2				
	(3) 2×8	7-2	I	6-3	I	5-7	2				
	(3) 2x10	8-9	1	<b>ブ</b> -ブ	2	6-9	2				
	(3) 2xl2	10-2	2	8-10	2	7-10	2				
	(2) 2x6	3-2	2	2-9	2	2-5	2				
	(2) 2×8	4-1	2	3-6	2	3-2	2				
	(2) 2xlO	4-11	2	4-3	2	3-10	3				
TWO FLOORS	(2) 2xl2	5-9	2	5-0	3	4-5	3				
170 120010	(3) 2×8	5-1	2	4-5	2	3-11	2				
	(3) 2x10	6-2	2	5-4	2	4-10	2				
	(3) 2xl2	7-2	2	6-3	2	5-7	3				

- NOTES:

  a. SPANS ARE GIVEN IN FEET AND INCHES.
  b. TABULATED VALUES ASSUME #2 GRADE LUMBER.
  c. BUILDING WIDTH IS MEASURED PERPENDICULAR TO THE RIDGE. FOR WIDTHS
  BETWEEN THOSE SHOWN, SPANS ARE PERMITTED TO BE INTERPOLATED.
  d. NJ NUMBER OF JACK STUDS REQUIRED TO SUPPORT EACH END. WHERE THE NUMBER OF
  REQUIRED JACK STUDS EQUALS ONE, THE HEADER IS PERMITTED TO BE SUPPORTED BY
  AN APPROVED FRAMING ANCHOR ATTACHED TO THE FULL-HEIGHT WALL STUD AND TO
  THE HEADER.

# FOUNDATION CHART

FOUNDATION WALL THICKNESS FOR THIS PROJECT IS BASED ON THE FOLLOWING CHART  ${\bf 4}$  MAY BE MODIFIED IN THE FIELD AS REQUIRED BY GRADE CONDITIONS USING THE SAME GUIDELINES.

		6-, 8	MII -, 10-IN(	NIMUM CH & 12	VERTIC 2-INCH	CAL RE	INFORC AL FLA	EMENT T BASI	FOR	WALL	<b>b</b> , c, d, e, f, h	ı, i, k, n, o	
				MININ	1UM VERTIC	CAL REINF	ORCEMENT	- BAR SI	ZE AND SF	'ACING (INC	CHES)		
MAXIMUM	MAXIMUM UNBALANCED			SOIL	CLASSES	AND DES	IGN LATER	'AL SOIL (F	PSF PER F	00T 0F DI	EPTH)		
HEIGHT	UNBALANCED BACKFILL HEIGHT <sup>9</sup>			, SW, SP 80			GM, GC, SM, S 4	6M-SC and ML 15		SC, ML-CL and Inorganic CL 60			
(feet)	(feet)				۲	INIMUM NO	MINAL WAL	L THICKNE	SS (INCHE	5)			
		6	8	10	12	6	8	10	12	6	8	10	12
5	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
5	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6	5	NR	NR	NR	NR	NR	NR <sup>I</sup>	NR	NR	#4 @ 35"	NR I	NR	NR
	6	NR	NR	NR	NR	#5 @ 48"	NR	NR	NR	#5 @ 36"	NR	NR	NR
	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
-	5	NR	NR	NR	NR	NR	NR	NR	NR	#5 @ 47"	NR	NR	NR
_ ′	6	NR	NR	NR	NR	#5 @ 42"	NR	NR	NR	#6 @ 43"	#5 @ 48"	NR I	NR
	7	#5 @ 46"	NR	NR	NR	#6 @ 42"	#5 @ 46"	NR I	NR	#6 @ 34"	#6 @ 48"	NR	NR
	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	#4 @ 38"	NR I	NR	NR	#5 @ 43"	NR	NR	NR

Ī		4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	<b>-</b>	5	NR	NR	NR	NR	NR	NR	NR	NR	#5 @ 47"	NR	NR	NR
	7	6	NR	NR	NR	NR	#5 @ 42"	NR	NR	NR	#6 @ 43"	#5 @ 48"	NR I	NR
		7	#5 @ 46"	NR	NR	NR	#6 @ 42"	#5 @ 46"	NR <sup>I</sup>	NR	#6 @ 34"	#6 @ 48"	NR	NR
Ī		4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		5	NR	NR	NR	NR	#4 @ 38"	NR I	NR	NR	#5 @ 43"	NR	NR	NR
	8	6	#4 @ 37"	NR I	NR	NR	#5 @ 37"	NR	NR	NR	#6 @ 37"	#5 @ 43"	NR I	NR
		7	#5 @ 40"	NR	NR	NR	#6 @ 37"	#5 @ 41"	NR I	NR	#6 @ 34"	#6 @ 43"	NR	NR
		8	#6 @ 43"	#5 @ 47"	NR I	NR	#6 @ 34"	#6 @ 43"	NR	NR	#6 @ 27"	#6 @ 32"	#6 @ 44"	NR
		4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		5	NR	NR	NR	NR	#4 @ 35"	NR I	NR	NR	#5 @ 40"	NR	NR	NR
	9	6	#4 @ 34"	NR I	NR	NR	#6 @ 48"	NR	NR	NR	#6 @ 36"	#6 @ 39"	NR I	NR
	٩	7	#5 @ 36"	NR	NR	NR	#6 @ 34"	#5 @ 37"	NR	NR	#6 @ 33"	#6 @ 38"	#5 @ 37"	NR I
		8	#6 @ 38"	#5 @ 41"	NR I	NR	#6 @ 33"	#6 @ 38"	#5 @ 37"	NR I	#6 @ 24"	#6 @ 29"	#6 @ 39"	#4 @ 48" <sup>m</sup>
		٩	#6 @ 34"	#6 @ 46"	NR	NR	#6 @ 26"	#6 @ 30"	#6 @ 41"	NR	#6 @ 19"	#6 @ 23"	#6 @ 30"	#6 @ 39"
ĺ		4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
		5	NR	NR	NR	NR	#4 @ 33"	NR I	NR	NR	#5 @ 38"	NR	NR	NR
		6	#5 @ 48"	NRI	NR	NR	#6 @ 45"	NR	NR	NR	#6 @ 34"	#5 @ 37"	NR	NR
	10	7	#6 @ 47"	NR	NR	NR	#6 @ 34"	#6 @ 48"	NR	NR	#6 @ 30"	#6 @ 35"	#6 @ 48"	NR I
		8	#6 @ 34"	#5 @ 38"	NR	NR	#6 @ 30"	#6 @ 34"	#6 @ 47"	NR I	#6 @ 22"	#6 @ 26"	#6 @ 35"	#6 @ 45" <sup>m</sup>
		9	#6 @ 34"	#6 @ 41"	#4 @ 48"	NR I	#6 @ 23"	#6 @ 27"	#6 @ 35"	#4 @ 48" <sup>m</sup>	DR	#6 @ 22"	#6 @ 27"	#6 @ 34"
		10	#6 @ 28"	#6 @ 33"	#6 @ 45"	NR	DR <sup>j</sup>	#6 @ 23"	#6 @ 29"	#6 @ 38"	DR	#6 @ 22"	#6 @ 22"	#6 @ 28"

- NOTES:
  a. SOIL CLASSES ARE IN ACCORDANCE WITH THE "UNIFIED SOIL CLASSIFICATION SYSTEM". REFER TO TABLE R405.I OF IRC 2015.
  b. TABLE VALUES ARE BASED ON REINFORCING BARS WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI.
  c. VERTICAL REINFORCEMENT WITH A YIELD STRENGTH OF LESS THAN 60,000 PSI AND/OR BARS OF A DIFFERENT SIZE THAN SPECIFIED IN THE TABLE ARE PERMITTED IN ACCORDANCE WITH SECTION R404.I.3.3.7.6 AND TABLE R404.I.2(4) OF IRC 2015.
  d. NR INDICATES NO VERTICAL WALL REINFORCEMENT IS REQUIRED, EXCEPT FOR 6-INCH NOMINAL WALLS FORMED WITH STAY-IN-PLACE FORMING SYSTEMS IN WHICH CASE VERTICAL REINFORCEMENT SHALL BE #4 @ 48" ON CENTER.

- VERTICAL REINFORCEMENT SHALL BE #4 @ 48" ON CENTER.

  e. ALLOWABLE DEFLECTION CRITERION IS \( L/240\), WHERE \( L \) IS THE UNSUPPORTED HEIGHT OF THE BASEMENT WALL IN INCHES.

  f. INTERPOLATION IS NOT PERMITTED.

  g. WHERE WALLS WILL RETAIN 4 FEET OR MORE OF UNBALANCED BACKFILL, THEY SHALL BE LATERALLY SUPPORTED AT THE TOP AND BOTTOM BEFORE BACKFILLING.

  h. VERTICAL REINFORCEMENT SHALL BE LOCATED TO PROVIDE A COVER OF I \( I/4\-\) INCHES MEASURED FROM THE INSIDE FACE OF THE WALL. THE CENTER OF THE STEEL SHALL NOT VARY FROM THE SPECIFIED LOCATION BY MORE THAN THE GREATER OF IO PERCENT OF THE WALL SHALL NOT BE LESS THAN 3/4\-\INCH. CONCRETE COVER FOR REINFORCEMENT MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4\-\INCH. CONCRETE COVER FOR REINFORCEMENT MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1/2\-\INCHES FOR \$\) BARS AND SMALLER, AND NOT LESS THAN 2 INCHES FOR LARGER BARS.

  J. DR MEANS DESIGN IS REQUIRED IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE, OR WHERE THERE IS NO CODE IN ACCORDANCE WITH ACI 316.

  K. CONCRETE SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH, \( f'\_{\infty}\), OF NOT LESS THAN 2500 PSI AT 28 DAYS, UNLESS A HIGHER STRENGTH IS REQUIRED BY FOOTNOTE I OR m.

  I. THE MINIMUM THICKNESS IS PERMITTED TO BE REDUCED 2 INCHES, PROVIDED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE, \( f'\_{\infty}\), IS 3500 PSI.

  n. SEE TABLE REGOBS OF IRC 2015 FOR TOLERANCE FROM NOMINAL THICKNESS PERMITTED, PROVIDED MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE, \( f'\_{\infty}\), IS 3500 PSI.

  o. THE USE OF THIS TABLE SHALL BE PROHIBITED FOR SOIL CLASSIFICATIONS NOT SHOWN.
- O. THE USE OF THIS TABLE SHALL BE PROHIBITED FOR SOIL CLASSIFICATIONS NOT SHOWN.

# HEADER SPAN CHART

					GIF	RDER	SPAN	1A SI	VD HE	ADEF	SPA	NS F	OR EX	XTERI	OR BE	EARIN	G WA	LLS	
									GROUN	ID SNOW	LOAD (1	PSF) <sup>e</sup>							
				3	0					5	0					7	0		
GIRDERS &									BUIL	DING WII	OTH <sup>c</sup> (fee	et)							
HEADERS SUPPORTING	SIZE	20		2	8	3	6	2		2	8	3	6	2		2	8	3	36
		SPAN	LN	SPAN	NJ <sup>d</sup>	SPAN	LN	SPAN	NJ <sup>d</sup>	SPAN	NJ <sup>d</sup>	SPAN	LN	SPAN	ГИ	SPAN	ИЛq	SPAN	ИJa
	(2) 2x8	6-10	I	5-II	2	5-4	2	5-II	2	5-2	2	4-7	2	5-4	2	4-7	2	4-1	2
	(2) 2xlO	<i>8</i> -5	2	7-3	2	6-6	2	7-3	2	6-3	2	5-7	2	6-6	2	5-7	2	5-0	2
	(2) 2xl2	9-9	2	8-5	2	7-6	2	8-5	2	7-3	2	6-6	2	7-6	2	6-6	2	5-10	3
ROOF AND CEILING	(3) 2×8	8-4	I	7-5	I	6-8	1	7-5	ı	6-5	2	5-9	2	6-8	1	5-9	2	5-2	2
	(3) 2x10	10-6	I	9-1	2	8-2	2	9-1	2	7-10	2	7-0	2	8-2	2	7-0	2	6-4	2
	(3) 2xl2	12-2	2	10-7	2	9-5	2	10-7	2	9-2	2	8-2	2	9-5	2	8-2	2	7-4	2
	(2) 2x8	5-9	2	5-0	2	4-6	2	5-2	2	4-6	2	4-1	2	4-9	2	4-2	2	3-9	2
	(2) 2xlO	7-0	2	6-2	2	5-6	2	6-4	2	5-6	2	5-0	2	5-9	2	5-1	2	4-7	3
ROOF, CEILING AND ONE CENTER- BEARING FLOOR	(2) 2xl2	8-1	2	7-1	2	6-5	2	7-4	2	6-5	2	5-9	3	6-8	2	5-10	3	5-3	3
	(3) 2x8	7-2	1	6-3	2	5-8	2	6-5	2	5-8	2	5-1	2	5-11	2	5-2	2	4-8	2
	(3) 2x10	8-9	2	7-8	2	6-II	2	7-11	2	6-11	2	6-3	2	7-3	2	6-4	2	5-8	2
	(3) 2xl2	10-2	2	8-II	2	8-0	2	9-2	2	8-0	2	7-3	2	<i>8</i> -5	2	7-4	2	6-7	2
	(2) 2x8	5-0	2	4-4	2	3-10	2	4-10	2	4-2	2	3-9	2	4-6	2	3-11	2	3-6	2
	(2) 2xlO	6-1	2	5-3	2	4-8	2	5-11	2	5-1	2	4-7	3	5-6	2	4-9	2	4-3	3
ROOF, CEILING	(2) 2xl2	7-1	2	6-1	3	5-5	3	6-10	2	5-11	3	5-4	3	6-4	2	5-6	3	5-0	3
AND ONE CLEAR SPAN FLOOR	(3) 2×8	6-3	2	5-5	2	4-10	2	6-1	2	5-3	2	4-8	2	5-7	2	4-11	2	4-5	2
	(3) 2xIO	7-7	2	6-7	2	5-II	2	7-5	2	6-5	2	5-9	2	6-10	2	6-0	2	5-4	2
	(3) 2xl2	8-10	2	7-8	2	6-10	2	8-7	2	7-5	2	6-8	2	7-11	2	6-11	2	6-3	2
	(2) 2×8	4-9	2	4-2	2	3-9	2	4-7	2	4-0	2	3-8	2	4-4	2	3-9	2	3-5	2
	(2) 2xlO	5-9	2	5-1	2	4-7	3	5-8	2	4-11	2	4-5	3	5-3	2	4-7	3	4-2	3
ROOF, CEILING AND TWO	(2) 2xl2	6-8	2	5-10	3	5-3	3	6-6	2	5-9	3	5-2	3	6-1	3	5-4	3	4-10	3
CENTER-BEARING FLOORS	(3) 2×8	5-11	2	5-2	2	4-8	2	5-9	2	5-1	2	4-7	2	5-5	2	4-9	2	4-3	2
	(3) 2x10	7-3	2	6-4	2	5-8	2	7-1	2	6-2	2	5-7	2	6-7	2	5-9	2	5-3	2
	(3) 2xl2	<i>8-</i> 5	2	7-4	2	6-7	2	8-2	2	7-2	2	6-5	3	7-8	2	6-9	2	6-1	3
	(2) 2×8	3-10	2	3-4	2	3-0	3	3-10	2	3-4	2	2-11	3	3-9	2	3-3	2	2-11	3
	(2) 2xlO	4-9	2	4-1	3	3-8	3	4-8	2	4-0	3	3-7	3	4-7	3	4-0	3	3-6	3
ROOF, CEILING	(2) 2xl2	5-6	3	4-9	3	4-3	3	5-5	3	4-8	3	4-2	3	5-4	3	4-7	3	4-1	4
AND TWO CLEAR SPAN FL <i>OO</i> RS	(3) 2×8	4-10	2	4-2	2	3-9	2	4-9	2	4-1	2	3-8	2	4-8	2	4-1	2	3-8	2
	(3) 2x10	5-II	2	5-1	2	4-7	3	5-10	2	5-0	2	4-6	3	5-9	2	4-11	2	4-5	3
	(3) 2xl2	6-10	2	5-11	3	5-4	3	6-9	2	5-10	3	5-3	3	6-8	2	5-9	3	5-2	3

- NOTES:

  a. SPANS ARE GIVEN IN FEET AND INCHES.

  b. TABULATED VALUES ASSUME #2 GRADE LUMBER.

  c. BUILDING MIDTH IS MEASURED PERPENDICULAR TO THE RIDGE. FOR WIDTHS
  BETWEEN THOSE SHOWN, SPANS ARE PERMITTED TO BE INTERPOLATED.

  d. NJ NUMBER OF JACK STUDS REQUIRED TO SUPPORT EACH END. WHERE THE NUMBER OF REQUIRED JACK STUDS EQUALS
  ONE, THE HEADER IS PERMITTED TO BE SUPPORTED BY AN APPROVED FRAMING ANCHOR ATTACHED TO THE
  FULL-HEIGHT WALL STUD AND TO THE HEADER.

  e. USE 30 PSF GROUND SNOW LOAD FOR CASES IN WHICH GROUND SNOW LOAD IS LESS THAN 30 PSF AND THE ROOF LIVE
  LOAD IS EQUAL TO OR LESS THAN 20 PSF.

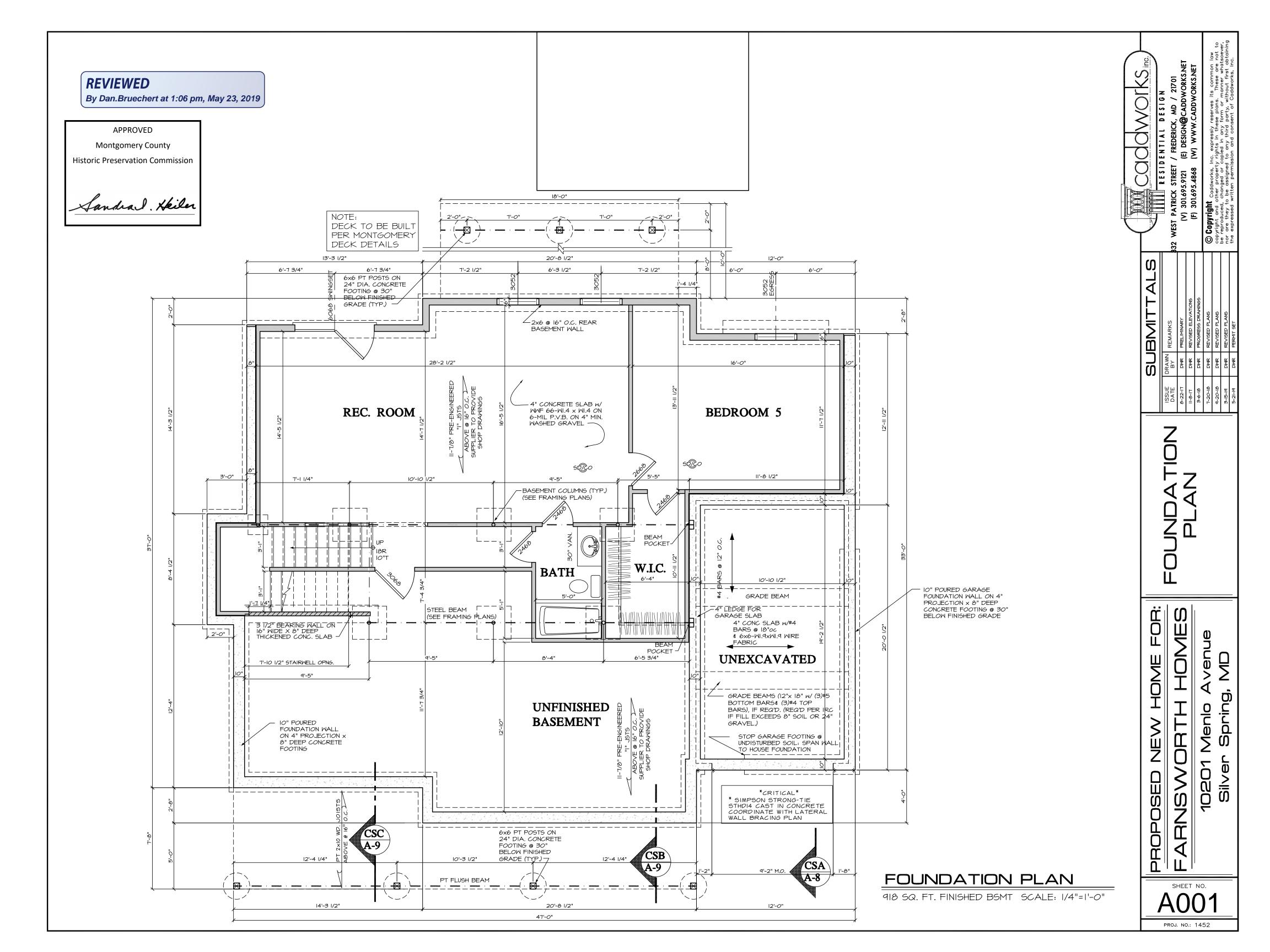
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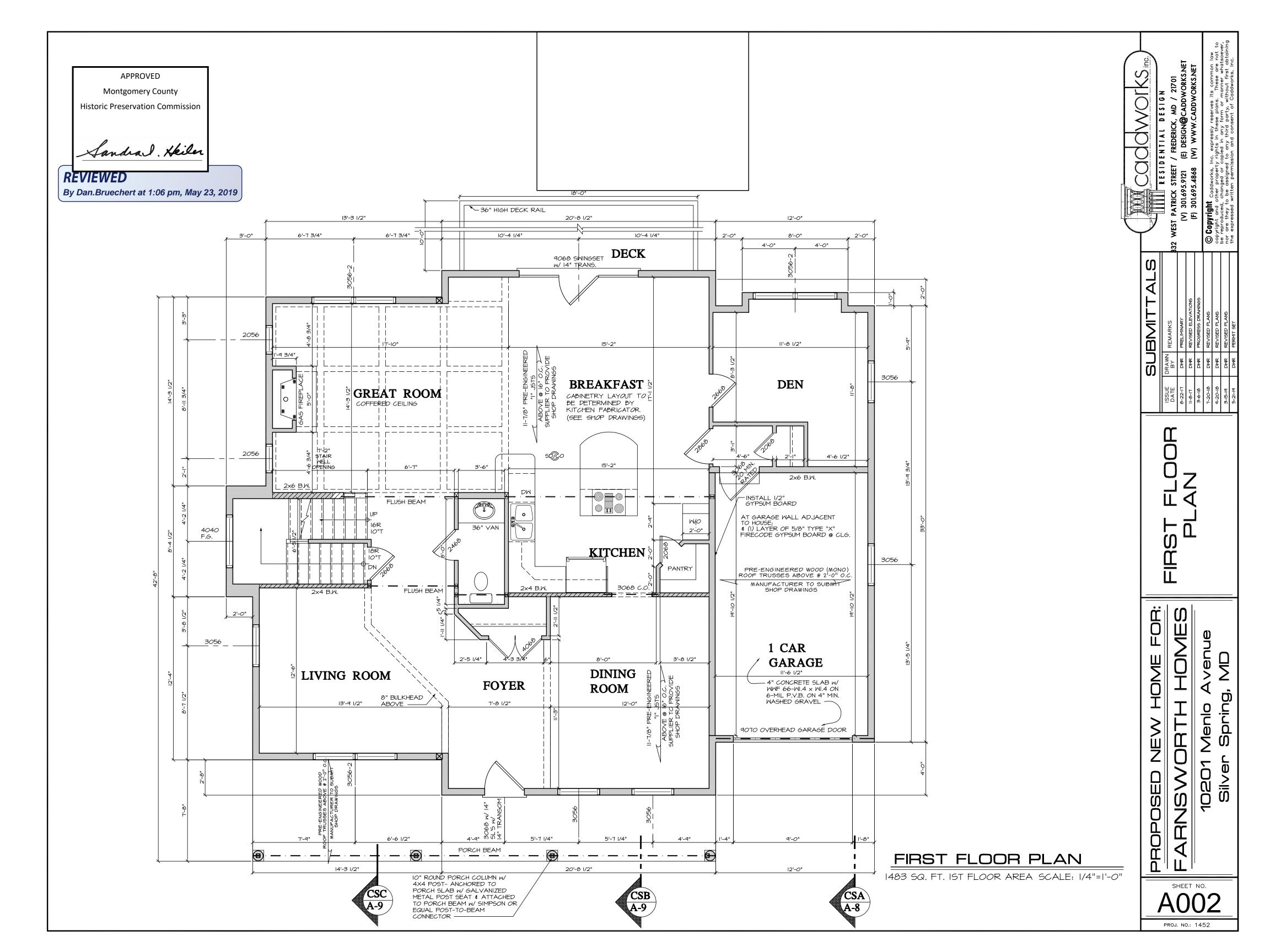
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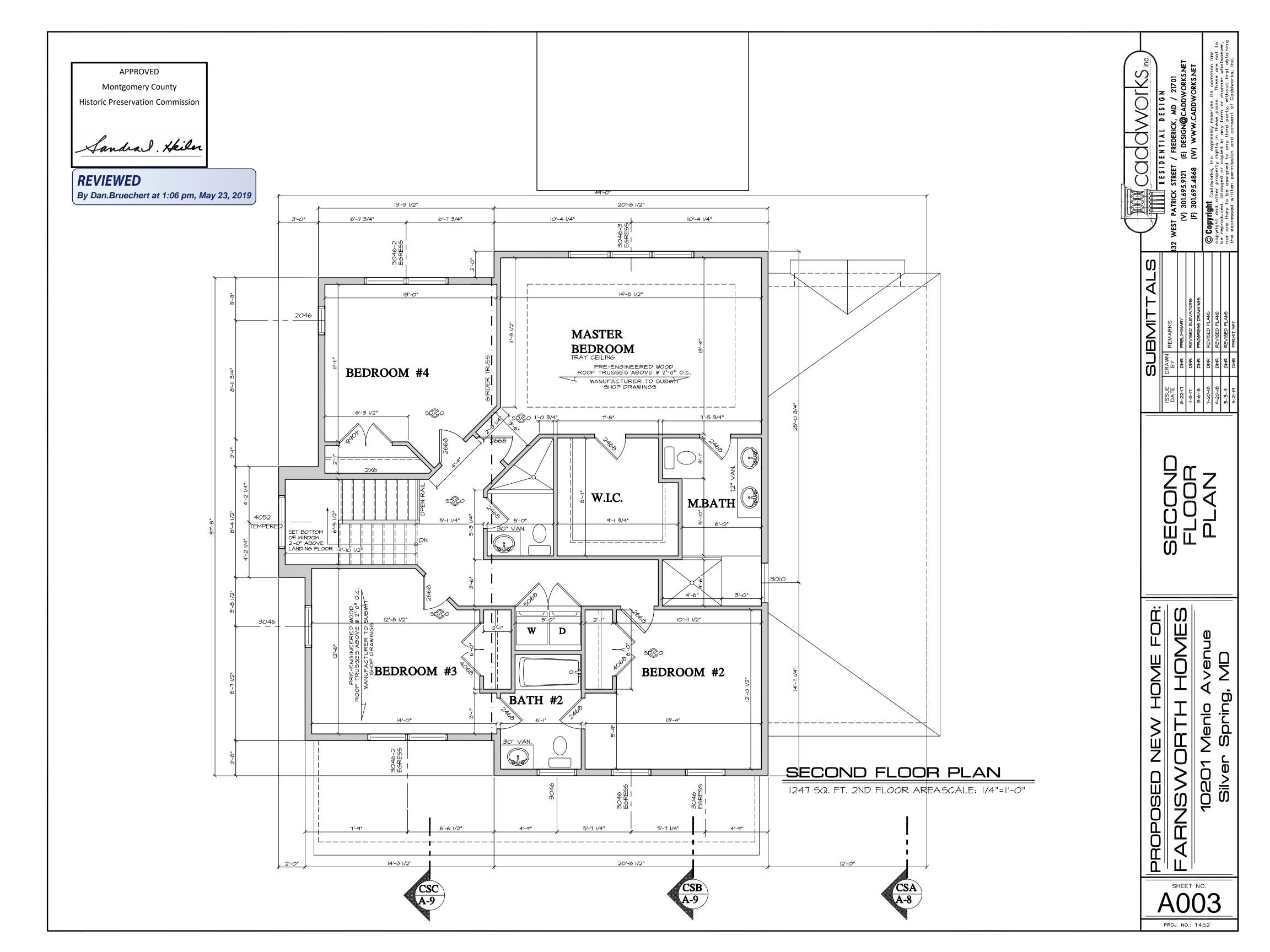
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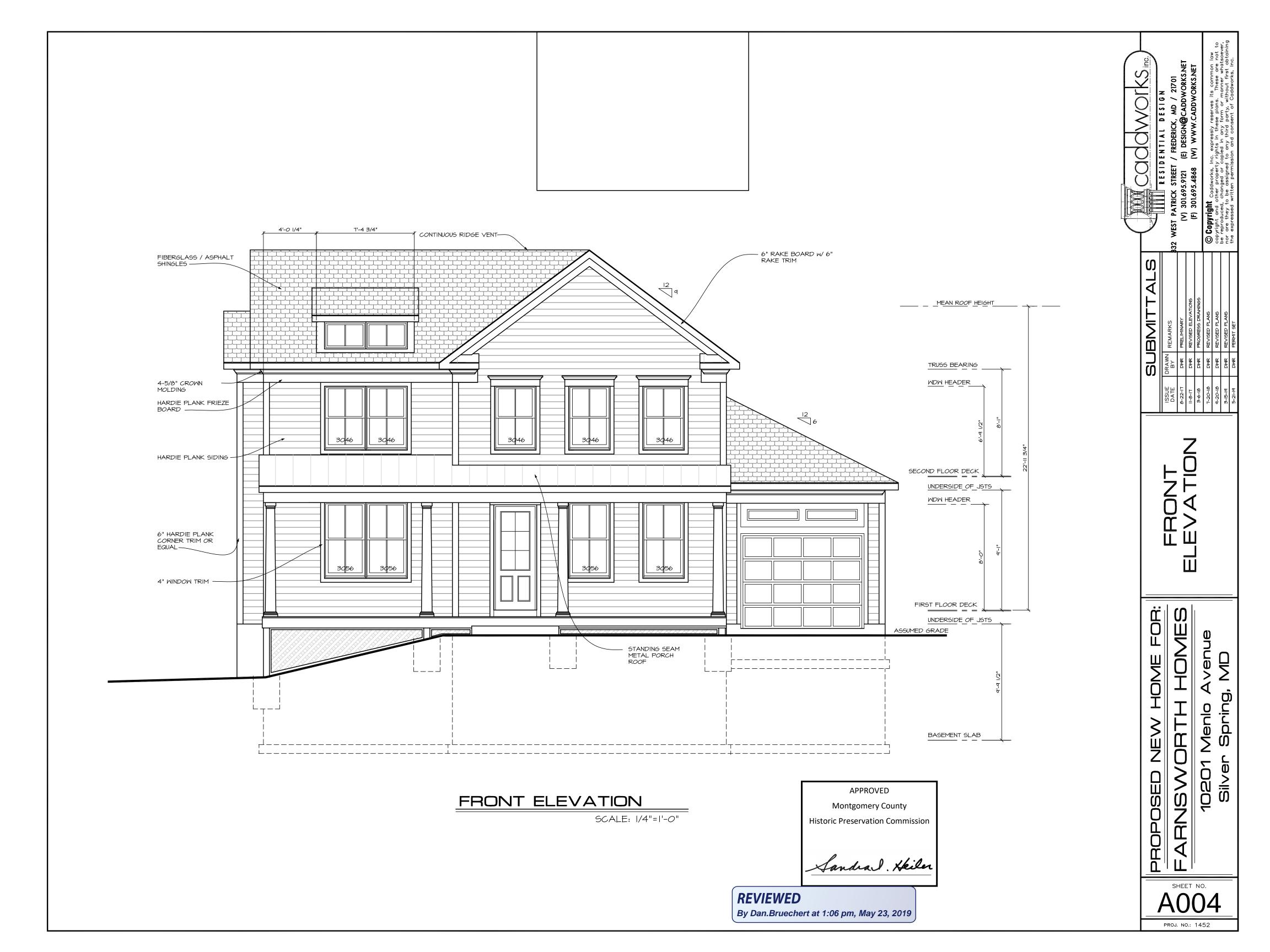
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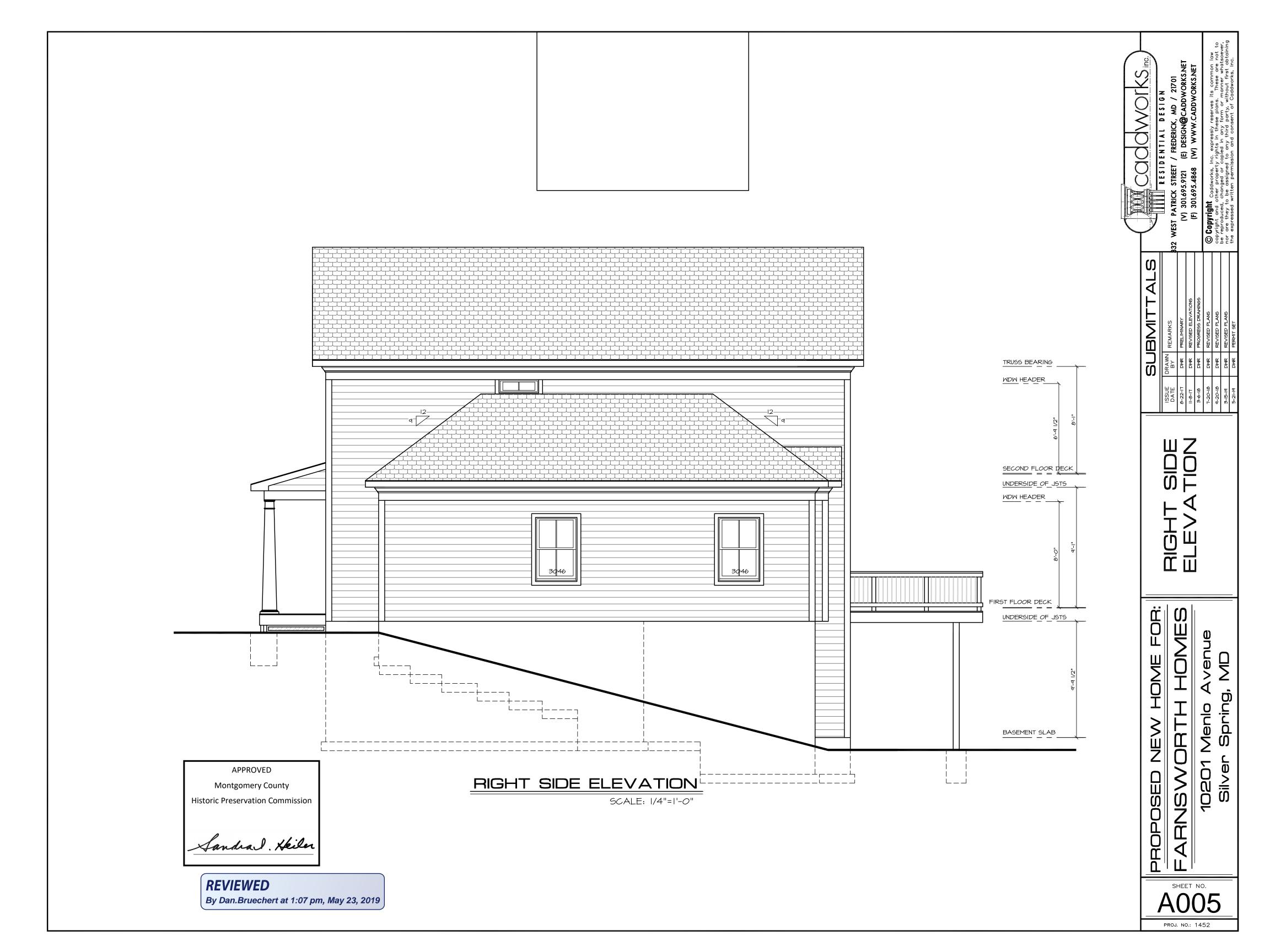
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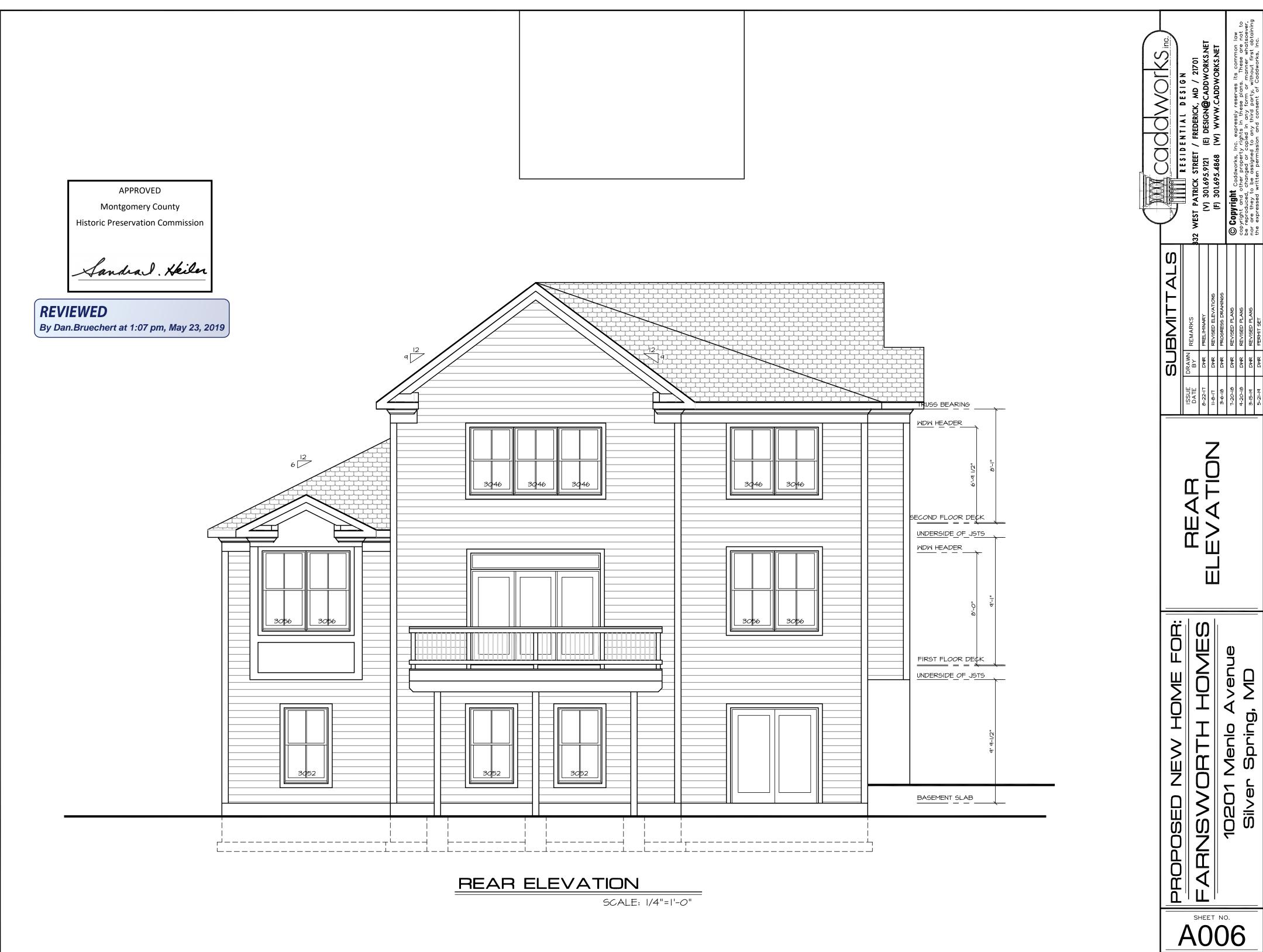


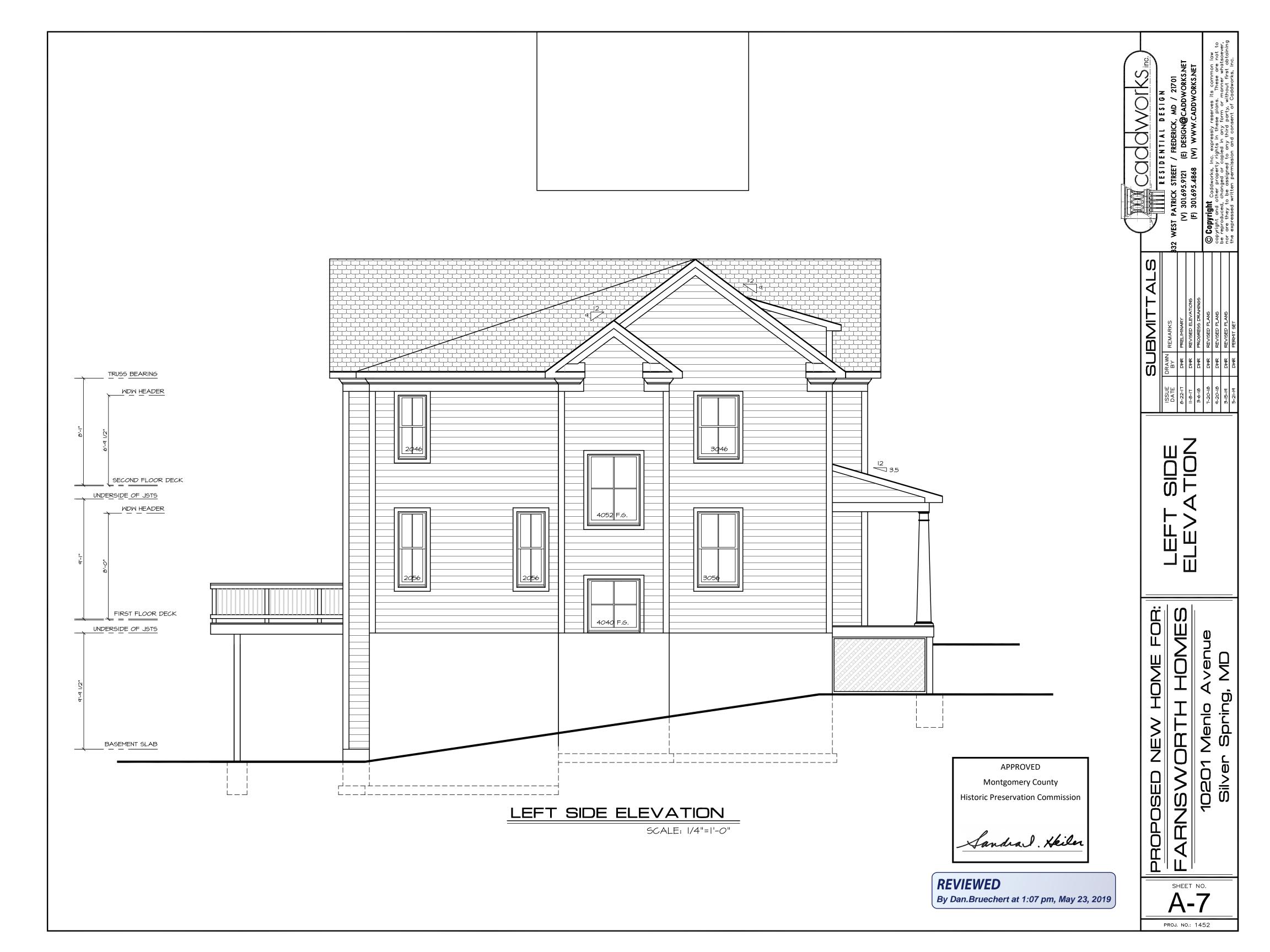


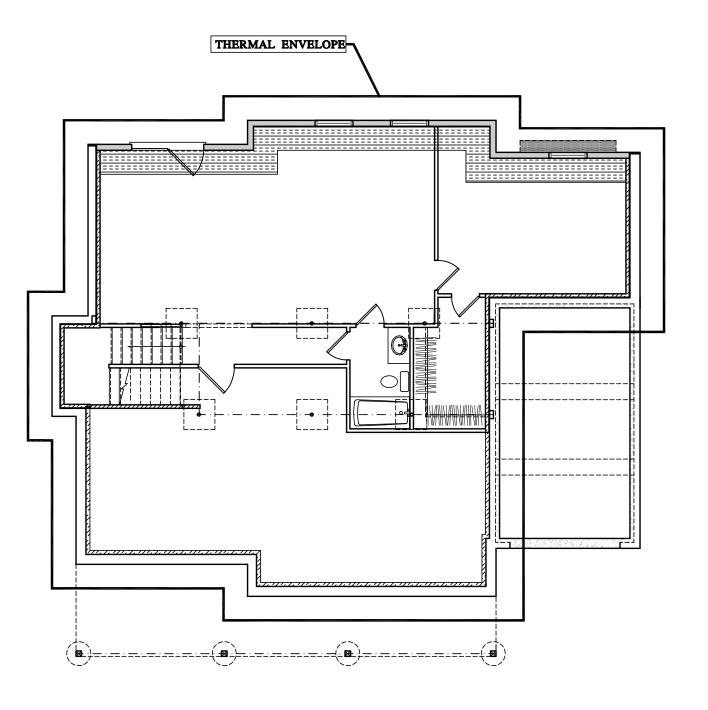






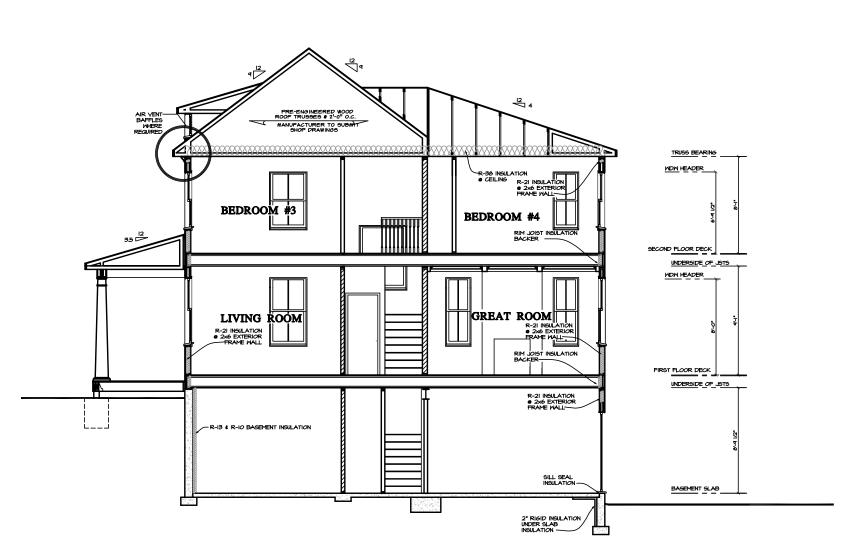






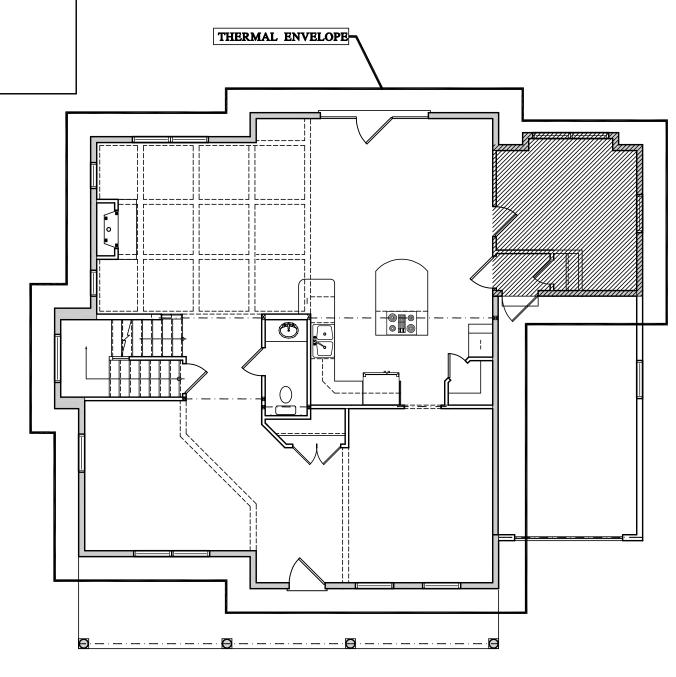
# FOUNDATION INSULATION PLAN

SCALE: 1/8"=1'-0"



# INSULATION SECTION

SCALE: 1/8"=1'-0"



FIRST FLOOR INSULATION PLAN

SCALE: 1/8"=1'-0"

# THERMAL ENVELOPE KEY WALLS - R-21 MIN. FLOORS - R-30 PER PLAN CEILING - R-38 MIN. 2" RIGID UNDER SLAB INSULATION RETER TO RESCHECK ENERGY CALCULATION AND CHECKLIST PROVIDED FOR R-VALUES OF INSULATION AND THEIR LOCATIONS, HINDOYS AND DOORS AND THEIR U-FACTORS AND SOLARE

APPROVED

Montgomery County

Historic Preservation Commission

Landral . Kkiler

REVIEWED

By Dan.Bruechert at 1:07 pm, May 23, 2019

PROPOSED NEW HOME FARNSWORTH HON

HOR.

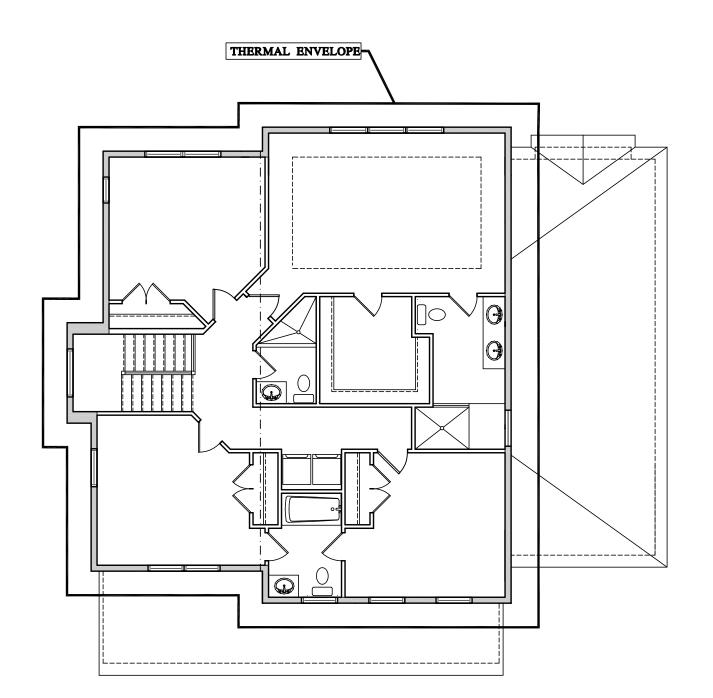
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Spring,

Menlo

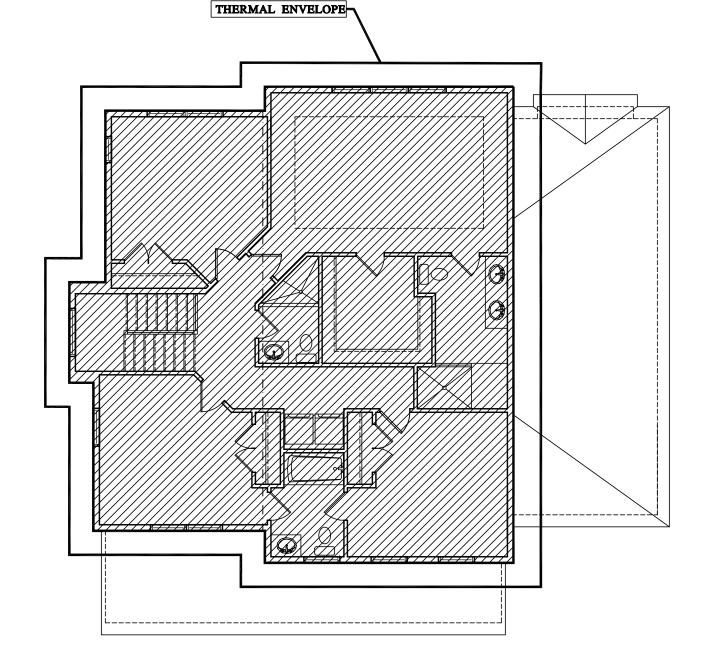
10201 I Silver

EC001



SECOND FLOOR INSULATION PLAN

SCALE: 1/8"=1'-0"



ROOF INSULATION PLAN

SCALE: 1/8"=1'-0"

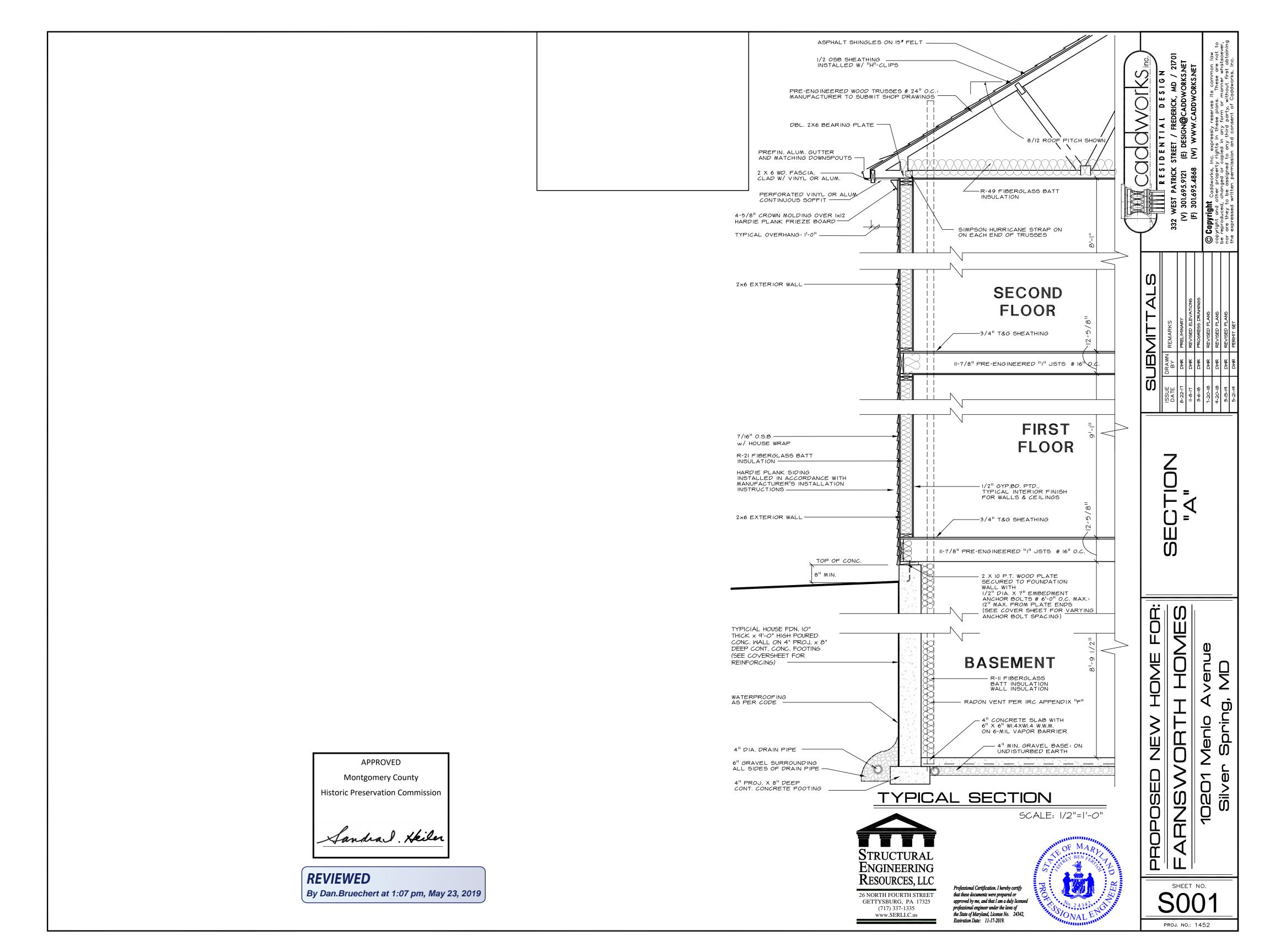
APPROVED Montgomery County **Historic Preservation Commission** Sandrad. Kkiler

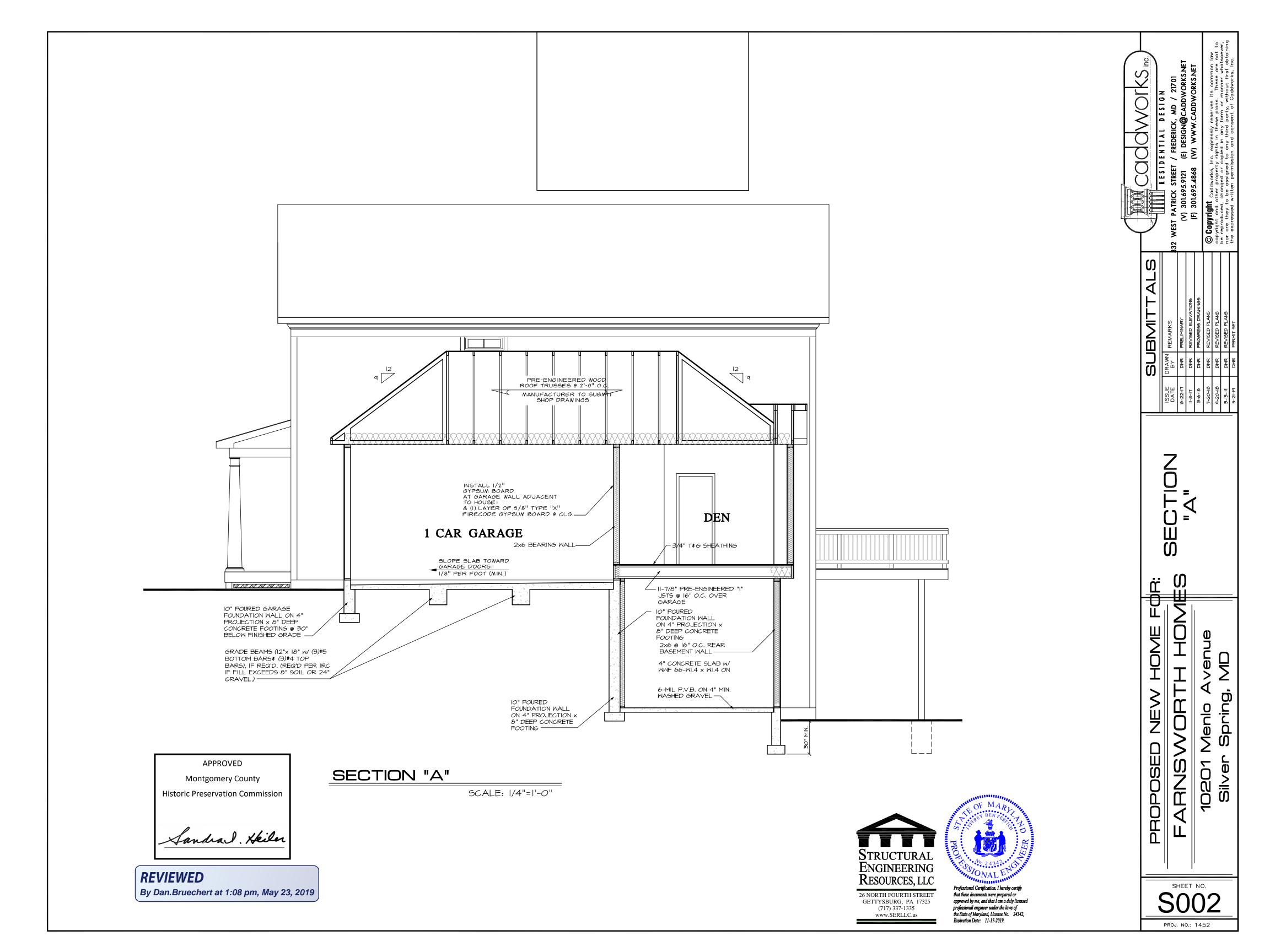
**REVIEWED** By Dan.Bruechert at 1:07 pm, May 23, 2019

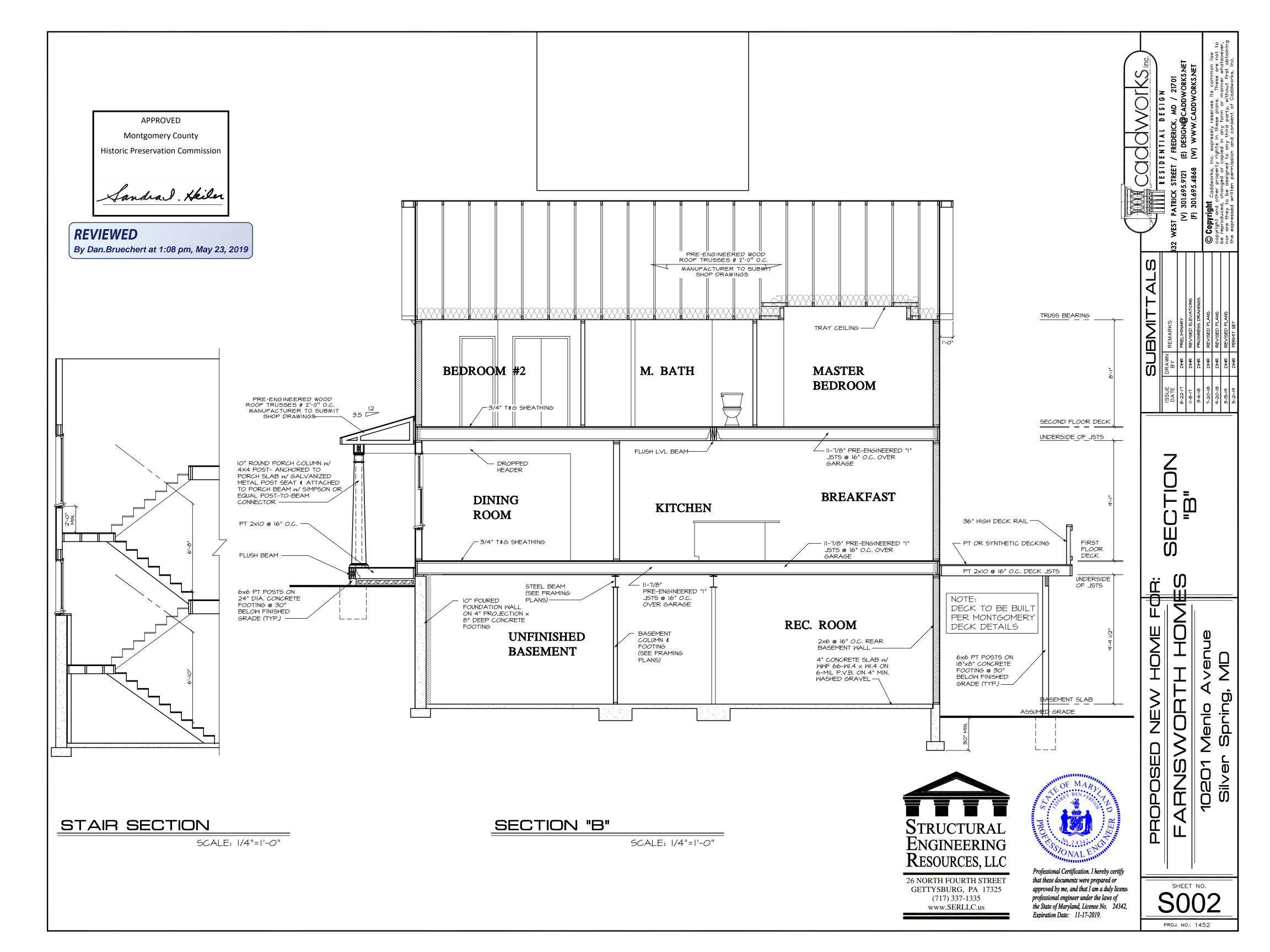
THERMAL ENVELOPE KEY WALLS - R-21 MIN. FLOORS - R-30 PER PLAN CEILING - R-38 MIN. 2" RIGID UNDER SLAB INSULATION R-13 & R-10 BASEMENT INSULATION

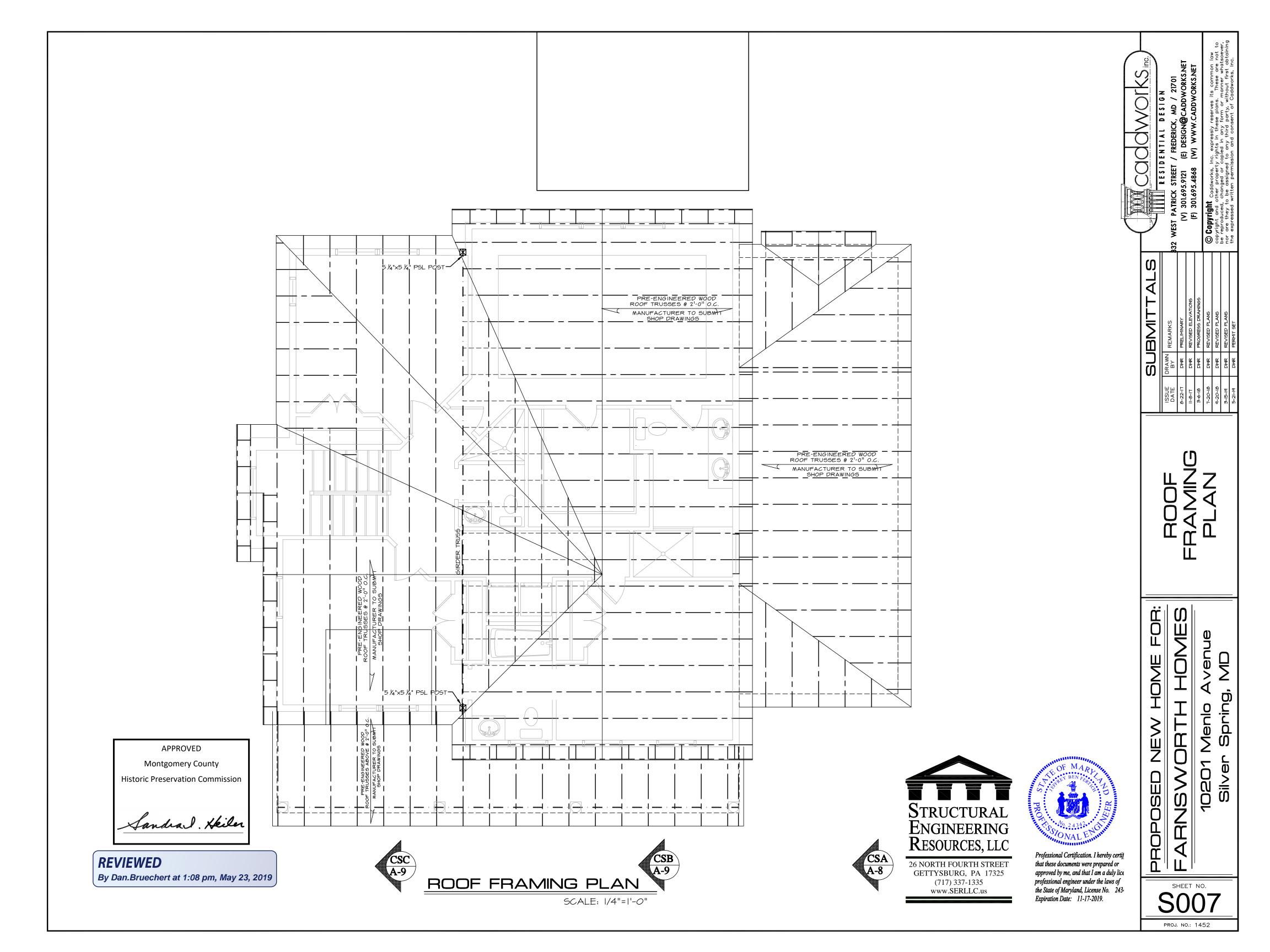
REFER TO RESCHECK ENERGY CALCULATION AND CHECKLIST PROVIDED FOR R-VALUES OF INSULATION AND THEIR LOCATIONS, HINDONG AND DOORS AND THEIR U-FACTORS AND SQUARE FOOTAGE CALCULATIONS.

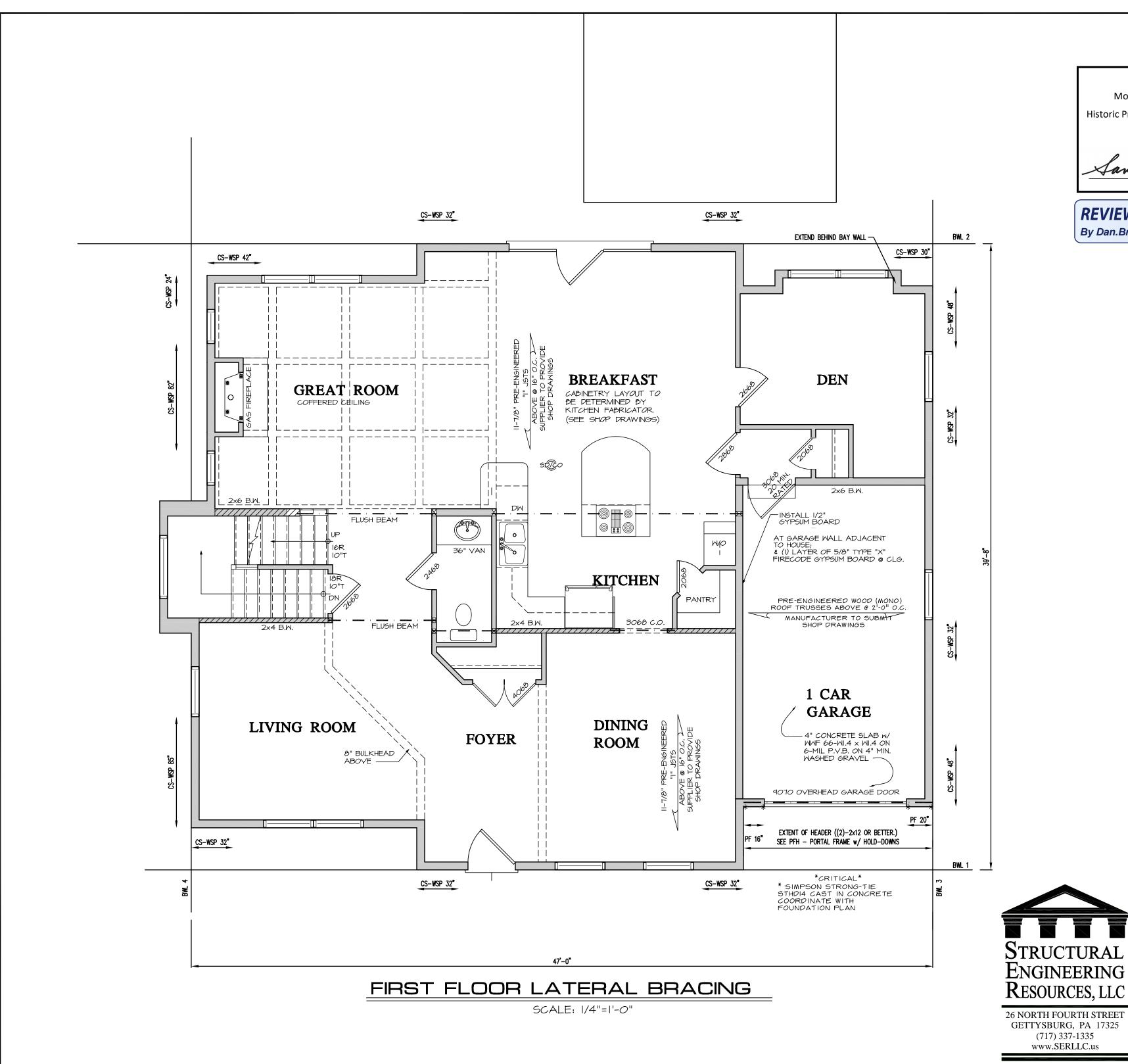
HOME Spring, 10201 RNSW PROPOSED











APPROVED Montgomery County

**Historic Preservation Commission** 



# **REVIEWED**

By Dan.Bruechert at 1:08 pm, May 23, 2019

HO HO HI Spring **NUNC** PROPOSED Ö

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that  $\hat{I}$  am a duly licensed professional engineer under the laws of the State of Maryland, License No. 24342, Expiration Date: 11-17-2019.

SHEET NO. PROJ. NO.: 1452

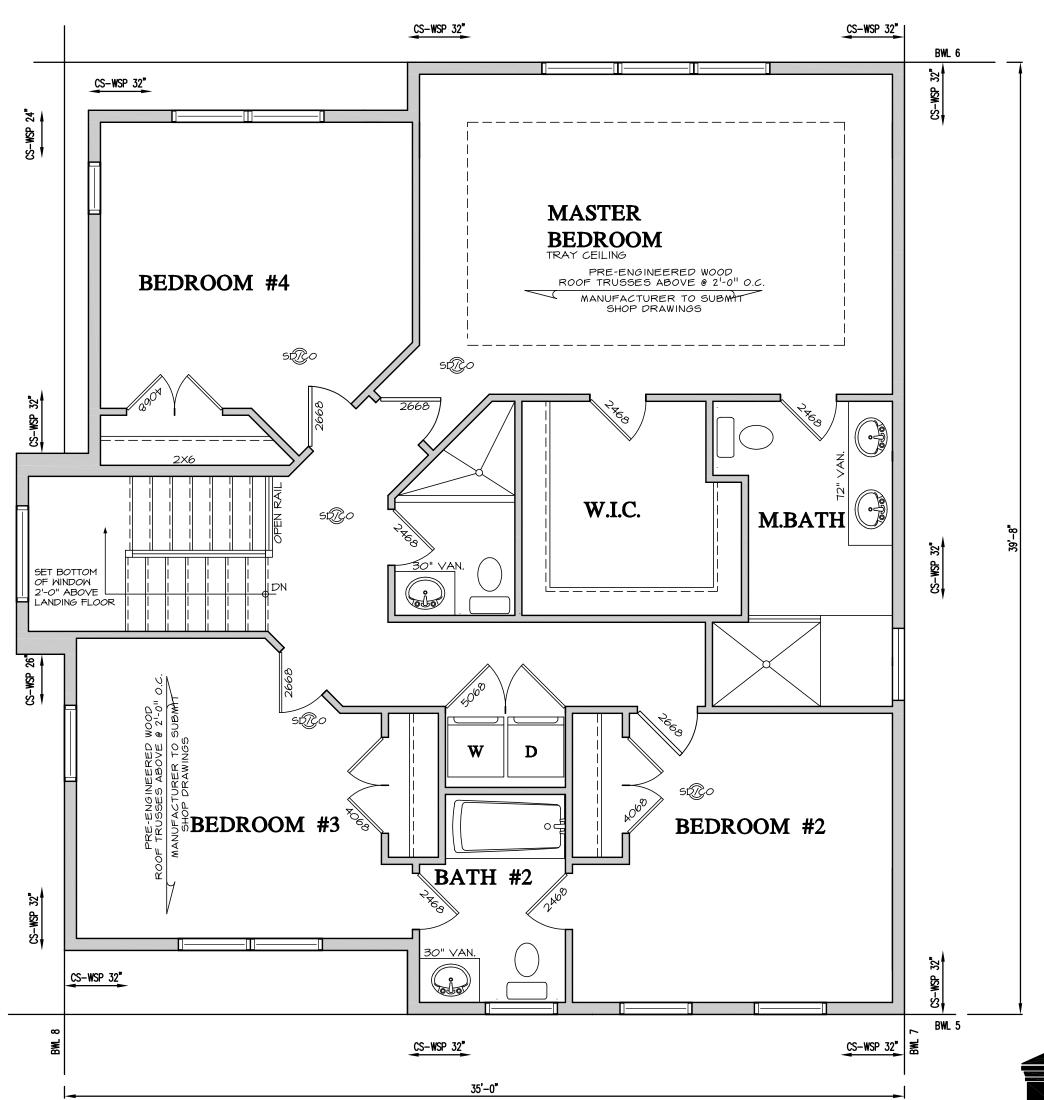
APPROVED **Montgomery County** 

**Historic Preservation Commission** 

Sandrad. Kkiler

# **REVIEWED**

By Dan.Bruechert at 1:09 pm, May 23, 2019



SECOND FLOOR LATERAL BRACING

SCALE: 1/4"=1'-0"



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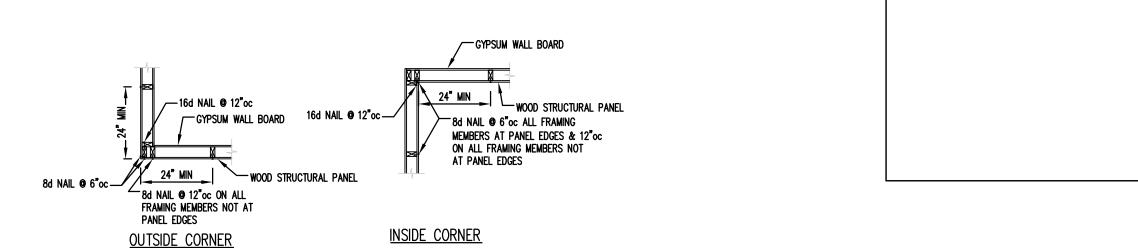


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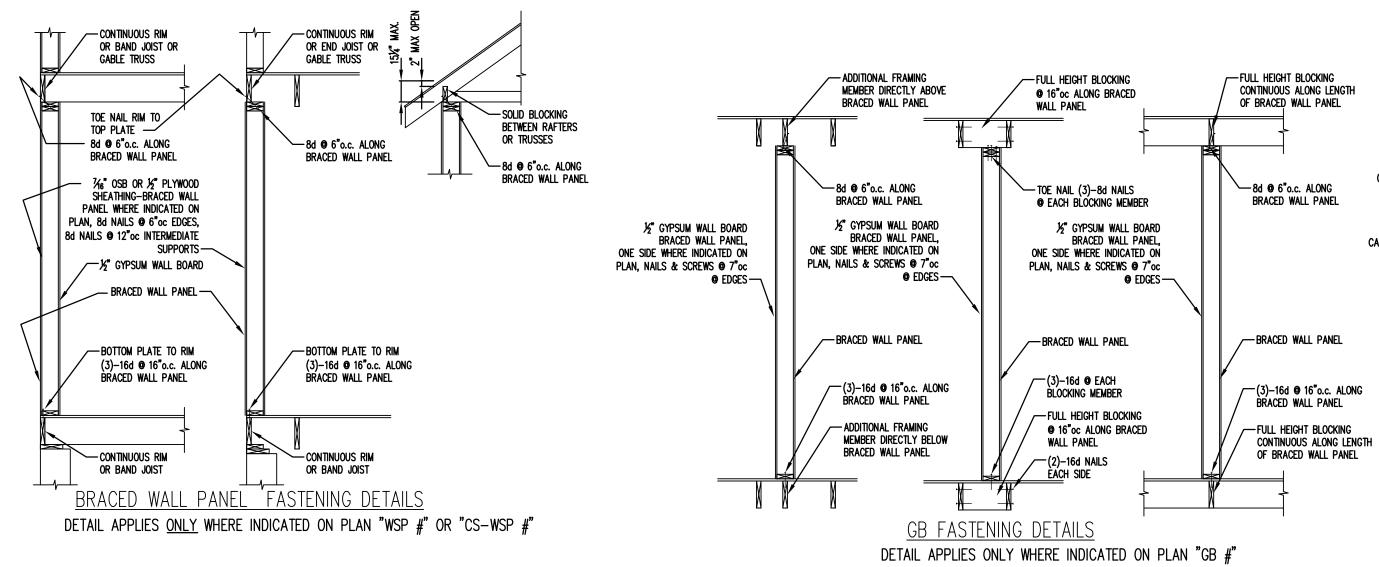
professional engineer under the laws of the State of Maryland, License No. 24342, Expiration Date: 11-17-2019.

SHEET NO. S009 PROJ. NO.: 1452

10201 I Silver



TYPICAL EXTERIOR CORNER DETAIL FOR CONTINUOUS SHEATHING - CS-WSP



	BRACED WALL LINE	_	1	1		2		3		4		5		6		7		8
	STORY																	
BR	ACED WALL PANEL METHO	DD T	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G	CS-WSP	CS-PF CS-G
	AVG BWL SPACING (ft)	•	39.67		39.67		47		47		39.67		39.67		35		35	
	TABULAR REQUIRED (ft)			11.90		11.90		13.75		13.75		5.97		5.97		5.50		5.50
	EXPOSURE		В	1.00	В	1.00	В	1.00	В	1.00	В	1.00	В	1.00	В	1.00	В	1.00
⊨	EAVE-RIDGE HT (ft)	•	9.00	0.96	9.00	0.96	9.00	0.96	9.00	0.96	9.00	0.92	9.00	0.92	9.00	0.92	9.00	0.92
ADJUSTMENT	WALL H⊟GHT (ft)		9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95	8.00	0.90	8.00	0.90	8.00	0.90	8.00	0.90
UST	# BWLs	•	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00
AD.	OMIT INTERIOR GB	•	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00
	ADD PAIR 800# HOLD DO	NNS	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00
	METHOD GB FASTEN @ 4	4" o.c	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00	NO	1.00
F	REQUIRED BWP LENGTH (ft)	•		10.88		10.88		12.57		12.57		4.97		4.97	·	4.58		4.58
		BWP	METHOD	LENGTH (ft)	METHOD `	LENGTH (ft)	METHOD	LENGTH (ft)										
		1	PFH	4.00	CS-WSP	2.50	CS-WSP	4.00	CS-WSP	7.08	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.67
BWP		2	PFH	4.00	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	6.83	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.17
L BV	CONTRIBUTING LENGTH	3	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.67			CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.67	CS-WSP	2.67
ACTUAL	CONTRIBUTING LENGTH	4	CS-WSP	2.67	CS-WSP	3.50	CS-WSP	4.00									CS-WSP	2.00
AC		5	CS-WSP	2.67														
		6																
		7																
	ACTUAL BWP LENGTH (ft)		1	6.01	1	1.34	1	3.34	1	3.91		8.01	8	3.01	8	3.01	,	9.51
	ACTUAL ≥ REQUIRED		`	/ES	`	/ES	`	/ES	,	YES	,	YES	`	YES .	Y	′ES	`	YES
SPACE	BWPs ≤ 20' APART	•	,	/ES	`	/ES	`	/ES	,	YES	,	YES	,	YES	Y	′ES	`	YES
# of	Length of BWL (ft)	•		47		47	3	9.67	3	39.67		35		35	3:	9.67	3	9.67
BWPs	BWP 1 ≤ 16', 2 > 16'	•	<b>'</b>	/ES	`	/ES	`	/ES	,	YES	,	YES	`	YES	Y	′ES	`	YES
ENDS	BWP WITHIN 10' OF EN	ND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ENDS	CONTINUOUS END CONDI	MOIT	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1
В	WL COMPLIANCE PASS-FAI	L	Р	ASS	P	ASS	Р	ASS	F	PASS	F	ASS	Р	ASS	P.	ASS	P	ASS



STRUCTURAL **ENGINEERING** RESOURCES, LLC 26 NORTH FOURTH STREET

GETTYSBURG, PA 17325 (717) 337-1335 www.SERLLC.us

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 24342, **Expiration Date:** 11-17-2019.

PF PANEL & NAILING TO TOP OF MAX 12'-3" TOTAL WALL HEIGHT, AS SHOWN.

HEADER LENGTH, SHOWN EXTENDED ACROSS PF PANEL

MAX 21" CRIPPLE STUDS, w/LSTA24 —

HEADER @ 16"oc, MAY BE ADDED OVER OPENINGS 10' WIDE, OR LESS. EXTEND

STRAP, OR EQUAL, OVER BACKSIDE OF

LSTA24 (1,000#) STRAP. OR EQUAL. OVER BACKSIDE OF I•| HEADER **©** EA END x at panel Joint, if R I nails each side of äβ OPENING WIDTH MIN 1 ANCHOR 5/8" BOLT PER R403.1.6, ₩/MIN 2"x 2"x ¾6" PLATE WASHER, TYP POUR MIN 6" THICK CONC WALL STEM, TYP-SIMP. STRG-TIE SIMP. STRG-TIE STHD14 STHD14 -CAST-IN STEM WALL CAST-IN STEM WALL

PFH - PORTAL FRAME w/ HOLD-DOWNS

LATERAL BRACING NOTES: BRACING MEETS THE REQUIREMENTS OF 2015 IRC R602.10 FOR 90MPH BASIC WIND SPEED AND 115MPH ULTIMATE WIND SPEED AND APPROPRIATE ENGINEERING PRINCIPLES AS SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER

1/46" OSB OR 1/2" PLYWOOD WOOD STRUCTURAL PANELS (CS-WSP) MUST BE APPLIED TO ALL EXTERIOR SHEATHABLE SURFACES INCLUDING GABLE END WALLS & ABOVE & BELOW ALL OPENINGS. THE SHEATHING IS TO BE FASTENED w/8d NAILS AT 6"oc @ EDGES & @ 12"oc AT ALL INTERMEDIATE SUPPORTS.

INTERIOR GYPSUM BOARD (GB) BRACED WALLS WHERE INDICATED TO BE FASTENED AT ALL EDGES w/ SCREWS OR NAILS @ 7"oc.

BRACED PANELS "CS-WSP #" INDICATES THE WIDTH IN INCHES AND LOCATION OF PÄNELS TO MEET CODE, THE SHEATHING & NAIL PATTERN IS THE SAME HERE AS ACROSS THE ENTIRE HOME, HOWEVER THE TOP & BOTTOM AT THIS LOCATION MUST BE FASTENED PER THE FASTENING DETAILS.

BRACED PANEL "PF #" INDICATED A PORTAL FRAME & REQUIRE SPECIAL ATTACHMENT OF THE HEADER. SEE THE CS-PF PORTAL FRAME DETAIL.

EXTERIOR WALL CORNERS, INSIDE & OUTSIDE, MUST BE CONSTRUCTED PER TYPICAL DETAILS.

BWL - INDICATES BRACED WALL LINE

STRAPS, HANGERS, & ANCHORS INDICATED ARE TO BE SIMPSON STRONG-TIE OR EQUAL.



PROPOSED SHEET NO. PROJ. NO.: 1452

**PNS** 

1

 $\Omega$ 

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Spring

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**10**20

FOR:

MOI

# **REScheck Software Version 4.6.5**

# **Compliance Certificate**

APPROVED

Montgomery County

Historic Preservation Commission

Sandral Kkiler

By Dan.Bruechert at 1:09 pm, May 23, 2019

REVIEWED

Project Farnsworth Spec.

Energy Code: 2015 IECC

Location: Silver Spring, Maryland

Construction Type: Single-family
Project Type: New Construction

Conditioned Floor Area: **3,632 ft2** Glazing Area **19%** 

Climate Zone: **4 (4561 HDD)** 

Permit Date: Permit Number:

Construction Site: Owner/Agent: Designer/Contractor:

10201 Menlo Ave. Silver Spring, MD

# Compliance: Passes using UA trade-off

Compliance: **6.2% Better Than Code** Maximum UA: **535** Your UA: **502** Maximum SHGC: **0.40** Your SHGC: **0.27** 

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules. It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

# **Envelope Assemblies**

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Basement Wall 1: Solid Concrete or Masonry Wall height: 8.8' Depth below grade: 4.0' Insulation depth: 8.8'	1,270	0.0	10.0	0.077	91
3052-3: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.31	51			0.260	13
6068 swingset: Glass SHGC: 0.13	39			0.320	12
Basement Wall 2: Wood Frame Wall height: 8.8' Depth below grade: 0.0' Insulation depth: 8.8'	500	21.0	0.0	0.060	30
Floor 1: Slab-On-Grade:Heated Insulation depth: 4.0'	48		10.0	0.684	33
Wall 1: Wood Frame, 16" o.c.	1,620	21.0	0.0	0.057	75
3056-16: Wood Frame:Double Pane with Low-E SHGC: 0.31	163			0.260	42
4040 FIXED: Vinyl/Fiberglass Frame:Double Pane with Low-E SHGC: 0.31	16			0.270	4
2056-2: Wood Frame:Double Pane with Low-E SHGC: 0.31	24			0.260	6
9068 W/ transom: Glass SHGC: 0.13	63			0.320	20
3080: Glass SHGC: 0.13	24			0.320	8

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Assembly		Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
3068 -20 Rated: Solid		20			0.260	5
Wall 2: Wood Frame, 16" o.c.		1,404	21.0	0.0	0.057	68
3046-11: Vinyl/Fiberglass Frame:Double Pane with SHGC: 0.31	Low-E	157			0.260	41
4040 tempered: Vinyl/Fiberglass Frame:Double Pa SHGC: 0.31	ne with Low-E	16			0.270	4
4052-tempered: Vinyl/Fiberglass Frame:Double Pa SHGC: 0.31	ne with Low-E	21			0.270	6
2046: Vinyl/Fiberglass Frame:Double Pane with Lo SHGC: 0.31	w-E	10			0.260	3
3010: Vinyl/Fiberglass Frame:Double Pane with Lo SHGC: 0.31	w-E	3			0.260	1
Ceiling 1: Flat Ceiling or Scissor Truss		1,324	38.0	0.0	0.030	40
Compliance Statement: The proposed building des calculations submitted with the permit application. REScheck Version 4.6.5 and to comply with the ma	The proposed building has	been designed	to meet the	2015 IECC	requireme	
Name - Title	Signature			Date		

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# REScheck Software Version 4.6.5 Inspection Checklist Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the REScheck software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1] <sup>1</sup>	Construction drawings and documentation demonstrate energy code compliance for the building envelope. Thermal envelope represented on construction documents.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
103.1, 103.2, 403.7 [PR3] <sup>1</sup>	Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the IECC Commercial Provisions.			□Complies □Does Not □Not Observable □Not Applicable	
302.1, 403.7 [PR2] <sup>2</sup>	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr Cooling: Btu/hr	Heating: Btu/hr Cooling: Btu/hr	□Complies □Does Not □Not Observable □Not Applicable	

**Additional Comments/Assumptions:** 

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.2 [FO1] <sup>1</sup>	Slab edge insulation R-value.	R Unheated Heated	R Unheated Heated	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.2 [FO3] <sup>1</sup>	Slab edge insulation depth/length.	ft	ft	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
402.1.1 [FO4] <sup>1</sup>	Conditioned basement wall insulation R-value. Where interior insulation is used, verification may need to occur during Insulation Inspection. Not required in warm-humid locations in Climate Zone 3.	R R	R R	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2 [FO5] <sup>1</sup>	Conditioned basement wall insulation installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.2.9 [FO6] <sup>1</sup>	Conditioned basement wall insulation depth of burial or distance from top of wall.	ft	ft	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2.1 [FO11] <sup>2</sup>	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.9 [FO12] <sup>2</sup>	Snow- and ice-melting system controls installed.			□Complies □Does Not □Not Observable □Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4	Door U-factor.	U	U	□Complies □Does Not	See the Envelope Assemblies table for values.
[FR1] <sup>1</sup>			 	□Not Observable □Not Applicable	 
402.1.1, 402.3.1,	Glazing U-factor (area-weighted average).	U	U	$\square$ Complies $\square$ Does Not	See the Envelope Assemblies table for values.
402.3.3, 402.5 [FR2] <sup>1</sup>				□Not Observable □Not Applicable	
303.1.3 [FR4] <sup>1</sup>	U-factors of fenestration products are determined in accordance			□Complies □Does Not	
<b>(</b>	with the NFRC test procedure or taken from the default table.			□Not Observable □Not Applicable	
402.4.1.1 [FR23] <sup>1</sup>	Air barrier and thermal barrier installed per manufacturer's			□Complies □Does Not	
<b>(2)</b>	instructions.			□Not Observable □Not Applicable	
402.4.3 [FR20] <sup>1</sup>	Fenestration that is not site built is listed and labeled as meeting			☐Complies ☐Does Not	
•	AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			□Not Observable □Not Applicable	
402.4.5 [FR16] <sup>2</sup>	IC-rated recessed lighting fixtures sealed at housing/interior finish			□Complies □Does Not	1 
	and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			□Not Observable □Not Applicable	1 1 1 1 1
403.3.1 [FR12] <sup>1</sup>	Supply and return ducts in attics insulated >= R-8 where duct is			□Complies □Does Not	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
•	>= 3 inches in diameter and >= R-6 where < 3 inches. Supply and return ducts in other portions of the building insulated >= R-6 for diameter >= 3 inches and R-4.2 for < 3 inches in diameter.			□Not Observable □Not Applicable	
403.3.5 [FR15] <sup>3</sup>	Building cavities are not used as ducts or plenums.			□Complies □Does Not	
•				□Not Observable □Not Applicable	
403.4 [FR17] <sup>2</sup>	HVAC piping conveying fluids above 105 ºF or chilled fluids	R	R	□Complies □Does Not	
•	below $55 ^{\circ}F$ are insulated to $\geq R$ -3.		 	□Not Observable □Not Applicable	
403.4.1 [FR24] <sup>1</sup>	Protection of insulation on HVAC piping.			□Complies □Does Not	
<b>②</b>				□Not Observable □Not Applicable	
403.5.3 [FR18] <sup>2</sup>	Hot water pipes are insulated to ≥R-3.	R	R	□Complies □Does Not	: 
•				□Not Observable □Not Applicable	
403.6 [FR19] <sup>2</sup>	Automatic or gravity dampers are installed on all outdoor air			☐Complies ☐Does Not	: 1 1 1 1
	intakes and exhausts.			□Not Observable □Not Applicable	 

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1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13] <sup>2</sup>	All installed insulation is labeled or the installed R-values provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.1.1, 402.2.5, 402.2.6 [IN3] <sup>1</sup>	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R Wood Mass Steel	R Wood Mass Steel	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.
303.2 [IN4] <sup>1</sup>	Wall insulation is installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

**Additional Comments/Assumptions:** 

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Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions	
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1] <sup>1</sup>	Ceiling insulation R-value.	R	R	□Complies □Does Not □Not Observable □Not Applicable	See the Envelope Assemblies table for values.	
303.1.1.1, 303.2 [FI2] <sup>1</sup>	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft <sup>2</sup> .			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable		
402.2.3 [FI22] <sup>2</sup>	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			□Complies □Does Not □Not Observable □Not Applicable		
402.2.4 [FI3] <sup>1</sup>	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R	R	□Complies □Does Not □Not Observable □Not Applicable		
402.4.1.2 [FI17] <sup>1</sup>	Blower door test @ 50 Pa. <=5 ach in Climate Zones 1-2, and <=3 ach in Climate Zones 3-8.	ACH 50 =	ACH 50 =	□Complies □Does Not □Not Observable □Not Applicable		
403.3.4 [FI4] <sup>1</sup>	Duct tightness test result of <=4 cfm/100 ft2 across the system or <=3 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	${\text{ft}^2}$ cfm/100	cfm/100	□Complies □Does Not □Not Observable □Not Applicable		
403.3.3 [FI27] <sup>1</sup>	Ducts are pressure tested to determine air leakage with either: Rough-in test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the system including the manufacturer's air handler enclosure if installed at time of test. Postconstruction test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the entire system including the manufacturer's air handler enclosure.	rfm/100	cfm/100 ft <sup>2</sup>	□Complies □Does Not □Not Observable □Not Applicable		
403.3.2.1 [FI24] <sup>1</sup>	Air handler leakage designated by manufacturer at <=2% of design air flow.			□Complies □Does Not □Not Observable □Not Applicable		
403.1.1 [FI9] <sup>2</sup>	Programmable thermostats installed for control of primary heating and cooling systems and initially set by manufacturer to code specifications.			□Complies □Does Not □Not Observable □Not Applicable		
403.1.2 [FI10] <sup>2</sup>	Heat pump thermostat installed on heat pumps.			□Complies □Does Not □Not Observable □Not Applicable		
403.5.1 [FI11] <sup>2</sup>	Circulating service hot water systems have automatic or accessible manual controls.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable		
1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)						

[FI25] <sup>2</sup> fa H a a second seco	and mechanical ventilation system and not part of tested and listed IVAC equipment meet efficacy and air flow limits.  Idot water boilers supplying heat through one- or two-pipe heating ystems have outdoor setback ontrol to lower boiler water emperature based on outdoor emperature.  Ideated water circulation systems have a circulation pump. The ystem return pipe is a dedicated eturn pipe or a cold water supply bipe. Gravity and thermosyphon circulation systems are not present. Controls for irculating hot water system bumps start the pump with signal for hot water demand within the occupancy. Controls intomatically turn off the pump when water is in circulation loop is at set-point temperature and its objects to the set transportance.		□Complies □Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Not Applicable □Complies □Does Not □Not Observable □Not Observable □Not Observable	
[FI26] <sup>2</sup> th	hrough one- or two-pipe heating ystems have outdoor setback ontrol to lower boiler water emperature based on outdoor emperature.  Heated water circulation systems have a circulation pump. The ystem return pipe is a dedicated eturn pipe or a cold water supply bipe. Gravity and thermosyphon circulation systems are not present. Controls for irculating hot water system humps start the pump with signal or hot water demand within the occupancy. Controls nutomatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.		□ Does Not □ Not Observable □ Not Applicable □ Complies □ Does Not □ Not Observable	
[FI28] <sup>2</sup> h. S. F.	vave a circulation pump. The ystem return pipe is a dedicated eturn pipe or a cold water supply pipe. Gravity and thermosyphon circulation systems are not present. Controls for irculating hot water system pumps start the pump with signal purply the pump. Controls not water demand within the occupancy. Controls nutomatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.		□Does Not □Not Observable	
403 5 1 2 F	la atria la act tora e e e e e			
[FI29] <sup>2</sup> co 5 a h d	ilectric heat trace systems omply with IEEE 515.1 or UL i15. Controls automatically djust the energy input to the leat tracing to maintain the lesired water temperature in the liping.		□Complies □Does Not □Not Observable □Not Applicable	
[FI30] <sup>2</sup> h. p. si w. w. d. s. tr. p. o. o.	Vater distribution systems that have recirculation pumps that sump water from a heated water upply pipe back to the heated water source through a cold water supply pipe have a lemand recirculation water ystem. Pumps have controls hat manage operation of the bump and limit the temperature of the water piping to 104°F.		□Complies □Does Not □Not Observable □Not Applicable	
[FI31] <sup>2</sup> te B p re ir o si h	Prain water heat recovery units ested in accordance with CSA 155.1. Potable water-side pressure loss of drain water heat ecovery units < 3 psi for andividual units connected to one or two showers. Potable water-ide pressure loss of drain water leat recovery units < 2 psi for andividual units connected to hree or more showers.		□Complies □Does Not □Not Observable □Not Applicable	
[FI6] <sup>1</sup> fi	'5% of lamps in permanent ixtures or 75% of permanent ixtures have high efficacy lamps. Does not apply to low-voltage ghting.		□Complies □Does Not □Not Observable □Not Applicable	
	uel gas lighting systems have o continuous pilot light.		□Complies □Does Not □Not Observable □Not Applicable	

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
401.3 [FI7] <sup>2</sup>	Compliance certificate posted.			□Complies □Does Not	
				□Not Observable □Not Applicable	
303.3 [FI18] <sup>3</sup>	Manufacturer manuals for mechanical and water heating systems have been provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

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Insulation Rating	R-Value	
Above-Grade Wall	21.00	
Below-Grade Wall	10.00	
Floor	10.00	
Ceiling / Roof	38.00	
Ductwork (unconditioned spaces):		
Glass & Door Rating	U-Factor	SHGC
Window	0.26	0.31

Window	0.26	0.31
Door	0.32	0.13
Heating & Cooling Equipment	Efficiency	
Heating System:		
Cooling System:		
Water Heater:		
Name:	Date:	

**Comments**