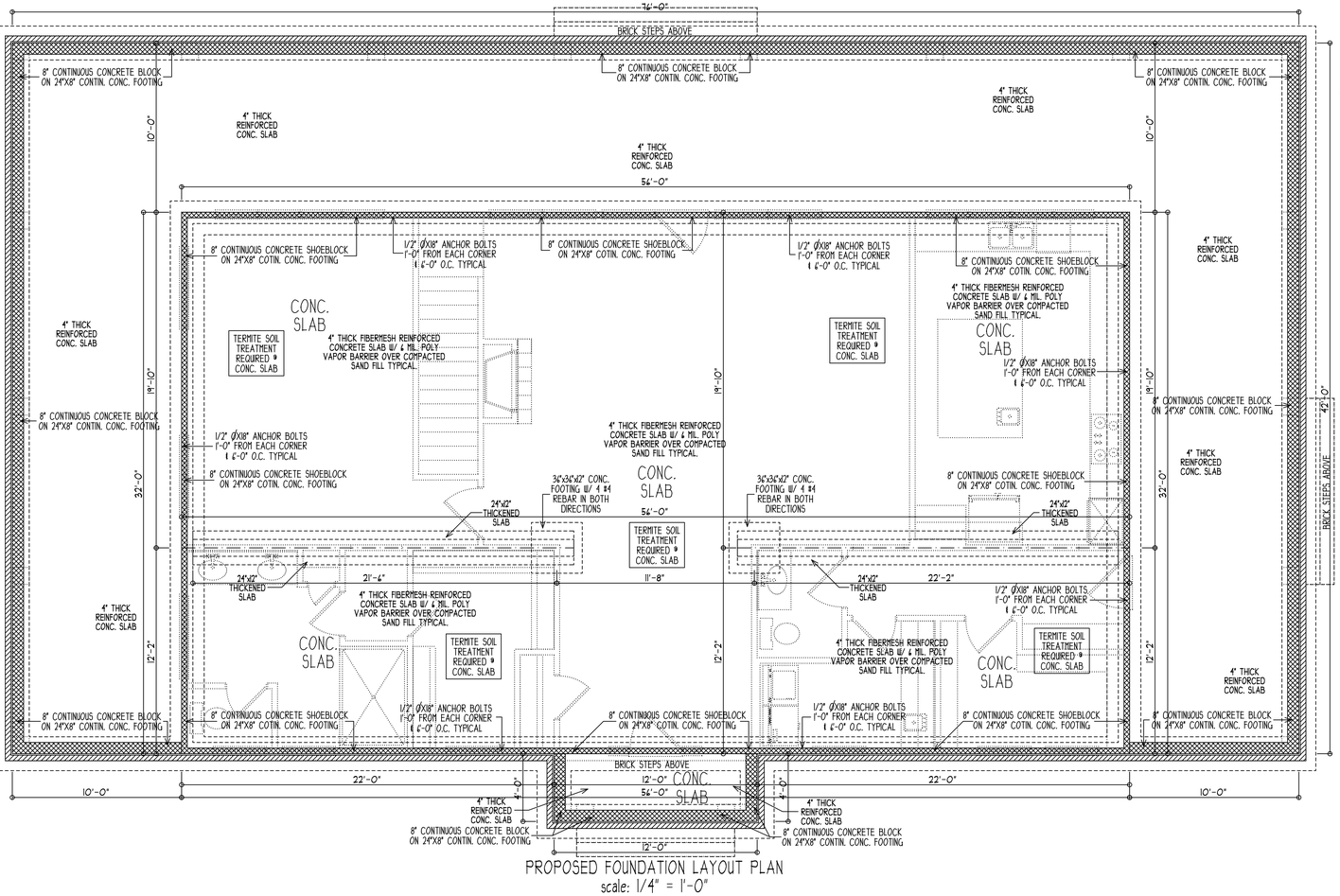
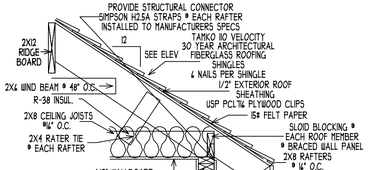
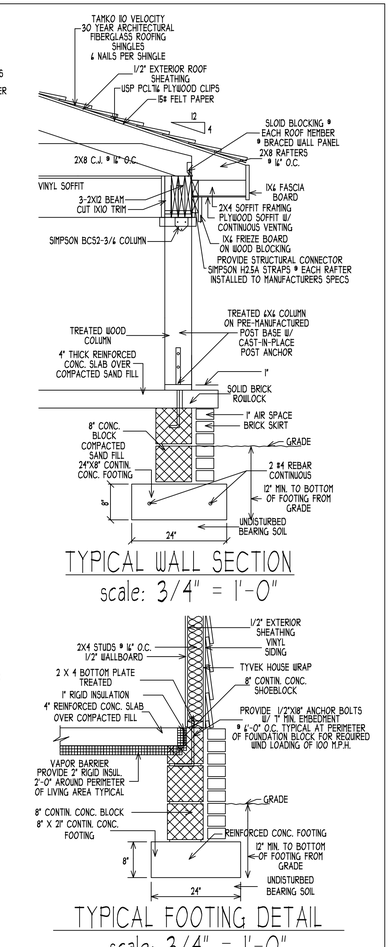


PROPOSED FOUNDATION LAYOUT PLAN
scale: 1/4" = 1'-0"

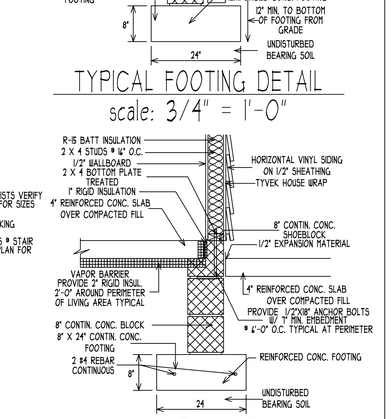


TYPICAL FOOTING DETAIL
scale: 3/4" = 1'-0"

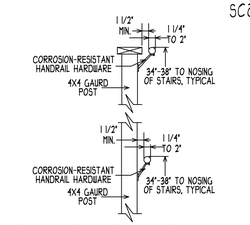
TYPICAL WALL SECTION
scale: 3/4" = 1'-0"



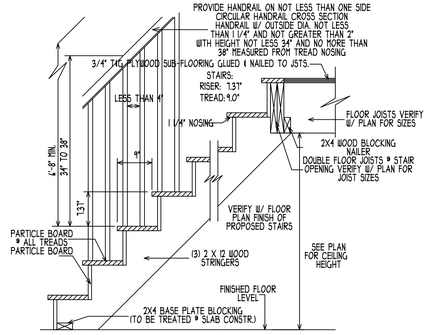
TYPICAL WALL SECTION
scale: 3/4" = 1'-0"



TYPICAL FOOTING DETAIL
scale: 3/4" = 1'-0"



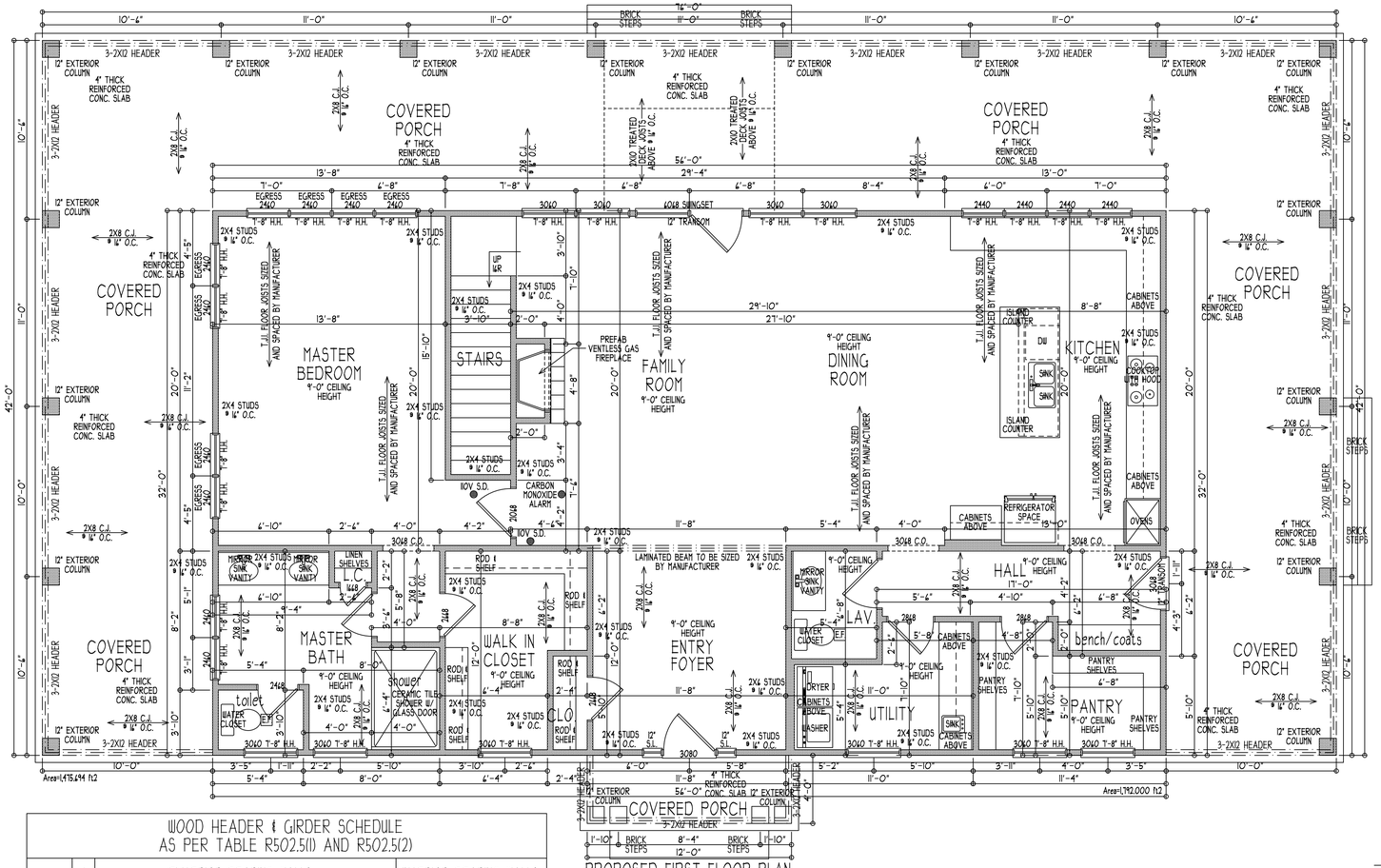
RAIL SECTION @ WALL
scale: 3/4" = 1'-0"



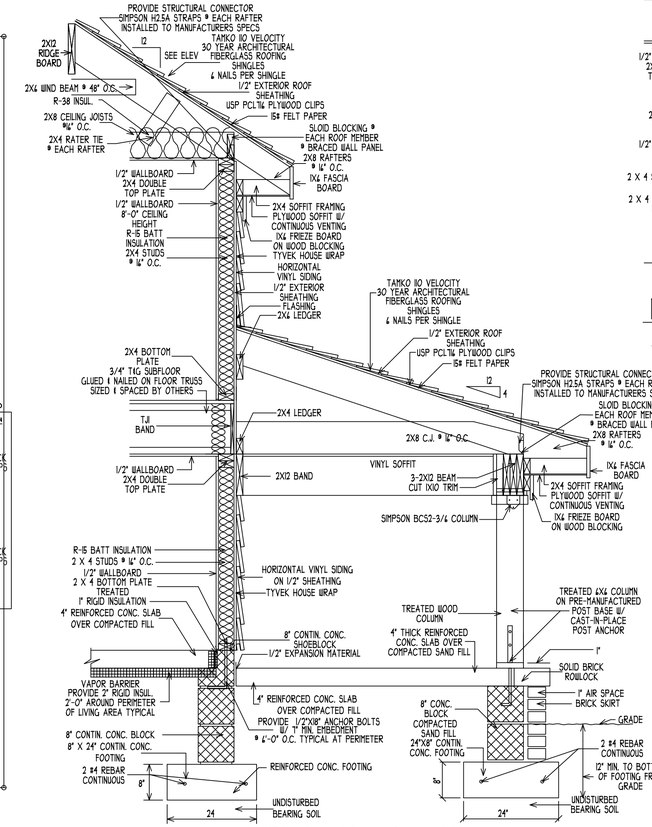
TYPICAL STAIR SECTION DETAIL
scale: 3/4" = 1'-0"

TYPICAL FOOTING DETAIL
scale: 3/4" = 1'-0"

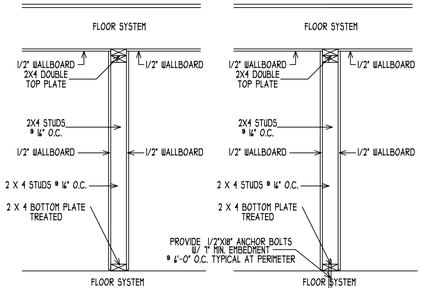
FENTRESS HOME DESIGN RESIDENTIAL PLANS / ADDITIONS virginia beach, virginia OFFICE (757) 438-5053	drawn by: BCF date: 4/21/21 scale: NOTED	PROPOSED TWO STORY BRICK & FRAME SINGLE FAMILY DWELLING prepared for: HOST RESIDENCE	sheet A-1 of 6 Host Residence file no. 21-42121



PROPOSED FIRST FLOOR PLAN
scale: 1/4" = 1'-0"

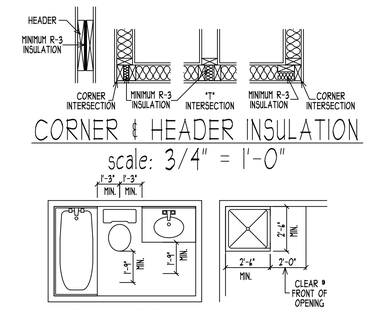


TYPICAL WALL SECTION
scale: 3/4" = 1'-0"



INT. WALL SECTION
scale: 3/4" = 1'-0"

INT. WALL SECTION
scale: 3/4" = 1'-0"

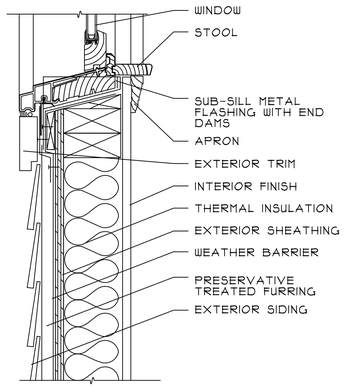


CORNER & HEADER INSULATION
scale: 3/4" = 1'-0"

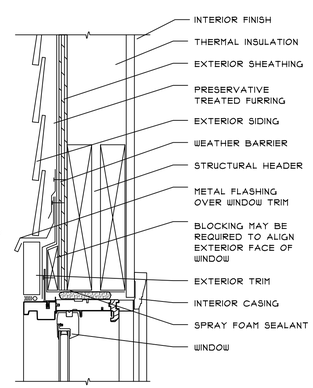
TOILET AND SINK CLEARANCE

SHOWER CLEARANCE

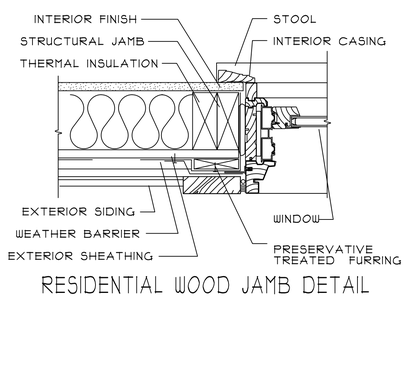
BATH FIXTURE CLAERANCE DETAIL
scale: 3/4" = 1'-0"



RESIDENTIAL WOOD SILL DETAIL



RESIDENTIAL WOOD HEAD DETAIL



RESIDENTIAL WOOD JAMB DETAIL

WOOD HEADER & GIRDER SCHEDULE AS PER TABLE R502.5(1) AND R502.5(2)

WOOD HEADER SIZE	BUILDING WIDTH	EXTERIOR BEARING WALLS				INTERIOR BEARING WALLS	
		ROOF & CEILING	ROOF,C.L.G. & ONE CENTER BEARING F.L.R.	ROOF,C.L.G. & ONE CLEAR BEARING F.L.R.	ROOF,C.L.G. & TWO CENTER BEARING F.L.R.	ONE FLR. ONLY	TWO FLOORS
		SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
2-2X4	20'	3'-6"	3'-1"	2'-8"	2'-7"	3'-1"	
	28'	3'-2"	2'-9"	2'-4"	2'-3"	2'-8"	
	36'	2'-10"	2'-5"	2'-1"	2'-0"	2'-5"	
2-2X6	20'	5'-5"	4'-6"	3'-11"	3'-9"	4'-6"	3'-2"
	28'	4'-8"	4'-0"	3'-5"	3'-3"	3'-11"	2'-9"
	36'	4'-2"	3'-7"	3'-0"	2'-11"	3'-6"	2'-5"
2-2X8	20'	6'-10"	5'-9"	5'-0"	4'-9"	5'-9"	4'-1"
	28'	5'-11"	5'-0"	4'-4"	4'-2"	5'-0"	3'-6"
	36'	5'-4"	4'-6"	3'-10"	3'-9"	4'-5"	3'-2"
3-2X8	20'	8'-4"	7'-2"	6'-3"	5'-11"	7'-2"	5'-1"
	28'	7'-5"	6'-3"	5'-5"	5'-2"	6'-3"	4'-5"
	36'	6'-8"	5'-8"	4'-10"	4'-8"	5'-7"	3'-11"
2-2X10	20'	8'-5"	7'-0"	6'-1"	5'-9"	7'-0"	4'-11"
	28'	7'-3"	6'-2"	5'-3"	5'-1"	6'-1"	4'-3"
	36'	6'-6"	5'-6"	4'-8"	4'-7"	5'-5"	3'-10"
3-2X10	20'	10'-6"	8'-9"	7'-7"	7'-3"	8'-9"	6'-2"
	28'	9'-1"	7'-8"	6'-7"	6'-4"	7'-7"	5'-4"
	36'	8'-2"	6'-11"	5'-11"	5'-8"	6'-9"	4'-10"
2-2X12	20'	9'-9"	8'-1"	7'-1"	6'-8"	8'-1"	5'-9"
	28'	8'-5"	7'-1"	6'-1"	5'-10"	7'-0"	5'-0"
	36'	7'-6"	6'-5"	5'-5"	5'-3"	6'-3"	4'-5"
3-2X12	20'	12'-2"	10'-2"	8'-10"	8'-5"	10'-2"	7'-2"
	28'	10'-7"	8'-11"	7'-8"	7'-4"	8'-10"	6'-3"
	36'	9'-5"	8'-0"	6'-10"	6'-7"	7'-10"	5'-7"

BUILDING DESIGN LOADS

ROOF DEAD LOAD	20 P.S.F.
ROOF LIVE LOAD	20 P.S.F.
ATTICS (W/ LIMITED STORAGE) LIVE LOAD	20 P.S.F.
DECK LIVE LOAD	40 P.S.F.
ROOMS (OTHER THAN SLEEPING) LIVE LOAD	40 P.S.F.
SLEEPING ROOMS LIVE LOAD	30 P.S.F.
STIAR LIVE LOAD	40 P.S.F.
GROUND SNOW LOAD	10 P.S.F.
SLAB ON GRADE	100 P.S.F.
WIND LOAD	120 M.P.H.
WIND EXPOSURE	B
SEISMIC DESIGN LOAD	A

BUILDING DESIGN DATA:

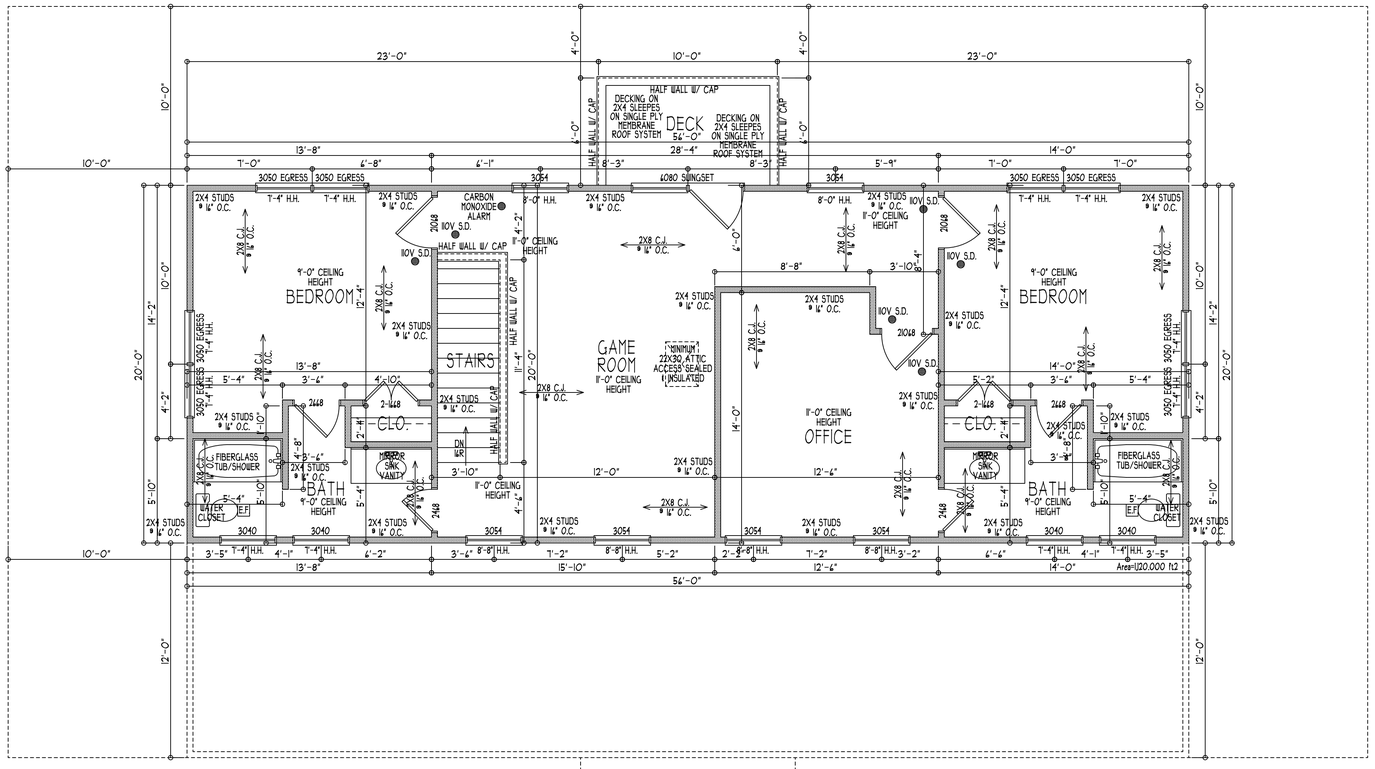
FIRST FLOOR LIVING AREA: 1792.000 sq. ft.
SECOND FLOOR LIVING AREA: 1120.000 sq. ft.
TOTAL LIVING AREA: 2912.000 sq. ft.
WRAP AROUND PORCH AREA: 1475.694 sq. ft.
FRONT PORCH AREA: 48.000 sq.ft.

FENTRESS HOME DESIGN
RESIDENTIAL PLANS / ADDITIONS
virginia beach, virginia
OFFICE
(757) 438-5053

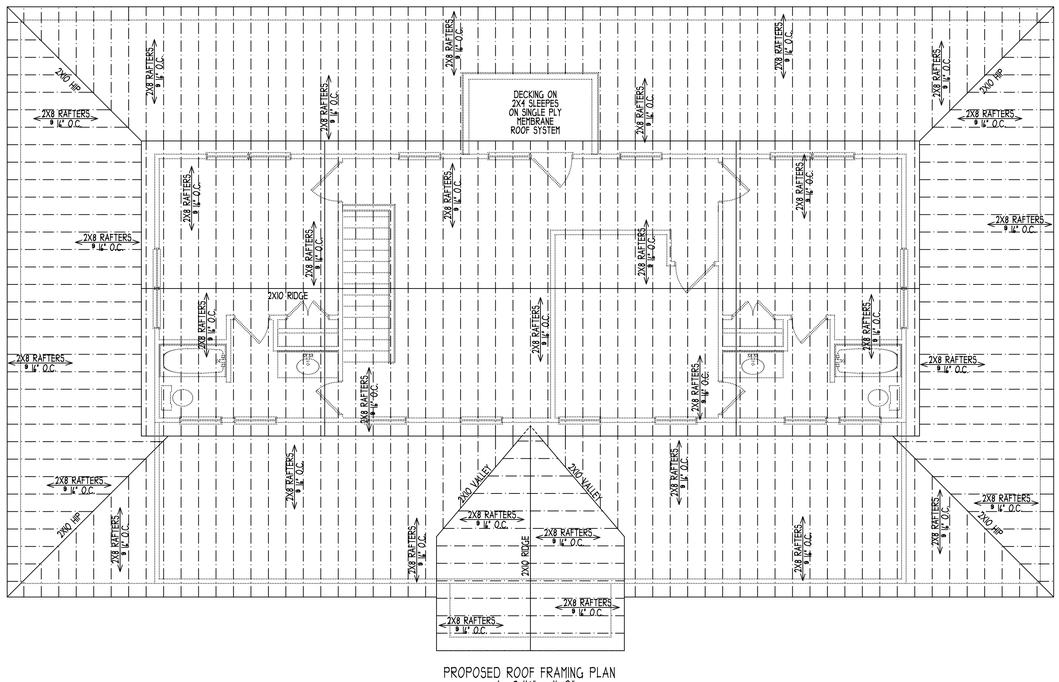
drawn by: BCF
date: 4/21/21
scale: NOTED

PROPOSED TWO STORY BRICK & FRAME SINGLE FAMILY DWELLING
prepared for:
HOST RESIDENCE

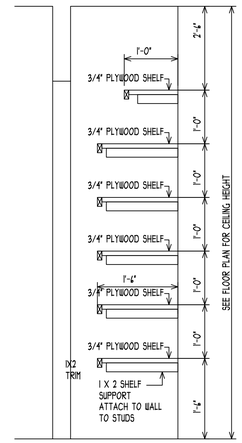
sheet A-2 of 6
Host Residence
file no. 21-42121



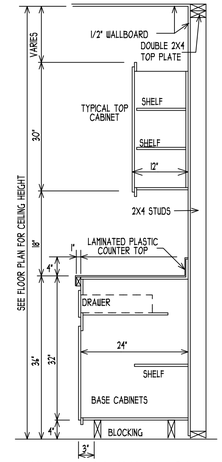
PROPOSED SECOND FLOOR PLAN
scale: 1/4" = 1'-0"



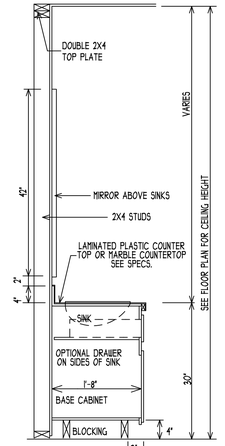
PROPOSED ROOF FRAMING PLAN
scale: 3/16" = 1'-0"



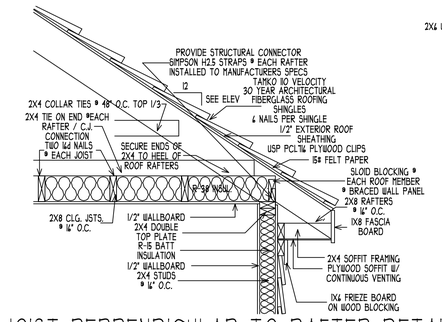
PANTRY CLOSET SECTION
scale: 3/4" = 1'-0"



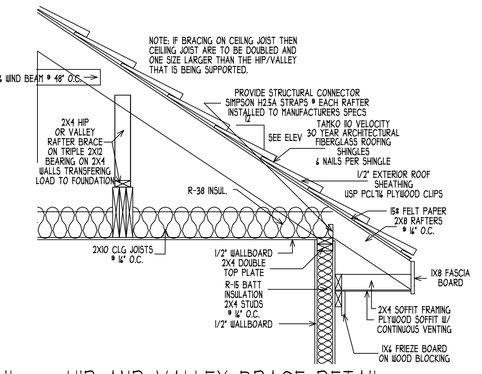
KITCHEN CABINET SECTION
scale: 3/4" = 1'-0"



BATH CABINET SECTION
scale: 3/4" = 1'-0"



JOIST PERPENDICULAR TO RAFTER DETAIL
scale: 3/4" = 1'-0"

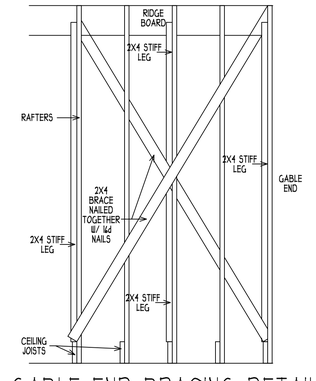


HIP AND VALLEY BRACE DETAIL
scale: 3/4" = 1'-0"

ATTIC VENTILATION REQUIREMENTS
RIDGE VENT = 12 SQ.IN. PER FOOT
SOFFIT VENT = 9 SQ.IN. PER FOOT

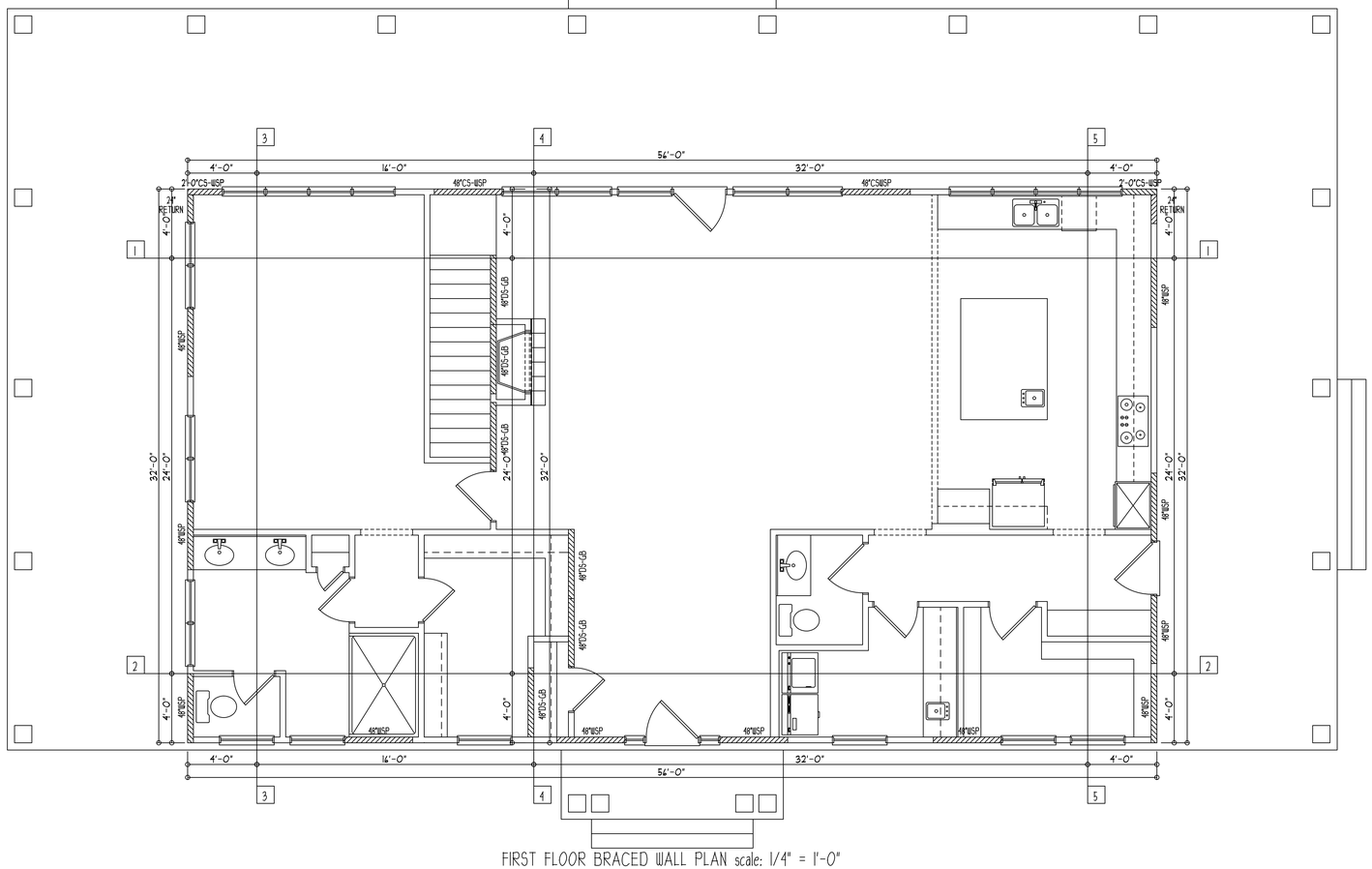
$\frac{3488}{300}$ = 11.62 SQ.FT. OF NET FREE AREA

11.62 SQ.FT.* 2 X 144* 12 = 69.72 LIN. FT. RIDGE VENT
11.62 SQ.FT.* 2 X 144* 9 = 92.96 LIN. FT. SOFITT VENT

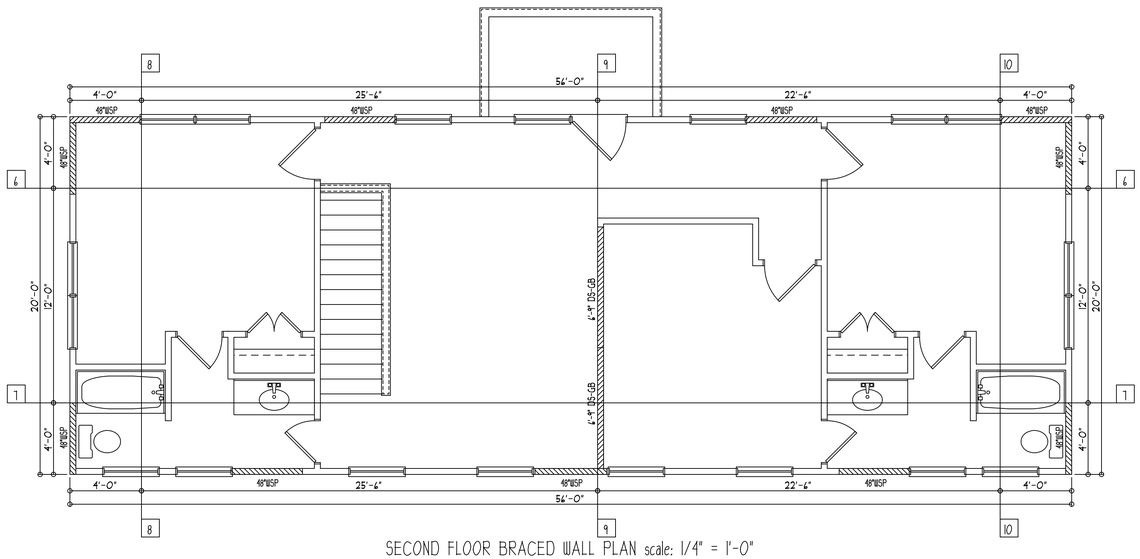


GABLE END BRACING DETAIL
scale: 3/4" = 1'-0"

FENTRESS HOME DESIGN RESIDENTIAL PLANS / ADDITIONS virginia beach, virginia OFFICE (757) 438-5053	drawn by: BCF date: 4/21/21 scale: NOTED	PROPOSED TWO STORY BRICK & FRAME SINGLE FAMILY DWELLING prepared for: HOST RESIDENCE	sheet A-3 of 6 Host Residence file no. 21-42121



FIRST FLOOR BRACED WALL PLAN scale: 1/4" = 1'-0"



SECOND FLOOR BRACED WALL PLAN scale: 1/4" = 1'-0"

Ultimate Wind Speed (mph)		120																			
BWL Designation		1		2		3		4		5		6		7		8		9		10	
No. of Floors above BWL		1		1		1		1		1		0		0		0		0		0	
BWP Method		CS-WSP		WSP		WSP		GB		WSP		WSP		WSP		WSP		GB		WSP	
Average BWL Spacing (ft)		24		24		16		24		32		12		12		25.5		24		22.5	
Tabular Requirement (ft)		8.00		9.40		6.60		16.40		12.20		2.80		2.80		5.10		8.40		4.50	
Adjustments	Exposure	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00	B	1.00
	Eave-to-Ridge Ht. (ft)	11.50	1.05	11.50	1.05	11.50	1.05	11.50	1.05	11.50	1.05	11.50	1.09	11.50	1.09	11.50	1.09	11.50	1.09	11.50	1.09
	Max. Wall Ht. (ft)	9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95	9.00	0.95	11.00	1.05	11.00	1.05	11.00	1.05	11.00	1.05	11.00	1.05
	No. of BWLs	2	1.00	2	1.00	3	1.30	3	1.30	3	1.30	2	1.00	2	1.00	3	1.30	3	1.30	3	1.30
	Omit Interior Finish?	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00
	Added Hold-downs?	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00	No	1.00
	Joints Blocked?	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00	Yes	1.00
	Fasteners @ 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	No	1.00	No	1.00
Required BWP Length (ft)		7.94		9.33		8.52		21.17		15.75		3.20		3.20		7.59		12.50		6.70	
Actual BWPs	BWP	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length	Method	Length
	1	CS-WSP	2.00	WSP	4.00	WSP	4.00	GB (ds)	4.00	WSP	4.00	WSP	4.00	WSP	4.00	WSP	4.00	GB (ds)	6.75	WSP	4.00
	2	CS-WSP	4.00	WSP	4.00	WSP	4.00	GB (ds)	4.00	WSP	4.00	WSP	4.00	WSP	4.00	WSP	4.00	GB (ds)	6.75	WSP	4.00
	3	CS-WSP	4.00	WSP	4.00	WSP	4.00	GB (ds)	4.00	WSP	4.00	WSP	4.00	WSP	4.00						
	4	CS-WSP	2.00	WSP	4.00			GB (ds)	4.00	WSP	4.00	WSP	4.00								
	5							GB (ds)	4.00												
	6							GB (ds)	4.00												
	7																				
Actual BWP Length (ft)		12.00		16.00		12.00		24.00		16.00		16.00		12.00		8.00		13.50		8.00	
Actual ≥ Required?		PASS		PASS		PASS		PASS		PASS		PASS		PASS		PASS		PASS		PASS	
BWPs ≤ 20' Apart?		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
≥ 2 Panels in BWL?		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
BWP 10' from Ends?		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Continuous Sheathing		End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2	End 1	End 2
End Conditions		1	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BWL Compliance		PASS		PASS		PASS		PASS		PASS		PASS		PASS		PASS		PASS		PASS	

INDICATES BRACED WALL PANEL

WALL BRACING METHOD CS-WSP

CONNECTION CRITERIA SHALL HAVE 6d COMMON (2"X0.113") NAILS AT 4" SPACING(PANEL EDGES) AND AT 12" FIELD SPACING OR 14 ga. x 1 3/4" STAPLES: AT 3" EDGE SPACING AND 6" FIELD SPACING. REQUIRES 24" RETURN WALL OR 800 LB HOLD-DOWN CONTINUOUS SHEATHING TO BE MINIMUM 3/8" THICK.

WALL BRACING METHOD GB

NAILS AT 7" O.C. SPACING AT PANEL EDGES
NAILS TO BE 13 GAGE, 1 3/8" LONG, 15/64" HEAD, 0.098 DIAMETER, 1 1/4" LONG, ANNULAR-RINGED
SD COOLER NAIL, 0.086" DIAMETER, 1 5/8" LONG, 15/64 HEAD; OR GYPSUM BOARD NAIL 0.0915 DIAMETER, 1 5/8" LONG, 1/32" HEAD.
IF ADJUSTMENT FACTOR IS USED BRACED WALL PANEL MUST HAVE ATTACHMENTS @ 4" O.C. AT PANEL EDGES INCLUDING TOP AND BOTTOM PLATES, AND ALL HORIZONTAL JOINTS BLOCKED.

WALL BRACING METHOD CS-PF

CONNECTION CRITERIA SHALL HAVE 6d COMMON (2"X0.113") NAILS AT 4" SPACING(PANEL EDGES) AND AT 12" FIELD SPACING OR 14 ga. x 1 3/4" STAPLES: AT 3" EDGE SPACING AND 6" FIELD SPACING. REQUIRES 24" RETURN WALL OR 800 LB HOLD-DOWN CONTINUOUS SHEATHING TO BE MINIMUM 3/8" THICK. CANNOT BE USED WITH STEEL BEAM HEADER.

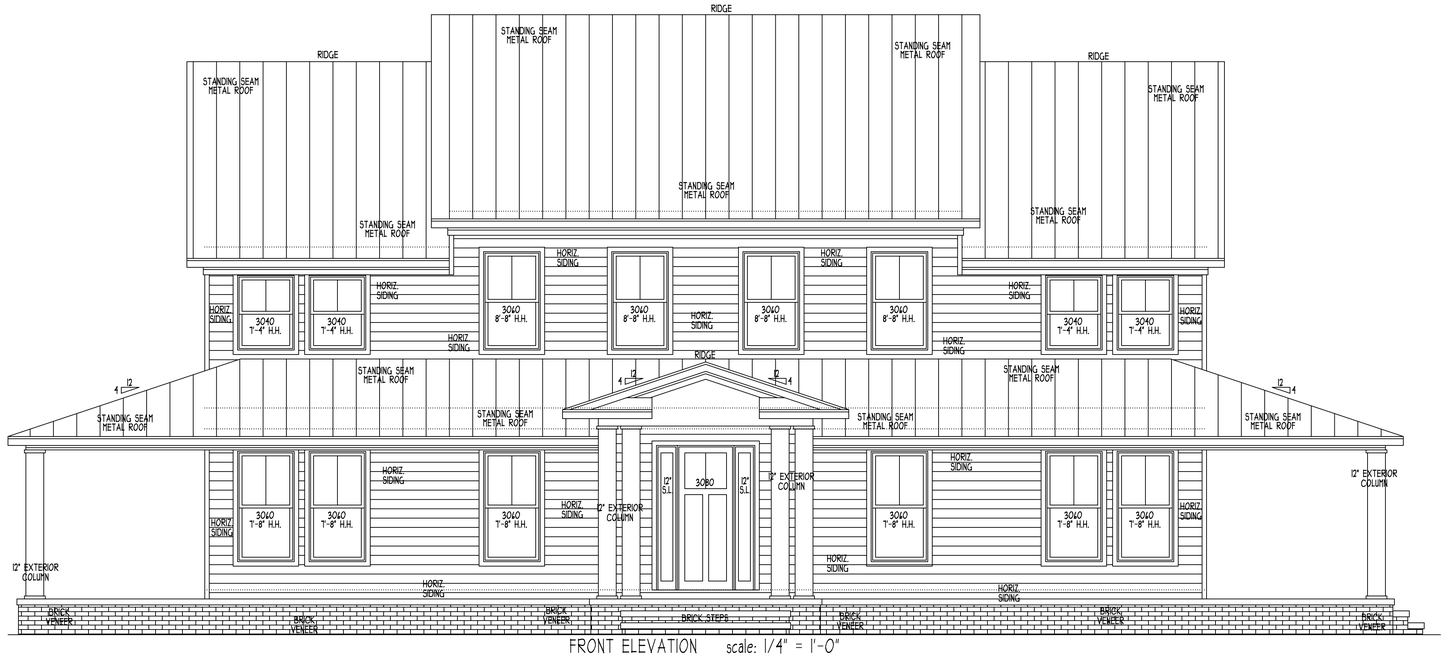
WALL BRACING METHOD WSP

CONNECTION CRITERIA SHALL HAVE 6d COMMON (2"X0.113") NAILS AT 4" SPACING (PANEL EDGES) AND AT 12" FIELD SPACING OR 14 ga. x 1 3/4" STAPLES: AT 3" EDGE SPACING AND 6" FIELD SPACING.
CONTINUOUS SHEATHING TO BE MINIMUM 3/8" THICK.

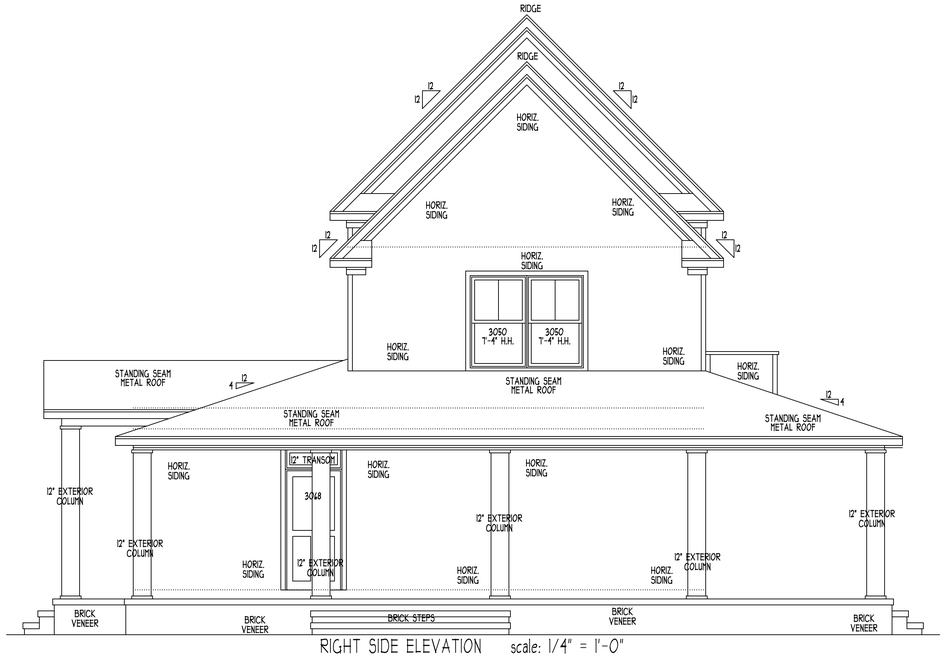
FENTRESS HOME DESIGN
RESIDENTIAL PLANS / ADDITIONS
virginia beach, virginia
OFFICE
(757) 438-5053

drawn by: BCF
date: 4/21/21
scale: NOTED

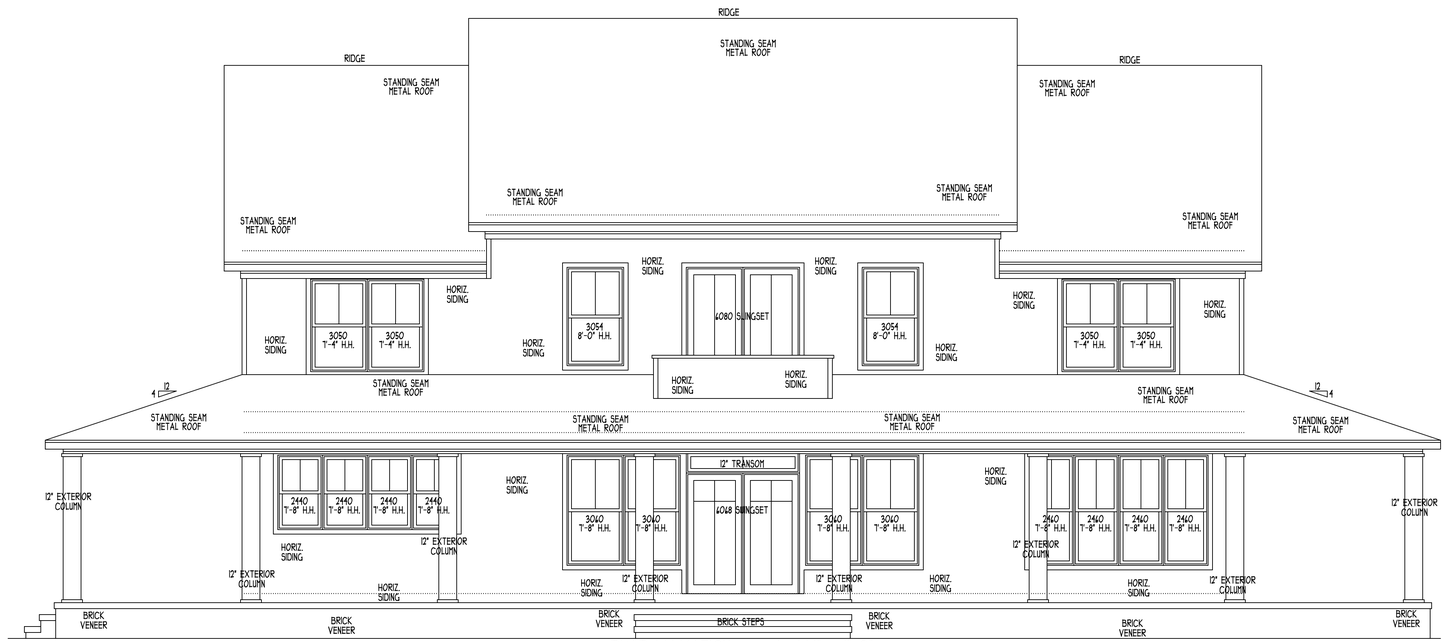
PROPOSED TWO STORY BRICK & FRAME SINGLE FAMILY DWELLING
prepared for:
HOST RESIDENCE



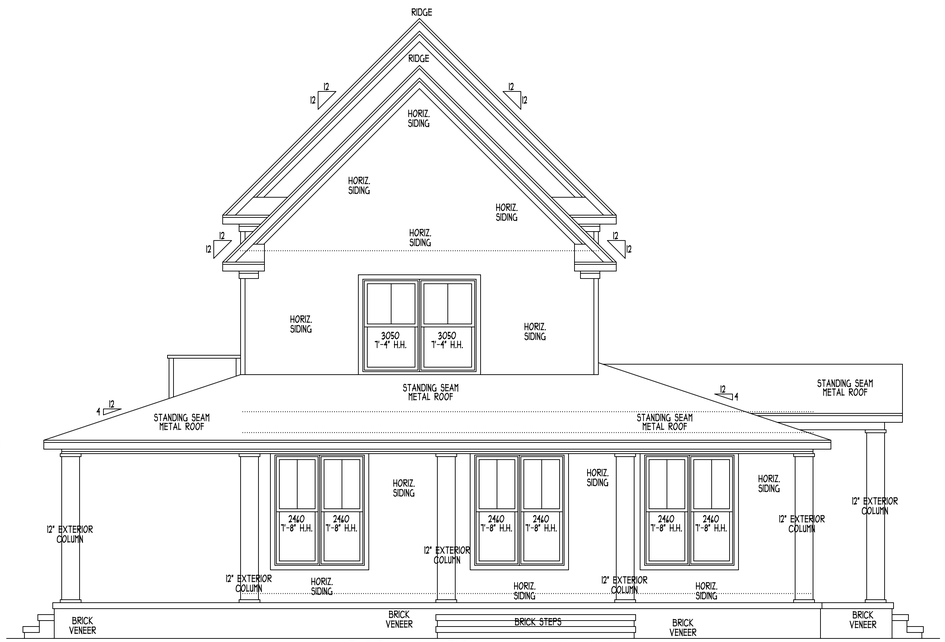
FRONT ELEVATION scale: 1/4" = 1'-0"



RIGHT SIDE ELEVATION scale: 1/4" = 1'-0"



REAR ELEVATION scale: 1/4" = 1'-0"



LEFT SIDE ELEVATION scale: 1/4" = 1'-0"

FENTRESS HOME DESIGN RESIDENTIAL PLANS / ADDITIONS virginia beach, virginia OFFICE (757) 438-5053	drawn by: BCF date: 4/21/21 scale: NOTED	PROPOSED TWO STORY BRICK & FRAME SINGLE FAMILY DWELLING prepared for: HOST RESIDENCE	sheet A-5 of 6 Host Residence file no. 21-42121

CODE DESIGN GUIDELINES

DESIGN AND CONSTRUCTION BASED ON 2015 INTERNATIONAL RESIDENTIAL CODE WITH THE VIRGINIA UNIFORM BUILDING CODE "USBC" 2015 EDITION AMENDMENTS

DESIGN LOADS (LIVE & DEAD LOADS)

1. ASSUMED UNDISTURBED BEARING SOIL - 1500 P.S.F. FIELD VERIFY BY CONTRACTOR
2. FLOOR (SLEEPING ROOM & UNFINISHED ATTIC WITH STAIRS) 30 P.S.F. LIVE, 10 P.S.F. DEAD
3. FLOOR (NON-SLEEPING ROOMS) 40 P.S.F. LIVE, 20 P.S.F. DEAD
4. ATTIC CEILING UNDER ROOF SLOPE (3/12 - 10 P.S.F. LIVE, 10 P.S.F. DEAD
5. ATTIC CEILING OVER ROOF SLOPE) 3/12 - 20 P.S.F. LIVE, 10 P.S.F. DEAD
6. ROOF - 20 P.S.F. LIVE, 10 P.S.F. DEAD
7. WIND SPPED - 120 VULT 89/93 VASD MPH (WIND SPEED GOVERNS OVER SEISMIC U.O.N.) AS PER TABLE 301.2.1. AND FIGURE R 301.2(4)A
8. EXTERIOR WINDOWS AND DOORS SHALL BE DESIGNED AS PER TABLES R301.2(2) & R301.2(3)
9. SEISMIC IS PER THE 2015 INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLING WITH VIRGINIA AMENDMENTS.
10. WIND EXPOSURE CATEGORY B
11. GROUND SNOW LOAD 10 P.S.F.
12. WEATHERING AREA AS PER FIG. R301.2(3) MODERATE
13. FROST LINE DEPTH 12 INCHES
14. TERMITE AREA AS PER FIG. 301.2(6) MODERATE TO HEAVY
15. DECAY AREA AS PER FIG. 301.2(7) MODERATE TO SEVERE
16. WINTER DESIGN TEMP. 22 DEGREES
17. ICE AND WATER SHIELD UNDERLAYMENT REQUIRED ON ALL ROOF SLOPES 4/12 OR LESS INSTALLED OVER INTIRE ROOF SURFACE OR 2 LAYERS OF UNDERLAYMENT

FOOTING & FOUNDATION NOTES

1. WITH A LINE DRAWN 5'-0" OUTSIDE THE BUILDING PERIMETER, EXCAVATE A MINIMUM OF 0'-6" OF EXISTING MATERIAL INCLUDING ALL ORGANIC, ROOTS, DEBRIS, RUBBLE, AND ALL SOFT WET SOIL IN WOODED AREAS. EXCAVATE ALL STUMPS AND ROOT STRUCTURE, AND COMPACT BASE MATERIAL.
2. CARE SHALL BE EXERCISED DURING THE GRADING OPERATIONS AT THE SITE. COMBINATIONS OF EXCESS SURFACE MOISTURE FROM PRECIPITATION AND THE TRAFFIC OF ANY HEAVY CONSTRUCTION EQUIPMENT INCLUDING HEAVY COMPACTION EQUIPMENT.
3. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A-615, GRADE 60 SPECIFICATIONS, EXCEPT STIRRUPS AND TIES, WHICH SHALL BE GRADE 40. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
4. CONCRETE PROTECTION FOR REINFORCING AS WELL AS PLACING AND FABRICATION OF REINFORCING SHALL BE IN ACCORDANCE WITH THE "AMERICAN CONCRETE INSTITUTE BUILDING ZONE REQUIREMENTS" (ACI-318-77).
5. PIER HEIGHT OVER 32" HIGH SHALL BE SOLID FILLED WITH MORTAR.
6. FOOTINGS SHALL BE SUPPORTED ON UNDISTURBED NATURAL SOILS.
7. HOLLOW PIERS SHALL BE CAPPED WITH 4" OF SOLID MASONRY OR CONCRETE. A MASONRY CAP BLOCK, OR SHALL HAVE CAVITIES OF TOP COURSE FILLED WITH CONCRETE OR GROUT.
8. CONCRETE FOOTINGS SHALL BE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3500 P.S.I. ALL OTHER CONCRETE-3000 P.S.I.
9. BOTTOM OF CONCRETE FOOTINGS SHALL BE ON UNDISTURBED SOIL 12-INCHES BELOW GRADE. FOOTINGS SHALL BE ON UNDISTURBED SOIL.
10. ALL FOOTINGS SHALL BEAR ON UNDISTURBED BEARING SOIL BELOW LOCAL FROST LINES.
11. EXACT QUANTITIES OF FOUNDATION BLOCK REQUIRED MAY VARY FROM THE TYPICAL DETAIL SECTIONS SHOWN ON THIS PLAN, DUE TO EXACT FINISH FLOOR ELEVATION SET BY ENGINEER FOR THIS PROJECT AND THE EXISTING SOIL CONDITIONS ENCOUNTERED IN THE PROCESS OF FOUNDATION EXCAVATION.
12. ALL UTILITIES THAT CROSS FOOTINGS MUST PASS ABOVE FOOTINGS
13. CONCRETE MASONRY UNITS SHALL BE IN ACCORDANCE WITH ASTM C-90
14. MORTAR TO CONFORM TO ASTM C-270. TYPE "S" BELOW GRADE, TYPE "N" ABOVE GRADE
15. CONCRETE SLABS OF LIVING AREAS TO BE 4" THICK FIBER REINFORCED CONCRETE OVER 6 MIL. POLY OVER COMPACTED SOLID FILL. PROVIDE CONTROL JOINTS AS REQUIRED. PROVIDE R-10 RIGID INSULATION 2'-0" WIDE AROUND PERIMETER.

GENERAL FRAMING

1. WOOD DECKS TO COMPLY WITH SECTION R507
2. ALL LUMBER TO BE SOUTHERN YELLOW PINE #2, SPRUCE-PINE-FIR #2 OR BETTER FRAMING UNLESS OTHERWISE NOTED. UTILITY GRADE LUMBER NOT ACCEPTABLE.
3. STEEL BEAMS TO HAVE MINM (4) 2X4 JACK STUD SUPPORT UNDER EACH END UNLESS OTHERWISE NOTED.
4. LAMINATED STRUCTURAL BEAMS MUST HAVE (3) 2X4 JACK STUD SUPPORT UNDER EACH END UNLESS OTHERWISE NOTED.
5. MASONRY LNTELS
   5A. FOR SPANS UP TO 6'-0" USE 3 1/2" X 3 1/2" X 1/4" STEEL ANGLES EXCEPT STANDARD PRESSED STEEL ANGLES 3 1/2" X 3 1/2" X 1/4" MAY BE USED FOR FIREPLACE OPENINGS AS FOLLOWS:
      1. 10' BRICK OR STONE MAX. SPAN 36"
      2. 6' BRICK OR STONE MAX. SPAN 48"
      3. 30"' BRICK OR STONE MAX. SPAN 72"
   5B. FOR SPAN FROM 6' TO 8' USE 5" X 3 1/2" X 5/16"
6. ALL BRICK OVER LOWER ROOFS TO HAVE ANGLE SECURELY SUPPORTED FROM BELOW
7. ALL ENGINEERED FLOOR JOISTS AND TRUSSES MUNT BE BRACED IN ACCORDANCE W/ MANUFACTURERES SPECIFICATIONS.
8. ALL RAFTER BRACING TO HAVE (2) STUDS FROM PLATE TO FOUNDATION OR SUPPORTING BEAM BELOW @ ALL FLOORS. BRACING MUST TRANSFER FROM PLATE TO STUDS TO FOUNDATION TO FOOTING.
9. IF WALL PARTITIONS FALL BETWEEN FLOOR FRAMING 2X4 LADDERS @ 16" O.C. MUST BE PLACED @ 16" O.C. PERPENDICULAR THE THE FRAMING MEMBER TO SUPPORT PYWOOD DECKING ABOVE.
10. OPEN WEB FLOOR TRUSSES MUST HAVE SINGLE LINE OF 2X4'S NAILED TO DIAGONAL OR VERTICAL MEMBERS IN APPROPRAITE MID SPAN AS A LOAD DISTRIBUTION MEMBER.
11. CEILING JOISTS PARRALLEL TO EXTERIOR WALL WITH RAFTERS BEARING ON STUDS MUST HAVE STUB JOISTS FROM EXTERIOR DOUBLE WALL PLATE BACK TO CEILING JOIST AS BRACE FOR CEILING JOIST.
12. ALL HEADER TO BE DESIGNED AS PER TABLE R602.7(1)-R602.7(3) OF THE 2015 INTERNATIONAL RESIDENTIAL CODE WITH VIRGINIA UNIFORM STATEWIDE BUILDING CODE "USBC" (2015 EDITION)
13. ALL SHEATHING APA RATED WOOD STRUCTURAL PANELS (R602.10) AS FOLLOWS

13A.	GRADE	NOMINAL THICKNESS
ROOF:	O.S.B.	1/2"
WALL:	O.S.B.	1/2"
FLOOR:	O.S.B.	3/4"

   INSTALL ALL SHEATHING IN ACCORDANCE W/ TABLE R602.10.5 AND R602.3(3)
14. ALL FLOOR AND WALL FRAMING TO BE CAPABLE OF TRANSMITTING ALL IMPOSED LOADS TO THE SUPPORTING ELEMENTS DOWN TO THE FOUNDATION.
15. GABLE END WALL FRAMING TO HAVE 2X6 FRAMING SPACED @ 16" O.C.
16. STUD SIZE, HEIGHT& SPACING AS PER SECTION R602.3.1 MUST BE IN ACCORDANCE WITH TABLE R602.3(5). BALLOON FRAMED WALL MUST BE DESIGNED AND SEALED BY RDP AND NOT PRESCRITIVE.
17. LOAD BEARING INTERIOR WALLS TO BE CONSTRUCTED, FRAMED & FIRE BLOCKED AS PER EXTERIOR WALLS (R602.4).
18. FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND FORM AN EFFECTIVE BARRIER BETWEEN STORIES, AND BETWEEN TOP STORY AND THE ROOF SPACE. FIREBLOCKING SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS. (1) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS INCLUDING FURRED SPACES. ALSO VERTICALLY AT CEILING AND FLOOR LEVELS AND HORIZONTALLY NOT EXCEEDING 10 FEET. (2) AT ALL INTERSECTIONS BETWEEN CONCEALED VERTICAL & HORIZONTAL SPACES SUCH AS SOFFITS, DROP CEILINGS, AND COVE CEILINGS. (3) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT TOP AND BOTTOM OF RUN. (4) AT OPENINGS AROUND VENTS, PIPES, AND DUCTS AT CEILING AND FLOOR LEVEL, WITH APPROVED PRODUCT TO RESIST THE PASSAGE OF FLAME & PRODUCTS OF COMBUSTION. (5) FIREBLOCKING OF CHIMNEYS AND FIREPLACES SHALL BE PER R1003.19
19. ALL FASTENERS USED W/ PRESSURE TREATED LUMBER TO BE HOT DIPPED GALVANIZED STEEL,STAINLESS STEEL, SILICON BRONZE OR COPPER
20. ALL FLOOR JOIST AND GIRDER SPANS SHALL BE IN ACCORDANCE WITH TABLES R502.3.1(1), R502.3.1(2), R502.3.3(1)-(2), R502.5, SECTIONS R502.4 & R502.10, TABLE R602.7(1) THRU R602.7(3)
21. ALL FASTENERS TO BE INSTALLED IN ACCORDANCE WITH TABLES R602.3(1)-(2) JOIST HANGERS
22. ALL FIRE RATED SHEATHING SPECIFIED IS TO BE BLAZEGAURD WOOD PANELS AS MANUFACTURED BY INTERNATIONAL BARRIER TECHNOLOGY.

MISCELLANEOUS CODE INFORMATION

1. CONTRACTOR TO HAVE ALL ALL UTLITIES LOCATED PRIOR TO EXCAVATION
2. GUARDRAILS REQUIRED ON PORCHES,BALCONIES & RAISED FLOOR SURFACES GREWATER THAN 30" MEASURED VERTICALLY FROM FLOOR OR GRADE & BELOW AT ANY POINT 36" HORIZONTALLY TO THE EDGE OF OPENING. EXTERIOR AND INTERIOR RAILINGS TO BE MINIMUM 36" HIGH, BEARING 200 LBS AND NOT ABLE TO ALLOW A SPHERE GREATER THAN 3 7/8" DIAMETER TO PASS THRU.
3. LADDER EFFECT RAILS NOT PERMITTED. HANDRAIL GRIP SIZE AS PER CODE SECTION R311.7.8.3 OF INTERNATIONAL RESIDENTIAL CODE 2015.
4. EGRESS WINDOWS AS PER SECTION R310
   SECOND LEVEL AND ABOVE MINIMUM (1) 5.7 SQ.FT. CLEAR OPENING
   FIRST LEVEL MIMIMUM (1) 5.0 SQ.FT. CLEAR OPENING
5. GLASS SHOWER & TUB ENCLOSURES TO BE TEMPERED
6. WINDOWS AT STAIR LANDINGS LESS THAN 36" ABOVE THE FLOOR MUST HAVE SAFETY GLAZING
7. INTERIOR GARAGE WALL TO HAVE MIN. 1/2" GYPSUM BOARD
8. CEILINGS BELOW HABITABLE SPACE MUST HAVE MIN. 5/8" TYPE X GWB
9. EXPOSED BEAMS & COLUMNS MUST HAVE MIN. 1/2" GYPSUM BOARD
10. EXHAUST FAN VENTILATION MUST DISCHARGE TO OUTSIDE
11. ELECTRICAL WIRING MUST COMPLY W/ APPLICABLE CODES AND STANDARDS
12. CORROSION RESISTIVE FLASHING REQUIRED @ ALL VALLEYS AND ROOF WALL INTERSECTIONS AS PER SECTION R703.4
13. SPECIALTY GLAZING REQUIRED AT "HAZARDOUS LOCATION" AS PER SECTION R308.4
14. ENERGY EFFICIENCY CALCULATIONS IF REQUIRED MUST BE IN ACCRODANCE WITH N1101.2.1
15. DUCT SEALING & TESTING MUST BE IN ACCORDANCE WITH N1103.3
16. WALL COVERING MUST BE ATTACHED SECURELY IN ACCORDANCE WITH SECTION R703
17. MECHANICAL VENTILATION AT TOILET ROOMS REQUIRED IN ACCORDANCE W/ SECTION M1507
18. OUTLETS IN WET LOCATIONS MUST BE PROVIDED IN ACCORDANCE W/ E3801.4, E3802.6, E3802.7, E3802.1, & E3802.3
19. PERMANENT ENERGY CODE CERTIFICATE SHALL BE POSTED IN ACCORDANCE W/ N1101.14
20. WINDOW SILL HEIGHT @ SECOND FLOOR WINDOWS SHALL BE IN ACCORDANCE WITH R312.2.1 & R310.1
21. SMOKE DETECTORS AND CARBOM MONOXDE DETECTORS REQUIRED IN ACCORDANCE W/ IRC R314 & R315
22. FIRE EXTINGUISHER REQUIRED IN KITCHEN IN ACCORDANCE W/ R330.1
23. DUCTS PENETRATIONS @ WALLS OR CEILINGS SEPERATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF A MIN. NO. 26 GAUGE (0.48) SHEET STEEL OR OTHER APPROVED MATERIAL & SHALL NOT HAVE OPENINGS INTO THE GARAGE.
24. OUTDOOR AND RETURN AIR FOR FORCED AIR SYSTEMS NOT ALLOWED FROM GARAGE IN ACCORDANCE W/ M1602.2
25. FIREPLACES, INCLUDING WOOD BURNING, MUST HAVE THE FIRE BOX OPENINGS SEALED/GASKETED AND RECEIVE COMBUSTION AIR DIRECTLY FROM OUTSIDE IN ACCORDANCE W/ N1102.4.2 (R402.4.2)
26. GAPS IN HEADERS & CORNERS MUST BE INSULATED W/ R-3 INSULATION AS PER IRC TABLE 1102.4.1.1
27. THE BUILDING ENVELOPE AIR TIGHTNESS MUST BE DEMONSTRATED TO COMPLY W/ N1102.4.1.2.1 OR N1102.4.1.2.2 PER N1102.4.1.3
28. THE DWELLING LEAKAGE RATE MUST BE LESS THAN 5 AIR CHANGES PER HOUR IN ACCORDANCE W/ N1102.4.1.2.

R802.5.2 Ceiling joist and rafter connections. Where ceiling joists run parallel to rafters, they shall be connected to rafters at the top wall plate in accordance with Table R802.5.2. Where ceiling joists are not connected to the rafters at the top wall plate, they shall be installed in the bottom third of the rafter height in accordance with Figure R802.4.5 and Table R802.5.2. Where the ceiling joists are installed above the bottom third of the rafter height, the ridge shall be designed as a beam. Where ceiling joists do not run parallel to rafters, the ceiling joists shall be connected to top plates in accordance with Table R602.3(1). Each rafter shall be tied across the structure with a rafter tie or a 2-inch by 4-inch (51 mm by 102 mm) kicker connected to the ceiling diaphragm with nails equivalent in capacity to Table R802.5.2.

R802.4.6 Collar ties. Where collar ties are used to connect opposing rafters, they shall be located in the upper third of the attic space and fastened in accordance with Table R602.3(1). Collar ties shall be not less than 1 inch by 4 inches (25 mm by 102 mm) nominal, spaced not more than 4 feet (1219 mm) on center. Ridge straps in accordance with Table R602.3(1) shall be permitted to replace collar ties.

R312.2 Window fall protection. Window fall protection shall be provided in accordance with Sections R312.2.1 and R312.2.2.

R312.2.1 Window sills. In dwelling units, where the top of the sill of an operable window opening is located less than 18 inches (457 mm) above the finished floor and greater than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, the operable window shall comply with one of the following:

1. Operable windows with openings that will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening where the opening is in its largest opened position.
2. Operable windows that are provided with window fall prevention devices that comply with ASTM F2090.
3. Operable windows that are provided with window opening control devices that comply with Section R312.2.2.

GENERAL NOTES

1. ALL EXTERIOR DOORS AND WINDOW UNITS SHALL BE IN ACCORDANCE WITH INTERNATIONAL RESIDENTIAL CODE CONCERNING INGRESS AND EGRESS AND THE CURRENT ENERGY CODE SPECIFICATIONS.
2. ALL ELECTRICAL AND MECHANICAL WORK IS TO BE DONE IN ACCORDANCE WITH THE BUILDING CODES AND SPECIFICATIONS AND SHALL CONFORM TO STANDARD CONSTRUCTION PRACTICES IN THEIR TRADES.
3. MECHANICAL H.V.A.C. PLAN IS NOT INCLUDED IN THIS SET OF PLANS, THE MECHANICAL CONTRACTOR SHALL PROVIDE SUCH PLANS & SPECIFICATIONS AS REQUIRED TO OBTAIN THE REQUIRED PERMITS FOR ALL H.V.A.C. WORK.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THIS PLAN PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE CONSTRUCTION WORK ON THIS PROJECT PRIOR TO ANY CONSTRUCTION WORK BEING DONE. A PERMIT SHALL BE ISSUED BY THE BUILDING INSPECTIONS DEPARTMENT OF THE CITY OR COUNTY OF THE CONSTRUCTION PROJECT.
6. VERIFY ALL MECHANICAL REQUIREMENTS PRIOR TO FRAMING TO AVOID POSSIBLE CONFLICTS WITH FRAMING PLAN.
7. ALL STRUCTURAL STEEL SHALL BE ASTM A-36 AND OF LEAST THE SIZES SHOWN ON THE PLAN.
8. ALL STRUCTURAL WOOD SHALL BEAR THE GRADE MARK OF THE GRADING RULES AGENCY HAVING JURISDICTION (FOLLOW FRAMING LUMBER SPECS. ALL WOOD TRUSSES, IF ANY, SHALL BE CERTIFIED BY THE TRUSS MANUFACTURER TO HAVE THE CAPABILITY TO SUPPORT LIVE AND DEAD LOADS SPECIFIED BY THE APPLICABLE CODES.
9. WEEP HOLES IN BRICK VENEER TO BE SPACED @ 24" O.C.
10. WALL TIES FOR BRICK VENEER TO BE SPACED @ 24" O.C. HORIZONTAL AND VERTICAL.
11. MINIMUM BEARING TO BE 1 1/2" ON WOOD AND 3" ON MASONRY INCLUDING STUD NAILS
12. SILL HEIGHT FOR EGRESS WINDOWS NOT TO EXCEED 44" ABOVE FINISHED FLOOR
13. SMOKE DETECTORS TO BE HARD WIRED AND INTERCONNECTED AND ARC PROTECTED.
14. ROOF VENTILATION TO BE 1 SQ. FT. OF OPEN SPACE TO EVERY 150 SQ. FT. OF ROOF AREA (SEE SECTION R806)
15. WALLS AND FLOOR AT BATHTUBS AND SHOWERS WITH A SHOWER HEAD SHALL HAVE NONABSORBENT SURFACES UP TO 6 FEET IN HEIGHT
16. INTERIOR STAIRS SHALL BE CAPABLE OF ILLUMINATING TREADS AND LANDINGS TO LEVELS NOT LESS THAN 1 FOOT-CANDLES MEASURED AT CENTER OF TREADS AND LANDINGS.
17. DOUBLE FLOOR JOISTS @ ALL PARALLEL WALL PARTITIONS
18. DESIGN PRESSURES:
    WINDOWS, SKYLIGHTS/ AND EXTERIOR DOORS SHALL HAVE A MINIMUM DESIGN PRESSURE RATING OF +/- 25. THIS IS IN ACCORDANCE WITH THE LOADS LISTED IN TABLE R301.2(2) AND (3) FOR THE CITY OF WHICH IS LOCATED IN THE 120 MPH OR LESS-3 SECOND GUST ZONE PER FIGURE 301.2(4).
19. WINDOW FENSTRATION U FACTOR 0.35 MIN.
20. REQUIRED BUILDING THERMAL ENVELOPE MUST BE MAINTAINED INCLUDING ALL WALLS, FLOORS, KNEE WALLS, CEILINGS,ACCESS/HATCHES, PULL DOWN ATTIC STAIRS AND
21. REQUIRED FENESTRATION U-FACTORS. N1102.1 PER N1103.2.2.2, "ALL DUCTS, AIR HANDLES, FILTER BOXES AND BUILDING CAVITIES USED AS DUCTS SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1610.4.1 OF THE INTERNATIONAL RESIDENTIAL CODE. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE IN ACCORDANCE
22. WITH EITHER SECTION N1103.2.2.1 OR SECTION N1103.2.2.2."
23. ROOF TIE DOWN STRAPS MUST BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS TO MAINTAIN A COMPLETE LOAD PATH FROM THE ROOF TO THE FOUNDATION BELOW.
24. ALL SHINGLES USED IN A WIND ZONE OF 120mph OR GREATER ARE REQUIRED TO BE CLASSIFIED USING ASTM D 3161 CLASS F OR ASTM D 7158 CLASS G OR H PER R905.2.4.1 AND METAL ROOFING MUST MEET THE REQUIREMENTS OT TABLE R905.10.3(1).
25. R301.2.1.2 INTERNAL PRESSURE. WINDOWS IN BUILDINGS LOCATED IN WIND BORNE REGIONS SHALL HAVE GLAZED OPENINGS PROTECTED FROM WINDBORNE DEBRIS OR THE BUILDING SHALL BE DESIGNED AS A PARTIALLY ENCLOSED BUILDING IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE. GLAZED OPENING PROTECTION FOR WINDBORNE DEBRIS SHALL MEET THE REQUIREMENTS OF A LARGE MISSILE TEST OF ASTM E 1996 AND OF ASTM E 1886 REFERENCED THEREIN.
26. EXCEPTION: WOOD STRUCTURAL PANELS WITH A MINIMUM THICKNESS OF 7/16" (11.1mm) AND A MAXIMUM SPAN OF 8ft (2438 mm) SHALL BE PERMITTED FOR OPENING PROTECTION IN ONE-AND TWO-STORY BUILDINGS.
27. PANELS SHALL BE PRECUT TO COVER THE GLAZED OPENINGS WITH ATTACHMENT HARDWARE PROVIDED. ATTACHMENTS SHALL BE PROVIDED IN ACCORDANCE WITH TABLE R301.2.1.2 OR SHALL BE DESIGNED TO RESIST THE COMPONENTS AND CLADDING LOADS DETERMINED IN ACCORDANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE.
28. ALL ATTIC ACCESSES MUST BE INSULATED WITH AN R VALUE EQUAL TO THE DIAPHRAGM THAT THEY PENETRATE. ALL ACCESSES MUST BE GASKETED AND CONSTRUCTED TO CONTAIN SPILL OVER. THIS INCLUDES ATTIC PULL DOWN LADDERS MAY REQUIRE AN INSULATED HATC AND GASKET

GENERAL FRAMING

1. FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH AND SHALL BE INSTALLED TO PREVENT WATER FROM RE-ENTERING THE EXTERIOR WALL ENVELOPE. LOCATIONS:
2. AT THE TOP OF ALL EXTERIOR WINDOW AND DOOR OPENINGS.
3. AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
4. UNDER AND ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS.
5. CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.
6. WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OR WOOD FRAME CONSTRUCTION.
7. AT WALL AND ROOF INTERSECTIONS. AT BUILT-IN GUTTERS.

FIREBLOCKING

1. FIREBLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENIINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAME CONSTRUCTION IN THE FOLLOWING LOCATIONS. IN ALL CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARRALLEL ROWS OF STUDS OR STAGGERED STUDS; AS FOLLOWS:
   1.1. VERTICALLY AT THE CEILING AND FLOOR LEVELS.
   1.2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
2. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE
3. TOP AND BOTTOM OF RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R311.2.2.
4. AT OPENINGS AROUND VENTS, PIPES, AND DUCTS AT CEILING AND FLOOR LEVEL, WITH APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUSCTS OF COMBUSTION.
5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1001.16.
6. FIREBLOCKING OF CORNICES OF A TWO-FAMILY DWELLINGIS REQUIRED AT THE LINE OF THE DWELLING UNIT SEPERATION.

ROOF CONSTRUCTION

1. ALL LUMBER TO BE SOUTHERN YELLOW PINE #2, SPRUCE-PINE-FIR #2 OR BETTER FRAMING UNLESS OTHERWISE NOTED. UTILITY GRADE LUMBER NOT ACCEPTABLE.
2. COLLAR TIES TO BE 2X4 @ 32" O.C. AT ALL RIDGES & AS REQUIRED BY TABLE R602.3(1), R802.3.1 & TABLE R606.2.3(1)
3. (3) COLLAR TIES MINIMUM @ ALL RIDGES. 2 TIES MAY BE PUT ON ONE RAFTER
4. BRACES TO BE (2) 2X4 NAILED W/ 16d NAILS @ 9" O.C. VERTICALLY FROM TOP TO BOTTOM.
5. BRACES 8'-0" OR LONGER MUST BE BRACED HORIZONTALLT @ 4'-0" O.C.
6. ALL HIPS, VALLEYS AND RIDGES TO BE SIZED SO ALL RAFTERS BEAR FULLY ON RIDGE BOARD
7. RAFTER BRACES TO BE SPACED MAXIMUN 4'-0" O.C.
8. ROOF TRUSSES MUST BE BUILT & INSTALLED TO MANUFACTURERS SPECIFICATIONS
9. HURRICANE STRAPS AT ALL RAFTERS AS REQUIRED BY CODES
10. ROOF SHEATHING TO BE 1/2" O.S.B. & SHALL CONFORM TO SECTION R803
11. RAFTER SIZE PER SECTION R802.4 SHALL BE IN ACCORDANCE W/ TABLES R802.4(1) & R802.4(2)
12. CLG. JSTS. SIZE PER SECTION R802.5 SHALL BE IN ACCORDANCE W/ TABLES R802.5.1(1) TRHU R802.5.1(9)
13. RAFTER AND CEILING JOIST ENDS MUST BEAR ON MIN. 1 1/2" WOOD OR METAL & MIN. 3" ON MASONRY OR CONCRETE

TABLE R602.7(2)
GIRDER SPANS[a] AND HEADER SPANS[a] FOR INTERIOR BEARING WALLS
(Maximum spans for Douglas Fir-larch, Hem-fir, Southern Pine and Spruce-pine-fir[b] and required number of jack studs)

HEADERS AND GIRDERS SUPPORTING	SIZE	BUILDING WIDTH[c] (feet) 12		24		36	
		Span[e]	NJ[d]	Span[e]	NJ[d]	Span[e]	NJ[d]
One floor only	2-2 × 4	4-1	1	2-10	1	2-4	1
	2-2 × 6	6-1	1	4-4	1	3-6	1
	2-2 × 8	7-9	1	5-5	1	4-5	2
	2-2 × 10	9-2	1	6-6	2	5-3	2
	2-2 × 12	10-9	1	7-7	2	6-3	2
	3-2 × 8	9-8	1	6-10	1	5-7	1
	3-2 × 10	11-5	1	8-1	1	6-7	2
	3-2 × 12	13-6	1	9-6	2	7-9	2
	4-2 × 8	11-2	1	7-11	1	6-5	1
	4-2 × 10	13-3	1	9-4	1	7-8	1
	4-2 × 12	15-7	1	11-0	1	9-0	2
Two floors	2-2 × 4	2-7	1	1-11	1	1-7	1
	2-2 × 6	3-11	1	2-11	2	2-5	2
	2-2 × 8	5-0	1	3-8	2	3-1	2
	2-2 × 10	5-11	2	4-4	2	3-7	2
	2-2 × 12	6-11	2	5-2	2	4-3	3
	3-2 × 8	6-3	1	4-7	2	3-10	2
	3-2 × 10	7-5	1	5-6	2	4-6	2
	3-2 × 12	8-8	2	6-5	2	5-4	2
	4-2 × 8	7-2	1	5-4	1	4-5	2
	4-2 × 10	8-6	1	6-4	2	5-3	2
	4-2 × 12	10-1	1	7-5	2	6-2	2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. Spans are given in feet and inches.
b. Spans are based on the minimum design properties for No. 2 grade lumber of Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine Fir.
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.
e. Spans are calculated assuming the top of the header or girder is laterally braced by perpendicular framing. Where the top of the header or girder is not laterally braced (e.g., cripple studs bearing on the header), tabulated spans for headers consisting of 2 × 8, 2 × 10, or 2 × 12 sizes shall be multiplied by 0.70 or the header shall be designed.

TABLE R602.7(3)
GIRDER AND HEADER SPANS[a] FOR OPEN PORCHES
(Maximum span for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir[b])

SIZE	SUPPORTING ROOF — GROUND SNOW LOAD (psf) 30		50		70		SUPPORTING FLOOR	
	DEPTH OF PORCH[c] (feet) 8	14	8	14	8	14	8	14
2-2 × 6	7-6	5-8	6-2	4-8	5-4	4-0	6-4	4-9
2-2 × 8	10-1	7-7	8-3	6-2	7-1	5-4	8-5	6-4
2-2 × 10	12-4	9-4	10-1	7-7	8-9	6-7	10-4	7-9
2-2 × 12	14-4	10-10	11-8	8-10	10-1	7-8	11-11	9-0

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.
a. Spans are given in feet and inches.
b. Tabulated values assume #2 grade lumber, wet service and incising for refractory species. 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.
c. Porch depth is measured horizontally from building face to centerline of the header. For depths between those shown, spans are permitted to be interpolated.

TABLE R602.7(1)
GIRDER SPANS[a] AND HEADER SPANS[a] FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas Fir-larch, Hem-fir, Southern Pine and Spruce-pine-fir[b] and required number of jack studs)

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf)[e] 30 — Building width[c] (feet) 12		24		36		50 — 12		24		36		70 — 12		24		36	
		Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]
Roof and ceiling	1-2 × 6	4-0	1	3-1	2	2-7	2	3-5	1	2-8	2	2-3	2	3-0	2	2-4	2	2-0	2
	1-2 × 8	5-1	2	3-11	2	3-3	2	4-4	2	3-4	2	2-10	2	3-10	2	3-0	2	2-6	3
	1-2 × 10	6-0	2	4-8	2	3-11	2	5-2	2	4-0	2	3-4	2	4-7	2	3-6	3	3-0	3
	1-2 × 12	7-1	2	5-5	2	4-7	3	6-1	2	4-8	3	3-11	3	5-5	2	4-2	3	3-6	3
	2-2 × 4	4-0	1	3-1	1	2-7	1	3-5	1	2-7	1	2-2	1	3-0	1	2-4	1	2-0	1
	2-2 × 6	6-0	1	4-7	1	3-10	1	5-1	1	3-11	1	3-3	2	4-6	1	3-6	2	2-11	2
	2-2 × 8	7-7	1	5-9	1	4-10	2	6-5	1	5-0	2	4-2	2	5-9	1	4-5	2	3-9	2
	2-2 × 10	9-0	1	6-10	2	5-9	2	7-8	2	5-11	2	4-11	2	6-9	2	5-3	2	4-5	2
	2-2 × 12	10-7	2	8-1	2	6-10	2	9-0	2	6-11	2	5-10	2	8-0	2	6-2	2	5-2	3
	3-2 × 8	9-5	1	7-3	1	6-1	1	8-1	1	6-3	1	5-3	2	7-2	1	5-6	2	4-8	2
	3-2 × 10	11-3	1	8-7	1	7-3	2	9-7	1	7-4	2	6-2	2	8-6	1	6-7	2	5-6	2
	3-2 × 12	13-2	1	10-1	2	8-6	2	11-3	2	8-8	2	7-4	2	10-0	2	7-9	2	6-6	2
	4-2 × 8	10-11	1	8-4	1	7-0	1	9-4	1	7-2	1	6-0	1	8-3	1	6-4	1	5-4	2
	4-2 × 10	12-11	1	9-11	1	8-4	1	11-1	1	8-6	1	7-2	2	9-10	1	7-7	2	6-4	2
	4-2 × 12	15-3	1	11-8	1	9-10	2	13-0	1	10-0	2	8-5	2	11-7	1	8-11	2	7-6	2
Roof, ceiling and one center-bearing floor	1-2 × 6	3-3	1	2-7	2	2-2	2	3-0	2	2-4	2	2-0	2	2-9	2	2-2	2	1-10	2
	1-2 × 8	4-1	2	3-3	2	2-9	2	3-9	2	3-0	2	2-6	3	3-6	2	2-9	2	2-4	3
	1-2 × 10	4-11	2	3-10	2	3-3	3	4-6	2	3-6	3	3-0	3	4-1	2	3-3	3	2-9	3
	1-2 × 12	5-9	2	4-6	3	3-10	3	5-3	2	4-2	3	3-6	3	4-10	3	3-10	3	3-3	4
	2-2 × 4	3-3	1	2-6	1	2-2	1	3-0	1	2-4	1	2-0	1	2-8	1	2-2	1	1-10	1
	2-2 × 6	4-10	1	3-9	1	3-3	2	4-5	1	3-6	2	3-0	2	4-1	1	3-3	2	2-9	2
	2-2 × 8	6-1	1	4-10	2	4-1	2	5-7	2	4-5	2	3-9	2	5-2	2	4-1	2	3-6	2
	2-2 × 10	7-3	2	5-8	2	4-10	2	6-8	2	5-3	2	4-5	2	6-1	2	4-10	2	4-1	2
	2-2 × 12	8-6	2	6-8	2	5-8	2	7-10	2	6-2	2	5-3	3	7-2	2	5-8	2	4-10	3
	3-2 × 8	7-8	1	6-0	1	5-1	2	7-0	1	5-6	2	4-8	2	6-5	1	5-1	2	4-4	2
	3-2 × 10	9-1	1	7-2	2	6-1	2	8-4	1	6-7	2	5-7	2	7-8	2	6-1	2	5-2	2
	3-2 × 12	10-8	2	8-5	2	7-2	2	9-10	2	7-8	2	6-7	2	9-0	2	7-1	2	6-1	2
	4-2 × 8	8-10	1	6-11	1	5-11	1	8-1	1	6-4	1	5-5	2	7-5	1	5-11	1	5-0	2
	4-2 × 10	10-6	1	8-3	2	7-0	2	9-8	1	7-7	2	6-5	2	8-10	1	7-0	2	6-0	2
	4-2 × 12	12-4	1	9-8	2	8-3	2	11-4	2	8-11	2	7-7	2	10-4	2	8-3	2	7-0	2
Roof, ceiling and one clear span floor	1-2 × 6	2-11	2	2-3	2	1-11	2	2-9	2	2-1	2	1-9	2	2-7	2	2-0	2	1-8	2
	1-2 × 8	3-9	2	2-10	2	2-5	3	3-6	2	2-8	2	2-3	3	3-3	2	2-6	3	2-2	3
	1-2 × 10	4-5	2	3-5	3	2-10	3	4-2	2	3-2	3	2-8	3	3-11	2	3-0	3	2-6	3
	1-2 × 12	5-2	2	4-0	3	3-4	3	4-10	3	3-9	3	3-2	4	4-7	3	3-6	3	3-0	4
	2-2 × 4	2-11	1	2-3	1	1-10	1	2-9	1	2-1	1	1-9	1	2-7	1	2-0	1	1-8	1
	2-2 × 6	4-4	1	3-4	2	2-10	2	4-1	1	3-2	2	2-8	2	3-10	1	3-0	2	2-6	2
	2-2 × 8	5-6	2	4-3	2	3-7	2	5-2	2	4-0	2	3-4	2	4-10	2	3-9	2	3-2	2
	2-2 × 10	6-7	2	5-0	2	4-2	2	6-1	2	4-9	2	4-0	2	5-9	2	4-5	2	3-9	3
	2-2 × 12	7-9	2	5-11	2	4-11	3	7-2	2	5-7	2	4-8	3	6-9	2	5-3	3	4-5	3
	3-2 × 8	6-11	1	5-3	2	4-5	2	6-5	1	5-0	2	4-2	2	6-1	1	4-8	2	4-0	2
	3-2 × 10	8-3	2	6-3	2	5-3	2	7-8	2	5-11	2	5-0	2	7-3	2	5-7	2	4-8	2
	3-2 × 12	9-8	2	7-5	2	6-2	2	9-0	2	7-0	2	5-10	2	8-6	2	6-7	2	5-6	3
	4-2 × 8	8-0	1	6-1	1	5-1	2	7-5	1	5-9	2	4-10	2	7-0	1	5-5	2	4-7	2
	4-2 × 10	9-6	1	7-3	2	6-1	2	8-10	1	6-10	2	5-9	2	8-4	1	6-5	2	5-5	2
	4-2 × 12	11-2	2	8-6	2	7-2	2	10-5	2	8-0	2	6-9	2	9-10	2	7-7	2	6-5	2

TABLE R602.7(1)—continued
GIRDER SPANS[a] AND HEADER SPANS[a] FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas Fir-larch, Hem-fir, Southern Pine and Spruce-pine-fir[b] and required number of jack studs)

GIRDERS AND HEADERS SUPPORTING	SIZE	GROUND SNOW LOAD (psf)[e] 30 — Building width[c] (feet) 12		24		36		50 — 12		24		36		70 — 12		24		36	
		Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]	Span[f]	NJ[d]
Roof, ceiling and two center-bearing floors	1-2 × 6	2-8	2	2-1	2	1-10	2	2-7	2	2-0	2	1-9	2	2-5	2	1-11	2	1-8	2
	1-2 × 8	3-5	2	2-8	2	2-4	3	3-3	2	2-7	2	2-2	3	3-1	2	2-5	3	2-1	3
	1-2 × 10	4-0	2	3-2	3	2-9	3	3-10	2	3-1	3	2-7	3	3-8	2	2-11	3	2-5	3
	1-2 × 12	4-9	3	3-9	3	3-2	4	4-6	3	3-7	3	3-1	4	4-3	3	3-5	3	2-11	4
	2-2 × 4	2-8	1	2-1	1	1-9	1	2-6	1	2-0	1	1-8	1	2-5	1	1-11	1	1-7	1
	2-2 × 6	4-0	1	3-2	2	2-8	2	3-9	1	3-0	2	2-7	2	3-7	1	2-10	2	2-5	2
	2-2 × 8	5-0	2	4-0	2	3-5	2	4-10	2	3-10	2	3-3	2	4-7	2	3-7	2	3-1	2
	2-2 × 10	6-0	2	4-9	2	4-0	2	5-8	2	4-6	2	3-10	3	5-5	2	4-3	2	3-8	3
	2-2 × 12	7-0	2	5-7	2	4-9	3	6-8	2	5-4	3	4-6	3	6-4	2	5-0	3	4-3	3
	3-2 × 8	6-4	1	5-0	2	4-3	2	6-0	1	4-9	2	4-1	2	5-8	2	4-6	2	3-10	2
	3-2 × 10	7-6	2	5-11	2	5-1	2	7-1	2	5-8	2	4-10	2	6-9	2	5-4	2	4-7	2
	3-2 × 12	8-10	2	7-0	2	5-11	2	8-5	2	6-8	2	5-8	3	8-0	2	6-4	2	5-4	3
	4-2 × 8	7-3	1	5-9	1	4-11	2	5-11	1	5-6	2	4-8	2	6-7	1	5-2	2	4-5	2
	4-2 × 10	8-8	1	6-10	2	5-10	2	8-3	2	6-6	2	5-7	2	7-10	2	6-2	2	5-3	2
	4-2 × 12	10-2	2	8-1	2	6-10	2	9-8	2	7-8	2	6-7	2	9-2	2	7-3	2	6-2	2
Roof, ceiling, and two clear-span floors	1-2 × 6	2-3	2	1-9	2	1-5	2	2-3	2	1-9	2	1-5	3	2-2	2	1-8	2	1-5	3
	1-2 × 8	2-10	2	2-2	3	1-10	3	2-10	2	2-2	3	1-10	3	2-9	2	2-1	3	1-10	3
	1-2 × 10	3-4	2	2-7	3	2-2	3	3-4	3	2-7	3	2-2	4	3-3	3	2-6	3	2-2	4
	1-2 × 12	4-0	3	3-0	3	2-7	4	4-0	3	3-0	4	2-7	4	3-10	3	3-0	4	2-6	4
	2-2 × 4	2-3	1	1-8	1	1-4	1	2-3	1	1-8	1	1-4	1	2-2	1	1-8	1	1-4	2
	2-2 × 6	3-4	1	2-6	2	2-2	2	3-4	2	2-6	2	2-2	2	3-3	2	2-6	2	2-1	2
	2-2 × 8	4-3	2	3-3	2	2-8	2	4-3	2	3-3	2	2-8	2	4-1	2	3-2	2	2-8	3
	2-2 × 10	5-0	2	3-10	2	3-2	3	5-0	2	3-10	2	3-2	2	4-10	2	3-9	3	3-2	3
	2-2 × 12	5-11	2	4-6	3	3-9	3	5-11	2	4-6	3	3-9	3	5-8	2	4-5	3	3-9	3
	3-2 × 8	5-3	1	4-0	2	3-5	2	5-3	2	4-0	2	3-5	2	5-1	2	3-11	2	3-4	2
	3-2 × 10	6-3	2	4-9	2	4-0	2	6-3	2	4-9	2	4-0	2	6-1	2	4-8	2	4-0	3
	3-2 × 12	7-5	2	5-8	2	4-9	3	7-5	2	5-8	2	4-9	3	7-2	2	5-6	3	4-8	3
	4-2 × 8	6-1	1	4-8	2	3-11	2	6-1	1	4-8	2	3-11	2	5-11	1	4-7	2	3-11	2
	4-2 × 10	7-3	2	5-6	2	4-8	2	7-3	2	5-6	2	4-8	2	7-0	2	5-5	2	4-7	2
	4-2 × 12	8-6	2	6-6	2	5-6	2	8-6	2	6-6	2	5-6	2	8-3	2	6-4	2	5-4	3

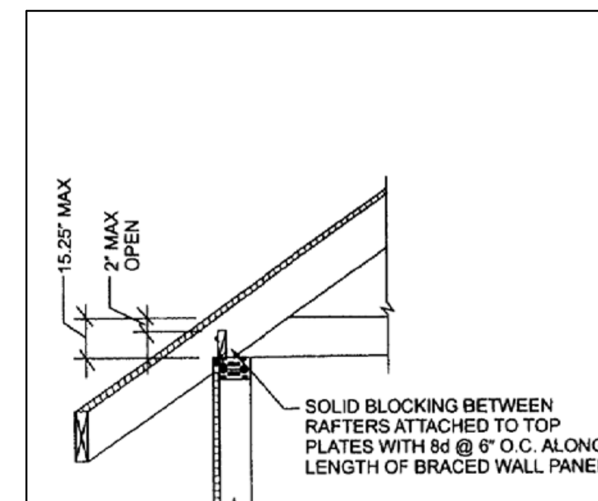
For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.
a. Spans are given in feet and inches.
b. Spans are based on the minimum design properties for No. 2 grade lumber of Douglas Fir-Larch, Hem-Fir, Southern Pine, and Spruce-Pine Fir.
c. Building width is measured perpendicular to the ridge. 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.
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.
f. Spans are calculated assuming the top of the header or girder is not laterally braced by perpendicular framing. Where the top of the header or girder is not laterally braced (e.g. cripple studs bearing on the header), tabulated spans for headers consisting of 2×8, 2×10, or 2×12 sizes shall be multiplied by 0.70 or the header shall be designed.

GANG STUD COLUMN SCHEDULE

MAXIMUM ALLOWABLE TOTAL LOAD	8'-0" TALL WALL 2X4 STUD WALL	8'-0" TALL WALL 2X6 STUD WALL	9'-0" TALL WALL 2X4 STUD WALL	9'-0" TALL WALL 2X6 STUD WALL	10'-0" TALL WALL 2X4 STUD WALL	10'-0" TALL WALL 2X6 STUD WALL
UP TO 2500 lbs	(2)-2X4	(2)-2X6	(3)-2X4	(2)-2X6	(3)-2X4	(2)-2X6
2501 lbs TO 4000 lbs	(3)-2X4	(2)-2X6	(3)-2X4	(3)-2X6	(3)-2X4	(3)-2X6
4001 lbs TO 5000 lbs	(3)-2X4	(3)-2X6	(3)-2X4	(3)-2X6	(3)-2X4	(3)-2X6
5001 lbs TO 6000 lbs	(3)-2X4	(3)-2X6	(3)-2X4	(3)-2X6	(4)-2X4	(3)-2X6
6001 lbs TO 7000 lbs	(3)-2X4	(3)-2X6	(4)-2X4	(3)-2X6	(4)-2X4	(3)-2X6
7001 lbs TO 8000 lbs	(4)-2X4	(3)-2X6	(4)-2X4	(3)-2X6	(5)-2X4	(4)-2X6
8001 lbs TO 9000 lbs	(4)-2X4	(3)-2X6	(5)-2X4	(3)-2X6	(5)-2X4	(4)-2X6
9001 lbs TO 10,000 lbs	(4)-2X4	(3)-2X6	(5)-2X4	(4)-2X6	3.5"X5.25" PSL	(4)-2X6
GREATER THAN 10,000 lbs	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN	SEE PLAN

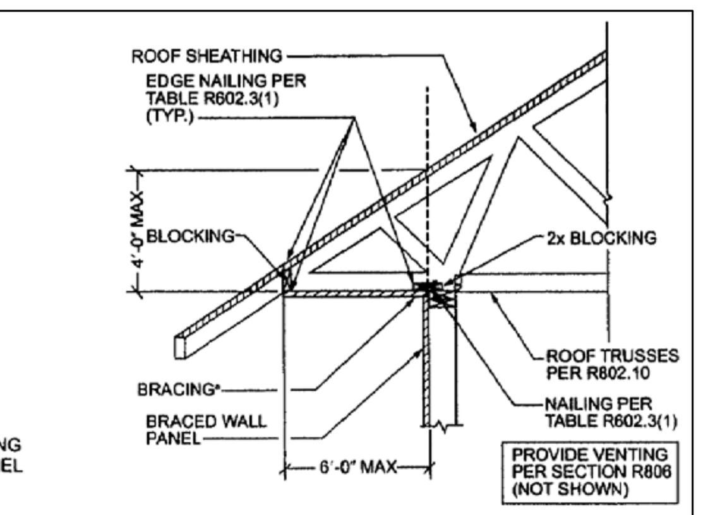
SIMPSON SHEAR BRACE NOTE: ESR-2652

4.1.3 Braced Wall Panels: Each 12-inch-wide Strong-Wall panel, 9 feet (2740 mm) or less in height, and each 18- or 24-inch-wide Strong-Wall panel, 12 feet (3660 mm) or less in height, may replace each alternate braced wall panel or each 4 feet (1219 mm) of braced wall panel length specified in Section 2308.6 of the 2018 and 2015 IBC (Section 2308.9.3 of the 2012, 2009 and 2006 IBC, as applicable) and Section R602.10 of the IRC. The required length of bracing shall be based on wood structural panel sheathing (Method WSP in IBC and IRC).



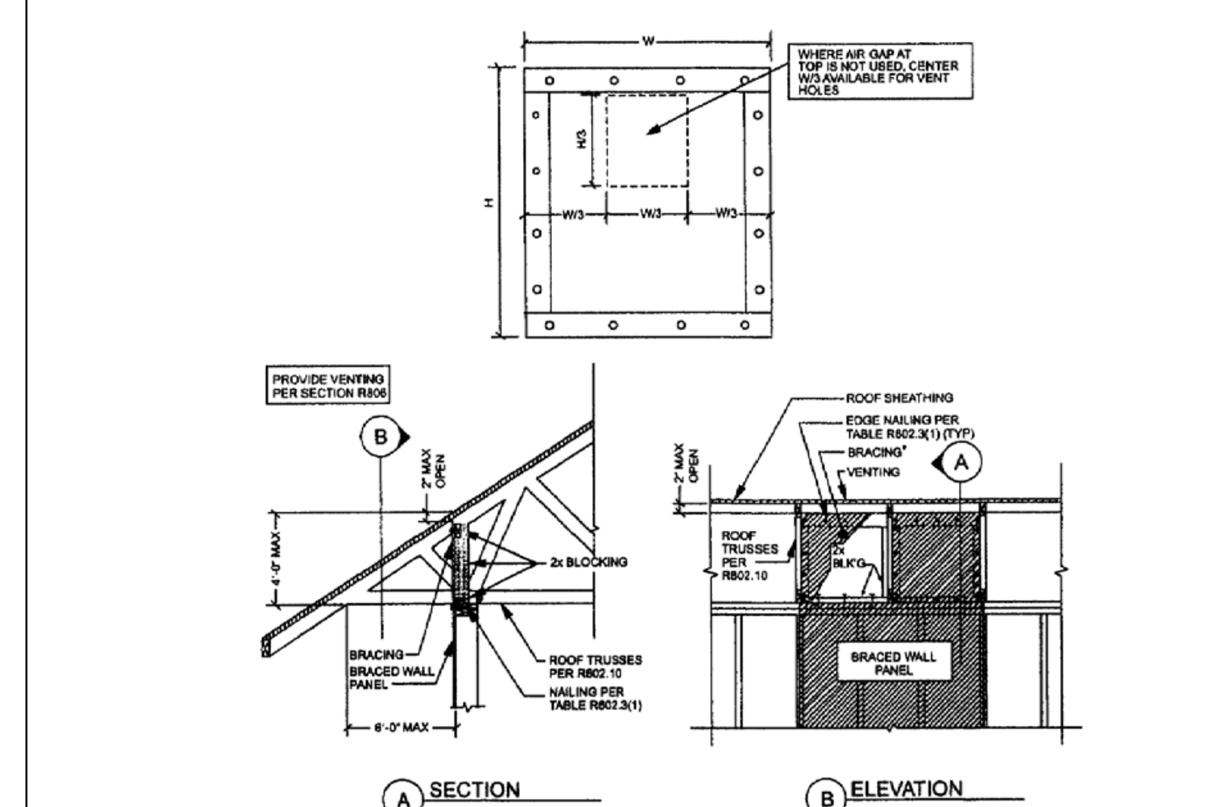
For SI: 1 inch = 25.4 mm.

FIGURE R602.10.8.2(1)
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS



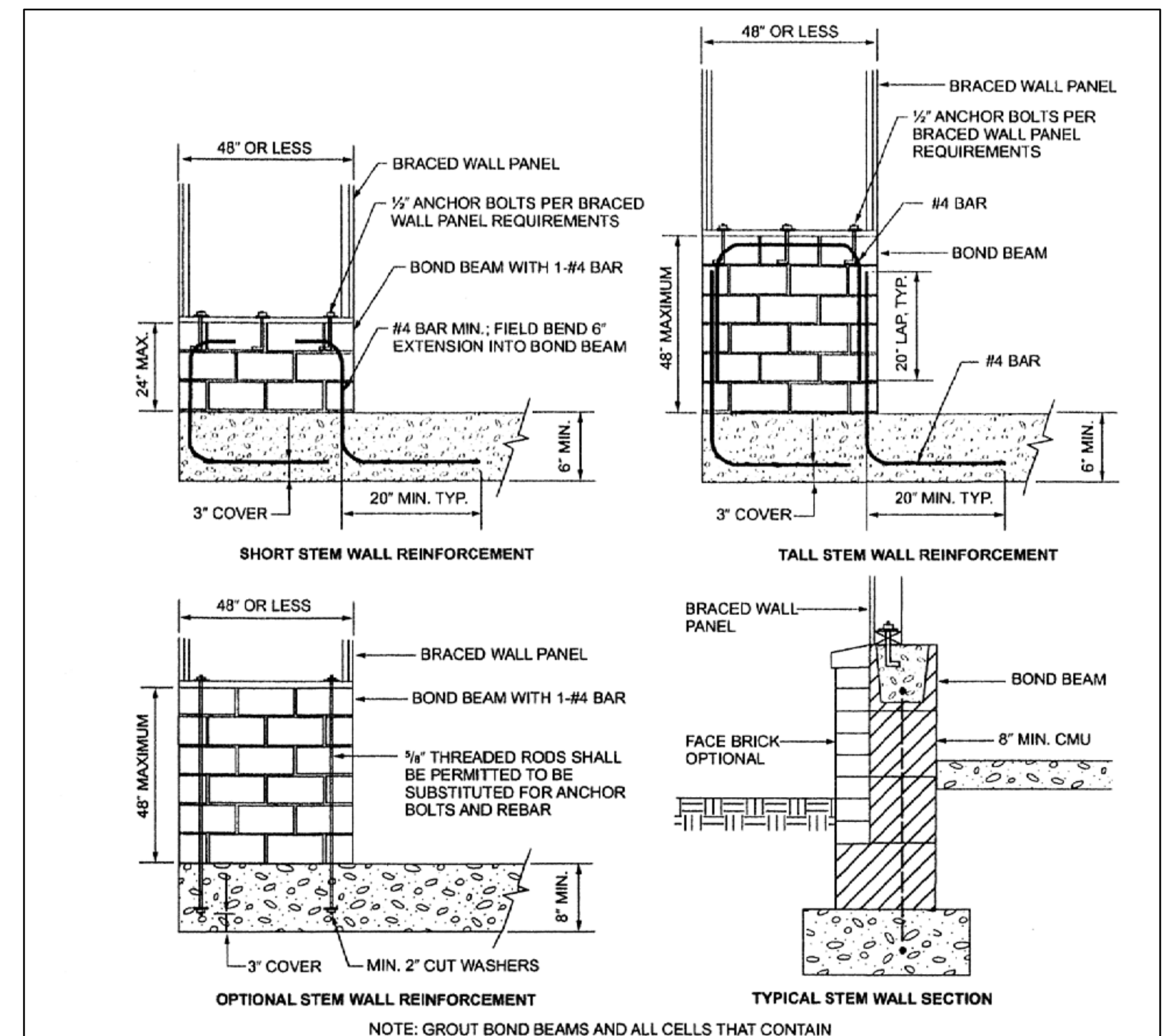
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. Methods of bracing shall be as described in Section R602.10.4.

FIGURE R602.10.8.2(2)
BRACED WALL PANEL CONNECTION OPTION TO PERPENDICULAR RAFTERS OR ROOF TRUSSES



For SI: 1 inch = 25.4 mm, 1 foot =304.8 mm
a. Methods of bracing shall be as described in Section R602.10.4.

FIGURE R602.10.8.2(3)
BRACED WALL PANEL CONNECTION OPTION TO PERPENDICULAR RAFTERS OR ROOF TRUSSES



For SI: 1 inch = 25.4 mm.

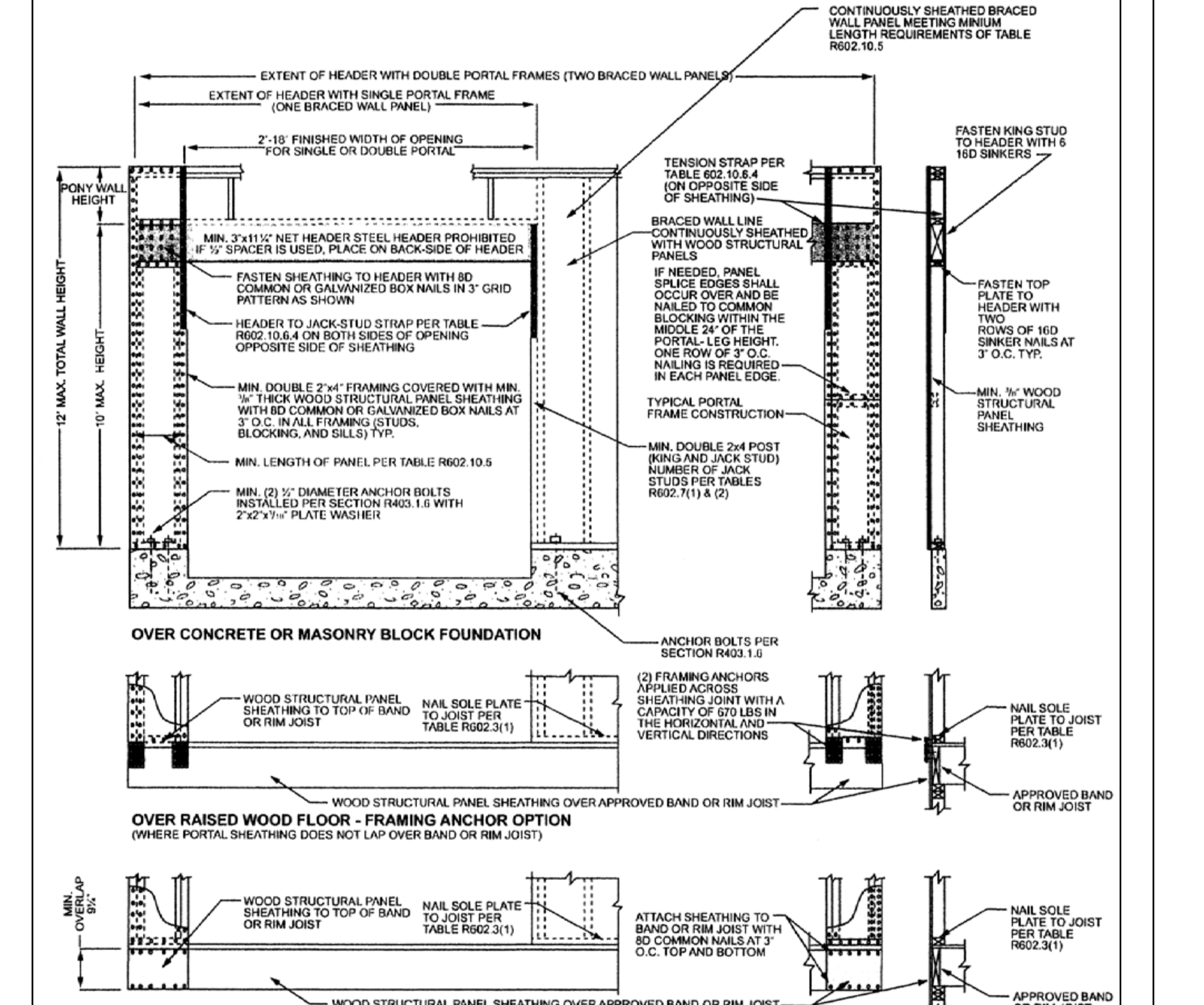
FIGURE R602.10.9
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS

TABLE R602.7.5

MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS		
HEADER SPAN (feet)	MAXIMUM STUD SPACING (inches) (per Table 602.3.5) 16	24
≤ 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

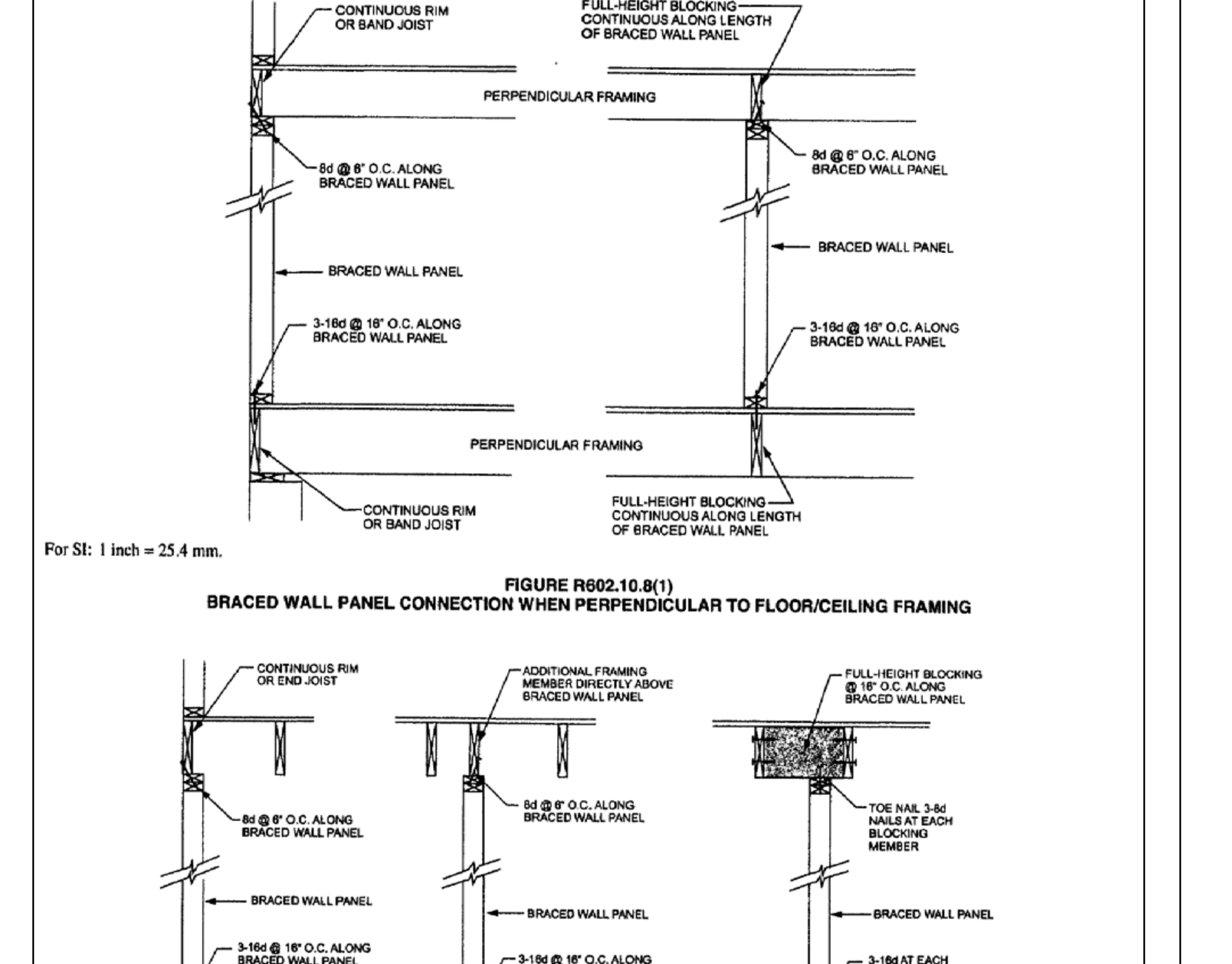
VRC Table R602.7.5- SUPPORTS FOR HEADERS, KING STUDS; Headers must be supported by one or more king studs (in addition to the jack studs) as per Table R602.7.5. The king studs must be attached to the adjacent jack stud and attached to the header with four 12 D nails.

VRC R302.5.1, - OPENINGS FROM ATTACHED GARAGE INTO HOUSE: Openings between a garage and residence must be provided with solid wood doors not less than 1-3/8 inches in thickness, solid or honeycomb steel doors not less than 1-3/8" thick, or 20-minute fire rated doors. Openings from the private garage directly into a room used for sleeping purposes are prohibited.



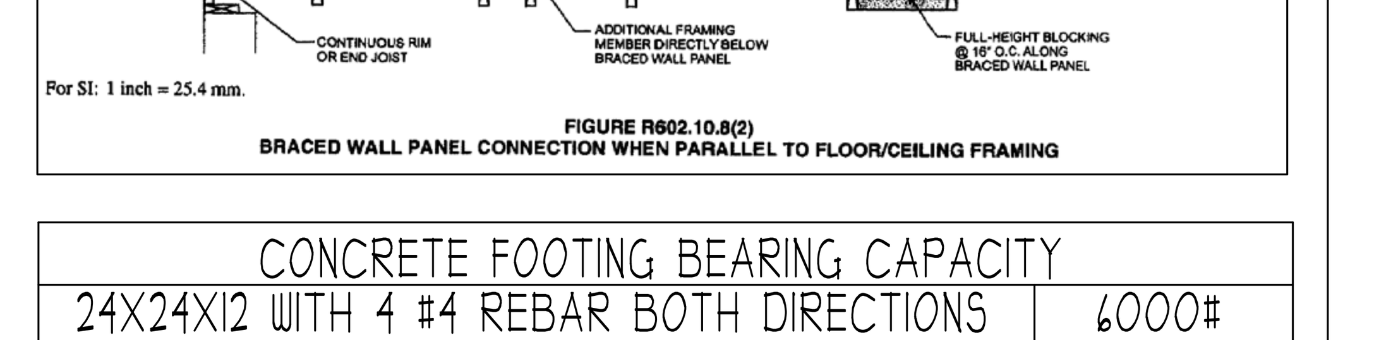
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

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



For SI: 1 inch = 25.4 mm.

FIGURE R602.10.8(1)
BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING



For SI: 1 inch = 25.4 mm.

FIGURE R602.10.8(2)
BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING

CONCRETE FOOTING BEARING CAPACITY	
24X24X12 WITH 4 #4 REBAR BOTH DIRECTIONS	6000#
25X25X12 WITH 4 #4 REBAR BOTH DIRECTIONS	6510#
26X26X12 WITH 4 #4 REBAR BOTH DIRECTIONS	7041#
27X27X12 WITH 4 #4 REBAR BOTH DIRECTIONS	7593#
28X28X12 WITH 4 #4 REBAR BOTH DIRECTIONS	8166#
29X29X12 WITH 4 #4 REBAR BOTH DIRECTIONS	8760#
30X30X12 WITH 4 #4 REBAR BOTH DIRECTIONS	9375#
31X31X12 WITH 4 #4 REBAR BOTH DIRECTIONS	10100#
32X32X12 WITH 4 #4 REBAR BOTH DIRECTIONS	10666#
33X33X12 WITH 4 #4 REBAR BOTH DIRECTIONS	11343#
34X34X12 WITH 4 #4 REBAR BOTH DIRECTIONS	12041#
35X35X12 WITH 4 #4 REBAR BOTH DIRECTIONS	12760#
36X36X16 WITH 4 #4 REBAR BOTH DIRECTIONS	13500#
38X38X16 WITH 4 #4 REBAR BOTH DIRECTIONS	14978#
42X42X16 WITH 4 #4 REBAR BOTH DIRECTIONS	18375#
44X44X18 WITH 4 #4 REBAR BOTH DIRECTIONS	20166#

FENTRESS HOME DESIGN
RESIDENTIAL PLANS / ADDITIONS
virginia beach, virginia
OFFICE
(757) 438-5053

drawn by: BCF

date: 4/21/21

scale: NOTED

PROPOSED TWO STORY BRICK & FRAME SINGLE FAMILY DWELLING
prepared for:
HOST RESIDENCE

Host Residence

file no. 21-42121