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Plan 2  
50' SERIES  
Hartwell LH

PLAN 2 SQUARE FOOTAGES	
AREA	ELEV 'C'
1st FLOOR	1872 SF
2nd FLOOR	1240 SF
TOTAL LIVING	3112 SF
GARAGE	454 SF
PORCH	182 SF
COVERED PATIO	96 SF
OPT. BASEMENT	
UNFINISHED SPACE	1789 SF
**BASEMENT AREA IS TAKEN TO INSIDE OF CONCRETE WALL**	

Eagle Creek  
Lot 112  
Fuquay Varina, NC 27526



NO.	DATE:	REVISION:
△	08.15.24	

PROFESSIONAL SEAL:

PROJECT TITLE:

50' Series  
Hartwell LH

PROJECT NO: GMD-GA22008.01

SHEET TITLE:  
TITLE SHEET / COVER SHEET

PRINT DATE:

May 13, 2022

SHEET NO:

0

ABBREVIATIONS

ABV ABOVE	L LENGTH
A/C AIR CONDITIONING	LA LAUNDRY
A.D. AREA DRAIN	LAV LAVATORY
ADJ. ADJUSTABLE	LVR LOWER
ALT. ALTERNATE	MAX MAXIMUM
ALUM ALUMINUM	MCH MECHANICAL
ARCH. ARCHITECTURAL	MFR. MANUFACTURER
BA BATHROOM	MIN MINIMUM
BD BOARD	MISC MISCELLANEOUS
BF BI-FOLD (DOOR)	N NORTH
BLDG BUILDING	N.T.S. NOT TO SCALE
BLK BLOCK (CMU)	O.S.D. OVERHEAD GARAGE DOOR
BLM BELOW	OH OVERHEAD
BM BEAM	OPT OPTIONAL
BP BI-PASS (DOOR)	PAR PARALLEL
BOT BOTTOM	P.B. PUSH BUTTON
BTWN BETWEEN	PDR POWDER
CAB CABINET	FED FEDESTAL
CER CERAMIC	PL PLATE
C.J. CONTROL JOINT OR CONSTRUCTION JOINT	FR PAIR
CL CLOSET OR CENTER LINE	P.T. PRESSURE TREATED WOOD
CLG CEILING	PVC POLYVINYL CHLORIDE PIPE
CLR CLEAR	PMT PAVEMENT
CMU CONCRETE MASONRY UNIT	PJA PRE-JIRE
COL COLUMN	PVD PLTWOOD
CONC CONCRETE	R RISER
C CARPET	RAG RETURN AIR GRILL
CR CORROSION RESISTANT	REF REFERENCE
CMT CASEMENT	REFR REFRIGERATOR
C.T. CERAMIC TILE	REQ REQUIRED
D DRYER	S SOUTH
DBL DOUBLE	SD SMOKE DETECTOR
DH DOUBLE HUNG	S.F. SQUARE FEET
DIM DIMENSION	S.G.D. SLIDING GLASS DOOR
DISP DISPOSAL	SH SINGLE HUNG OR SHELF
DN DOWN	SH SIMILAR
DR DOOR	SL SLOPE / SLIDING
DS DOWNSPOUT	SAT SATURATED
DN DISH WASHER	SPEC SPECIFICATIONS
DWG DRAWING	STD STANDARD
E EAST	STR STRUCTURAL
EA EACH	SQ SQUARE
ELEV ELEVATION	SYM SYMBOL
ELEC ELECTRICAL	S4S SMOOTH FOUR SIDES
EG EQUAL	T TREAD (AT STAIRS) OR TILE
EXT EXTERIOR	T.B. TONEL BAR
FAU FORCED AIR UNIT	TEMP. TEMPERED (GLASS)
F.G. FLOOR CHANGE	T4G TONGUE & GROOVE
F.D. FLOOR DRAIN	T.O.G. TOP OF CURB
FFL FINISH FLOOR LINE	TV TELEVISION
F.G. FINISHED GRADE	TYP TYPICAL
FLR FLOORING	U.N.O. UNLESS NOTED OTHERWISE
FL FLOURESCENT (LIGHT)	V.B. VAPOR BARRIER
FND FOUNDATION	VERT VERTICAL
F.O.S. FACE OF STUD	V.T.R. VENT THRU ROOF
FTG FOOTING	W WASHING MACHINE
FX FIXED GLASS	W MOOD
GALV GALVANIZED	WDM WINDOW
GAR GARAGE	WH WATER HEATER
G.B. GYPSUM BOARD	W WROUGHT IRON
GD GRADE OR GRADING	W/C WALK-IN CLOSET
G.D.O. GARAGE DOOR OPENER	W/ W/O WITH OR WITHOUT
GFI GROUND FAULT INTERRUPTER	W/ WATERPROOFING
GL GLASS OR GLAZING	W/M WELDED WIRE MESH
GYP BD GYPSUM BOARD	
HB HOSE BIB	RL PROPERTY LINE
HD HEAD OR HARD	Ø ROUND / DIAMETER
HDR HEADER	4 AND
HOT HEIGHT	CL CENTERLINE
HVAC HEATING/VENTILATING/AIR COND.	# POUND / NUMBER
HWD HARDWOOD	
INT INTERIOR	
JST JOIST	
JT JOINT	
KIT KITCHEN	

BUILDING CODE COMPLIANCE / PROJECT INFORMATION 2018 NCRC

ALL CONSTRUCTION TO COMPLY WITH LOCAL CODES AND ORDINANCES CURRENTLY IN USE WITH THE LOCAL JURISDICTION.

APPLICABLE CODES:  
FOLLOW ALL APPLICABLE STATE AND LOCAL CODES.  
2018 NORTH CAROLINA STATE SUPPLEMENTS AND AMENDMENTS

CONTRACTOR AND BUILDER SHALL REVIEW ENTIRE PLAN TO VERIFY CONFORMANCE WITH ALL CURRENT APPLICABLE CODES IN EFFECT AT TIME OF CONSTRUCTION. BY USING THESE DRAWINGS FOR CONSTRUCTION IT IS UNDERSTOOD THAT CONFORMANCE WITH ALL APPLICABLE CODES IS THE RESPONSIBILITY OF THE BUILDER AND CONTRACTOR.

REFER TO STRUCTURAL PLANS FOR INFO NOT CALLED OUT HERE.

PRODUCT:  
SINGLE FAMILY RESIDENCE / 3 STORY TOWNHOMES

OCCUPANCY CLASSIFICATION  
RESIDENTIAL R-3

CONSTRUCTION TYPE:  
TYPE VB (2 HOUR DWELLING SEPARATION BETWEEN UNITS.)

CONSULTANTS:

LOCAL JURISDICTION:	BUILDER:	DESIGNER:  GMD DESIGN GROUP 1845 SATELLITE BLVD. STE 850 SUNANEE, GA. 30091 PHONE: (770) 375-7351  CONTACT: DONALD J. MCGRATH EMAIL: DONNIE@GMDDESIGNGROUP.COM	STRUCTURAL ENGINEER:
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GENERAL NOTES DESIGNER: NCRC

THESE DOCUMENTS ARE THE PROPERTY OF THE DESIGNER AND SHALL NOT BE COPIED, DUPLICATED, ALTERED, MODIFIED OR REVISED IN ANY WAY WITHOUT THE EXPRESSED WRITTEN APPROVAL OF THE DESIGNER.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE AND ALL INCONSISTENCES SHALL BE BROUGHT TO THE ATTENTION OF THE DEVELOPER AND THE DESIGNER BEFORE PROCEEDING WITH WORK.

ANY ERRORS OR OMISSIONS FOUND IN THESE DRAWINGS SHALL BE BROUGHT TO DEVELOPERS AND DESIGNERS ATTENTION IMMEDIATELY.

DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.

ALL DIMENSIONS ARE TO FACE OF STUD OR TO FACE OF FRAMING UNLESS OTHERWISE NOTED.

ALL TRUSS DRAWINGS TO BE REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO ISSUANCE OF BUILDING PERMIT.

ALL OR EQUAL SUBSTITUTIONS MUST BE SUBMITTED TO AND APPROVED BY CITY BUILDING OFFICIAL PRIOR TO INSTALLATION.

ALL ANGLED PARTITIONS ARE 45 DEGREES UNLESS OTHERWISE NOTED.

PROVIDE FIREBLOCKING. (PER NCRC SECTION R302.11)

ALL ELECTRICAL AND MECHANICAL EQUIPMENT AND METERS ARE SUBJECT TO RELOCATION DUE TO FIELD CONDITIONS, CONTRACTOR TO VERIFY.

PROVIDE BLOCKING AND/OR BACKING AT ALL TONEL BAR, TONEL RING AND/OR TOILET PAPER HOLDER LOCATIONS, AS SHOWN PER PLAN. TYPICAL AT ALL BATHROOMS AND POWDER ROOMS. VERIFY LOCATIONS AT FRAMING WALK.

ELASTOMERIC SHEET WATERPROOFING: FURNISH AND INSTALL ALL WATERPROOFING COMPLETE. A 40 MIL. SELF-ADHERING MEMBRANE OF RUBBERIZED ASPHALT INTEGRALLY BONDED TO POLYETHYLENE SHEETING, OR EQUAL. INSTALL PER MANUFACTURE'S AND TRADE ASSOCIATION'S PRINTED INSTALLATION INSTRUCTIONS. 6" MINIMUM LAP AT ALL ADJACENT WALL SURFACES.

TO THE BEST OF THE DESIGNER'S KNOWLEDGE THESE DOCUMENTS ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE BUILDING AUTHORITIES HAVING JURISDICTION OVER THIS TYPE OF CONSTRUCTION AND OCCUPANCY.

SHOP DRAWING REVIEW AND DISTRIBUTION, ALONG WITH PRODUCT SUBMITTALS, REQUESTED IN THE CONSTRUCTION DOCUMENTS, SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR, UNLESS DIRECTED OTHERWISE UNDER A SEPARATE AGREEMENT.

DEVIATIONS FROM THESE DOCUMENTS IN THE CONSTRUCTION PHASE SHALL BE REVIEWED BY THE DESIGNER AND THE OWNER PRIOR TO THE START OF WORK IN QUESTION. ANY DEVIATIONS FROM THESE DOCUMENTS WITHOUT PRIOR REVIEW, SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK AND MATERIALS REPRESENTED ON THESE DOCUMENTS INCLUDING THE WORK AND MATERIALS FURNISHED BY SUBCONTRACTORS AND VENDORS.

THE BUILDER SHALL FURNISH ANY AND ALL REPORTS RECEIVED FROM THE GEOTECHNICAL ENGINEER (SOILS REPORT), ON THE STUDY OF THE PROPOSED SITE, TO THE DESIGNER, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR. IN THE EVENT THE GEOTECHNICAL REPORTS DO NOT EXIST, THE SOILS CONDITION SHALL BE ASSUMED TO BE A MINIMUM DESIGN SOIL PRESSURE STATED BY THE STRUCTURAL ENGINEER OF RECORD FOR THE PURPOSE OF STRUCTURAL DESIGN. GENERAL CONTRACTOR IS RESPONSIBLE TO BE AWARE OF THESE REQUIREMENTS AND GOVERNING REGULATIONS.

ALL WORK PERFORMED BY THE GENERAL CONTRACTOR SHALL COMPLY AND CONFORM WITH LOCAL AND STATE BUILDING CODES, ORDINANCES AND REGULATIONS, ALONG WITH ALL OTHER AUTHORITIES HAVING JURISDICTION. THE GENERAL CONTRACTOR IS RESPONSIBLE TO BE AWARE OF THESE REQUIREMENTS AND GOVERNING REGULATIONS.

PROVIDE AN APPROVED WASHER DRAIN PAN AT SECOND FLOOR ONLY THAT DRAINS TO EXTERIOR.

WINDOW SUPPLIER TO VERIFY AT LEAST ONE WINDOW IN ALL BEDROOMS TO HAVE A CLEAR EGRESS OPENING OF 5.7 SQ FT WITH MIN. DIMENSION OF 24" IN HEIGHT AND 20" IN WIDTH. SILL HEIGHT NOT GREATER THAN 44" ABOVE FLOOR. (PER LOCAL CODES)

ALL HANDRAIL BALLUSTERS TO BE SPACED SUCH THAT A 4" SPHERE CANNOT PASS BETWEEN BALLUSTERS. (PER LOCAL CODES)

PROVIDE STAIR HANDRAILS AND GUARDRAILS (PER LOCAL CODES)

BUILDER SET:

THE SCOPE OF THIS SET OF PLANS IS TO PROVIDE A "BUILDER'S SET" OF CONSTRUCTION DOCUMENTS AND GENERAL NOTES HEREINAFTER REFERRED TO AS "PLANS". THIS SET OF PLANS IS SUFFICIENT TO OBTAIN A BUILDING PERMIT; HOWEVER, ALL MATERIALS AND METHODS OF CONSTRUCTION NECESSARY TO COMPLETE THE PROJECT ARE NOT NECESSARILY DESCRIBED. THE PLANS DELINEATE AND DESCRIBE ONLY LOCATIONS, DIMENSIONS, TYPES OF MATERIALS, AND GENERAL METHODS OF ASSEMBLING OR FASTENING. THEY ARE NOT INTENDED TO SPECIFY PARTICULAR PRODUCTS OR OTHER METHODS OF ANY SPECIFIC MATERIALS, PRODUCT OR METHOD. THE IMPLEMENTATION OF THE PLANS REQUIRES A CLIENT / CONTRACTOR THOROUGHLY KNOWLEDGEABLE WITH THE APPLICABLE BUILDING CODES AND METHODS OF CONSTRUCTION SPECIFIC TO THIS PRODUCT TYPE AND TYPE OF CONSTRUCTION.

CONSTRUCTION REQUIREMENTS AND QUALITY: PROVIDE WORK OF THE SPECIFIC QUALITY; WHERE QUALITY LEVEL IS NOT INDICATED, PROVIDE WORK OF QUALITY CUSTOMARY IN SIMILAR TYPES OF WORK. WHERE THE PLANS AND SPECIFICATIONS, CODES, LAWS, REGULATIONS, MANUFACTURER'S RECOMMENDATIONS OR INDUSTRY STANDARDS REQUIRE WORK OF HIGHER QUALITY OR PERFORMANCE, PROVIDE WORK COMPLYING WITH THOSE REQUIREMENTS AND QUALITY. WHERE TWO OR MORE QUALITY PROVISIONS OF THOSE REQUIREMENTS CONFLICT WITH THE MOST STRINGENT REQUIREMENT; WHERE REQUIREMENTS ARE DIFFERENT BUT APPARENTLY EQUAL, AND WHERE IT IS UNCERTAIN WHICH REQUIREMENT IS MOST STRINGENT, OBTAIN CLARIFICATION FROM THE GMD DESIGN GROUP BEFORE PROCEEDING.



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PROFESSIONAL SEAL:

PROJECT TITLE:

50' Series  
Hartwell LH

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SHEET TITLE:  
TECHNICAL INFORMATION

PRINT DATE:

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SHEET NO:

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PROFESSIONAL SEAL:

PROJECT TITLE:

50' Series  
Hartwell LH

PROJECT NO: GMD-GA22008.01

SHEET TITLE:  
QUICK VIEW - 'C'

PRINT DATE:  
May 13, 2022

SHEET NO:  
0.2 C



Front Elevation 'C'

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

- GRADE CONDITIONS MAY VARY FOR INDIVIDUAL SITE FROM THAT SHOWN. BUILDER SHALL VERIFY AND COORDINATE PER ACTUAL SITE CONDITIONS.
- WINDOW HEAD HEIGHTS:
  - 1ST FLOOR = 8'-0" UNO. ON ELEVATIONS.
  - 2ND FLOOR = 7'-0" UNO. ON ELEVATIONS.
  - 3RD FLOOR = 7'-0" UNO. ON ELEVATIONS.
- ROOFING: PITCHED SHINGLES PER DEVELOPER.
- WINDOWS: MANUFACTURER PER DEVELOPER. DIVIDED LITES AS SHOWN ON THE EXTERIOR ELEVATIONS
- ENTRY DOOR: AS SELECTED BY DEVELOPER.
- GARAGE DOORS: AS SELECTED BY DEVELOPER, RAISED PANEL, AS SHOWN.
- CHIMNEY AS OCCURS. TOP OF CHIMNEYS TO BE A MINIMUM OF 24" ABOVE ANY ROOF WITHIN 10'-0" OF CHIMNEY.
- ALL EXTERIOR MATERIALS TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PROTECTION AGAINST DECAY:
  - (ALL PORTIONS OF A PORCH, SCREEN PORCH OR DECK FROM THE BOTTOM OF THE HEADER DOWN INCLUDING POSTS, RAILS, RIGGETS AND FLOOR STRUCTURE).
  - SHINGLED ROOF PITCHES FROM 2/12 TO 4/12 TO HAVE (2) LAYERS OF UNDERLAYMENT APPLIED AND OVERLAPPED PER TABLE R0503.1(J)(2)

MASONRY:

☐ ADHERED

- |   |   |
|---|---|
| 1 | ADHERED STONE VENEER AS SELECTED BY DEVELOPER. HEIGHT AS NOTED. |
| 2 | MASONRY FULL BRICK AS SELECTED BY DEVELOPER. HEIGHT AS NOTED.   |
| 3 | MASONRY FULL STONE AS SELECTED BY DEVELOPER. HEIGHT AS NOTED.   |
| 4 | 8" SOLDIER COURSE.  |
| 5 | RONLOCK COURSE  |
| 6 | DECORATIVE KEY. SEE DETAIL.                                     |

7 CORROSIVE

- 7 CORROSION RESISTANT SCREEN LOUVERED VENTS, SIZE AS NOTED.
- 8 CODE APPROVED TERMINATION CHIMNEY GAP.
- 9 CORROSION RESISTANT ROOF TO WALL FLASHING. CODE COMPLIANT FLASHING PER NRC R905.2.3

☐ STANDING

- II DECORATIVE WROUGHT IRON. SEE DETAILS.

**[12] FIBER CEMENT**


- 12 FIBER CEMENT SHAKE SIDING PER DEVELOPER  
W/ 5/4x4 CORNER TRIM BOARDS.
- 13 FIBER CEMENT LAP SIDING PER DEVELOPER  
W/ 5/4x4 CORNER TRIM BOARDS.
- 14 FIBER CEMENT WAVY SIDING PER DEVELOPER  
W/ 5/4x4 CORNER TRIM BOARDS.
- 15 FIBER CEMENT PANEL SIDING W/ 1X3 BATTS AT 12" O.C.  
(VINYL BOARD AND BATT SIDING)
- 16 1X FIBER CEMENT TRIM OR EQUAL, UNQ. SIZE AS NOTED
- 17 FALSE WOOD SHUTTERS, TYPE AS SHOWN. SIZE AS NOTED

ALL WINDOWS WHOSE OPENING IS LESS THAN 24" ABOVE THE FINISH FLOOR AND WHOSE OPENING IS GREATER THAN 72" ABOVE THE OUTSIDE WALKING SURFACE MUST HAVE WINDOW OPENING LIMITING DEVICES COMPLYING WITH THE NRC SECTION R312.2.1 AND R312.2.2.



SCALE: 1/4"=1'-0" AT 22"x34" LAYOUT 1/8"=1'-0" AT 11"x17" LAYOUT



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**PROFESSIONAL SEAL:**

PROJECT TITLE:

## 50' Series Hartwell LH

PROJECT NO: GMD-GA22008.01

HEET TITLE:

**FRONT ELEVATION 'C'**

PRINT DATE:  
May 13, 2022

SHEET NO: 1 C



ATTIC VENT CALCULATION FOR PLAN 'PLAN 2': 1:150 RATIO.

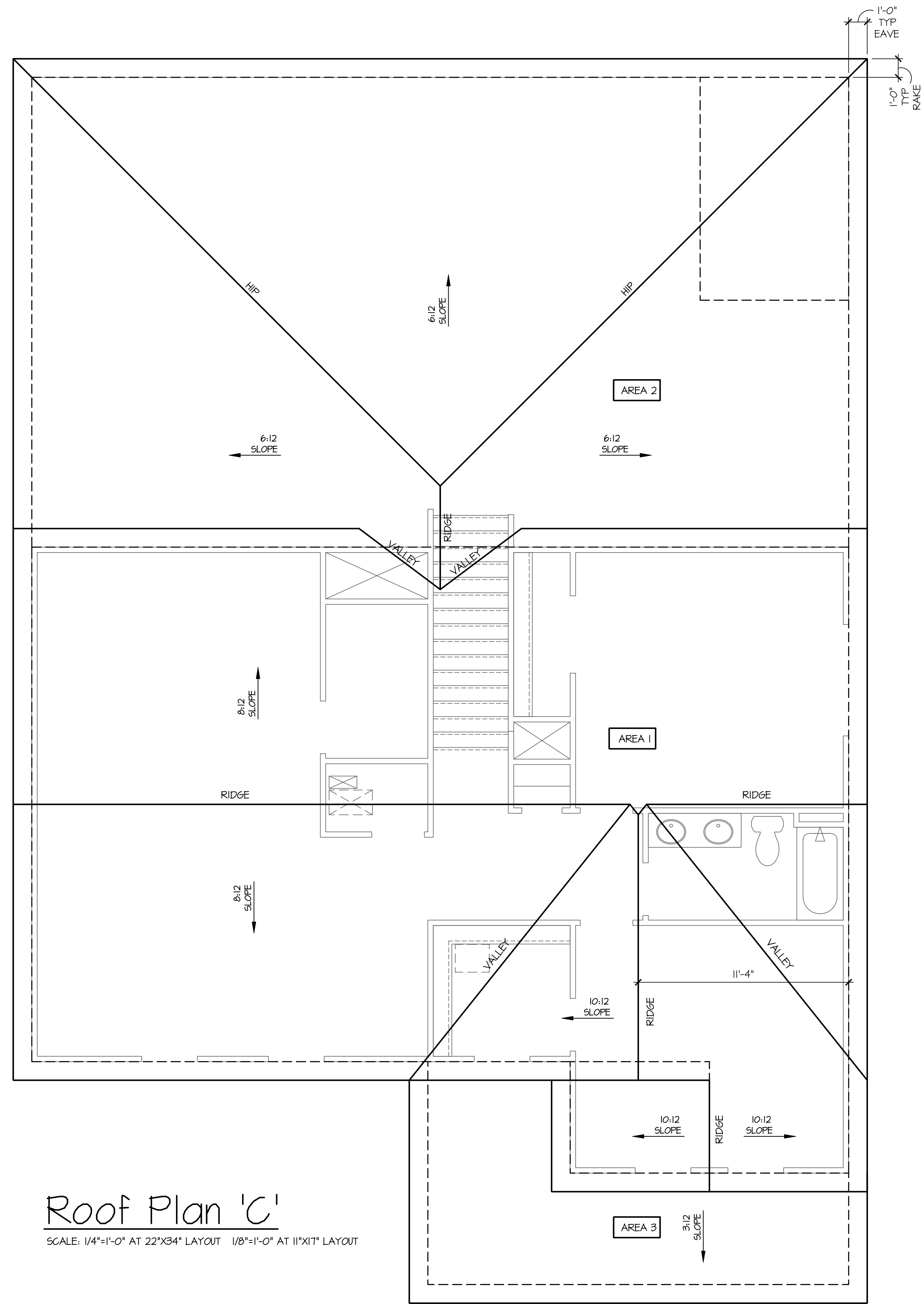
<p>THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED.</p> <p>GENERAL CONTRACTOR SHALL VERIFY THE NET FREE VENTILATION OF THE VENT PRODUCT SELECTED BY OWNER. VERIFY WITH MANUFACTURER OF HIGH AND LOW VENTS TO BE USED FOR MINIMUM CALCULATED VENTS REQUIRED. THE REQUIRED VENTILATION SHALL BE MAINTAINED. PROVIDE INSULATION STOP SUCH THAT INSULATION DOES NOT OBSTRUCT FREE AIR MOVEMENT AS REQUIRED BY THE BUILDING OFFICIAL.</p> <p>ALL OVERLAP FRAMED ROOF AREAS SHALL HAVE OPENINGS BETWEEN THE ADJACENT ATTICS IN THE ROOF SHEATHING (AS ALLOWED BY THE STRUCTURAL ENGINEER) TO ALLOW PASSAGE AND ATTIC VENTILATION BETWEEN THE TWO OR ISOLATED ATTIC SPACES SHALL BE VENTED INDEPENDENTLY PER LOCAL CODE.</p> <p>PER DEVELOPER, AT ALL CANTILEVERED FLOORS, CANTILEVERED ARCHITECTURAL POP-OUTS, AND ANY DOUBLE FRAMING PROJECTIONS THAT ARE SEPARATED FROM THE VENTING CALCULATIONS SHOWN ABOVE, PROVIDE A CONTINUOUS 2" CORROSION RESISTANT SOFFIT VENT AT UNDERSIDE OF FRAMED ELEMENT.</p>	<p><b>(PER SECTION R806.2)</b></p> <p>1 SQUARE INCH VENT FOR EVERY 150 SQUARE INCHES OF CEILING</p> <p>*144 SQ. IN. = 1 SQ. FT.</p> <p>BLDG. CEILING (SF) X 144 = BLDG (SQ. IN.)</p> <p>BLDG. (SQ. IN.) / 150 = SQ. IN. OF VENT REQUIRED</p> <p><b>ROOF AREA 1:</b> = 1304 SF 1304 SQ. FT. X 144 = 188496 SQ. IN. 188496 SQ. IN. / 150 = 1256.64 SQ. IN. OF VENT REQ'D</p> <p><b>ROOF AREA 2:</b> = 1113 SF 1113 SQ. FT. X 144 = 160212 SQ. IN. 160212 SQ. IN. / 150 = 1068.48 SQ. IN. OF VENT REQ'D</p> <p><b>ROOF AREA 3:</b> = 182 SF 182 SQ. FT. X 144 = 26208 SQ. IN. 26208 SQ. IN. / 150 = 174.72 SQ. IN. OF VENT REQ'D</p> <p>BUILDER TO PROVIDE ATTIC VENTING MINIMUM AREA PER LOCAL CODE WITH THE AMOUNT/NUMBER VENTS AND TYPE OF VENTING USED PER THE WRITTEN MANUFACTURER'S SPECIFICATIONS PRIOR TO THE FINISH OF ROOFING MATERIAL.</p>
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NOTES:	
<ul style="list-style-type: none"><li>- ALL ROOF DRAINAGE SHALL BE PIPED TO STREET OR APPROVED DRAINAGE FACILITY.</li><li>- DASHED LINES INDICATE WALL BELOW.</li><li>- LOCATE GUTTER AND DOWNSPOUTS PER BUILDER.</li><li>- PITCHED ROOFS AS NOTED.</li></ul>	<ul style="list-style-type: none"><li>- TRUSS MANUFACTURER SHALL SUBMIT STRUCTURAL CALCS AND SHOP DRAWINGS TO THE BUILDER'S GENERAL CONTRACTOR AND BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATIONS.</li><li>- ALL PLUMBING VENTS SHALL BE COMBINED INTO A MINIMUM AMOUNT OF ROOF PENETRATIONS. ALL ROOF PENETRATIONS SHALL OCCUR TO THE REAR OF THE MAIN RIDGE.</li></ul>

ATTIC VENT CALCULATION FOR PLAN 'PLAN 2': 1:300 RATIO.

<p>AS AN ALTERNATE TO THE 1/150 RATIO LISTED ABOVE, THE NET FREE CROSS-VENTILATION AREA MAY BE REDUCED TO 1/300 PER SECTION R806.2</p> <p>GENERAL CONTRACTOR SHALL VERIFY THE NET FREE VENTILATION OF THE VENT PRODUCT SELECTED BY OWNER. VERIFY WITH MANUFACTURER OF HIGH AND LOW VENTS TO BE USED FOR MINIMUM CALCULATED VENTS REQUIRED. THE REQUIRED VENTILATION SHALL BE MAINTAINED. PROVIDE INSULATION STOP SUCH THAT INSULATION DOES NOT OBSTRUCT FREE AIR MOVEMENT AS REQUIRED BY THE BUILDING OFFICIAL.</p> <p>ALL OVERLAP FRAMED ROOF AREAS SHALL HAVE OPENINGS BETWEEN THE ADJACENT ATTICS IN THE ROOF SHEATHING (AS ALLOWED BY THE STRUCTURAL ENGINEER) TO ALLOW PASSAGE AND ATTIC VENTILATION BETWEEN THE TWO OR ISOLATED ATTIC SPACES SHALL BE VENTED INDEPENDENTLY PER LOCAL CODE.</p> <p>PER DEVELOPER, AT ALL CANTILEVERED FLOORS, CANTILEVERED ARCHITECTURAL POP-OUTS, AND ANY DOUBLE FRAMING PROJECTIONS THAT ARE SEPARATED FROM THE VENTING CALCULATIONS SHOWN ABOVE, PROVIDE A CONTINUOUS 2" CORROSION RESISTANT SOFFIT VENT AT UNDERSIDE OF FRAMED ELEMENT.</p>	<p><b>(PER SECTION R806.2)</b></p> <p>1 SQUARE INCH VENT FOR EVERY 300 SQUARE INCHES OF CEILING</p> <p>*144 SQ. IN. = 1 SQ. FT.</p> <p>BLDG. CEILING (SF) X 144 = BLDG (SQ. IN.)</p> <p>BLDG. (SQ. IN.) / 300 = SQ. IN. OF VENT REQUIRED</p> <p>SQ. IN. OF VENT REQUIRED / 2 = 50% AT HIGH &amp; 50% AT LOW.</p> <p><b>ROOF AREA 1:</b> = 1304 SF 1304 SQ. FT. X 144 = 188496 SQ. IN. 188496 SQ. FT. / 300 = 628.32 SQ. IN. OF VENT REQ'D 628.32 SQ. IN. / 2 = 314.16 SQ. IN. OF VENT AT HIGH &amp; 314.16 SQ. IN. OF VENT AT LOW REQUIRED.</p> <p><b>ROOF AREA 2:</b> = 1113 SF 1113 SQ. FT. X 144 = 160212 SQ. IN. 160212 SQ. FT. / 300 = 534.24 SQ. IN. OF VENT REQ'D 534.24 SQ. IN. / 2 = 267.12 SQ. IN. OF VENT AT HIGH &amp; 267.12 SQ. IN. OF VENT AT LOW REQUIRED.</p> <p><b>ROOF AREA 3:</b> = 182 SF 182 SQ. FT. X 144 = 26208 SQ. IN. 26208 SQ. FT. / 300 = 87.36 SQ. IN. OF VENT REQ'D 87.36 SQ. IN. / 2 = 43.68 SQ. IN. OF VENT AT HIGH &amp; 43.68 SQ. IN. OF VENT AT LOW REQUIRED.</p>
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BUILDER TO PROVIDE (2) LAYERS OF UNDERLAYMENT AT ANY ROOF W/ A SLOPE FROM 2:12 TO LESS THAN 4:12	BUILDER TO PROVIDE ATTIC VENTING MINIMUM AREA PER LOCAL CODE WITH THE AMOUNT/NUMBER VENTS AND TYPE OF VENTING USED PER THE WRITTEN MANUFACTURER'S SPECIFICATIONS PRIOR TO THE FINISH OF ROOFING MATERIAL.
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Roof Plan 'C'

SCALE: 1/4"=1'-0" AT 22'X34" LAYOUT 1/8"=1'-0" AT 11'X11" LAYOUT

NO.	DATE:	REVISION:
△	08.15.24	

PROFESSIONAL SEAL:

PROJECT TITLE:

50' Series  
Hartwell LH

PROJECT NO: GMD-GA22008.01

SHEET TITLE:

ROOF PLAN 'C'

PRINT DATE:

May 13, 2022

SHEET NO:

2 C

- GRADE CONDITIONS MAY VARY FOR INDIVIDUAL SITE FROM THAT SHOWN. BUILDER SHALL VERIFY AND COORDINATE PER ACTUAL SITE CONDITIONS.
- WINDOW HEAD HEIGHTS:  
1ST FLOOR = 8'-0" U.N.O. ON ELEVATIONS.  
2ND FLOOR = 8'-0" U.N.O. ON ELEVATIONS.  
3RD FLOOR = 7'-0" U.N.O. ON ELEVATIONS.
- ROOFING: PITCHED SHINGLES PER DEVELOPER.
- WINDOWS: MANUFACTURER PER DEVELOPER. DIVIDED LITES AS SHOWN ON THE EXTERIOR ELEVATIONS
- ENTRY DOOR: AS SELECTED BY DEVELOPER.
- GARAGE DOORS: AS SELECTED BY DEVELOPER, RAISED PANEL AS SHOWN.
- CHIMNEY AS OCCURS: TOP OF CHIMNEYS TO BE A MINIMUM OF 24" ABOVE ANY ROOF WITHIN 10'-0" OF CHIMNEY.
- ALL EXTERIOR MATERIALS TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- PROTECTION AGAINST DECAY:  
(ALL PORTIONS OF A PORCH, SCREEN PORCH OR DECK FROM THE BOTTOM OF THE HEADER DOWN, INCLUDING POST, RAILS, PICKETS, STEPS AND FLOOR STRUCTURE.)
- SHINGLED ROOF PITCHES FROM 2/12 TO 4/12 TO HAVE (2) LAYERS OF UNDERLAYMENT APPLIED AND OVERLAPPED PER TABLE R405.1.1(2)

MASONRY:

- [1] ADHERED STONE VENEER AS SELECTED BY DEVELOPER. HEIGHT AS NOTED.
- [2] MASONRY FULL BRICK AS SELECTED BY DEVELOPER. HEIGHT AS NOTED.
- [3] MASONRY FULL STONE AS SELECTED BY DEVELOPER. HEIGHT AS NOTED.
- [4] 8" SOLDIER COURSE.
- [5] ROWLOCK COURSE
- [6] DECORATIVE KEY. SEE DETAIL.

TYPICALS:

- [7] CORROSION RESISTANT SCREEN LOUVERED VENTS, SIZE AS NOTED.
- [8] CODE APPROVED TERMINATION CHIMNEY CAP.
- [9] CORROSION RESISTANT ROOF TO WALL FLASHING. CODE COMPLIANT FLASHING PER NRC R312.2.3
- [10] STANDING SEAM METAL ROOF, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- [11] DECORATIVE WROUGHT IRON. SEE DETAILS.

SIDING:

- [12] FIBER CEMENT SHAKE SIDING PER DEVELOPER  
W/ 5/4x4 CORNER TRIM BOARDS.
- [13] FIBER CEMENT LAP SIDING PER DEVELOPER  
W/ 5/4x4 CORNER TRIM BOARDS.
- [14] FIBER CEMENT NAVY SIDING PER DEVELOPER  
W/ 5/4x4 CORNER TRIM BOARDS.
- [15] FIBER CEMENT PANEL SIDING W/ 1X3 BATTS AT 12" O.C.  
(VINYL BOARD AND BATT SIDING)
- [16] 1X FIBER CEMENT TRIM OR EQUAL, U.N.O. SIZE AS NOTED
- [17] FALSE WOOD SHUTTERS, TYPE AS SHOWN. SIZE AS NOTED.

ALL WINDOWS WHOSE OPENING IS LESS THAN 24" ABOVE THE FINISH FLOOR AND WHOSE OPENING IS GREATER THAN 72" ABOVE THE OUTSIDE WALKING SURFACE MUST HAVE WINDOW OPENING LIMITING DEVICES COMPLYING WITH THE NRC SECTION R312.2.1 AND R312.2.2.



HEEL MIN. VERIFY WITH TRUSS MANUFACTURER

8'-1"

8'-0"

8'-0"

8'-1"

FFL

PL

NDW HD

FFL

PL

NDW HD

FFL



## 50' Series Hartwell LH

## FEET TITLE:

# SIDE AND REAR ELEVATIONS 'C'

NO. **3 C**

- IRRIGATION SYSTEM SHALL BE DESIGNED TO PREVENT THE SATURATION OF SOIL ADJACENT TO BUILDING.
- THIS PERIMETER DIMENSION PLAN IS FOR DIMENSIONAL INFORMATION ONLY.
- SLOPE ALL STOOPS AND HARDSCAPE MATERIAL AWAY FROM BUILDING - TYPICAL.
- SLOPE GARAGE FLOOR 1/8" PER FOOT TO GARAGE DOOR OPENING.
- VERIFY CURB CUT BLOCKOUT WITH GARAGE DOOR MANUFACTURER.
- REFER TO CIVIL DRAWINGS FOR FINISH SURFACE ELEVATIONS.
- FINISH GRADE SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING. REFER TO SOILS REPORT FOR ANY SPECIFIC REQUIREMENTS.
- REFER TO STRUCTURAL DRAWINGS FOR HOLD-DOWNS, FOOTING DETAILS, CURB THICKNESS, AND INFORMATION NOT SHOWN ON THIS PLAN.
- PLUMBING FIXTURES, VENT LOCATIONS, ETC. ARE APPROXIMATE. CONTRACTOR TO VERIFY COUNT AND LOCATION.
- VERIFY THE SUPPLY FOR SEPARATE CONDUITS TO ANY ISLAND FOR GAS, WATER OR ELECTRIC.
- VERIFY ALL DOOR THRESHOLD HEIGHTS TO HARD SURFACES.  
Ø 1/4" MAX AT INSURING DOORS. (PER NRCR SECTION R311.3.1)
- TYP STOP AT INSURING/SLIDER DOORS: 36" DEEP BY THE WIDTH OF THE DOOR SERVED, MINIMUM. (PER NRCR SECTION R311.3) PROVIDE A SLIP-RESISTANT FINISH.
- FOR THE USE OF EXPOSED GAS WATER HEATERS IN THE GARAGE, PROTECT THE WATER HEATER WITH 3" DIA CONCRETE FILLED STEEL PIPE EMBEDDED INTO CONCRETE FOOTING.
- SOILS TREATMENT:  
BORAX/CAE TERMITES TO BE APPLIED TO FRAMING PER PRODUCT SPECIFICATIONS.  
(PROVIDE CHEMICAL TREATMENT FOR PROTECTION FROM TERMITE INVESTIGATION ACCORDING TO LOCAL CODES.)
- WOOD CONTACTING CONCRETE OR MASONRY OR LESS THAN CODE REQUIRED SEPARATION TO GRADE SHALL BE PRESSURE TREATED OR FOUNDATION GRADE REDWOOD. SET ALL EXTERIOR WALL SILLS IN MASTIC.



NO:	DATE:	REVISION:
1	08.15.24	

PROFESSIONAL SEAL:

PROJECT TITLE:

## 50' Series Hartwell LH

PROJECT NO: GMD-GA22008.01

SHEET TITLE: **MONOLITHIC SLAB PLAN 'C'**

PRINT DATE

May 13, 2022

**SHEET NO:**


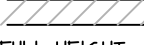

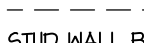
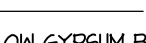

## 4 MS C



- FOR ADDITIONAL NOTES SEE GENERAL NOTES ON TITLE SHEET AND DETAILS.  
- WINDOW HEAD HEIGHTS:  
1ST FLOOR = 8'-0" U.N.O. ON ELEVATIONS.  
2ND FLOOR = 7'-0" U.N.O. ON ELEVATIONS.

ALL DIMENSIONS TO WINDOWS AND DOORS ARE TO CENTERLINE.

WALL LEGEND:

	
FULL HEIGHT 2X4 WOOD STUD PARTITION	FULL HEIGHT 2X6 WOOD STUD PARTITION
	
BRICK / STONE VENEER	STUD WALL BELOW HEIGHT AND STUD SIZE AS NOTED
	
LOW GYPSUM BOARD WALL HEIGHT AND STUD SIZE AS NOTED	DRYWALL OPENING, HEIGHT AS NOTED ON PLAN.

KEY NOTES: NCRG

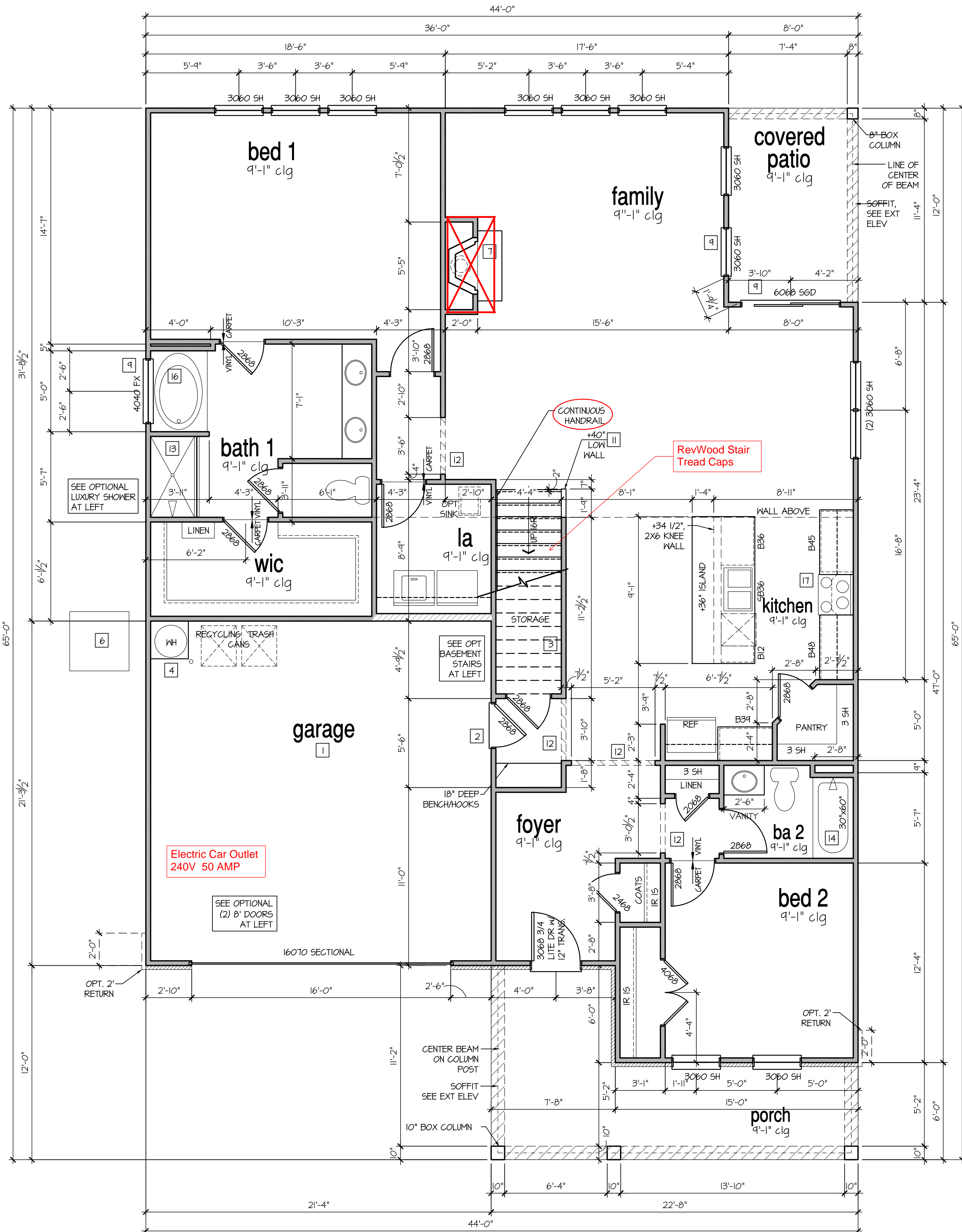
- FIRE PROTECTION:
- HOUSE TO GARAGE FIRE SEPARATION, GARAGE/HOUSE SEPARATION AT VERTICAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 1/2" GYPSUM BOARD, (PER NCRG SECTION R302.6) GARAGE/HOUSE SEPARATION AT HORIZONTAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 5/8" TYPE 'X' GYPSUM BOARD, (PER NCRG SECTION R302.6)
  - HOUSE TO GARAGE DOOR SEPARATION, PROVIDE 1-3/8" SOLID CORE DOOR OR APPROVED 20 MINUTE RATED DOOR, (PER NCRG SECTION R302.5.1)
  - BENEATH STAIRS AND LANDINGS, 1/2" GYPSUM BOARD ON WALLS AND CEILING OF ENCLOSED ACCESSIBLE AREAS, (PER NCRG SECTION R302.1) IN CONCEALED SPACES BETWEEN STAIR STRINGERS PROVIDE FIREBLOCKING PER R302.11 MEPS
  - FOR THE USE OF EXPOSED GAS WATER HEATERS IN THE GARAGE, INSTALL PER LOCAL CODES.
  - FAU 8'X8' PLATFORM, VERIFY WITH TRUSS MANUFACTURER, (6'-6" MIN. CLEAR HEIGHT TO HORIZONTAL MEMBERS, 2'X6" OVER 2'X4" BOTTOM CHORD, OF TRUSSES, VERIFY W/ TRUSSES.)
  - A/C CONDENSER PAD, (VERIFY)
  - PRE-FABRICATED METAL FIREPLACE, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - ATTIC ACCESS LARGE ENOUGH TO REMOVE LARGEST PIECE OF EQUIPMENT BUT NOT LESS THAN 30"x22". FIRE RATED ACCESS AS NOTED, (PER NCRG B07.1) ATTIC ACCESS LADDER, VERIFY LOCATION AND SIZE WITH TRUSSES, (25 1/2" X 54" SIZE) FOR GARAGE TO ATTIC SEPARATION PER NCRG 302.5.1 EXCEPTION, ACCESS PANEL SHALL BE WEATHERSTRIPPED AND INSULATED TO AN R-10 MINIMUM VALUE PER LOCAL CODES, TYPICALS:
  - TEMPERED SAFETY GLASS, (PER NCRG SECTION R308.4)
  - PLYWOOD SHELF ABOVE WITH DRYWALL FINISH OVER, HEIGHT AS NOTED.
  - HALF WALL, HEIGHT AS NOTED.
  - INTERIOR SOFFITS: FFL = 8'-1" U.N.O. SFL = 7'-6" U.N.O.
- BATHS:
- SHOWER, TEMPERED GLASS ENCLOSURE.
  - TUB-SHOWER COMBO, TEMPERED GLASS ENCLOSURE.
  - CERAMIC TILE SHOWER AND FLOOR, TEMPERED GLASS ENCLOSURE.
- KITCHEN:
- 30" SLIDE-IN ELECTRICAL RANGE W/ HOOD AND MICRO ABV, VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - 30" GAS COOKTOP AND HOOD, VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - ELECTRIC OVEN WITH MICROWAVE OVEN.
  - LAUNDRY CLOSETS, AN OPENING HAVING AN AREA NOT LESS THAN 100 SQ IN SHALL BE PROVIDED IN THE CLOSET ENCLOSURE OR MAKEUP AIR SHALL BE PROVIDED BY OTHER APPROVED MEANS PER LOCAL CODES, LOUVERED DOORS OR PROVIDING A TRANSFER GRILLE ABOVE THE DOOR OR THE DOOR MAY BE UNDERCUT TO PROVIDE ADDITIONAL VENTILATION

9'-1" STAIR NOTE:

(USE 14" T.J. WITH 3/4" PLYWOOD SUBFLOOR)  
15 TREADS AT 10" EACH VERIFY  
16 RISERS AT +/- 1.75" = 123 3/4" TOTAL  
RISE VERIFY

8'-9 1/2" STAIR NOTE:

(USE 14" T.J. WITH 3/4" PLYWOOD SUBFLOOR)  
15" TREADS AT 10" EACH VERIFY  
16 RISERS AT +/- 1.5" = 120 1/4" TOTAL  
RISE VERIFY



1st Floor Plan 'C'

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

**D.R. HORTON**  
*America's Builder*

NO.	DATE:	REVISION:
1	08.15.24	

PROFESSIONAL SEAL:

PROJECT TITLE:

**50' Series  
Hartwell LH**

PROJECT NO: GMD-6A2200B.01

SHEET TITLE:  
**1ST FLOOR PLAN 'C'**

PRINT DATE:  
May 13, 2022

SHEET NO:


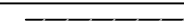



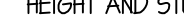
**5 C**



- FOR ADDITIONAL NOTES SEE GENERAL NOTES ON TITLE SHEET AND DETAILS.  
- WINDOW HEAD HEIGHTS:  
1ST FLOOR = 8'-0" U.N.O. ON ELEVATIONS.  
2ND FLOOR = 7'-0" U.N.O. ON ELEVATIONS.

ALL DIMENSIONS TO WINDOWS AND DOORS ARE TO CENTERLINE.

WALL LEGEND:

	FULL HEIGHT 2X4 WOOD STUD PARTITION		FULL HEIGHT 2X6 WOOD STUD PARTITION
	BRICK / STONE VENEER		STUD WALL BELOW HEIGHT AND STUD SIZE AS NOTED
	LOW GYPSUM BOARD WALL HEIGHT AND STUD SIZE AS NOTED		DRYWALL OPENING, HEIGHT AS NOTED ON PLAN.

KEY NOTES: NCRG

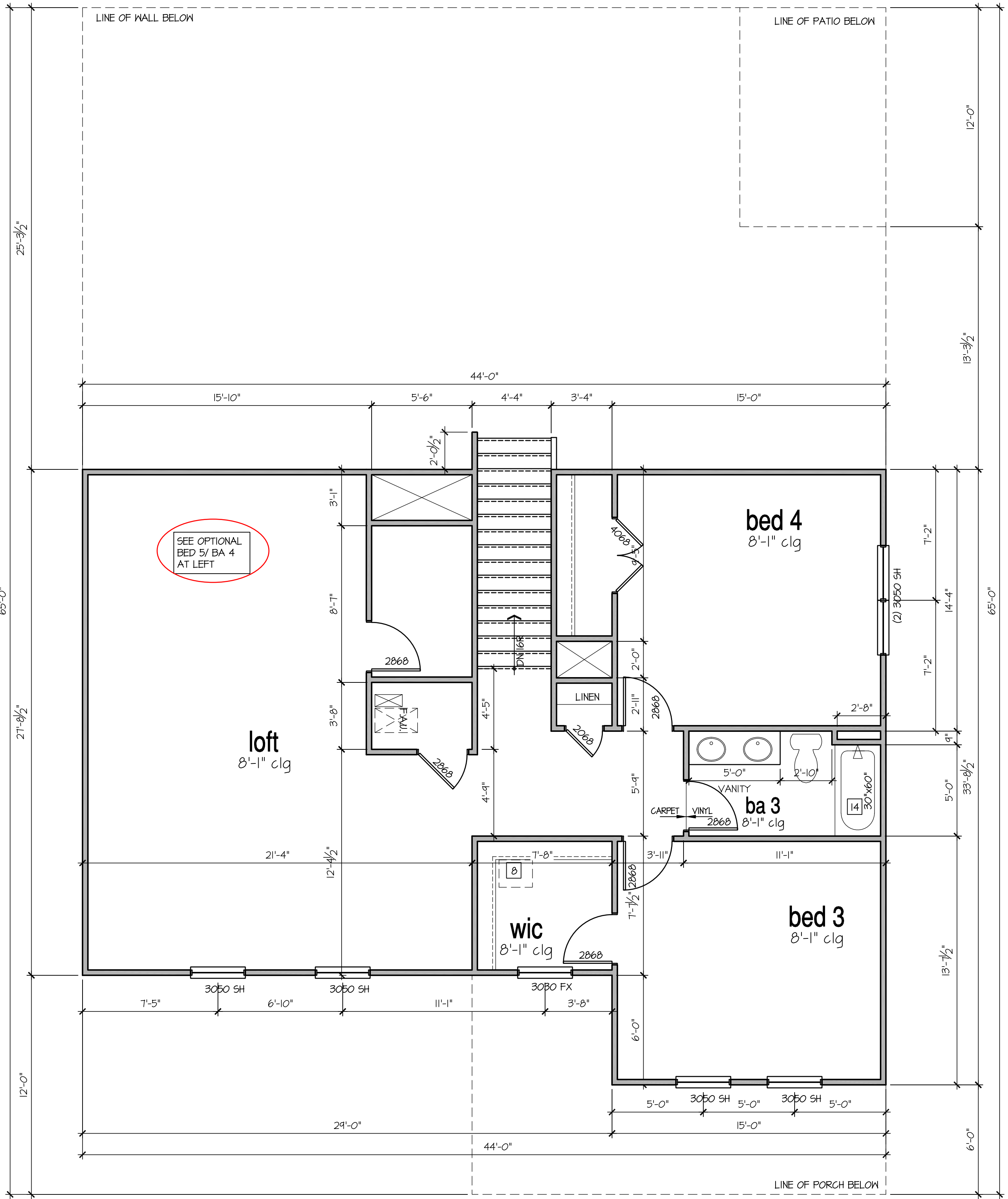
FIRE PROTECTION:

- HOUSE TO GARAGE FIRE SEPARATION, GARAGE/HOUSE SEPARATION AT VERTICAL SURFACES SHALL BE PROTECTED WITH ONE (1) LAYER 1/2" GYPSUM BOARD, (PER NCRG SECTION R302.6)  
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IN CONCEALED SPACES BETWEEN STAIR STRINGERS PROVIDE FIREBLOCKING PER R302.11  
MEP'S
- FOR THE USE OF EXPOSED GAS WATER HEATERS IN THE GARAGE, INSTALL PER LOCAL CODES.
- FAU 8'X8' PLATFORM, VERIFY WITH TRUSS MANUFACTURER, (6'-6" MIN. CLEAR HEIGHT TO HORIZONTAL MEMBERS, 2'X6" OVER 2'X4" BOTTOM CHORD, OF TRUSS, VERIFY W/ TRUSSES.)
- A/C CONDENSER PAD, (VERIFY)
- PRE-FABRICATED METAL FIREPLACE, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
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ATTIC ACCESS LADDER, VERIFY LOCATION AND SIZE WITH TRUSSES, (25 1/2" X 54" SIZE) FOR GARAGE TO ATTIC SEPARATION PER NCRG 302.5.1 EXCEPTION.  
ACCESS PANEL SHALL BE WEATHERSTRIPPED AND INSULATED TO AN R-10 MINIMUM VALUE PER LOCAL CODES, TYPICALS:
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- SHOWER, TEMPERED GLASS ENCLOSURE.
- TUB-SHOWER COMBO, TEMPERED GLASS ENCLOSURE.
- CERAMIC TILE SHOWER AND FLOOR, TEMPERED GLASS ENCLOSURE.
- ACRYLIC TUB W/ CERAMIC PLATFORM
- KITCHEN:
- 30" SLIDE-IN ELECTRICAL RANGE W/ HOOD AND MICRO ABV, VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- 30" GAS COOKTOP AND HOOD, VENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
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**9'-1" STAIR NOTE:**  
(USE 14" T.J. WITH 3/4" PLYWOOD SUBFLOOR)  
15 TREADS AT 10" EACH VERIFY  
16 RISERS AT +/- 1.75" = 123 3/4" TOTAL  
RISE VERIFY

Optional Bed 5 / Bath 4

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT



2nd Floor Plan 'C'

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

**D.R. HORTON**  
*America's Builder*

NO. DATE: REVISION:

08.15.24

PROFESSIONAL SEAL:

PROJECT TITLE:

**50' Series  
Hartwell LH**

PROJECT NO: GMD-6A2200B.01

SHEET TITLE:  
**1ST FLOOR PLAN 'C'**

PRINT DATE:


































May 13, 2022

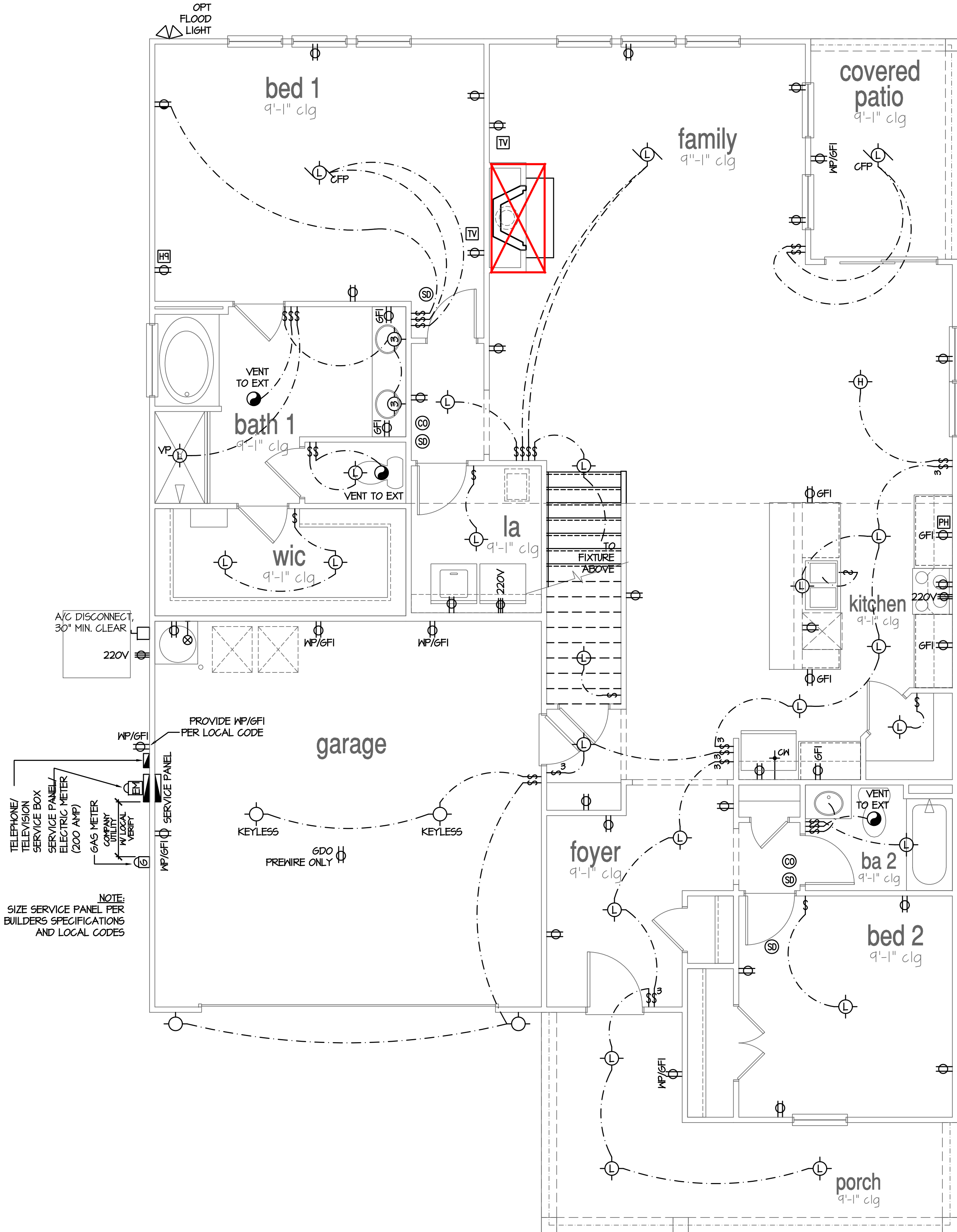
SHEET NO:

**5.1 C**



- ## NOTES:
- PROVIDE GROUNDING ELECTRICAL ROD PER LOCAL CODES.
  - PROVIDE AND INSTALL ARC FAULT CIRCUIT-INTERRUPTERS (AFCI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.
  - ALL EXHAUST FANS SHALL HAVE BACKDRAFT DAMPERS.
  - FANLIGHTS IN WET/DAMP LOCATIONS SHALL BE LABELED "SUITABLE FOR WET OR DAMP LOCATIONS."
  - ELECTRICAL SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND PLACEMENT.
  - PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS AND CO2 DETECTORS AS REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.
  - PROVIDE AND INSTALL GROUND FAULT CIRCUIT-INTERRUPTERS (GFI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.
  - ELECTRICAL CONTRACTOR TO PROVIDE REQUIRED DIRECT HOOK-UPS/CUTOFFS.
  - HVAC CONTRACTOR TO VERIFY THERMOSTAT LOCATIONS.
  - ALL ELECTRICAL AND MECHANICAL EQUIPMENT (FURNACES, A/C UNITS, ELECTRICAL PANELS, SANITARY SUMP PITS, DRAIN LINE SUMP, AND WATER HEATERS) ARE SUBJECT TO RELOCATION DUE TO FIELD CONDITIONS.
  - PROVIDE POWER, LIGHT AND SWITCH AS REQUIRED FOR ATTIC FURNACE PER CODE AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

LEGEND:			
	DUPLEX OUTLET		UNDERCOUNTER FLUORESCENT LIGHT FIXTURE
	WEATHERPROOF GFI DUPLEX OUTLET		WALL MOUNTED INCANDESCENT LIGHT FIXTURE
	GFI		LED LIGHT FIXTURE
	HALF-SWITCHED DUPLEX OUTLET		(VP) = VAPOR PROOF
	220 VOLT OUTLET		EXHAUST FAN (VENT TO EXTERIOR)
	REINFORCED JUNCTION BOX		EXHAUST FAN/LIGHT COMBINATION (VENT TO EXTERIOR)
	WALL SWITCH		FLUORESCENT LIGHT FIXTURE
	THREE-WAY SWITCH		TECH HUB SYSTEM
	FOUR-WAY SWITCH		CEILING FAN (PROVIDE ADEQUATE SUPPORT)
	CHIMES		CEILING FAN WITH INCANDESCENT LIGHT (PROVIDE ADEQUATE SUPPORT)
	PUSHBUTTON SWITCH		GAS SUPPLY WITH VALVE
	110V SMOKE DETECTOR w/ BATTERY BACKUP		HOSE BIBB
	CO <sub>2</sub> DETECTOR		1/4\"
	THERMOSTAT		WALL SCONCE
	TELEPHONE		
	TELEVISION		
	ELECTRIC METER		
	ELECTRIC PANEL		
	DISCONNECT SWITCH		



## 1st Floor Plan 'A'

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

NO:	DATE:	REVISION:
1	08.15.24	

**PROFESSIONAL SEAL:**

PROJECT TITLE:

## 50' Series Hartwell LH

PROJECT NO: GMD-GA22008.01

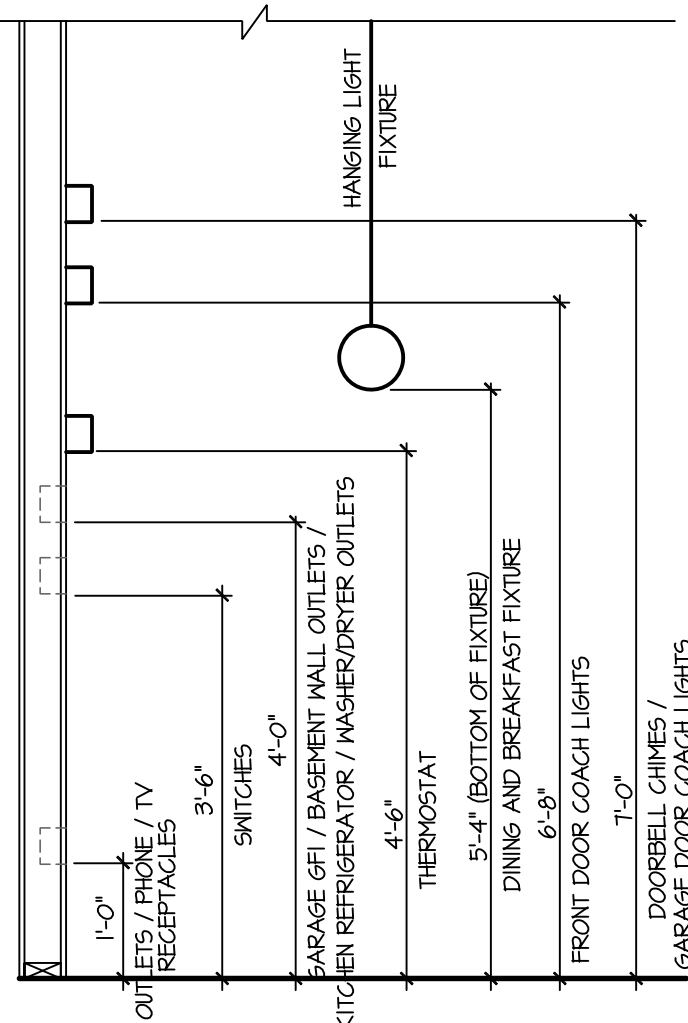
HEET TITLE:

**1ST FLOOR UTILITY PLAN**

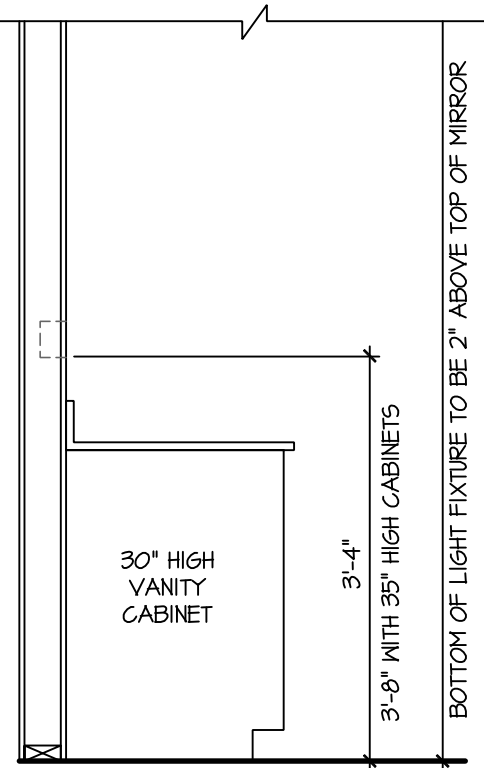
PRINT DATE:  
May 13, 2022

SHEET NO:

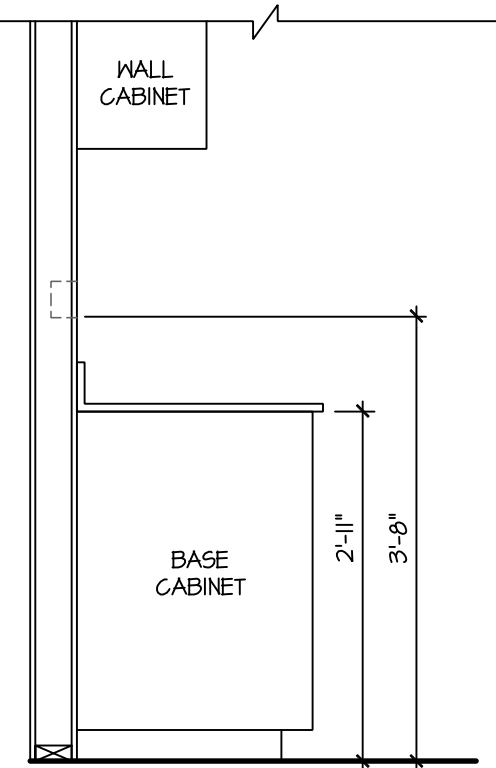




STANDARD ELECTRICAL BOX HEIGHTS

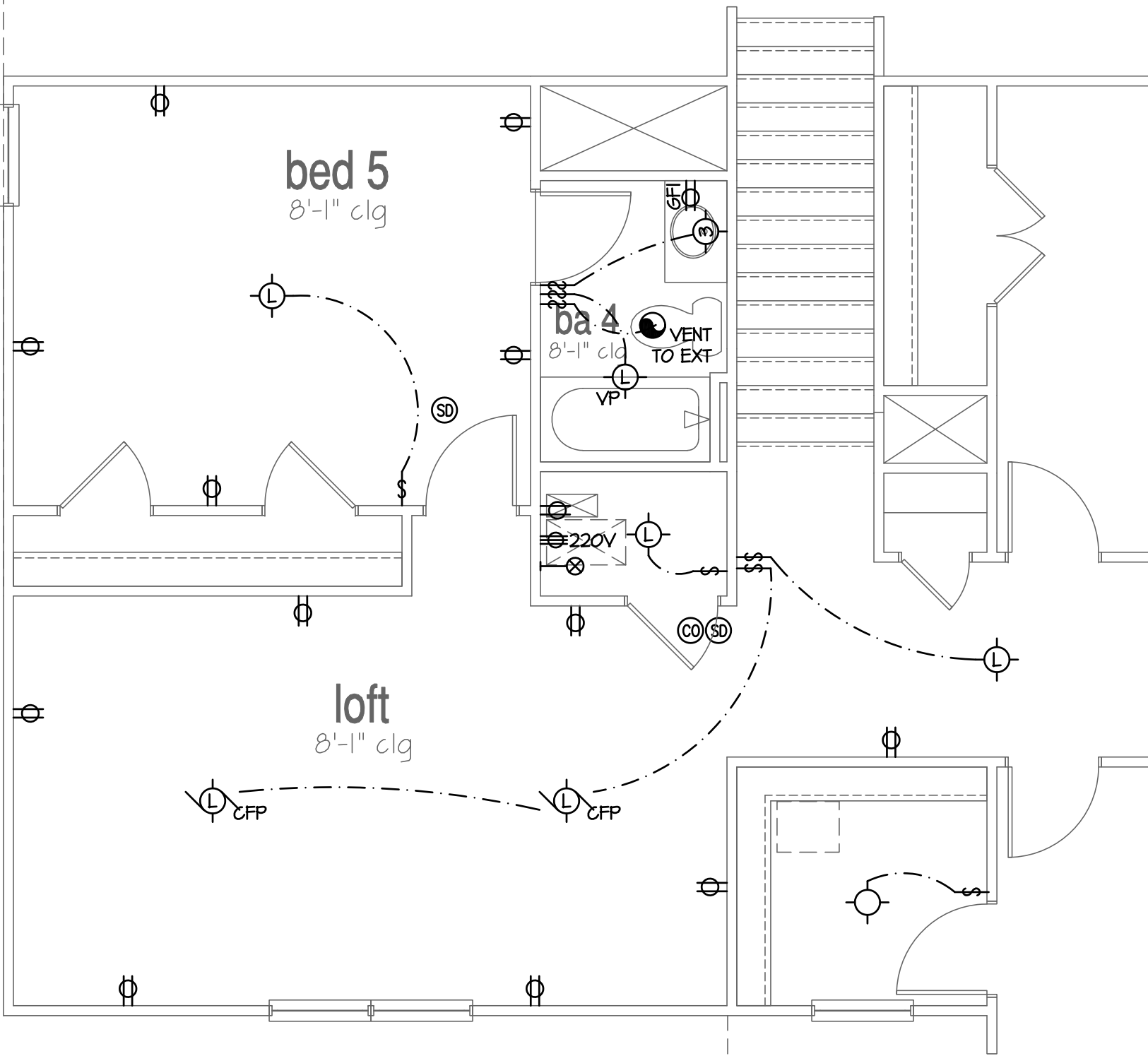


SWITCH AND RECEPTACLE BOXES OVER BATH CABINETS



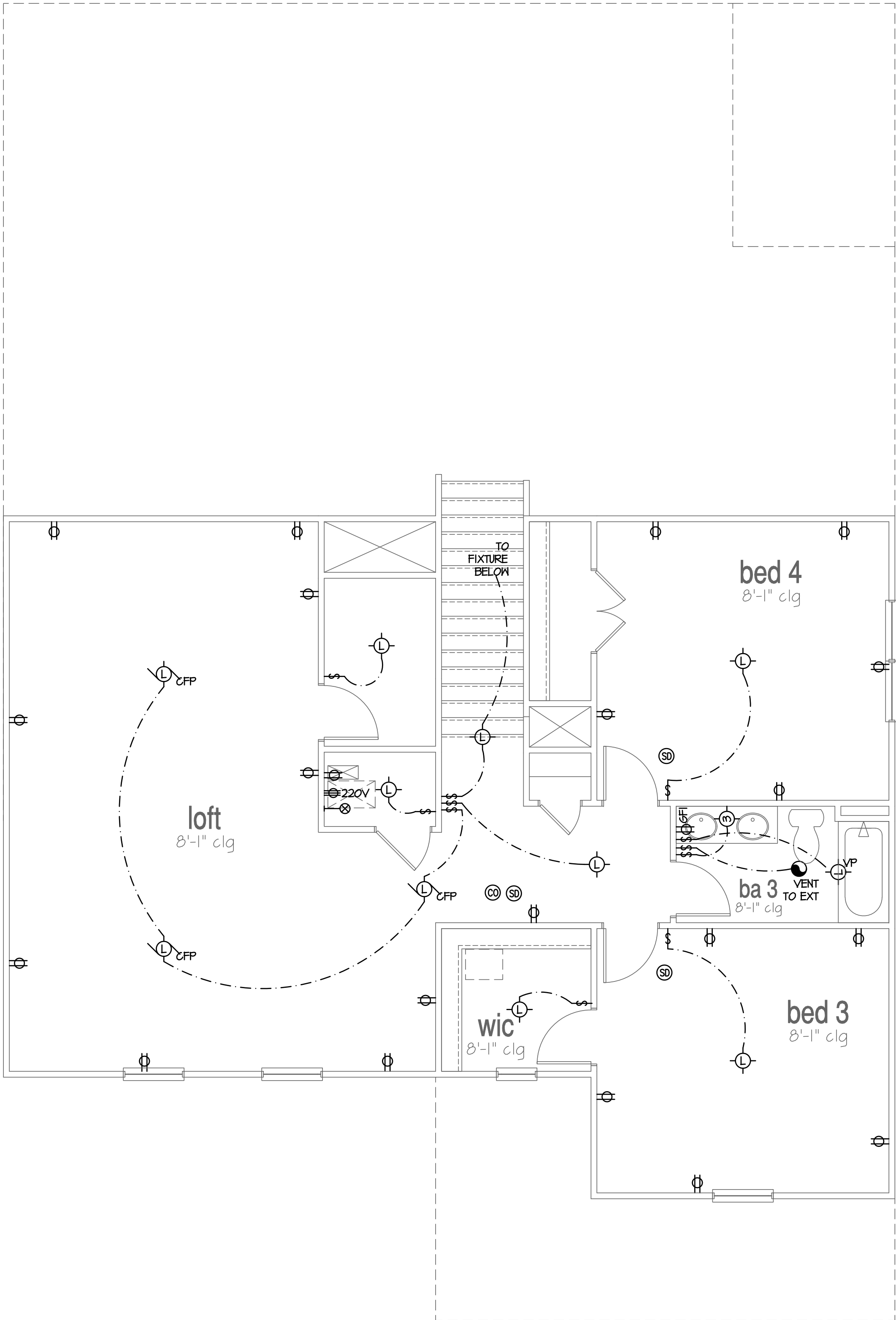
SWITCH AND RECEPTACLE BOXES OVER KITCHEN CABINETS

NOTES:	
- PROVIDE GROUNDING ELECTRICAL ROD PER LOCAL CODES.	
- PROVIDE AND INSTALL ARC FAULT CIRCUIT-INTERRUPTERS (AFCI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.	
- ALL EXHAUST FANS SHALL HAVE BACKDRAFT DAMPERS.	
- FANLIGHTS IN WET/DAMP LOCATIONS SHALL BE LABELED "SUITABLE FOR WET OR DAMP LOCATIONS."	
- ELECTRICAL SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND PLACEMENT.	
- PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS AND CO2 DETECTORS AS REQUIRED BY NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.	
- PROVIDE AND INSTALL GROUND FAULT CIRCUIT-INTERRUPTERS (GFI) AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC) AND MEETING THE REQUIREMENTS OF ALL GOVERNING CODES.	
- ELECTRICAL CONTRACTOR TO PROVIDE REQUIRED DIRECT HOOK-UPS/CUTOFFS.	
- HVAC CONTRACTOR TO VERIFY THERMOSTAT LOCATIONS.	
- ALL ELECTRICAL AND MECHANICAL EQUIPMENT (FURNACES, A/C UNITS, ELECTRICAL PANELS, SANITARY SUMP PITS, DRAIN TILE SUMP, AND WATER HEATERS) ARE SUBJECT TO RELOCATION DUE TO FIELD CONDITIONS.	
- PROVIDE POWER, LIGHT AND SWITCH AS REQUIRED FOR ATTIC FURNACE PER CODE AND MANUFACTURER'S WRITTEN INSTRUCTIONS.	
LEGEND:	
	UNDERCOUNTER FLUORESCENT LIGHT FIXTURE



Optional Bed 5 / Bath 4

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X11" LAYOUT



2nd Floor Plan 'A'

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X11" LAYOUT

NO.	DATE:	REVISION:
△	08.15.24	

PROFESSIONAL SEAL:

PROJECT TITLE:

50' Series  
Hartwell LH

PROJECT NO: GMD-GA22008.01

SHEET TITLE:  
1ST FLOOR UTILITY PLAN OPT

PRINT DATE:  
May 13, 2022

SHEET NO:  
7.1



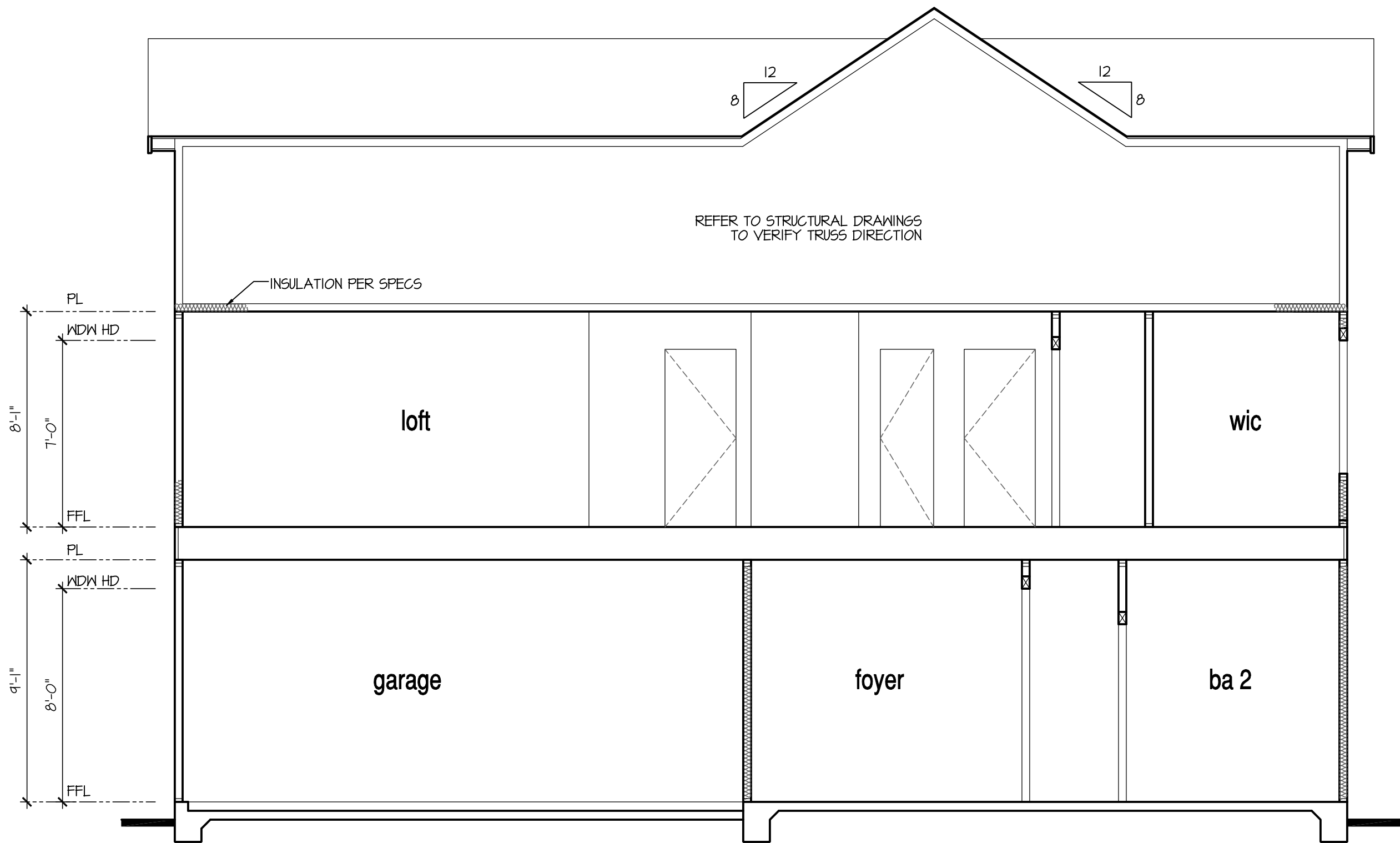
**9'-1" STAIR NOTE:**  
(USE 14" TJI WITH 3/4" PLYWOOD SUBFLOOR)  
15 TREADS AT 10" EACH VERIFY  
16 RISERS AT +/- 7.75" = 123 3/4" TOTAL  
RISE VERIFY

NOTES: NCRC TABLE N1102.1.2

- REFER TO FLOOR PLAN NOTES FOR TYPICAL FIRE PROTECTION NOTES AND LOCATIONS.
- THESE BUILDING SECTIONS MAY VARY AT ALTERNATE ELEVATION STYLES AND AT "PLAN OPTION" CONDITIONS. REFER TO MAIN FLOOR PLAN AND ALTERNATE FLOOR PLANS FOR INFORMATION NOT SHOWN HERE.
- BUILDING SECTIONS SHOWN HERE DEPICT VOLUMN SPACES WITHIN THE STRUCTURE. REFER TO STRUCTURAL DRAWINGS, TRUSS DRAWINGS, STRUCTURAL DETAILS AND CALCULATIONS BY OTHER FOR ALL STRUCTURAL INFO.
- ROOFING: PITCHED SHINGLE ROOF. REFER TO ROOF PLAN FOR TYPICALS.
- WOOD FLOORS: FLOOR SHEATHING OVER FLOOR JOIST. REFER TO STRUCTURAL AND TRUSS DRAWINGS BY OTHERS.
- VERIFY STAIRS MINIMUM AND MAXIMUM REQUIREMENTS FOR CONSTRUCTION CLEARANCES WITH LOCAL CODES.
- INSULATION: PER TABLE N1102.1.2. NCRC 2018 ZONE 3 AND 4:

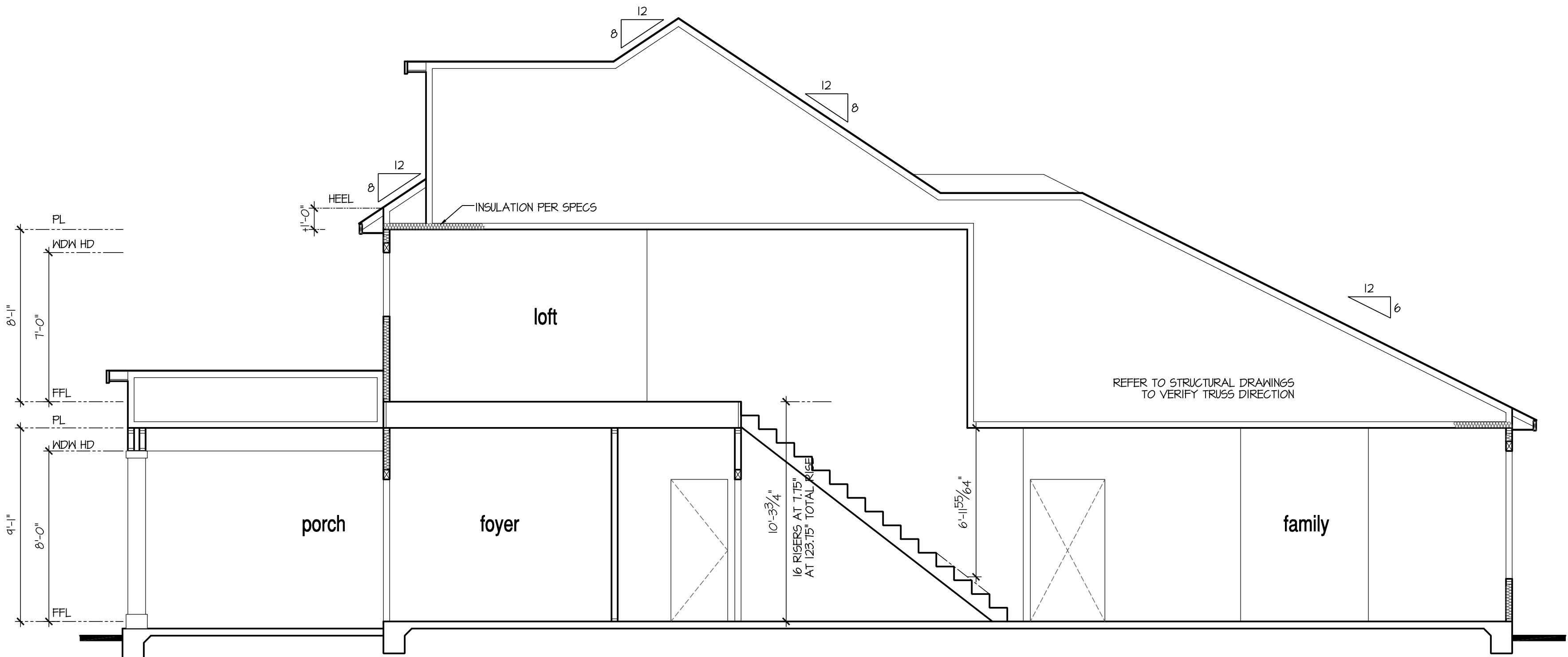
EXTERIOR WALLS: R-15 BATT'S MINIMUM. VERIFY  
CEILING WITH ATTIC ABOVE: R-30 BATT'S MINIMUM. VERIFY  
FLOOR OVER GARAGE: R-19 BATT'S MINIMUM. VERIFY  
ATTIC KNEEWALL: R-19 BATT'S MINIMUM. VERIFY  
GRAVEL SPACE FLOORING: R-10/15 MINIMUM. VERIFY  
SLAB VALUE: R-10 MINIMUM. VERIFY

PER STATE RESIDENTIAL CODE  
COMPLIANCE METHOD TO BE  
DETERMINED BY BUILDER.



Building Section 2

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT



Building Section 1

SCALE: 1/4"=1'-0" AT 22"X34" LAYOUT 1/8"=1'-0" AT 11"X17" LAYOUT

NO.	DATE:	REVISION:
1	08.15.24	

PROFESSIONAL SEAL:

PROJECT TITLE:

**50' Series  
Hartwell LH**

PROJECT NO: **GMD-GA22008.01**

SHEET TITLE:

PRINT DATE:

May 13, 2022

SHEET NO:

**7 MS**

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S 3MS B	MONOLITHIC SLAB FOUNDATION PLANS	ELEVATION B & OPTION
S 3MS C	MONOLITHIC SLAB FOUNDATION PLANS	ELEVATION C & OPTION
S 3MS D	MONOLITHIC SLAB FOUNDATION PLANS	ELEVATION D & OPTION
S 3MS E	MONOLITHIC SLAB FOUNDATION PLANS	ELEVATION E & OPTION
S 3MS F	MONOLITHIC SLAB FOUNDATION PLANS	ELEVATION F & OPTION
S 3CS A	CRAWL SPACE FOUNDATION PLANS	ELEVATION A & OPTION
S 3CS B	CRAWL SPACE FOUNDATION PLANS	ELEVATION B & OPTION
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S 5 B	ROOF FRAMING PLAN	ELEVATION B
S 5 C	ROOF FRAMING PLAN	ELEVATION C
S 5 D	ROOF FRAMING PLAN	ELEVATION D
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KSE  
ENGINEERING

1900 AM DRIVE, SUITE 201, QUAKERTOWN, PA 18951  
www.kse-eng.com (215) 804-4449

HARTWELL - LH

NORTH CAROLINA

THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH AND COORDINATED WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. THIS COORDINATION IS NOT THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD (SER). SHOULD ANY DISCREPANCIES BECOME APPARENT, THE CONTRACTOR SHALL NOTIFY KSE ENGINEERING, P.C. BEFORE CONSTRUCTION BEGINS. IT IS THE INTENT OF THE ENGINEER LISTED ON THESE DOCUMENTS THAT THESE DOCUMENTS BE ACCURATE, PROVIDING LICENSED PROFESSIONALS CLEAR INFORMATION. EVERY ATTEMPT HAS BEEN MADE TO PREVENT ERROR. THE BUILDER AND ALL SUBCONTRACTORS ARE REQUIRED TO REVIEW ALL OF THE INFORMATION CONTAINED IN THESE DOCUMENTS PRIOR TO THE COMMENCEMENT OF ANY WORK. THE ENGINEER IS NOT RESPONSIBLE FOR ANY PLAN ERRORS, OMISSIONS, OR MISINTERPRETATIONS UNDETECTED AND NOT REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION. ALL CONSTRUCTION MUST BE IN ACCORDANCE TO THE INFORMATION FOUND IN THESE DOCUMENTS.

THIS PLAN HAS BEEN DESIGNED PER THE 2018 EDITION OF THE NC RESIDENTIAL CODE. WHERE FRAMING, FOUNDATION, OR OTHER STRUCTURAL ITEMS DO NOT COMPLY WITH THE PRESCRIPTIVE METHODS OF THE CODE, THOSE ITEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE PER NCRC R301.1.3.

DESIGN SPECIFICATIONS:

DESIGN BUILDING CODE (REFERRED TO HEREIN AS 'THE BUILDING CODE'):

- 2018 NORTH CAROLINA RESIDENTIAL CODE AND ENGINEERED DESIGN

DESIGN LIVE LOADS:

- ROOF = 20 PSF (LOAD DURATION FACTOR=1.25)
- UNINHABITABLE ATTICS WITH LIMITED STORAGE = 20 PSF (WHERE SPECIFIED ON PLANS)
- HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS = 30 PSF
- FLOOR = 40 PSF
- FLOOR (SLEEPING AREAS) = 30 PSF
- DECK = 40 PSF
- BALCONY = 40 PSF
- STAIRS = 40 PSF

DESIGN DEAD LOADS:

- ROOF TRUSS = 17 PSF (TC=7, BC=10)
- FLOOR TRUSS = 15 PSF (TC=10, BC=5)
- FLOOR JOIST = 10 PSF
- STANDARD BRICK = 40 PSF
- QUEEN ANNE BRICK = 25 PSF
- TILE = 10 PSF (WHERE NOTED ON PLANS)

\*NOTE: STRUCTURAL FRAMING HAS NOT BEEN DESIGNED FOR GRANITE, MARBLE OR OTHER MATERIALS HEAVIER THAN THE ABOVE LOADING UNLESS SPECIFICALLY NOTED ON PLANS.\*.

DESIGN WIND LOADS:

- ULTIMATE WIND SPEED = 115 MPH
- EXPOSURE CATEGORY = B

ASSUMED SOIL BEARING CAPACITY = 2000 PSF

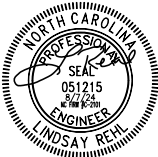
ASSUMED LATERAL SOIL PRESSURE = 60 PCF

FROST DEPTH = 12"

SEISMIC DESIGN CATEGORY = B

ENGINEERED LUMBER SHALL HAVE THE FOLLOWING MINIMUM DESIGN VALUES:

- PRI-40s SERIES (DEPTH, SERIES AND SPACING PER PLANS)
- LVL: E=2,000,000 PSI, F<sub>B</sub>=3,100 PSI, F<sub>V</sub>=285 PSI, F<sub>C</sub>=750 PSI



Cover Sheet  
'Hartwell' - LH  
115 M.P.H.  
North Carolina

Project #: 088-22010  
Designed By: JPS  
Checked By:  
Issue Date: 11/2/23  
Re-Issue: 8/7/24  
Scale: 1/8"=1'-0" @ 11x17  
1/4"=1'-0" @ 22x34

S-0



GENERAL STRUCTURAL NOTES:

- THE DESIGN PROFESSIONAL WHOSE SEAL APPEARS ON THESE DRAWINGS IS THE STRUCTURAL ENGINEER OF RECORD (SER) FOR THIS PROJECT. THE SER BEARS THE RESPONSIBILITY OF THE PRIMARY STRUCTURAL ELEMENTS AND THE PERFORMANCE OF THIS STRUCTURE. NO OTHER PARTY MAY REVISE, ALTER, OR DELETE ANY STRUCTURAL ASPECTS OF THESE CONSTRUCTION DOCUMENTS WITHOUT WRITTEN CONSENT OF KSE ENGINEERING, P.C. OR THE SER. FOR THE PURPOSES OF THESE CONSTRUCTION DOCUMENTS, THE SER AND KSE ENGINEERING SHALL BE CONSIDERED THE SAME ENTITY.
- THE STRUCTURE IS ONLY STABLE IN ITS COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEMPORARY BRACING DURING CONSTRUCTION TO STABILIZE THE STRUCTURE.
- THE SER IS NOT RESPONSIBLE FOR CONSTRUCTION SEQUENCES, METHODS, OR TECHNIQUES IN CONNECTION WITH THE CONSTRUCTION OF THIS STRUCTURE. THE SER WILL NOT BE HELD RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CONFORM TO THE CONTRACT DOCUMENTS, SHOULD ANY NON-CONFORMITIES OCCUR.
- THE SER DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF GEOMETRY. THE SER ASSUMES NO LIABILITY FOR CHANGES MADE TO THESE PLANS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THE PLANS. THE SER SHALL BE NOTIFIED PRIOR TO CONSTRUCTION IF ANY DISCREPANCIES ARE NOTED ON THE PLANS.
- ANY STRUCTURAL ELEMENTS OR DETAILS NOT FULLY DEVELOPED ON THE CONSTRUCTION DRAWINGS SHALL BE COMPLETED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. THESE SHOP DRAWINGS SHALL BE SUBMITTED TO KSE ENGINEERING FOR REVIEW BEFORE ANY CONSTRUCTION BEGINS. THE SHOP DRAWINGS WILL BE REVIEWED FOR OVERALL COMPLIANCE AS IT RELATES TO THE STRUCTURAL DESIGN OF THIS PROJECT. VERIFICATION OF THE SHOP DRAWINGS FOR DIMENSIONS, OR FOR ACTUAL FIELD CONDITIONS, IS NOT THE RESPONSIBILITY OF THE SER OR KSE ENGINEERING, P.C.
- VERIFICATION OF ASSUMED FIELD CONDITIONS IS NOT THE RESPONSIBILITY OF THE SER. THE CONTRACTOR SHALL VERIFY THE FIELD CONDITIONS FOR ACCURACY AND REPORT ANY DISCREPANCIES TO KSE ENGINEERING, P.C. BEFORE CONSTRUCTION BEGINS.
- THE SER IS NOT RESPONSIBLE FOR ANY SECONDARY STRUCTURAL ELEMENTS OR NON-STRUCTURAL ELEMENTS, EXCEPT FOR THE ELEMENTS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS.
- THIS STRUCTURE AND ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE SECTIONS OF THE BUILDING CODE AND ANY LOCAL CODES OR RESTRICTIONS.
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ALL DIMENSIONS ARE TO FACE OF STUD OR TO FACE OF FRAMING UNLESS OTHERWISE NOTED.
- PROVIDE MOISTURE PROTECTION AND FLASHING PER ARCHITECTURAL DETAILS.

FOUNDATIONS:

- FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE BUILDING CODE.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE SUITABILITY OF THE SITE SOIL CONDITIONS AT THE TIME OF CONSTRUCTION. THE BUILDER SHALL FURNISH ANY AND ALL REPORTS RECEIVED FROM THE GEOTECHNICAL ENGINEER ON THE STUDY OF THE PROPOSED SITE TO THE DESIGNER, STRUCTURAL ENGINEER, AND GENERAL CONTRACTOR.
- MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN THE BUILDING CODE.
- THE SER HAS NOT PERFORMED A SUBSURFACE INVESTIGATION. VERIFICATION OF THE ASSUMED VALUE IS THE RESPONSIBILITY OF THE OWNER OR THE CONTRACTOR. SHOULD ANY ADVERSE SOIL CONDITION BE ENCOUNTERED, THE SER MUST BE CONTACTED BEFORE PROCEEDING.
- THE BOTTOM OF ALL FOOTINGS SHALL EXTEND BELOW THE FROST LINE FOR THE REGION IN WHICH THE STRUCTURE IS TO BE CONSTRUCTED, BUT NOT LESS THAN A MINIMUM OF 12" BELOW GRADE. ALL FOOTINGS TO HAVE A MINIMUM PROJECTION OF 2" ON EACH SIDE OF FOUNDATION WALLS. MAXIMUM FOOTING PROJECTION SHALL NOT EXCEED THE THICKNESS OF THE FOOTING.
- WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH ½" ANCHOR BOLTS WITH MINIMUM 7" EMBEDMENT, SPACED A MAXIMUM OF 6'-0" O.C. INSTALL MINIMUM 2 ANCHOR BOLTS PER SECTION, 12" MAXIMUM FROM CORNERS. ½" DIAMETER x 8" LONG SIMPSON TITEN HD OR USP SCREW-BOLT+ SCREWS MAY BE SUBSTITUTED ON A 1 FOR 1 BASIS.
- ANY FILL SHALL BE PLACED UNDER THE DIRECTION OR RECOMMENDATION OF A LICENSED PROFESSIONAL ENGINEER. THE RESULTING SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY.
- EXCAVATIONS OF FOOTINGS SHALL BE LINED TEMPORARILY WITH A 6 MIL. POLYETHYLENE MEMBRANE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HOURS OF EXCAVATION.
- NO CONCRETE SHALL BE PLACED AGAINST ANY SUBGRADE CONTAINING WATER, ICE, FROST, OR LOOSE MATERIAL.
- PROVIDE FOUNDATION WATERPROOFING AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS (SEE ARCHITECTURAL PLANS AND DETAILS).
- NONE OF THE FOUNDATION DETAILS IN THESE DOCUMENTS ARE SUITABLE FOR INSTALLATION IN SHRINK/SWELL CONDITIONS. REFER TO GEOTECHNICAL ENGINEER FOR APPROPRIATE DESIGN.
- LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST TEN FEET.
- CRAWL SPACE TO BE GRADED LEVEL AND CLEAR OF ALL DEBRIS.
- PROVIDE MINIMUM 6 MIL. APPROVED VAPOR BARRIER. ALL JOINTS TO BE LAPPED MINIMUM 12" AND SEALED.

CONCRETE & REINFORCING

- CONCRETE DESIGN BASED ON ACI 318 AND ACI 318.1 OR ACI 332. CONCRETE SHALL HAVE A NORMAL WEIGHT AGGREGATE AND A MINIMUM COMPRESSIVE STRENGTH (f'c) = 3,000 PSI MINIMUM AT 28 DAYS PER CODE (VARIES W/ WEATHER), UNLESS OTHERWISE NOTED ON THE PLAN.
- CONCRETE SHALL BE PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 318: "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ACI 301: "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- AIR ENTRAINED CONCRETE MUST BE USED FOR ALL STRUCTURAL ELEMENTS EXPOSED TO FREEZE/THAW CYCLES AND DEICING CHEMICALS. AIR ENTRAINMENT AMOUNTS (IN PERCENT) SHALL BE WITHIN -1% TO +2% OF 5% FOR FOOTINGS AND EXTERIOR SLABS.
- NO ADMIXTURES SHALL BE ADDED TO ANY STRUCTURAL CONCRETE WITHOUT WRITTEN PERMISSION OF THE SER. WATER ADDED TO CONCRETE ON SITE SHALL NOT EXCEED THAT ALLOWED BY THE MIX DESIGN.
- CONCRETE SLABS-ON-GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 302.1R: "GUIDE FOR CONCRETE SLAB AND SLAB CONSTRUCTION".
- CONTROL OR SAW CUT JOINTS (CUT OR TOOLED) SHALL BE SPACED IN INTERIOR SLABS-ON-GRADE AT A MAXIMUM OF 15'-0" O.C. AND IN EXTERIOR SLABS-ON-GRADE AT A MAXIMUM OF 10'-0" UNLESS OTHERWISE NOTED. CARE SHALL BE TAKEN TO AVOID RE-ENTRANT CORNERS.
- CONTROL OR SAW CUT JOINTS SHALL BE PRODUCED USING CONVENTIONAL CUT OR TOOLED PROCESSES WITHIN 4 TO 12 HOURS AFTER THE SLAB HAS BEEN FINISHED.
- ALL WELDED WIRE FABRIC (W.W.F.) FOR CONCRETE SLABS-ON-GRADE SHALL BE PLACED AT MID-DEPTH OF SLAB. THE W.W.F. SHALL BE SECURELY SUPPORTED DURING THE CONCRETE POUR. FIBROUS CONCRETE REINFORCEMENT, OR POLYPROPYLENE FIBERS MAY BE USED IN LIEU OF W.W.F. APPLICATION OF POLYPROPYLENE FIBERS PER CUBIC YARD OF CONCRETE SHALL BE PER MANUFACTURER AND COMPLY WITH ASTM C1116, ANY LOCAL BUILDING CODE REQUIREMENTS AND SHALL MEET OR EXCEED CURRENT INDUSTRY STANDARD.
- POLYPROPYLENE REINFORCING TO BE 100% VIRGIN, CONTAINING NO REPROCESSED OLEFIN MATERIALS AND SPECIFICALLY MANUFACTURED FOR USE AS CONCRETE SECONDARY REINFORCEMENT.
- STEEL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60.
- DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315: "MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES".
- HORIZONTAL FOOTING AND WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90° BENDS, OR CORNER BARS WITH THE SAME SIZE/SPACING AS THE HORIZONTAL REINFORCEMENT.
- PROVIDE REINFORCEMENT LAP AS NOTED BELOW, UNLESS NOTED OTHERWISE:  
#4 BARS - 30" LENGTH  
#5 BARS - 38" LENGTH  
#6 BARS - 45" LENGTH
- WHERE REINFORCING DOWELS ARE REQUIRED, THEY SHALL BE EQUIVALENT IN SIZE AND SPACING TO THE VERTICAL REINFORCEMENT. THE DOWEL SHALL EXTEND 48 BAR DIAMETERS VERTICALLY AND 20 BAR DIAMETERS INTO THE FOOTING. SEE KSE FOUNDATION DETAILS.
- WHERE FOOTING BOTTOMS ARE TO BE STEPPED AT SLOPING GRADE CONDITIONS, PROVIDE CONTINUOUS REINFORCING WITH Z BARS (TO MATCH FOOTING REINFORCING) AS REQUIRED.
- BAR SUPPORT ACCESSORIES SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, EXCEPT THAT REINFORCING SHALL BE CHAIRED ON THE BOTTOM AND/OR THE SIDES ON BOLSTERS SPACED NOT MORE THAN 4 FEET ON CENTER. NO ROCKS, CMU, CLAY TILE, OR BRICK SHALL BE USED TO SUPPORT REINFORCING.
- FOR GRADE SUPPORTED SLABS, SLAB REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS AND ACCESSORIES AS DESCRIBED IN THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED A MAXIMUM OF 4'-0" O.C. BOTH WAYS IN STRAIGHT LINES ON THE MESH GRID.

MASONRY

- ALL MASONRY SHALL CONFORM TO ASTM C-90, F'm=1500 PSI. ALL BRICK SHALL CONFORM TO ASTM C-216, F'm=1500 PSI. ALL MORTAR SHALL BE TYPE 'S' (TYPE 'M' BELOW GRADE) AND CONFORM TO ASTM C-270. COARSE GROUT SHALL CONFORM TO ASTM C-476 WITH A MAXIMUM AGGREGATE SIZE OF ¾" AND A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
- ALL MASONRY WORK SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" ACI 530/ASCE 5/TMS 402 AND "SPECIFICATIONS FOR MASONRY STRUCTURES" ACI 530.1/ ASCE 6/TMS 602.
- THE UNSUPPORTED HEIGHT OF SOLID MASONRY PIERS SHALL NOT EXCEED TEN TIMES THEIR LEAST DIMENSION. UNFILLED HOLLOW PIERS MAY BE USED IF THE UNSUPPORTED HEIGHT IS NOT MORE THAN FOUR TIMES THEIR LEAST DIMENSION.
- EACH CRAWL SPACE PIER SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING AND EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS. PLASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
- TOP COURSE OF MASONRY SHALL BE GROUTED SOLID.
- HORIZONTAL WALL JOINT REINFORCEMENT SHALL BE STANDARD 9 GAGE GALVANIZED LADDER OR TRUSS TYPE SPACED AT 16" O.C., UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
- SPICED WIRE REINFORCEMENT SHALL BE LAPPED AT LEAST 6" AND CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT WITHIN THE 6". LAP WITH STANDARD 'T' AND 'L' SHAPED PIECES AT INTERSECTIONS AND CORNERS.

WOOD FRAMING:

- SOLID SAWN WOOD FRAMING MEMBERS SHALL CONFORM TO THE SPECIFICATIONS LISTED IN THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION": (NDS). UNLESS OTHERWISE NOTED, ALL WOOD FRAMING MEMBERS ARE DESIGNED TO BE: SPRUCE-PINE-FIR (SPF) WITH THE FOLLOWING MINIMUM DESIGN VALUES:  
E=1,400,000 PSI, F<sub>b</sub>=875 PSI, F<sub>v</sub>=135 PSI  
1.1. FRAMING: SPF #2.  
1.2. PLATES: SPF #2.  
1.3. STUDS: SPF STUD GRADE.
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE TREATED SOUTHERN YELLOW PINE #2 OR BETTER.
- ANCHOR SILL PLATES IN ACCORDANCE W/ GENERAL STRUCTURAL NOTES.
- ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY BE SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.
- NAILS SHALL BE COMMON WIRE NAILS UNLESS OTHERWISE NOTED.
- BOLT HOLES AND LEAD HOLES FOR LAG SCREWS SHALL BE IN ACCORDANCE WITH NDS SPECIFICATIONS.
- INDIVIDUAL STUDS FORMING A COLUMN SHALL BE ATTACHED WITH (2) ROWS 10d NAILS @ 6" O.C. STAGGERED. THE STUD COLUMN SHALL BE FULLY BLOCKED AT ALL FLOOR LEVELS TO ENSURE PROPER LOAD TRANSFER. WALL SHEATHING SHALL BE NAILED TO EDGE OF EACH STUD.
- FACE NAIL ALL MULTI-PLY BEAMS AND HEADERS WITH (2) ROWS 16d COMMON NAILS @ 16" O.C., STAGGERED, OR PER MANUFACTURER'S SPECIFICATIONS FOR ENGINEERED LUMBER. APPLY NAILING FROM BOTH FACES FOR (3) OR MORE PLIES.
- FASTEN 4-PLY BEAMS WITH (1) ½" DIAMETER THROUGH BOLT W/ NUTS AND WASHERS AT 12" O.C. STAGGERED TOP AND BOTTOM, 1½" MINIMUM EDGE DISTANCE. (UNLESS OTHERWISE NOTED)
- ALL BEAMS AND HEADERS SHALL HAVE (1)2x JACK STUD & (1)2x KING STUD UNLESS OTHERWISE NOTED. THE NUMBER OF STUDS INDICATED ON PLANS ARE THE TOTAL NUMBER OF JACK STUDS REQUIRED, UNLESS OTHERWISE NOTED.
- PROVIDE KING STUDS AT EACH END OF HEADERS AS NOTED BELOW.  
(1) STUD UP TO 6' OPENING  
(2) STUDS UP TO 8' OPENING  
(3) STUDS UP TO 9' OPENING
- ALL BEAMS TO BE CONTINUOUSLY SUPPORTED Laterally AND SHALL BEAR FULL WIDTH ON THE SUPPORTING WALLS OR COLUMNS INDICATED WITH A MINIMUM OF TWO STUDS, UNLESS OTHERWISE NOTED. ALL BEAM SPLICES SHALL OCCUR OVER SUPPORTS.
- SOLID BLOCKING TO BE PROVIDED AT ALL POINT LOADS THROUGH FLOOR LEVELS TO THE FOUNDATION OR TO OTHER STRUCTURAL COMPONENTS.
- ALL LUMBER SPECIFIED ON DRAWINGS IS INTENDED FOR DRY USE ONLY (MOISTURE CONTENT <19%) UNLESS OTHERWISE NOTED.
- ALL WATERPROOFING AND FIRE SAFETY SYSTEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE TO BE DESIGNED AND DETAILED BY OTHERS.
- ANY WOOD FRAME INTERIOR BEARING WALL STUDS THAT HAVE HOLES IN THE CENTER OF THE STUD UP TO 1" DIAMETER SHALL HAVE STUD PROTECTION SHIELDS. ALL HOLES OVER 1" IN DIAMETER FOR PLUMBING LINES, ETC. SHALL BE REPAIRED WITH SIMPSON HSS2 OR USP STS1 STUD SHOES, TYPICAL, UNLESS OTHERWISE NOTED.
- BEARING WALLS SHALL BE SHEATHED ON NOT LESS THAN ONE SIDE WITH OSB OR GYPSUM BOARD. BRIDGING SHALL BE INSTALLED NOT GREATER THAN 4 FEET APART MEASURED VERTICALLY FROM EITHER END OF THE STUD IN LIEU OF SHEATHING.
- DIAGONAL BRACING SHALL BE INSTALLED AT EACH END OF BASEMENT BEARING WALLS AND NOT MORE THAN 20' ON CENTER.

EXTERIOR WOOD FRAMED DECKS:

- DECKS ARE TO BE FRAMED IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND AS REFERENCED ON THE STRUCTURAL PLANS, EITHER THROUGH CODE REFERENCES OR CONSTRUCTION DETAILS.
- PRESERVATIVE TREATED WOOD FRAMING TO BE SOUTHERN YELLOW PINE #2 OR BETTER.
- GUARD RAILS REQUIRED AT DECKS. DESIGN BY OTHERS TO MEET MINIMUM CODE REQUIREMENTS.
- PROVIDE DECK LATERAL LOAD AND BRACING CONNECTIONS PER BUILDING CODE.

RAFTER FRAMED ROOF CONSTRUCTION:

- PROVIDE 2x4x4'-0" RAFTER TIES AT 48" O.C.
- RAFTERS SHALL BE SUPPORTED BY PURLINS AND PURLIN BRACES AS SHOWN ON THE PLAN. PURLIN BRACES SHALL NOT BEAR ON ANY CEILING JOIST, STRONGBACK OR HEADER UNLESS SPECIFICALLY SHOWN ON PLAN. RAFTERS MAY BE SPLICED AT PURLIN LOCATIONS. CEILING JOISTS SHALL HAVE LATERAL SUPPORT W/ 1x4 FLAT BRACING ON TOP EDGE OF JOIST AT LOOSE JOIST ENDS (WHERE JOISTS NOT FASTENED TO RAFTERS) OR FULL DEPTH BLOCKING. FASTEN END OF BRACING TO RAFTER OR GABLE END FRAMING.
- FASTEN RAFTER AND CEILING JOIST WITH (6) 12d NAILS UNLESS OTHERWISE NOTED.
- PROVIDE VERTICAL 2x6 STRONGBACKS AT CEILING JOISTS @ 8'-0" O.C. Tie STRONGBACK ENDS TO GABLE STUDS OR RAFTERS WHERE POSSIBLE. PROVIDE BLOCKING BETWEEN TOP PLATES AND STRONGBACKS. PROVIDE 2x4 FLAT FASTENED TO EACH JOIST WITH (2) 12d NAILS. FASTEN STRONGBACK TO 2x4 FLAT WITH 12d NAILS @ 12" O.C. AND FASTENED TO EACH JOIST WITH (1) 12d TOENAIL.

WOOD TRUSSES (FLOOR & ROOF):

- THE WOOD TRUSS MANUFACTURER/FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF THE WOOD TRUSSES. SUBMIT SEALED SHOP DRAWINGS AND SUPPORTING CALCULATIONS TO THE SER FOR REVIEW PRIOR TO FABRICATION. THE SER SHALL HAVE A MINIMUM OF (5) DAYS FOR REVIEW. THE REVIEW BY THE SER SHALL BE FOR OVERALL COMPLIANCE OF THE DESIGN DOCUMENTS. THE SER SHALL ASSUME NO RESPONSIBILITY FOR THE CORRECTNESS OF THE STRUCTURAL DESIGN FOR THE WOOD TRUSSES.
- THE WOOD TRUSSES SHALL BE DESIGNED FOR ALL REQUIRED LOADINGS AS SPECIFIED IN THE LOCAL BUILDING CODE, THE ASCE STANDARD "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES." (ASCE 7), AND THE LOADING REQUIREMENTS SHOWN ON THESE SPECIFICATIONS. THE TRUSS DRAWINGS SHALL BE COORDINATED WITH ALL OTHER CONSTRUCTION DOCUMENTS AND PROVISIONS PROVIDED FOR LOADS SHOWN ON THESE DRAWINGS INCLUDING BUT NOT LIMITED TO HVAC EQUIPMENT, PIPING, AND ARCHITECTURAL FIXTURES ATTACHED TO THE TRUSSES.
- THE TRUSSES SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE ANSI/TPI 1: "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION".
- THE TRUSS MANUFACTURER SHALL PROVIDE ADEQUATE BRACING INFORMATION IN ACCORDANCE WITH "BUILDING COMPONENT SAFETY INFORMATION GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES" (BCSI). THIS BRACING, BOTH TEMPORARY AND PERMANENT, SHALL BE SHOWN ON THE SHOP DRAWINGS. ALSO, THE SHOP DRAWINGS SHALL SHOW THE REQUIRED ATTACHMENTS FOR THE TRUSSES.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING TEMPORARY BRACING AND SHORING FOR THE FLOOR AND ROOF TRUSSES AS REQUIRED DURING CONSTRUCTION. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE LATEST BCSI. THE CONTRACTOR SHALL KEEP A COPY OF THE BCSI SUMMARY SHEETS ON SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PERMANENT TRUSS BRACING SHOWN IN THE STRUCTURAL DRAWINGS AND IN THE TRUSS DESIGNS. ALL CONTINUOUS LATERAL BRACING OF WEBS REQUIRES BRACES. REFER TO BCSI SUMMARY SHEET B3 FOR TYPES OF DIAGONAL BRACES TO PROVIDE AT EACH CONTINUOUS LATERAL BRACE LINE. SUCH DIAGONAL BRACES SHALL NOT BE SPACED MORE THAN 20 FEET O.C. DIAGONAL BRACES SHALL BE FASTENED TO EACH TRUSS WEB WITH A MINIMUM OF TWO 10d FACE NAILS. WHERE CONTINUOUS LATERAL BRACING CANNOT BE INSTALLED, DUE TO A MINIMUM OF THREE ADJACENT TRUSSES NOT BEING IDENTICAL, THE CONTRACTOR SHALL COORDINATE WITH THE TRUSS SPECIALTY ENGINEER/MANUFACTURER TO DETERMINE WHAT TYPE OF ALTERNATE BRACE (I.E., T OR L BRACE, ETC.) IS REQUIRED.
- ANY CHORDS OR TRUSS WEBS SHOWN ON THESE DRAWINGS HAVE BEEN SHOWN AS A REFERENCE ONLY. THE FINAL DESIGN OF THE TRUSSES SHALL BE PER THE MANUFACTURER.
- TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN ON THE SEALED STRUCTURAL DRAWINGS. TRUSS PROFILES TO BE SEALED BY THE TRUSS MANUFACTURER. TRUSS PLANS TO BE COORDINATED WITH THE SEALED STRUCTURAL DRAWINGS.
- TRUSS MANUFACTURER TO PROVIDE REQUIRED UPLIFT CONNECTORS FOR ALL TRUSSES.
- PROVIDE SIMPSON H2.5A, USP RT7 OR EQUIVALENT AT EACH TRUSS TO TOP PLATE CONNECTION, UNLESS OTHERWISE NOTED.

WOOD STRUCTURAL PANELS:

- FABRICATION AND PLACEMENT OF STRUCTURAL WOOD SHEATHING SHALL BE IN ACCORDANCE WITH THE APA DESIGN/CONSTRUCTION GUIDE "RESIDENTIAL AND COMMERCIAL," AND ALL OTHER APPLICABLE APA STANDARDS.
- ALL REQUIRED WOOD SHEATHING SHALL BEAR THE MARK OF THE APA.
- WOOD WALL SHEATHING SHALL COMPLY WITH THE REQUIREMENTS OF LOCAL BUILDING CODES FOR THE APPROPRIATE STATE AS INDICATED ON THESE DRAWINGS. REFER TO WALL BRACING NOTES IN PLAN SET FOR MORE INFORMATION. EXTERIOR WALLS TO BE FULLY SHEATHED USING ¾" OSB OR PLYWOOD MINIMUM. AT BRACED WALL PANELS, PROVIDE BLOCKING AT ALL SHEET EDGES NOT FALLING ON STUDS OR PLATES.
- ROOF SHEATHING SHALL BE APA RATED SHEATHING EXPOSURE 1 OR 2. ROOF SHEATHING SHALL BE CONTINUOUS OVER TWO SUPPORTS MINIMUM AND ATTACHED TO ITS SUPPORTING ROOF FRAMING WITH 8d NAILS AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. IN PANEL FIELD UNLESS OTHERWISE NOTED ON THE PLANS. SHEATHING SHALL BE APPLIED WITH THE LONG DIRECTION PERPENDICULAR TO FRAMING. SHEATHING SHALL HAVE A SPAN RATING CONSISTENT WITH THE FRAMING SPACING. PROVIDE SUITABLE EDGE SUPPORT BY USE OF PLYWOOD CLIPS OR LUMBER BLOCKING UNLESS OTHERWISE NOTED. PANEL END JOINTS SHALL OCCUR OVER FRAMING. ROOF SHEATHING TO BE ¾" OSB MINIMUM.
- WOOD FLOOR SHEATHING SHALL BE APA RATED SHEATHING EXPOSURE 1 OR 2. ATTACH SHEATHING TO ITS SUPPORTING FRAMING WITH (1) 10d NAIL AT 6" O.C. AT PANEL EDGES AND AT 12" O.C. IN PANEL FIELD UNLESS OTHERWISE NOTED ON THE PLANS. SHEATHING SHALL BE APPLIED PERPENDICULAR TO FRAMING. SHEATHING SHALL HAVE A SPAN RATING CONSISTENT WITH THE FRAMING SPACING. PROVIDE SUITABLE EDGE SUPPORT BY USE OF T&G PLYWOOD OR LUMBER BLOCKING UNLESS OTHERWISE NOTED. PANEL END JOINTS SHALL OCCUR OVER FRAMING.
- SHEATHING SHALL HAVE A ½" GAP AT PANEL ENDS AND EDGES AS RECOMMENDED IN ACCORDANCE WITH THE APA.

STRUCTURAL FIBERBOARD PANELS:

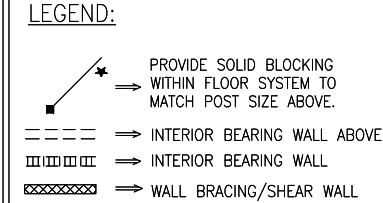
- STRUCTURAL FIBERBOARD SHEATHING SHALL ONLY BE USED WHERE SPECIFICALLY NOTED ON THE STRUCTURAL PLANS.
- FABRICATION AND PLACEMENT OF STRUCTURAL FIBERBOARD SHEATHING SHALL BE IN ACCORDANCE WITH THE APPLICABLE AFA STANDARDS.
- SHEATHING SHALL HAVE A ½" GAP AT PANEL ENDS AND EDGES AS RECOMMENDED IN ACCORDANCE WITH THE AFA.

STRUCTURAL STEEL:

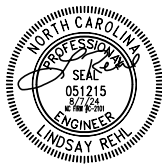
- STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" AND OF THE MANUAL OF STEEL CONSTRUCTION "LOAD RESISTANCE FACTOR DESIGN" LATEST EDITIONS.
- ALL STEEL SHALL HAVE A MINIMUM YIELD STRESS (F<sub>y</sub>) OF 50 KSI UNLESS OTHERWISE NOTED.
- WELDING SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY'S STRUCTURAL WELDING CODE AWA D1.1. ELECTRODES FOR SHOP AND FIELDING WELDING SHALL BE CLASS E70XX. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER PER THE ABOVE STANDARDS.
- ALL STEEL BEAMS TO BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3½" AND FULL FLANGE WIDTH UNLESS OTHERWISE NOTED. BEAMS MUST BE ATTACHED AT EACH END WITH A MINIMUM OF FOUR 16d NAILS OR (2) ½" x 4" LAG SCREWS UNLESS OTHERWISE NOTED.
- INSTALL 2x WOOD PLATE ON TOP OF STEEL BEAMS, RIPPED TO MATCH BEAM WIDTH. FASTEN PLATE TO BEAM W/ HILTI X-DNI 52 P8 PINS AT 12" O.C. STAGGERED OR ½" DIAMETER BOLTS AT 24" O.C.

MECHANICAL FASTENERS:

- ALL METAL HARDWARE AND FASTENERS TO BE SIMPSON STRONG-TIE OR APPROVED EQUIVALENT.
- ALL HARDWARE AND FASTENERS IN CONTACT WITH PRESERVATIVE PRESSURE AND/OR FIRE RETARDANT TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 153, G-185.
- MANY OF THE NEW PRESSURE TREATED WOODS USE CHEMICALS THAT ARE CORROSIVE TO STEEL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE TYPE OF WOOD TREATMENT AND SELECT APPROPRIATE CONNECTORS THAT WILL RESIST THE APPLICABLE CORROSIVE CHEMICALS.



BRICK VENEER LINTEL SCHEDULE		
SPAN	LINTEL SIZE	END BEARING
UP TO 3'-0"	3½"x3½"x¼"	4"
UP TO 6'-3"	5"x3½"x¾" L.L.V.	8"
UP TO 9'-6"	6"x3½"x¾" L.L.V.	12"
LINTELS ARE NOT DESIGNED TO BE BOLTED TO HEADERS UNLESS SPECIFIED ON UNIT PLANS.		
SPANS OVER 4'-0" SHALL BE SHORED UP UNTIL CURED.		



General Structural Notes

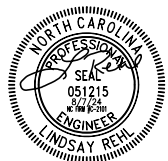
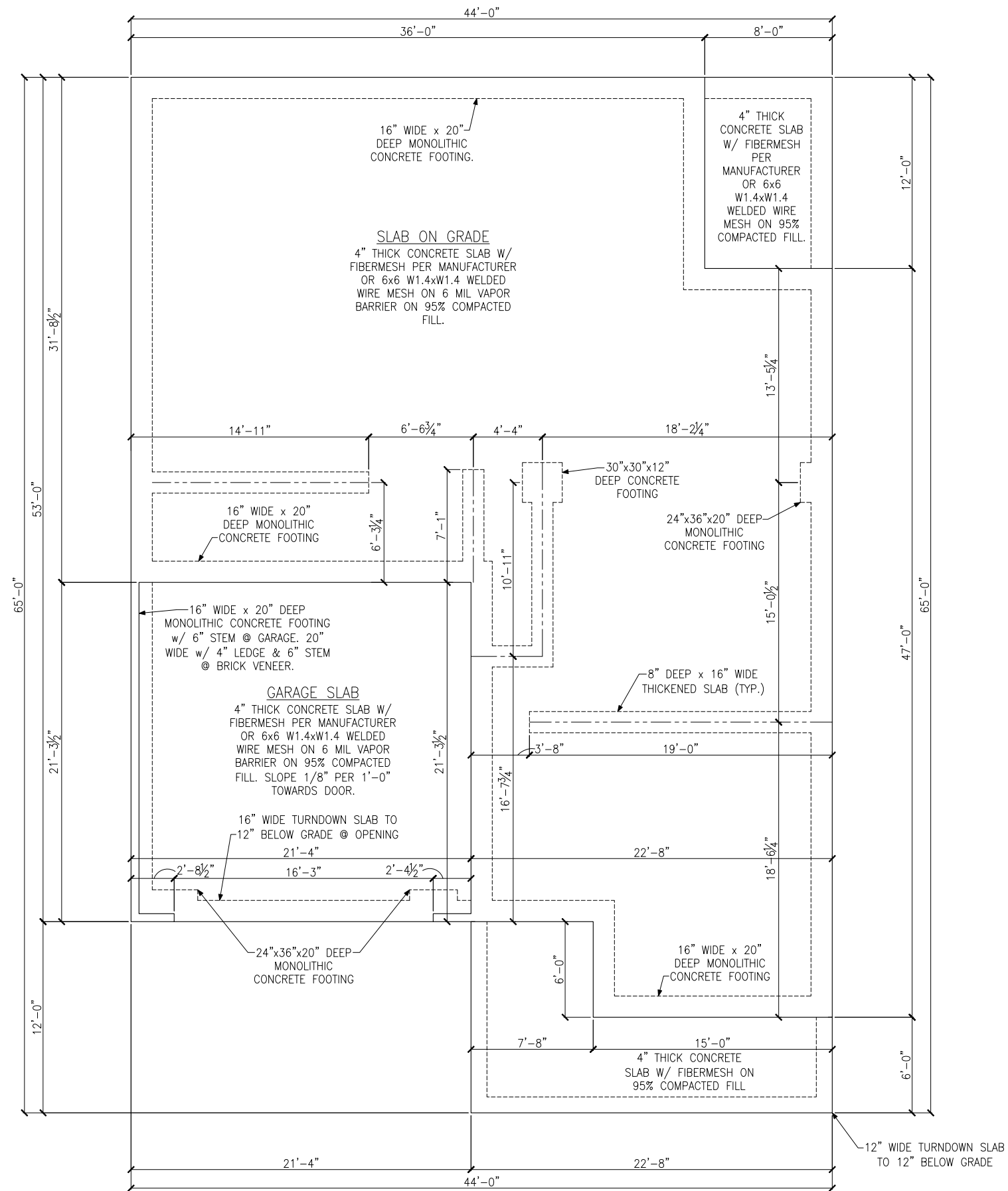
1900 AM DRIVE, SUITE 201, QUAKERTOWN, PA 18951  
www.kse-eng.com  
(215) 804-4449

America's Builder

'Hartwell' - LH  
115 M.P.H.  
North Carolina

Project #: 088-22010  
Designed By: JPS  
Checked By:  
Issue Date: 11/2/23  
Re-Issue:  
Scale: 1/8"=1'-0" @ 11x17  
1/4"=1'-0" @ 22x34





## Monolithic Slab Foundation Plans

## Elevation C & Option

Hartwell, — LH

115 M.P.H.

North Carolina



**ENGINEERING**  
SUITE 201, QUAKERTOWN, PA 18951  
(215) 804-4449



Project #: 088-22010

Designed By: JPS

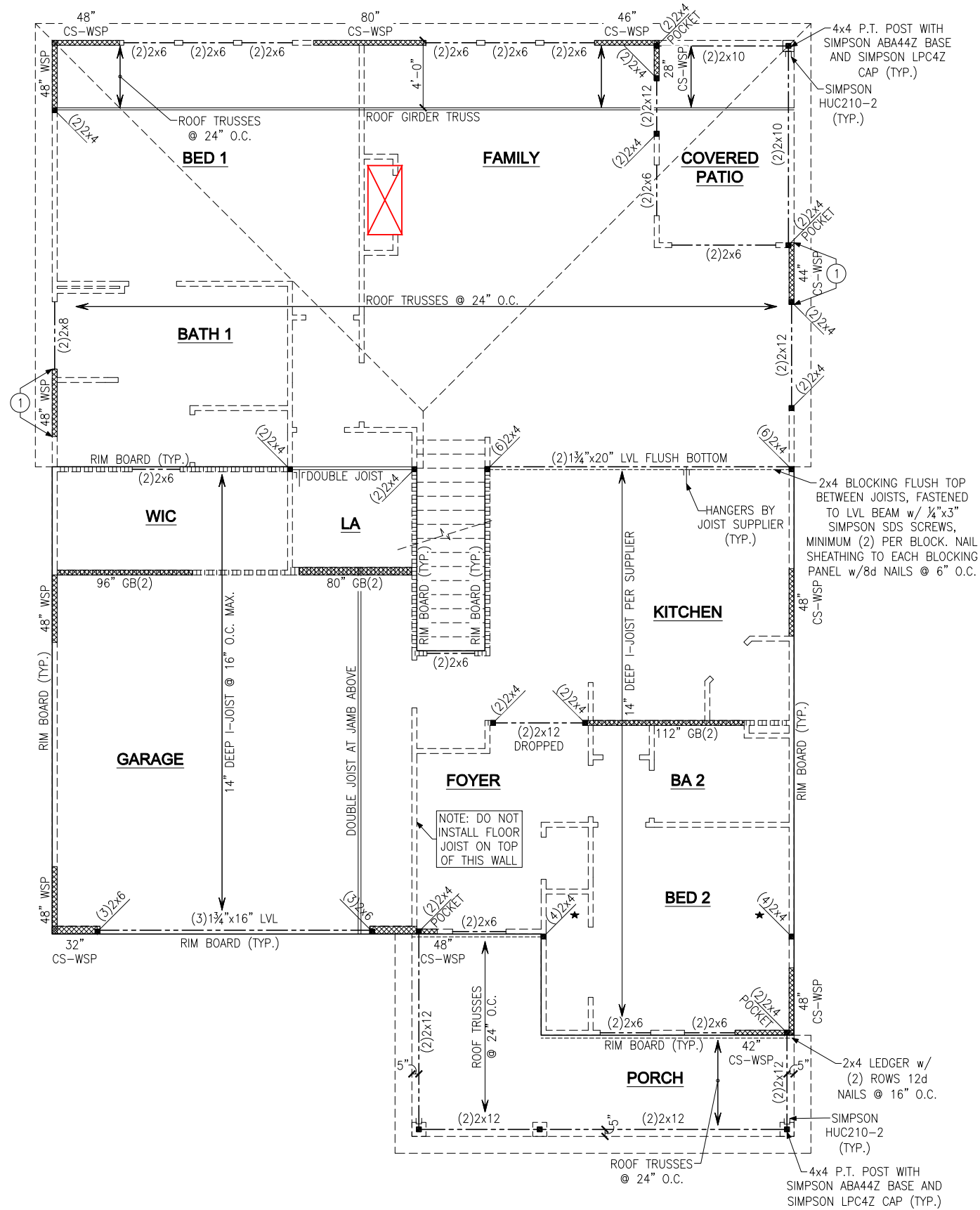
Checked By:

Issue Date: 11/2/23

Re-Issue:

Scale:  $1/8" = 1'-0"$  @ 11x17  
 $1/4" = 1'-0"$  @ 22x34

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SECOND FLOOR FRAMING PLAN  
ELEVATION C

**LEGEND**

- PROVIDE SOLID BLOCKING WITHIN FLOOR SYSTEM TO MATCH POST SIZE ABOVE.
- BEARING WALL ABOVE
- INTERIOR BEARING WALL
- BRACED WALL PANEL (SEE KSE STRUCTURAL DETAILS SET FOR BRACED WALL PANEL SHEATHING FASTENING & BLOCKING DETAILS)

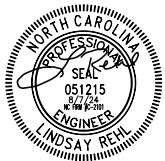
REFER TO KSE STRUCTURAL DETAILS SET FOR GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS

PLAN DESIGNED WITH 9' NOMINAL WALL PLATE HEIGHT

FLOOR FRAMING TO BE 14" DEEP PRI-40s, SPACING PER SUPPLIER. RIM BOARD TO BE 1"x14" VERSA-LAM 1.4 1800, U.N.O.

**KEYNOTES:**

- IF WOOD FLOOR BELOW, CONNECT STUD AT END OF BRACED WALL PANEL TO FRAMING BELOW WITH A 30" LONG SIMPSON CS20 COIL STRAP WITH MIN 8-10d NAILS EACH END.  
OR  
IF SLAB FOUNDATION BELOW, CONNECT STUD TO FOUNDATION w/ SIMPSON DTT1Z w/ SIMPSON 3/8"x6" TITEN HD SCREW ANCHOR AND 3 1/2" MINIMUM EMBEDMENT.
- INSTALL ONE PANEL CS-PF PORTAL FRAME PER DETAIL A OR B/DS-4.



Second Floor Framing Plans

Elevation C & Option 'Hartwell' – LH

115 M.P.H.

North Carolina

Project #: 088-22010

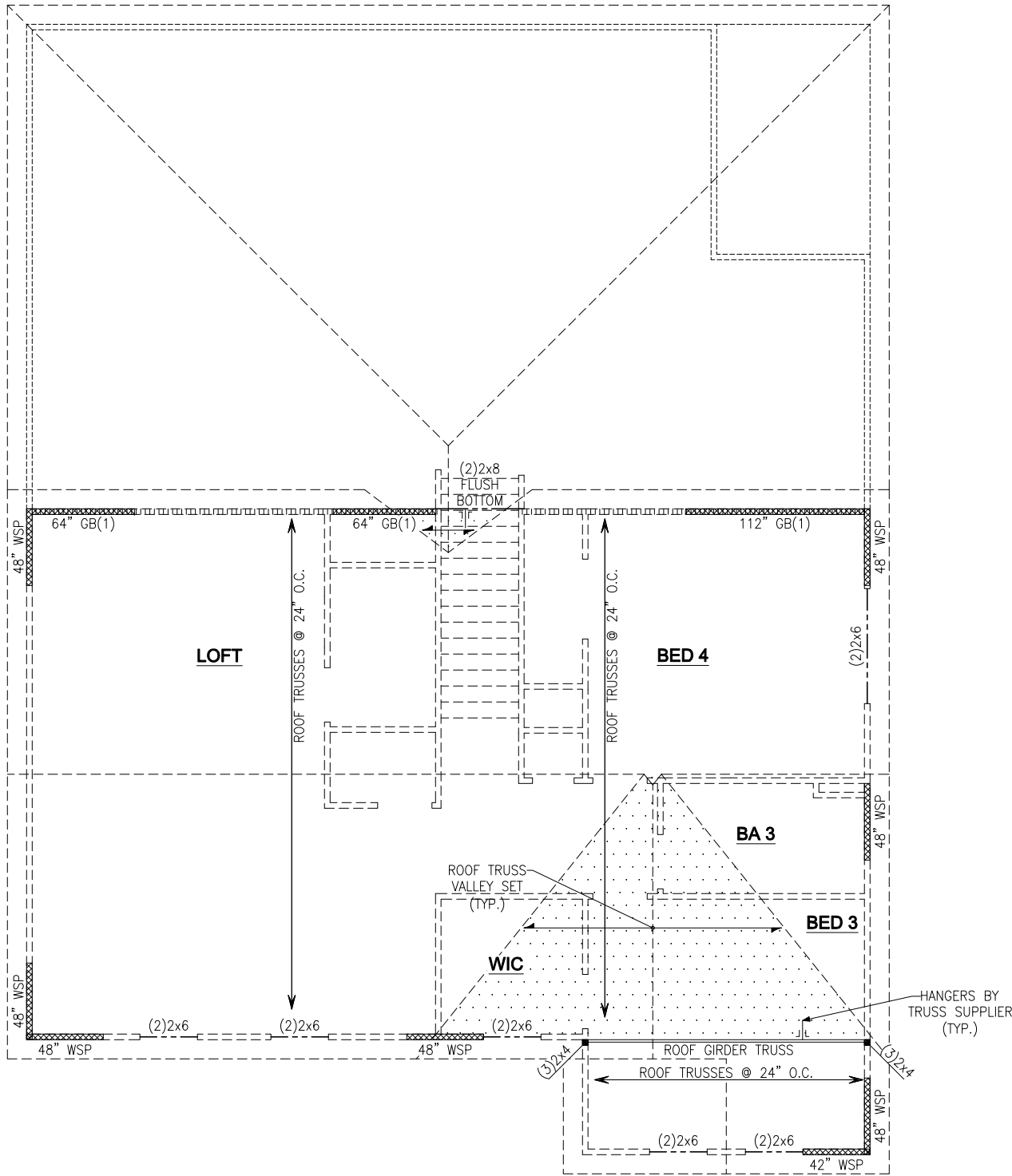
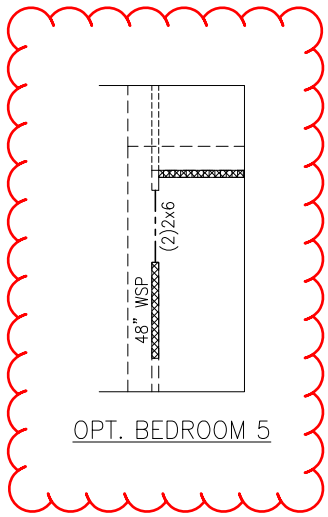
Designed By: JPS

Checked By:

Issue Date: 11/2/23

Re-Issue:

Scale: 1/8"=1'-0" @ 11x17  
1/4"=1'-0" @ 22x34



**★** ⇒ PROVIDE SOLID BLOCKING WITHIN FLOOR SYSTEM TO MATCH POST SIZE ABOVE.

----- ⇒ BEARING WALL ABOVE

▤▤▤▤▤▤ ⇒ INTERIOR BEARING WALL

▤▤▤▤ ⇒ BRACED WALL PANEL (SEE KSE STRUCTURAL DETAILS SET FOR BRACED WALL PANEL SHEATHING FASTENING & BLOCKING DETAILS)

48" WSP

REFER TO KSE STRUCTURAL DETAILS SET FOR GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS

PLAN DESIGNED WITH 8" NOMINAL WALL PLATE HEIGHT

ROOF FRAMING PLAN  
ELEVATION C



Roof Framing Plan

Elevation C

'Hartwell' – LH

115 M.P.H.

North Carolina

Project #: 088-22010

Designed By: JPS

Checked By:

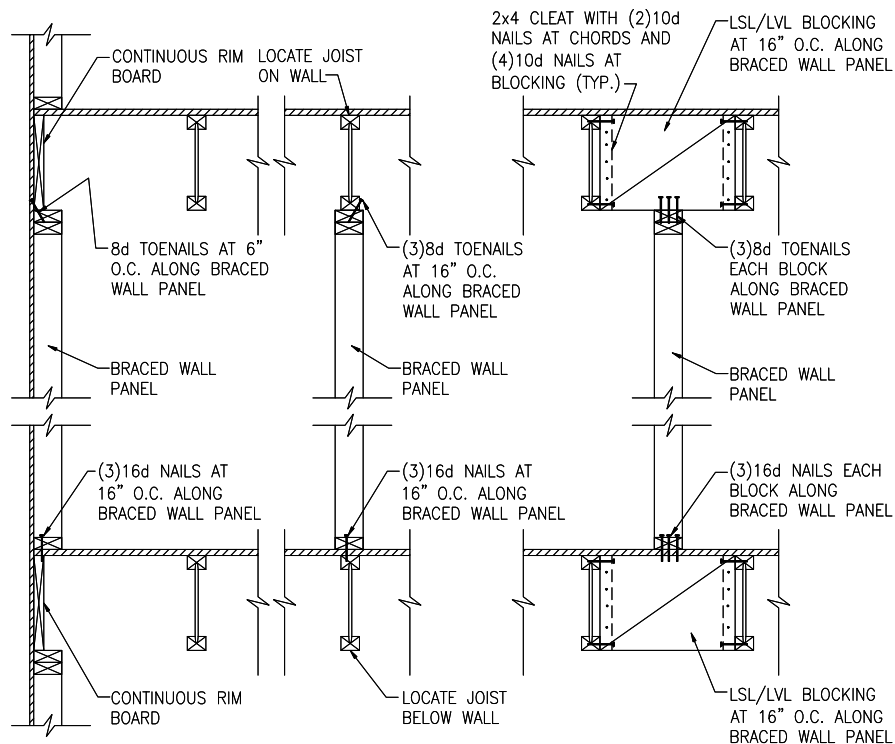
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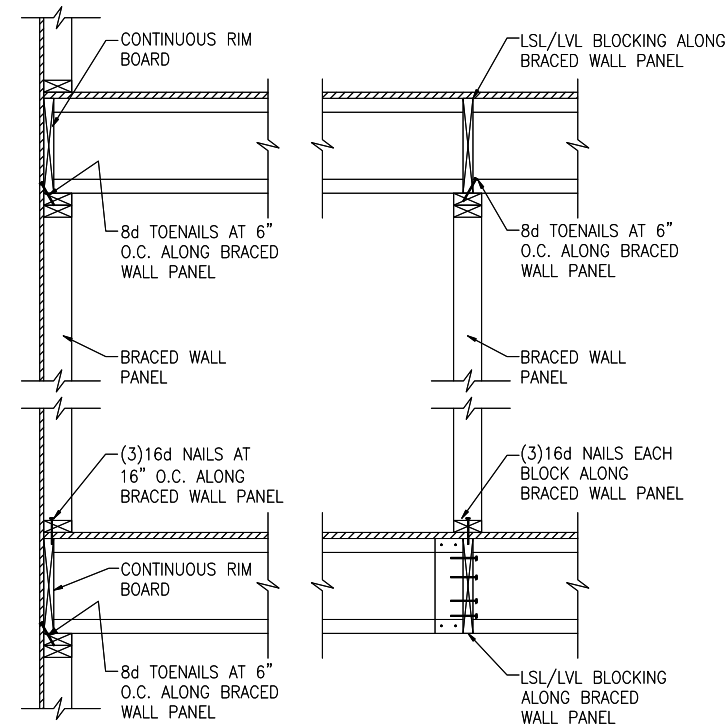
Scale: 1/8"=1'-0" @ 11x17  
1/4"=1'-0" @ 22x34

S 5 C

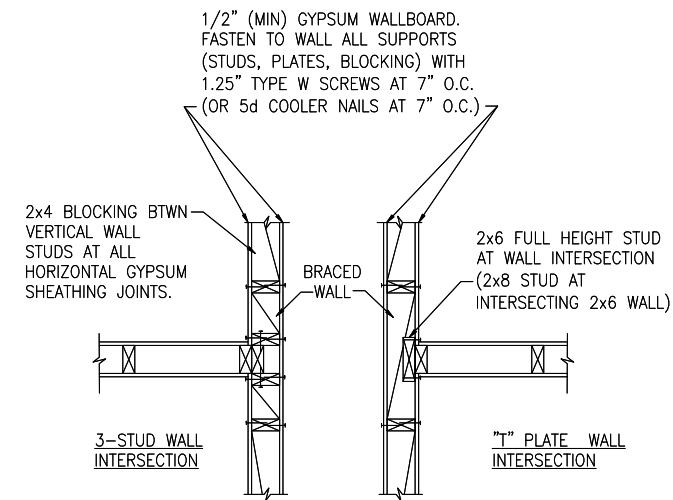




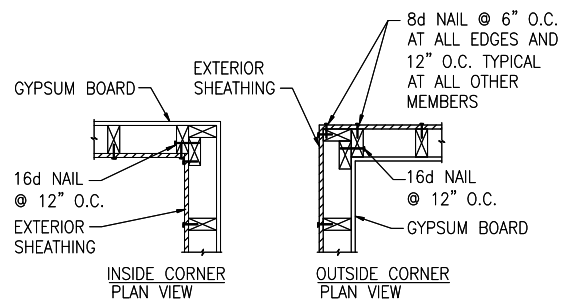
**A** TYPICAL BRACED WALL PANEL TO FLOOR/CEILING CONNECTION  
BRACED WALL PANELS PARALLEL TO I-JOISTS



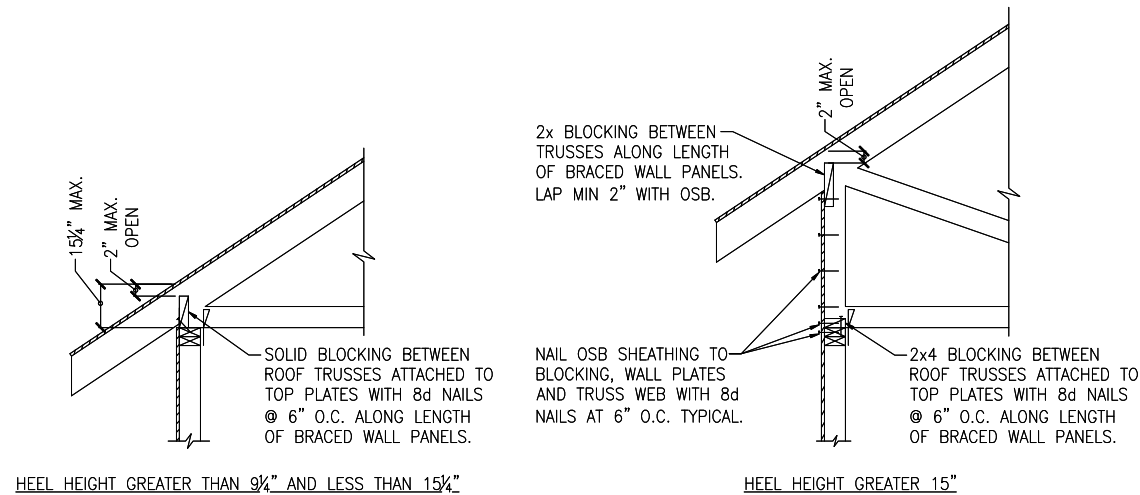
**B** TYPICAL BRACED WALL PANEL TO FLOOR/CEILING CONNECTION  
BRACED WALL PANELS PERPENDICULAR TO I-JOISTS



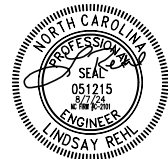
**C** METHOD GB(1) AND GB(2) INTERSECTION DETAILS

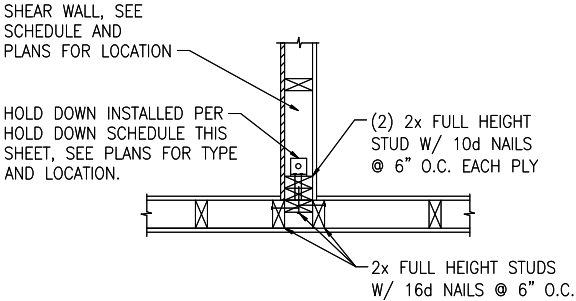


**D** TYPICAL EXTERIOR CORNER WALL FRAMING

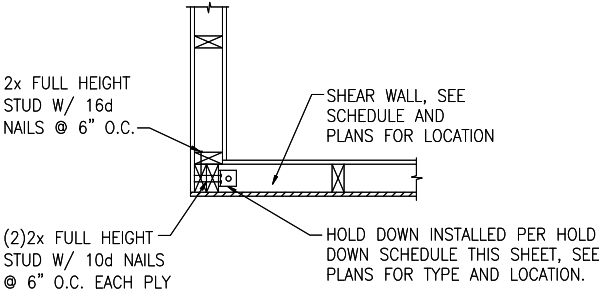


**E** ROOF TRUSS BEARING/BLOCKING AT BRACED WALL PANELS  
ONLY REQUIRED AT BRACED WALL PANELS

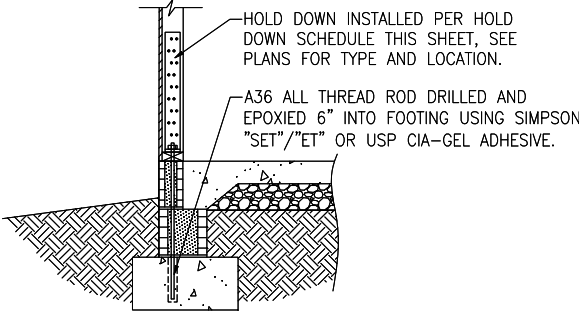




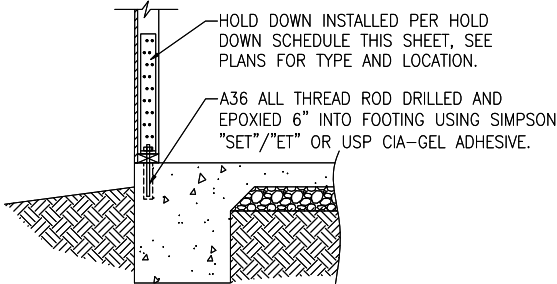
A TYPICAL HOLD DOWN DETAIL



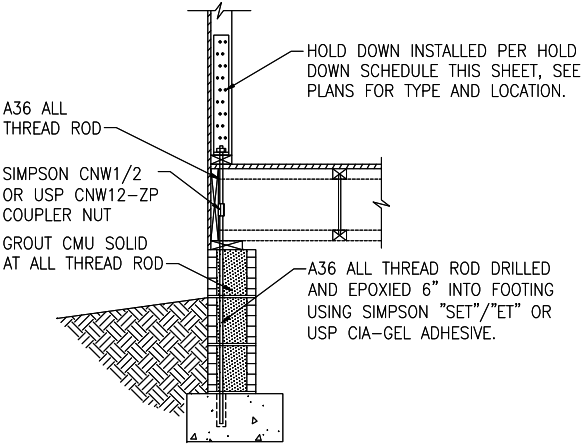
B TYPICAL HOLD DOWN DETAIL



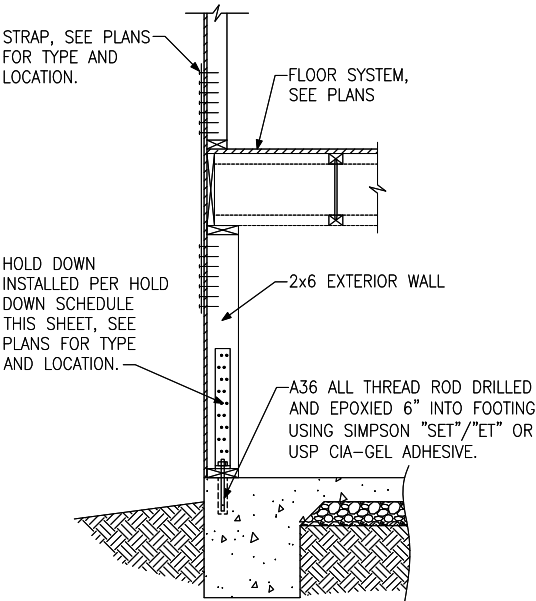
C HOLD DOWN AT STEM WALL SLAB FOUNDATION



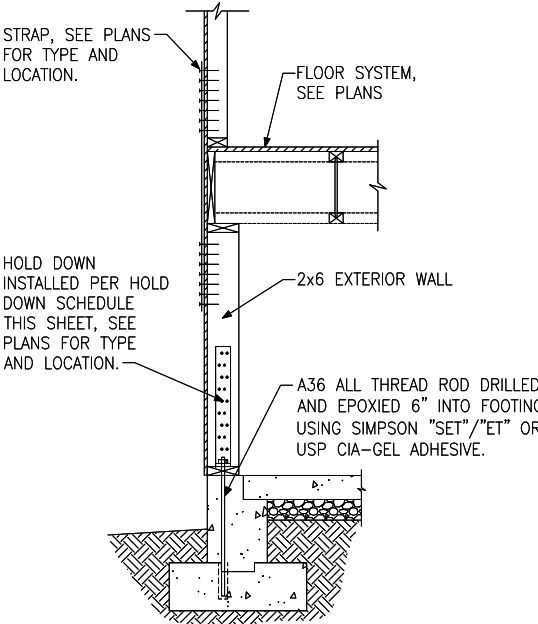
D HOLD DOWN AT MONOLITHIC SLAB FOUNDATION



E HOLD DOWN AT CRAWL SPACE FOUNDATION



F HOLD DOWN AT BASEMENT FOUNDATION MONOLITHIC TURN-DOWN

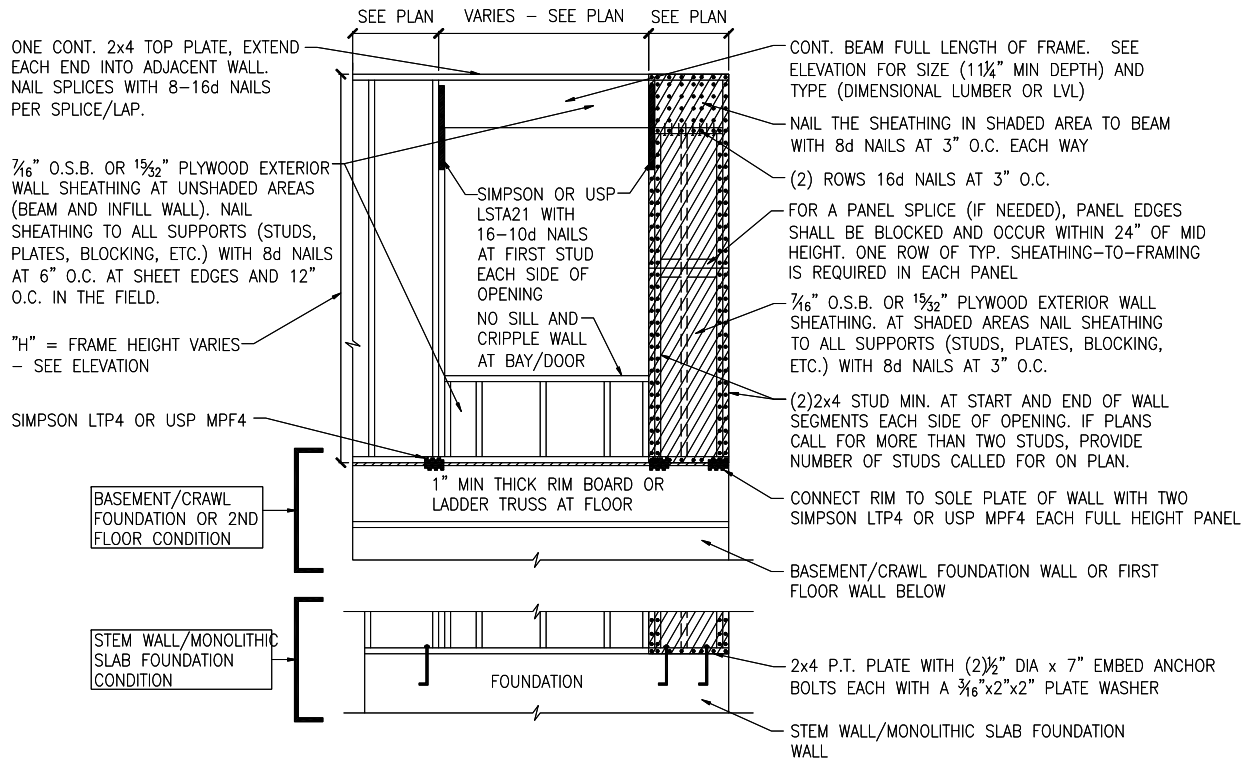


G HOLD DOWN AT BASEMENT FOUNDATION STEM WALL

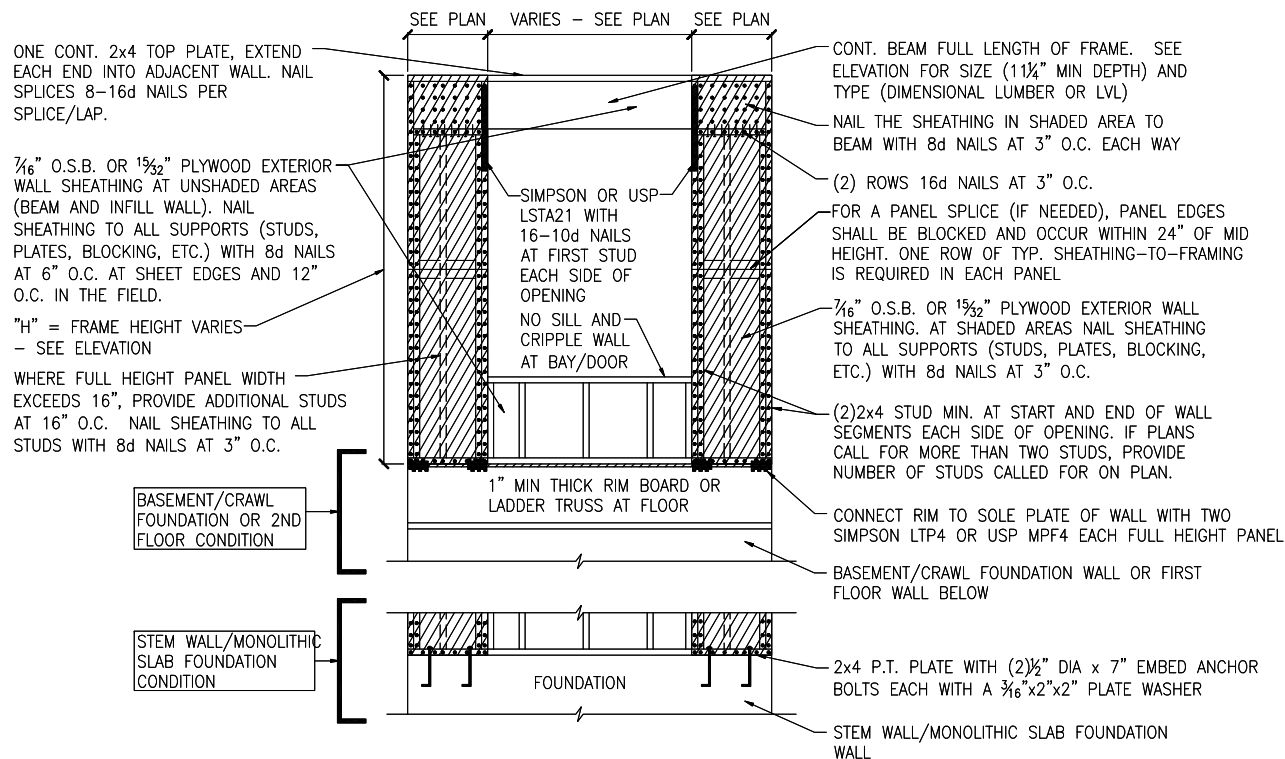
HOLD DOWN SCHEDULE			
HOLD DOWN		ALL THREAD ROD	FASTENERS
SIMPSON	USP		
LTP2	LTS20B	½" DIA.	(12)10dx1½" LONG NAILS
HTT4	HTT16	⅝" DIA.	(18)16dx2½" LONG NAILS
HTT5	HTT45	⅝" DIA.	(26)16dx2½" LONG NAILS



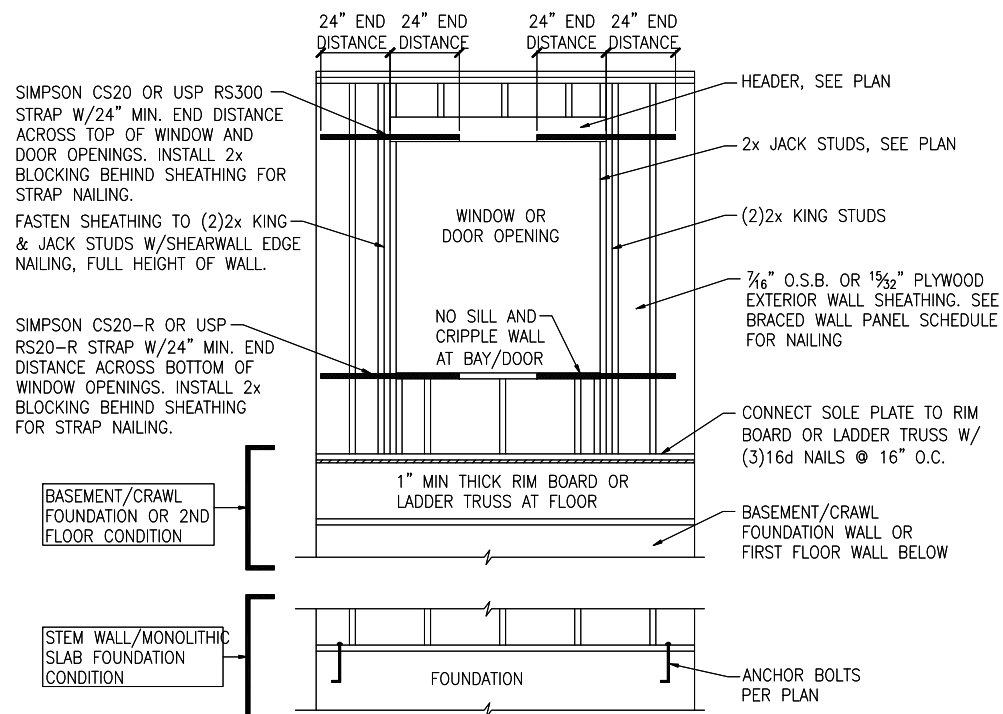
Hold Down Details



**A** METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION  
ONE BRACED WALL SEGMENT



**B** METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION  
TWO BRACED WALL SEGMENTS



**C** WINDOW OR DOOR REINFORCEMENT IN ENGINEERED SHEAR WALL  
ONLY REQUIRED WHERE SPECIFIED ON PLANS

BRACED WALL PANEL AND ENGINEERED SHEAR WALL SCHEDULE			
PANEL TYPES	PANEL TYPE	MATERIAL	FASTENERS
WSP	INTERMITTENT WOOD STRUCTURAL PANEL	7/16" OSB	6D OR 8D COMMON NAILS AT 6" O.C. AT SHEET EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. ENGINEERED ALTERNATIVE: 16 GAGE BY 1.75" LONG STAPLES AT 3" O.C. AT SHEET EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS
GB(1)	INTERMITTENT GYPSUM BOARD (SHEATHING ONE FACE OF WALL)	1/2" GYPSUM	1.5" LONG GALV. ROOFING NAILS, 6d COMMON NAILS, OR 1.25" LONG TYPE W DRYWALL SCREWS AT 7" O.C. AT SHEET EDGES AND INTERMEDIATE SUPPORTS.
GB(1)-4	INTERMITTENT GYPSUM BOARD (SHEATHING ONE FACE OF WALL)	1/2" GYPSUM	1.5" LONG GALV. ROOFING NAILS, 6d COMMON NAILS, OR 1.25" LONG TYPE W DRYWALL SCREWS AT 4" O.C. AT SHEET EDGES AND INTERMEDIATE SUPPORTS.
GB(2)	INTERMITTENT GYPSUM BOARD (SHEATHING BOTH FACES OF WALL)	1/2" GYPSUM	1.5" LONG GALV. ROOFING NAILS, 6d COMMON NAILS, OR 1.25" LONG TYPE W DRYWALL SCREWS AT 7" O.C. AT SHEET EDGES AND INTERMEDIATE SUPPORTS.
CS-WSP	CONTINUOUS SHEATHED WOOD STRUCTURAL PANEL	7/16" OSB	6D OR 8D COMMON NAILS AT 6" O.C. AT SHEET EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. ENGINEERED ALTERNATIVE: 16 GAGE BY 1.75" LONG STAPLES AT 3" O.C. AT SHEET EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS
CS-PF	CONTINUOUS SHEATHED PORTAL FRAME	7/16" OSB	NAILING PER DETAIL
PFH	PORTAL FRAME WITH HOLD DOWNS	7/16" OSB	NAILING PER DETAIL
CS-ESW(1)	ENGINEERED SHEAR WALL, TYPE 1	7/16" OSB	8D COMMON NAILS AT 6" O.C. AT SHEET EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. CONTINUOUS OSB AROUND DOOR/WINDOW OPENINGS
CS-ESW(2)	ENGINEERED SHEAR WALL, TYPE 2	7/16" OSB	8D COMMON NAILS AT 4" O.C. AT SHEET EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. CONTINUOUS OSB AROUND DOOR/WINDOW OPENINGS
CS-ESW(3)	ENGINEERED SHEAR WALL, TYPE 3	7/16" OSB	8D COMMON NAILS AT 3" O.C. AT SHEET EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS. CONTINUOUS OSB AROUND DOOR/WINDOW OPENINGS

**BRACED WALL PANEL NOTES:**

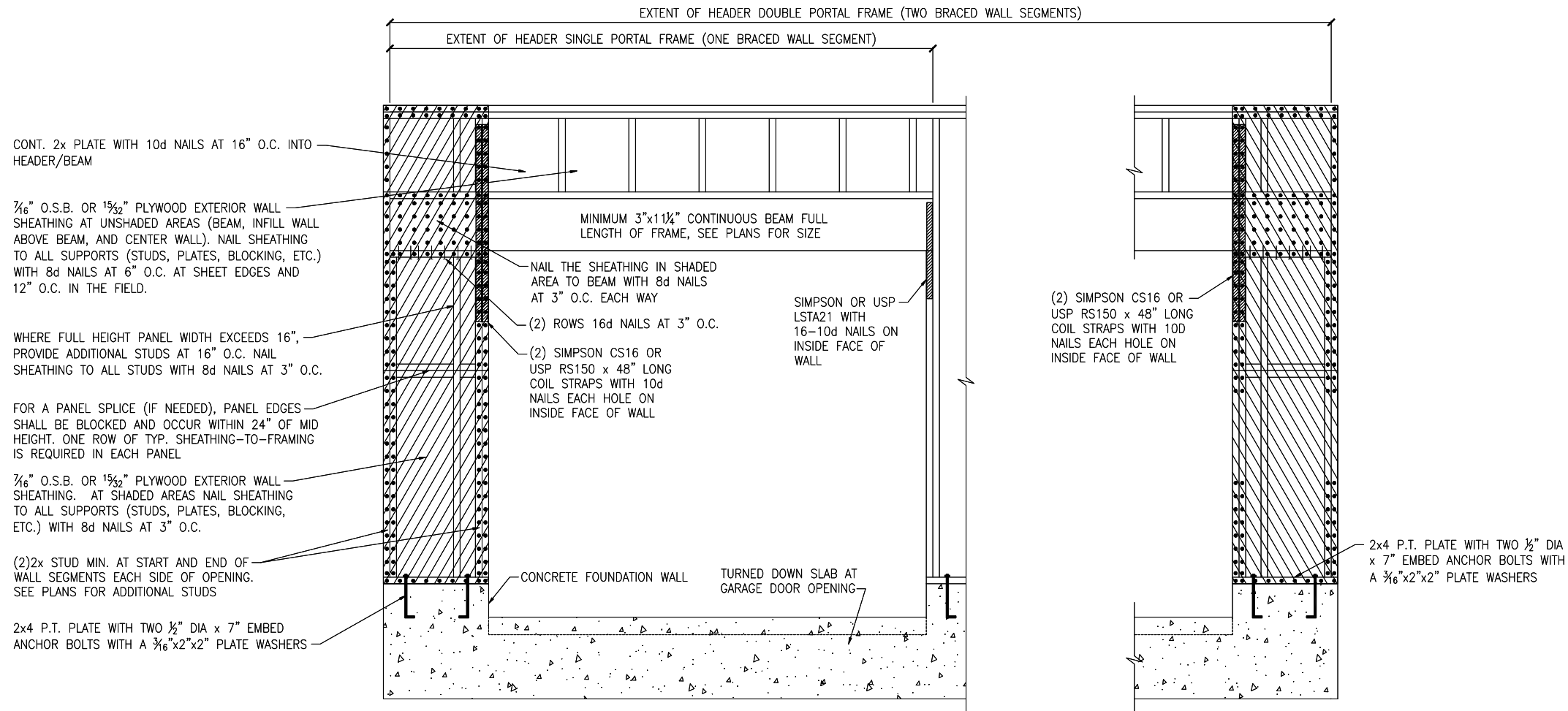
- ALL BRACED WALL PANELS, EXCEPT GB(1) & GB(2), SHALL HAVE 2x BLOCKING BETWEEN WALL STUDS AT ALL HORIZONTAL SHEET EDGES.
- PROVIDE NAILING/BLOCKING ABOVE AND BELOW ALL BRACED WALL PANELS PER KSE BRACED WALL DETAILS.
- SHEATH ALL EXTERIOR WALLS OF THE HOUSE WITH 7/16" O.S.B., OR 1 1/2" PLYWOOD, FASTENED PER NCRC. AT EXTERIOR CORNERS, SHEATHING SHALL BE FASTENED PER KSE BRACED WALL DETAILS. AT INTERIOR WALL INTERSECTIONS, FASTEN STUDS & WALL BRACING PER KSE BRACED WALL DETAILS.



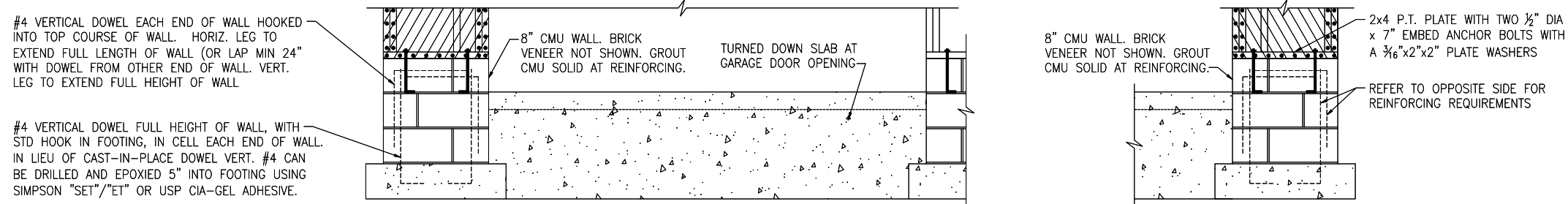
Braced Wall Notes & Details

'Hartwell' - LH  
115 M.P.H.  
North Carolina

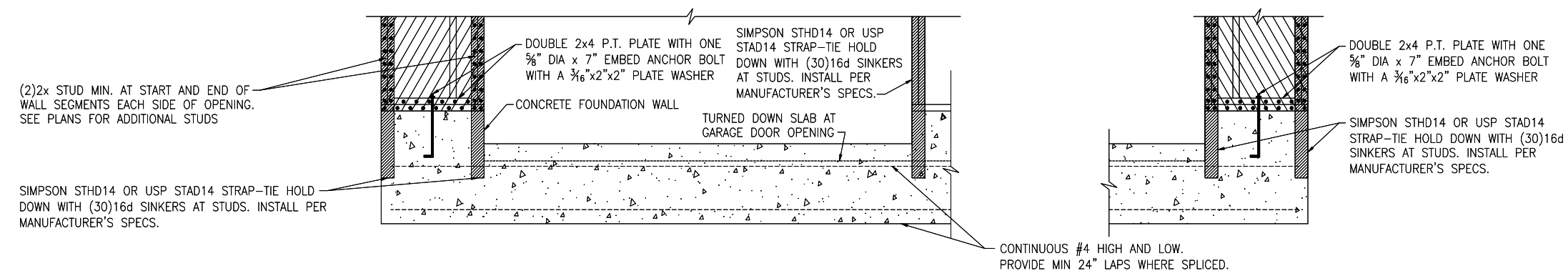
Project #: 088-22010  
Designed By: JPS  
Checked By:  
Issue Date: 11/2/23  
Re-Issue:  
Scale: 1/8"=1'-0" @ 11x17  
1/4"=1'-0" @ 22x34



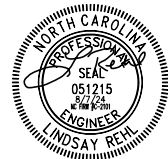
A METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION  
MONOLITHIC SLAB OR BASEMENT FOUNDATION



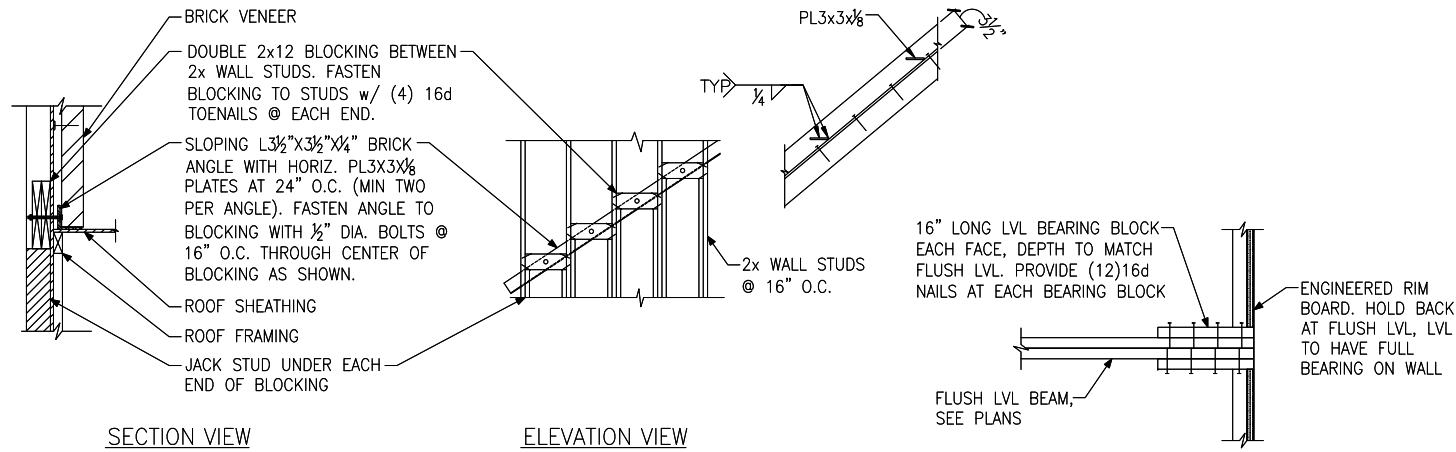
B METHOD CS-PF: CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION  
STEM WALL SLAB OR CRAWL SPACE FOUNDATION



C METHOD CS-EPF: ENGINEERED PORTAL FRAME WITH HOLD-DOWNS

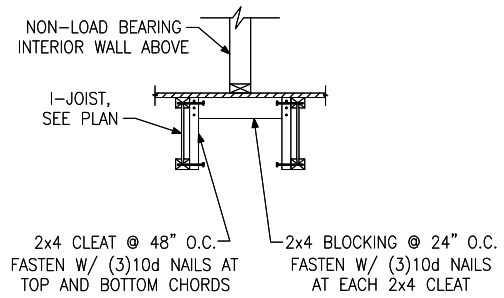




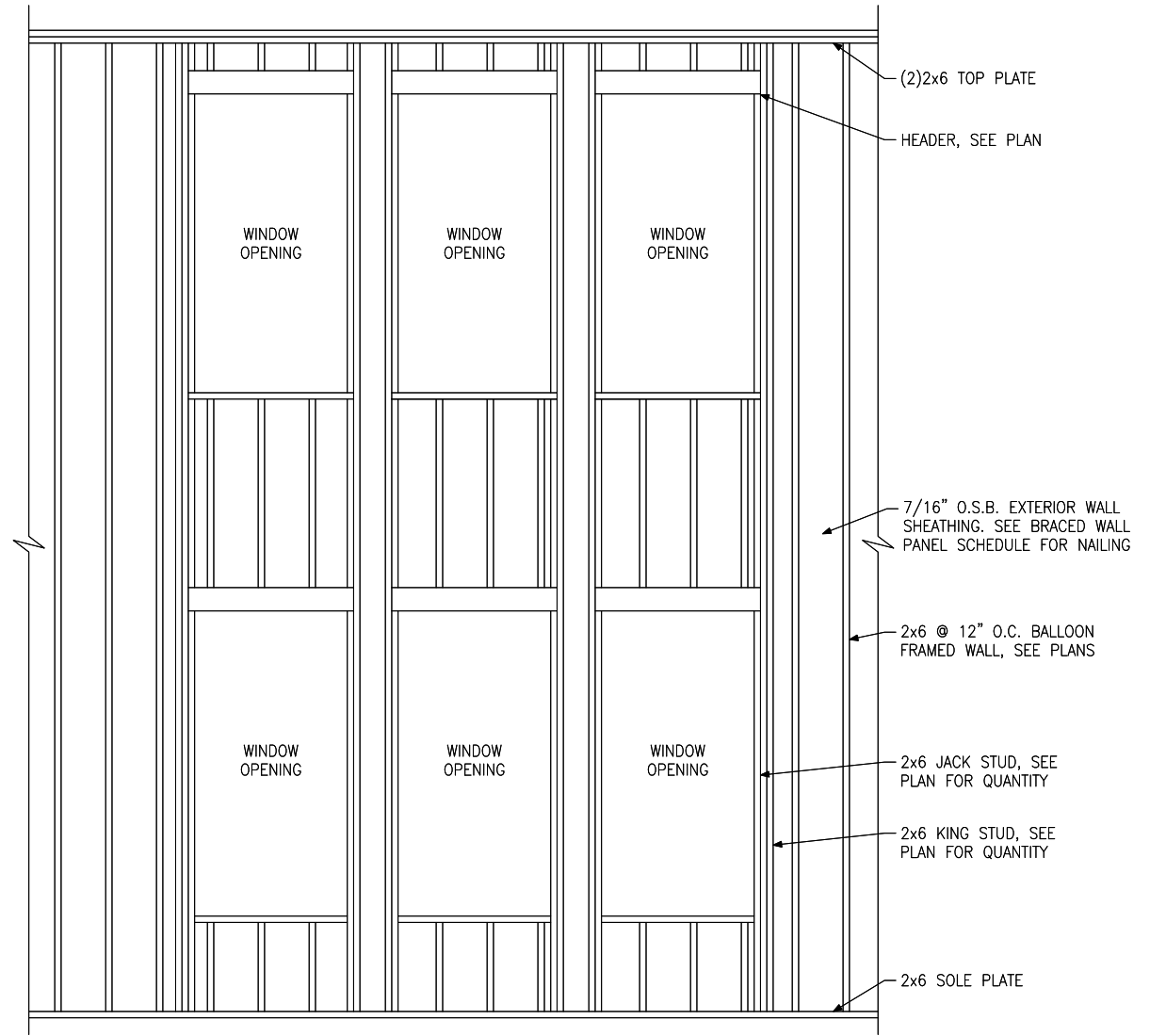


**(A) BRICK LEDGER CONNECTION DETAIL**

**(B) BEARING ENHANCER FLUSH LVL**



**(C) I-JOIST LADDER BLOCKING AS REQUIRED @ PARALLEL WALLS**



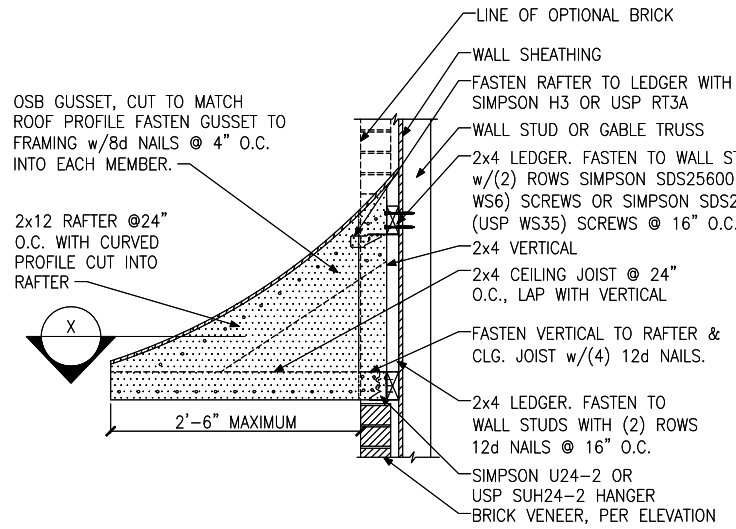
**(D) BALLOON FRAMED WALL DETAIL N.T.S.**



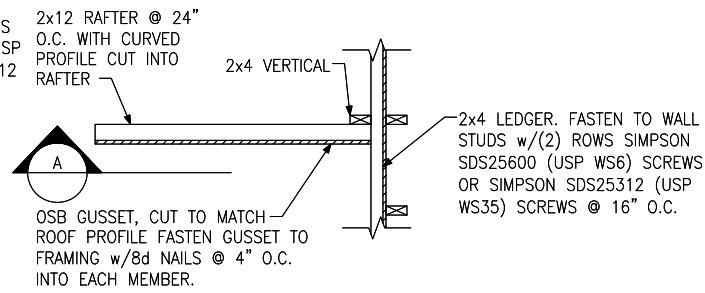
Miscellaneous Framing Details

'Hartwell' - LH  
115 M.P.H.  
North Carolina

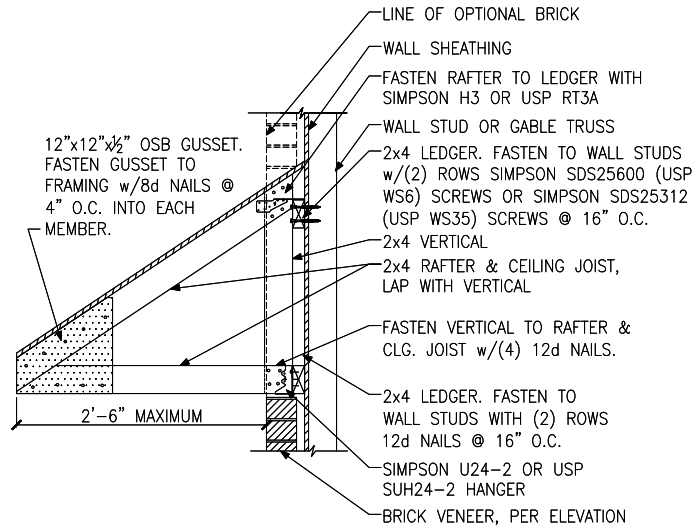
Project #: 088-22010  
Designed By: JPS  
Checked By:  
Issue Date: 11/2/23  
Re-Issue:  
Scale: 1/8"=1'-0" @ 11x17  
1/4"=1'-0" @ 22x34



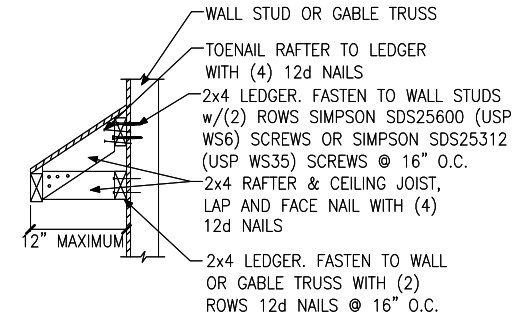
**A** PENT ROOF DETAIL  
CURVED ROOF



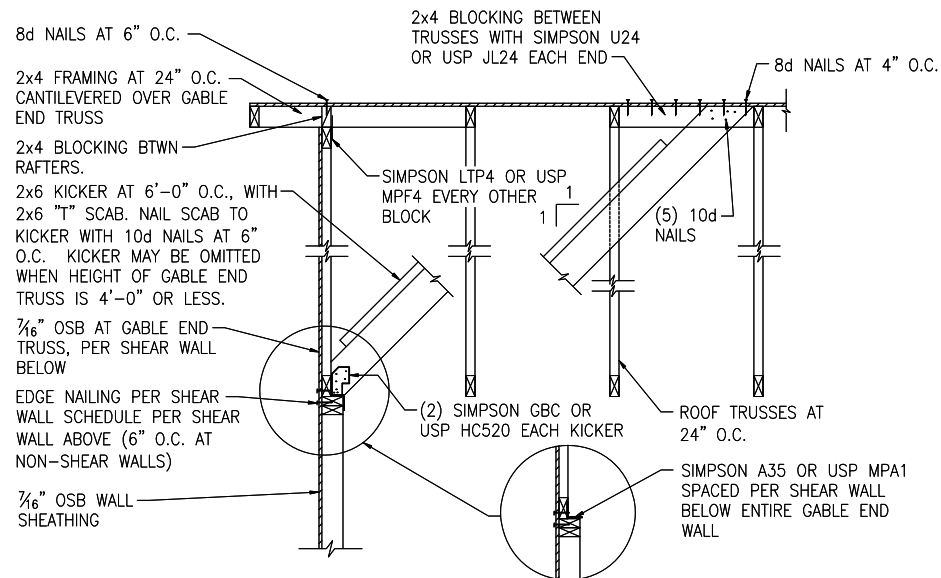
**B** PENT ROOF DETAIL  
STRAIGHT ROOF



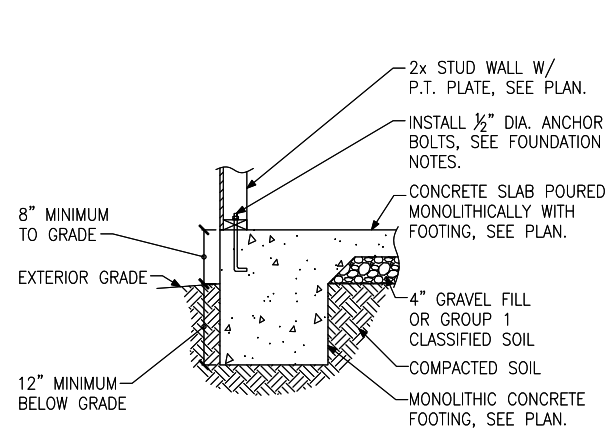
**C** EYEBROW ROOF DETAIL  
STRAIGHT ROOF



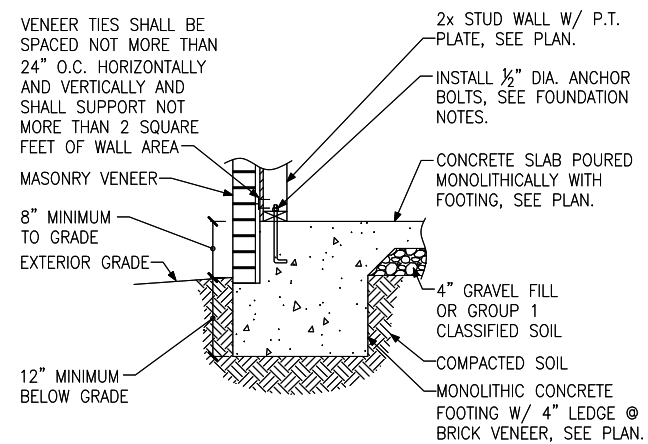
**D** TRUSS DETAIL



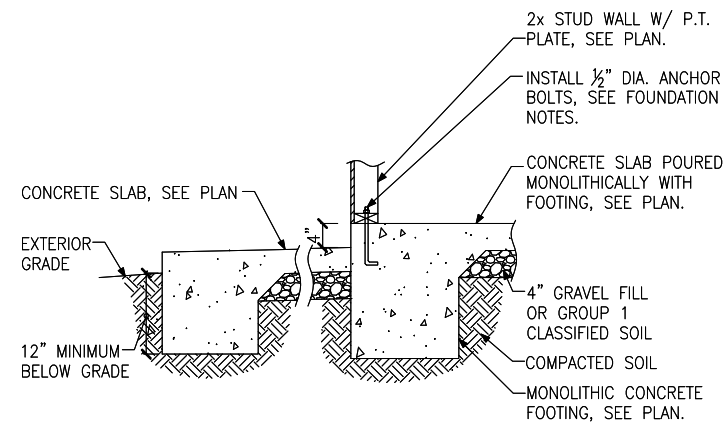
**E** GABLE END WALL DETAIL



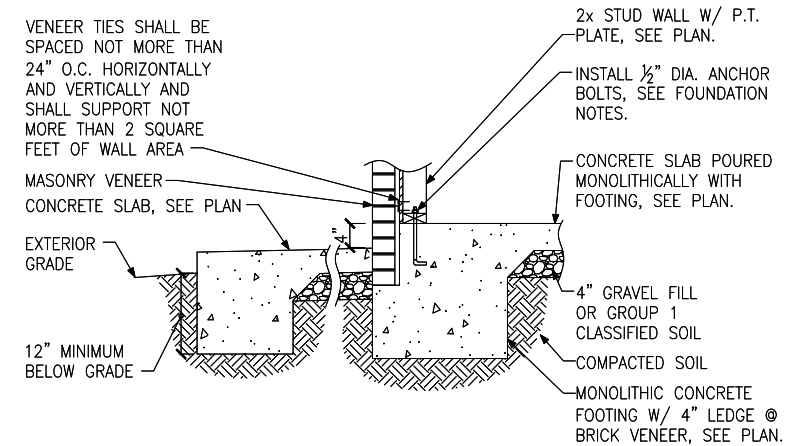
**A** FOUNDATION SECTION  
EXTERIOR WALL



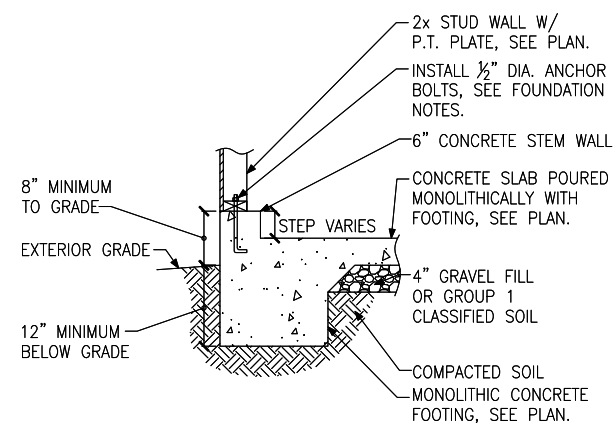
**B** FOUNDATION SECTION  
EXTERIOR WALL @ MASONRY  
VENEER



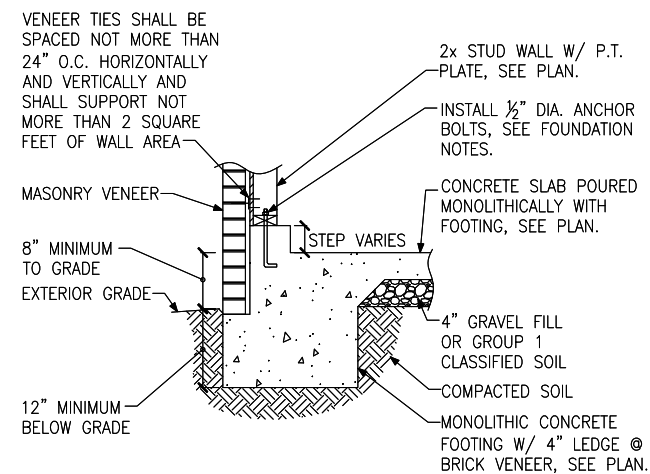
**C** FOUNDATION SECTION  
EXTERIOR WALL AT PORCH



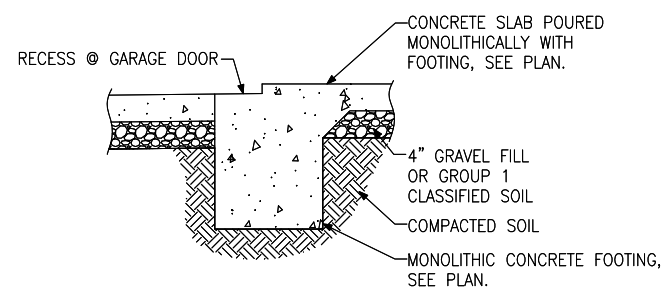
**D** FOUNDATION SECTION  
EXTERIOR WALL AT PORCH W/ MASONRY  
VENEER



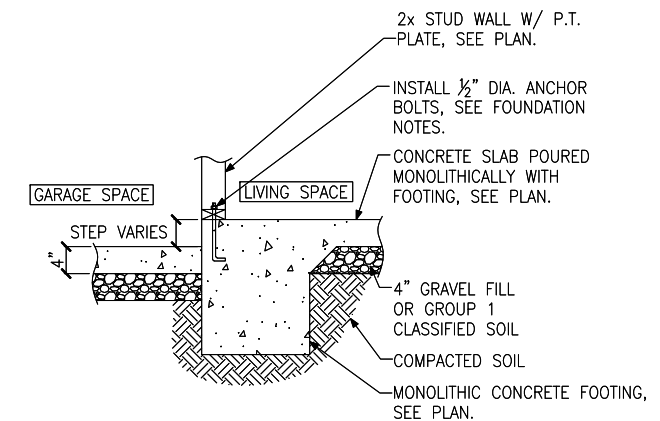
**E** FOUNDATION SECTION  
EXTERIOR GARAGE WALL



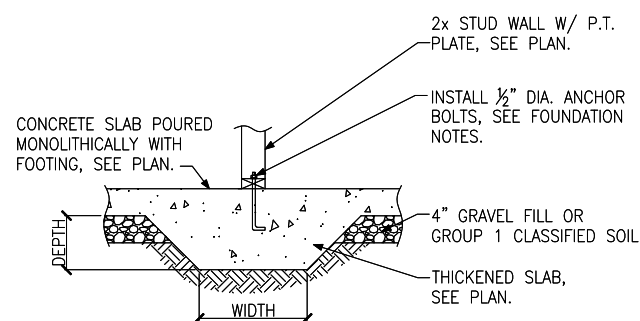
**F** FOUNDATION SECTION  
EXTERIOR GARAGE WALL @ MASONRY  
VENEER



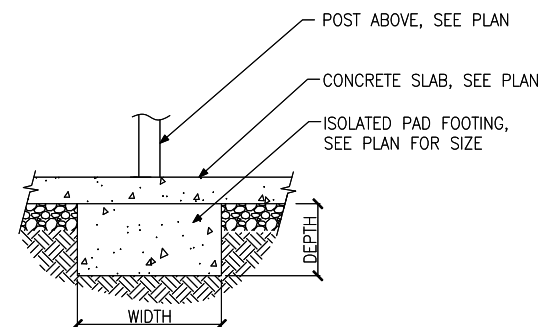
**G** FOUNDATION SECTION  
GARAGE DOOR



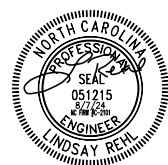
**H** FOUNDATION SECTION  
INTERIOR GARAGE WALL



**J** FOUNDATION SECTION  
THICKENED SLAB



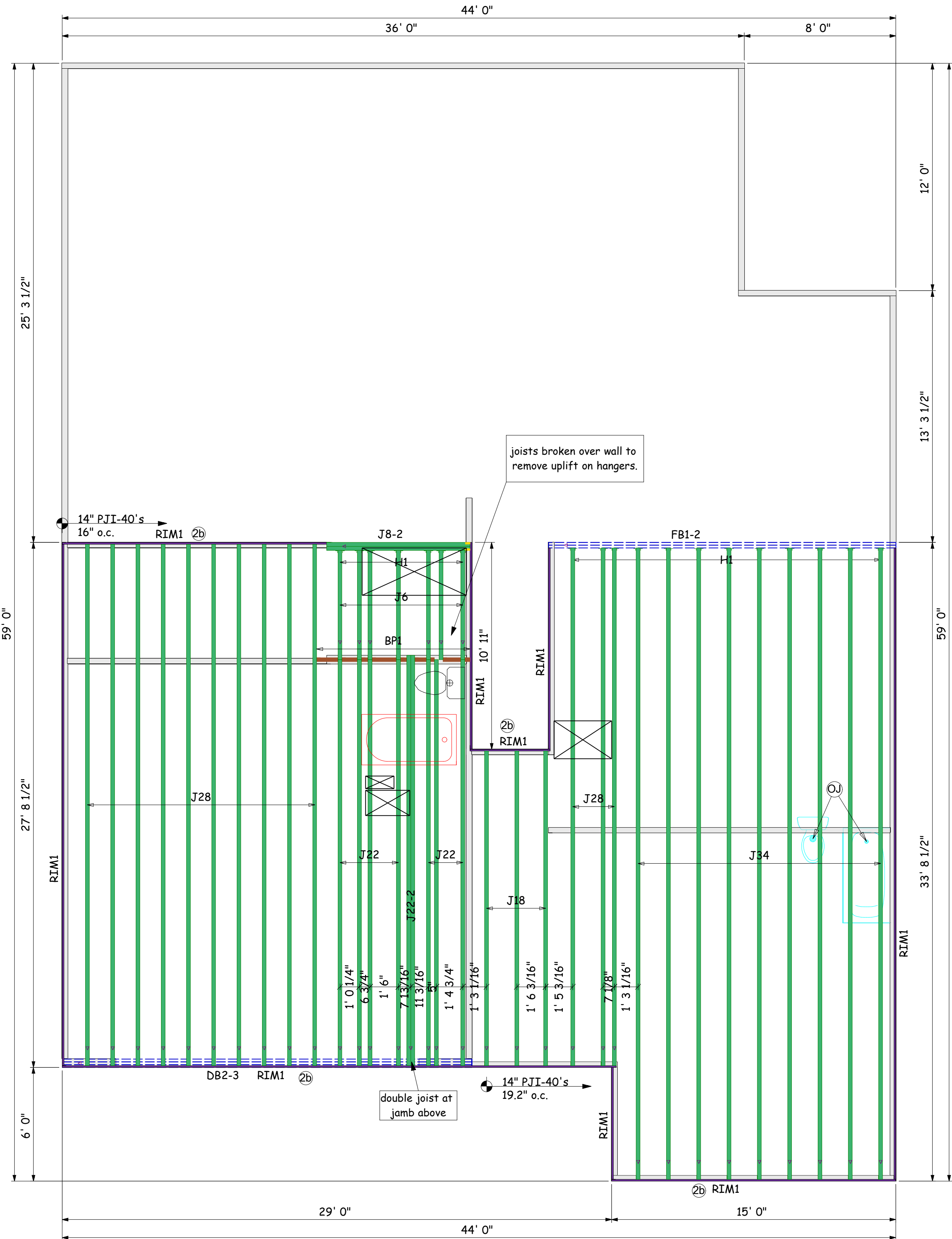
**K** FOUNDATION SECTION  
ISOLATED PAD FOOTING





General Notes: \*\* CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION.

\*\* LVL AND JOISTS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS.



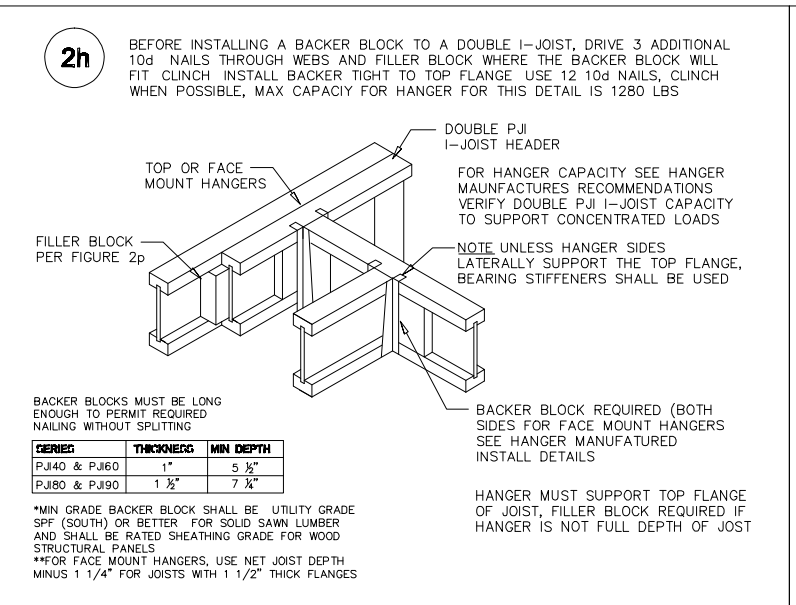
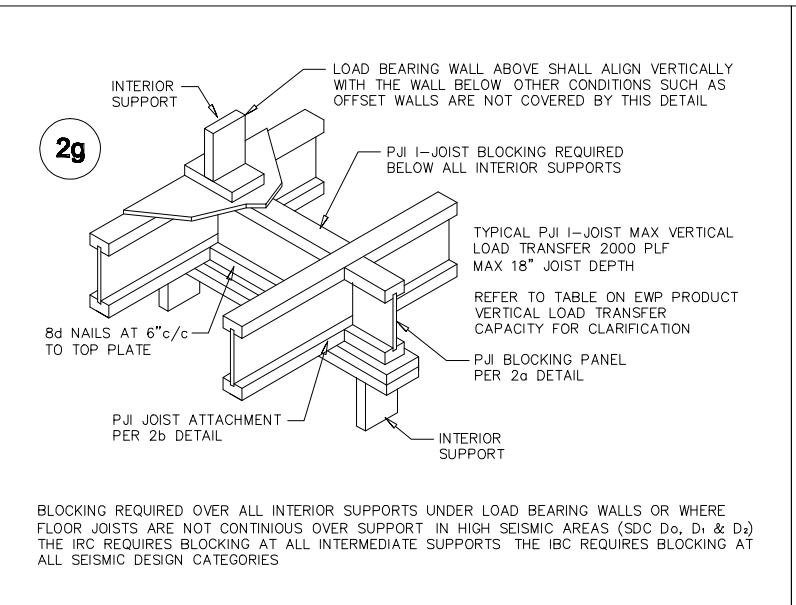
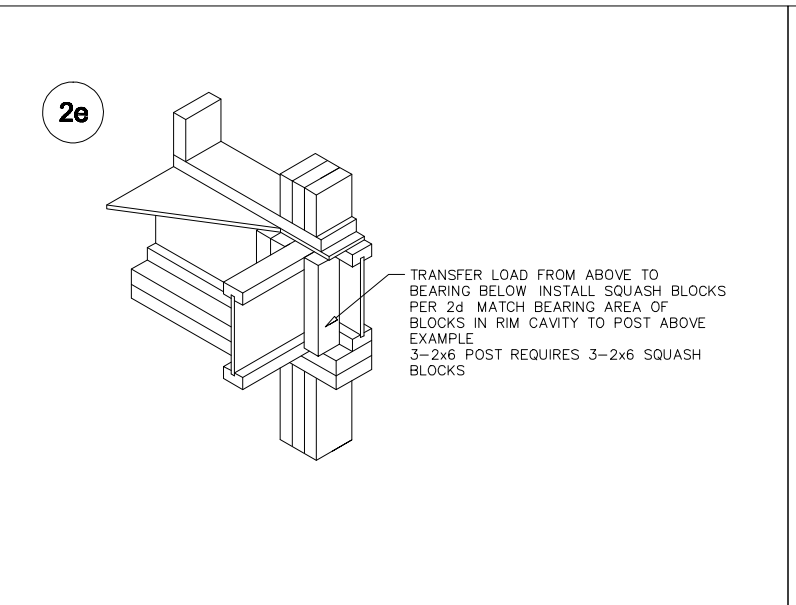
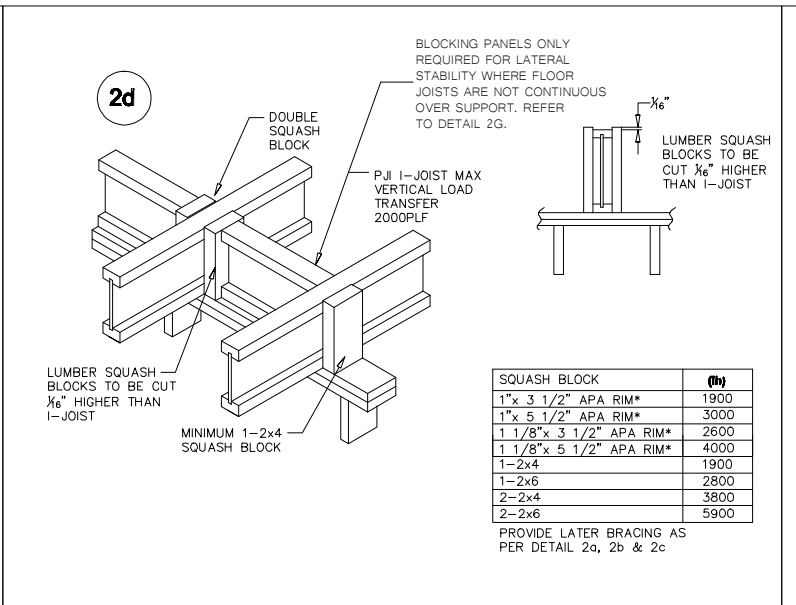
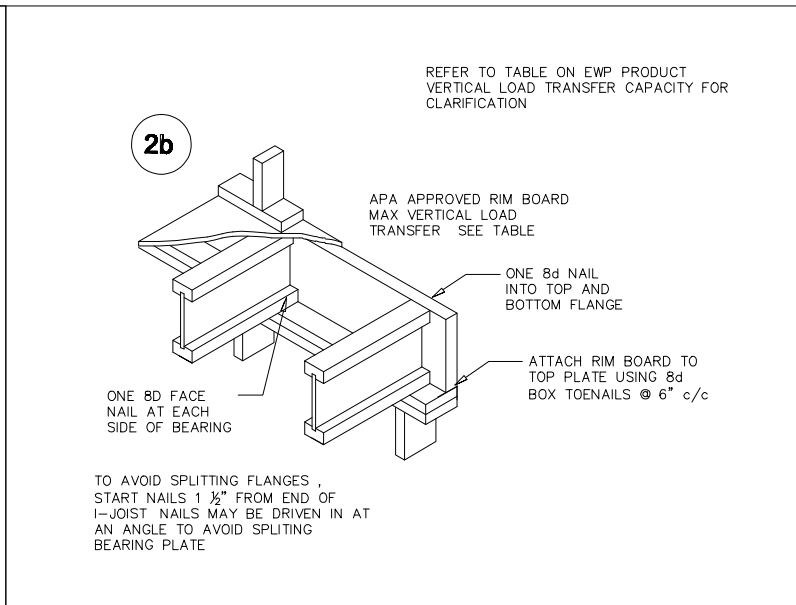
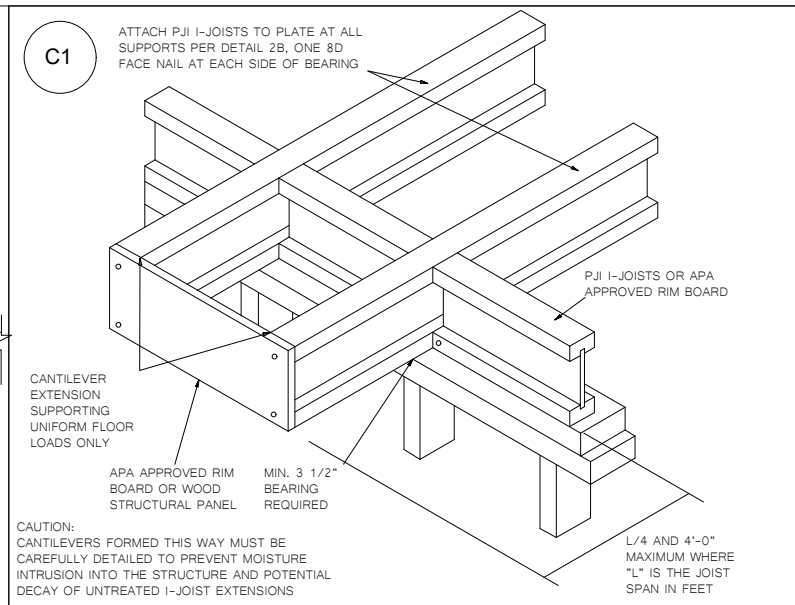
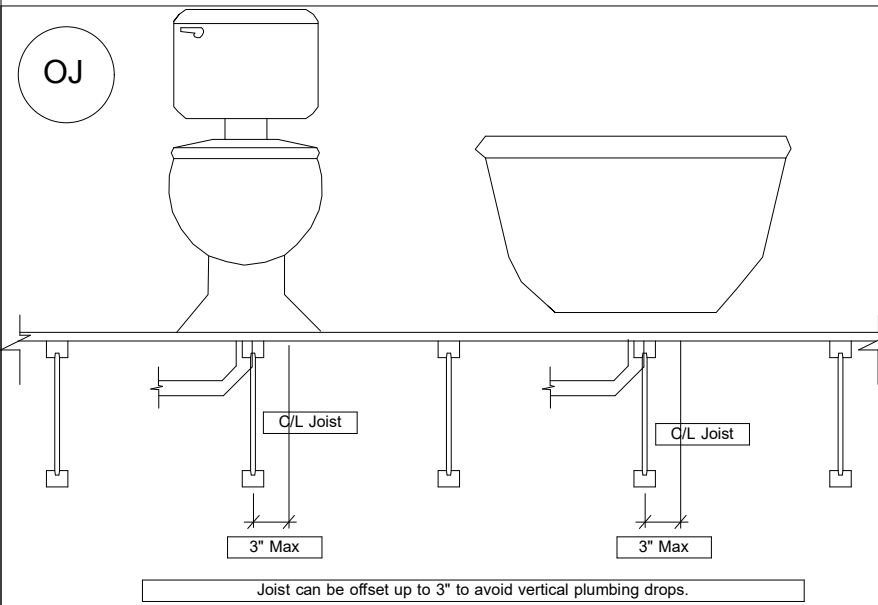
KEMPVILLE BUILDING MATERIALS IS NOT RESPONSIBLE FOR THE DESIGN OR CALCULATION OF ANY AND ALL I-JOIST AND LVL/PSL BEAM MATERIAL. ALL ENGINEERING AND INFORMATION FOR THIS MATERIAL IS TO BE PROVIDED BY THE ENGINEER OF RECORD MARKED ON APPROVED SET OF PLANS. ALL BEAM PLACEMENTS ARE PER THE ENGINEERING RECEIVED. ALL CONNECTION DETAILS TO BE PROVIDED BY ENGINEER OF RECORD. REFER TO ENGINEER OR RECORD FOR ALL MULTI-PLY LVL/ I-JOIST CONNECTION PATTERNS. BUILDER TO VERIFY ALL MATERIAL LENGTHS, QUANTITIES, AND SIZES PRIOR TO ORDERING.

Products				
PlotID	Length	Product	Plies	Net Qty
J34	34' 0"	14" PJI-40	1	9
J28	28' 0"	14" PJI-40	1	13
J22	22' 0"	14" PJI-40	1	7
J22-2	22' 0"	14" PJI-40	2	2
J18	18' 0"	14" PJI-40	1	3
J8-2	8' 0"	14" PJI-40	2	2
J6	6' 0"	14" PJI-40	1	7
DB2-3	22' 0"	2.1 RigidLam SP LVL 1-3/4 x 16	3	3
FB1-2	20' 0"	2.1 RigidLam SP LVL 1-3/4 x 20	2	2
RIM1	12' 0"	1 1/8" x 14" APA Rim Board	1	13
BP1	2' 0"	14" PJI-40	1	3

Accessories				
PlotID	Length	Product	Plies	Net Qty
		3/4" 4x8 OSB	1	40

Connector Summary					
PlotID	Qty	Manuf	Product	Backer Blocks	Web Stiff
H1	19	Simpson	IUS2.56/14	No	No

## 2ND FLOOR LAYOUT



LABEL LEGEND	
BBO	= Beam by Others
PBO	= Post by Others
GBO	= Girder by Others
J	= I-Joist
FB	= Flush Beam
DB	= Dropped Beam
RB	= Roof Beam
BP	= Blocking Panels
SB	= Squash Blocks

\*\* PLUMBING DROPS NOTED ARE IN APPROXIMATE LOCATIONS PER PLAN. BUILDER MUST VERIFY LOCATIONS BEFORE SETTING JOISTS.

\*\* ALL POINT LOADS FROM ABOVE MUST BE TRANSFERRED TO BEARING FROM UNDER SIDE OF SHEATHING.

\*\* REFER TO INSTALLATION GUIDE FOR PLY TO PLY CONNECTIONS.

\*\* FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS.

\*\* DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH.

\*\* DAMAGED FLOOR JOISTS SHOULD NOT BE INSTALLED UNLESS APPROVED BY COMPONENT PLANT.

Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

This is an I-Joist Placement Plan Only. All designs of I-Joist follow the IBC/IRC Code Requirements along with Manufacturer's guidelines. This is NOT an engineered placement plan. This placement plan is created from plans provided by the customer using Manufacturer's guidelines. It is the responsibility of the EOR, or builder to review and approve all bearing conditions, connections, spans, loading, product usage, and quantities. Do not notch or drill holes in beams or flanges on joists without prior approval from the manufacturing Representative unless following hole guidelines in the installation guide of product. Builder takes full responsibility for doing so and NO Back charge will be accepted.



DR Horton  
112 Eagle Creek  
Hartwell C  
FLOOR JOIST LAYOUT

Scale: 1/4" = 1'-0"
Date: // 04/21/25
Designer: DW
Project #: 25040128
Sheet Number:
1 / 1