THE AVERY

AT ATHERSTONE - NORTH CAROLINA

SQUARE FOOTAGES

FIRST FLOOR (HTD.)	= 780 sf
SECOND FLOOR (HTD.)	= 1020 sf
	1800 sf
GARAGE	= 375 sf
FRONT PORCH	= 54 sf
TOTAL	= 2229 sf

INDEX OF SHEETS

INDEX OF SHEETS (CONT.)

ENGINEER

SUMMIT ENGINEERING

2520 WHITEHALL PARK DRIVE - SUITE 250
CHARLOTTE, NC 28273
704-504-1717

ARCHITECT

COX ARCHITECTURE & DESIGN, PLLC

R. CRAIG COX
1310 SOUTH TRYON STREET
SUITE 111
CHARLOTTE, NC 28203
980-237-3827

WWW.COXARCHITECTURE.COM
CRAIG@COXARCHITECTURE.COM

GENERAL CONTRACTOR

LGI HOMES

SCOTT STERLING
V.P. OF CONSTRUCTION FOR NC / SC
704-953-3824

LGI HOMES

THE AVERY

4 BEDROOM

CH

PERMIT SET
FOR CONSTRUCTION

● 30 SEPTEMBER 2022

COVER SHEET

A1.0

GENERAL NOTES

-DO NOT SCALE DRAWINGS; DESIGNATED DIMENSIONS SHALL BE USED IN PREFERENCE TO MEASUREMENTS BY SCALE.

-GENERAL CONTRACTOR SHALL VERIFY AND COMPLY TO ALL LOCAL & NATIONAL BUILDING CODES. CONTACT ARCHITECT IF INSPECTORS REQUIRE REVISIONS OR ALTERATIONS TO DRAWINGS.

-ALL SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR DAMAGE TO OTHER TRADES.

DESIGN SPECIFICATIONS

USE GROUP: (IBC 310)
"R-3" ONE & TWO FAMILY DWELLING

CONSTRUCTION CLASS: (IBC 601)
"TYPE V-B" UNPROTECTED

HEIGHT & AREA LIMIT: (LOCAL ZONING)
35' MAXIMUM 2 STORY HEIGHT

EMERGENCY ESCAPE: (IRC 310-311)
EGRESS OR RESCUE WINDOWS FROM SLEEPING ROOMS
SHALL HAVE MINIMUM OF 4.0 SQ. FT. NET CLEAR OPENING.
MINIMUM 20" WIDTH.
MINIMUM 22" HEIGHT.
MAXIMUM 44" SILL HEIGHT

GARAGE / HOUSE CEILING / ASSEMBLY: (IRC 702)
½" GYPSUM WALL BOARD
⅝" TYPE "X" GYPSUM BOARD CEILING WHERE LIVING IS ABOVE
20 MINUTE RATED GARAGE / HOUSE DOOR

ATTIC VENTILATION: (IRC 806)
[TOTAL ATTIC SQ. FT.] / [300] = SQ. FT. AREA REQUIRED
RIDGE VENT:
[LINEAR FEET OF VENT] X [18 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED
SOFFIT VENT:
[LINEAR FEET OF VENT] X [7 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED
EDGE SHINGLE OVER VENT:
[LINEAR FEET OF VENT] X [9 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED
ROOF LOUVER VENTS:
[NUMBER OF VENTS] X [70 SQUARE INCHES IN FREE AREA] / 12 = SQ. FT. PROVIDED

CRAWL SPACE VENTILATION: (IRC 408)
[TOTAL CRAWL SPACE SQ. FT.] / [300] = SQ. FT. AREA REQUIRED
FOUNDATION VENT:
FREE SPACE PROVIDED BY VENT = F
[FREE AREA REQUIRED] / F = NUMBER OF VENTS REQUIRED

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GENERAL NOTES

A1.1

FLOOR PLAN NOTES

-CONTRACTORS TO FIELD VERIFY ALL DIMENSIONS & NOTIFY ARCHITECT OF ANY DISCREPANCIES, ERRORS OR OMISSIONS PRIOR TO EXECUTION OF WORK.

-CLEANUP TO OCCUR DAILY.

-G.C. TO VERIFY FINISH GRADE @ HOUSE TO DETERMINE NUMBER OF STEPS.

-MECHANICAL CONTRACTOR TO COORDINATE W/ ARCHITECT LOCATION OF MAIN TRUNK & DISTRIBUTION LINES, REGISTERS (CENTER ALL REGISTERS ON WINDOWS), THERMOSTATS, AIR HANDLER & CONDENSERS.

-CEILING HEIGHTS LISTED ARE DIMENSIONED TO FRAMING (TOP OF SUBFLOOR TO UNDERSIDE OF FRAMING ABOVE)

-CONCRETE SLABS & SETTING BEDS TO ACCOMMODATE FOR ADEQUATE WATER DRAINAGE AT GARAGES AND PORCHES

-ATTIC ACCESS DROP-DOWN STAIRS TO CONFORM WITH LOCAL AUTHORITIES BASED ON IRC (R807.1) MINIMUM NET CLEAR OPENING OF 20" x 30". ALL ATTIC ACCESS STAIRS TO BE WEATHER STRIPPED & SEALED WITH R-VALUES THAT CONFORM WITH LOCAL AUTHORITIES BASED ON IRC (N1102.2.4). GC TO PROVIDE & INSTALL INSULATION DAMS TO RESTRICT TYPICAL ATTIC INSULATION FROM FALLING THROUGH ATTIC ACCESS OPENING. RIGID FOAM BOX COVER TO BE INSTALLED & SEALED AROUND FRAMING OF OPENING, NOT TO IMPEDE OR OBSTRUCT PERFORMANCE OF ADJACENT TYPICAL ATTIC INSULATION.

-HOSE BIBB(S) TO BE LOCATED 24" ABOVE FIRST FLOOR FINISHED FLOOR

WINDOW NOTES

-ALL WINDOW DIMENSIONS ARE BASED ON M.I. WINDOW ROUGH OPENING CALL OUTS, UNO. FINAL SELECTION OF WINDOW SIZES ARE TO BE VERIFIED IN FIELD.

-WINDOWS TO BE INSTALLED BY CERTIFIED WINDOW INSTALLER PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

-WINDOW SUPPLIER TO SPECIFY & ORDER TEMPERED GLASS IN WINDOWS AS REQ'D BY LOCAL CODE.

-G.C. AND WINDOW SUPPLIER TO VERIFY THAT EACH BEDROOM TO HAVE A MINIMUM OF ONE WINDOW WHICH MEETS EMERGENCY EGRESS AS REQUIRED BY LOCAL AUTHORITIES BASED ON IRC. WINDOW SUPPLIER TO ADD EGRESS HARDWARE TO CASEMENT WINDOWS IF NECESSARY.

-TOP OF INTERIOR CASING @ ADJACENT DOORS & WINDOWS TO ALIGN WHEN HEADER CALL OUTS ARE EQUAL

DOOR NOTES

-ATTIC ACCESS DOORS TO INCLUDE WEATHER STRIPPING & INSULATION

-TOP OF INTERIOR CASING @ ADJACENT DOORS & WINDOWS TO ALIGN WHEN HEADER CALL OUTS ARE EQUAL

-DOOR SUPPLIER TO SPECIFY & ORDER TEMPERED GLASS IN DOORS AS REQ'D BY LOCAL CODE.

DOOR & WINDOW LEGEND

30 68
- HEIGHT: 6'-8"
- WIDTH: 3'-0"

DOORS: P = POCKET

WINDOWS: SH = SINGLE HUNG
F = FIXED

INSULATION NOTES

INSULATION VALUES PER 2018 NCRC
CH. 11 ENERGY CONSERVATION CODE

CLIMATE ZONE 3A		CLIMATE ZONE 4A	
TABLE N1102.1.2		TABLE N1102.1.2	
CEILING:	R-38	CEILING:	R-38
FLOOR:	R-19	FLOOR:	R-19
WALL:	R-15	WALL:	R-15
SLAB:	R-0	SLAB:	R-10

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FLOOR PLAN LEGEND

5S	5 SHELVES
1R 2S	1 ROD, 2 SHELVES
2R 2S	2 ROD, 2 SHELVES
HR	HANGING ROD
CO	CASED OPENING
W D	WASHER, DRYER
D/W	DISH WASHER
FRIG	REFRIGERATOR
LS	LAZY SUSAN
M	MIRROR
►	SHOWER HEAD
(RH)	RAIN HEAD
(T)	TEMPERED GLASS

WALL SCHEDULE

FRAMED WALLS

OVERHEAD/BELOW

ALL WALLS ARE 2x4 WOOD STUD WALLS, UNO
5 1/2" DIMENSION INDICATES 2x6 WOOD STUD WALL

STAIR NOTES

-STAIR FABRICATOR / INSTALLER TO VERIFY THAT STAIRS MEET ALL REQ'D CODES

-ADJUSTMENTS TO STAIR TO BE CONFIRMED W/ ARCHITECT & CONTRACTOR PRIOR TO STAIR CONSTRUCTION

CEILING HEIGHT NOTES

8' - 1 ½" CEILING HEIGHTS ON FIRST FLOOR
8' - 1 ½" CEILING HEIGHTS ON SECOND FLOOR

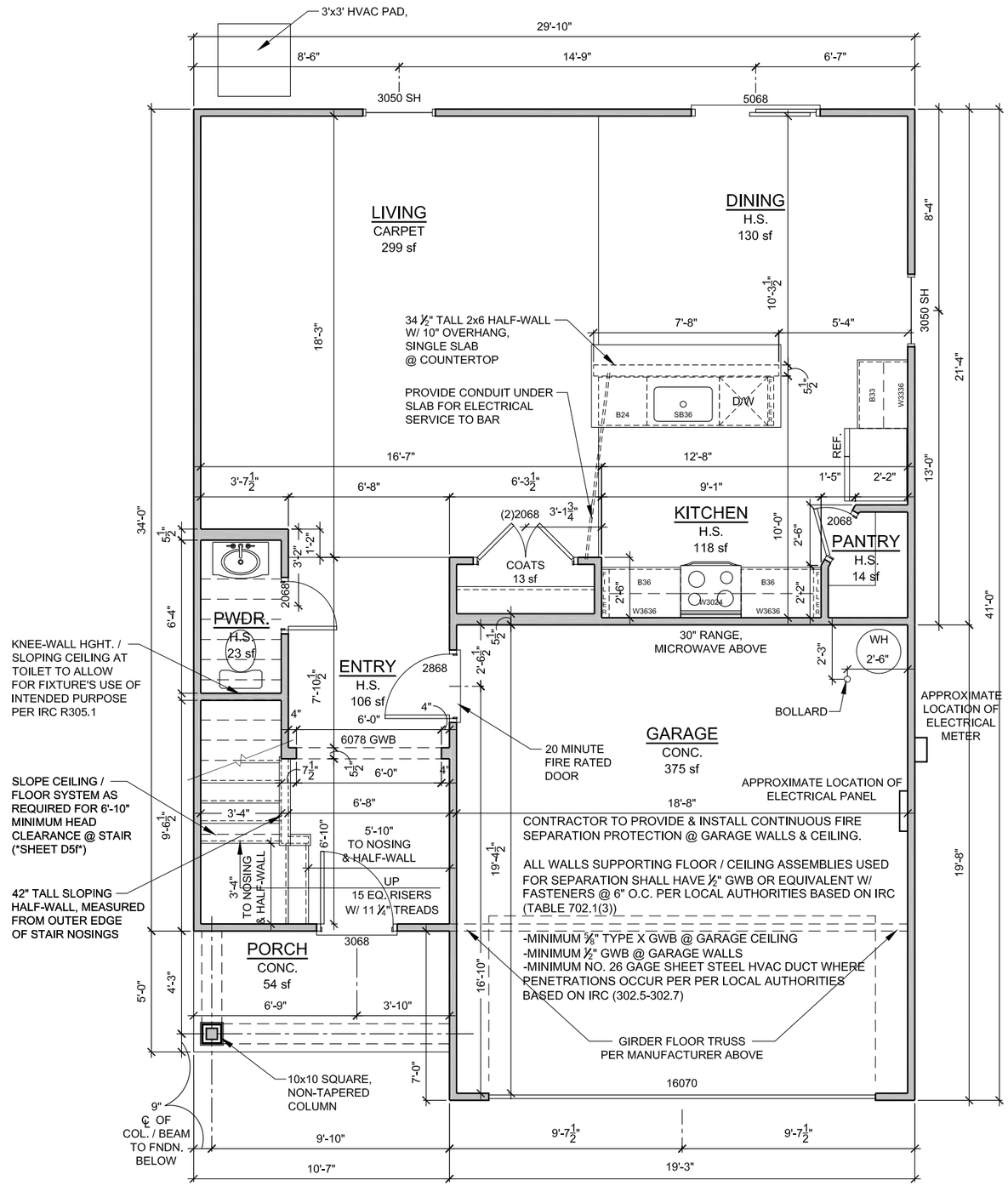
MEASURED FROM TOP OF SUBFLOOR / CONCRETE SLAB TO BOTTOM OF FLOOR JOISTS / ROOF TRUSSES

COLUMN NOTES

COLUMNS TO BE: AFCO OR COLUMN OF EQUAL BEARING CAPACITY. (6000 # MINIMUM)
TOP CONNECTION: (2) #8 - ¼" x 3" STAINLESS STEEL SCREWS PER SIDE INSERTED INTO BEAM.
BOTTOM CONNECTION: (3) UBS - #18043 BRACKETS FASTENED WITH (2) ¼" x 1 ¼" SCREWS INTO COLUMN & (2) ¼" x 3 ¾" CONCRETE SCREWS THROUGH FASTENER INTO CONCRETE

ELECTRICAL PANEL/METER

MAXIMUM DISTANCE BETWEEN ELECTRICAL PANEL & ELECTRICAL METER (NEC 230.70) TO BE DETERMINED BY LOCAL AUTHORITY.



1 FIRST FLOOR PLAN
3/16" = 1'-0"

LGI HOMES

THE AVERY

CH

PERMIT SET
FOR CONSTRUCTION

● 30 SEPTEMBER 2022

FLOOR PLAN

A2.0

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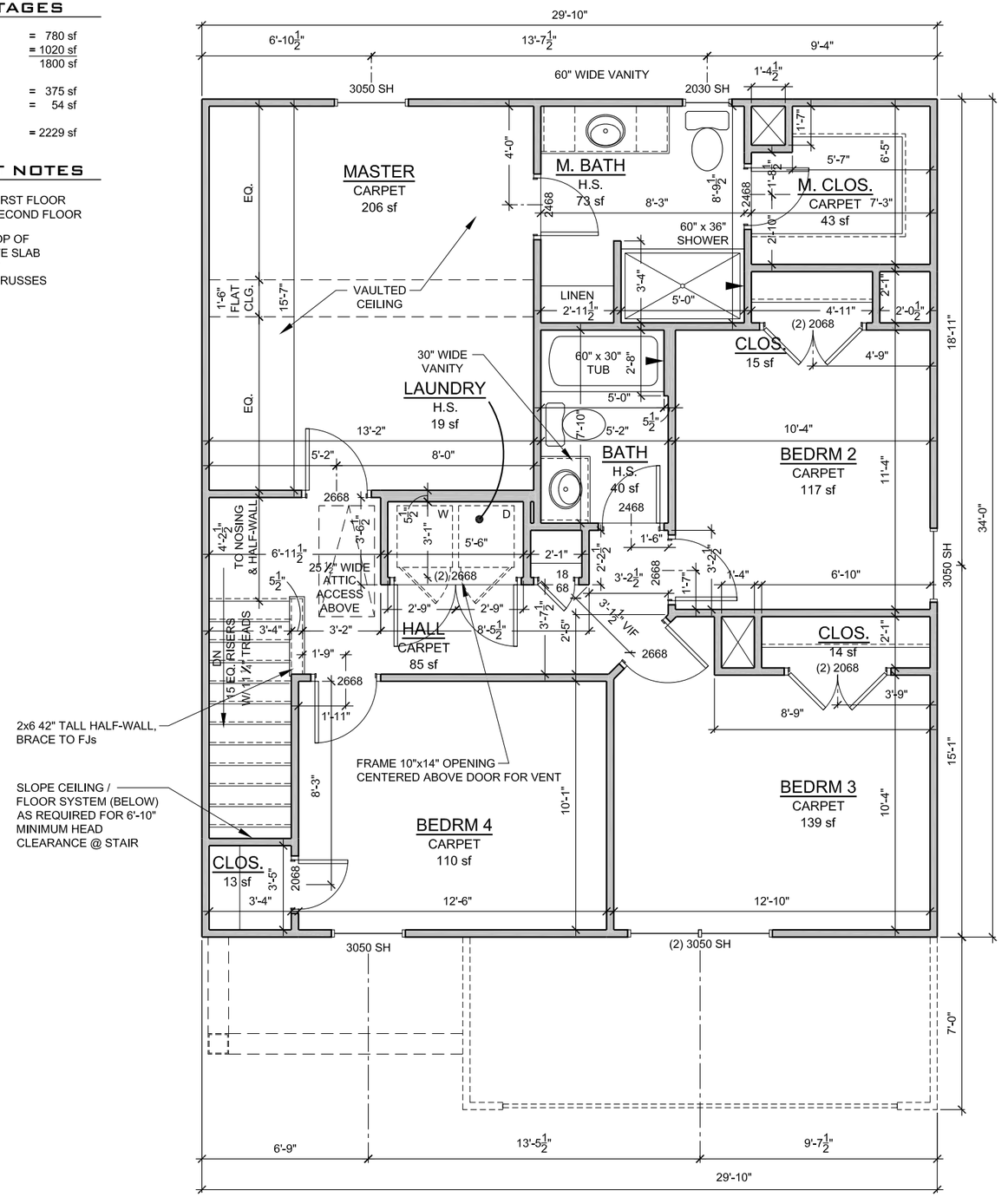

1 SECOND FLOOR PLAN
3/16" = 1'-0"

LGI HOMES

THE AVERY

4 BEDROOM

CH

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FOR CONSTRUCTION

30 SEPTEMBER 2022

FLOOR PLAN

A2.1

ROOF NOTES

-CONTRACTORS TO FIELD VERIFY ALL DIMENSIONS & NOTIFY ARCHITECT OF ANY DISCREPANCIES, ERRORS OR OMISSIONS PRIOR TO EXECUTION OF WORK.

-ALL ROOF PENETRATIONS TO BE PLACED ON REAR SIDE OF MAIN RIDGE OR AS SPECIFIED BY ARCHITECT. PAINT TO MATCH SHINGLE COLOR.

-ATTIC INSULATION TO BE BATT. INSUL. PER CODE, PROVIDE BAFFLES @ PERIMETER TO ALLOW 2" FOR AIRFLOW FROM EAVE VENTS TO RIDGE VENTS.

-ROOF SHEATHING TO BE ½" T&G PLYWOOD W/ METAL CLIPS @ ENDS.

-ALL BATHROOM & DRYER VENT PENETRATIONS TO RUN TOWARD REAR OF HOUSE & VENT IN REAR OUTSIDE WALL OR ROOF BEHIND MAIN RIDGE.

-GUTTER & DOWNSPOUT INSTALLER TO PROVIDE ADEQUATE UNITS PER MANUFACTURER SPECIFICATIONS BASED ON ROOF COVERAGE. SUB-CONTACTOR TO VERIFY NUMBER & LOCATION OF DOWNSPOUTS

-ALL SHINGLED ROOFS WITH A PITCH OF 4:12 OR LESS REQUIRE (2) LAYERS OF 30# FELT PAPER PER LOCAL AUTHORITIES BASED ON IRC

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CH. 11 ENERGY CONSERVATION CODE

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FLOOR:	R-19	FLOOR:	R-19
WALL:	R-15	WALL:	R-15
SLAB:	R-0	SLAB:	R-10

ELEVATION NOTES

-ALL REPRESENTATIONS OF GRADE LEVELS ARE FOR DRAWING PURPOSES ONLY, AND TO BE VERIFIED IN FIELD.

-ALL EXTERIOR ELEVATION DIMENSIONS ARE FRAMING DIMENSIONS, UNO. G.C. TO FILED VERIFY DIMENSIONS LOCATED AT SLOPED FRAMING AND / OR CONCRETE SLABS & PADS

-ALL TRUSS PROFILE DIMENSIONS TO BE VERIFIED BY TRUSS MANUFACTURER. TRUSS MANUFACTURER TO NOTIFY ARCHITECT IF TRUSS PROFILES / DIMENSIONS CHANGE.

-ALL BUILDINGS CONSTRUCTED WITH LESS THAN A 10' FIRE SEPARATION DISTANCE BETWEEN SHALL COMPLY WITH LOCAL AUTHORITIES BASED ON IRC (R302.1.1):
IN CONSTRUCTION USING VINYL OR ALUMINUM SOFFIT MATERIAL, THE FOLLOWING APPLICATION SHALL APPLY. SOFFIT ASSEMBLIES MUST BE SECURELY ATTACHED TO FRAMING MEMBERS AND APPLIED OVER FIRE-RETARDANT-TREATED WOOD, 23/32-INCH WOOD SHEATHING OR 5/8-INCH EXTERIOR GRADE OR MOISTURE RESISTANT GYPSUM BOARD. VENTING REQUIREMENTS SHALL BE PROVIDED IN BOTH SOFFIT AND UNDERLAYMENT. VENTS SHALL BE EITHER NOMINAL 2-INCH CONTINUOUS OR EQUIVALENT INTERMITTENT AND SHALL NOT EXCEED THE MINIMUM NET FREE AIR REQUIREMENTS ESTABLISHED IN SECTION R806.2 BY MORE THAN 50 PERCENT. TOWNHOME CONSTRUCTION SHALL MEET ADDITIONAL REQUIREMENTS OF SECTIONS R302.2.5 AND R302.2.6.

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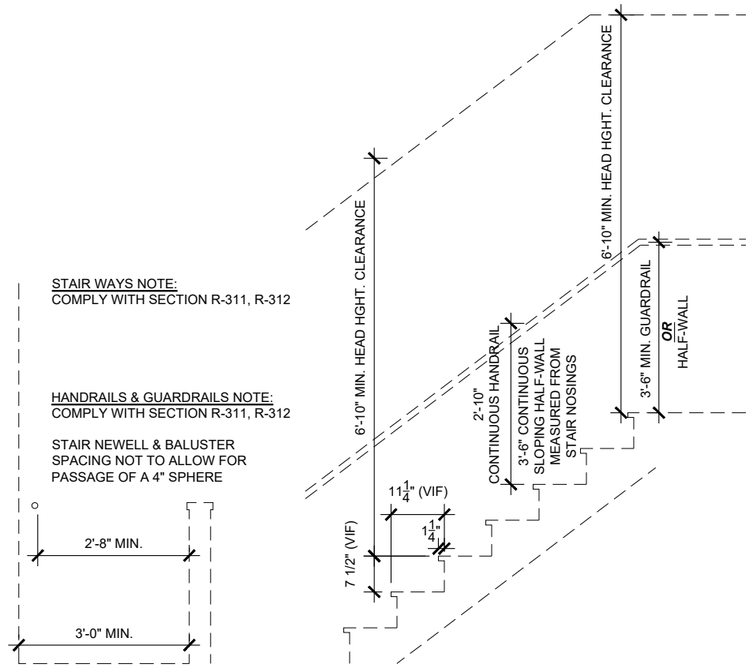
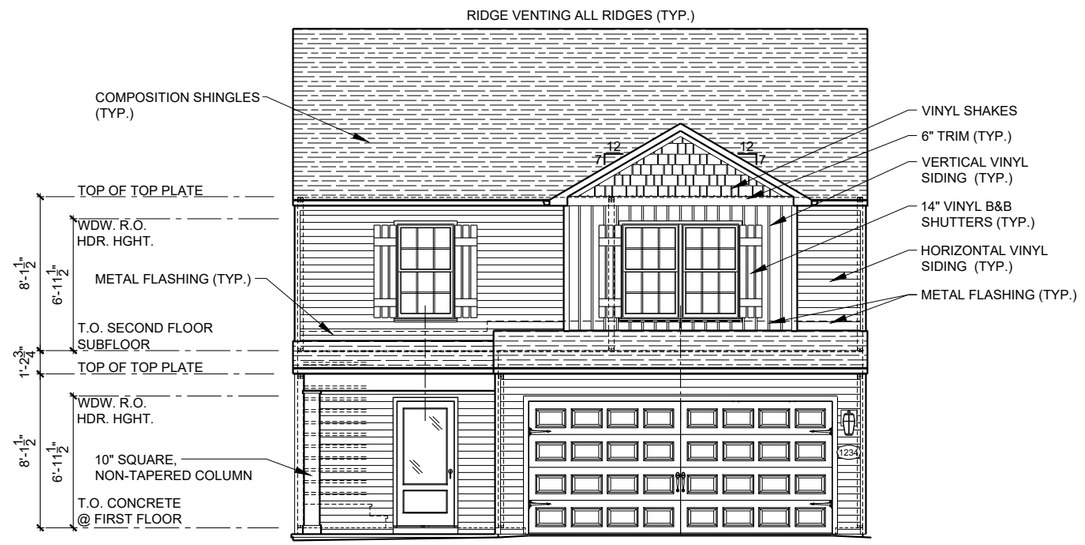


3 STAIR DETAILS (TYP.)
3/8" = 1'-0"



1 FRONT ELEVATION 1
1/8" = 1'-0"

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CH

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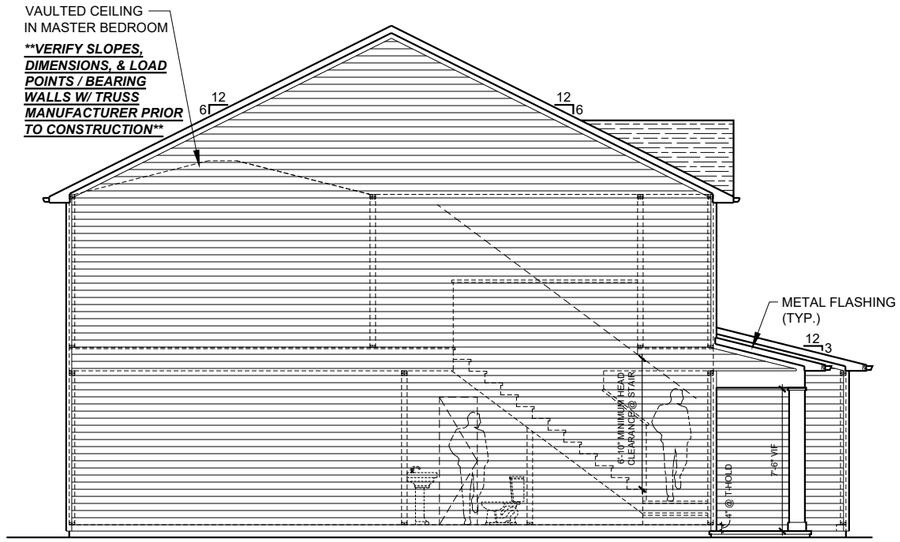
FOR CONSTRUCTION

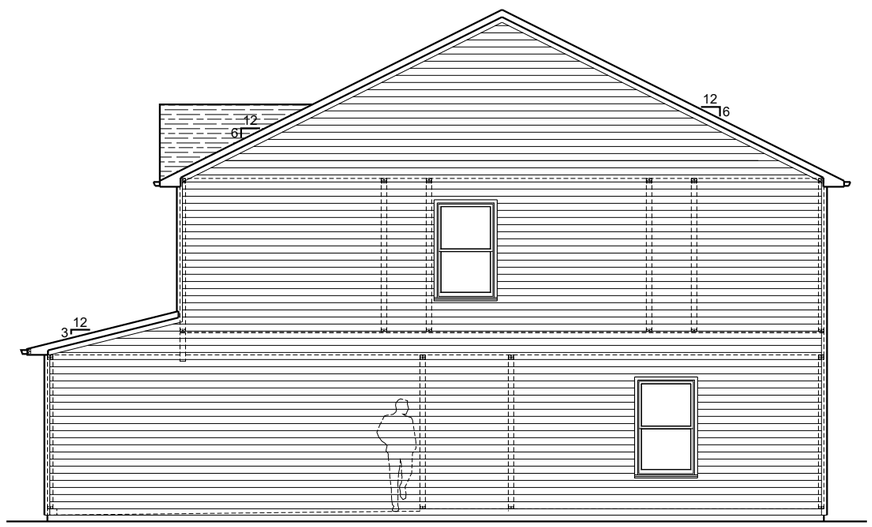
30 SEPTEMBER 2022

ELEVATIONS

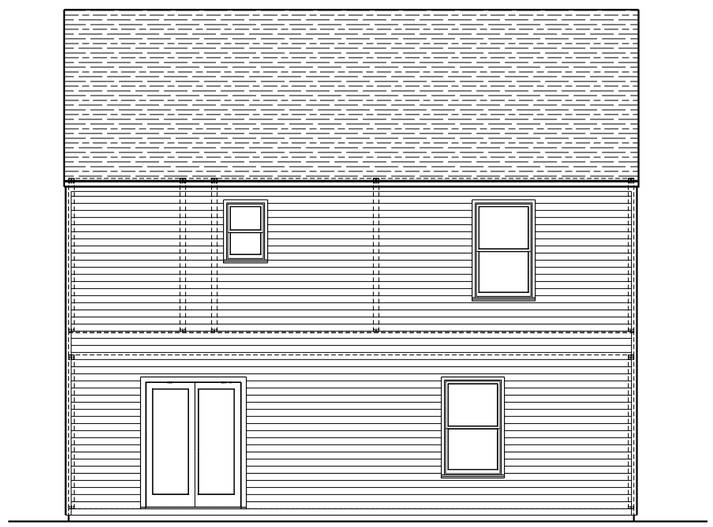
A3.0



2 LEFT SIDE ELEVATION
1/8" = 1'-0"



3 RIGHT SIDE ELEVATION
1/8" = 1'-0"



1 REAR ELEVATION
1/8" = 1'-0"

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ELEVATIONS

A3.1

ELECTRICAL LEGEND

- 120 OUTLET, 18" A.F.F. TO CENTER OR 12" ABOVE COUNTERTOPS
- G.F.I. 120 OUTLET, 18" A.F.F. TO CENTER OR 12" ABOVE COUNTERTOPS
- WP WEATHER PROOF GFI 120 OUTLET
- 240 OUTLET. COORDINATE EXACT LOCATION WITH EQUIPMENT SPECIFICATIONS
- 1/2 SWITCHED 120 OUTLET, 18" A.F.F. TO CENTER OR 12" ABOVE COUNTERTOPS
- 120 QUADRAPLEX OUTLET, 18" A.F.F. TO CENTER
- USB OUTLET, 18" A.F.F. TO CENTER OR 12" ABOVE COUNTERTOPS
- FLOOR 120 OUTLET (FLUSH) (TBD IN FIELD W/ OWNER)
- JUNCTION BOX
- CEILING LIGHT FIXTURE (LED)
- WALL LIGHT FIXTURE
- 4" RECESSED LIGHT FIXTURE
- 4" RECESSED DAMP LOCATION LIGHT FIXTURE
- 4" RECESSED EYEBALL FIXTURE
- FAN/LIGHT RECESSED FIXTURE
- FAN/LIGHT RECESSED DAMP LOCATION FIXTURE
- CEILING FAN (*PROVIDE BLOCKING)
- FLOOD LIGHT
- T THERMOSTAT
- EXHAUST FAN
- SMOKE/CARBON MONOXIDE DETECTOR
- DB DOOR BELL
- DOOR BELL CHIME
- DOOR BELL TRANSFORMER
- $ WALL SWITCH, 48" A.F.F. TO CENTER
- $D DIMMER SWITCH, 48" A.F.F. TO CENTER
- $3 3 WAY SWITCH, 48" A.F.F. TO CENTER
- $4 4 WAY SWITCH, 48" A.F.F. TO CENTER
- $S 3 WAY STACKED SWITCH
- PHONE, 18" A.F.F. TO CENTER, "W" INDICATES WALL MOUNTED @ 48" A.F.F.
- DATA, 18" A.F.F. TO CENTER, "W" INDICATES WALL MOUNTED @ 48" A.F.F.
- CABLE
- FLUORESCENT LIGHT FIXTURE
- ZENON UNDER CABINET LIGHT TO BE MTD. TO BOTTOM OF WALL CAB. NEAR FRONT EDGE
- PLUG MOLD TO BE MTD. TO BOTTOM OF WALL CAB. NEAR WALL
- LED TAPE LIGHT
- DO DOOR OPENER
- EP ELECTRICAL PANEL
- EM ELECTRICAL METER
- TWH TANKLESS WATER HEATER
- +HB HOSE BIBB
- +G GAS CONNECTION
- +GSO GAS SHUT-OFF

ELECTRICAL NOTES

-LIGHT FIXTURES IN CLOSETS TO COMPLY WITH SECTION 410.8 OF THE LATEST VERSION OF THE NEC HANDBOOK

-SMOKE/CARBON MONOXIDE DETECTORS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. QUANTITY AND LOCATION OF CARBON MONOXIDE DETECTORS TO BE DETERMINED BY LOCAL AUTHORITY.

-LIGHT SWITCHES & OUTLETS LOCATED AT COUNTERTOP SIDEWALLS ARE TO BE A MAXIMUM OF 18" FROM CENTERLINE OF SWITCH/OUTLET TO COUNTERTOP REAR WALL

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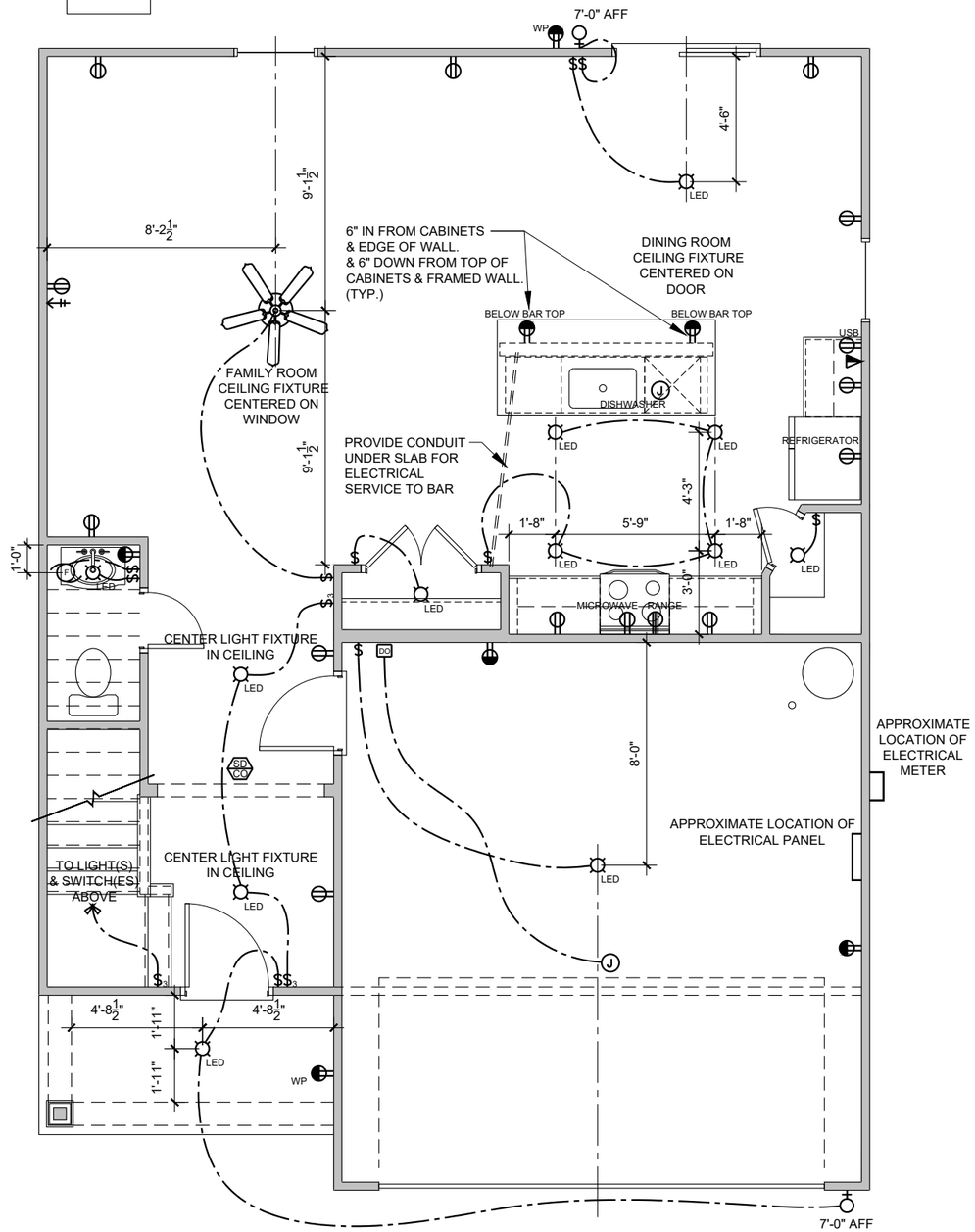

1 FIRST FLOOR ELECTRICAL PLAN
3/16" = 1'-0"

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ELECTRICAL PLAN

E1.0

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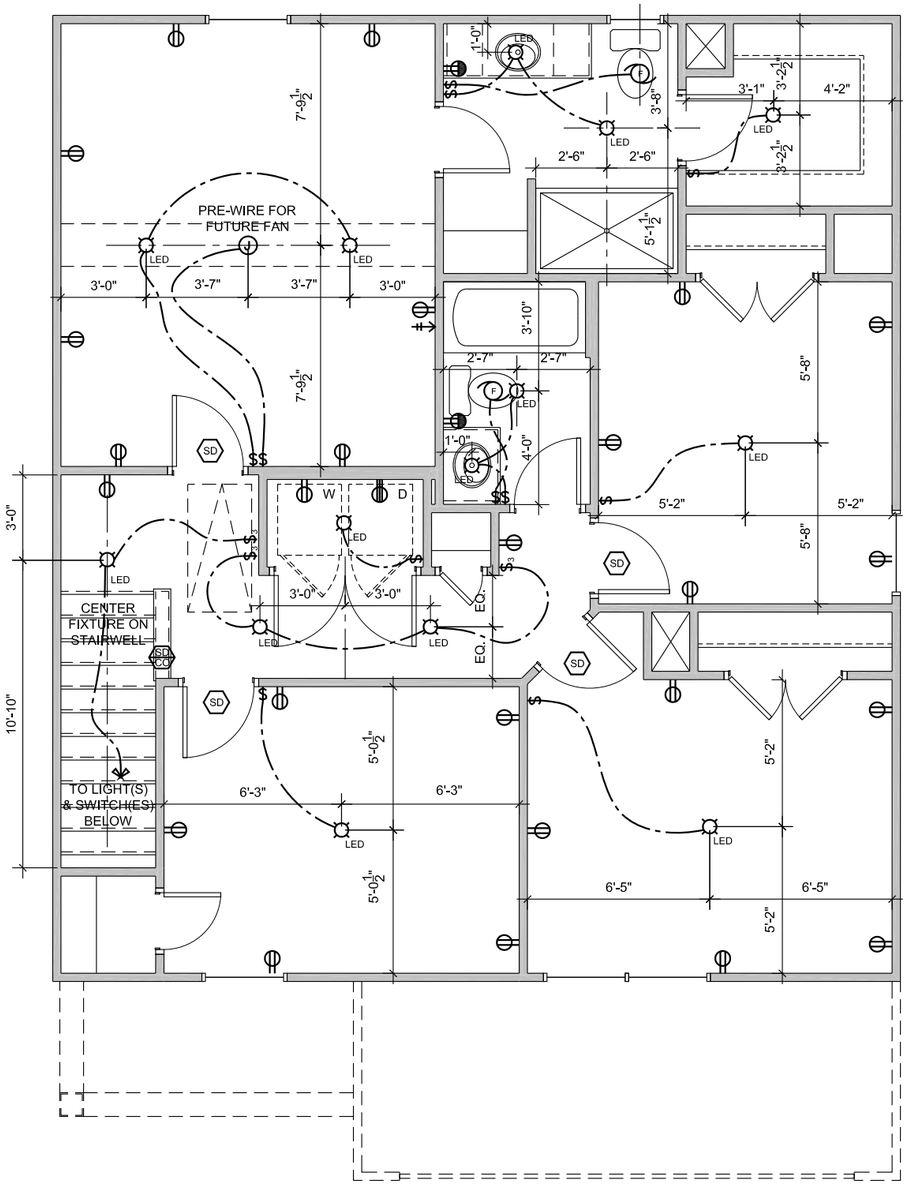

2 SECOND FLOOR ELECTRICAL PLAN
3/16" = 1'-0"

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4 BEDROOM

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30 SEPTEMBER 2022

ELECTRICAL PLAN

E1.1

DESIGN SPECIFICATIONS:

Construction Type: Commerical ☐ Residential ☒

Applicable Building Codes:

- 2018 North Carolina Residential Building Code with All Local Amendments
- ASCE 7-10: Minimum Design Loads for Buildings and Other Structures

Design Loads:

1. Roof Live Loads
   - 1.1. Conventional 2x ..... 20 PSF
   - 1.2. Truss ..... 20 PSF
     - 1.2.1. Attic Truss ..... 60 PSF
2. Roof Dead Loads
   - 2.1. Conventional 2x ..... 10 PSF
   - 2.2. Truss ..... 20 PSF
3. Snow ..... 15 PSF
   - 3.1. Importance Factor 1.0
4. Floor Live Loads
   - 4.1. Typ. Dwelling ..... 40 PSF
   - 4.2. Sleeping Areas ..... 30 PSF
   - 4.3. Decks ..... 40 PSF
   - 4.4. Passenger Garage ..... 50 PSF
5. Floor Dead Loads
   - 5.1. Conventional 2x ..... 10 PSF
   - 5.2. I-Joist ..... 15 PSF
   - 5.3. Floor Truss ..... 15 PSF
6. Ultimate Design Wind Speed (3 sec. gust) ..... 130 MPH
   - 6.1. Exposure ..... B
   - 6.2. Importance Factor 1.0
   - 6.3. Wind Base Shear
     - 6.3.1. Vx =
     - 6.3.2. Vy =
7. Component and Cladding (in PSF)

MEAN ROOF HT.	UP TO 30'	30'1"-35'	35'1"-40'	40'1"-45'
ZONE 1	16.7,-18.0	17.5,-18.9	18.2,-19.6	18.7,-20.2
ZONE 2	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 3	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 4	18.2,-19.0	19.2,-20.0	19.9,-20.7	20.4,-21.3
ZONE 5	18.2,-24.0	19.2,-25.2	19.9,-26.1	20.4,-26.9

8. Seismic
   - 8.1. Site Class ..... D
   - 8.2. Design Category C
   - 8.3. Importance Factor 1.0
   - 8.4. Seismic Use Group I
   - 8.5. Spectral Response Acceleration
     - 8.5.1. Sms = %g
     - 8.5.2. Sm1 = %g
   - 8.6. Seismic Base Shear
     - 8.6.1. Vx =
     - 8.6.2. Vy =
   - 8.7. Basic Structural System (check one)
     - ☒ Bearing Wall
     - ☐ Building Frame
     - ☐ Moment Frame
     - ☐ Dual w/ Special Moment Frame
     - ☐ Dual w/ Intermediate R/C or Special Steel
     - ☐ Inverted Pendulum
   - 8.8. Arch/Mech Components Anchored ..... No
   - 8.9. Lateral Design Control: Seismic ☐ Wind ☒
9. Assumed Soil Bearing Capacity 2000psf

SUMMIT
ENGINEERING • LABORATORY • TESTING
A Universal Engineering Sciences Company

STRUCTURAL PLANS PREPARED FOR:

AVERY RH

PROJECT ADDRESS:
TBD

OWNER:
LGI Homes
7201 Creedmoor Road, Suite 147
Raleigh, NC 27613

ARCHITECT/DESIGNER:
COX Architecture & Design, PLLC
1310 South Tryon Street, Suite 111
Charlotte, NC 28203

These drawings are to be coordinated with the architectural, mechanical, plumbing, electrical, and civil drawings. This coordination is not the responsibility of the structural engineering of record (SER). Should any discrepancies become apparent, the contractor shall notify SUMMIT Engineering, Laboratory & Testing, INC. before construction begins.

PLAN ABBREVIATIONS:

AB	ANCHOR BOLT	PT	PRESSURE TREATED
AFF	ABOVE FINISHED FLOOR	RS	ROOF SUPPORT
CJ	CEILING JOIST	SC	STUD COLUMN
CLR	CLEAR	SJ	SINGLE JOIST
DJ	DOUBLE JOIST	SPF	SPRUCE PINE FIR
DSP	DOUBLE STUD POCKET	SST	SIMPSON STRONG-TIE
EE	EACH END	SYP	SOUTHERN YELLOW PINE
EW	EACH WAY	TJ	TRIPLE JOIST
NTS	NOT TO SCALE	TSP	TRIPLE STUD POCKET
OC	ON CENTER	TYP	TYPICAL
PSF	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
PSI	POUNDS PER SQUARE INCH	WWF	WELDED WIRE FABRIC

Roof truss and floor joist layouts, and their corresponding loading details, were not provided to SUMMIT Engineering, Laboratory & Testing, INC. (SUMMIT) prior to the initial design. Therefore, truss and joist directions were assumed based on the information provided by LGI HOMES. Subsequent plan revisions based on roof truss and floor joist layouts shall be noted in the revision list, indicating the date the layouts were provided. Should any discrepancies become apparent, the contractor shall notify SUMMIT immediately.

SHEET LIST:

Revision No.	Date	Project No.	Description
0	10.7.19	21309R2	Original Engineering
1	11.25.19	21309R3	Removed pressure treated beam for schedule
2	12.31.19	21309R4	Added covered rear porch
3	1.11.2021	21309R4	Add stick framed roof option
4	2.3.21		Revised to have thermo ply bracing
5	2.16.21	21309R5	Removed stud pack on 2nd floor window
6	7.21.21		Revised Garage Door Openings
7	9.30.22	T0115	Revised Per Updated Architectural's

NORTH CAROLINA PROFESSIONAL SEAL 054003 ENGINEER JUAN C ESPINA FIGUEROA 09/30/22
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CURRENT DRAWING
DATE: 09/30/2022
SCALE: 1/8"=1'-0"
PROJECT #: 3554.T0115
DRAWN BY: JV
CHECKED BY: CTB

ORIGINAL DRAWING

DATE	PROJECT #
10.7.19	21309

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
CS1

GENERAL STRUCTURAL NOTES:

1. 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 permission of SUMMIT Engineering, Laboratory & Testing, INC. (SUMMIT) or the SER. For the purposes of these construction documents the SER and SUMMIT shall be considered the same entity.
2. The structure is only stable in its completed form. The contractor shall provide all required temporary bracing during construction to stabilize the structure.
3. 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.
4. 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 SUMMIT 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 SUMMIT.
5. 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 SUMMIT before construction begins.
6. The SER is not responsible for any secondary structural elements or non-structural elements, except for the elements specifically noted on the structural drawings.
7. This structure and all construction shall conform to all applicable sections of the international residential code.
8. This structure and all construction shall conform to all applicable sections of local building codes.
9. All structural assemblies are to meet or exceed to requirements of the current local building code.

FOUNDATIONS:

1. The structural engineer has not performed a subsurface investigation. Verification of this 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.
2. The bottom of all footings shall extend below the frost line for the region in which the structure is to be constructed. However, the bottom of all footings shall be a minimum of 12" below grade.
3. Any fill shall be placed under the direction or recommendation of a licensed professional engineer.
4. The resulting soil shall be compacted to a minimum of 95% maximum dry density.
5. 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.
6. No concrete shall be placed against any subgrade containing water, ice, frost, or loose material.

STRUCTURAL STEEL:

1. 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 the manual of Steel Construction "Load Resistance Factor Design" latest editions.
2. Structural steel shall receive one coat of shop applied rust-inhibitive paint.
3. All steel shall have a minimum yield stress (F_y) of 36 ksi unless otherwise noted.
4. Welding shall conform to the latest edition of the American Welding Society's Structural Welding Code AWS D1.1. Electrodes for shop and field welding shall be class E70XX. All welding shall be performed by a certified welder per the above standards.

CONCRETE:

1. Concrete shall have a normal weight aggregate and a minimum compressive strength (f'_c) at 28 days of 3000 psi, unless otherwise noted on the plan.
2. 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".
3. 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 target values as follows:
   - 3.1. Footings: 5%
   - 3.2. Exterior Slabs: 5%
4. No admixtures shall be added to any structural concrete without written permission of the SER.
5. Concrete slabs-on-grade shall be constructed in accordance with ACI 302.1R-96: "Guide for Concrete Slab and Slab Construction".
6. The concrete slab-on-grade has been designed using a subgrade modulus of k=250 pci and a design loading of 200 psf. The SER is not responsible for differential settlement, slab cracking or other future defects resulting from unreported conditions not in accordance with the above assumptions.
7. Control or saw cut joints 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.
8. Control or saw cut joints shall be produced using conventional process within 4 to 12 hours after the slab has been finished
9. Reinforcing steel may not extend through a control joint. Reinforcing steel may extend through a saw cut joint.
10. All welded wire fabric (WWF.) for concrete slabs-on-grade shall be placed at mid-depth of slab. The WWF. shall be securely supported during the concrete pour.

CONCRETE REINFORCEMENT:

1. Fibrous concrete reinforcement, or fibermesh, specified in concrete slabs-on-grade may be used for control of cracking due to shrinkage and thermal expansion/contraction, lowered water migration, an increase in impact capacity, increased abrasion resistance, and residual strength.
2. Fibermesh reinforcing to be 100% virgin polypropylene fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement.
3. Application of fibermesh per cubic yard of concrete shall equal a minimum of 0.1% by volume (1.5 pounds per cubic yard)
4. Fibermesh shall comply with ASTM C1116, any local building code requirements, and shall meet or exceed the current industry standard.
5. Steel reinforcing bars shall be new billet steel conforming to ASTM A615, grade 60.
6. 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"
7. 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 with a class B tension splice.
8. Lap reinforcement as required, a minimum of 40 bar diameters for tension or compression unless otherwise noted. Splices in masonry shall be a minimum of 48 bar diameters.
9. 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.
10. Where reinforcing steel is required vertically, dowels shall be provided unless otherwise noted.

WOOD FRAMING:

1. 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 Southern-Yellow-Pine (SYP) #2.
2. LVL or PSL engineered wood shall have the following minimum design values:
   - 2.1. E = 1,900,000 psi
   - 2.2. Fb = 2600 psi
   - 2.3. Fv = 285 psi
   - 2.4. Fc = 700 psi
3. Wood in contact with concrete, masonry, or earth shall be pressure treated in accordance with AWPA standard C-15. All other moisture exposed wood shall be treated in accordance with AWPA standard C-2
4. Nails shall be common wire nails unless otherwise noted.
5. Lag screws shall conform to ANSI/ASME standard B18.2.1-1981. Lead holes for lag screws shall be in accordance with NDS specifications.
6. All beams shall have full bearing on supporting framing members unless otherwise noted.
7. Exterior and load bearing stud walls are to be 2x4 SYP #2 @ 16" O.C. unless otherwise noted. Studs shall be continuous from the sole plate to the double top plate. Studs shall only be discontinuous at headers for window/door openings. A minimum of one king stud shall be placed at each end of the header. King studs shall be continuous.
8. Individual studs forming a column shall be attached with one 10d nail @ 6" O.C. staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly blocked at all floor levels to ensure proper load transfer.
9. Multi-ply beams shall have each ply attached with (3) 10d nails @ 24" O.C.
10. Four and five ply beams shall be bolted together with (2) rows of 1/2" diameter through bolts staggered @ 16" O.C. unless noted otherwise.

WOOD TRUSSES:

1. 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 five (5) days for review. The review by the SER shall review for overall compliance with the design documents. The SER shall assume no responsibility for the correctness for the structural design for the wood trusses.
2. 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 7-10), 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.
3. The trusses shall be designed, fabricated, and erected in accordance with the latest edition of the "National Design Specification for Wood Construction." (NDS) and "Design Specification for Metal Plate Connected Wood Trusses."
4. The truss manufacturer shall provide adequate bracing information in accordance with "Commentary and Recommendations for Handling, Installing, and Bracing Metal Plate Connected Wood Trusses" (HIB-91). 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.
5. 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.

EXTERIOR WOOD FRAMED DECKS:

1. Decks are to be framed in accordance with local building codes and as referenced on the structural plans, either through code references or construction details.

WOOD STRUCTURAL PANELS:

1. 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.
2. All structurally required wood sheathing shall bear the mark of the APA.
3. 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. Sheathing shall be applied with the long direction perpendicular to framing, unless noted otherwise.
4. Roof sheathing shall be APA rated sheathing exposure 1 or 2. Roof sheathing shall be continuous over two supports and attached to its supporting roof framing with (1)-8d CC 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 with the long direction perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of plywood clips or lumber blocking unless otherwise noted. Panel end joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
5. Wood floor sheathing shall be APA rated sheathing exposure 1 or 2. Attach sheathing to its supporting framing with (1)-8d CC ringshank 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. Use suitable edge support by use of T&G plywood or lumber blocking unless otherwise noted. Panel end joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
6. Sheathing shall have a 1/8" gap at panel ends and edges as recommended in accordance with the APA.

STRUCTURAL FIBERBOARD PANELS:

1. Fabrication and placement of structural fiberboard sheathing shall be in accordance with the applicable AFA standards.
2. All structurally required fiberboard sheathing shall bear the mark of the AFA.
3. Fiberboard 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.
4. Sheathing shall have a 1/8" gap at panel ends and edges are recommended in accordance with the AFA.

NORTH CAROLINA PROFESSIONAL SEAL 054003 ENGINEER JUAN C ESPINA FIGUEROA 09/30/22

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No. F-1454

Avery RH
Coversheet
LGI Homes
7201 Creedmoor Road, Suite 147
Raleigh, NC 27613

CURRENT DRAWING

DATE: 09/30/2022
SCALE: 1/8"=1'-0"
PROJECT #: 3554.T0115
DRAWN BY: JV
CHECKED BY: CTB

ORIGINAL DRAWING

DATE	PROJECT #
10.7.19	21309

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

CS2

FOUNDATION NOTES:

1. FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE W/ CHAPTER 4 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE W/ ALL LOCAL AMENDMENTS.
2. STRUCTURAL CONCRETE TO BE F_c = 3000 PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
3. FOOTINGS TO BE PLACED ON UNDISTURBED EARTH, BEARING A MINIMUM OF 12" BELOW ADJACENT FINISHED GRADE, OR AS OTHERWISE DIRECTED BY THE CODE ENFORCEMENT OFFICIAL.
4. FOOTING SIZES BASED ON A PRESUMPTIVE SOIL BEARING CAPACITY OF 2000 PSF. CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING THE SUITABILITY OF THE SITE SOIL CONDITIONS AT THE TIME OF CONSTRUCTION.
5. FOOTINGS AND PIERS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS. PROVIDE 2" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
6. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
7. PILASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
8. PROVIDE FOUNDATION WATERPROOFING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
9. PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
10. CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
11. CRAWL SPACE TO BE GRADED LEVEL AND CLEARED OF ALL DEBRIS.
12. FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2018 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.1.6. MINIMUM 1/2" DIA BOLTS SPACED AT 6'-0" ON CENTER WITH A 7" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION AND (1) LOCATED NOT MORE THAN 12" FROM THE CORNER. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
13. ABBREVIATIONS:

DJ = DOUBLE JOIST	SJ = SINGLE JOIST
GT = GIRDER TRUSS	FT = FLOOR TRUSS
SC = STUD COLUMN	DR = DOUBLE RAFTER
EE = EACH END	TR = TRIPLE RAFTER
TJ = TRIPLE JOIST	OC = ON CENTER
CL = CENTER LINE	PL = POINT LOAD

14. ALL PIERS TO BE 16"x16" MASONRY AND ALL PILASTERS TO BE 8"x16" MASONRY, TYPICAL (UNO)
15. WALL FOOTINGS TO BE CONTINUOUS CONCRETE, SIZES PER STRUCTURAL PLAN.
16. A FOUNDATION EXCAVATION OBSERVATION SHOULD BE CONDUCTED BY A PROFESSIONAL GEOTECHNICAL ENGINEER, OR HIS QUALIFIED REPRESENTATIVE, IF ISOLATED AREAS OF YIELDING MATERIALS AND/OR POTENTIALLY EXPANSIVE SOILS ARE OBSERVED IN THE FOOTING EXCAVATIONS AT THE TIME OF CONSTRUCTION, SUMMIT ENGINEERING, LABORATORY & TESTING, INC. MUST BE PROVIDED THE OPPORTUNITY TO REVIEW THE FOOTING DESIGN PRIOR TO CONCRETE PLACEMENT.
17. ALL FOOTINGS & SLABS ARE TO BEAR ON UNDISTURBED SOIL OR 95% COMPACTED FILL, VERIFIED BY ENGINEER OR CODE OFFICIAL.

REFER TO BRACED WALL PLAN FOR PANEL LOCATIONS AND ANY REQUIRED HOLD-DOWNS. ADDITIONAL INFORMATION PER SECTION R602.10.8 AND FIGURE R602.10.1 OF THE 2015 IRC.

NOTE: ALL EXTERIOR FOUNDATION DIMENSIONS ARE TO FRAMING AND NOT BRICK VENEER, UNO

NOTE: A 4" CRUSHED STONE BASE COURSE IS NOT REQUIRED WHEN SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1 PER TABLE R405.1

NOTE: FOUNDATION ANCHORAGE HAS BEEN DESIGNED TO RESIST THE CONTINUOUS WIND UPLIFT LOAD PATH IN ACCORDANCE WITH METHOD 3 OF SECTION R602.3.5 OF THE 2018 NCRC.

ROOF TRUSS AND FLOOR JOIST LAYOUTS, AND THEIR CORRESPONDING LOADING DETAILS, WERE NOT PROVIDED TO SUMMIT ENGINEERING, LABORATORY & TESTING, INC. (SUMMIT) PRIOR TO THE INITIAL DESIGN. THEREFORE, TRUSS AND JOIST DIRECTIONS WERE ASSUMED BASED ON THE INFORMATION PROVIDED BY LGI HOMES. SUBSEQUENT PLAN REVISIONS BASED ON ROOF TRUSS AND FLOOR JOIST LAYOUTS SHALL BE NOTED IN THE REVISION LIST, INDICATING THE DATE THE LAYOUTS WERE PROVIDED. SHOULD ANY DISCREPANCIES BECOME APPARENT, THE CONTRACTOR SHALL NOTIFY SUMMIT IMMEDIATELY.

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY LGI HOMES COMPLETED/REVISED ON 09/30/22. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, INC. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

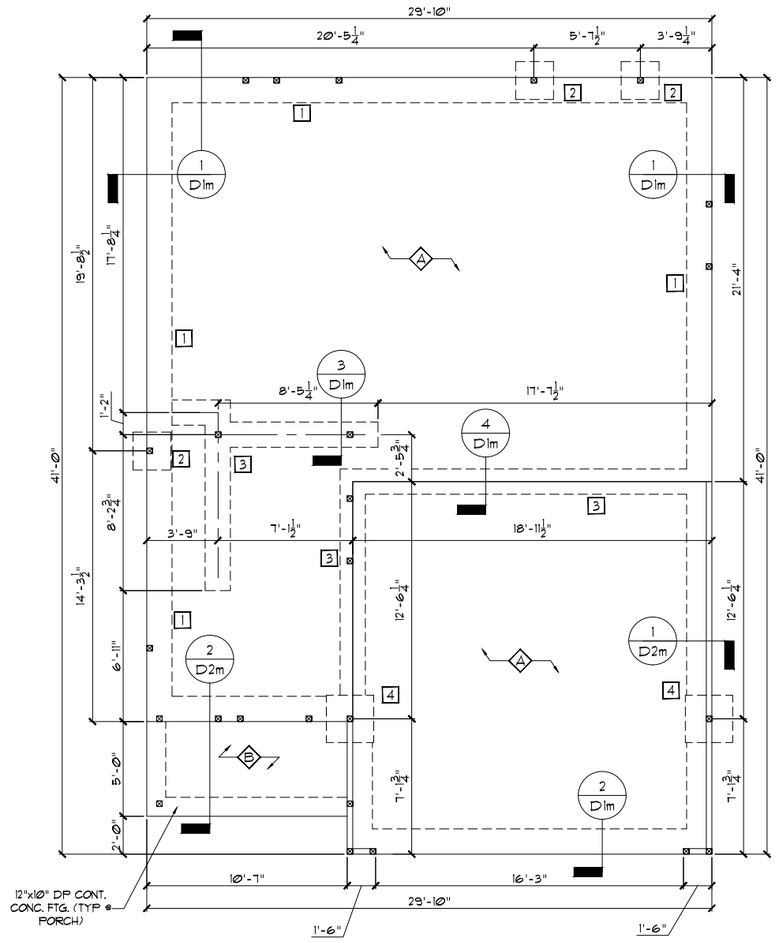
STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, INC. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

MONOLITHIC SLAB FOUNDATION

SCALE: 1/8"=1'



ALL ELEVATIONS

WALL ANCHOR OPTION SCHEDULE FOR MONO SLAB

ANCHORS	MIN. CONC. EMBEDMENT	SPACING	INTERIOR WALL	EXTERIOR WALL
1/2"ø A307 BOLTS w/ STD. 90° BEND	7"	6'-0"	YES	YES
1/2"ø HILTI KWIK BOLT, SST WEDGE-ALL, OR EQUIVALENT WEDGE ANCHOR	4"	6'-0"	YES	YES[3]
1/2"ø THREADED ROD w/ SST SET EPOXY	4"	6'-0"	YES	YES

NOTE:
1. INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM WALL PLATE ENDS & JOINTS.
2. MINIMUM CONCRETE EMBEDMENT AND SPACINGS SHOWN ARE TYPICAL. IF DIFFERENT EMBEDMENTS OR SPACINGS ARE EXPLICITLY CALLED FOR ON THE PLAN OR DETAILS, DEFER TO THOSE.
3. EXPANSION ANCHORS MAY BE INSTALLED ONLY AS ALLOWED PER MANUFACTURE SPECIFICATIONS.

FOUNDATION SCHEDULE

TAG	DESCRIPTION	REBAR REQ'D
1	16"W x 20"D MONO	(2) #3 CONT.
2	24"SQ x 10"D	NONE
3	16"W x 10"D LUG (13.5"D @ GARAGE INTERIOR)	(2) #3 CONT.
4	30"SQ x 10"D	NONE
5	36"SQ x 12"D	(5) #4 E.W.
6	16"SQ x10"D	NONE
7	PLAN SPECIFIC	NONE
A	4" THICK POURED CONCRETE SLAB w/ FIBER MESH ON 6 MIL POLY ON COMPACTED SOIL	
B	4" THICK POURED CONCRETE SLAB ON COMPACTED SOIL	

ABBREVIATIONS: W = WIDTH, D = DEPTH, SQ =SQUARE, BD. = BOTH DIRECTIONS, CONT. = CONTINUOUS, MONO = MONOLITHIC SLAB FOOTING

NORTH CAROLINA PROFESSIONAL SEAL 054003 ENGINEER JUAN CARLOS ESPINA FIGUEROA 09/30/22
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Avery RH
Monolithic Slab Fnd.

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REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
S1.0m

GENERAL STRUCTURAL NOTES:

1. CONSTRUCTION SHALL CONFORM TO 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE DRAWING FOR THIS SPECIFIC PROJECT. ENGINEER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THIS PLAN.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACING REQUIRED TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
4. PROPERTIES USED IN THE DESIGN ARE AS FOLLOWS:
   MICRO=LAM (LVL) F_b = 2600 PSI, F_v = 285 PSI, E = $1.9x10^6$ PSI
   TIMBERSTRAND (LSL) F_b = 2325 PSI, F_v = 310 PSI, E = $1.55x10^6$ PSI
   PARALLAM (PSL) F_b = 2900 PSI, F_v = 290 PSI, E = $1.25x10^6$ PSI
5. ALL WOOD MEMBERS SHALL BE #2 SYP UNLESS NOTED ON PLAN. ALL STUD COLUMNS AND JOISTS SHALL BE #2 SYP. (U.N.O.)
6. ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2x4 #2 SYP STUD COLUMN AT EACH END UNLESS NOTED OTHERWISE.
7. ALL REINFORCING STEEL SHALL BE GRADE 60 BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM COVER OF 3".
8. FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2018 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.1.6. MINIMUM 1/2" DIA. BOLTS SPACED AT 6'-0" ON CENTER WITH A 7" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION AND (1) LOCATED NOT MORE THAN 12" FROM THE CORNER. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
9. CONTRACTOR TO PROVIDED LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
10. FLITCH BEAMS: 4-PLY LVL'S AND 3-PLY SIDE LOADED LVL'S SHALL BE BOLTED TOGETHER WITH 1/2" DIA. THRU BOLTS SPACED AT 24" O.C. (MAX.) STAGGERED OR EQUIVALENT CONNECTIONS PER DETAIL 1/D7. MIN. EDGE DISTANCE SHALL BE 2" AND (2) BOLTS SHALL BE LOCATED MINIMUM 6" FROM EACH END OF THE BEAM.
11. ALL NON-LOAD BEARING HEADERS SHALL BE (1) FLAT 2x4 SYP #2, DROPPED. FOR NON-LOAD BEARING HEADERS EXCEEDING 8'-0" IN WIDTH AND/OR WITH MORE THAN 2'-0" OF CRIPPLE WALL ABOVE, SHALL BE (2) FLAT 2x4 SYP #2, DROPPED. (UNLESS NOTED OTHERWISE)
12. ABBREVIATIONS:

DJ = DOUBLE JOIST	SJ = SINGLE JOIST
GT = GIRDER TRUSS	FT = FLOOR TRUSS
SC = STUD COLUMN	DR = DOUBLE RAFTER
EE = EACH END	TR = TRIPLE RAFTER
TJ = TRIPLE JOIST	OC = ON CENTER
CL = CENTER LINE	PL = POINT LOAD

WALL STUD SCHEDULE (10 FT HEIGHT)				
STUD SIZE	STUD SPACING (O.C.)			
	ROOF ONLY	ROOF + 1 FLOOR	ROOF + 2 FLOORS	NON-LOAD BEARING
2x4	24"	16"	12"	24"
2x6	24"	24"	16"	24"

NOTES:
1. BRACED WALLS STUDS SHALL BE A MAX. OF 16" O.C.
2. STUDS SUPPORTS OPTIONAL WALK-UP ATTIC SHALL BE SPACED A MAX. OF 16" O.C.
3. TWO STORY WALLS SHALL BE FRAMED w/ 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. BALLOON FRAMED w/ HORIZONTAL BLOCKING @ 6'-0" O.C. VERTICALLY.

LINTEL SCHEDULE		
TAG	SIZE	OPENING SIZE
1	L3x3x1/4"	LESS THAN 6'-0"
2	L5x3x1/4"	6'-0" TO 10'-0"
3	L5x3-1/2x5/16"	GREATER THAN 10'-0"
4	L5x3-1/2x5/16" ROLLED OR EQUIV.	ALL ARCHED OPENINGS

NOTES:
1. SECURE LINTEL TO HEADER w/ (2) 1/2" DIAMETER LAG SCREWS STAGGERED AT 16" O.C. (TYP FOR OPENINGS GREATER THAN 10'-0".
2. ALL HEADERS WHERE BRICK IS PRESENT, TO BE 1 (U.N.O.)

SHADED WALLS INDICATED LOAD BEARING WALLS

NOTE: REDUCE JOIST SPACING UNDER TILE FLOORS, GRANITE COUNTERTOPS AND/OR ISLANDS.

NOTE:
= = = DESIGNATES JOIST SUPPORTED LOAD BEARING WALL ABOVE. PROVIDE BLOCKING UNDER JOIST SUPPORTED LOAD BEARING WALL.

ROOF TRUSS AND FLOOR JOIST LAYOUTS, AND THEIR CORRESPONDING LOADING DETAILS, WERE NOT PROVIDED TO SUMMIT ENGINEERING, LABORATORY & TESTING, INC. (SUMMIT) PRIOR TO THE INITIAL DESIGN. THEREFORE, TRUSS AND JOIST DIRECTIONS WERE ASSUMED BASED ON THE INFORMATION PROVIDED BY LGI HOMES. SUBSEQUENT PLAN REVISIONS BASED ON ROOF TRUSS AND FLOOR JOIST LAYOUTS SHALL BE NOTED IN THE REVISION LIST, INDICATING THE DATE THE LAYOUTS WERE PROVIDED. SHOULD ANY DISCREPANCIES BECOME APPARENT, THE CONTRACTOR SHALL NOTIFY SUMMIT IMMEDIATELY.

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STRUCTURAL MEMBERS ONLY

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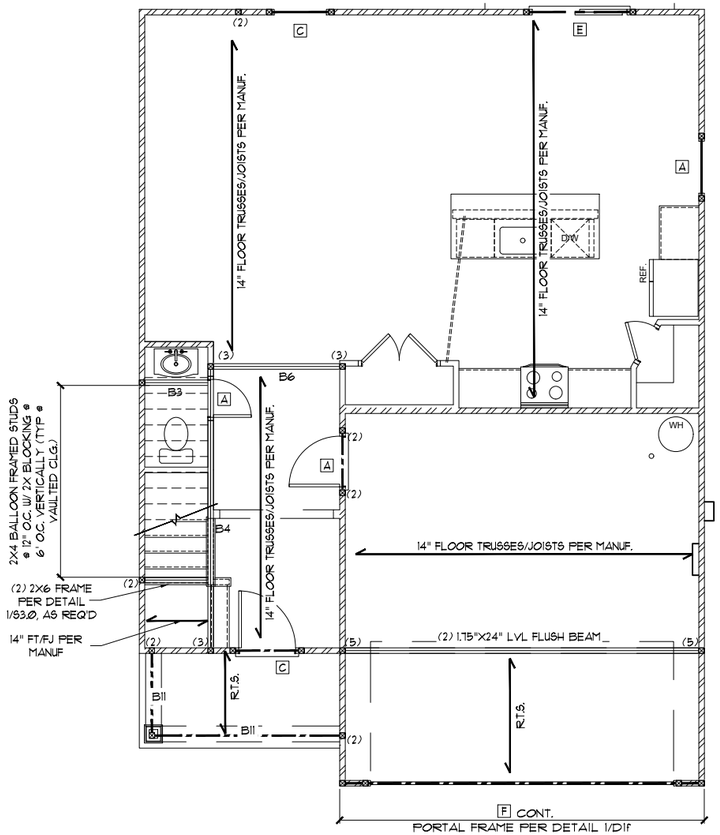
STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR FRAMING PLAN

SCALE: 1/8"=1'



ALL ELEVATIONS

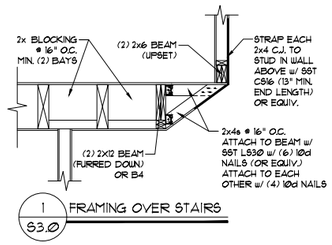
BEAM SCHEDULE	
TAG	SIZE
B1	(1) 11-7/8" FLOOR JOIST OR FLOOR TRUSS
B2	(2) 11-7/8" FLOOR JOIST OR FLOOR TRUSS
B3	(1) 14" FLOOR JOIST OR FLOOR TRUSS
B4	(2) 14" FLOOR JOIST OR FLOOR TRUSS
B5	(1) 9-1/4" LSL/LVL
B6	(2) 9-1/4" LSL/LVL
B7	(1) 11-7/8" LSL/LVL
B8	(2) 11-7/8" LSL/LVL
B9	(1) 14" LSL/LVL
B10	(2) 14" LSL/LVL
B11	(2) 2x10

NOTES:
1. BEAM SIZES SHOWN ON PLANS ARE MINIMUMS. LARGER BEAM SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. BEAMS ARE TO BE SET TOP FLUSH W/ FLOOR SYSTEM (U.N.O.)

HEADER SCHEDULE		
TAG	SIZE	JACKS (EACH END)
A	(2) 2x6	(1)
B	(2) 2x8	(2)
C	(2) 2x10	(2)
D	(2) 2x12	(2)
E	(2) 9-1/4" LSL/LVL	(3)
F	(2) 11-7/8" LSL/LVL	(3)
G	(3) 2x8	(2)
H	(3) 2x10	(2)
I	(3) 2x12	(2)

NOTES:
1. HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. ALL HEADERS TO BE DROPPED (U.N.O.).
3. STUD COLUMNS NOTED ON PLAN OVERRIDE STUD COLUMNS LISTED ABOVE (U.N.O.).

KING STUD SCHEDULE	
MAXIMUM HEADER SPAN	MINIMUM KING STUDS E.E.
3'-0"	(1)
4'-0"	(2)
8'-0"	(3)
12'-0"	(5)
16'-0"	(6)
KING STUD REQUIREMENT LISTED ABOVE DO NOT APPLY TO OPENING WHERE PORTAL FRAME IS SPECIFIED	



1 S3.0 FRAMING OVER STAIRS

NORTH CAROLINA PROFESSIONAL SEAL 054003 ENGINEER JUAN C ESPINA FIGUEROA 09/30/22

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SUMMIT Engineering, Laboratory & Testing, Inc.
No. F-1454

Avery RH
First Floor Framing

LGI Homes
7201 Creedmoor Road, Suite 147
Raleigh, NC 27613

CURRENT DRAWING
DATE: 09/30/2022
SCALE: 1/8"=1'-0"
PROJECT #: 3554.T0115
DRAWN BY: JV
CHECKED BY: CTB

ORIGINAL DRAWING

DATE	PROJECT #
10.7.19	21309

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
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HEADER SCHEDULE		
TAG	SIZE	JACKS (EACH END)
A	(2) 2x6	(1)
B	(2) 2x8	(2)
C	(2) 2x10	(2)
D	(2) 2x12	(2)
E	(2) 9-1/4" LSL/LVL	(3)
F	(2) 11-7/8" LSL/LVL	(3)
G	(3) 2x8	(2)
H	(3) 2x10	(2)
I	(3) 2x12	(2)

NOTES:
1. HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
2. ALL HEADERS TO BE DROPPED (U.N.O.).
3. STUD COLUMNS NOTED ON PLAN OVERRIDE STUD COLUMNS LISTED ABOVE (U.N.O.).

KING STUD SCHEDULE	
MAXIMUM HEADER SPAN	MINIMUM KING STUDS E.E.
3'-0"	(1)
4'-0"	(2)
8'-0"	(3)
12'-0"	(5)
16'-0"	(6)
KING STUD REQUIREMENT LISTED ABOVE DO NOT APPLY TO OPENING WHERE PORTAL FRAME IS SPECIFIED	

WALL STUD SCHEDULE (10 FT HEIGHT)				
STUD SIZE	STUD SPACING (O.C.)			
	ROOF ONLY	ROOF + 1 FLOOR	ROOF + 2 FLOORS	NON-LOAD BEARING
2x4	24"	16"	12"	24"
2x6	24"	24"	16"	24"

NOTES:
1. BRACED WALLS STUDS SHALL BE A MAX. OF 16" O.C.
2. STUDS SUPPORTS OPTIONAL WALK-UP ATTIC SHALL BE SPACED A MAX. OF 16" O.C.
3. TWO STORY WALLS SHALL BE FRAMED w/ 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. BALLOON FRAMED w/ HORIZONTAL BLOCKING @ 6'-0" O.C. VERTICALLY.

BEAM SCHEDULE	
TAG	SIZE
B1	(1) 11-7/8" FLOOR JOIST OR FLOOR TRUSS
B2	(2) 11-7/8" FLOOR JOIST OR FLOOR TRUSS
B3	(1) 14" FLOOR JOIST OR FLOOR TRUSS
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B11	(2) 2x10

NOTES:
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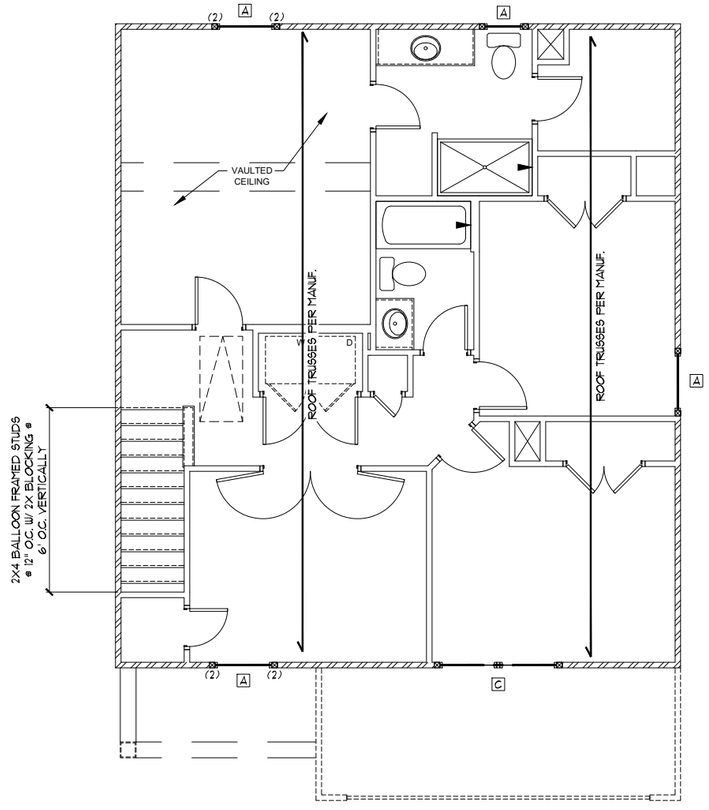
2. BEAMS ARE TO BE SET TOP FLUSH W/ FLOOR SYSTEM (UNO)

SHADED WALLS INDICATED LOAD BEARING WALLS

NOTE: REDUCE JOIST SPACING UNDER TILE FLOORS, GRANITE COUNTERTOPS AND/OR ISLANDS.

LINTEL SCHEDULE		
TAG	SIZE	OPENING SIZE
1	L3x3x1/4"	LESS THAN 6'-0"
2	L5x3x1/4"	6'-0" TO 10'-0"
3	L5x3-1/2x5/16"	GREATER THAN 10'-0"
4	L5x3-1/2x5/16" ROLLED OR EQUIV.	ALL ARCHED OPENINGS

NOTES:
1. SECURE LINTEL TO HEADER w/ (2) 1/2" DIAMETER LAG SCREWS STAGGERED AT 16" O.C. (TYP FOR OPENINGS GREATER THAN 10'-0".
2. ALL HEADERS WHERE BRICK IS PRESENT, TO BE 1 (U.N.O.)



ALL ELEVATIONS

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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR FRAMING PLAN

SCALE: 1/8"=1'

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SUMMIT Engineering, Laboratory & Testing, Inc.
No. F-1454

Avery RH
Second Floor Framing
LGI Homes
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Raleigh, NC 27613

CURRENT DRAWING
DATE: 09/30/2022
SCALE: 1/8"=1'-0"
PROJECT #: 3554.T0115
DRAWN BY: JV
CHECKED BY: CTB

ORIGINAL DRAWING

DATE	PROJECT #
10.7.19	21309

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 054003 ENGINEER JUAN C ESPINA FIGUEROA
09/30/22
STRUCTURAL MEMBERS ONLY

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S4.0

REQUIRED BRACED WALL PANEL CONNECTIONS				
METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION @ PANEL EDGES	REQUIRED CONNECTION @ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS* @ 6" O.C.	6d COMMON NAILS* @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAILS** @ 7" O.C.	5d COOLER NAILS** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS* @ 6" O.C.	6d COMMON NAILS* @ 12" O.C.
FF	WOOD STRUCTURAL PANEL	7/16"	PER FIGURE R602.10.6.4	PER FIGURE R602.10.6.4
*BASED ON 16" O.C. STUD SPACING **OR EQUIVALENT PER TABLE R702.3.5				

BRACED WALL NOTES:

1) WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2015 INTERNATIONAL RESIDENTIAL CODE AS ALLOWED PER SECTION R602.10 OF THE 2018 NC RESIDENTIAL CODE.
2) WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND MAXIMUM WIND SPEEDS OF 130 MPH.
3) BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH IRC TABLE R602.10.4.
4) REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
5) ALL BRACED WALL PANELS SHALL BE FULL WALL HEIGHT AND SHALL NOT EXCEED 10 FEET FOR ISOLATED PANEL METHOD AND 12 FEET FOR CONTINUOUS SHEATHING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
6) MINIMUM PANEL LENGTH SHALL BE PER TABLE R602.10.5.
7) THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH MINIMUM 1/2" GYPSUM BOARD (UNO).
8) FOR CONTINUOUS SHEATHING METHOD, EXTERIOR WALLS SHALL BE SHEATHED ON ALL SHEATHABLE SURFACES INCLUDING INFILL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW WALL OPENINGS, AND ON GABLE END WALLS.
9) FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARING WALL BELOW WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
10) A BRACED WALL PANEL SHALL BEGIN WITHIN 10 FEET FROM EACH END OF A BRACED WALL LINE.
11) THE DISTANCE BETWEEN ADJACENT EDGES OF BRACED WALL PANELS ALONG A BRACED WALL LINE SHALL BE NO GREATER THAN 20 FEET.
12) ADEQUATE CONTINUOUS LOAD PATHS FOR TRANSFER OF BRACING LOADS AND UPLIFT LOADS SHALL COMPLY WITH IRC SECTION R602.3.5.
13) MASONRY OR CONCRETE STEM WALLS WITH A LENGTH OF 48" OR LESS SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.9.
14) BRACED WALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8 (SEE DETAIL 1/D5F FROM DETAIL PACKAGE).
15) BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8.2 AND FIGURES R602.10.8(1)4(2)4(3).
16) CRIPPLE WALLS AND WALK OUT BASEMENT WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10.11
17) PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.6.4 (UNO)
18) ON SCHEMATIC, SHADED WALLS INDICATE BRACED WALL PANELS.
19) ABBREVIATIONS:
    GB = GYPSUM BOARD
    CS-XXX = CONT. SHEATHED
    FF = PORTAL FRAME
    WSP = WOOD STRUCTURAL PANEL
    ENG = ENGINEERED SOLUTION
    ENG-FF = ENGINEERED PORTAL FRAME

INSTALL HOLD-DOWNS FOR BRACED WALL END CONDITIONS PER SECTION R602.10.8 AND FIGURE R602.10.1 OF THE 2015 IRC.

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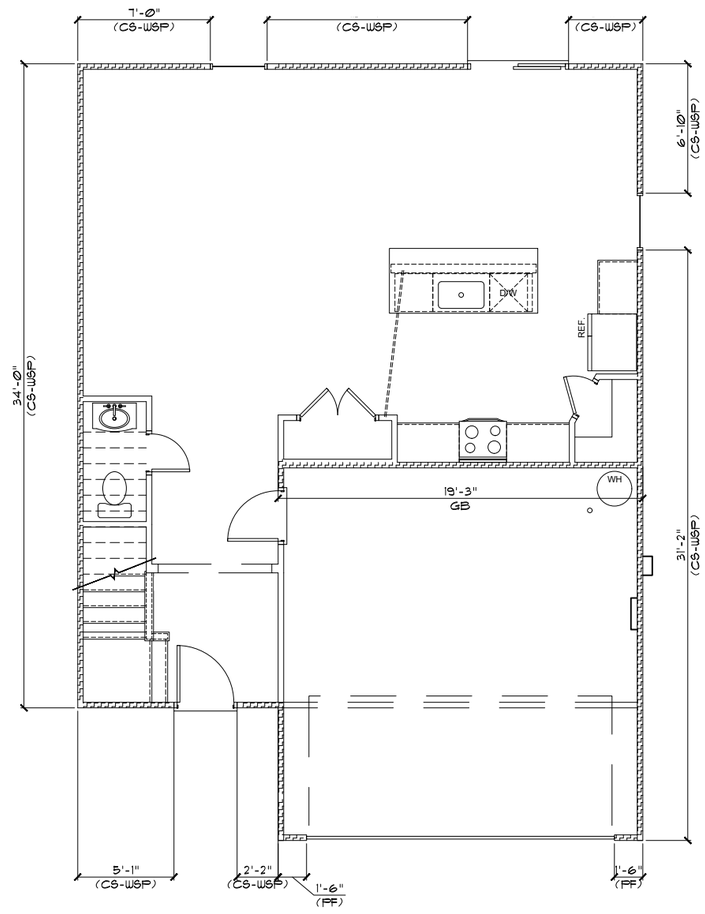
STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

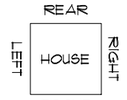
FIRST FLOOR BRACING PLAN

SCALE: 1/8"=1'



ALL ELEVATIONS

FIRST FLOOR BRACING (FT)		
CONTINUOUS SHEATHING METHOD		
	REQUIRED	PROVIDED
FRONT SIDE	12.0	16.5
RIGHT SIDE	9.0	38.0
REAR SIDE	12.0	21.5
LEFT SIDE	9.0	34.0



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No. F-1454

Avery RH
First Floor Bracing

LGI Homes
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Raleigh, NC 27613

CURRENT DRAWING
DATE: 09/30/2022
SCALE: 1/8"=1'-0"
PROJECT #: 3554.T0115
DRAWN BY: JV
CHECKED BY: CTB

ORIGINAL DRAWING

DATE	PROJECT #
10.7.19	21309

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

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S7.0

REQUIRED BRACED WALL PANEL CONNECTIONS

METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS* @ 6" O.C.	6d COMMON NAILS* @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAILS** @ 7" O.C.	5d COOLER NAILS** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS* @ 6" O.C.	6d COMMON NAILS* @ 12" O.C.
FF	WOOD STRUCTURAL PANEL	7/16"	PER FIGURE R602.10.6.4	PER FIGURE R602.10.6.4

*BASED ON 16" O.C. STUD SPACING **OR EQUIVALENT PER TABLE R702.3.5

BRACED WALL NOTES:

1) WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2015 INTERNATIONAL RESIDENTIAL CODE AS ALLOWED PER SECTION R602.10 OF THE 2018 NC RESIDENTIAL CODE.
2) WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND MAXIMUM WIND SPEEDS OF 130 MPH.
3) BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH IRC TABLE R602.10.4.
4) REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
5) ALL BRACED WALL PANELS SHALL BE FULL WALL HEIGHT AND SHALL NOT EXCEED 10 FEET FOR ISOLATED PANEL METHOD AND 12 FEET FOR CONTINUOUS SHEATHING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
6) MINIMUM PANEL LENGTH SHALL BE PER TABLE R602.10.5.
7) THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH MINIMUM 1/2" GYPSUM BOARD (UNO).
8) FOR CONTINUOUS SHEATHING METHOD, EXTERIOR WALLS SHALL BE SHEATHED ON ALL SHEATHABLE SURFACES INCLUDING INFILL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW WALL OPENINGS, AND ON GABLE END WALLS.
9) FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARING WALL BELOW WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
10) A BRACED WALL PANEL SHALL BEGIN WITHIN 10 FEET FROM EACH END OF A BRACED WALL LINE.
11) THE DISTANCE BETWEEN ADJACENT EDGES OF BRACED WALL PANELS ALONG A BRACED WALL LINE SHALL BE NO GREATER THAN 20 FEET.
12) ADEQUATE CONTINUOUS LOAD PATHS FOR TRANSFER OF BRACING LOADS AND UPLIFT LOADS SHALL COMPLY WITH IRC SECTION R602.3.5.
13) MASONRY OR CONCRETE STEM WALLS WITH A LENGTH OF 48" OR LESS SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.9.
14) BRACED WALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8 (SEE DETAIL 1/D5? FROM DETAIL PACKAGE).
15) BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8.2 AND FIGURES R602.10.8.1)4(2)4(3).
16) CRIPPLE WALLS AND WALK OUT BASEMENT WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10.11
17) PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.6.4 (UNO)
18) ON SCHEMATIC, SHADED WALLS INDICATE BRACED WALL PANELS.
19) ABBREVIATIONS:
    - GB = GYPSUM BOARD
    - CS-XXX = CONT. SHEATHED
    - FF = PORTAL FRAME
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    - ENG = ENGINEERED SOLUTION
    - ENG-FF = ENGINEERED PORTAL FRAME

INSTALL HOLD-DOWNS FOR BRACED WALL END CONDITIONS PER SECTION R602.10.8 AND FIGURE R602.10.7 OF THE 2015 IRC.

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY LGI HOMES COMPLETED/REVISED ON 09/30/22. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, INC. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

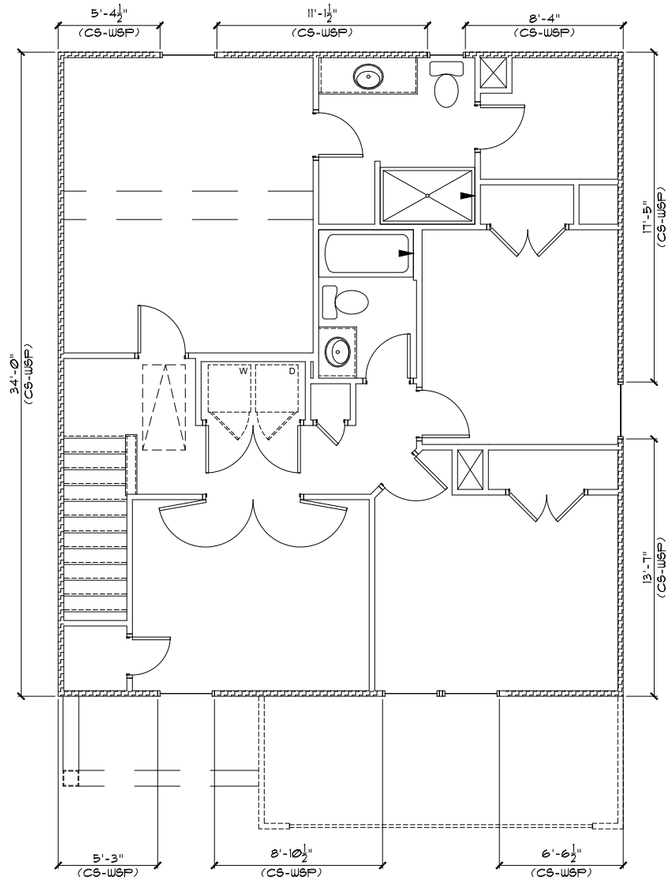
STRUCTURAL MEMBERS ONLY

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT, SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, INC. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR BRACING PLAN

SCALE: 1/8"=1'



ALL ELEVATIONS

SECOND FLOOR BRACING (FT)

CONTINUOUS SHEATHING METHOD

	REQUIRED	PROVIDED
FRONT SIDE	4.4	20.6
LEFT SIDE	4.0	34.0
REAR SIDE	4.4	24.8
RIGHT SIDE	4.0	31.0

NORTH CAROLINA PROFESSIONAL SEAL 054003 ENGINEER JUAN C ESPINA FIGUEROA
09/30/22
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A Universal Engineering Sciences Company
2520 Whitehall Park Dr, Suite 250
Charlotte, NC 28273
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Fax: 704.504.1125
www.summit-companies.com

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION
SUMMIT Engineering, Laboratory & Testing, Inc.
No. F-1454

Avery RH
Second Floor Bracing
LGI Homes
7201 Creedmoor Road, Suite 147
Raleigh, NC 27613

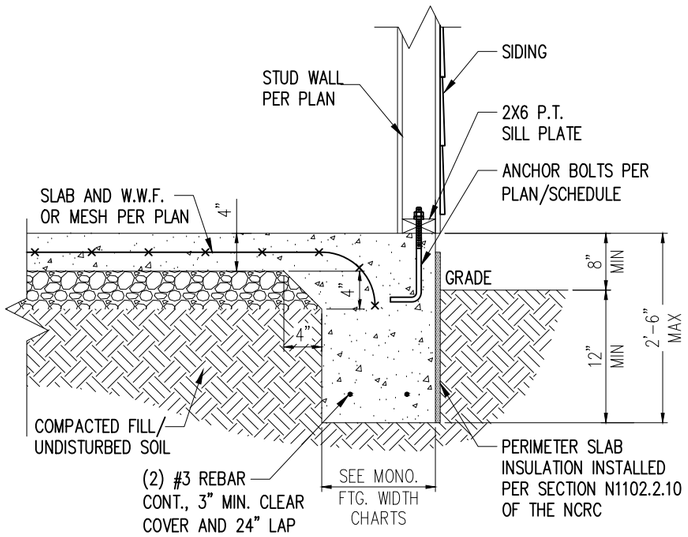
CURRENT DRAWING
DATE: 09/30/2022
SCALE: 1/8"=1'-0"
PROJECT #: 3554.T0115
DRAWN BY: JV
CHECKED BY: CTB

ORIGINAL DRAWING

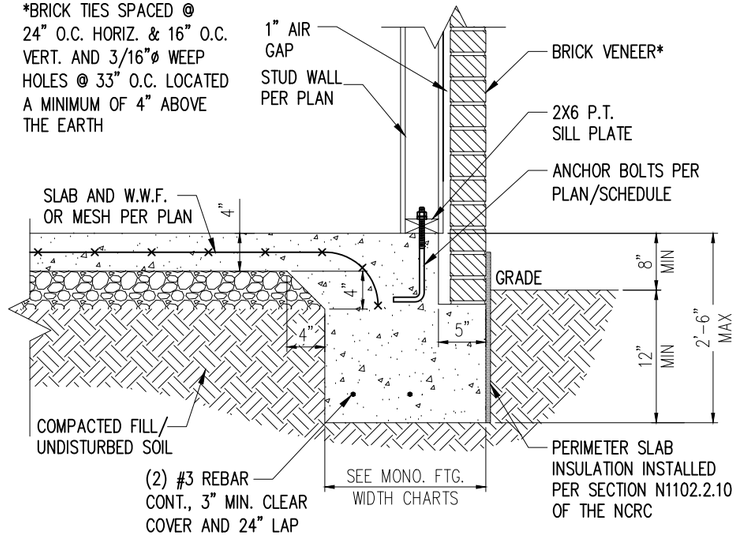
DATE	PROJECT #
10.7.19	21309

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

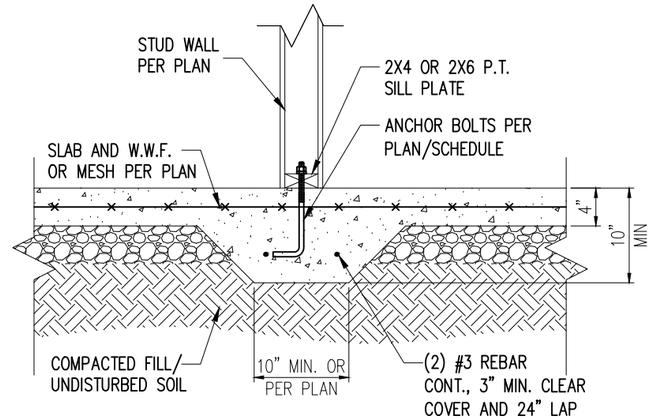
SHEET
S8.0



STANDARD – SIDING

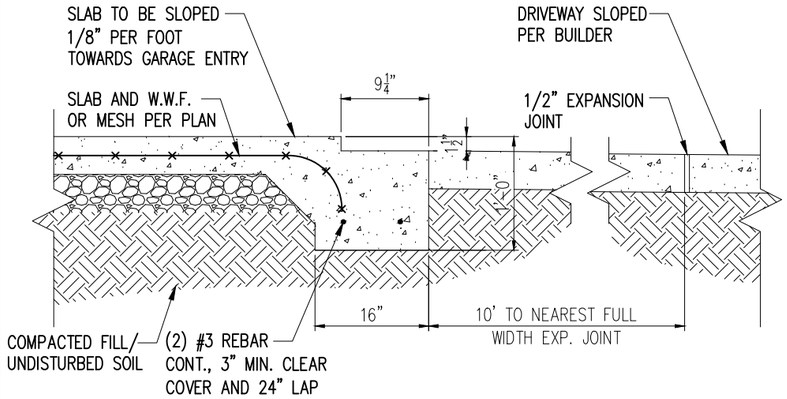


STANDARD – BRICK

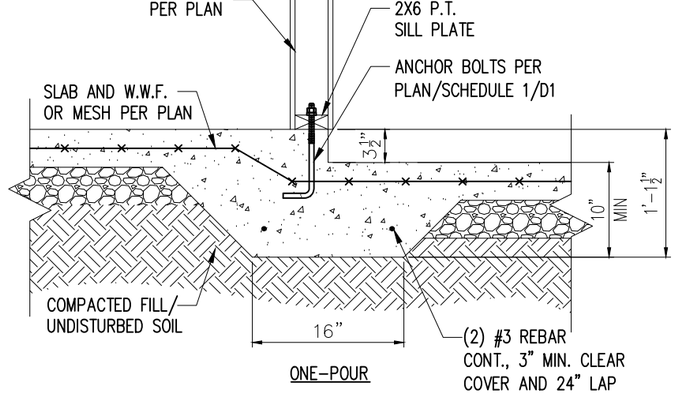


3 D1m TYP. THICKENED SLAB DETAIL
3/4" = 1'-0"

1 D1m TYP. SLAB DETAIL
3/4" = 1'-0"



2 D1m SLAB AT GARAGE DOOR
3/4" = 1'-0"



ONE-POUR

4 D1m STEP IN GARAGE
3/4" = 1'-0"

NOTES:
1. REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET CS2 FOR ADDITIONAL INFORMATION.
2. PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
3. SEE ARCH. DWGS. FOR ALL TOP OF THE SLAB ELEVATIONS, SLOPES AND DEPRESSIONS.

WALL ANCHOR SCHEDULE

TYPE OF ANCHOR	MIN. CONC. EMBEDMENT	SPACING EMBEDMENT	INTERIOR WALL	EXTERIOR WALL
1/2"ø A307 BOLTS w/ STD. 90° BEND	7"	6'-0"	YES	YES
SST – MASA	4"	6'-0"	NO	YES
1/2"ø THREADED ROD w/ w/ SST SET-XP EPOXY	7"	6'-0"	YES	YES
1/2"ø SST TITEN HD	4-1/4"	6'-0"	YES	YES

NOTE:
1) INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM PLATE ENDS AND JOINTS.
2) EQUIVALENT ANCHORS MAY BE USED. SIZE & SPACING PER MANUF. SPECS.

MONOLITHIC FOOTING WIDTH

# OF STORIES	WIDTH BASED ON SOIL BEARING CAPACITY		
	1500 PSF	2000 PSF	2500 PSF
1 STORY – STD.	16"	16"	16"
1 STORY – BRICK VENEER	21"*	21"*	21"*
2 STORY – STD.	16"	16"	16"
2 STORY – BRICK VENEER	21"*	21"*	21"*
3 STORY – STD.	23"	18"	18"
3 STORY – BRICK VENEER	32"*	24"*	24"*

*5" BRICK LEDGE HAS BEEN ADDED TO THE MONOLITHIC FOOTING WIDTH FOR BRICK SUPPORT

NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL 9/30/22

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NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, Inc.
C-2530

PROJECT
Standard Details
Monolithic Slab Details

CLIENT
LGI Homes
3037 Sherman Drive
Lancaster, SC 29720

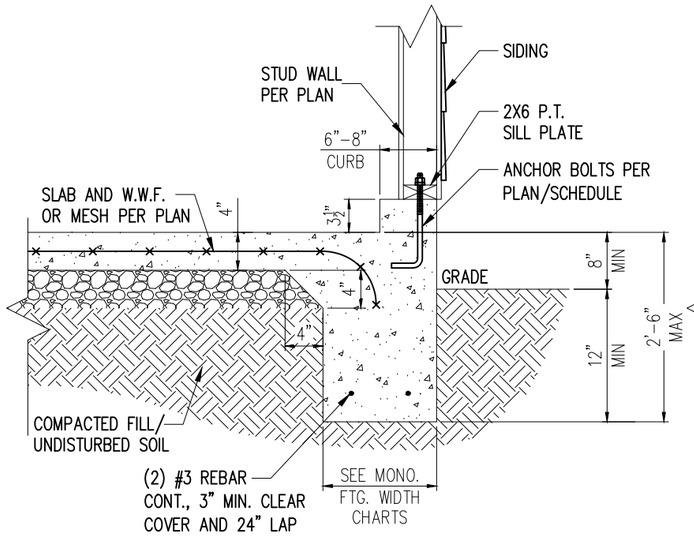
CURRENT DRAWING
DATE: 09.30.22
SCALE: NTS
PROJECT #: 3554.T0040
DRAWN BY: MSB
CHECKED BY: JCEF

ORIGINAL DRAWING

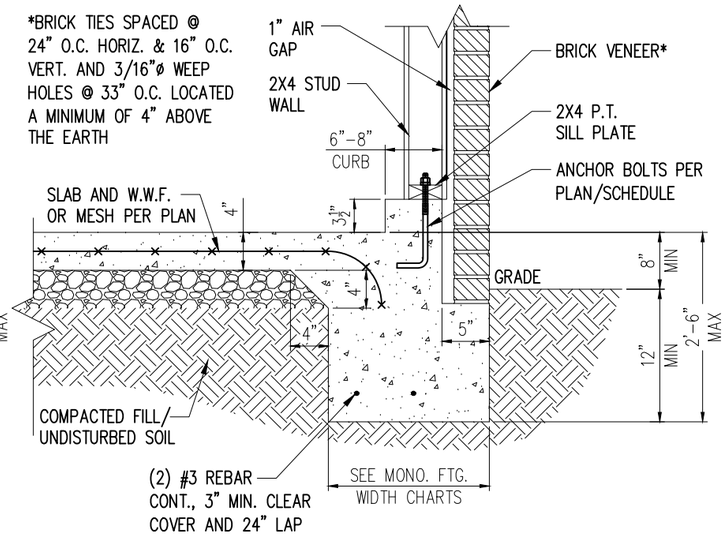
DATE	PROJECT #
10/01/19	24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET
D1m



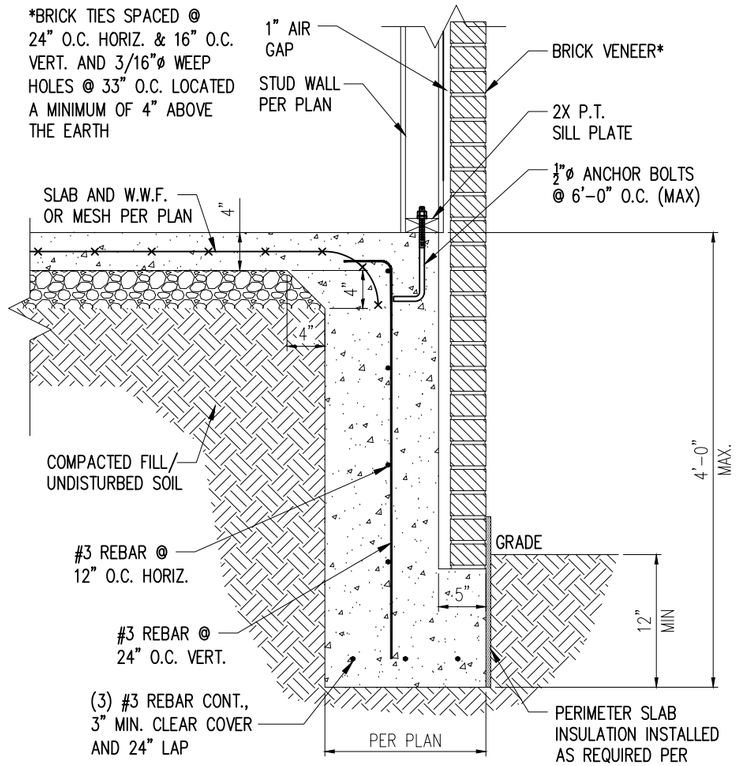
STANDARD – SIDING



STANDARD – BRICK

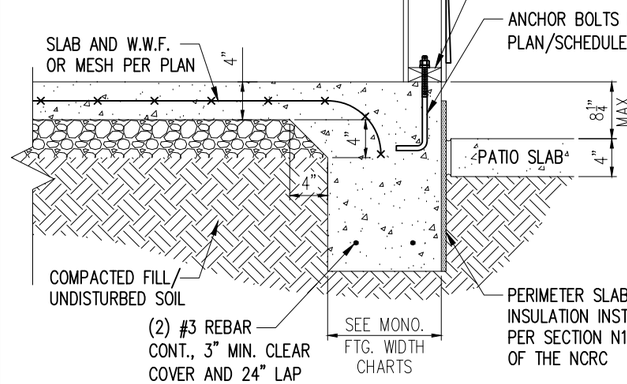
1 D2m TYP. GARAGE CURB DETAIL

3/4" = 1'-0"

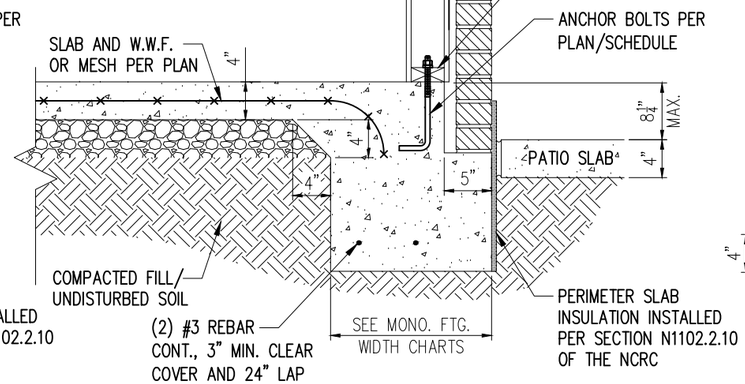


3 D2m TALL SLAB DETAIL

N.T.S.



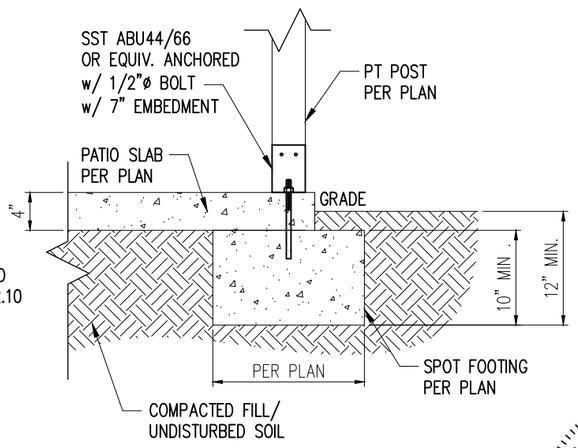
STANDARD – SIDING



STANDARD – BRICK

2 D2m PATIO SLAB DETAIL

3/4" = 1'-0"



W/ COVERED PATIO

NOTES:
1. REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET CS2 FOR ADDITIONAL INFORMATION.
2. PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
3. SEE ARCH. DWGS. FOR ALL TOP OF THE SLAB ELEVATIONS, SLOPES AND DEPRESSIONS.

NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL
9/30/22
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SUMMIT Engineering, Laboratory & Testing, Inc.
C-2530

PROJECT
Standard Details
Monolithic Slab Details

CLIENT
LGI Homes
3037 Sherman Drive
Lancaster, SC 29720

CURRENT DRAWING
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PROJECT #: 3554.T0040
DRAWN BY: MSB
CHECKED BY: JCEF

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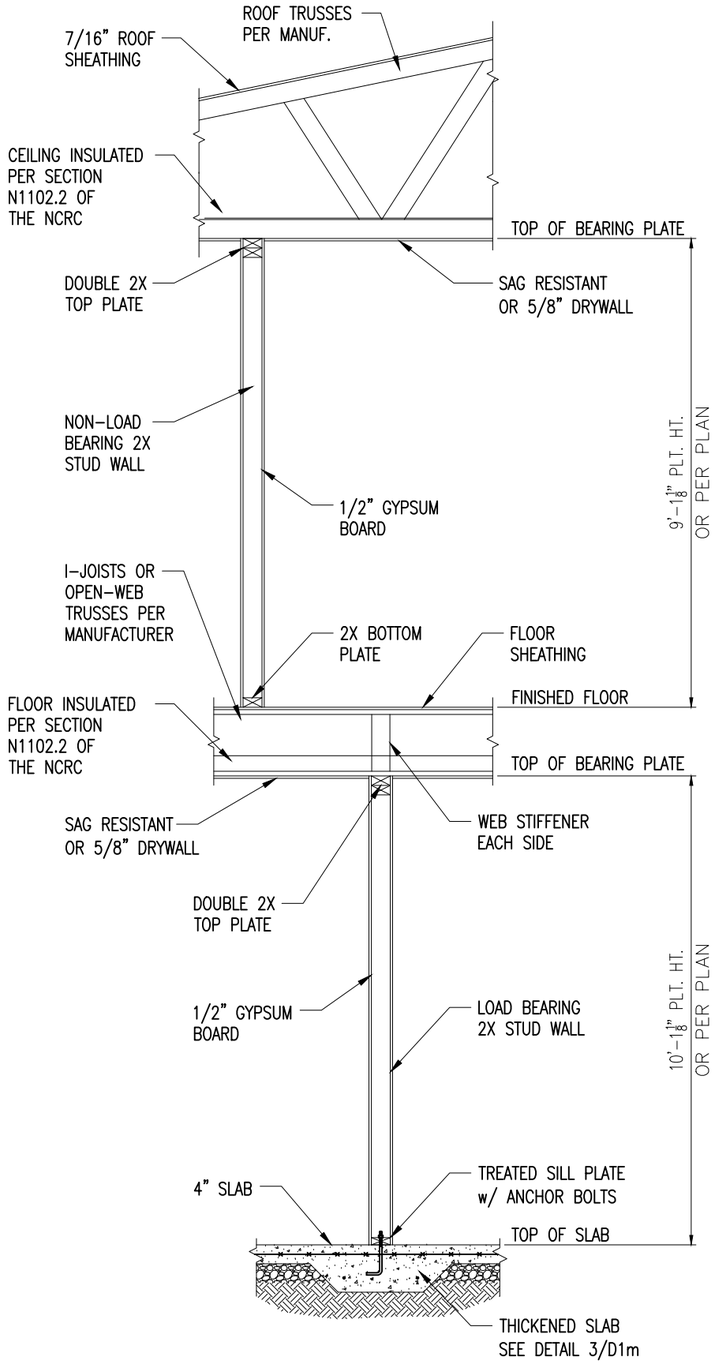
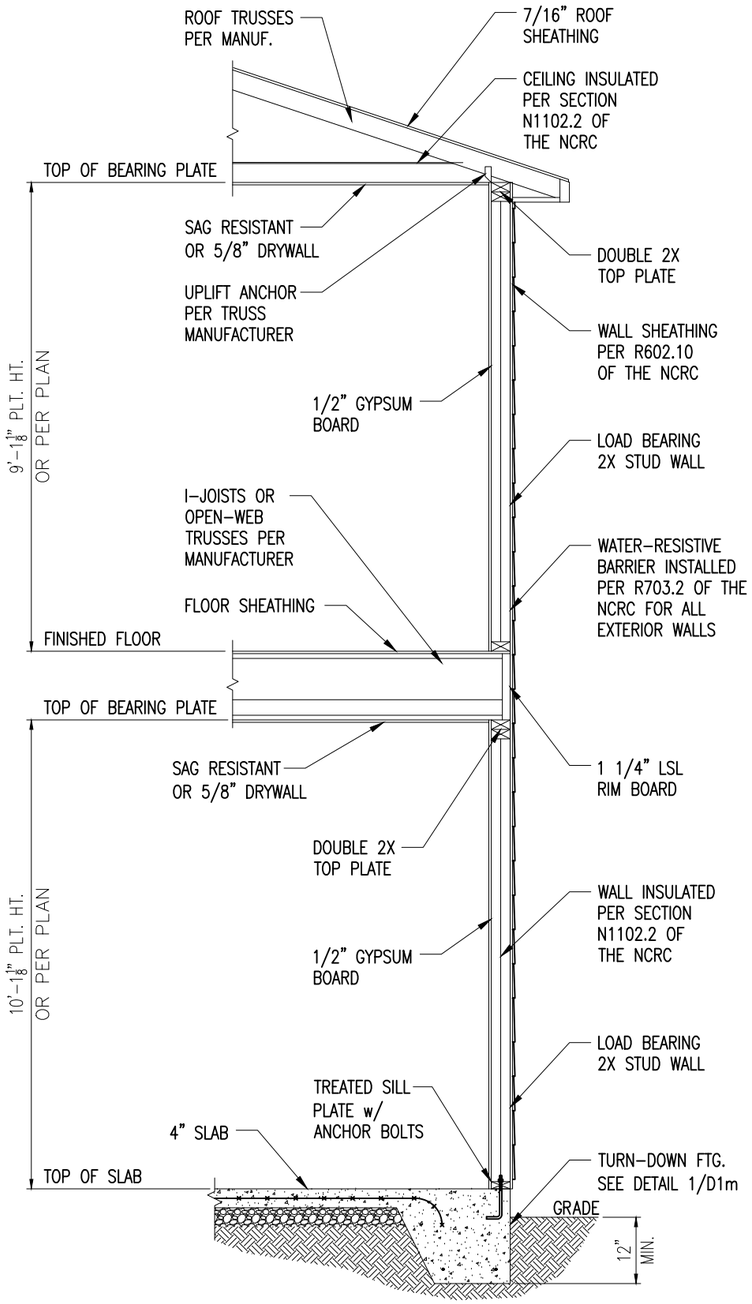
SHEET
D2m



1 D3m TYP. INTERIOR LOAD BEARING WALL SECTION

3/4" = 1'-0"



2 D3m TYP. EXTERIOR LOAD BEARING WALL SECTION

3/4" = 1'-0"

-SIMILAR w/ BRICK AND STONE
-BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT.
-MIN. 3/16"ø WEEP HOLES @ 33" O.C.

NOTES:

1. REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET CS2 FOR ADDITIONAL INFORMATION.
2. PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
3. SEE ARCH. DWGS. FOR ALL TOP OF THE SLAB ELEVATIONS, SLOPES AND DEPRESSIONS.

NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL 9/30/22

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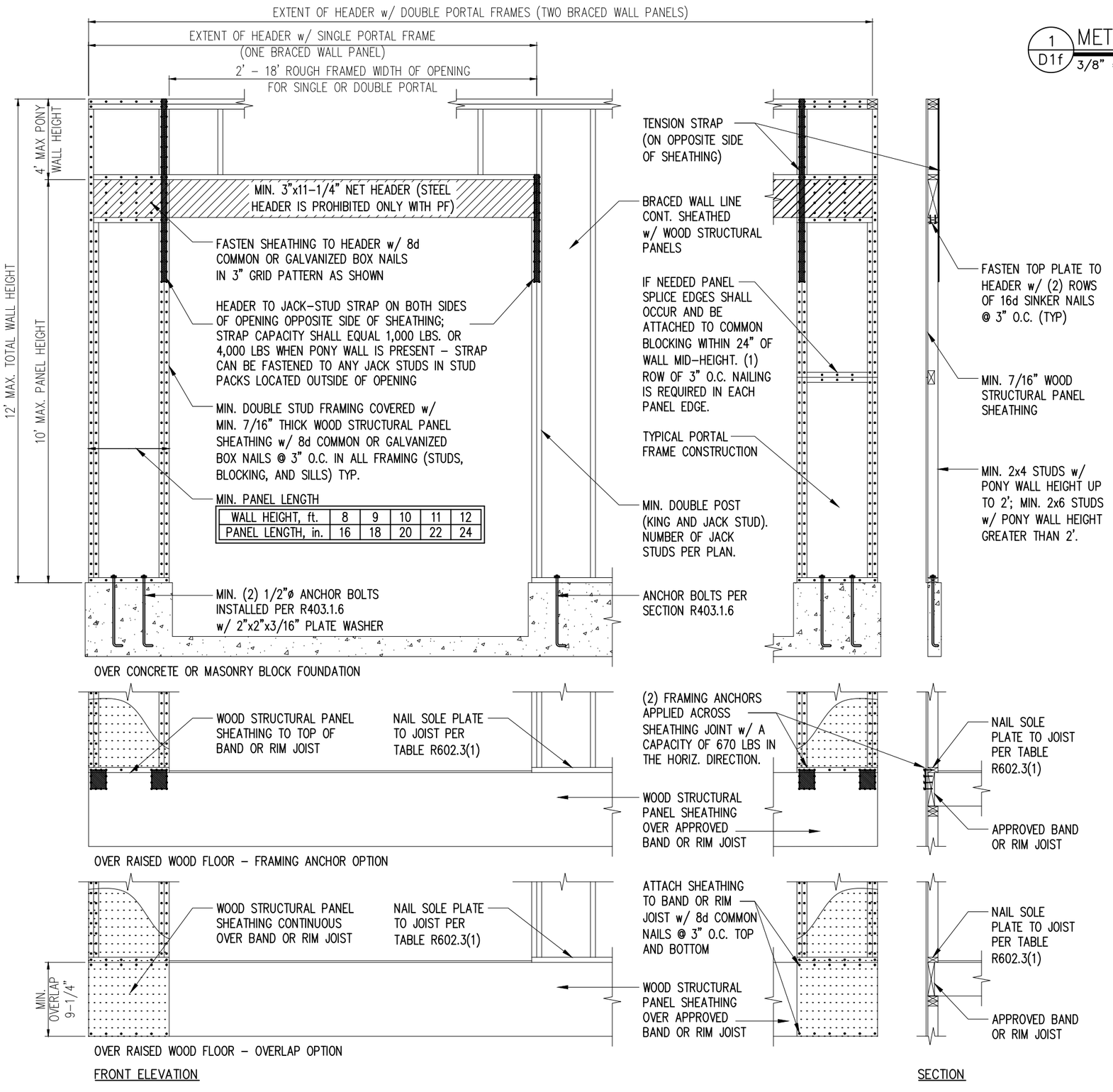
SHEET
D3m

1 D1f METHOD PF: PORTAL FRAME DETAIL

3/8" = 1'-0"



WALL HEIGHT, ft.	8	9	10	11	12
PANEL LENGTH, in.	16	18	20	22	24

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SUMMIT Engineering, Laboratory & Testing, Inc.
C-2530

PROJECT
Standard Details
Framing Details

CLIENT
LGI Homes
3037 Sherman Drive
Lancaster, SC 29720

CURRENT DRAWING
DATE: 09.30.22
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SHEET
D1f

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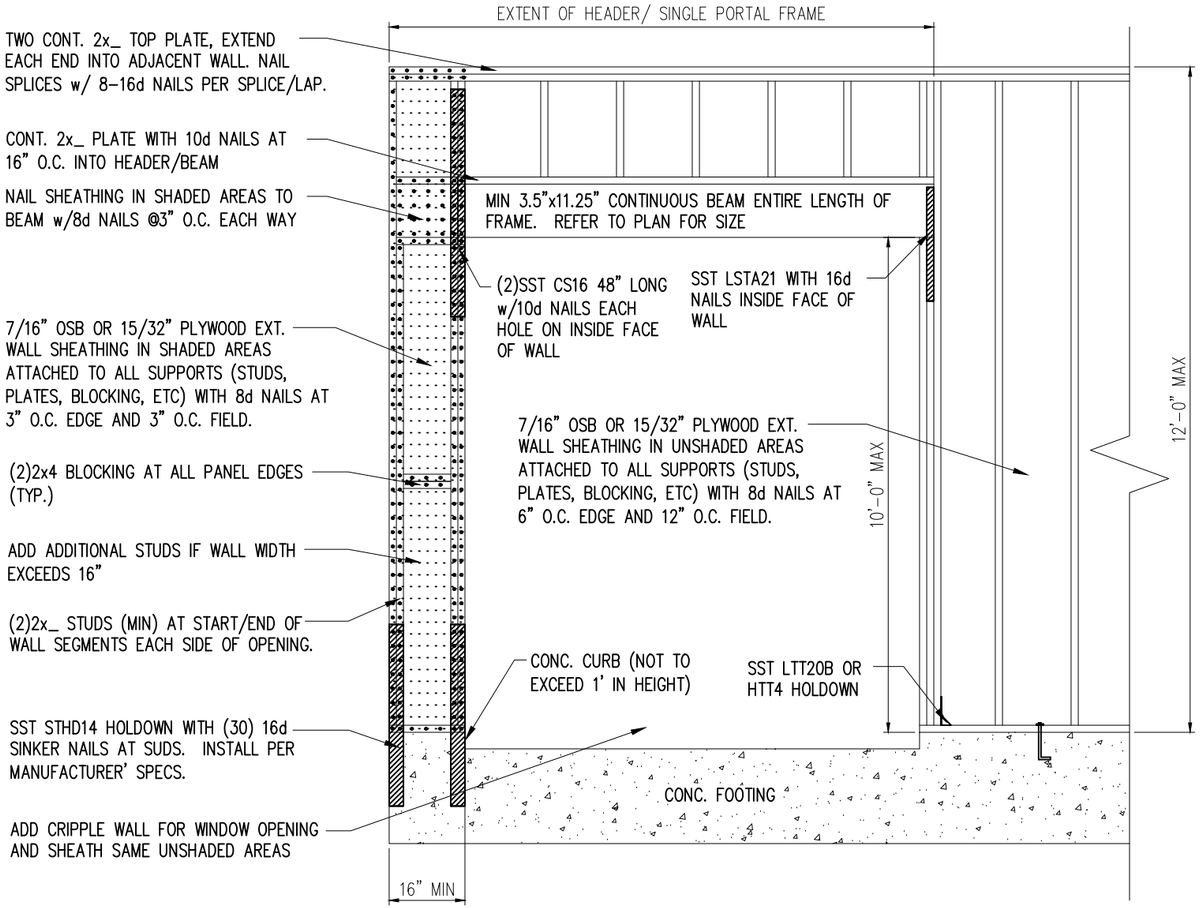
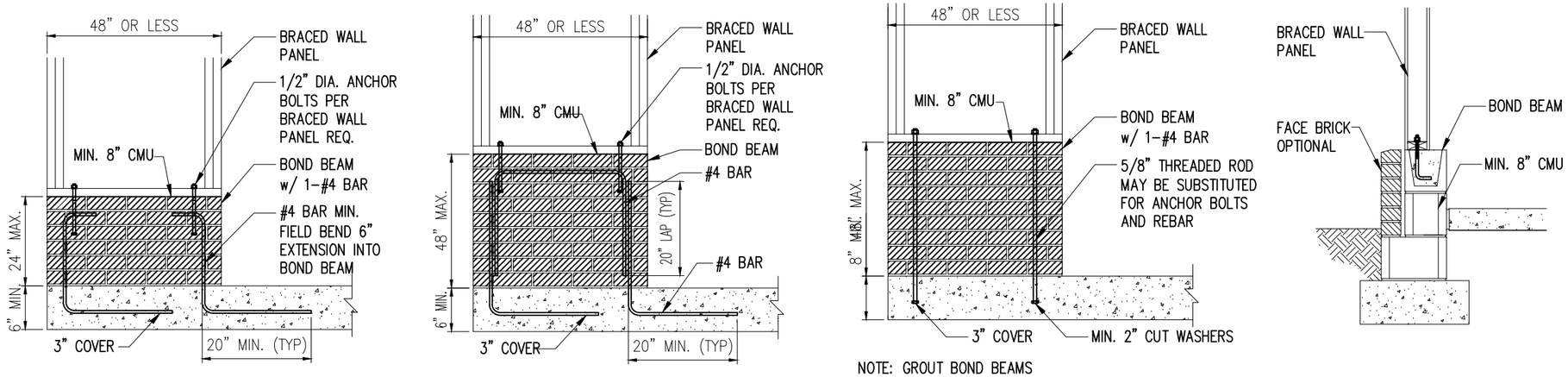
9/30/22
STRUCTURAL MEMBERS ONLY



1 D2f METHOD PF: PORTAL FRAME DETAIL w/ HOLD-DOWNS

3/4" = 1'-0"



2 D2f MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS

NTS

NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

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SUMMIT Engineering, Laboratory & Testing, Inc.
C-2530

PROJECT
Standard Details
Framing Details - Bracing

CLIENT
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Lancaster, SC 29720

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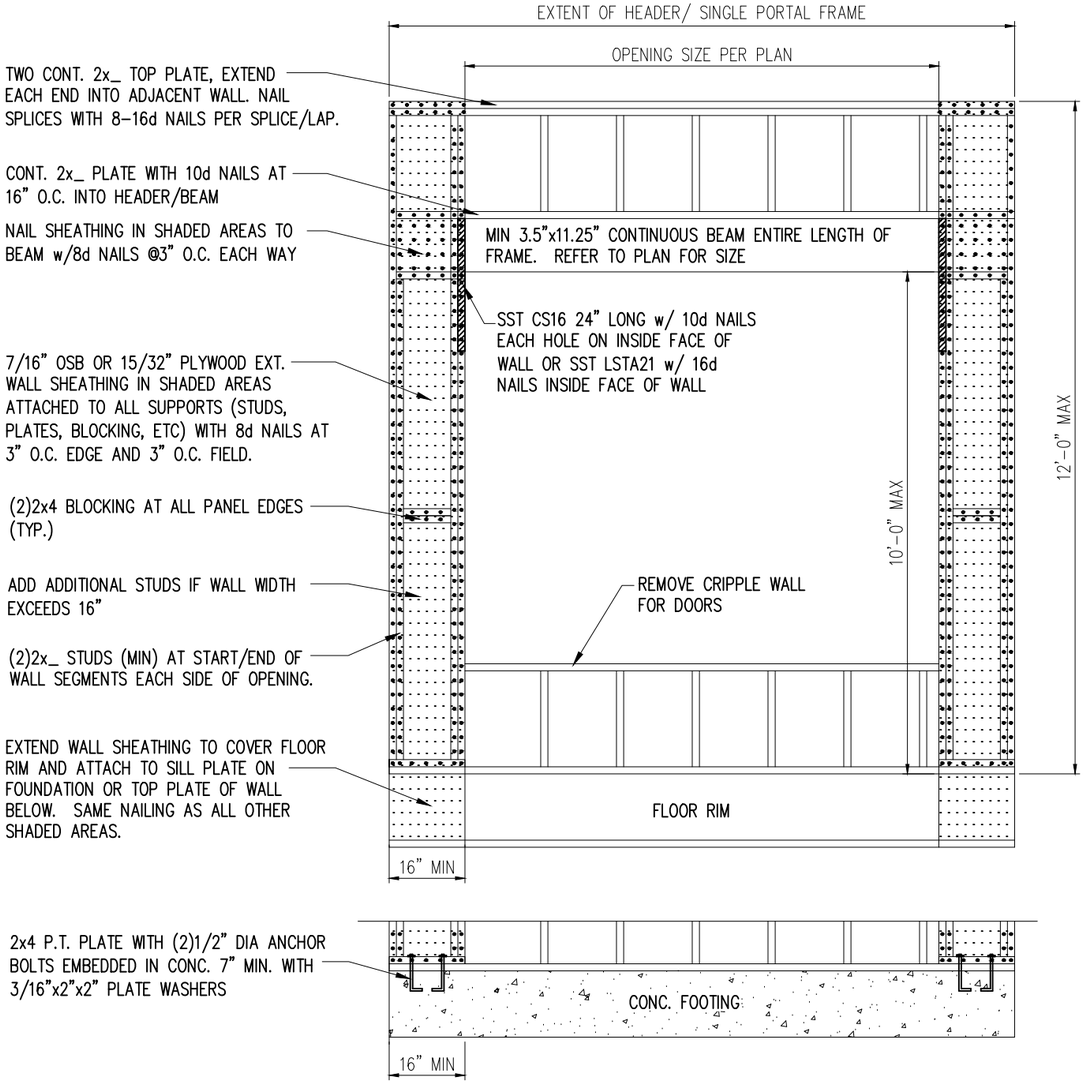
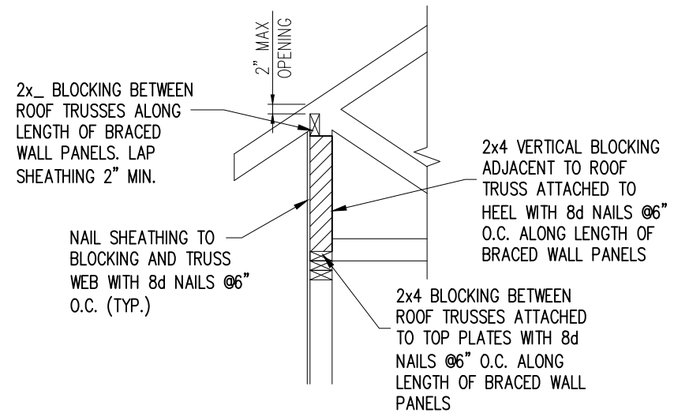
NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL
9/30/22

SHEET
D2f

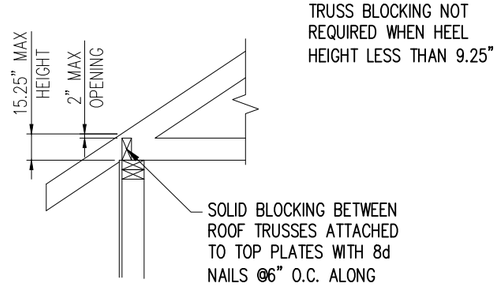


1 D3f METHOD PF: PORTAL FRAME DETAIL

3/4" = 1'-0" OPENINGS UNDER 8'-0"



HEEL HEIGHT BETWEEN 15.25" AND 48"



HEEL HEIGHT BETWEEN 9.25" AND 15.25"

2 D3f TYP. WALL PANEL TO ROOF TRUSS CONNECTION

1" = 1'-0"

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SHEET
D3f

NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL
9/30/22

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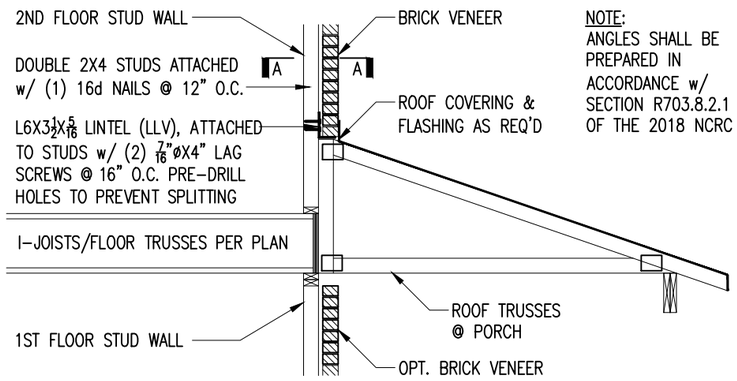
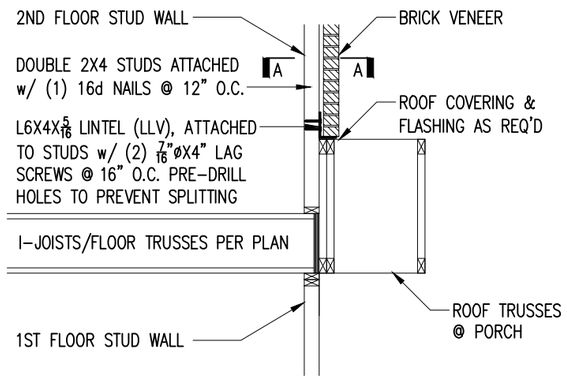
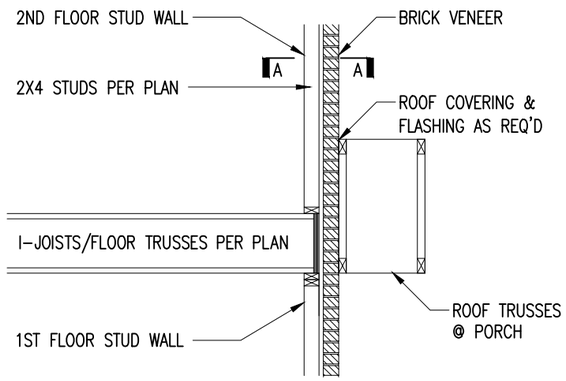


NOTE:
ANGLES SHALL BE PREPARED IN ACCORDANCE w/ SECTION R703.8.2.1 OF THE 2018 NCRC

TRUSSES PERPENDICULAR TO STUD WALL



TRUSSES PARALLEL TO STUD WALL



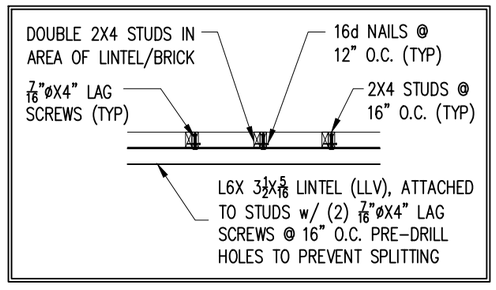
TRUSSES PARALLEL TO STUD WALL
w/ CONTINUOUS BRICK VENEER

1/D4f BRICK SUPPORT ABOVE STORAGE/PORCH ROOF DETAIL

NTS

3/D4f BALCONY JOIST ATTACHMENT

NTS



SECTION A-A

NTS

MIN. LSL RIM BOARD PROPERTIES:
Fb = 1,200 PSI
Fv = 400 PSI
E = 800,000 PSI

4/D4f TYP. RANGE VENT FRAMING

NTS

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ENGINEERING LABORATORY TESTING
3070 HAMMOND BUSINESS PLACE, SUITE 171
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NORTH CAROLINA CERTIFICATE OF LICENSURE
SUMMIT Engineering, Laboratory & Testing, Inc.
C-2530

PROJECT
Standard Details
Framing Details - Bracing

CLIENT
LGI Homes
3037 Sherman Drive
Lancaster, SC 29720

CURRENT DRAWING
DATE: 09.30.22
SCALE: NTS
PROJECT #: 3554.T0040
DRAWN BY: MSB
CHECKED BY: JCEF

ORIGINAL DRAWING

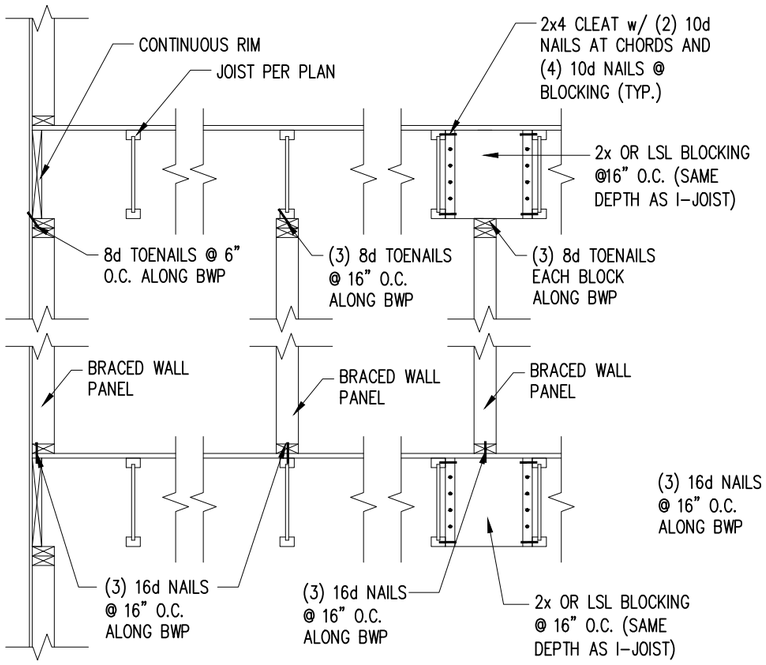
DATE	PROJECT #
10/01/19	24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

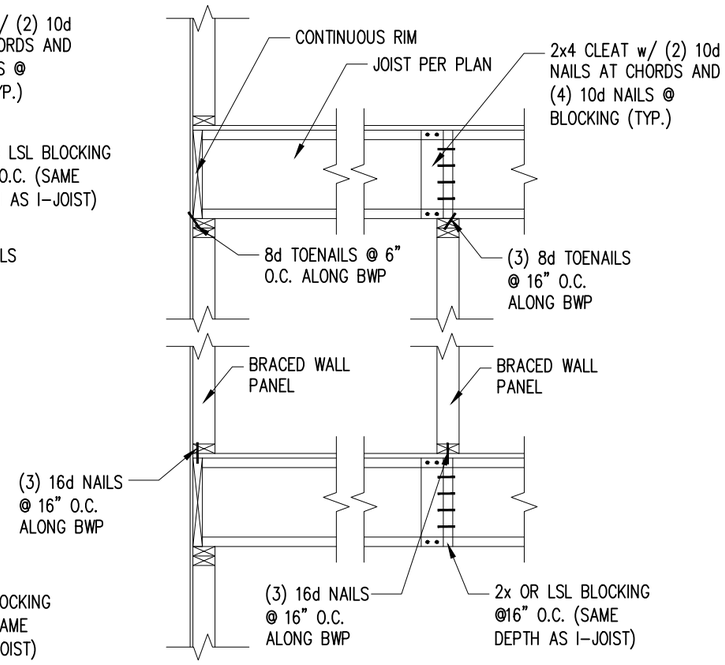
SHEET
D4f

NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL
9/30/22

STRUCTURAL MEMBERS ONLY



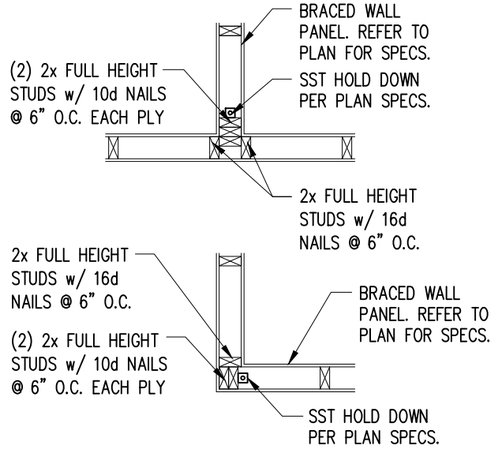
JOISTS PARALLEL TO BRACED WALLS



JOISTS PERPENDICULAR TO BRACED WALLS

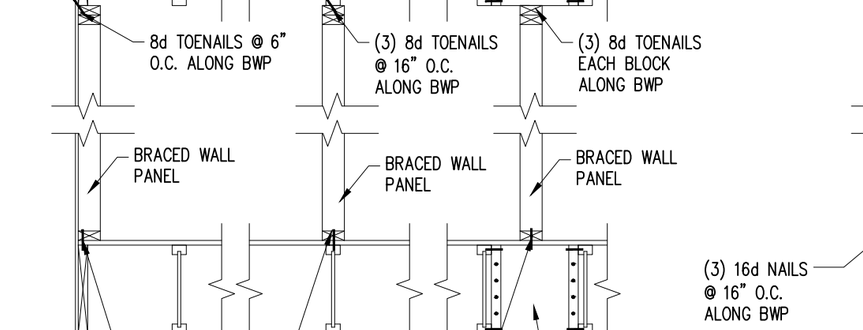
1 / D5f TYP. WALL PANEL TO FLOOR/CEILING CONNECTION

1" = 1'-0"



4 / D5f TYP. HOLD DOWN DETAIL

1" = 1'-0"

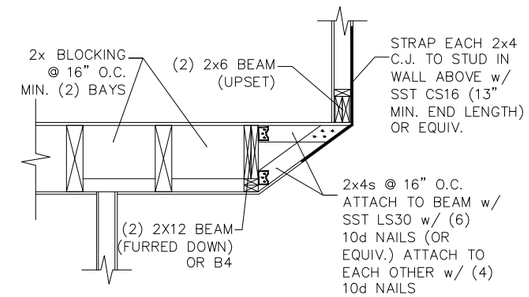


2 / D5f TYP. EXTERIOR CORNER FRAMING

1" = 1'-0"

3 / D5f INTERIOR 3-STUD WALL INTERSECTION

1" = 1'-0"



1 / S3.0 FRAMING OVER STAIRS

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PROJECT
Standard Details
Framing Details - Bracing
CLIENT
LGI Homes
3037 Sherman Drive
Lancaster, SC 29720

CURRENT DRAWING
DATE: 09.30.22
SCALE: NTS
PROJECT #: 3554.T0040
DRAWN BY: MSB
CHECKED BY: JCEF

ORIGINAL DRAWING

DATE	PROJECT #
10/01/19	24512

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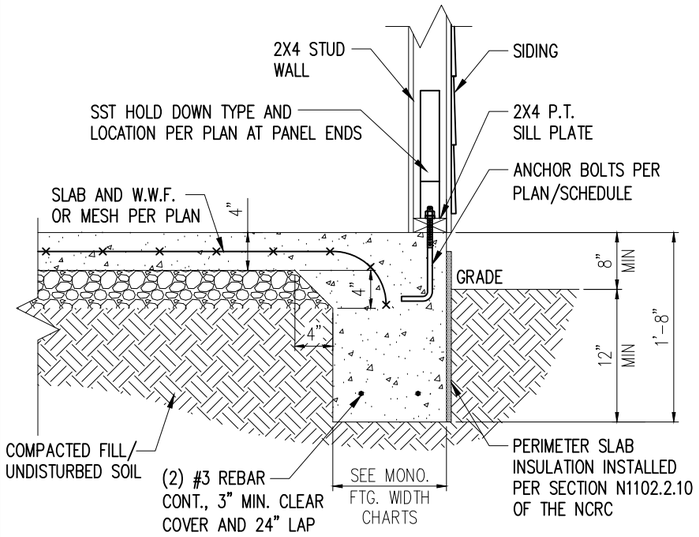
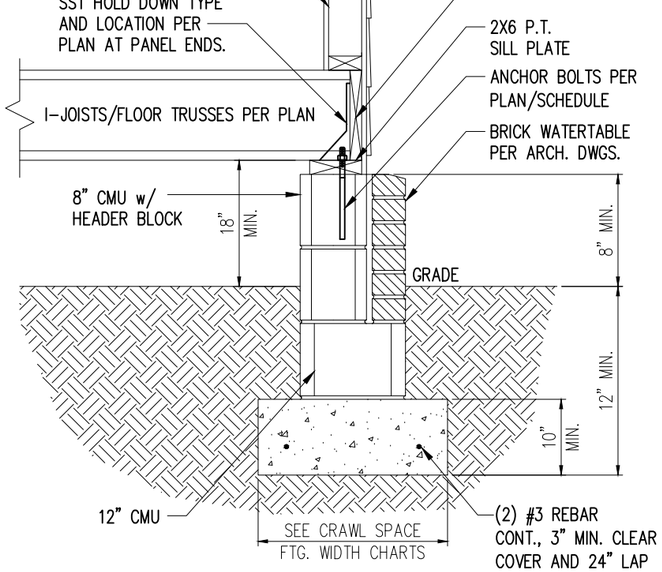
NORTH CAROLINA PROFESSIONAL SEAL 052215 ENGINEER CHRISTOPHER T. BLACKWELL
9/30/22

SHEET
D5f



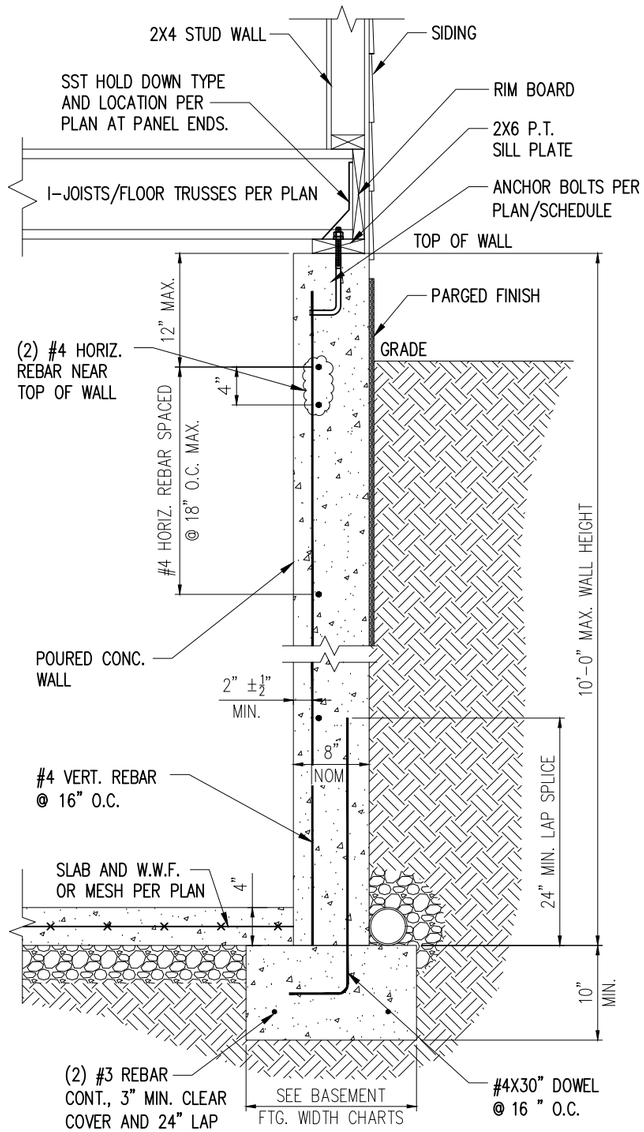
1 D6f SLAB DETAIL w/ HOLD-DOWN

3/4" = 1'-0"



2 D6f CRAWL FOUNDATION WALL DETAIL W/ H-D

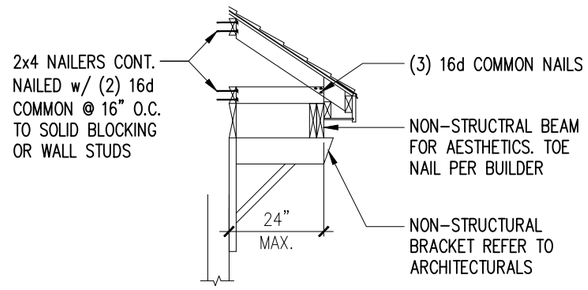
3/4" = 1'-0"



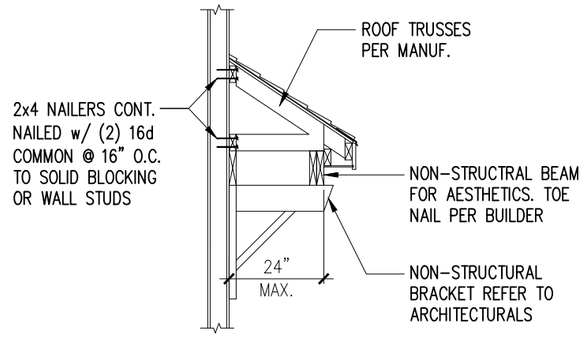
STANDARD - SIDING

3 D6f BASEMENT FOUNDATION WALL DETAIL W/ HOLD-DOWN

3/4" = 1'-0"



STANDARD



ROOF TRUSSES

4 D6f GABLE ROOF RETURN

N.T.S.

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9/30/22

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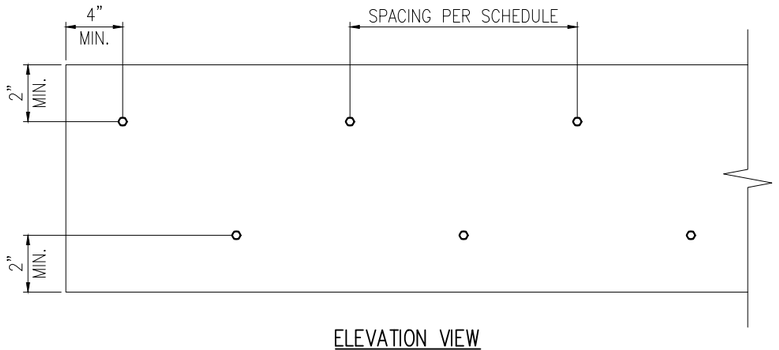
D6f



ELEVATION VIEW

MINIMUM FASTENING REQUIREMENTS FOR TOP- AND SIDE-LOADED MEMBERS

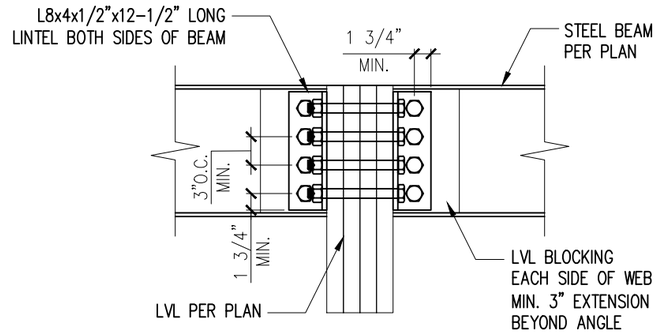
FASTENER TYPE	LVL DEPTH	3½" WIDE	5¼" WIDE		7" WIDE		
		2-Ply 1¾"	3-Ply 1¾"	1¾" + 3½"	4-Ply 1¾"	2-Ply 1¾" + 3½"	2-Ply 3½"
10d (0.128" x 3") Nails	7¼"≤d<14"	3 rows @ 12" o.c.	3 rows @ 12" o.c. **(ES)**	3 rows @ 12" o.c.	-	3 rows @ 12" o.c. **(ES)**	-
	d≥14"	4 rows @ 12" o.c.	4 rows @ 12" o.c. **(ES)**	4 rows @ 12" o.c.	-	4 rows @ 12" o.c. **(ES)**	-
16d (0.162" x 3½") Nails	7¼"≤d<14"	2 rows @ 12" o.c.	2 rows @ 12" o.c. **(ES)**	2 rows @ 12" o.c.	-	2 rows @ 12" o.c. **(ES)**	-
	d≥14"	3 rows @ 12" o.c.	3 rows @ 12" o.c. **(ES)**	3 rows @ 12" o.c.	-	3 rows @ 12" o.c. **(ES)**	-
½" Through Bolts	d≥7¼"	2 rows @ 24" o.c.	2 rows @ 24" o.c.		2 rows @ 24" o.c.		
SDS ¼" x 3½", WS35, 3⅜" TrussLok		2 rows @ 24" o.c.	2 rows @ 24" o.c. **(ES)**	2 rows @ 24" o.c.	-	2 rows @ 24" o.c. **(ES)**	-
SDS ¼" x 6", WS6		-	-		2 rows @ 24" o.c. **(ES)**		
5" TrussLok		-	2 rows @ 24" o.c.		-		
6¾" TrussLok		-	-		2 rows @ 24" o.c.		

NOTES:

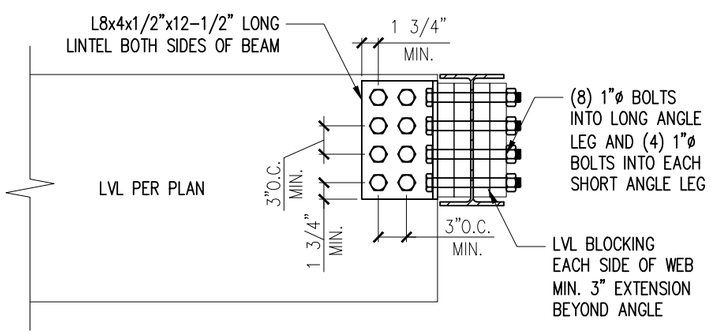
1. All fasteners must meet the minimum requirements in the table above. Side-loaded multiple-ply members must meet the minimum fastening and side-loading capacity requirements given on page 48.
2. Minimum fastening requirements for depths less than 7¼" require special consideration. Please contact your technical representative.
3. Three general rules for staggering or offsetting for a certain fastener schedule:
   (1) if staggering or offsetting is not referenced, then none is required;
   (2) if staggering is referenced, then fasteners installed in adjacent rows on the front side are to be staggered up to one-half the o.c. spacing, but maintaining the fastener clearances above; and
   (3) if "**ES**" is referenced, then the fastener schedule must be repeated on each side, with the fasteners on the back side offset up to one-half the o.c. spacing of the front side (whether or not it is staggered).

1 D7f MULTI–PLY BEAM CONNECTION DETAIL

N.T.S



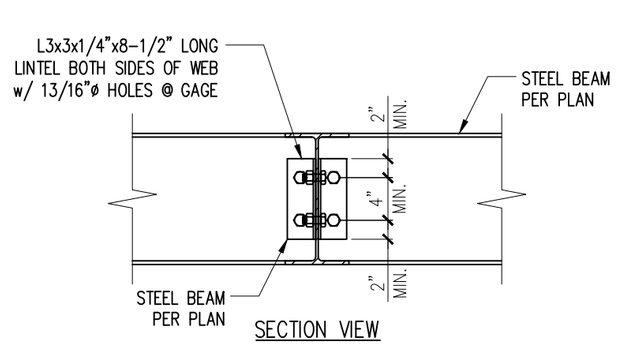
SECTION VIEW



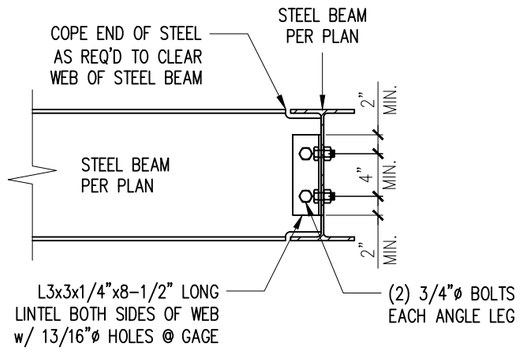
ELEVATION VIEW

2 D7f LVL TO STEEL DETAIL

N.T.S



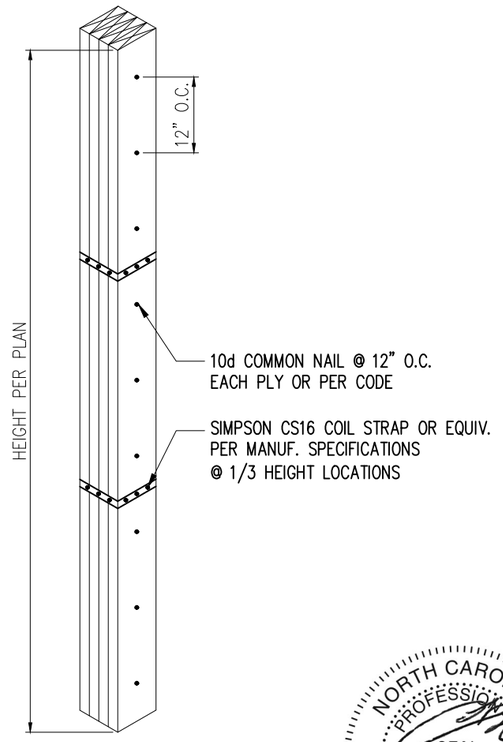
SECTION VIEW



ELEVATION VIEW

3 D7f STEEL TO STEEL DETAIL

N.T.S



4 D7f MULTI–PLY STUD CONNECTION DETAIL

N.T.S

4+ PLIES

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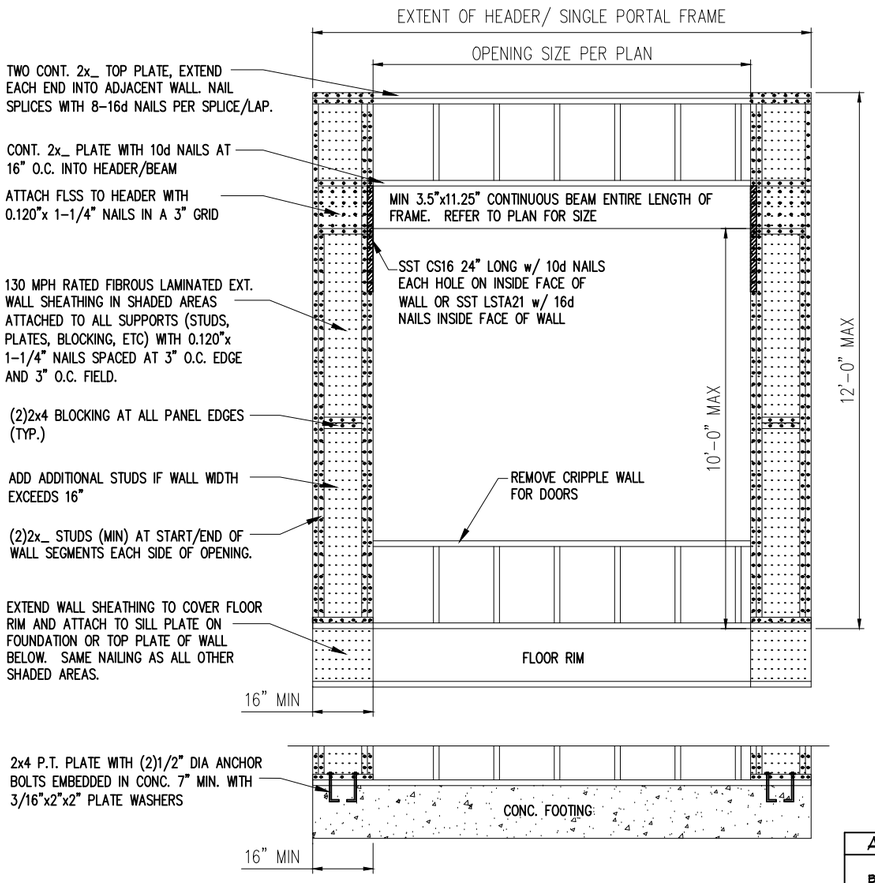
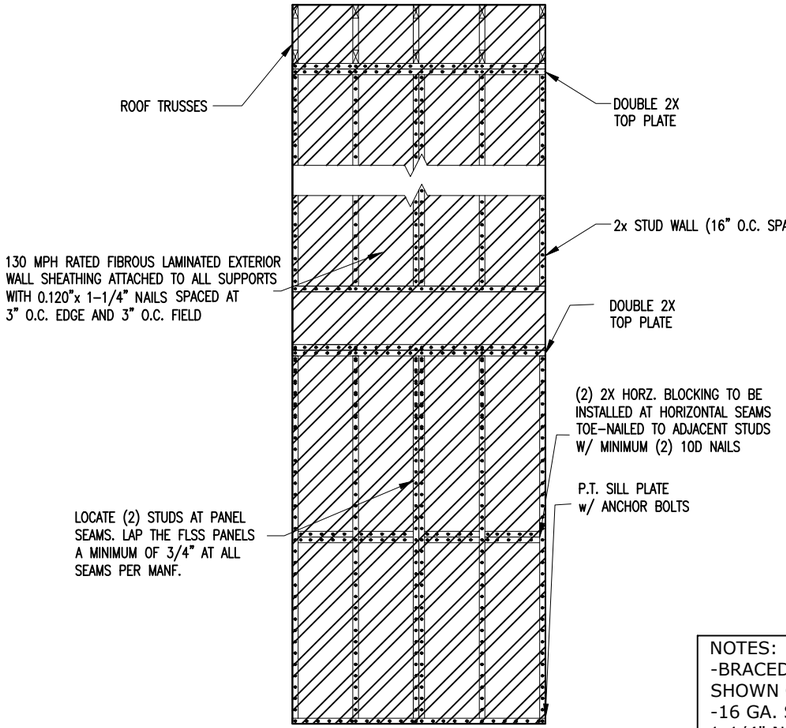
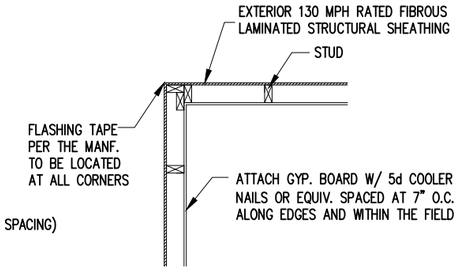
SHEET
D7f



1 D8f METHOD PF: PORTAL FRAME DETAIL
NTS



2 D8f TYP. WALL BRACING
NTS



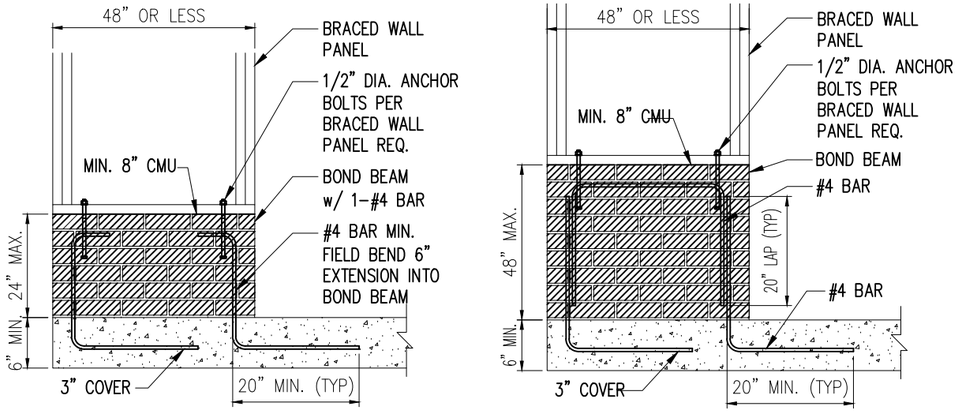
3 D8f TYP. EXTERIOR CORNER FRAMING
NTS

NOTES:
-BRACED WALLS SHALL BE INSTALLED PER THE LENGTHS SHOWN ON THE SEALED PLANS.
-16 GA. STAPLES MAY BE SUBSTITUTED WITH 0.120"x 1-1/4" NAILS OR 11 GAUGE 1-1/4-INCH LENGTH NAILS.
-STAPLE CROWNS SHALL BE INSTALLED PARALLEL TO FRAMING.
-WHERE 3/4" OVERLAP IS NOT INSTALLED, CONTRACTOR MAY COVER SEAM WITH 5" BUTYL FLASHING TAPE.
-FLASH WINDOWS AND DOORS PER MANF.
-LAP SIDING, STONE/BRICK VENEER, AND STUCCO MAY ALL BE INSTALLED FOR EXTERIOR CLADDING PROVIDED THAT THE FLSS MANUFACTURER'S INSTRUCTIONS ARE FOLLOWED AT THE TIME OF INSTALLATION.
-SPRUCE-PINE-FIR AND SOUTHERN YELLOW PINE MAY BE USED. CONTRACTOR SHALL VERIFY THE SPECIES OF WOOD REFERENCED ON THE APPROVED PLANS.
-THE DETAILS ABOVE ARE LIMITED TO 130 MPH WIND ZONES WIND EXPOSURE C

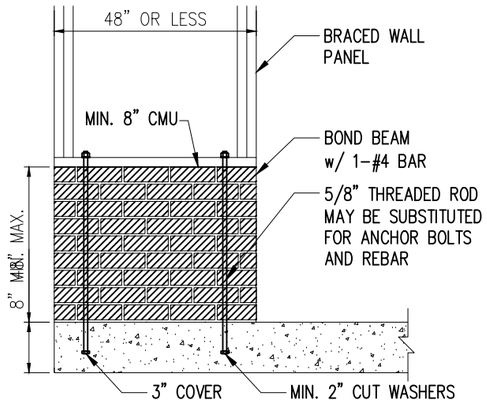
ALLOWED FIBROUS LAMINATED STRUCTURAL SHEATHING (FLSS) for PORTAL FRAMES

BRAND	MATERIAL	PRODUCT	REQUIRED CONNECTION		TECHNICAL EVALUATION REPORT*
			• PANEL EDGES	• INTERMEDIATE SUPPORTS	
OX ENGINEERED PRODUCTS, LLC	FIBROUS LAMINATED STRUCTURAL SHEATHING	THERMOPLY RED	8" CROWN X 1-1/2" LEG STAPLES @ 3"O.C.	8" CROWN X 1-1/2" LEG STAPLES @ 3"O.C.	RED: 1004-01

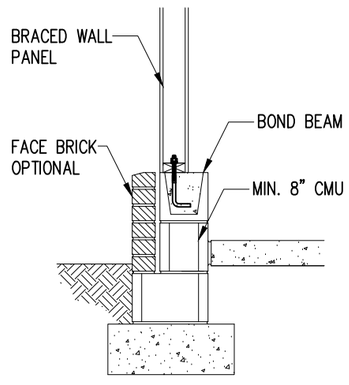
*BASED ON TECHNICAL EVALUATION REPORT FROM DrJ ENGINEERING, LLC



4 D7f MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS
NTS



NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS



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