



# THE ALAMANCE

## AT AVERY POND COMMUNITY

### SQUARE FOOTAGES

FIRST FLOOR (HTD.)	= 1317 sf
GARAGE	= 400 sf
FRONT PORCH	= 71 sf
<b>TOTAL</b>	<b>= 1788 sf</b>

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D1-D7	STANDARD DETAILS

### ENGINEER

**SUMMIT ENGINEERING**  
 120 PENMARC DRIVE - SUITE 108  
 RALEIGH, NC 27603  
 919-308-9991

### ARCHITECT

**COX ARCHITECTURE & DESIGN, PLLC**  
 R. CRAIG COX, AIA  
 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 N.C. & S.C.  
 704-953-3824

## THE ALAMANCE

AT AVERY POND COMMUNITY  
 FUGUAY VARINA, NORTH CAROLINA

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PERMIT SET  
 FOR CONSTRUCTION

● 31 OCTOBER 2019

**COVER SHEET**

**A1.0**



**THE ALAMANCE**  
AT AVERY POND COMMUNITY  
FUQUAY VARINA, NORTH CAROLINA

**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)  
1/2" GYPSUM WALL BOARD  
5/8" 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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FOR CONSTRUCTION

● 31 OCTOBER 2019

**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.

**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 NORTH CAROLINA (INTERNATIONAL RESIDENTIAL CODE). 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

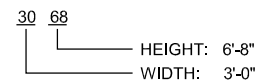
**DOOR NOTES**

-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**



DOORS: P = POCKET  
WINDOWS: SH = SINGLE HUNG  
F = FIXED

**SQUARE FOOTAGES**

FIRST FLOOR (HTD.)	=	1317 sf
GARAGE	=	400 sf
FRONT PORCH	=	71 sf
TOTAL	=	1788 sf

**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 1/2" CEILING HEIGHTS ON FIRST FLOOR

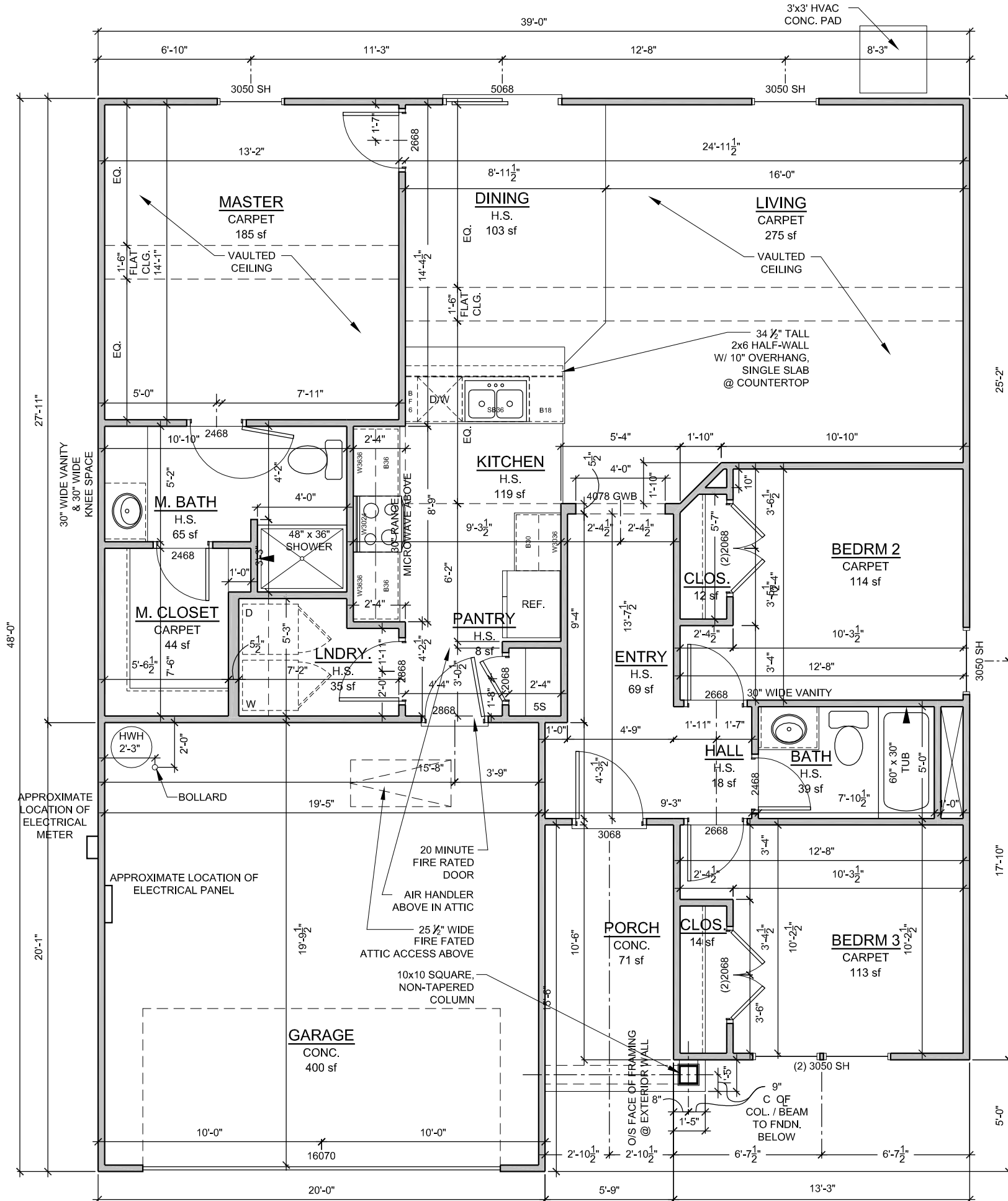
MEASURED FROM TOP OF SUBFLOOR / CONCRETE SLAB TO BOTTOM OF FLOOR JOISTS / ROOF TRUSSES

**COLUMN NOTES**

COLUMNS TO BE: AFCO OR COLUMN OF EQUAL BEARING CAPACITY. (6000 # MINIMUM)  
TOP CONNECTION: (2) #8 - 1/4" x 3" STAINLESS STEEL SCREWS PER SIDE INSERTED INTO BEAM.  
BOTTOM CONNECTION: (3) UBS - #18043 BRACKETS FASTENED WITH (2) 1/4" x 1 1/4" SCREWS INTO COLUMN & (2) 1/4" x 3 3/4" 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 FLOOR PLAN**  
3/16" = 1'-0"



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PERMIT SET FOR CONSTRUCTION

● 31 OCTOBER 2019

**FLOOR PLAN**

**A2.0**

**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 1/2" 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 NC IRC

**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.*

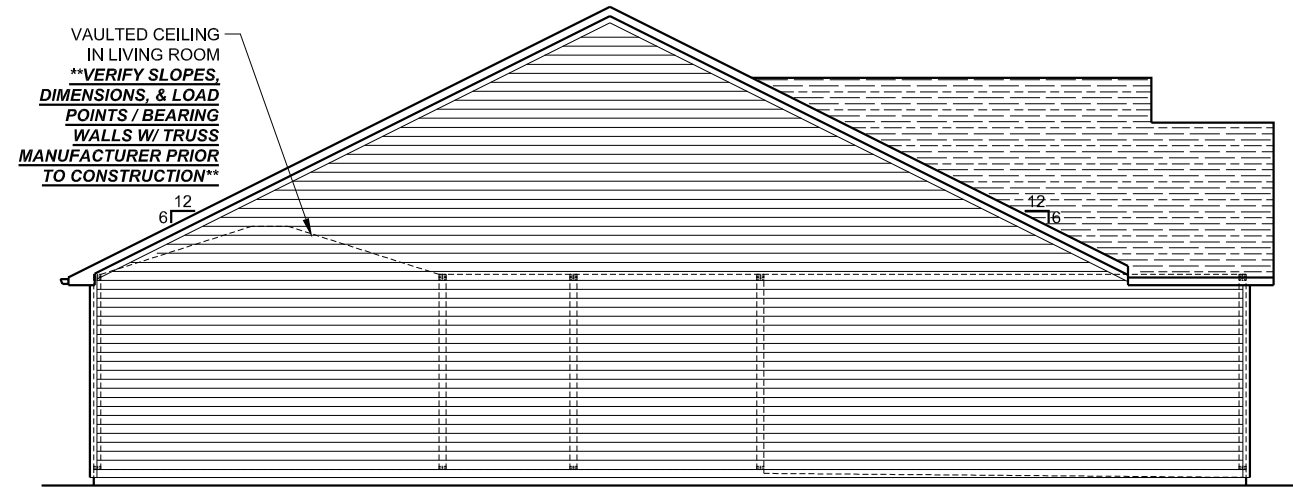
**CEILING HEIGHT NOTES**

8' - 1 1/2" CEILING HEIGHTS ON FIRST FLOOR

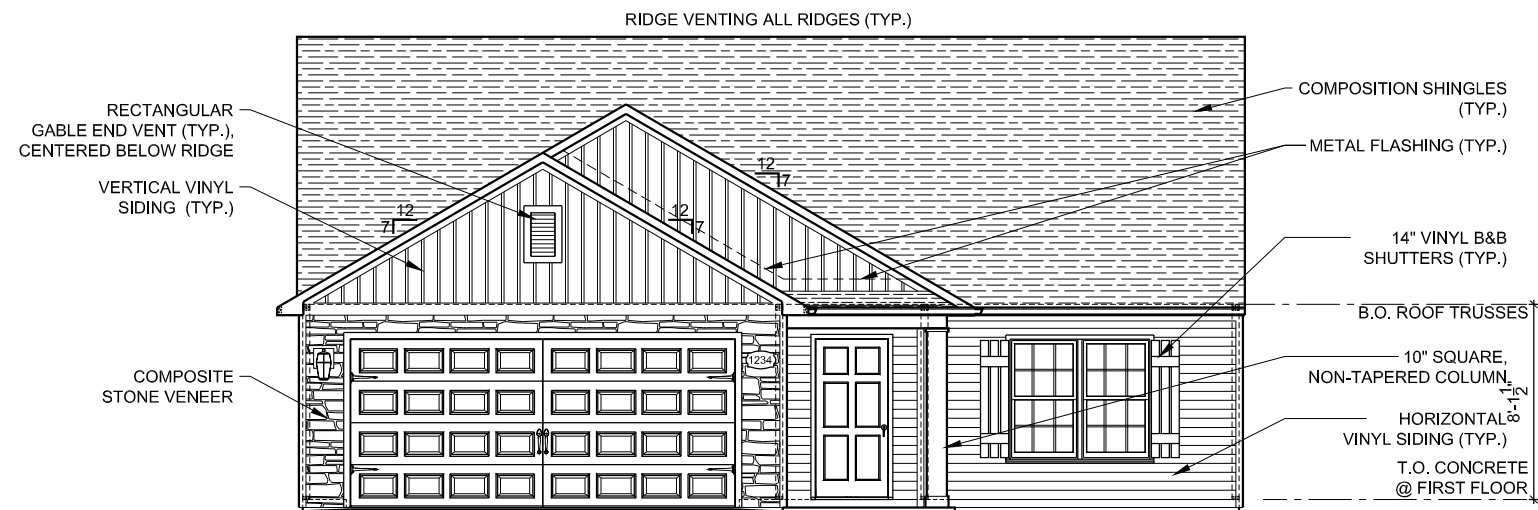
MEASURED FROM TOP OF SUBFLOOR / CONCRETE SLAB TO BOTTOM OF FLOOR JOISTS / ROOF TRUSSES

**COLUMN NOTES**

COLUMNS TO BE: AFCC OR COLUMN OF EQUAL BEARING CAPACITY. (6000 # MINIMUM)  
 TOP CONNECTION: (2) #8 - 1/4" x 3" STAINLESS STEEL SCREWS PER SIDE INSERTED INTO BEAM.  
 BOTTOM CONNECTION: (3) UBS - #18043 BRACKETS FASTENED WITH (2) 1/4" x 1 1/4" SCREWS INTO COLUMN & (2) 1/4" x 3 3/4" CONCRETE SCREWS THROUGH FASTENER INTO CONCRETE



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



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



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PERMIT SET FOR CONSTRUCTION

31 OCTOBER 2019

ELEVATIONS

**A3.0**



**2 RIGHT SIDE ELEVATION**  
 1/8" = 1'-0"



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

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PERMIT SET  
 FOR CONSTRUCTION

● 31 OCTOBER 2019

**ELEVATIONS**

**A3.1**

**ELECTRICAL LEGEND**

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

**ELECTRICAL NOTES**

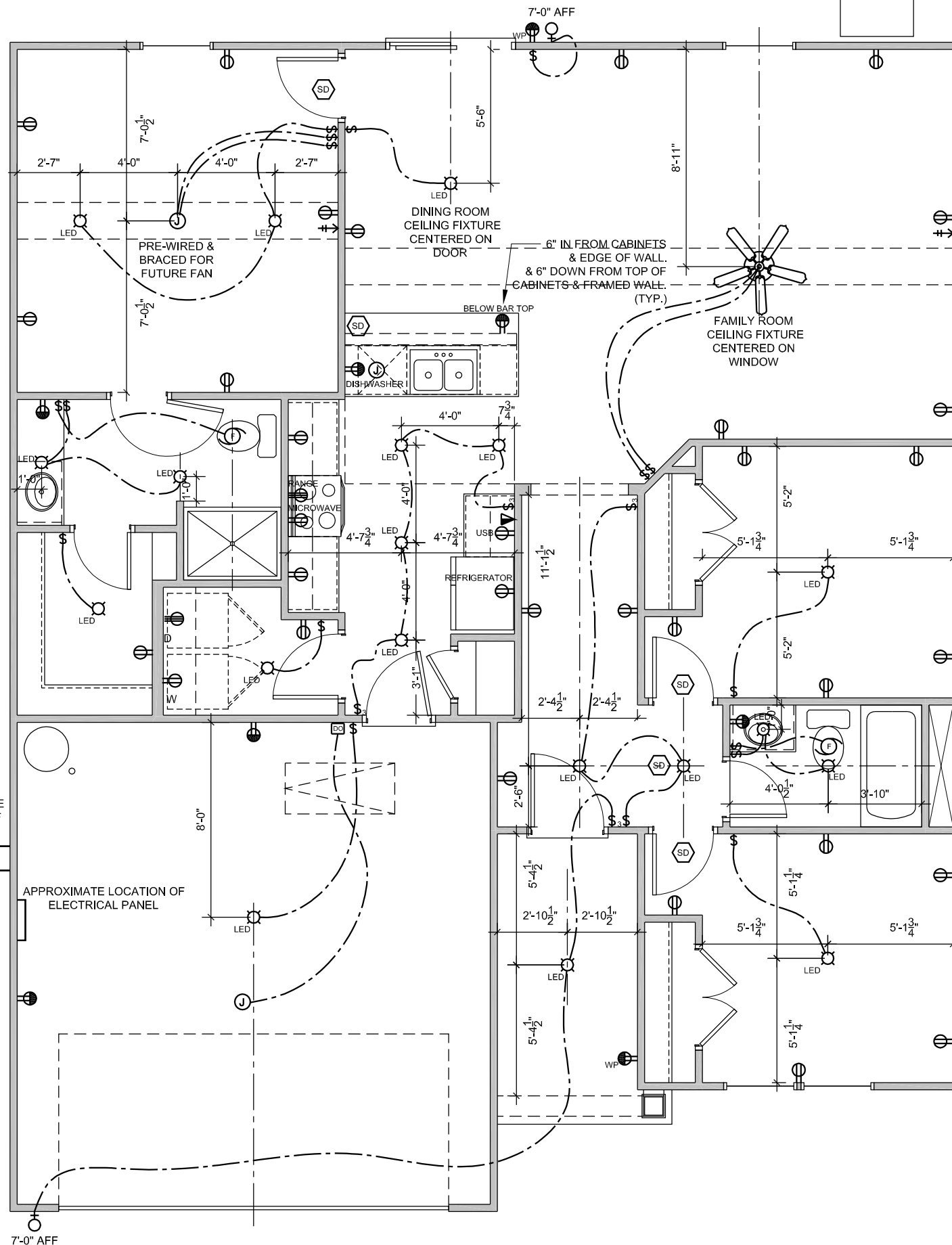
- LIGHT FIXTURES IN CLOSETS TO COMPLY WITH SECTION 410.8 OF THE LATEST VERSION OF THE NEC HANDBOOK
- SMOKE/CARBON MONOXIDE DETECTORS TO BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. QUANTITY AND LOCATION OF CARBON MONOXIDE DETECTORS TO BE DETERMINED BY LOCAL AUTHORITY.
- LIGHT SWITCHES & OUTLETS LOCATED AT COUNTERTOP SIDEWALLS ARE TO BE A MAXIMUM OF 18" FROM CENTERLINE OF SWITCH/OUTLET TO COUNTERTOP REAR WALL

**ELECTRICAL PANEL / METER**

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

APPROXIMATE LOCATION OF ELECTRICAL METER

APPROXIMATE LOCATION OF ELECTRICAL PANEL



DESIGN SPECIFICATIONS:

Construction Type: Commercial  Residential

Applicable Building Codes:

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

Design Loads:

- Roof
  - Live..... 20 PSF
  - Dead..... 10 PSF
  - Snow..... 15 PSF
    - 1.3.1 Importance Factor..... 1.0
- Floor Live Loads
  - Typ. Dwelling..... 40 PSF
  - Sleeping Areas..... 30 PSF
  - Balconies (exterior) and Decks..... 40 PSF
  - Garage Parking..... 50 PSF
- Floor Dead Loads
  - Conventional 2x..... 10 PSF
  - 1-Joist..... 15 PSF
  - Floor Truss..... 15 PSF
- Ultimate Wind Speed (3 sec. gust)..... 130 MPH
  - Exposure..... B
  - Importance Factor..... 1.0
  - Wind Base Shear
    - 4.3.1 V<sub>x</sub> =
    - 4.3.2 V<sub>y</sub> =
- 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

6. Seismic

- Site Class.....D
- Design Category.....C
- Importance Factor.....1.0
- Seismic Use Group.....1
- Spectral Response Acceleration
  - S<sub>ms</sub> = %g
  - S<sub>m1</sub> = %g
- Seismic Base Shear
  - V<sub>x</sub> =
  - V<sub>y</sub> =
- 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
- Arch/Mech Components Anchored?.....No
- Lateral Design Control: Seismic  Wind

7. Assumed Soil Bearing Capacity.....2000psf



STRUCTURAL PLANS PREPARED FOR:

ALAMANCE

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, P.C. before construction begins.

PLAN ABBREVIATIONS:

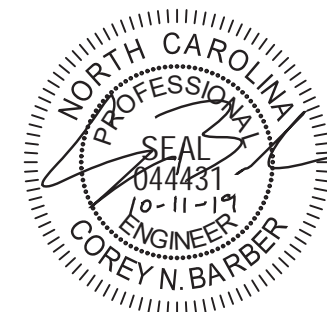
AB	Anchor Bolt	OC	On Center
ACI	American Concrete Institute	PCF	Pounds per Cubic Foot
ASCE	American Society of Civil Engineers	PCI	Pounds per Cubic Inch
AFA	American Fiberboard Association	PSF	Pounds per Square Foot
AFF	Above Finished Floor	PSI	Pounds per Square Inch
AISC	American Institute for Steel Construction	PT	Pressure Treated
APA	American Plywood Association	SC	Stud Column
AWS	American Welding Society	SER	Structural Engineer of Record
CJ	Ceiling Joist	SJ	Single Joist
CLR	Clear	SPF	Spruce Pine Fir
DBL	Double	SST	Simpson Strong Tie
DJ	Double Joist	ST	Single Truss
DSP	Double Stud Pocket	STD	Standard
EA	Each	TJ	Triple Joist
EE	Each End	TOF	Top of Footing
EOS	Edge of Slab	TSP	Triple Stud Pocket
EW	Each Way	TYP	Typical
HDG	Hot Dipped Galvanized	UNO	Unless Noted Otherwise
NDS	Nation Design Spec. for Wood	WWF	Welded Wire Fabric
NTS	Not to Scale		

SHEET LIST:

Sheet No.	Description
CS1	Cover Sheet, Specifications, Revisions
CS2	Specifications Continued
S1.0m	Monolithic Slab Foundation
S1.0s	Stem Wall Foundation
S1.0c	Crawl Space Foundation
S1.0b	Basement Foundation
S2.0	Basement Framing Plan
S3.0	First Floor Framing Plan
S4.0	Second Floor Framing Plan
S5.0	Roof Framing Plan
S6.0	Basement Bracing Plan
S7.0	First Floor Bracing Plan
S8.0	Second Floor Bracing Plan

REVISION LIST:

Revision No.	Date	Project No.	Description
0	3.30.17	13302	Original Drawing
1	11.20.18	20438	Revised per new architectural
2	2.8.19	21313	Updated per 2018 NCRC
3	3.13.19	21313R	Revised per new architectural
4	6.5.19	21313R2	Added crawlspace foundation
5	6.14.19	21313R3	Revised per new architectural
6	10.11.19	21313R4	Revised per new architectural
7	10.11.19	21313R5	Revised front door per new architectural



STRUCTURAL MEMBERS ONLY



PROJECT  
**Alamance (LH)**  
**Coversheet**  
 CLIENT  
**LGI Homes**  
**7201 Creedmoor Road, Suite 147**  
**Raleigh, NC 27613**

CURRENT DRAWING

DATE: 10/11/2019

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

PROJECT #: 1203-08R: 21313R5

DRAWN BY: WAJ

CHECKED BY: CNB

ORIGINAL DRAWING

DATE PROJECT #  
 3/30/2017 13302

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

**CS1**



**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 permission of SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) or the SER. For the purposes of these construction documents the SER and SUMMIT 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.
- 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.
- 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.
- 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 international residential code.
- This structure and all construction shall conform to all applicable sections of the 2018 North Carolina Residential Code (NCRC) and any local codes or restrictions

**FOUNDATIONS:**

- Foundations shall be constructed in accordance with chapter 4 of the 2018 NC Residential Building Code (Special consideration shall be given to Chapter 45 in wind zones 130mph and above)
- 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
- Maximum depth of unbalanced fill against masonry walls to be as specified in section R404.1 of the 2018 NCRC
- 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.
- 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.
- 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.
- Each crawl space pier shall bear in the middle third of its respective footing and each girder shall bearing in the middle third of the piers. Pilasters to be bonded to perimeter foundation wall
- Crawl spaced to be graded level and clear of all debris
- Provide foundation waterproofing and drain with positive slope to outlet as required by site conditions
- Energy efficiency compliance and insulation of the structure to be in accordance with chapter 11 of the 2018 NCRC

**CONCRETE:**

- 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.
- 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 target values as follows:
  - Footings: 5%
  - Exterior Slabs: 5%
- No admixtures shall be added to any structural concrete without written permission of the SER
- Concrete slabs-on-grade shall be constructed in accordance with ACI 302.1R-96: "Guide for Concrete Slab and Slab Construction".
- 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.
- 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.
- Control or saw cut joints shall be produced using conventional process within 4 to 12 hours after the slab has been finished
- Reinforcing steel may not extend through a control joint. Reinforcing steel may extend through a saw cut joint.
- 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. Fibermesh may be used in lieu of W.W.F.

**CONCRETE REINFORCEMENT:**

- 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.
- Fibermesh reinforcing to be 100% virgin polypropylene fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement.
- Application of fibermesh per cubic yard of concrete shall equal a minimum of 0.1% by volume (1.5 pounds per cubic yard)
- Fibermesh shall comply with ASTM C1116, any local building code requirements, and shall meet or exceed the current industry standard.
- 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 with a class B tension splice.
- 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.
- 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.
- Where reinforcing steel is required vertically, dowels shall be provided unless otherwise noted.

**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 Southern Yellow Pine (SYP) #2.
- LVL or PSL engineered wood shall have the following minimum design values:
  - E = 1,900,000 psi
  - Fb = 2600 psi
  - Fv = 285 psi
  - Fc = 700 psi
- 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
- Nails shall be common wire nails unless otherwise noted.
- Lag screws shall conform to ANSI/ASME standard B18.2.1-1981. Lead holes for lag screws shall be in accordance with NDS specifications.
- All beams shall have full bearing on supporting framing members unless otherwise noted.
- 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.
- 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 fully blocked at all floor levels to ensure proper load transfer.
- Multi-ply beams shall have each ply attached with (3)10d nails @ 24" O.C.
- Fitch beams and four and five ply beams shall be bolted together with (2) rows of 1/2" dia. through bolts staggered @24" O.C. w/ 2" edge distance and (2) bolts located at 6" from each end, unless noted otherwise.

**WOOD TRUSSES:**

- 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.
- 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.
- 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."
- 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.
- 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.

**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 structurally 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. Sheathing shall be applied with the long direction perpendicular to framing, unless noted otherwise.
- 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.
- 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.
- Sheathing shall have a 1/8" gap at panel ends and edges as recommended in accordance with the APA.

**STRUCTURAL FIBERBOARD PANELS:**

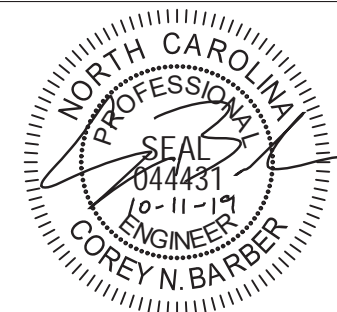
- Fabrication and placement of structural fiberboard sheathing shall be in accordance with the applicable AFA standards.
- Fiberboard wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information.
- Sheathing shall have a 1/8" gap at panel ends and edges are recommended in accordance with the AFA.

**EXTERIOR WOOD FRAMED DECKS:**

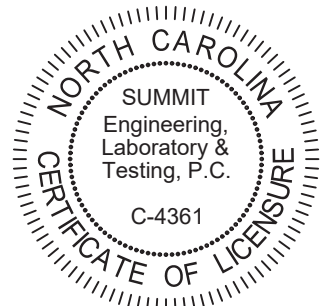
- Decks are to be framed in accordance with local building codes and as referenced on the structural plans, either through code references or construction details.

**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 (Fy) of 36 ksi unless otherwise noted.
- 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.



STRUCTURAL MEMBERS ONLY



PROJECT  
**Alamance (LH)**  
 Coversheet  
 CLIENT  
**LGI Homes**  
 7201 Creedmoor Road, Suite 147  
 Raleigh, NC 27613

**CURRENT DRAWING**

DATE: 10/11/2019  
 SCALE: 1/8"=1'-0"  
 PROJECT #: 1203-0BR: 21313R5  
 DRAWN BY: WAJ  
 CHECKED BY: CNB

**ORIGINAL DRAWING**

DATE PROJECT #  
 3/30/2017 13302

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

**CS2**



**FOUNDATION NOTES:**

- FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
- STRUCTURAL CONCRETE TO BE  $f_c = 3000$  PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
- 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.
- 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.
- FOOTINGS AND PIERS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS. PROVIDE 2" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
- MAXIMUM DEPTH OF UNBALANCED FILL, AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
- FILASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
- PROVIDE FOUNDATION WATERPROOFING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
- PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
- CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
- CRAWL SPACE TO BE GRADED LEVEL, AND CLEARED OF ALL DEBRIS.
- 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 1" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
- 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

- ALL PIERS TO BE 16"x16" MASONRY AND ALL FILASTERS TO BE 8"x16" MASONRY, TYPICAL (UNO).
- WALL FOOTINGS TO BE CONTINUOUS CONCRETE, SIZES PER STRUCTURAL PLAN.
- 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, P.C. MUST BE PROVIDED THE OPPORTUNITY TO REVIEW THE FOOTING DESIGN PRIOR TO CONCRETE PLACEMENT.
- 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 R602.10.2 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

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY LGI HOMES COMPLETED/REVISED ON 10/10/19. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. 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.

ROOF TRUSS AND FLOOR JOIST LAYOUTS, AND THEIR CORRESPONDING LOADING DETAILS, WERE NOT PROVIDED TO THE STRUCTURAL ENGINEER PRIOR TO THE DESIGN. THEREFORE, TRUSS AND JOIST DIRECTIONS WERE ASSUMED BASED ON THE VERBAL INFORMATION PROVIDED BY LGI HOMES.

THE FOLLOWING LOADS WERE ASSUMED FOR THE DESIGN:

ROOF LIVE LOAD - 20 PSF  
 ROOF DEAD LOAD - 20 PSF  
 FLOOR LIVE LOAD - 40 PSF  
 FLOOR DEAD LOAD - 15 PSF

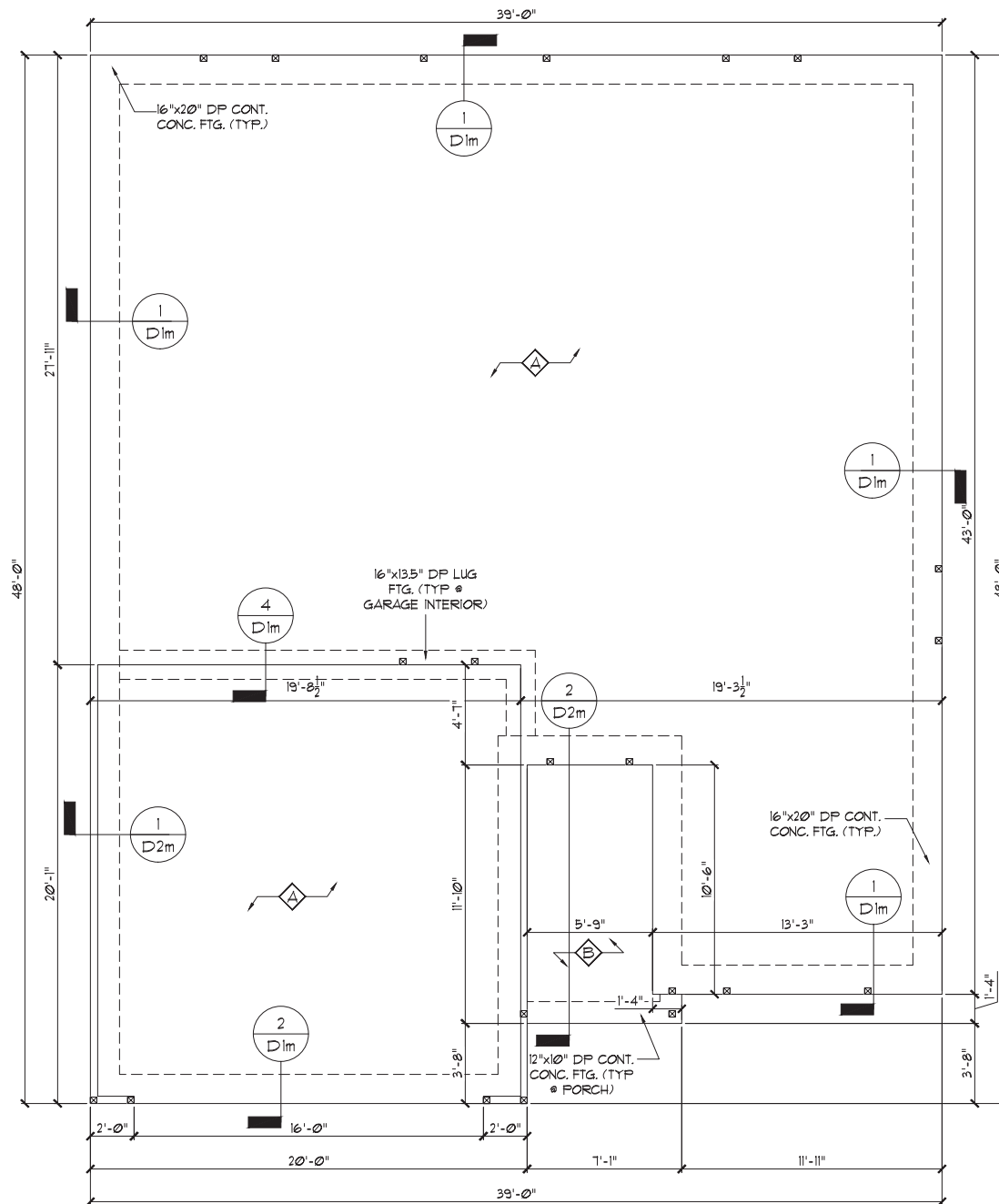
**STRUCTURAL MEMBERS ONLY**

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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

**MONOLITHIC SLAB FOUNDATION**

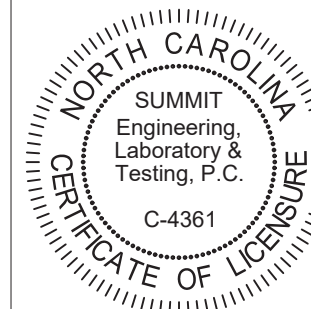
SCALE: 1/8"=1'



FOUNDATION SCHEDULE		
TAG	DESCRIPTION	REBAR REQ'D
1	16"SQ x 10"D	NONE
2	24"SQ x 10"D	NONE
3	30"SQ x 10"D	NONE
4	36"SQ x 12"D	NONE
5	42"SQ x 12"D	(4) #4 EW
6	48"SQ x 12"D	(6) #4 EW
◆	4" THICK POURED CONCRETE SLAB w/ FIBER MESH ON 6 MIL POLY ON COMPACTED SOIL	
◇	4" THICK POURED CONCRETE SLAB ON COMPACTED SOIL	

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

**SUMMIT**  
 ENGINEERING LABORATORY TESTING  
 3070 HAMMOND BUSINESS PLACE, SUITE 171  
 RALEIGH, NC 27603  
 OFFICE: 919.380.9991  
 FAX: 919.380.9993  
 WWW.SUMMIT-COMPANIES.COM

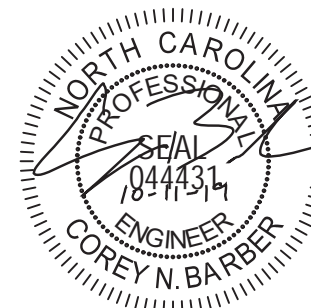


PROJECT  
**Alamance (LH)**  
**Monolithic Slab Fnd.**  
 CLIENT  
**LGI Homes**  
 7201 Creedmoor Road, Suite 147  
 Raleigh, NC 27613

**CURRENT DRAWING**  
 DATE: 10/11/2019  
 SCALE: 1/8"=1'-0"  
 PROJECT #: 1203-08R: 21313R5  
 DRAWN BY: WAJ  
 CHECKED BY: CNB

**ORIGINAL DRAWING**  
 DATE: 3/30/2017 PROJECT #: 13302

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS



STRUCTURAL MEMBERS ONLY

SHEET  
**S1.0m**

**FOUNDATION NOTES:**

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- PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
- CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
- CRAWL SPACE TO BE GRADED LEVEL, AND CLEARED OF ALL DEBRIS.
- 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 1" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
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REINFORCE GARAGE PORTAL WALLS PER FIGURE R602.10.4.3 OF THE 2018 NCRC.

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

DECK FJ SHALL BE SPACED AT MAX. 12" ON CENTER WHEN DECKING INSTALLED DIAGONALLY

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

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY LGI HOMES COMPLETED/REVISED ON 10/10/19. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. 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.

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THE FOLLOWING LOADS WERE ASSUMED FOR THE DESIGN:

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 ROOF DEAD LOAD - 20 PSF  
 FLOOR LIVE LOAD - 40 PSF  
 FLOOR DEAD LOAD - 15 PSF

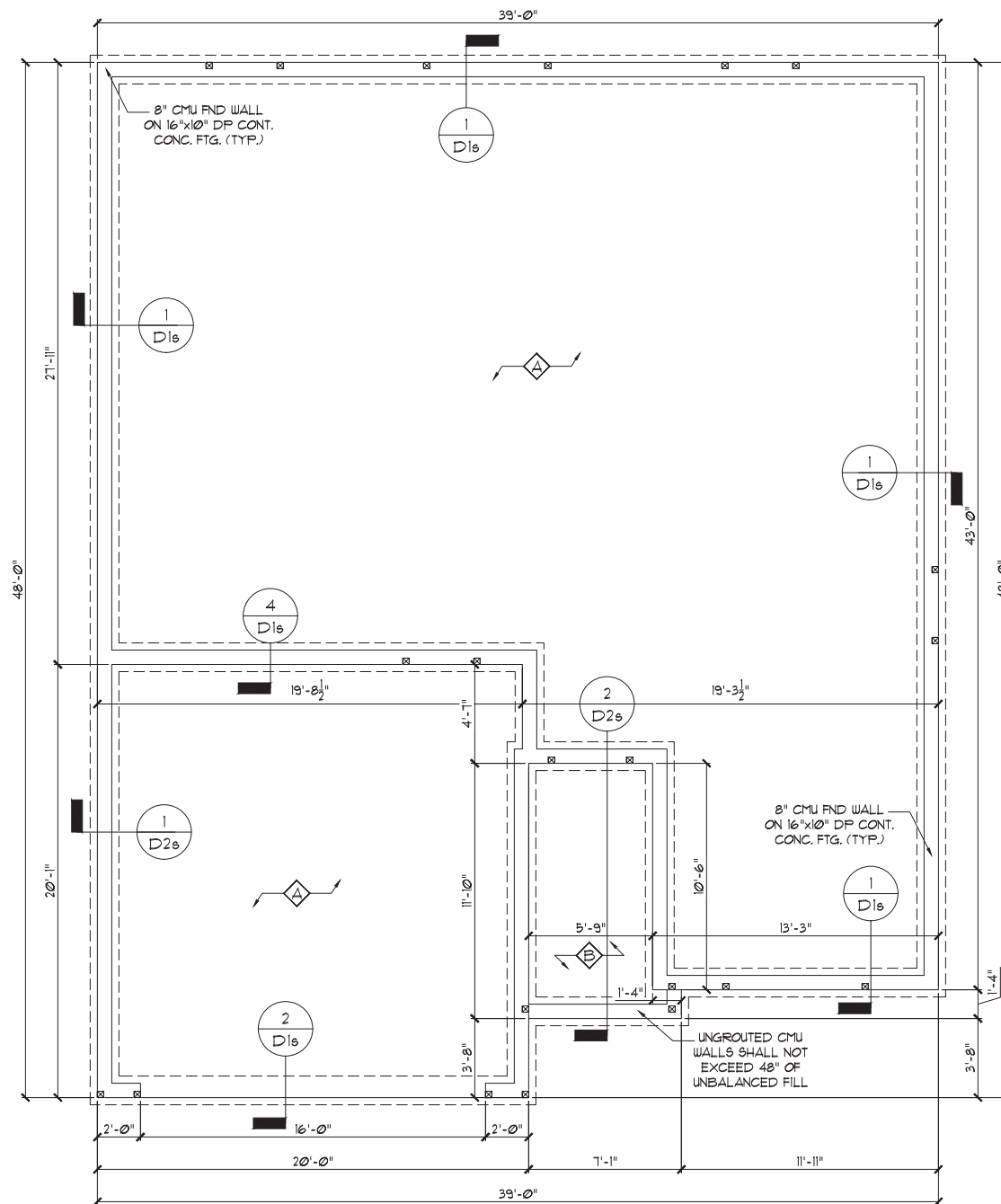
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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

**STEM WALL FOUNDATION**

SCALE: 1/8"=1'



**FOUNDATION SCHEDULE**

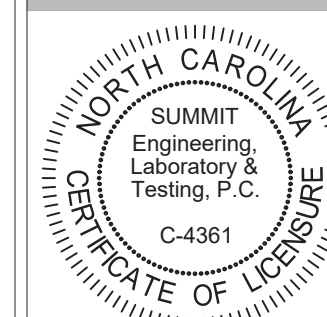
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6	48"SQ x 12"D	(6) #4 ELL

4" THICK POURED CONCRETE SLAB w/ FIBER MESH ON 6 MIL POLY ON COMPACTED SOIL

4" THICK POURED CONCRETE SLAB ON COMPACTED SOIL

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

**SUMMIT**  
 ENGINEERING LABORATORY TESTING  
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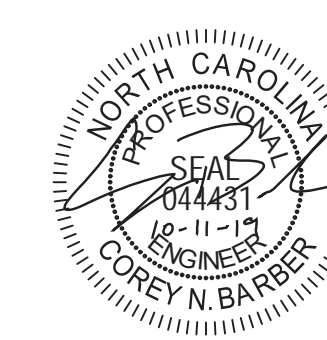
PROJECT  
**Alamance (LH)**  
**Stem Wall Fnd.**  
 CLIENT  
**LGI Homes**  
 7201 Creedmoor Road, Suite 147  
 Raleigh, NC 27613

CURRENT DRAWING  
 DATE: 10/11/2019  
 SCALE: 1/8"=1'-0"  
 PROJECT #: 1203-08R: 21313R5  
 DRAWN BY: WAJ  
 CHECKED BY: CNB

ORIGINAL DRAWING  
 DATE: 3/30/2017 PROJECT #: 13302

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**S1.0s**



STRUCTURAL MEMBERS ONLY

**FOUNDATION NOTES:**

- FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
- STRUCTURAL CONCRETE TO BE  $f'_c = 3000$  PSI, PREPARED AND PLACED IN ACCORDANCE WITH ACI STANDARD 318.
- 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.
- 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.
- FOOTINGS AND PIERS SHALL BE CENTERED UNDER THEIR RESPECTIVE ELEMENTS. PROVIDE 2" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.
- MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS SPECIFIED IN SECTION R404.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
- FILASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
- PROVIDE FOUNDATION WATERPROOFING AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.
- PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
- CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
- CRAIL SPACE TO BE GRADED LEVEL, AND CLEARED OF ALL DEBRIS.
- FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2018 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.16. MINIMUM 1/2" DIA. BOLTS SPACED AT 6'-0" ON CENTER WITH A 1" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
- 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    |

- ALL PIERS TO BE 16"x16" MASONRY AND ALL FILASTERS TO BE 8"x16" MASONRY, TYPICAL. (UNO)
- WALL FOOTINGS TO BE CONTINUOUS CONCRETE, SIZES PER STRUCTURAL PLAN.
- 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, P.C. MUST BE PROVIDED THE OPPORTUNITY TO REVIEW THE DESIGN PRIOR TO CONCRETE PLACEMENT.
- 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 R602.10.2 AND FIGURE R602.10.1 OF THE 2018 IRC.

DECK FJ SHALL BE SPACED AT MAX. 12" ON CENTER WHEN DECKING INSTALLED DIAGONALLY

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

BEAM POCKETS MAY BE SUBSTITUTED FOR MASONRY FILASTERS AT GIRDER ENDS. BEAM POCKETS SHALL HAVE A MINIMUM 4" SOLID MASONRY BEARING.

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

REINFORCE GARAGE PORTAL WALLS PER FIGURE R602.10.4.3 OF THE 2018 NCR. CODE.

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ROOF TRUSS AND FLOOR JOIST LAYOUTS, AND THEIR CORRESPONDING LOADING DETAILS, WERE NOT PROVIDED TO THE STRUCTURAL ENGINEER PRIOR TO THE DESIGN. THEREFORE, TRUSS AND JOIST DIRECTIONS WERE ASSUMED BASED ON THE VERBAL INFORMATION PROVIDED BY LGI HOMES.

THE FOLLOWING LOADS WERE ASSUMED FOR THE DESIGN:

- ROOF LIVE LOAD - 20 PSF
- ROOF DEAD LOAD - 20 PSF
- FLOOR LIVE LOAD - 40 PSF
- FLOOR DEAD LOAD - 15 PSF

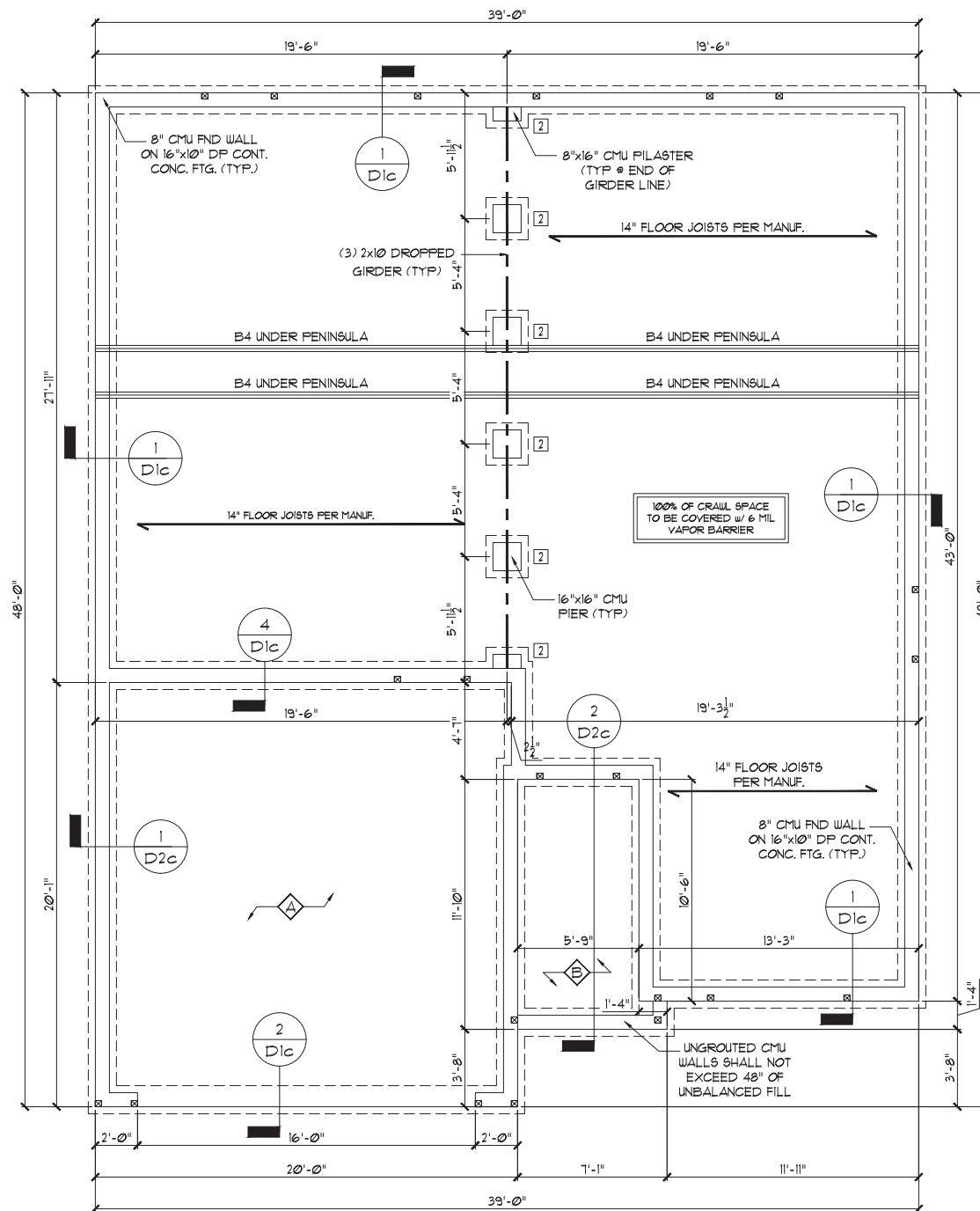
**STRUCTURAL MEMBERS ONLY**

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STRUCTURAL ANALYSIS BASED ON 2018 NCR. CODE.

**CRAWL SPACE FOUNDATION**

SCALE: 1/8"=1'



**FOUNDATION SCHEDULE**

TAG	DESCRIPTION	REBAR REQ'D
1	16" SQ x 10" D	NONE
2	24" SQ x 10" D	NONE
3	30" SQ x 10" D	NONE
4	36" SQ x 12" D	NONE
5	42" SQ x 12" D	(4) #4 EW
6	48" SQ x 12" D	(6) #4 EW

4" THICK POURED CONCRETE SLAB w/ FIBER MESH ON 6 MIL POLY ON COMPACTED SOIL

4" THICK POURED CONCRETE SLAB ON COMPACTED SOIL

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

**BEAM SCHEDULE**

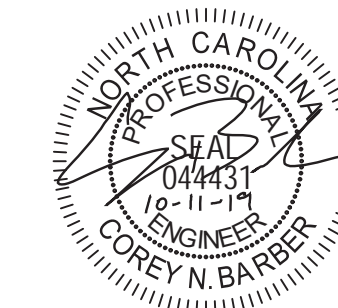
TAG	SIZE
B1	(1) 11-1/8" FLOOR TRUSS OR JOIST
B2	(2) 11-1/8" FLOOR TRUSSES OR JOISTS
B3	(1) 14 FLOOR TRUSS OR JOIST
B4	(2) 14" FLOOR TRUSSES OR JOISTS
B5	(1) 9-1/4" LVL
B6	(2) 9-1/4" LVL
B7	(1) 11-1/8" LVL
B8	(2) 11-1/8" LVL
B9	(1) 14" LVL
B10	(2) 14" LVL
B11	(2) 2X10 P.T.

1. BEAM SIZES SHOWN ARE MINIMUM SIZES, LARGER SIZES MAY BE SUBSTITUTED FOR EASE OF CONSTRUCTION.

2. BEAMS ARE TO BE FLUSH WITH TOP OF FLOOR UNLESS NOTED OTHERWISE.

**CRAWL SPACE VENTILATION:**  
 1349 SQ. FT. / 150 = 9.0 SQ. FT. REQ.  
 9.0 SQ. FT. / .45 PER VENT = 20 VENTS REQ.

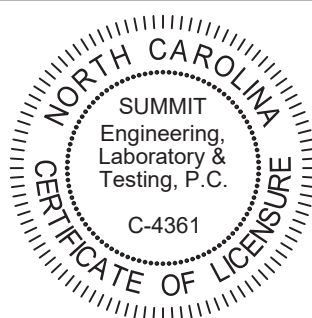
NOTE: WHERE AN APPROVED VAPOR BARRIER IS INSTALLED OVER GROUND SURFACE, THE REQUIRED VENTILATION MAY BE REDUCED BY 50%.



STRUCTURAL MEMBERS ONLY

**SUMMIT**  
 ENGINEERING LABORATORY TESTING

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 RALEIGH, NC 27603  
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 FAX: 919.380.9993  
 WWW.SUMMIT-COMPANIES.COM



PROJECT  
**Alamance (LH)**  
**Crawl Space Fnd.**

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

**CURRENT DRAWING**

DATE: 10/11/2019

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

PROJECT #: 1203-08R: 21313R5

DRAWN BY: WAJ

CHECKED BY: CNB

**ORIGINAL DRAWING**

DATE PROJECT #  
 3/30/2017 13302

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**S1.0c**



**GENERAL STRUCTURAL NOTES:**

- CONSTRUCTION SHALL CONFORM TO 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
- 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.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACING REQUIRED TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
- PROPERTIES USED IN THE DESIGN ARE AS FOLLOWS:  
MICROLLAM (LVL):  $F_b = 2600$  PSI,  $F_v = 285$  PSI,  $E = 1.9 \times 10^6$  PSI  
PARALLAM (PSL):  $F_b = 2900$  PSI,  $F_v = 290$  PSI,  $E = 1.25 \times 10^6$  PSI
- ALL WOOD MEMBERS SHALL BE  $\frac{1}{2}$  SYP UNLESS NOTED ON PLAN. ALL STUD COLUMNS AND JOISTS SHALL BE  $\frac{1}{2}$  SYP (UNO).
- ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2x4  $\frac{1}{2}$  SYP STUD COLUMN AT EACH END UNLESS NOTED OTHERWISE.
- ALL REINFORCING STEEL SHALL BE GRADE 60 BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM COVER OF 3".
- FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2018 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.16, MINIMUM  $\frac{1}{2}$ " DIA. BOLTS SPACED AT 6'-0" ON CENTER WITH A 1" MINIMUM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMUM (2) ANCHOR BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.
- CONTRACTOR TO PROVIDE LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
- FLITCH BEAMS, 4-PLY LVL'S AND 3-PLY SIDE LOADED LVL'S SHALL BE BOLTED TOGETHER WITH  $\frac{1}{2}$ " DIA. THRU BOLTS SPACED AT 24" O.C. (MAX) STAGGERED OR EQUIVALENT CONNECTIONS PER DETAIL 1/D31. MIN. EDGE DISTANCE SHALL BE 2" AND (2) BOLTS SHALL BE LOCATED MINIMUM 6" FROM EACH END OF THE BEAM. ALL NON-LOAD BEARING HEADERS SHALL BE (1) FLAT 2x4 SYP  $\frac{1}{2}$ , 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  $\frac{1}{2}$ , DROPPED. (UNLESS NOTED OTHERWISE)
- 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

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

NOTE: SHADED WALLS INDICATE LOAD BEARING WALLS

JOIST & BEAM SIZES SHOWN ARE MINIMUMS. BUILDER MAY INCREASE DEPTH FOR EASE OF CONSTRUCTION.

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

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY L&L HOMES COMPLETED/REVISED ON 10/10/19. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. 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.

ROOF TRUSS AND FLOOR JOIST LAYOUTS, AND THEIR CORRESPONDING LOADING DETAILS WERE NOT PROVIDED TO THE STRUCTURAL ENGINEER PRIOR TO THE DESIGN. THEREFORE, TRUSS AND JOIST DIRECTIONS WERE ASSUMED BASED ON THE VERBAL INFORMATION PROVIDED BY L&L HOMES.

THE FOLLOWING LOADS WERE ASSUMED FOR THE DESIGN:

ROOF LIVE LOAD - 20 PSF  
ROOF DEAD LOAD - 20 PSF  
FLOOR LIVE LOAD - 40 PSF  
FLOOR DEAD LOAD - 15 PSF

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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

**FIRST FLOOR FRAMING PLAN**

SCALE: 1/8"=1'

NOTE: 1ST PLY OF ALL SHOWN GIRDER TRUSSES TO ALIGN WITH INSIDE FACE OF WALL (TYP, UNO)

NOTE: ROOF TRUSSES SHALL BE SPACED TO SUPPORT FALSE FRAMED DORMER WALLS (TYP, UNO)

**ROOF TRUSS UPLIFT CONNECTOR SCHEDULE**

MAX. UPLIFT	ROOF TO WALL	FLOOR TO FLOOR	FLOOR TO END
600 LBS	H2.5A	PER WALL SHEATHING & FASTENERS	
1200 LBS	(2) H2.5A	C916 (END = 11")	DTT2Z
1450 LBS	HT520	C916 (END = 11")	DTT2Z
2000 LBS	(2) HT520	(2) C916 (END = 11")	DTT2Z
2900 LBS	(2) HT520	(2) C916 (END = 11")	HTT4
3685 LBS	LGT3-SD92.5	MSTC52	HTT4

- ALL PRODUCTS LISTED ARE SIMPSON STRONG-TIE. EQUIVALENT PRODUCTS MAY BE USED PER MANUFACTURER'S SPECIFICATIONS.
- UPLIFT VALUES LISTED ARE FOR SYP  $\frac{1}{2}$  GRADE MEMBERS.
- REFER TO TRUSS LAYOUT PER MANUF. FOR UPLIFT VALUES AND TRUSS TO TRUSS CONNECTIONS. CONNECTORS SPECIFIED BY TRUSS MANUFACTURER OVERRIDE THOSE LISTED ABOVE.
- CONTACT SUMMIT FOR REQUIRED CONNECTORS WHEN LOADS EXCEED THOSE LISTED ABOVE.

**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:
- HEADER SIZES SHOWN ON PLANS ARE MINIMUMS. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
  - ALL HEADERS TO BE DROPPED (UNO).
  - STUD COLUMNS NOTED ON PLAN OVERRIDE STUD COLUMNS LISTED ABOVE (UNO).

**BEAM SCHEDULE**

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

- BEAM SIZES SHOWN ARE MINIMUM SIZES, LARGER SIZES MAY BE SUBSTITUTED FOR EASE OF CONSTRUCTION.
- BEAMS ARE TO BE FLUSH WITH TOP OF FLOOR UNLESS NOTED OTHERWISE.

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

**KING STUD REQUIREMENTS**

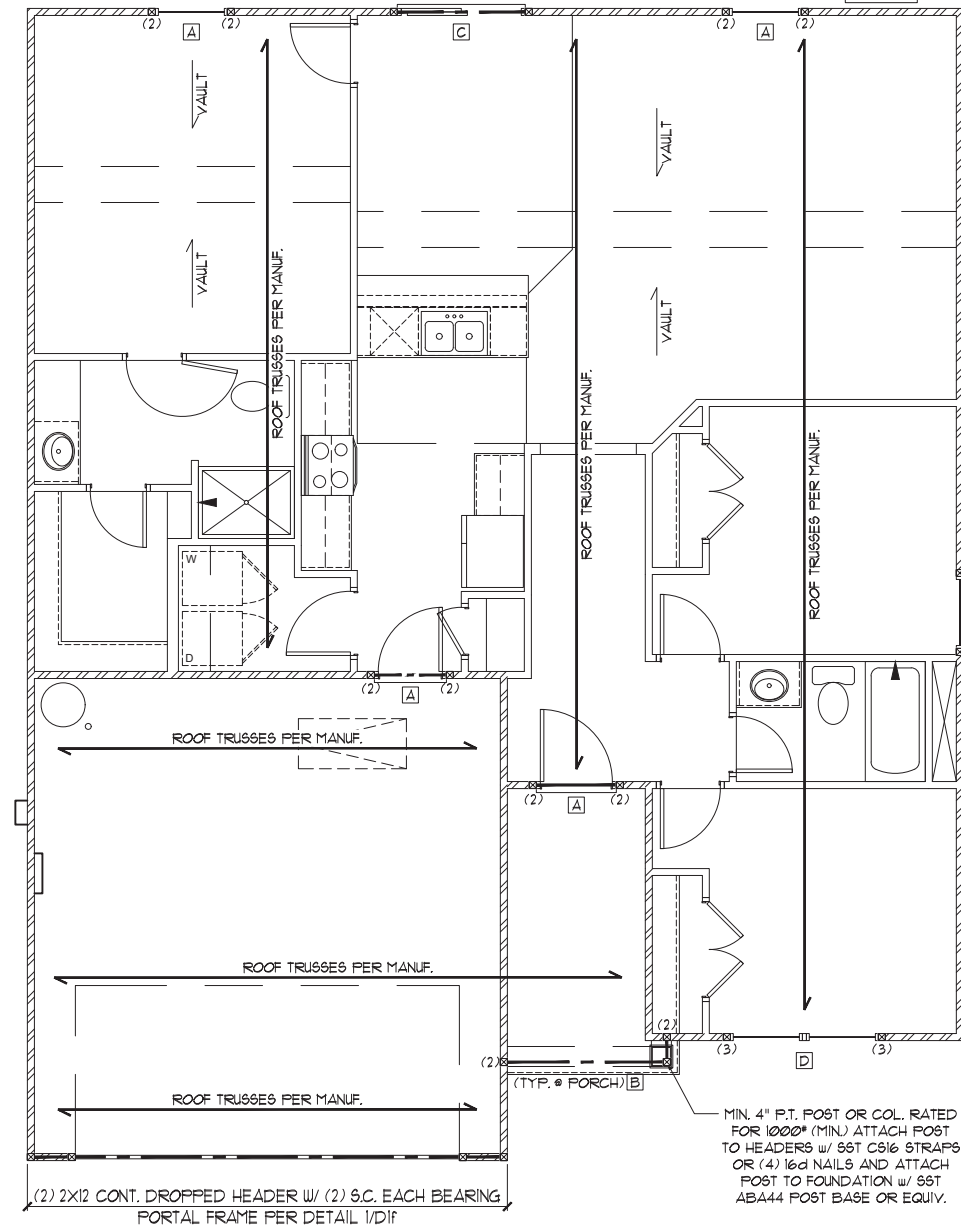
OPENING WIDTH (FT)	KINGS (EACH END)	
	16" O.C.	24" O.C.
LESS THAN 3'-0"	(1)	(1)
3'-0" TO 4'-0"	(2)	(1)
4'-0" TO 8'-0"	(3)	(2)
8'-0" TO 12'-0"	(5)	(3)
12'-0" TO 16'-0"	(6)	(4)

KING STUD REQUIREMENTS ABOVE DO NOT APPLY TO PORTAL FRAMED OPENINGS

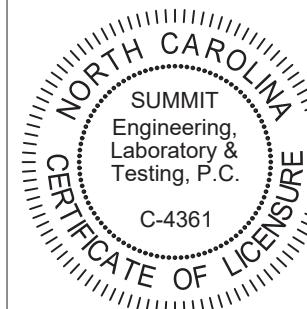
**LINTEL SCHEDULE**

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

SECURE LINTEL TO HEADER w/ (2) 1/2" DIAMETER LAG SCREWS STAGGERED @ 16" O.C. (TYP FOR ③)  
ALL HEADERS WITH BRICK ABOVE: ① (UNO)



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WWW.SUMMIT-COMPANIES.COM



PROJECT  
**Alamance (LH)**  
**First Floor Framing**  
CLIENT  
**L&L Homes**  
**7201 Creedmoor Road, Suite 147**  
**Raleigh, NC 27613**

**CURRENT DRAWING**

DATE: 10/11/2019

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

PROJECT #: 1203-08R: 21313R5

DRAWN BY: WAJ

CHECKED BY: CNB

**ORIGINAL DRAWING**

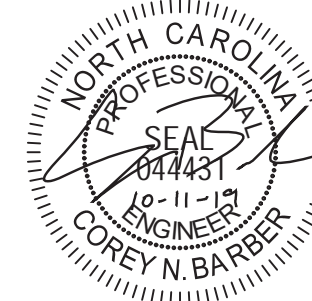
DATE PROJECT #

3/30/2017 13302

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

**SHEET**

**S3.0**



STRUCTURAL MEMBERS ONLY

REQUIRED BRACED WALL PANEL CONNECTIONS				
METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			# PANEL EDGES	# INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAIL <sup>s</sup> @ 6" O.C.	6d COMMON NAIL <sup>s</sup> @ 12" O.C.
GB	GYP SUM BOARD	1/2"	5d COOLER NAIL <sup>s</sup> @ 1" O.C.	5d COOLER NAIL <sup>s</sup> @ 1" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAIL <sup>s</sup> @ 6" O.C.	6d COMMON NAIL <sup>s</sup> @ 12" O.C.
PF	WOOD STRUCTURAL PANEL	1/16"	PER FIGURE R602.10.6.4	PER FIGURE R602.10.6.4

\*BASED ON 16" O.C. STUD SPACING \*\*OR EQUIVALENT PER TABLE R102.3.5

**BRACED WALL NOTES:**

- WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2015 INTERNATIONAL RESIDENTIAL CODE AS ALLOWED PER SECTION R602.10 OF THE 2015 NC RESIDENTIAL CODE.
- WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND MAXIMUM WIND SPEEDS OF 130 MPH.
- BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH IRC TABLE R602.10.4.
- REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
- 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.
- MINIMUM PANEL LENGTH SHALL BE PER TABLE R602.10.5.
- THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH MINIMUM 1/2" GYPSUM BOARD (UNO).
- 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.
- FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARING WALL BELOW WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
- A BRACED WALL PANEL SHALL BEGIN WITHIN 10 FEET FROM EACH END OF A BRACED WALL LINE.
- THE DISTANCE BETWEEN ADJACENT EDGES OF BRACED WALL PANELS ALONG A BRACED WALL LINE SHALL BE NO GREATER THAN 20 FEET.
- ADEQUATE CONTINUOUS LOAD PATHS FOR TRANSFER OF BRACING LOADS AND UPLIFT LOADS SHALL COMPLY WITH IRC SECTION R602.3.5.
- 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.
- BRACED WALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8 (SEE SHEET D13 FROM DETAIL PACKAGE).
- BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8.2 AND FIGURES R602.10.8(1)(2)(3).
- CRIPPLE WALLS AND WALK OUT BASEMENT WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10.11.
- PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R602.10.6.4 (UNO).
- ON SCHEMATIC, SHADED WALLS INDICATE BRACED WALL PANELS.
- ABBREVIATIONS:  
 GB = GYPSUM BOARD      WSP = WOOD STRUCTURAL PANEL  
 CS-XXX = CONT. SHEATHED      ENG = ENGINEERED SOLUTION  
 PF = PORTAL FRAME      ENG-PF = 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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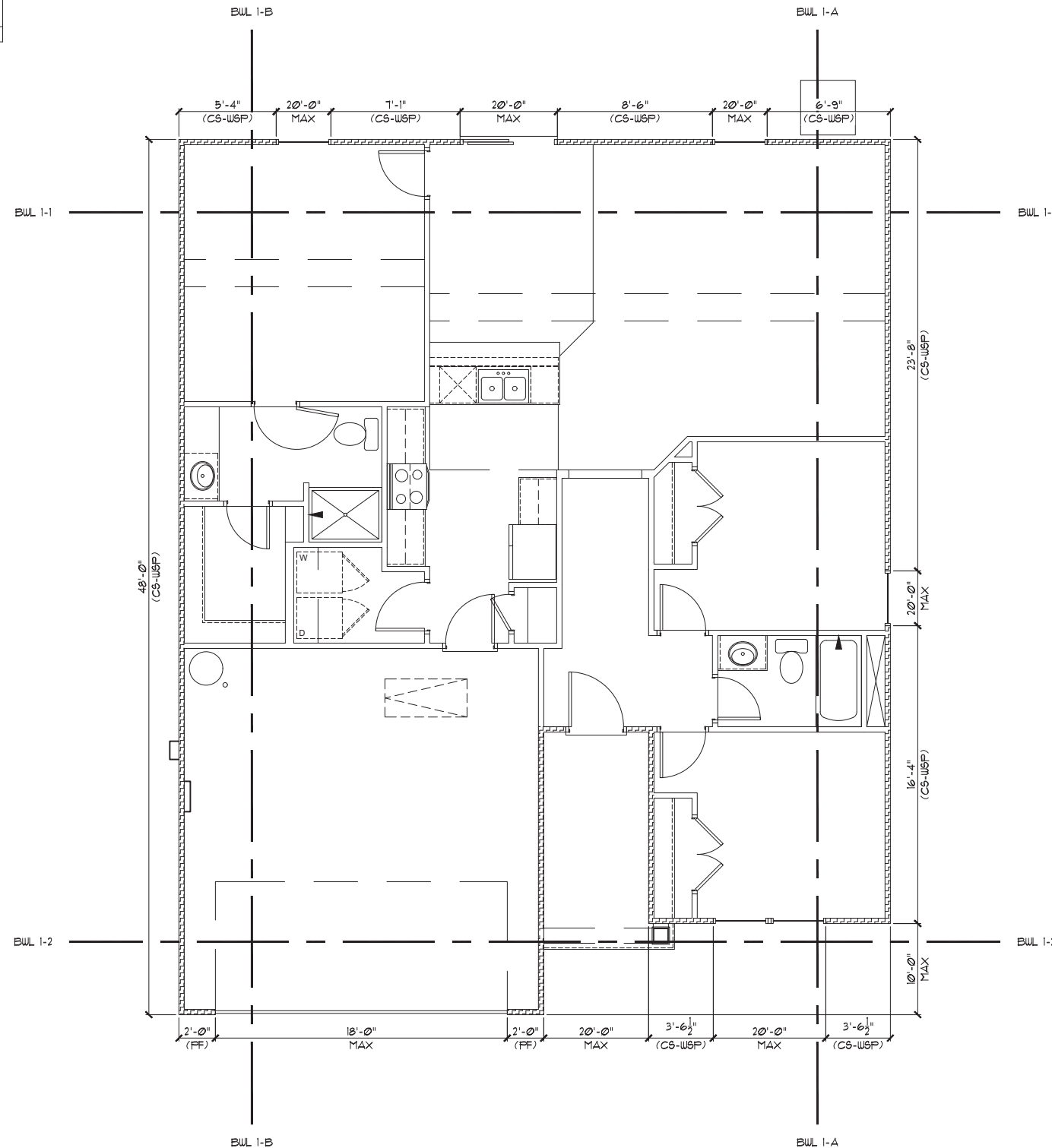
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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

**FIRST FLOOR BRACING PLAN**

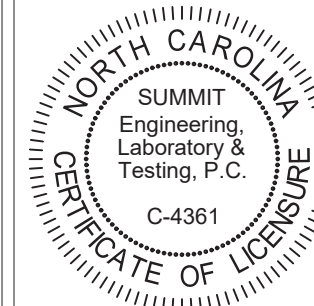
SCALE: 1/8"=1'



FIRST FLOOR BRACING (FT)		
	CONTINUOUS SHEATHING METHOD	
	REQUIRED	PROVIDED
BWL 1-1	7.1	21.6
BWL 1-2	7.1	13.0
BWL 1-A	6.3	40.0
BWL 1-B	6.3	48.0

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RALEIGH, NC 27603  
OFFICE: 919.380.9991  
FAX: 919.380.9993  
WWW.SUMMIT-COMPANIES.COM



PROJECT  
**Alamance (LH)**  
**First Floor Bracing**  
CLIENT  
**LGI Homes**  
7201 Creedmoor Road, Suite 147  
Raleigh, NC 27613

**CURRENT DRAWING**

DATE: 10/11/2019  
SCALE: 1/8"=1'-0"  
PROJECT #: 1203-08R: 21313R5  
DRAWN BY: WAJ  
CHECKED BY: CNB

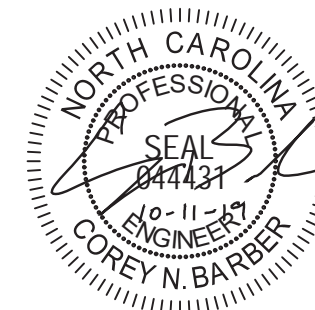
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DATE: 3/30/2017 PROJECT #: 13302

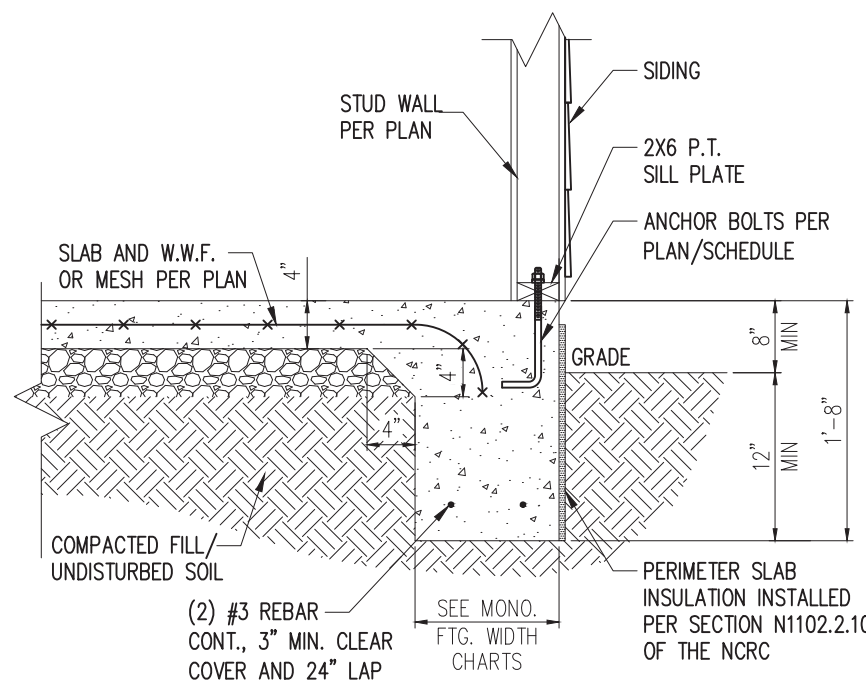
REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

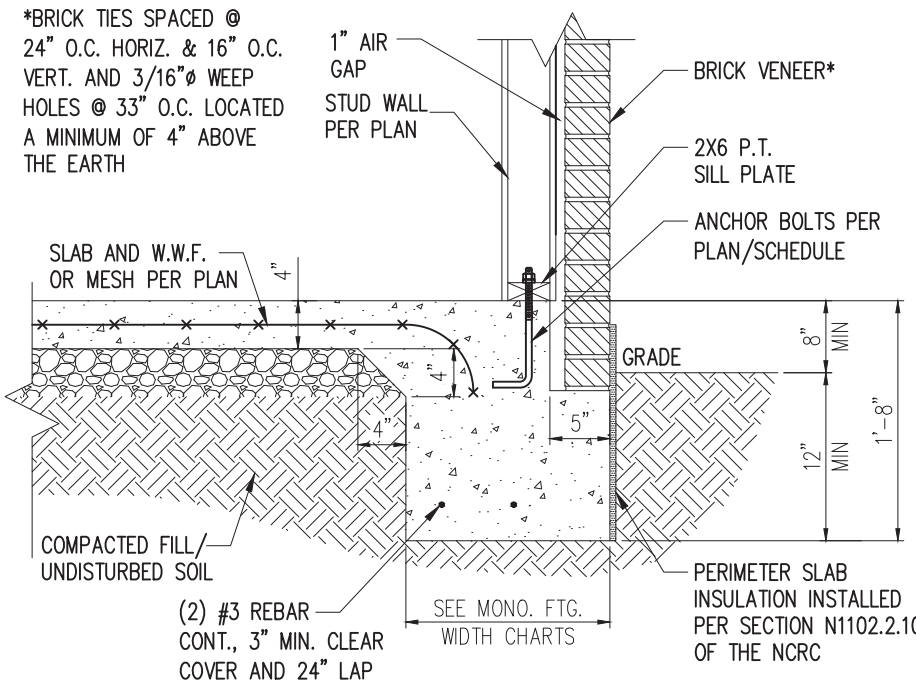
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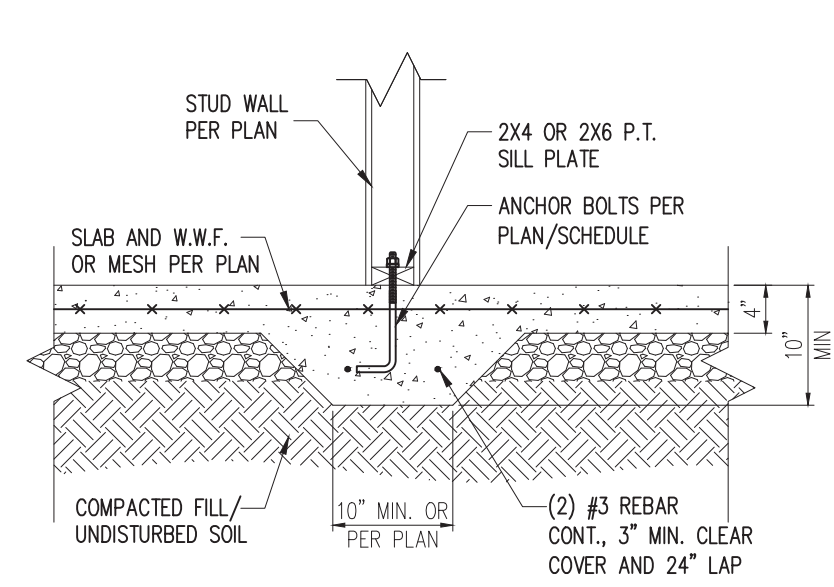
STRUCTURAL MEMBERS ONLY



STANDARD - SIDING

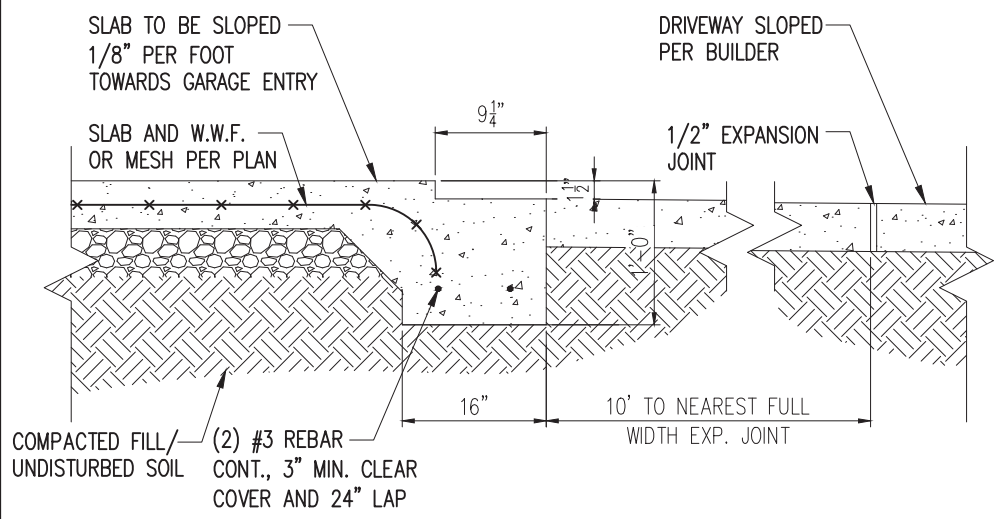


STANDARD - BRICK

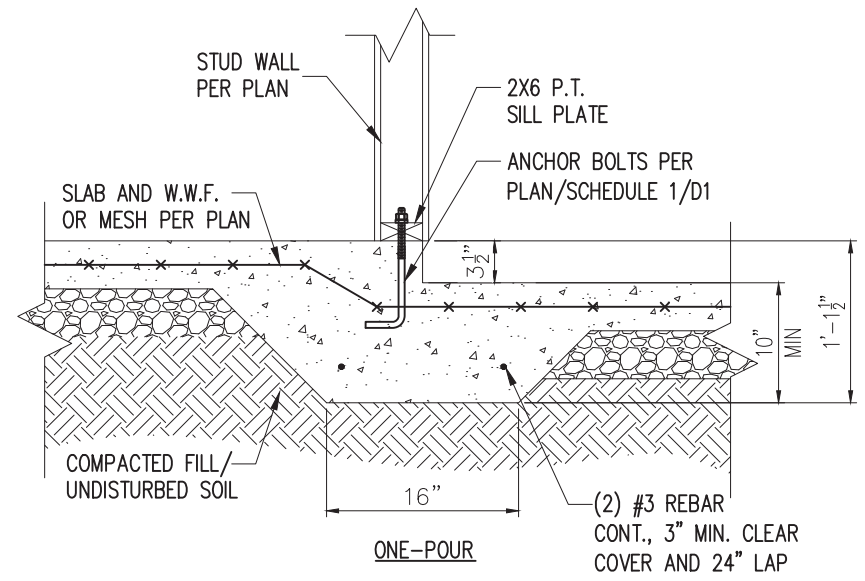


3 TYP. THICKENED SLAB DETAIL  
D1m 3/4" = 1'-0"

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



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



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

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

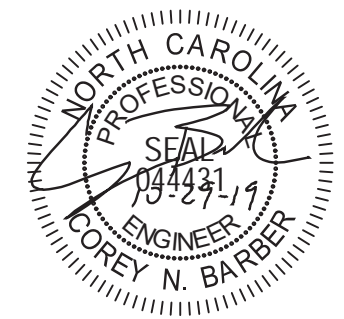
NOTE:  
1) INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM PLATE ENDS AND JOINTS.  
2) EQUIVALENT ANCHORS MAY BE USED. SIZE & SPACING PER MANUF. SPECS.

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

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.



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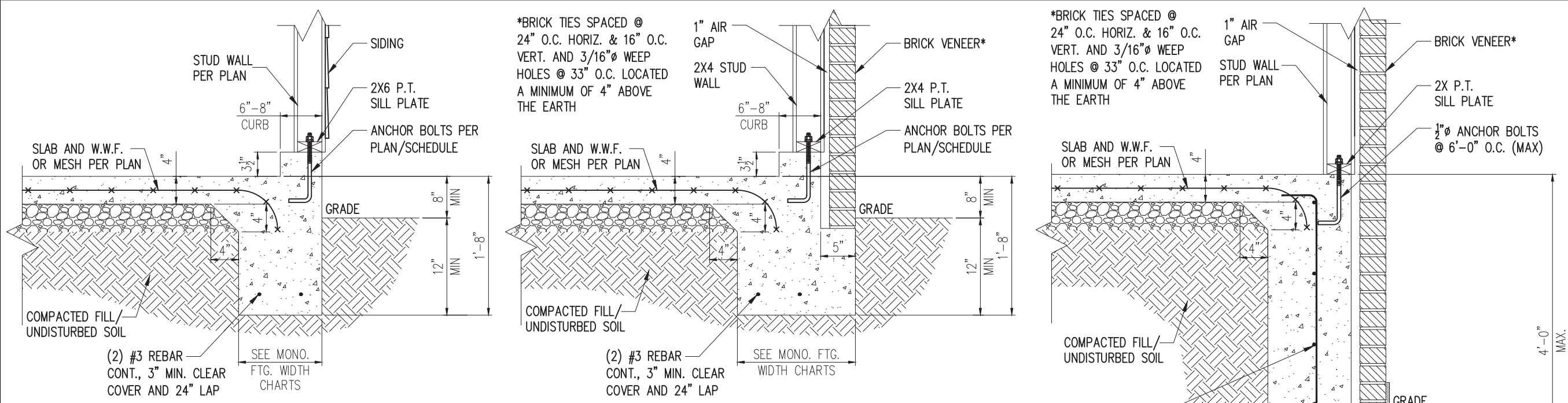
PROJECT  
Standard Details  
Monolithic Slab Details  
CLIENT  
LGI Homes  
7201 Creedmoor Road, Suite 147  
Raleigh, NC 27613

CURRENT DRAWING  
DATE: 10/29/19  
SCALE: NTS  
PROJECT #: 1203-08R: 24512R  
DRAWN BY: CNB  
CHECKED BY: WAJ  
ORIGINAL DRAWING  
DATE PROJECT #  
10/01/19 24512

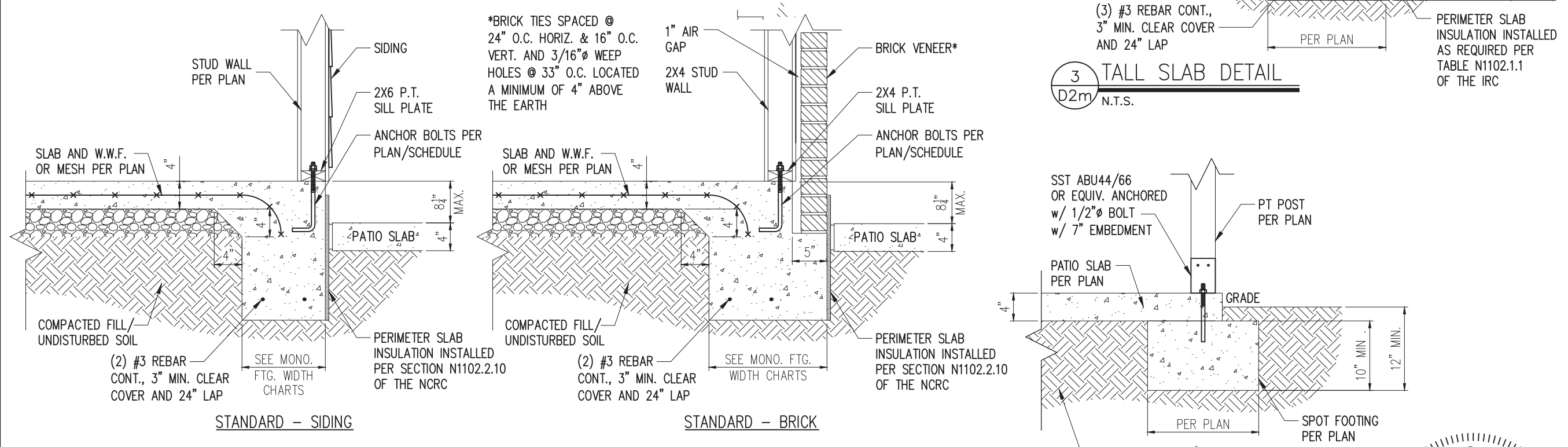
REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D1m**





**1 TYP. GARAGE CURB DETAIL**  
 D2m 3/4" = 1'-0"



**2 PATIO SLAB DETAIL**  
 D2m 3/4" = 1'-0"

**3 TALL SLAB DETAIL**  
 D2m N.T.S.

- NOTES:**
- REFER TO GENERAL NOTES & SPECIFICATIONS ON SHEET CS2 FOR ADDITIONAL INFORMATION.
  - PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
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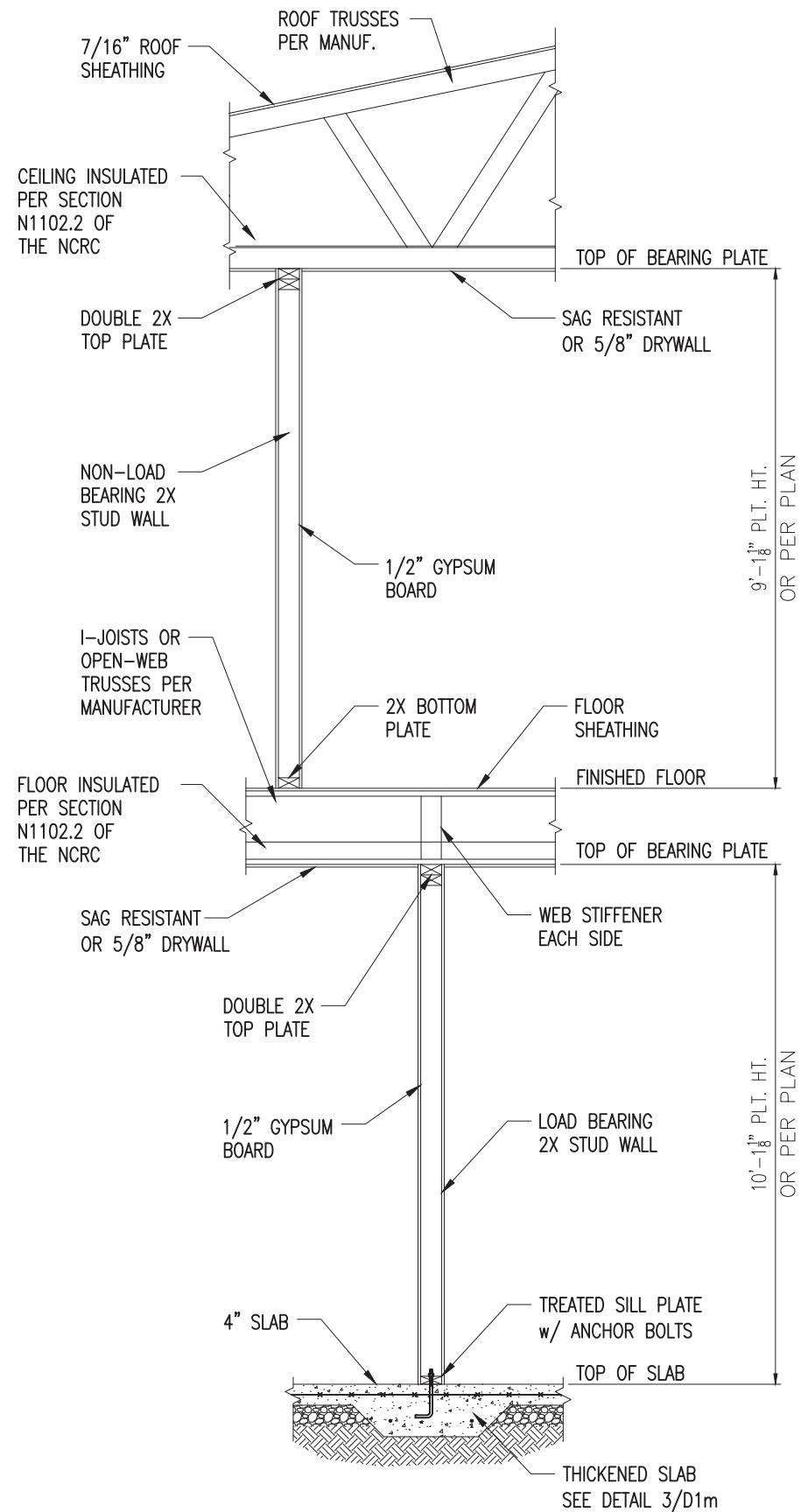
PROJECT  
**Standard Details**  
**Monolithic Slab Details**  
 CLIENT  
**LGI Homes**  
 7201 Creedmoor Road, Suite 147  
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CURRENT DRAWING  
 DATE: 10/29/19  
 SCALE: NTS  
 PROJECT #: 1203-08R: 24512R  
 DRAWN BY: CNB  
 CHECKED BY: WAJ

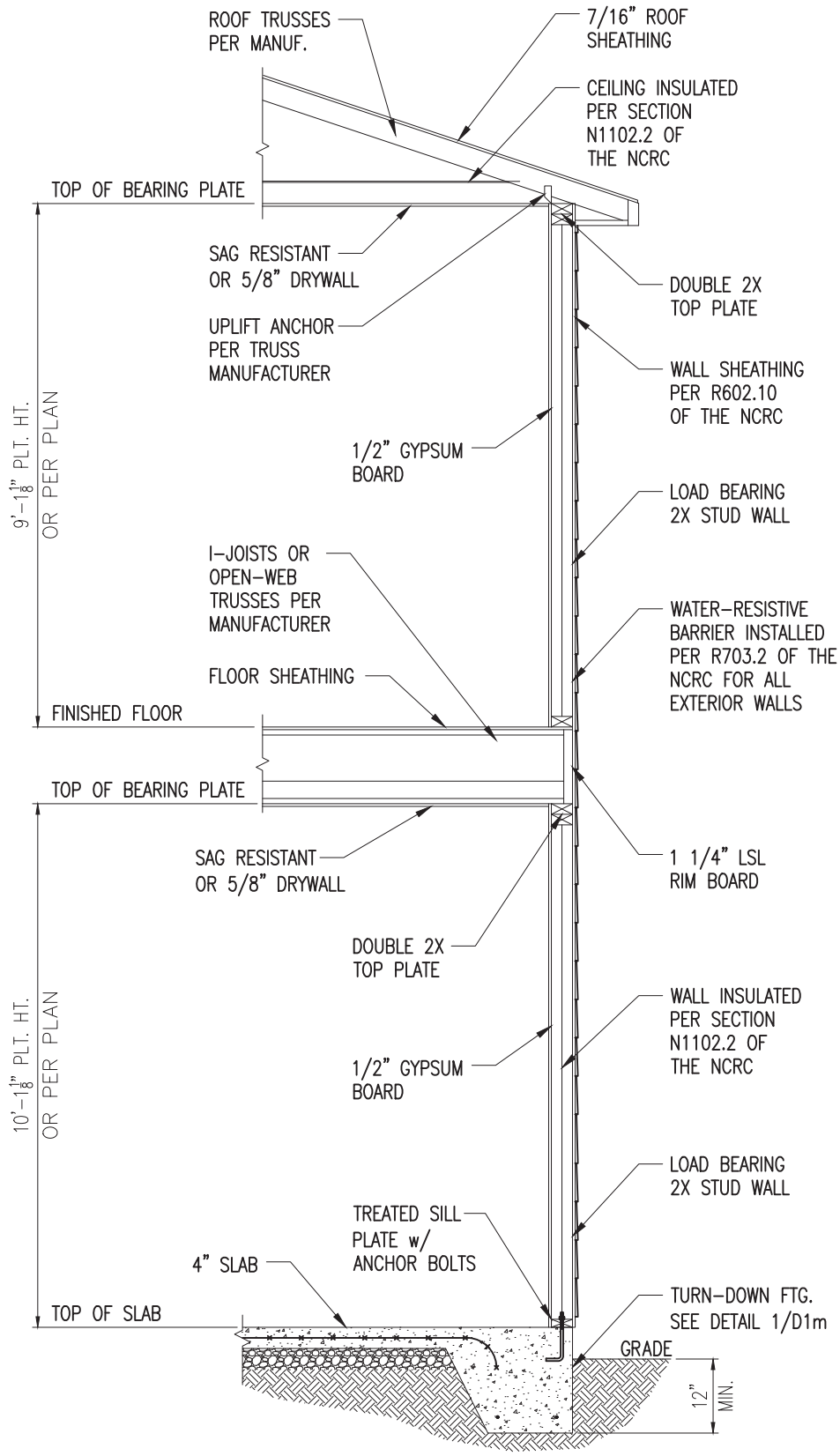
ORIGINAL DRAWING  
 DATE PROJECT #  
 10/01/19 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D2m**

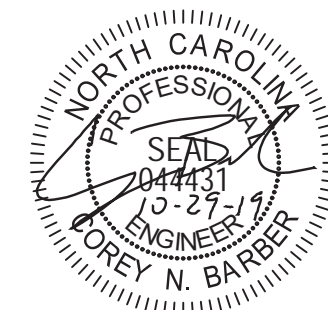


1 TYP. INTERIOR LOAD BEARING WALL SECTION  
 D3m 3/4" = 1'-0"

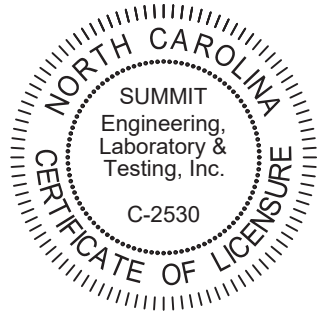


2 TYP. EXTERIOR LOAD BEARING WALL SECTION  
 D3m 3/4" = 1'-0"  
 -SIMILAR w/ BRICK AND STONE  
 -BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT.  
 -MIN. 3/16" Ø WEEP HOLES @ 33" O.C.

- 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.



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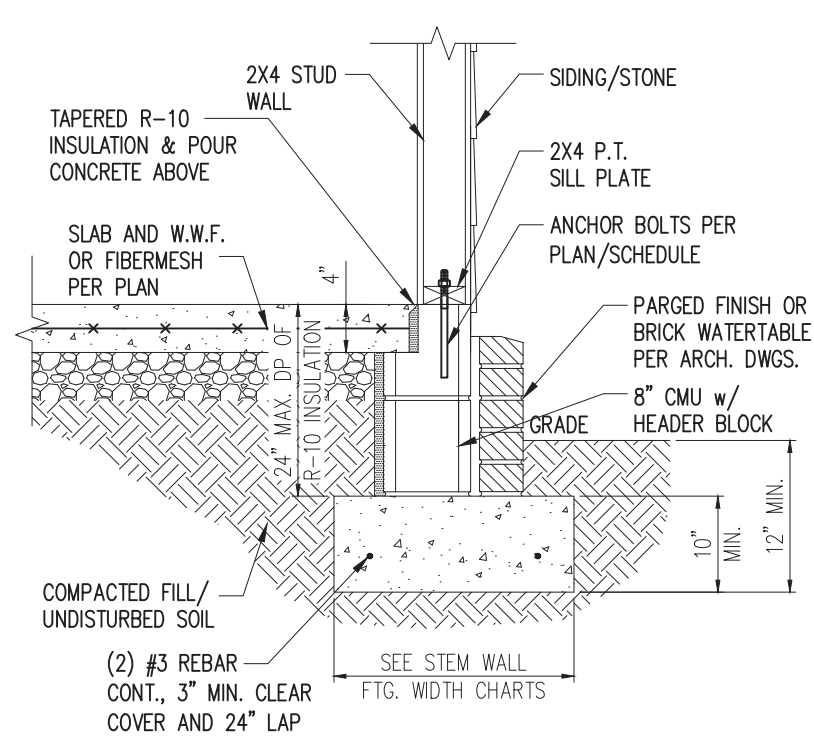
PROJECT  
**Standard Details**  
**Monolithic Slab Details**  
 CLIENT  
 LGI Homes  
 7201 Creedmoor Road, Suite 147  
 Raleigh, NC 27613

CURRENT DRAWING  
 DATE: 10/29/19  
 SCALE: NTS  
 PROJECT #: 1203-08R: 24512R  
 DRAWN BY: CNB  
 CHECKED BY: WAJ

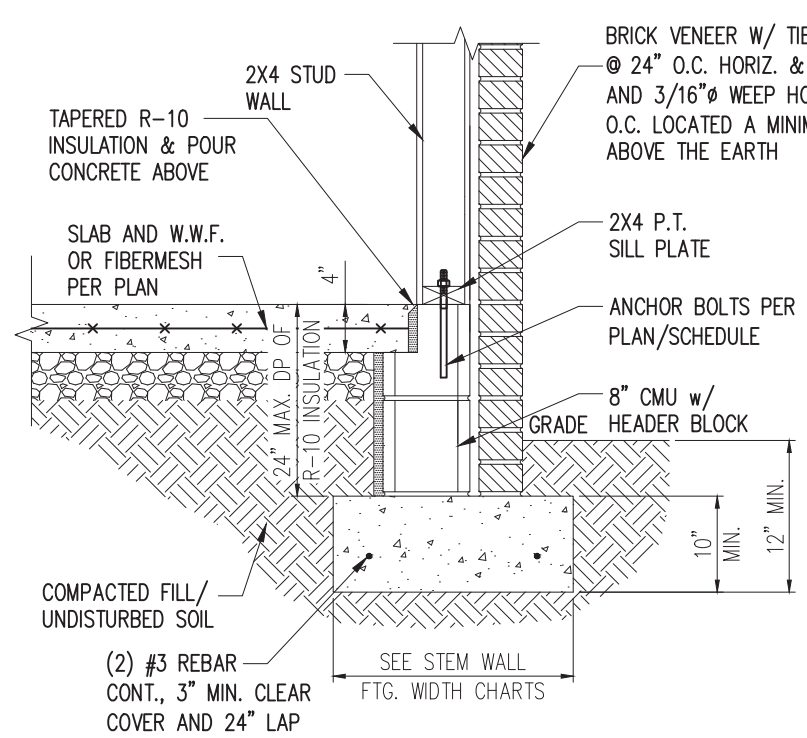
ORIGINAL DRAWING  
 DATE: 10/01/19 PROJECT #: 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

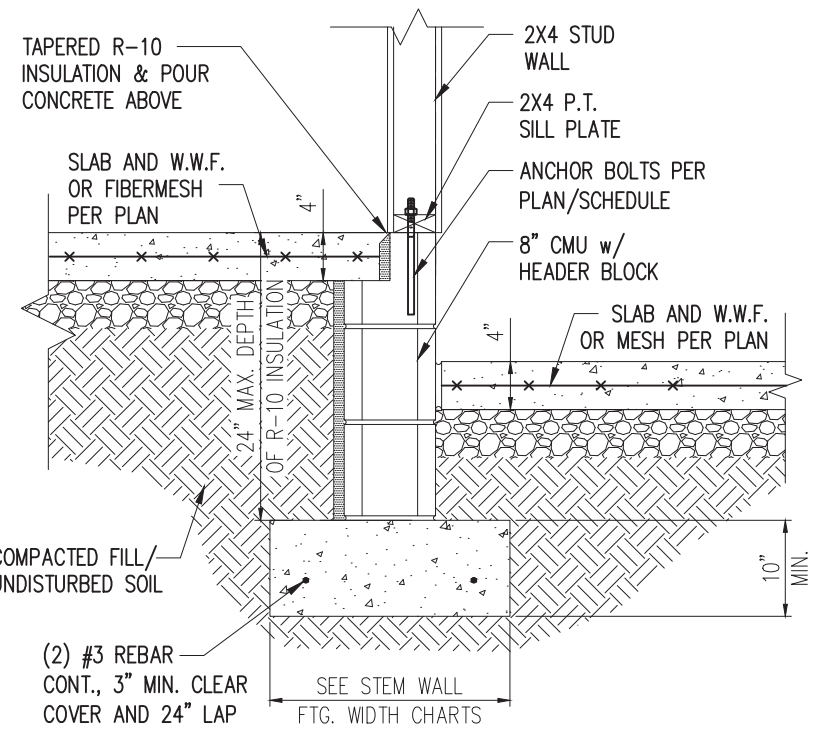
SHEET  
**D3m**



STANDARD - SIDING/STONE



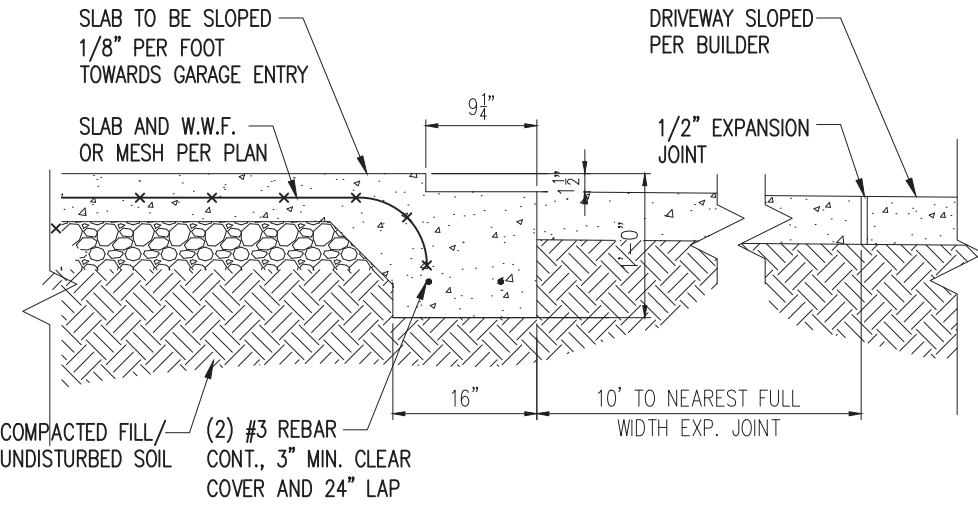
STANDARD - BRICK



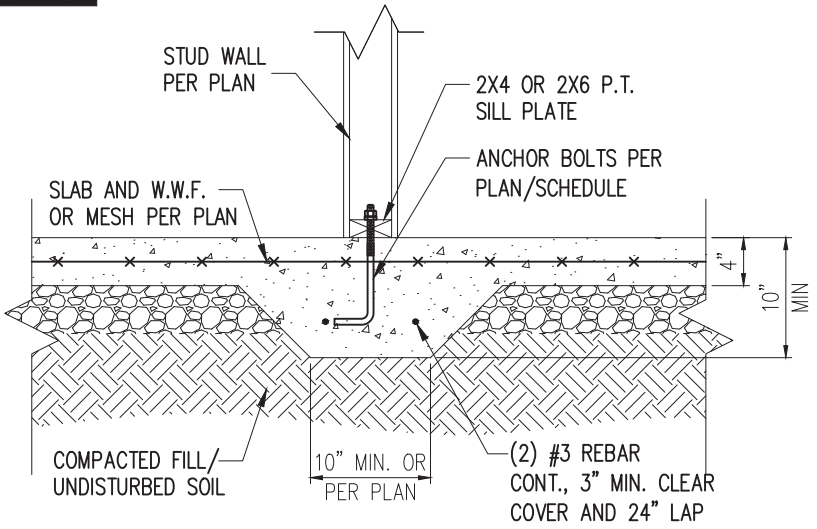
4 HOUSE/GARAGE WALL DETAIL

1 TYP. STEM WALL DETAIL  
D1s 3/4" = 1'-0"

4 HOUSE/GARAGE WALL DETAIL  
D1s 3/4" = 1'-0"



2 SLAB AT GARAGE DOOR  
D1s 3/4" = 1'-0"



3 TYP. THICKENED SLAB DETAIL  
D1s 3/4" = 1'-0"

WALL ANCHOR SCHEDULE

TYPE OF ANCHOR	MIN. CONC. EMBEDMENT	SPACING EMBEDMENT	INTERIOR WALL	EXTERIOR WALL
1/2" A307 BOLTS w/ STD. 90° BEND	7"	6'-0"	YES	YES
SST - MASA INTO HEADER BLOCK	4"	4'-6"	NO	YES
1/2" THREADED ROD w/ w/ SST SET-XP EPOXY	7"	6'-0"	YES	YES
1/2" SST TITEN HD INTO CONC.	4-1/4"	6'-0"	NO	YES
1/2" SST TITEN HD INTO MAS.	4-1/2"	4'-8"	YES	NO

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.

STEM WALL 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 STEM WALL FOOTING WIDTH FOR BRICK SUPPORT

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.

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

PROJECT  
Standard Details  
Stem Wall Details  
CLIENT  
LGI Homes  
7201 Creedmoor Road, Suite 147  
Raleigh, NC 27613

CURRENT DRAWING  
DATE: 10/29/19  
SCALE: NTS  
PROJECT #: 1203-08R: 24512R  
DRAWN BY: CNB  
CHECKED BY: WAJ

ORIGINAL DRAWING  
DATE: 10/01/19  
PROJECT #: 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D1s**

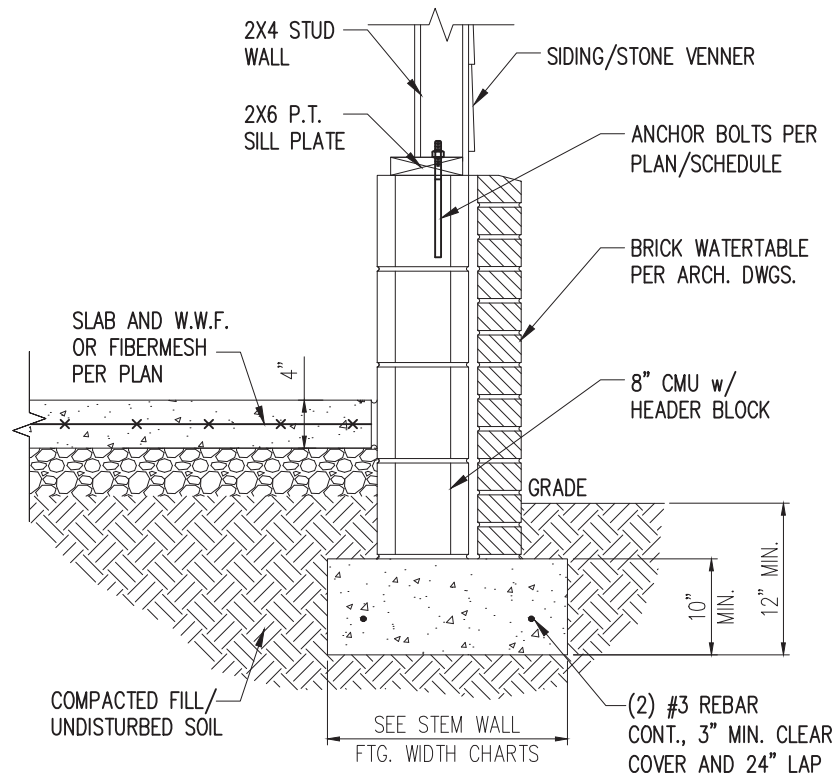
NORTH CAROLINA  
PROFESSIONAL  
ENGINEER  
COREY N. BARBER  
1944431  
10-29-19

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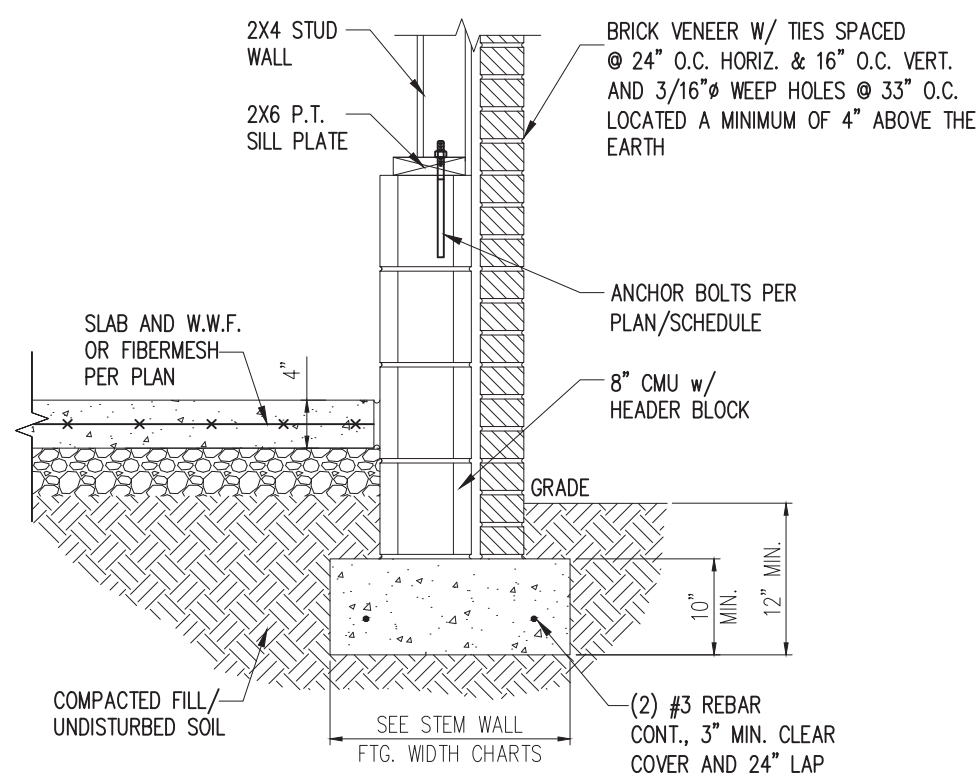


**NOTES:**

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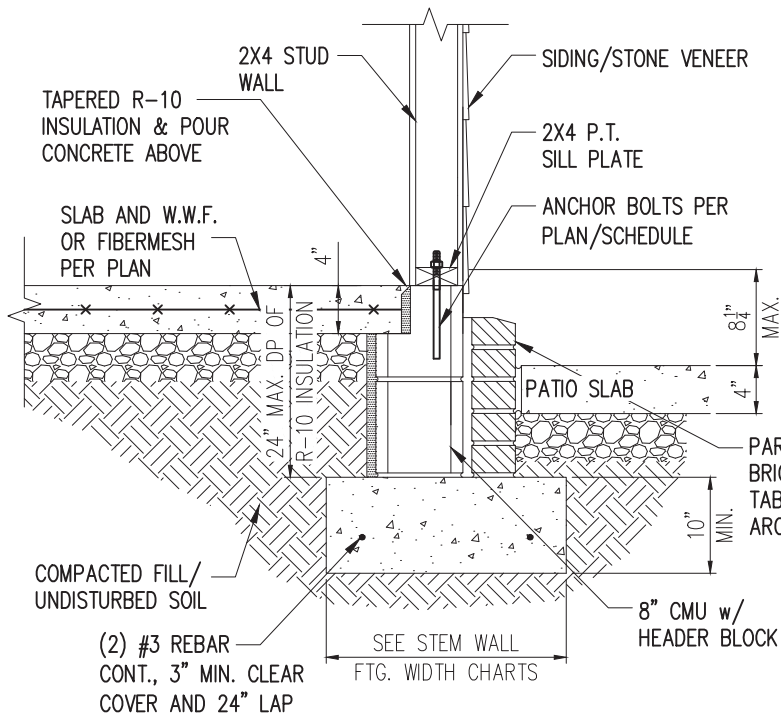
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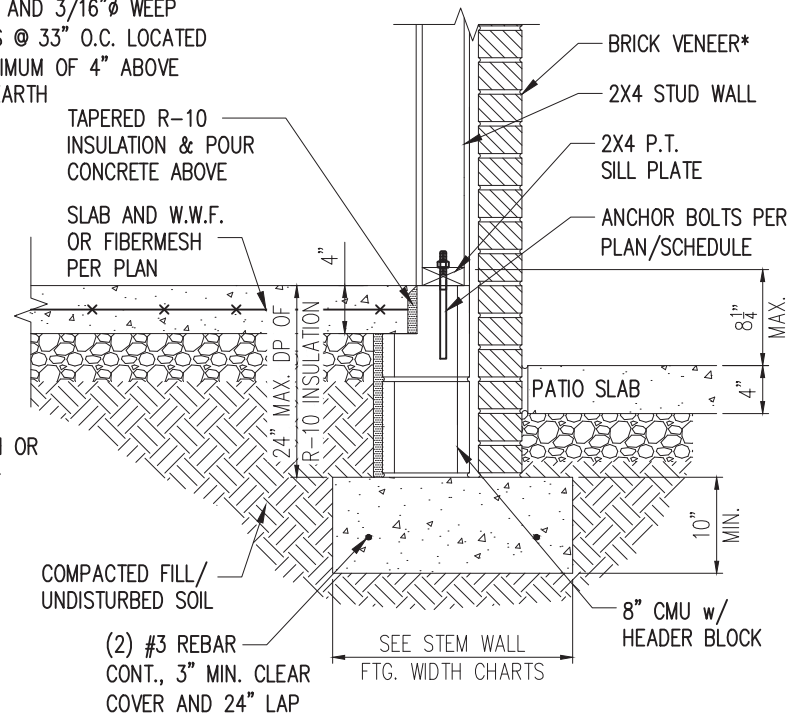
STANDARD - BRICK

**1 TYP. GARAGE CURB DETAIL**  
D2s 3/4" = 1'-0"

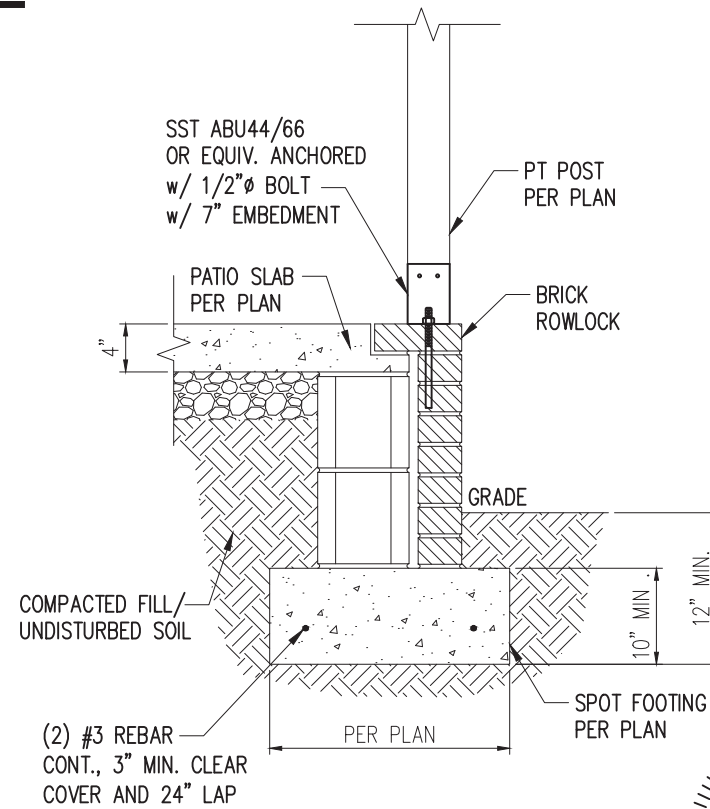
\*BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT. AND 3/16" Ø WEEP HOLES @ 33" O.C. LOCATED A MINIMUM OF 4" ABOVE THE EARTH



STANDARD - SIDING

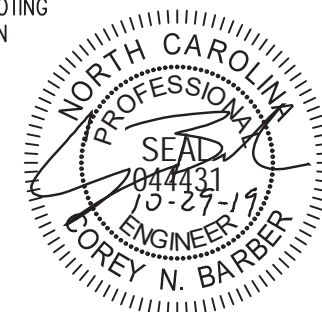


STANDARD - BRICK



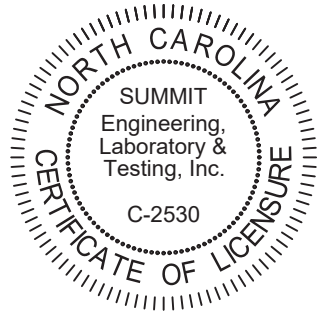
W/ COVERED PORCH

**2 PORCH SLAB DETAIL**  
D2s 3/4" = 1'-0"



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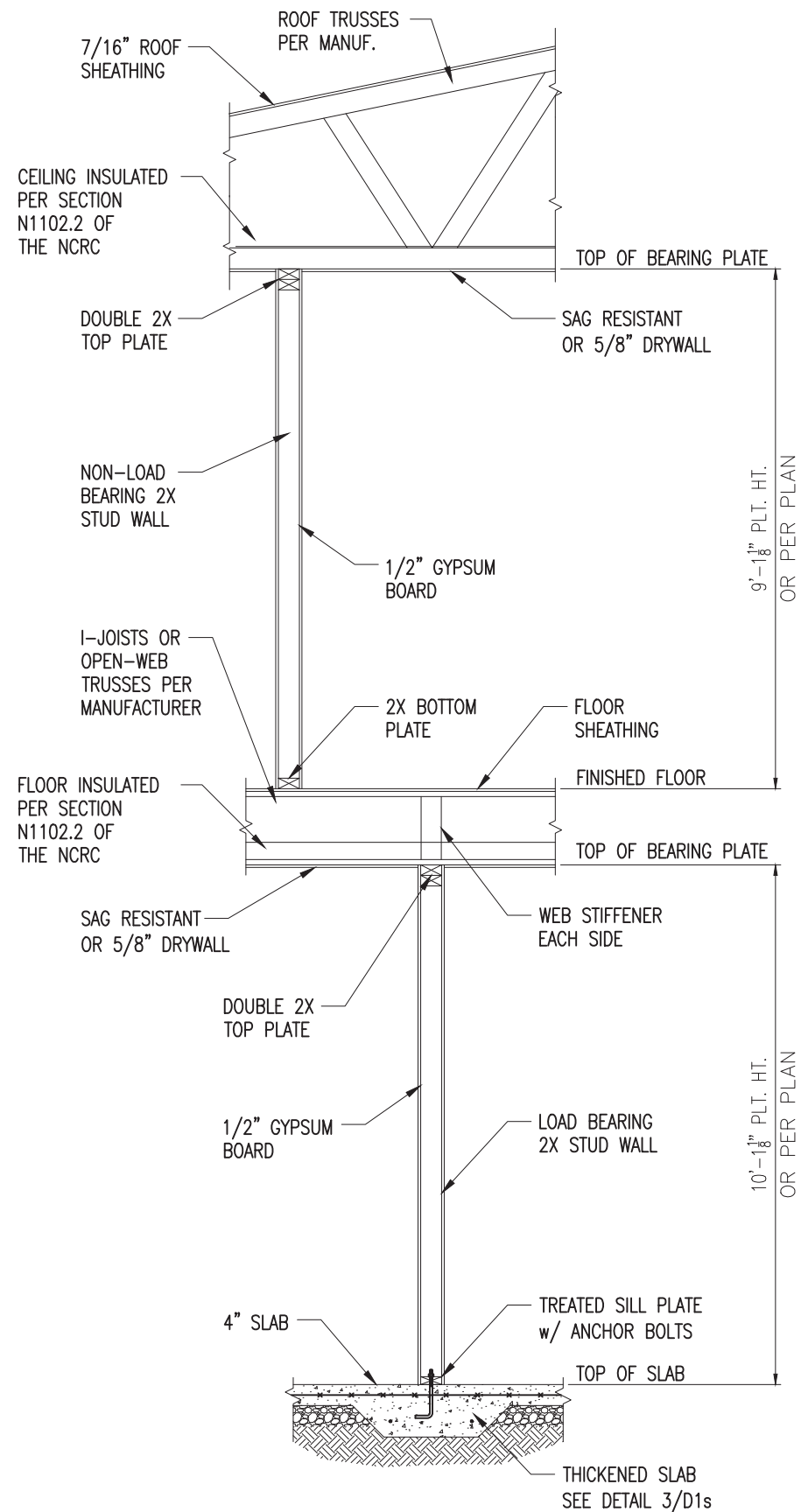
PROJECT  
**Standard Details**  
**Stem Wall Details**  
CLIENT  
LGI Homes  
7201 Creedmoor Road, Suite 147  
Raleigh, NC 27613

CURRENT DRAWING  
DATE: 10/29/19  
SCALE: NTS  
PROJECT #: 1203-08R: 24512R  
DRAWN BY: CNB  
CHECKED BY: WAJ

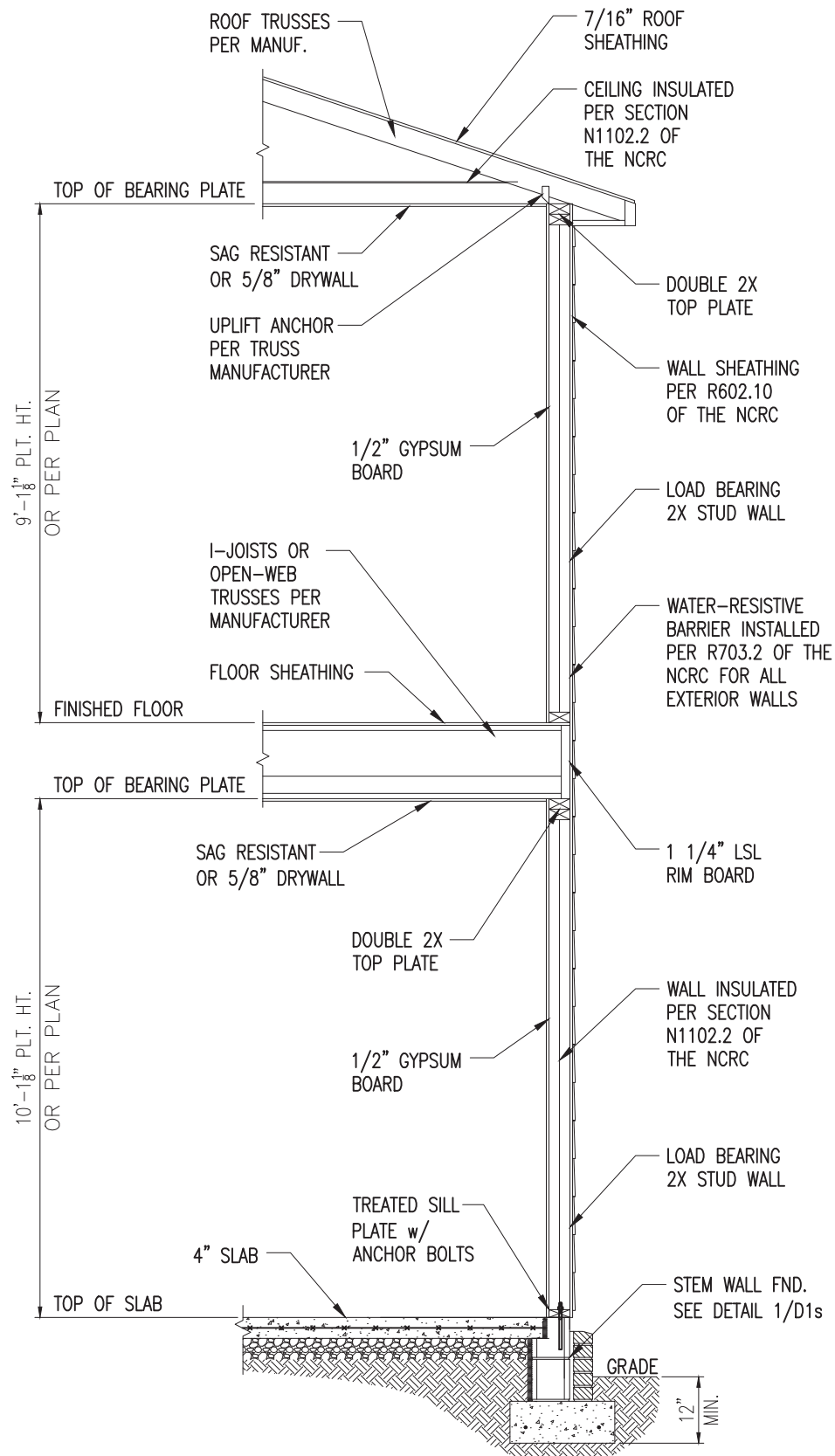
ORIGINAL DRAWING  
DATE: 10/01/19 PROJECT #: 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D2s**

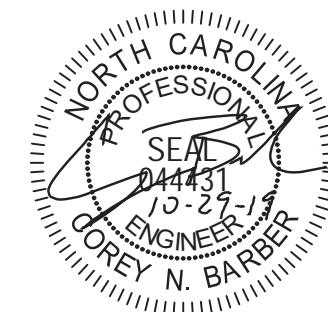


1 TYP. INTERIOR LOAD BEARING WALL SECTION  
 D3s 3/4" = 1'-0"



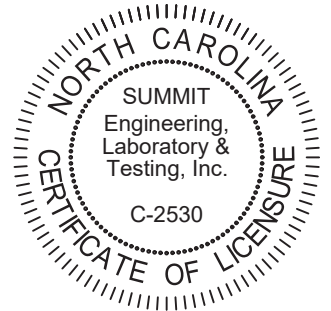
2 TYP. EXTERIOR LOAD BEARING WALL SECTION  
 D3s 3/4" = 1'-0" -SIMILAR w/ BRICK AND STONE  
 -BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT.  
 -MIN. 3/16" WEEP HOLES @ 33" O.C.

- 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, SLOPS AND DEPRESSIONS.



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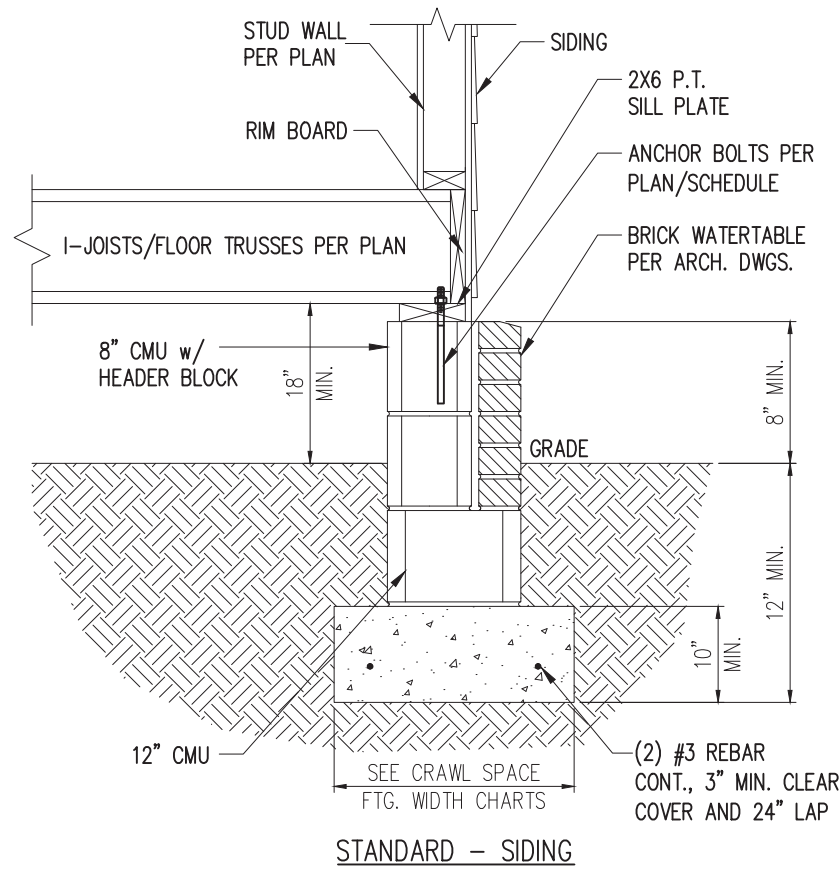
PROJECT  
**Standard Details**  
**Stem Wall Details**  
 CLIENT  
 LGI Homes  
 7201 Creedmoor Road, Suite 147  
 Raleigh, NC 27613

CURRENT DRAWING  
 DATE: 10/29/19  
 SCALE: NTS  
 PROJECT #: 1203-08R: 24512R  
 DRAWN BY: CNB  
 CHECKED BY: WAJ

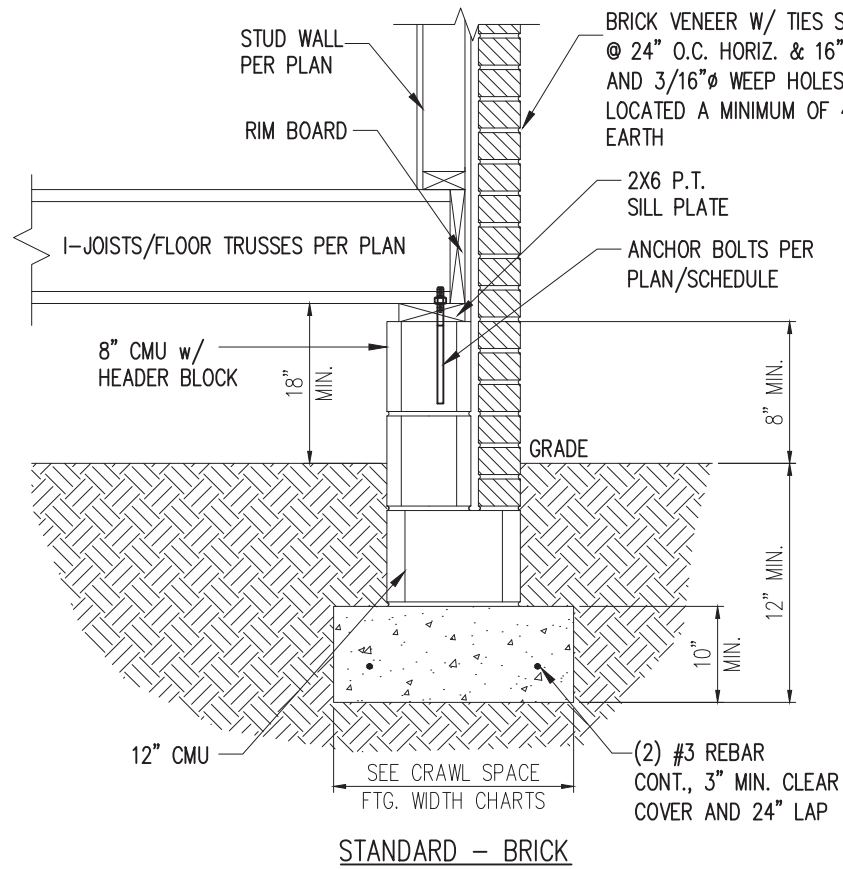
ORIGINAL DRAWING  
 DATE: 10/01/19  
 PROJECT #: 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

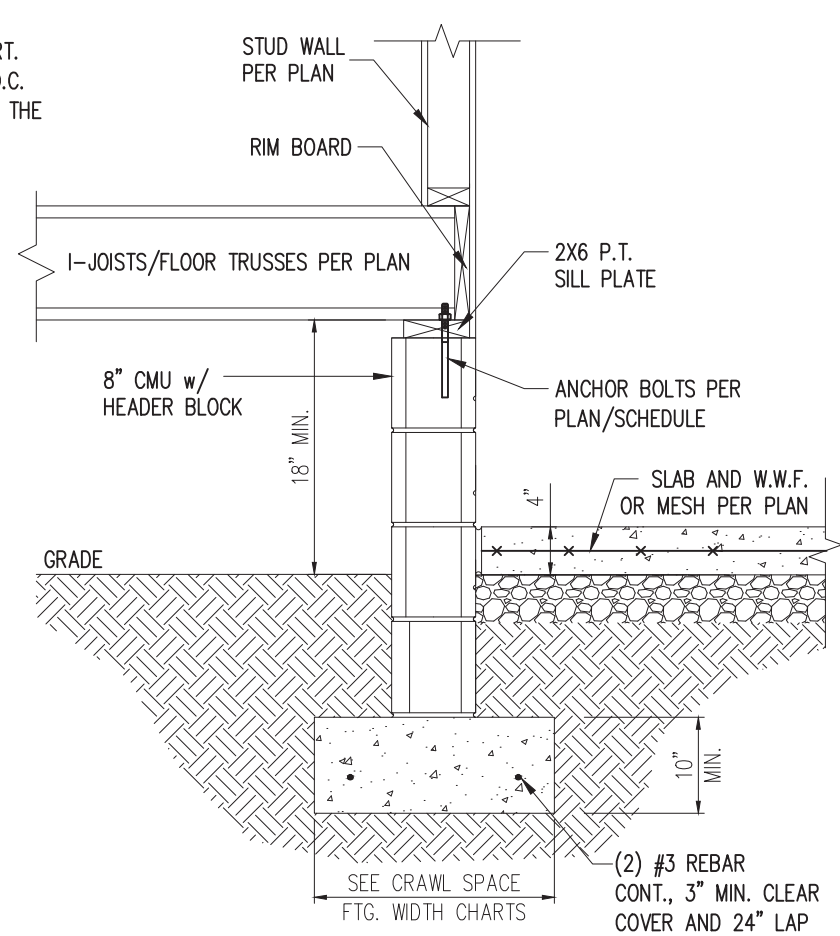
SHEET  
**D3s**



STANDARD - SIDING



STANDARD - BRICK

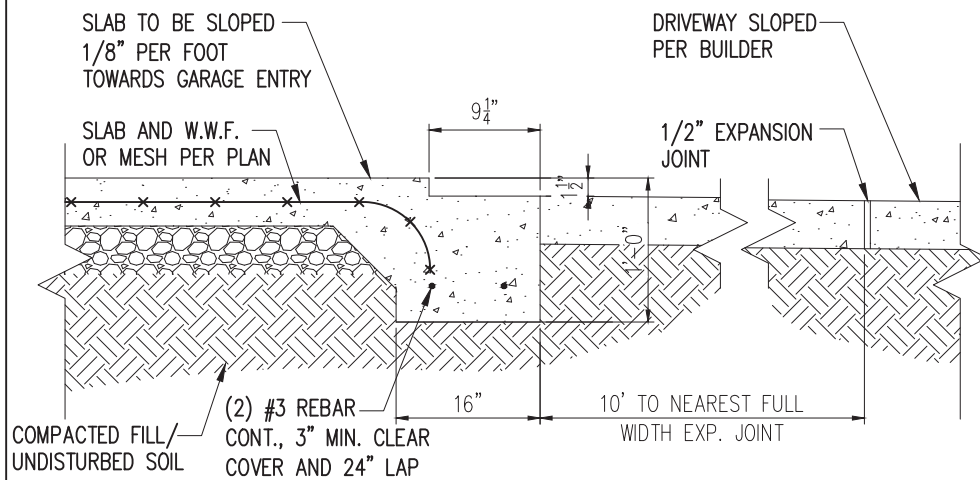


4 HOUSE/GARAGE WALL DETAIL

D1c 3/4" = 1'-0"

1 TYP. FOUNDATION WALL DETAIL

D1c 3/4" = 1'-0"



2 SLAB AT GARAGE DOOR

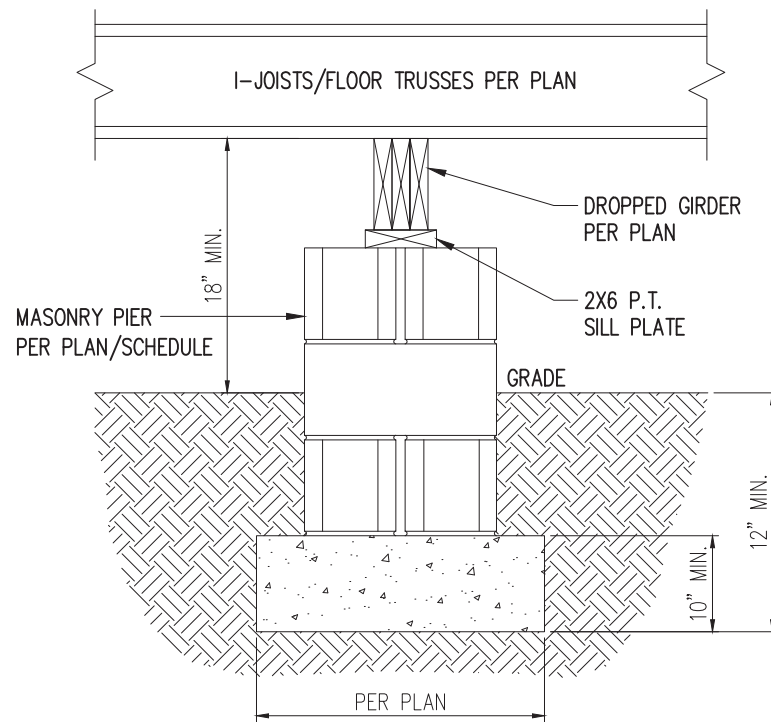
D1c 3/4" = 1'-0"

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
1/2" Ø THREADED ROD w/ w/ SST SET-XP EPOXY	7"	6'-0"	YES	YES
1/2" Ø SST TITEN HD	4-1/2"	4'-8"	YES	YES

NOTE:

- INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM PLATE ENDS AND JOINTS.
- EQUIVALENT ANCHORS MAY BE USED. SIZE & SPACING PER MANUF. SPECS.



3 TYP. PIER & GIRDER DETAIL

D1c 3/4" = 1'-0"

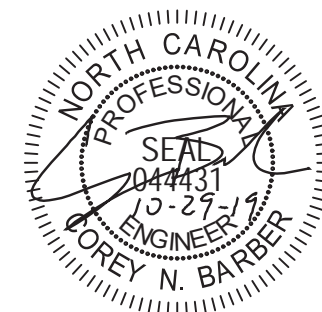
CRAWL SPACE FOOTING WIDTH

# 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 CRAWL SPACE FOOTING WIDTH FOR BRICK SUPPORT

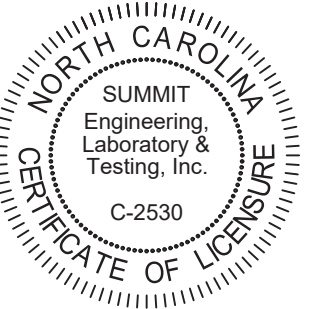
NOTES:

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- SEE ARCH. DWGS. FOR ALL TOP OF THE SLAB ELEVATIONS, SLOPES AND DEPRESSIONS.



STRUCTURAL MEMBERS ONLY

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PROJECT  
Standard Details  
Crawl Space Details  
CLIENT  
LGI Homes  
7201 Creedmoor Road, Suite 147  
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CURRENT DRAWING  
DATE: 10/29/19  
SCALE: NTS  
PROJECT #: 1203-08R: 24512R  
DRAWN BY: CNB  
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ORIGINAL DRAWING  
DATE: 10/01/19 PROJECT #: 24512

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SHEET  
**D1c**



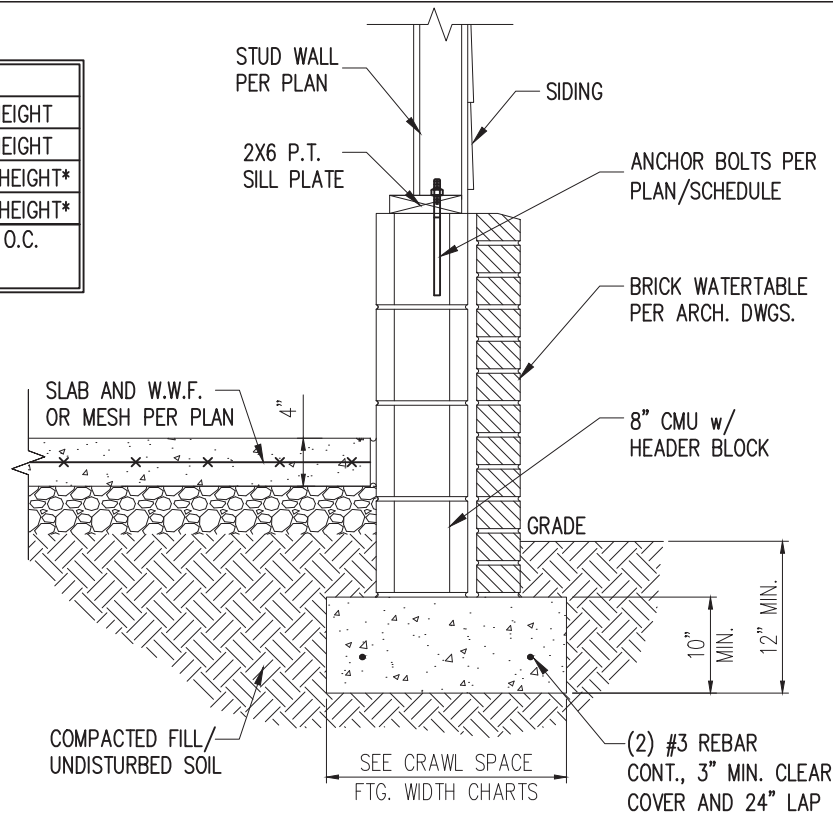
PIER SIZE AND HEIGHT SCHEDULE

SIZE	HOLLOW	SOLID
8"x16"	UP TO 32" HEIGHT	UP TO 5'-0" HEIGHT
12"x16"	UP TO 48" HEIGHT	UP TO 9'-0" HEIGHT
16"x16"	UP TO 64" HEIGHT	UP TO 12'-0" HEIGHT*
24"x24"	UP TO 96" HEIGHT	UP TO 12'-0" HEIGHT*

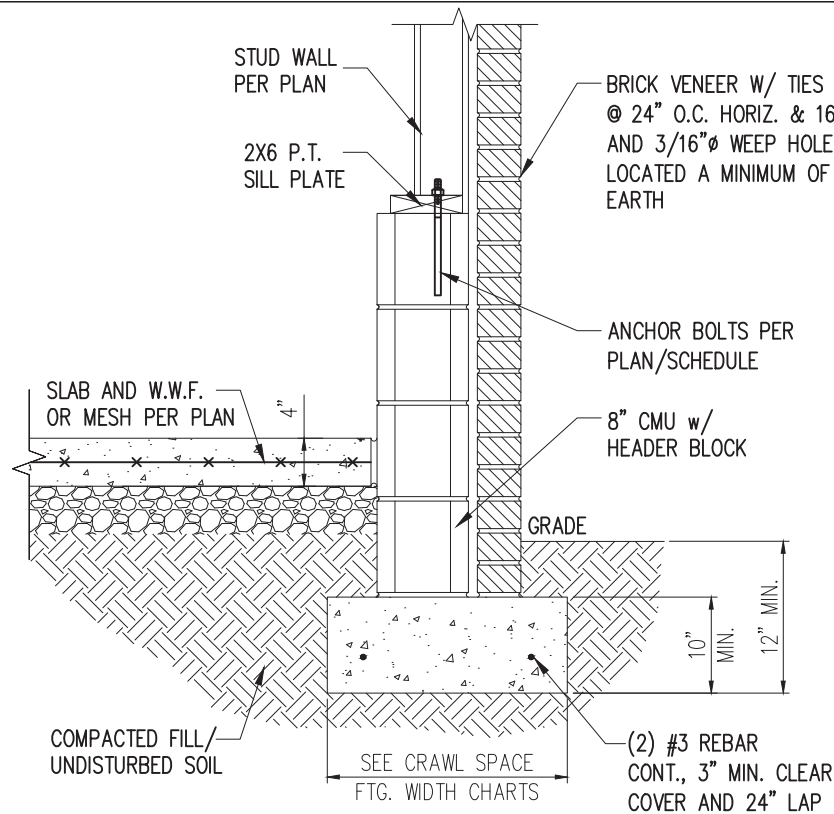
\*(4) #4 CONT. REBAR w/ #3 STIRRUPS @ 16" O.C. AND 24" MIN. LAP JOINTS

NOTES:

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



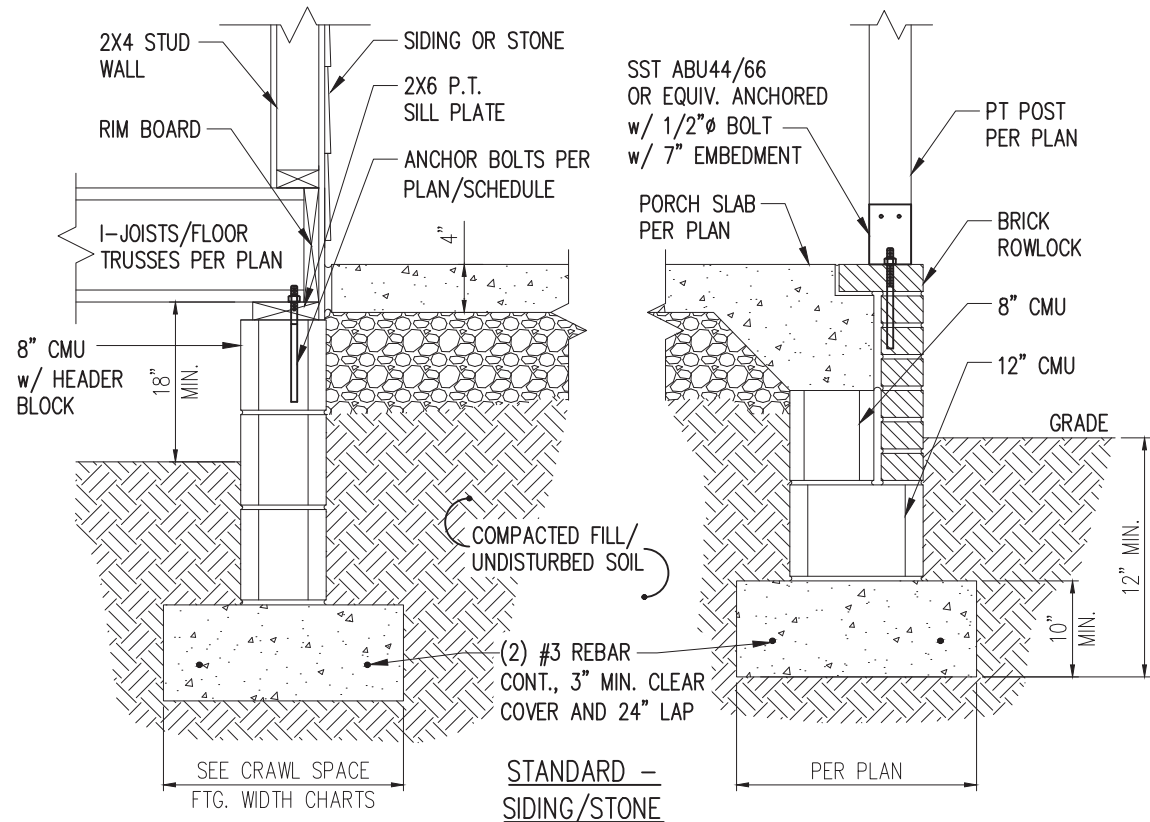
STANDARD - SIDING



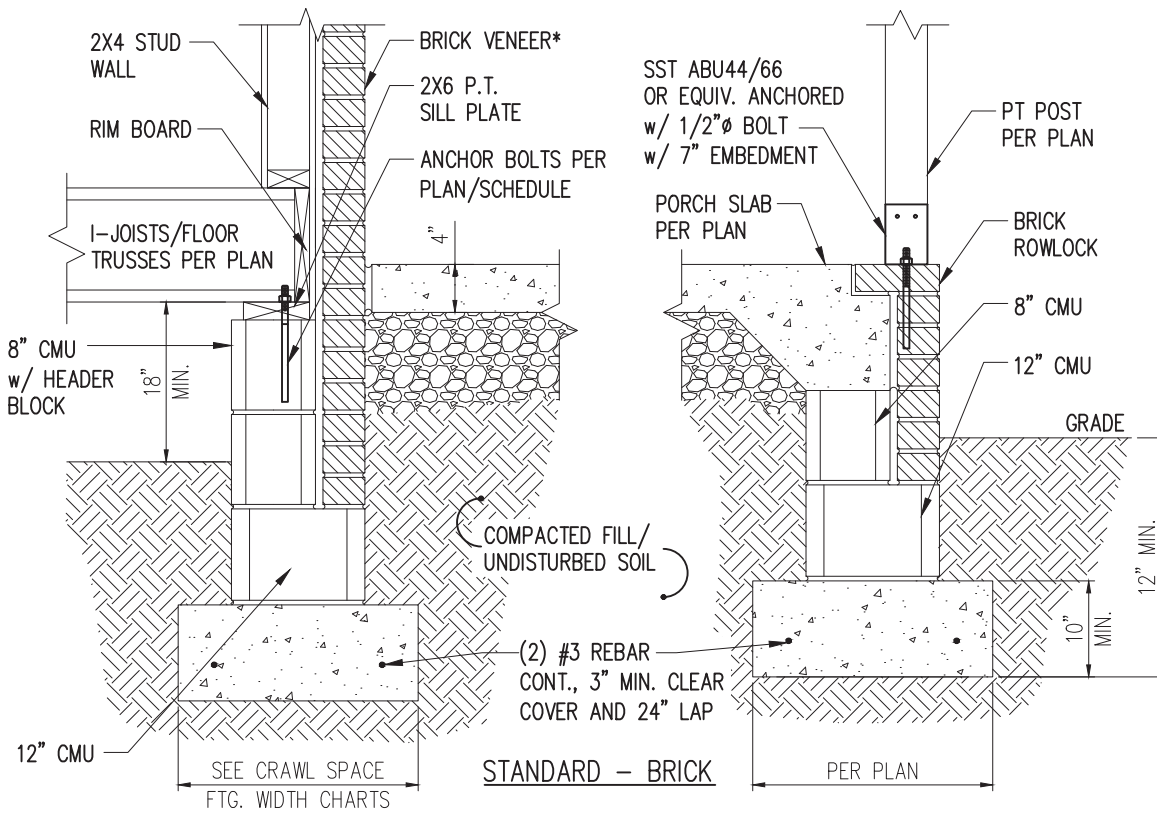
STANDARD - BRICK

1 TYP. GARAGE CURB DETAIL  
D2c 3/4" = 1'-0"

\*BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT. AND 3/16" Ø WEEP HOLES @ 33" O.C. LOCATED A MINIMUM OF 4" ABOVE THE EARTH

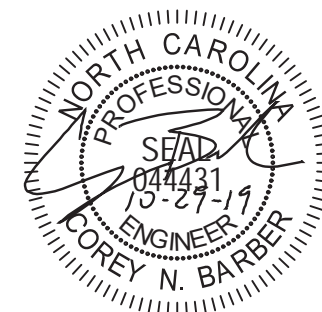


STANDARD - SIDING/STONE



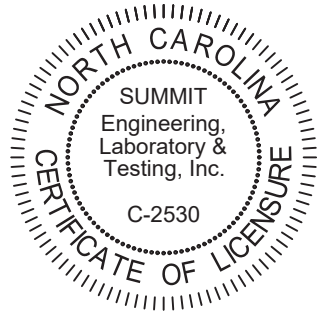
STANDARD - BRICK

2 TYP. FRONT PORCH DETAIL  
D2c 3/4" = 1'-0"



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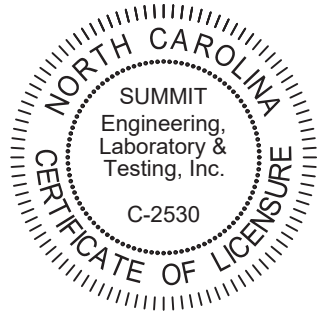


PROJECT  
Standard Details  
Crawl Space Details  
CLIENT  
LGI Homes  
7201 Creedmoor Road, Suite 147  
Raleigh, NC 27613

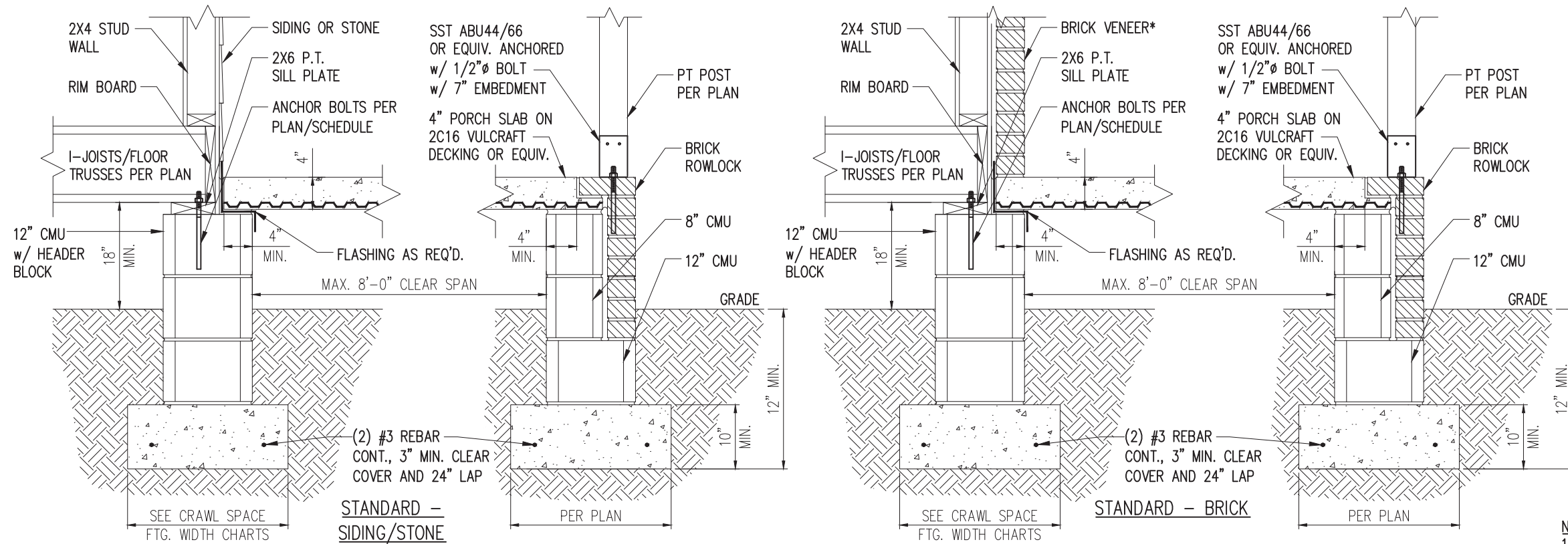
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SCALE: NTS  
PROJECT #: 1203-08R: 24512R  
DRAWN BY: CNB  
CHECKED BY: WAJ  
ORIGINAL DRAWING  
DATE: 10/01/19 PROJECT #: 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D2c**



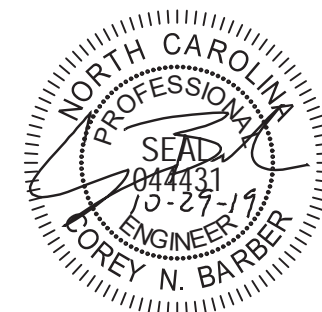
\*BRICK TIES SPACED @  
 24" O.C. HORIZ. & 16" O.C.  
 VERT. AND 3/16" Ø WEEP  
 HOLES @ 33" O.C. LOCATED  
 A MINIMUM OF 4" ABOVE  
 THE EARTH



1 FRONT PORCH DETAIL w/ SUSPENDED SLAB  
 D3c 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.
4. CONTACT SUMMIT, ECS. IF UNBALANCED FILL EXCEEDS 48" AT FOUNDATION WALLS FOR ENGINEERED DESIGN.



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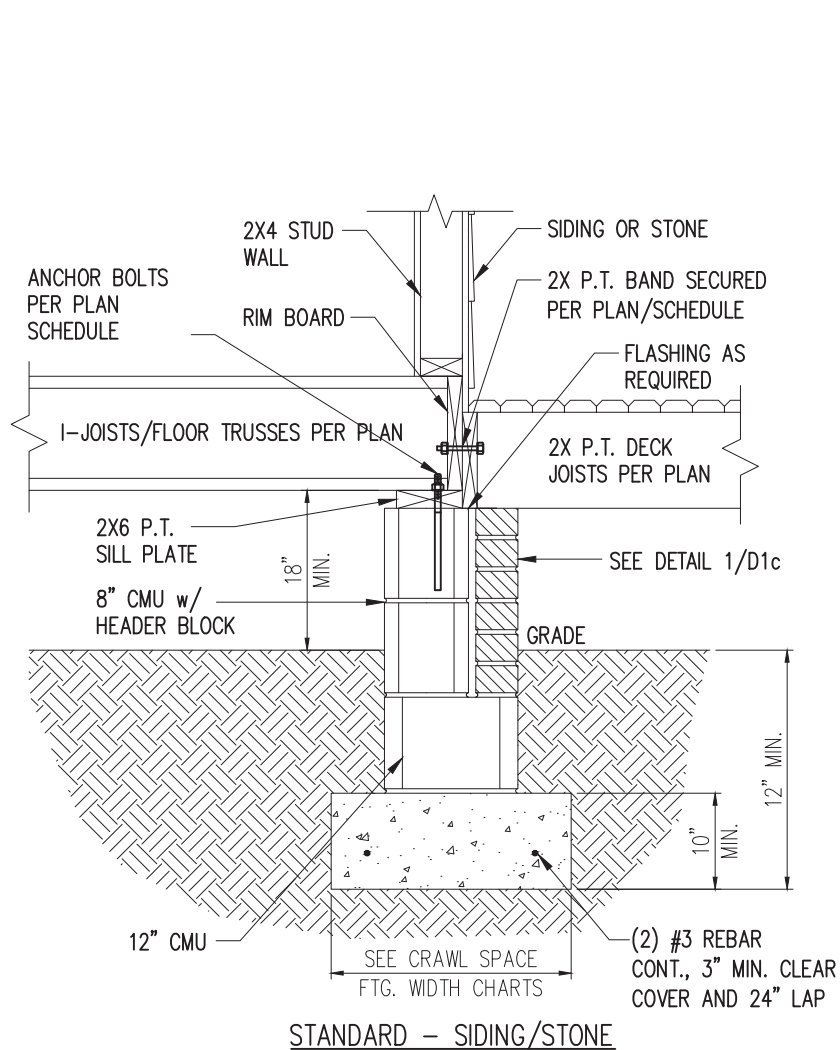
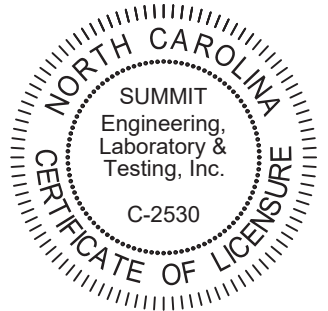
PROJECT  
**Standard Details**  
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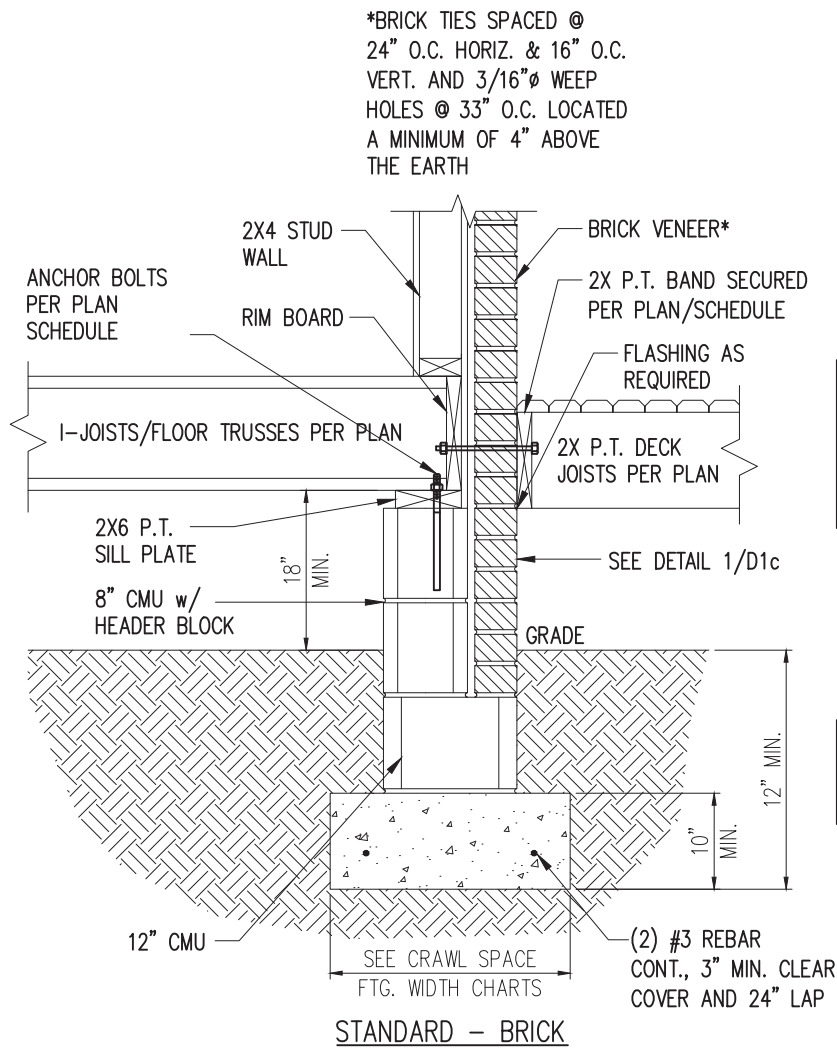
ORIGINAL DRAWING  
 DATE PROJECT #  
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REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D3c**



STANDARD - SIDING/STONE



STANDARD - BRICK

\*BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT. AND 3/16" Ø WEEP HOLES @ 33" O.C. LOCATED A MINIMUM OF 4" ABOVE THE EARTH

DECK ATTACHMENT SCHEDULE (ALL STRUCTURES EXCEPT BRICK)

FASTENERS	MAX. 8'-0" JOIST SPAN	MAX. 16'-0" JOIST SPAN
5/8" GALV. BOLTS w/ NUT & WASHER <sup>b</sup>	(1) @ 3'-6" O.C.	(1) @ 1'-8" O.C.
AND	AND	AND
12d COMMON GALV. NAILS <sup>c</sup>	(2) @ 8" O.C.	(3) @ 6" O.C.

- a. ATTACHMENT INTERPOLATION BETWEEN 8' AND 16' JOIST SPANS IS ALLOWED.
- b. MINIMUM EDGE DISTANCE FOR BOLTS IS 2 1/2".
- c. NAILS MUST PENETRATE THE SUPPORTING STRUCTURE BAND A MINIMUM OF 1 1/2"

DECK ATTACHMENT SCHEDULE (BRICK STRUCTURES)

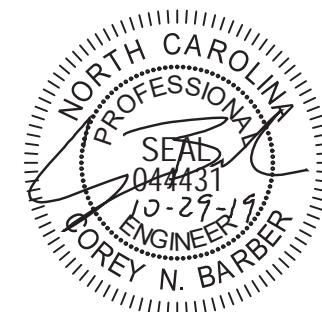
FASTENERS	MAX. 8'-0" JOIST SPAN	MAX. 16'-0" JOIST SPAN
5/8" GALV. BOLTS w/ NUT & WASHER <sup>b</sup>	(1) @ 2'-4" O.C.	(1) @ 1'-4" O.C.

- a. ATTACHMENT INTERPOLATION BETWEEN 8' AND 16' JOIST SPANS IS ALLOWED.
- b. MINIMUM EDGE DISTANCE FOR BOLTS IS 2 1/2".

1 DECK ATTACHMENT DETAIL  
D4c 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.



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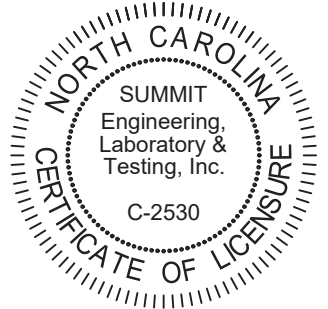
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Standard Details  
Crawl Space Details  
CLIENT  
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DATE PROJECT #  
10/01/19 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
D4c



PROJECT  
**Standard Details**  
**Crawl Space Details**

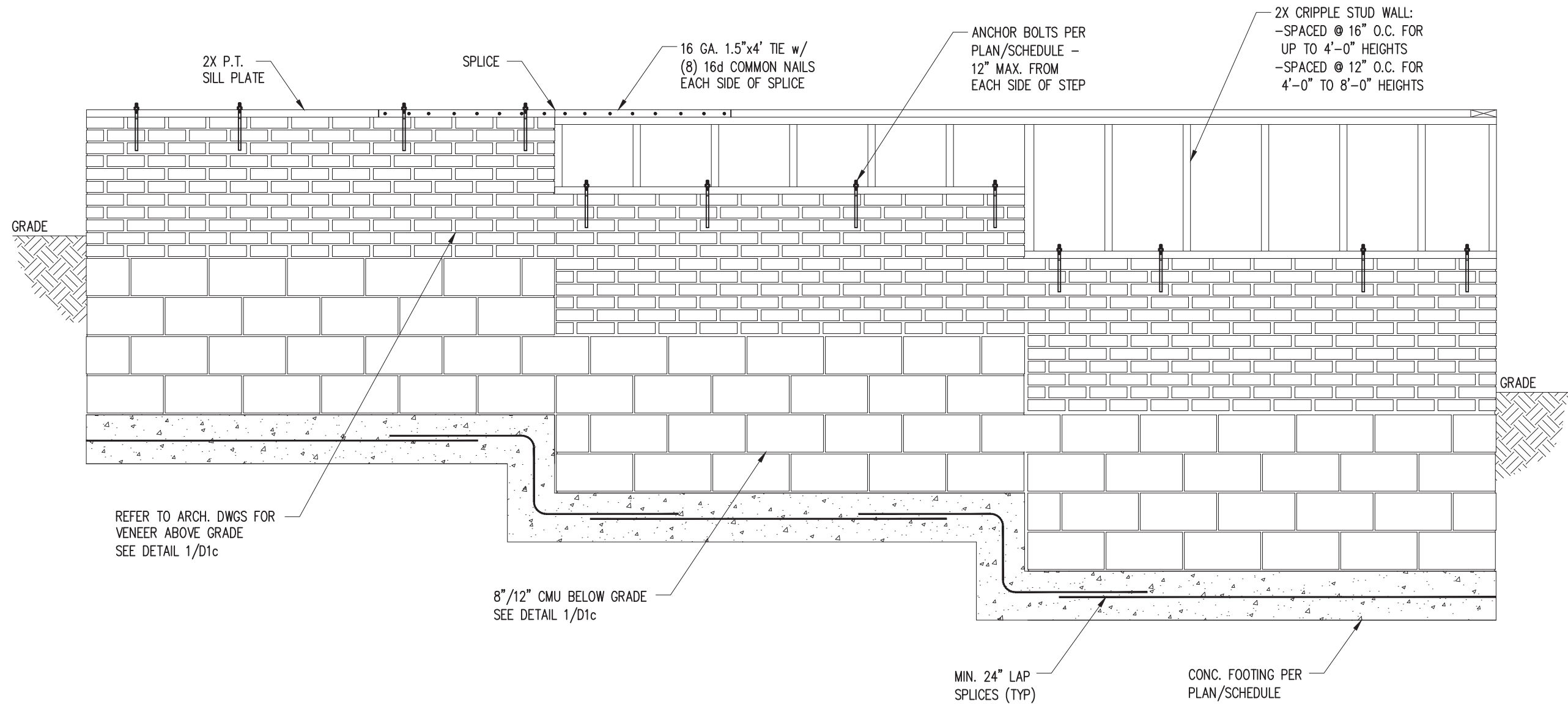
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ORIGINAL DRAWING  
DATE: 10/01/19 PROJECT #: 24512

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SHEET  
**D5c**



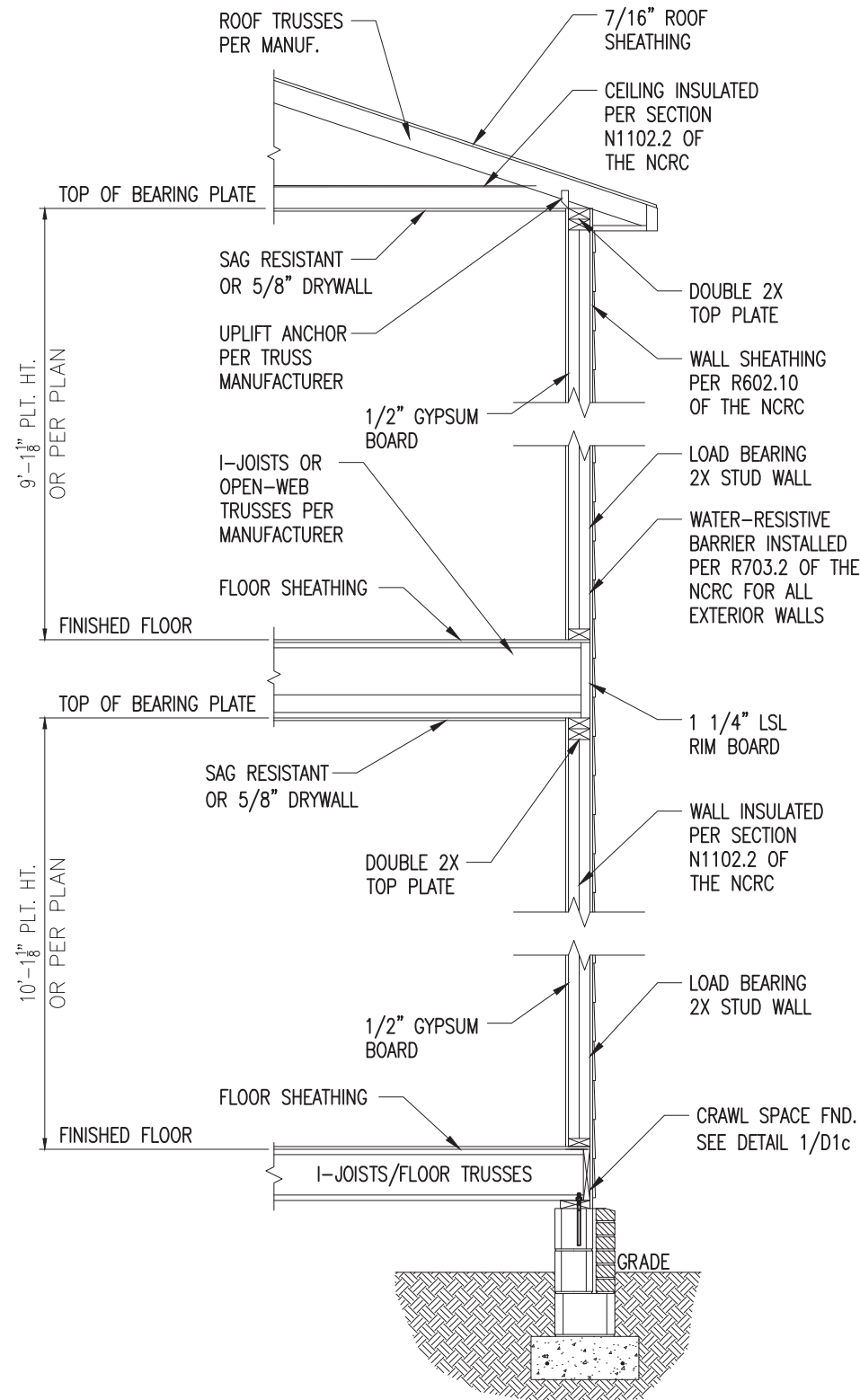
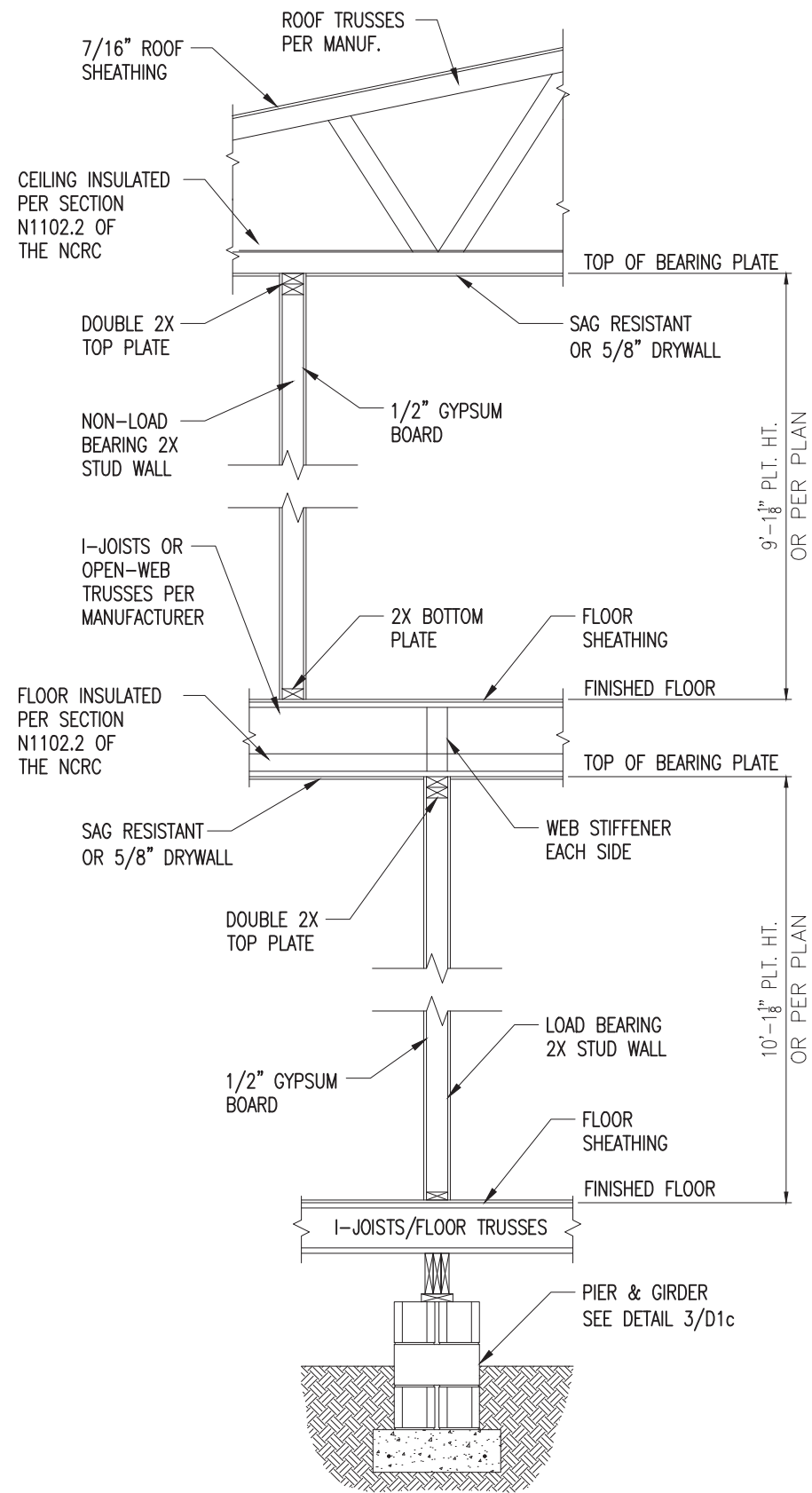
**1** TYP. STEPPED FOUNDATION WALL DETAIL  
D5c 3/4" = 1'-0"

- 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.



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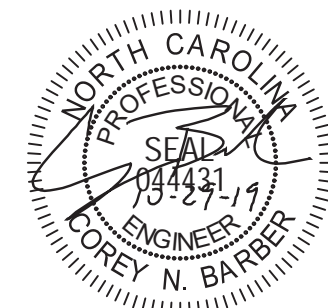




1 TYP. INTERIOR LOAD BEARING WALL SECTION  
 D6c 3/4" = 1'-0"

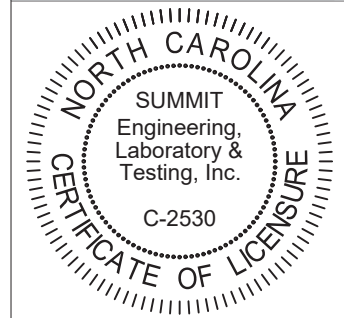
2 TYP. EXTERIOR LOAD BEARING WALL SECTION  
 D6c 3/4" = 1'-0" -SIMILAR w/ BRICK AND STONE  
 -BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT.  
 -MIN. 3/16" Ø WEEP HOLES @ 33" O.C.

- 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.



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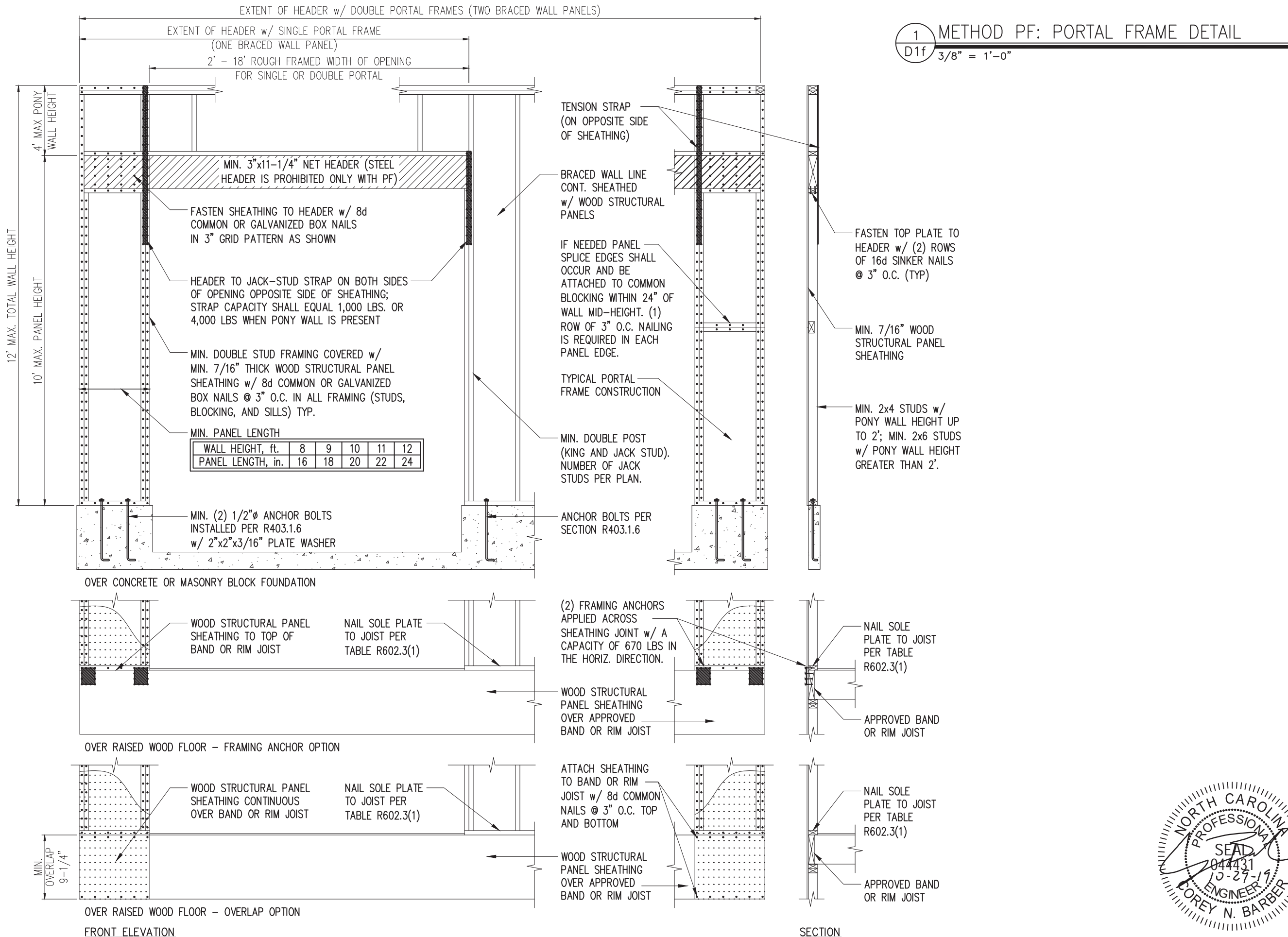
PROJECT  
**Standard Details**  
**Crawl Space Details**  
 CLIENT  
**LGI Homes**  
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CURRENT DRAWING  
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ORIGINAL DRAWING  
 DATE PROJECT #  
 10/01/19 24512

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

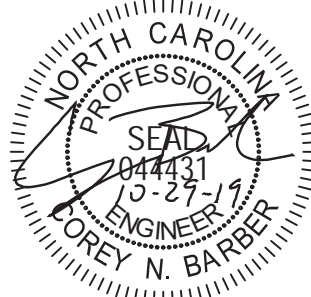
SHEET  
**D6c**



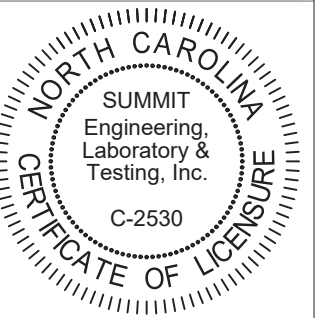
1 METHOD PF: PORTAL FRAME DETAIL  
 D1f 3/8" = 1'-0"

MIN. PANEL LENGTH

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



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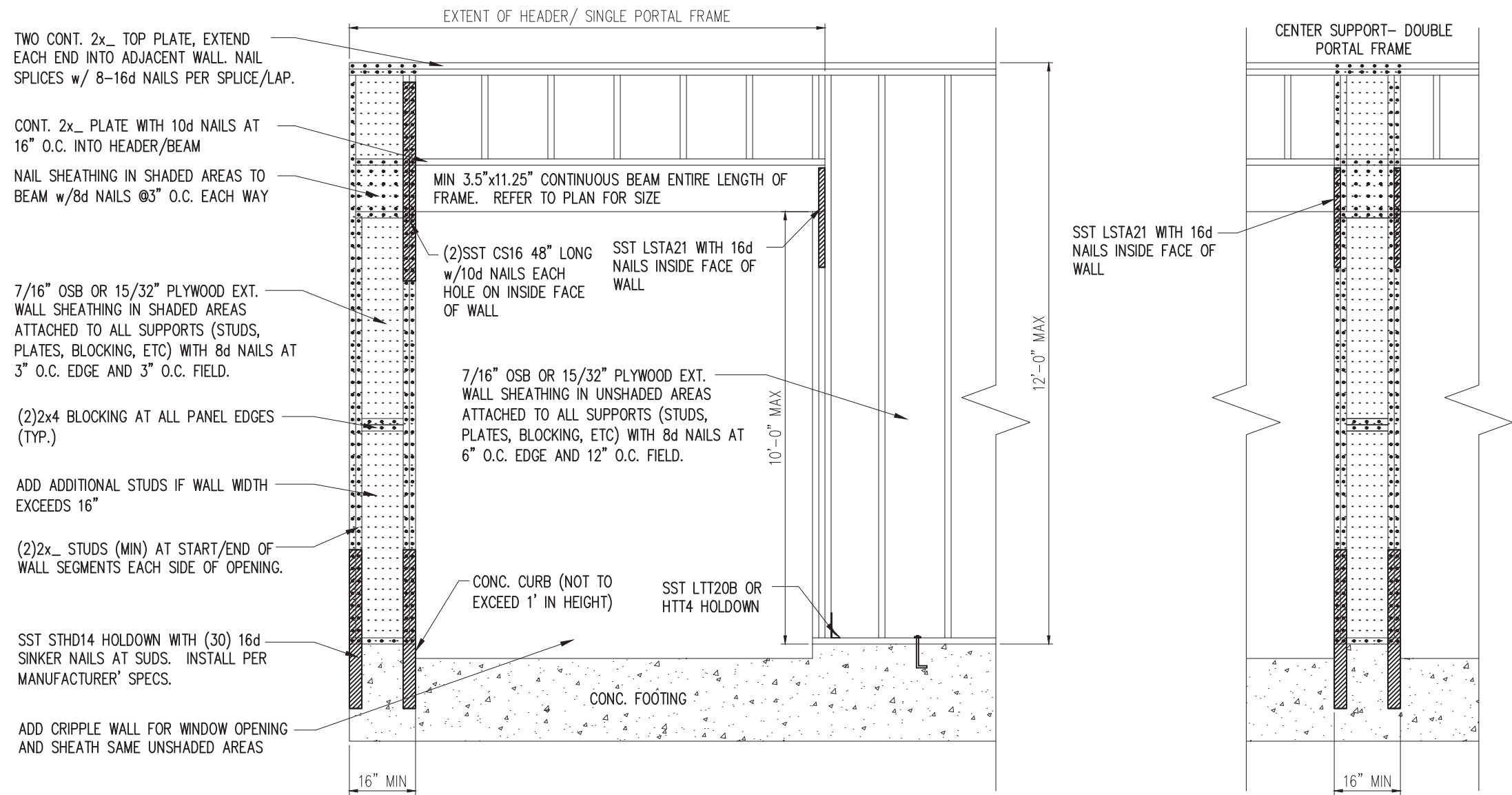
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 DATE: 10/01/19 PROJECT #: 24512

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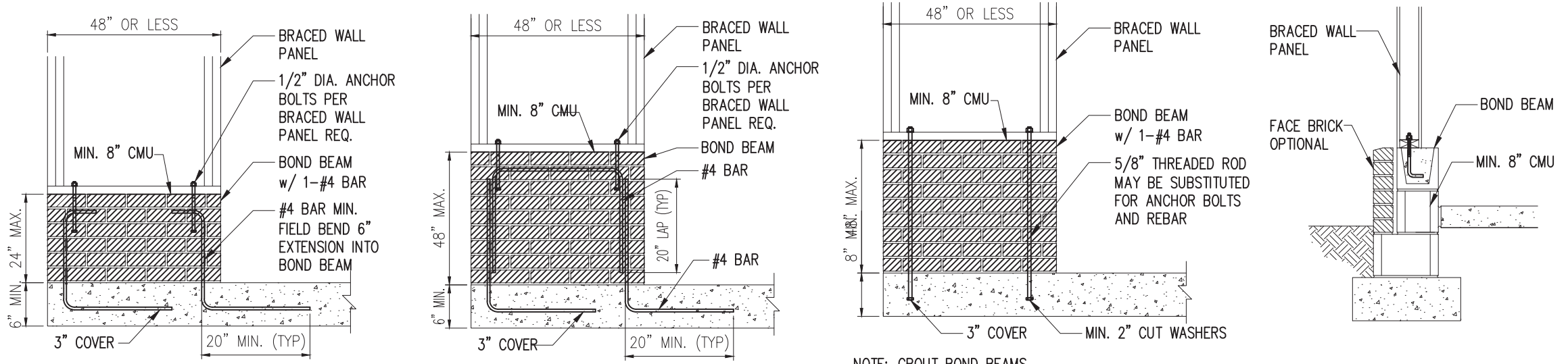
SHEET  
 D1f

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**1** METHOD PF: PORTAL FRAME DETAIL w/ HOLD-DOWNS  
 D2f 3/4" = 1'-0"



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

**2** MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS  
 D2f NTS



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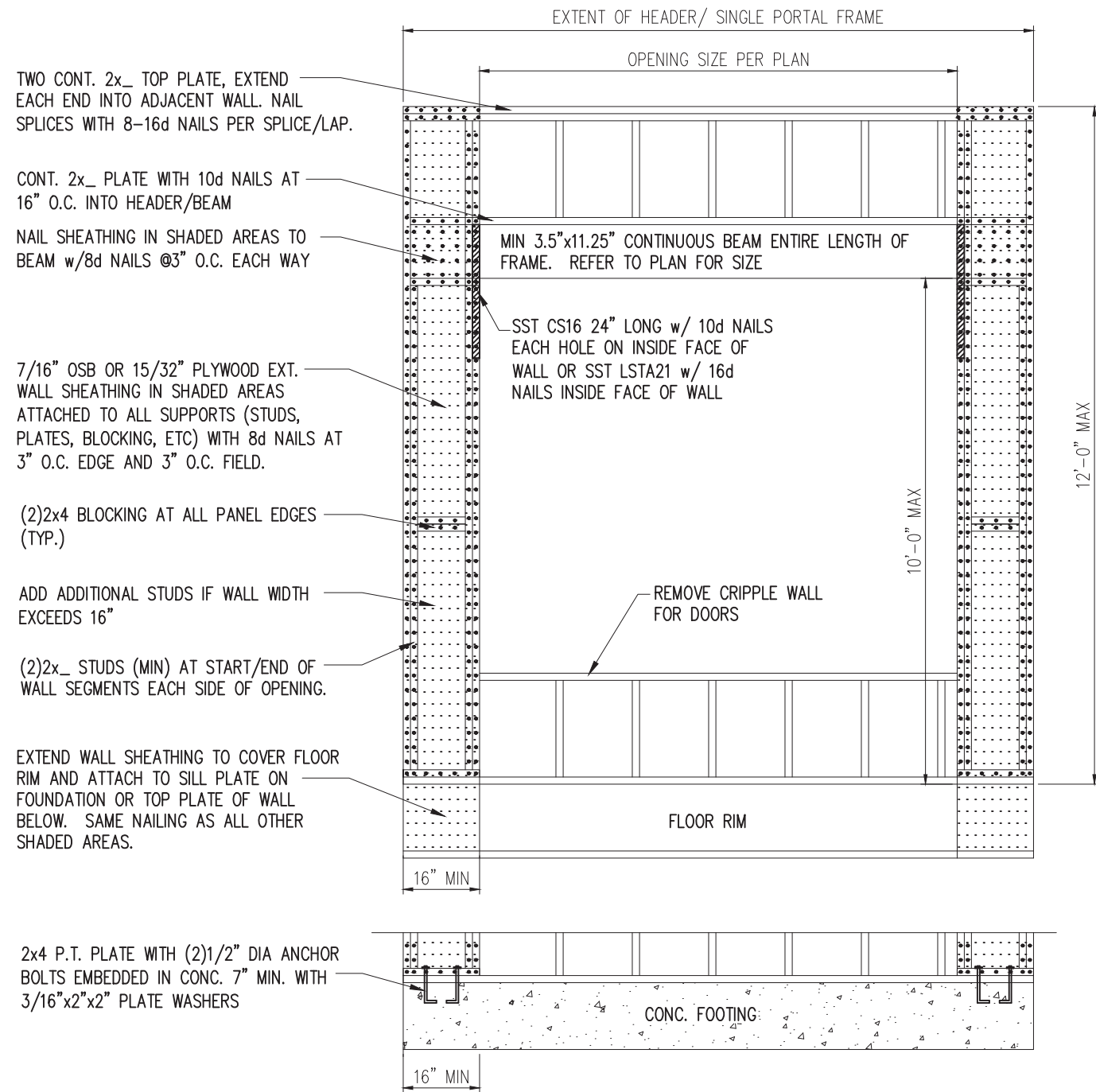
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**Standard Details**  
**Framing Details - Bracing**  
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SHEET  
**D2f**



TWO CONT. 2x\_ TOP PLATE, EXTEND EACH END INTO ADJACENT WALL. NAIL SPLICES WITH 8-16d NAILS PER SPLICE/LAP.

CONT. 2x\_ PLATE WITH 10d NAILS AT 16" O.C. INTO HEADER/BEAM

NAIL SHEATHING IN SHADED AREAS TO BEAM w/8d NAILS @3" O.C. EACH WAY

7/16" OSB OR 15/32" PLYWOOD EXT. WALL SHEATHING IN SHADED AREAS ATTACHED TO ALL SUPPORTS (STUDS, PLATES, BLOCKING, ETC) WITH 8d NAILS AT 3" O.C. EDGE AND 3" O.C. FIELD.

(2)2x4 BLOCKING AT ALL PANEL EDGES (TYP.)

ADD ADDITIONAL STUDS IF WALL WIDTH EXCEEDS 16"

(2)2x\_ STUDS (MIN) AT START/END OF WALL SEGMENTS EACH SIDE OF OPENING.

EXTEND WALL SHEATHING TO COVER FLOOR RIM AND ATTACH TO SILL PLATE ON FOUNDATION OR TOP PLATE OF WALL BELOW. SAME NAILING AS ALL OTHER SHADED AREAS.

2x4 P.T. PLATE WITH (2)1/2" DIA ANCHOR BOLTS EMBEDDED IN CONC. 7" MIN. WITH 3/16"x2"x2" PLATE WASHERS

MIN 3.5"x11.25" CONTINUOUS BEAM ENTIRE LENGTH OF FRAME. REFER TO PLAN FOR SIZE

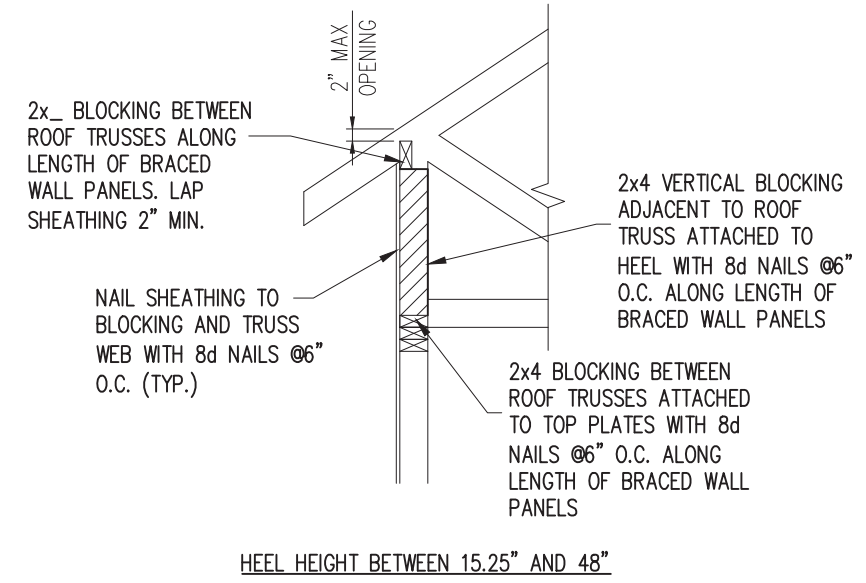
SST CS16 24" LONG w/ 10d NAILS EACH HOLE ON INSIDE FACE OF WALL OR SST LSTA21 w/ 16d NAILS INSIDE FACE OF WALL

REMOVE CRIPPLE WALL FOR DOORS

FLOOR RIM

CONC. FOOTING

**1** METHOD PF: PORTAL FRAME DETAIL  
D3f 3/4" = 1'-0" OPENINGS UNDER 8'-0"



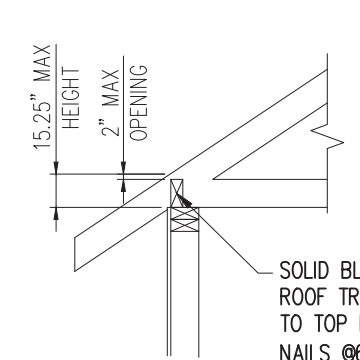
2x\_ BLOCKING BETWEEN ROOF TRUSSES ALONG LENGTH OF BRACED WALL PANELS. LAP SHEATHING 2" MIN.

NAIL SHEATHING TO BLOCKING AND TRUSS WEB WITH 8d NAILS @6" O.C. (TYP.)

2x4 VERTICAL BLOCKING ADJACENT TO ROOF TRUSS ATTACHED TO HEEL WITH 8d NAILS @6" O.C. ALONG LENGTH OF BRACED WALL PANELS

2x4 BLOCKING BETWEEN ROOF TRUSSES ATTACHED TO TOP PLATES WITH 8d NAILS @6" O.C. ALONG LENGTH OF BRACED WALL PANELS

HEEL HEIGHT BETWEEN 15.25" AND 48"

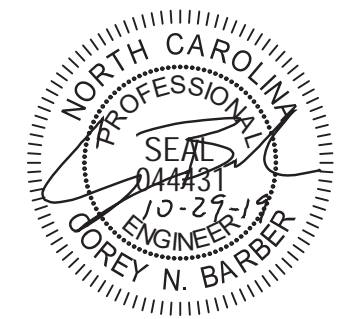


TRUSS BLOCKING NOT REQUIRED WHEN HEEL HEIGHT LESS THAN 9.25"

SOLID BLOCKING BETWEEN ROOF TRUSSES ATTACHED TO TOP PLATES WITH 8d NAILS @6" O.C. ALONG LENGTH OF BRACED WALL PANELS

HEEL HEIGHT BETWEEN 9.25" AND 15.25"

**2** TYP. WALL PANEL TO ROOF TRUSS CONNECTION  
D3f 1" = 1'-0"



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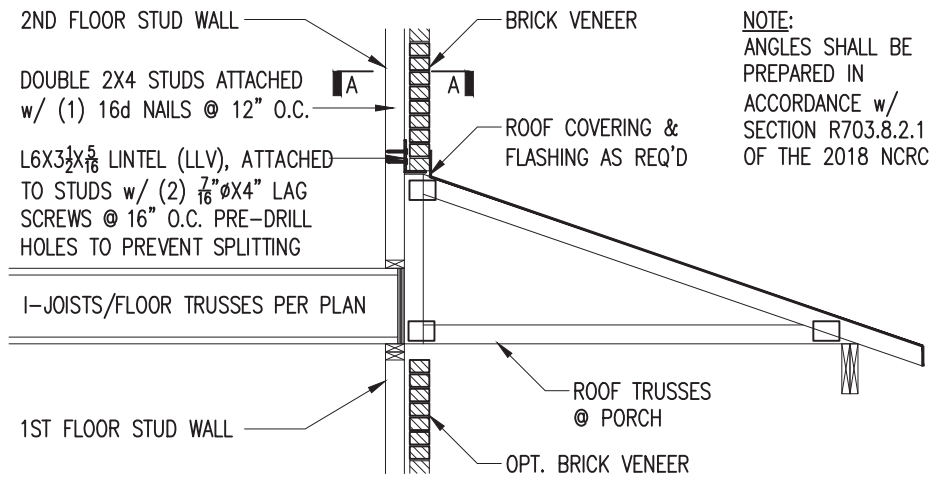
PROJECT  
**Standard Details**  
**Framing Details - Bracing**  
CLIENT  
LGI Homes  
7201 Creedmoor Road, Suite 147  
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ORIGINAL DRAWING  
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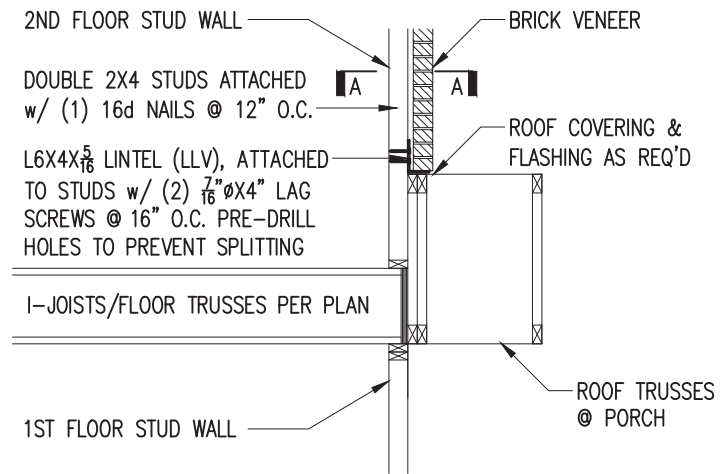
REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**D3f**

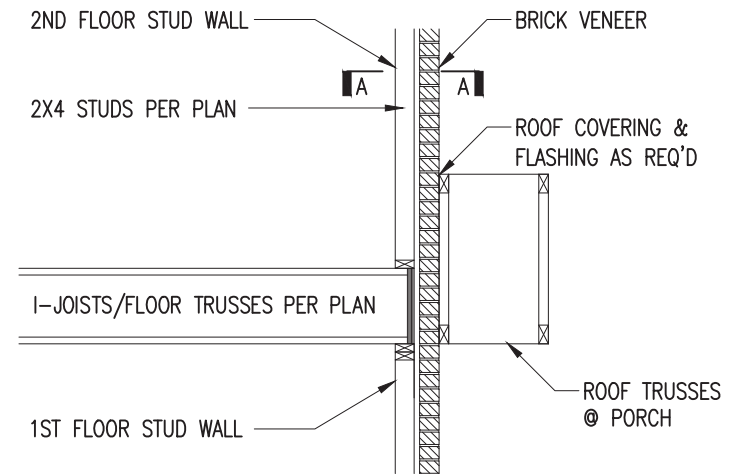


NOTE:  
ANGLES SHALL BE  
PREPARED IN  
ACCORDANCE W/  
SECTION R703.8.2.1  
OF THE 2018 NCRC

TRUSSES PERPENDICULAR TO STUD WALL

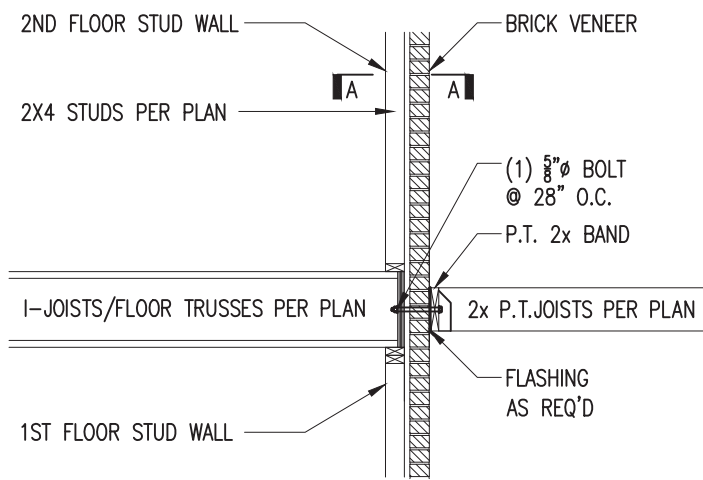


TRUSSES PARALLEL TO STUD WALL

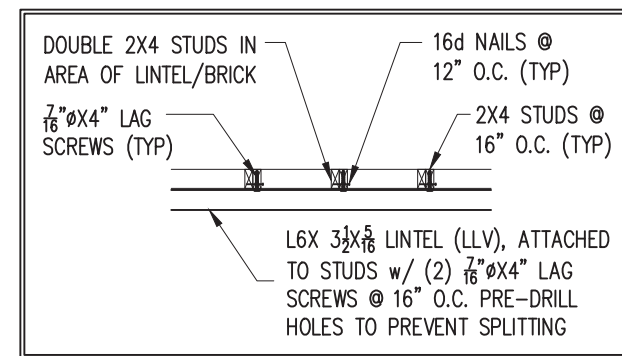


TRUSSES PARALLEL TO STUD WALL  
w/ CONTINUOUS BRICK VENEER

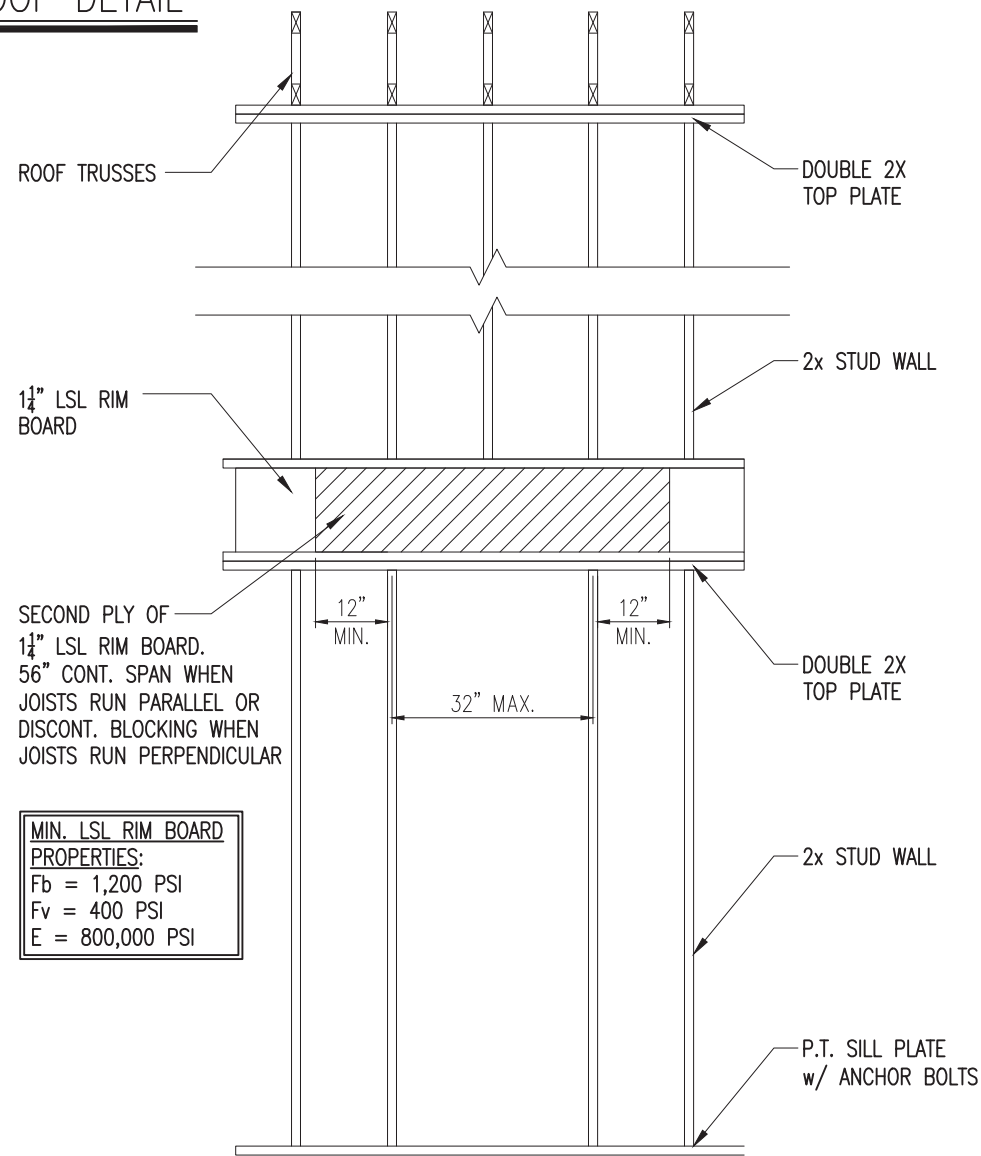
1 BRICK SUPPORT ABOVE STORAGE/PORCH ROOF DETAIL  
D4f NTS



3 BALCONY JOIST ATTACHMENT  
D4f NTS

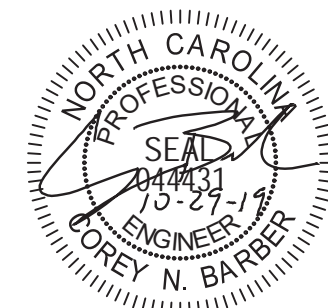


SECTION A-A  
NTS



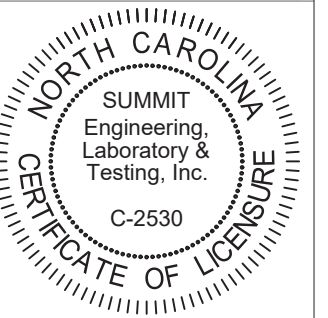
MIN. LSL RIM BOARD  
PROPERTIES:  
Fb = 1,200 PSI  
Fv = 400 PSI  
E = 800,000 PSI

4 TYP. RANGE VENT FRAMING  
D4f NTS



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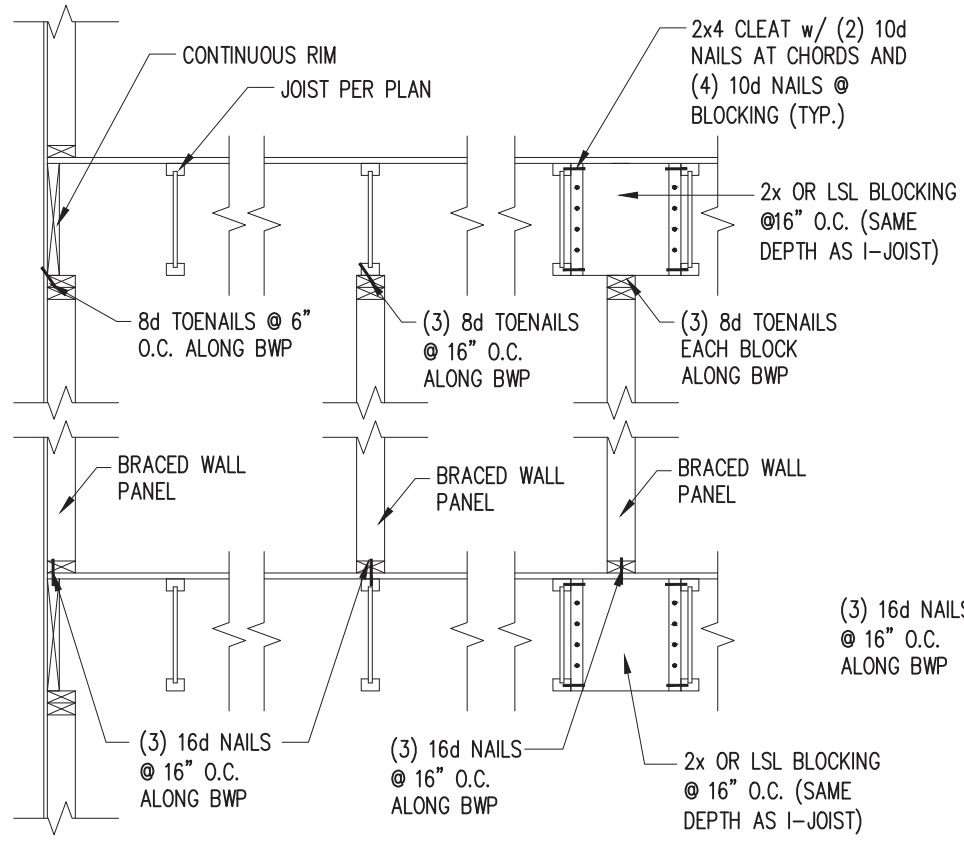
PROJECT  
Standard Details  
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CLIENT  
LGI Homes  
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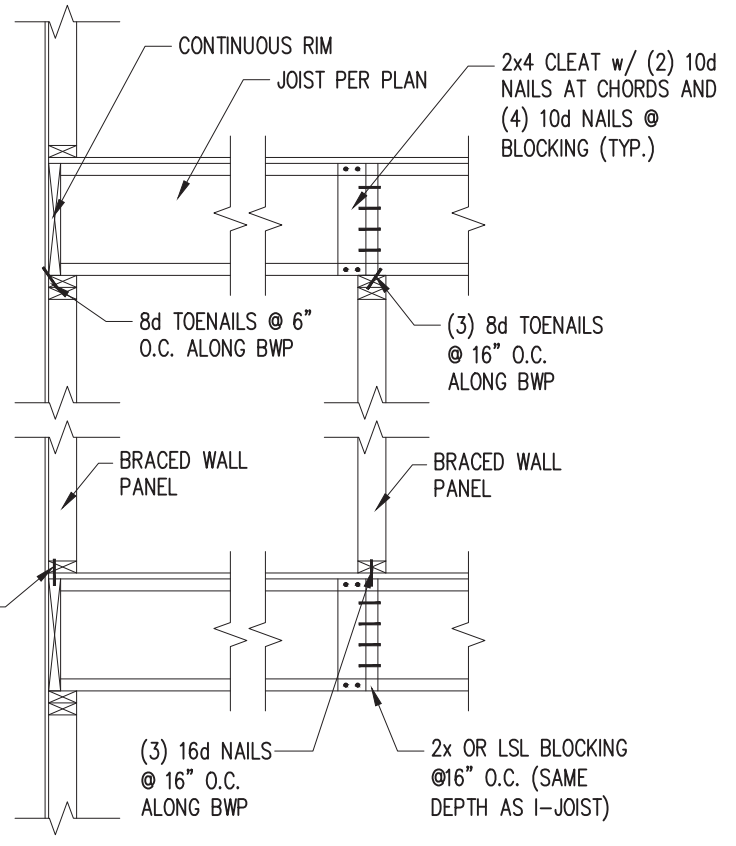
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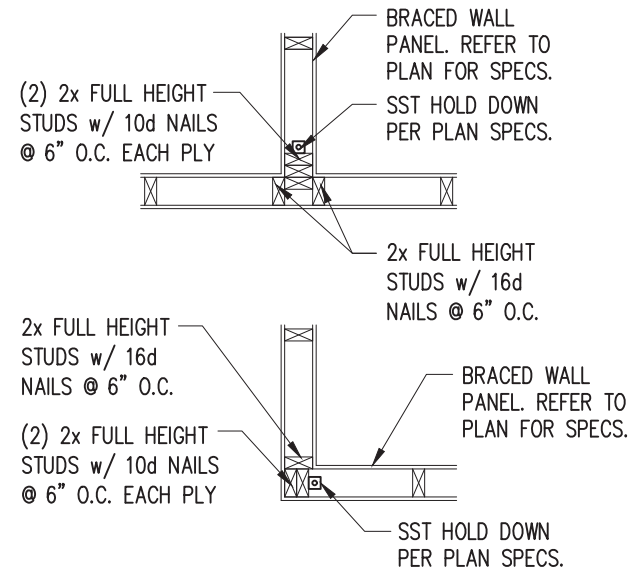
SHEET  
**D4f**



JOISTS PARALLEL TO BRACED WALLS

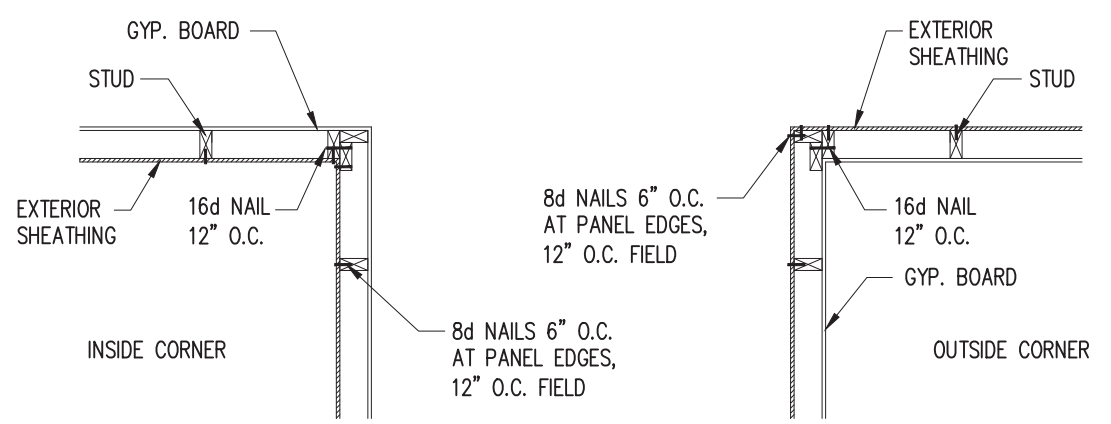


JOISTS PERPENDICULAR TO BRACED WALLS

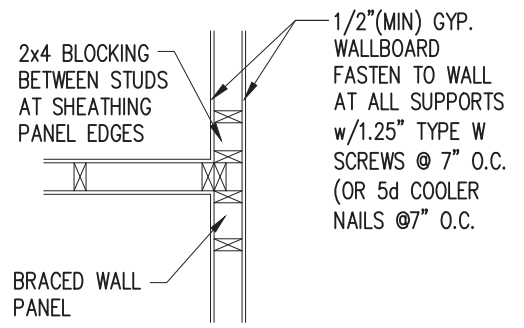


4 TYP. HOLD DOWN DETAIL  
D5f 1" = 1'-0"

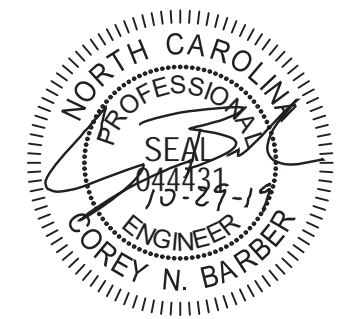
1 TYP. WALL PANEL TO FLOOR/CEILING CONNECTION  
D5f 1" = 1'-0"



2 TYP. EXTERIOR CORNER FRAMING  
D5f 1" = 1'-0"

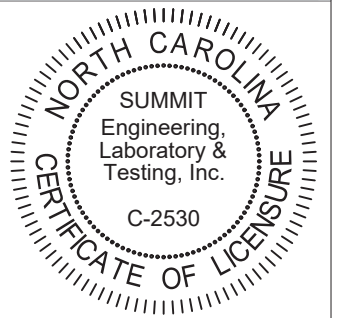


3 INTERIOR 3-STUD WALL INTERSECTION  
D5f 1" = 1'-0"



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Framing Details - Bracing  
CLIENT  
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7201 Creedmoor Road, Suite 147  
Raleigh, NC 27613

CURRENT DRAWING  
DATE: 10/29/19  
SCALE: NTS  
PROJECT #: 1203-08R: 24512R  
DRAWN BY: CNB  
CHECKED BY: WAJ

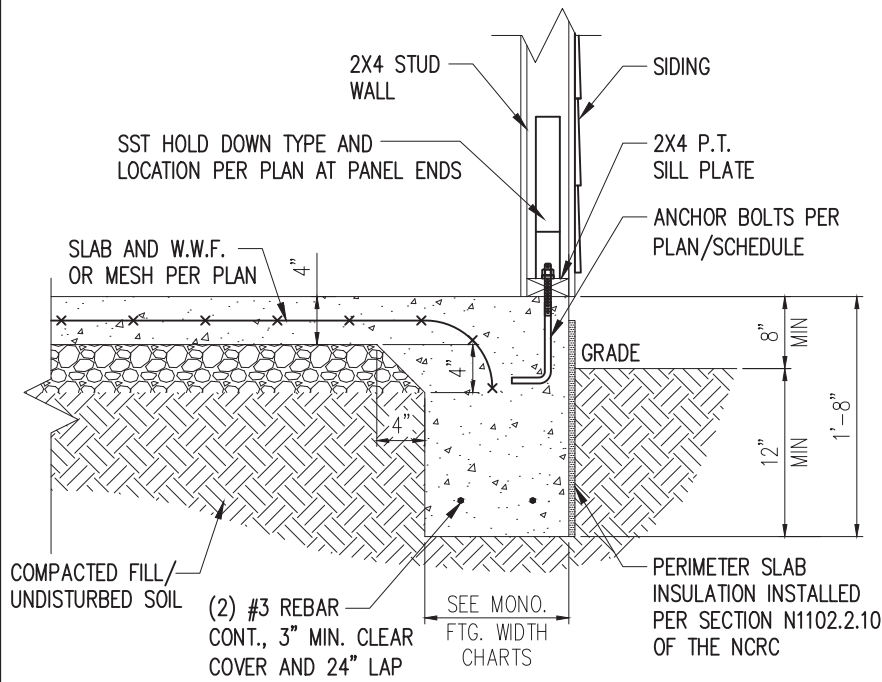
ORIGINAL DRAWING  
DATE: 10/01/19 PROJECT #: 24512

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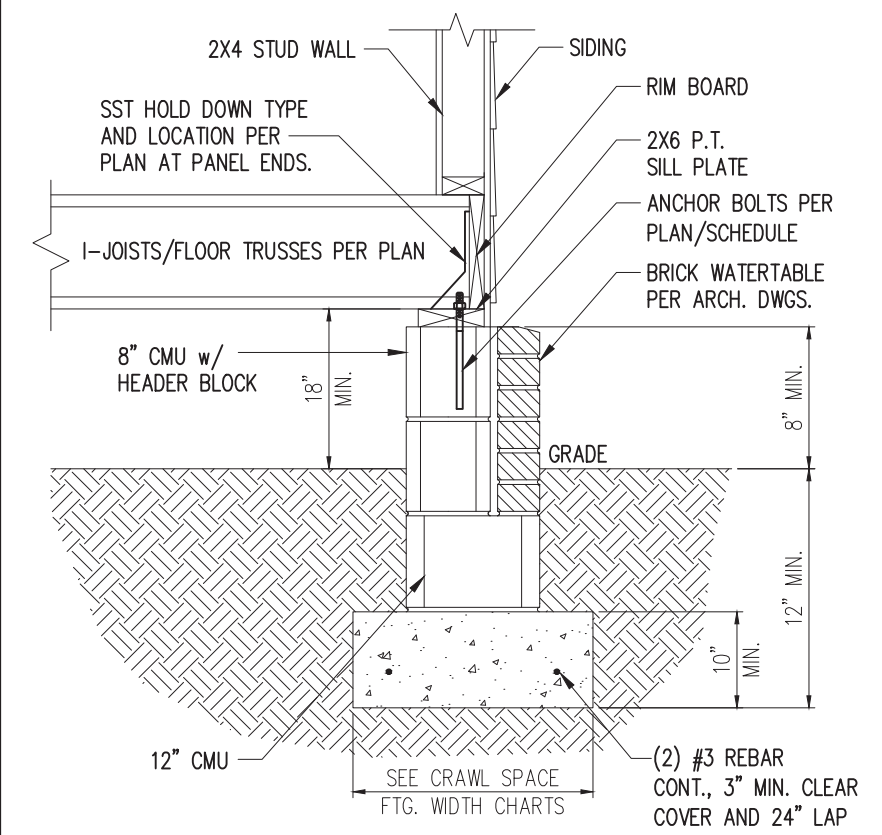
SHEET

D5f

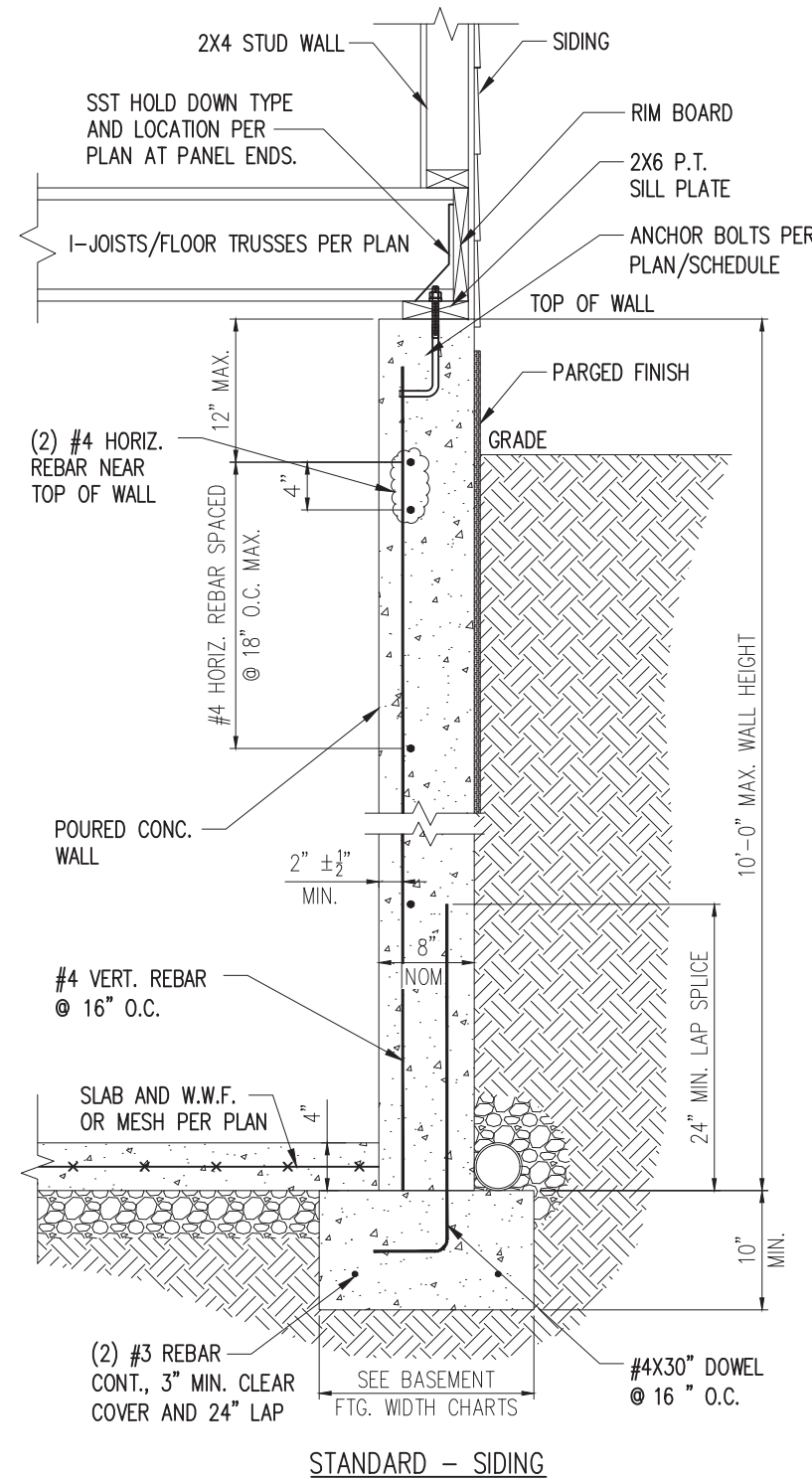




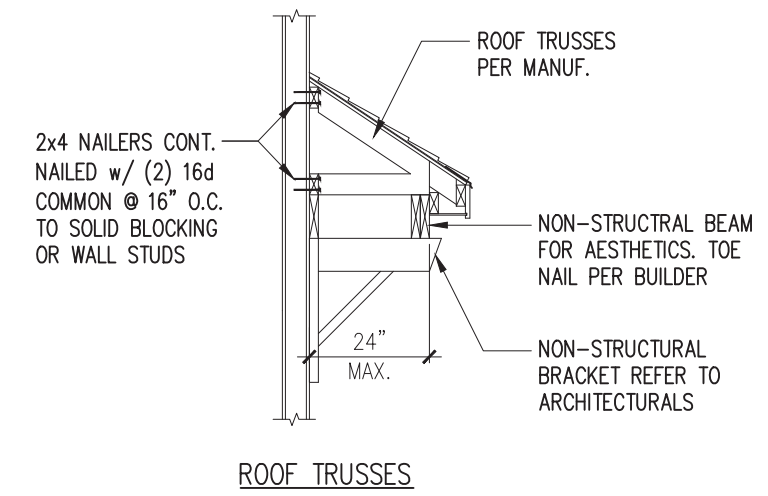
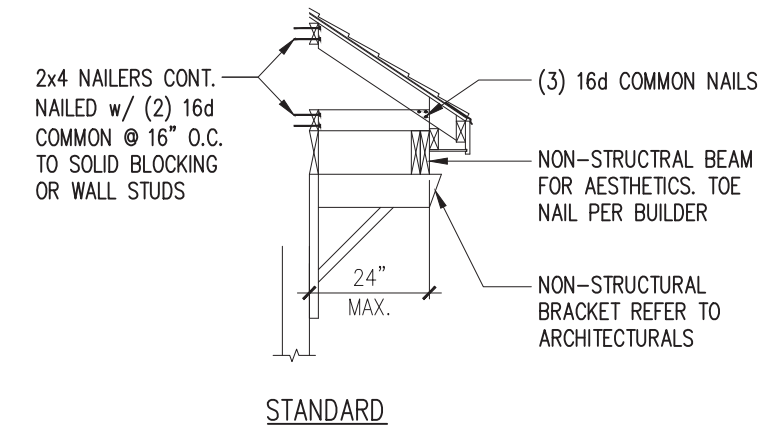
1 SLAB DETAIL w/ HOLD-DOWN  
D6f 3/4" = 1'-0"



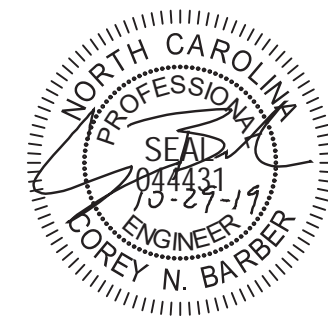
2 CRAWL FOUNDATION WALL DETAIL W/ H-D  
D6f 3/4" = 1'-0"



3 BASEMENT FOUNDATION WALL DETAIL W/ HOLD-DOWN  
D6f 3/4" = 1'-0"



4 GABLE ROOF RETURN  
D6f N.T.S.



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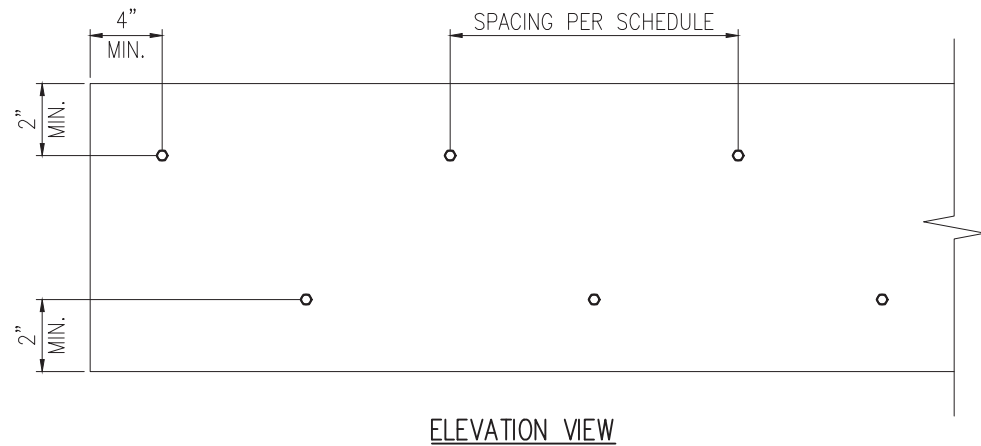
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**D6f**



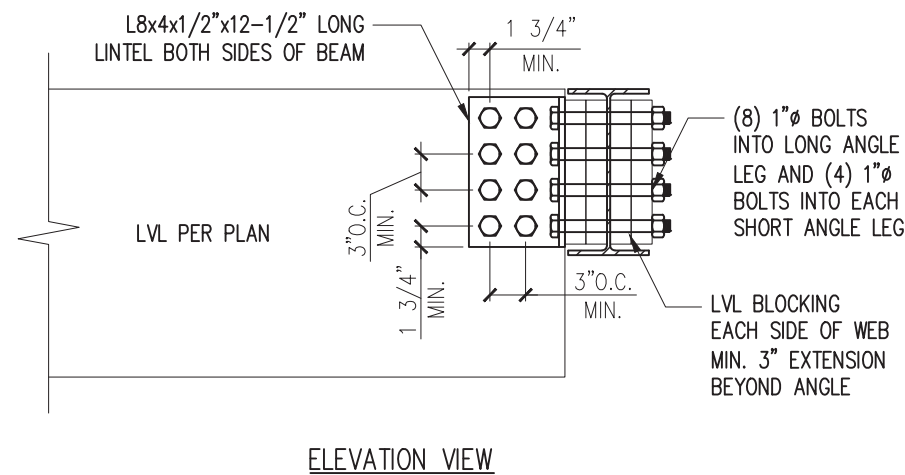
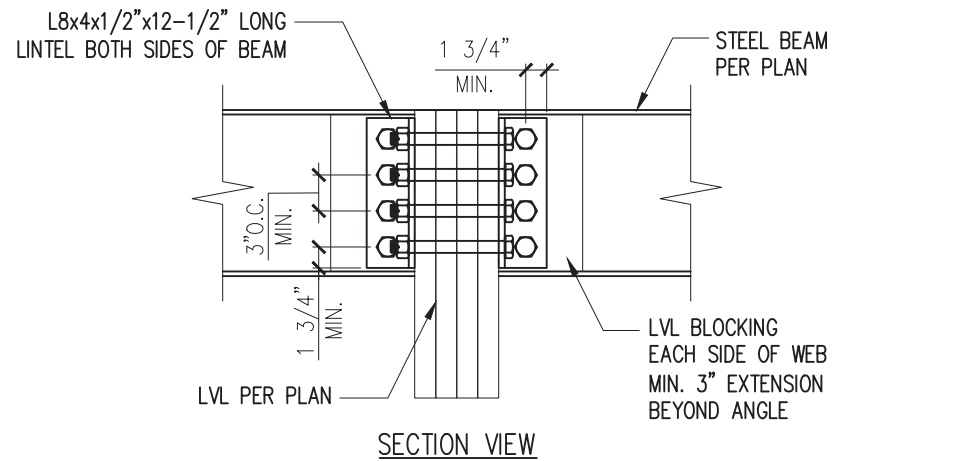
1 MULTI-PLY BEAM CONNECTION DETAIL  
D7f N.T.S

MINIMUM FASTENING REQUIREMENTS FOR TOP- AND SIDE-LOADED MEMBERS

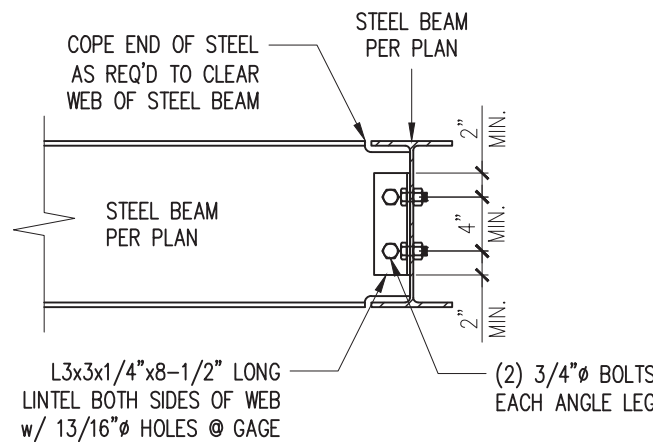
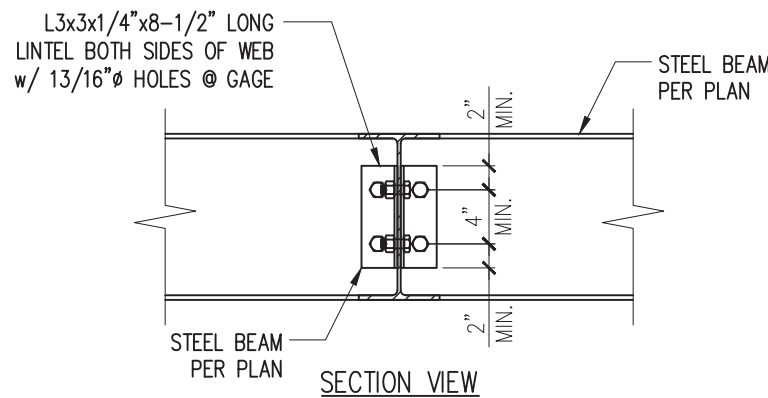
FASTENER TYPE	LVL DEPTH	3 1/2" WIDE		5 1/2" WIDE		7" WIDE	
		2-Ply 1 3/4"	3-Ply 1 3/4"	1 3/4" + 3 1/2"	4-Ply 1 3/4"	2-Ply 1 3/4" + 3 1/2"	2-Ply 3 1/2"
10d (0.128" x 3") Nails	7/4" ≤ d < 14"	3 rows @ 12" o.c.	3 rows @ 12" o.c. (ES)	3 rows @ 12" o.c.	-	3 rows @ 12" o.c. (ES)	-
	d ≥ 14"	4 rows @ 12" o.c.	4 rows @ 12" o.c. (ES)	4 rows @ 12" o.c.	-	4 rows @ 12" o.c. (ES)	-
16d (0.162" x 3 1/2") Nails	7/4" ≤ 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)	-
1/2" Through Bolts	d ≥ 7/4"	2 rows @ 24" o.c.		2 rows @ 24" o.c.		2 rows @ 24" o.c.	
SDS 1/4" x 3 1/2", WS35, 3 3/8" TrussLok		2 rows @ 24" o.c.	2 rows @ 24" o.c. (ES)	2 rows @ 24" o.c.	-	2 rows @ 24" o.c. (ES)	-
SDS 1/4" x 6", WS6		-	-	-	2 rows @ 24" o.c. (ES)		-
5" TrussLok		-	2 rows @ 24" o.c.		-		-
6 3/4" TrussLok		-	-		2 rows @ 24" o.c.		-

NOTES:

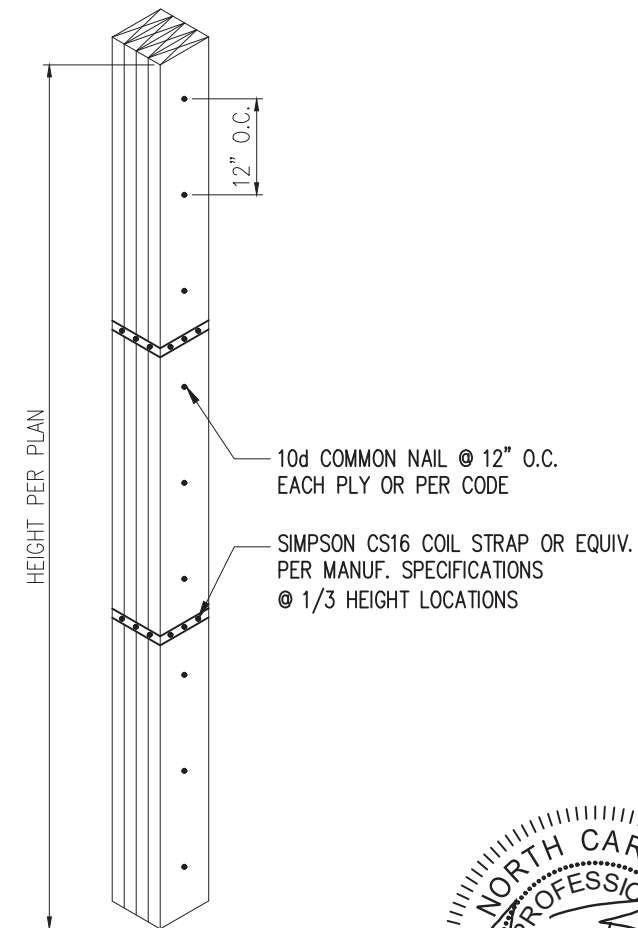
- All fasteners must meet the minimum requirements in the table above. Side-loaded multiple-ply members must meet the minimum fastening and side-loading capacity requirements given on page 48.
- Minimum fastening requirements for depths less than 7/4" require special consideration. Please contact your technical representative.
- 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).



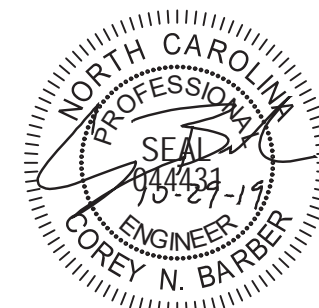
2 LVL TO STEEL DETAIL  
D7f N.T.S



3 STEEL TO STEEL DETAIL  
D7f N.T.S

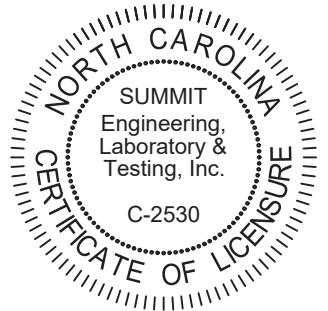


4 MULTI-PLY STUD CONNECTION DETAIL  
D7f N.T.S 4+ PLYS



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