WILMINGTON -A, B, C

PLAN ID: 2800 - LEFT HAND - NORTH CAROLINA

DATE: **REVISION:** 09/18/2017 **INITIAL RELEASE OF PLANS** 10/20/2017 CLIENT REVISIONS REMOVED PORCH RAILING FROM ELEVATION 'C' 11/01/2017 FLATTENED BAR TOP AT KITCHEN REVISED SIZE OF WINDOW AT BASE OF STAIRS REVISED MASTER BEDROOM TO OWNER'S BEDROOM 02/07/2018 **ELECTRICAL REVISIONS** 06/11/2018 **CLIENT REVISIONS** CLIENT REVISIONS 11/14/2018 01/09/2019 **REVISED CODE REFERENCES** 07/23/2019 **CLIENT REVISIONS** 12/13/2019 **CLIENT REVISIONS** 02/28/2020 **CLIENT REVISIONS**

cs	ARCHITECTURALS - COVERSHEET
)	ARCHITECTURALS - QUICK VIEW
1A	ARCHITECTURALS - ELEVATIONS A
1B	ARCHITECTURALS - ELEVATIONS B
1C	ARCHITECTURALS - ELEVATIONS C
3A	ARCHITECTURALS - FLOOR PLANS A
3B	ARCHITECTURALS - FLOOR PLANS B
3C	ARCHITECTURALS - FLOOR PLANS C
4	ELECTRICAL - FLOOR PLANS

REVIEWER	RS STAMP L	OCATION		

MODEL 'WILMINGTON' SQUARE FOOTAGES					
AREA		ELEV 'B'			
Ist FLOOR		1225 SF			
2nd FLOOR		1595 SF			
TOTAL LIVING	٧.	2820	× ,		
GARAGE		411 SF			
PORCH		72 SF			

MORGAN NORTH LOT

TBD YOUNG FARM DR.

LILLINGTON, NC 27546

CRAWL FOUNDATION





WILMINGTON

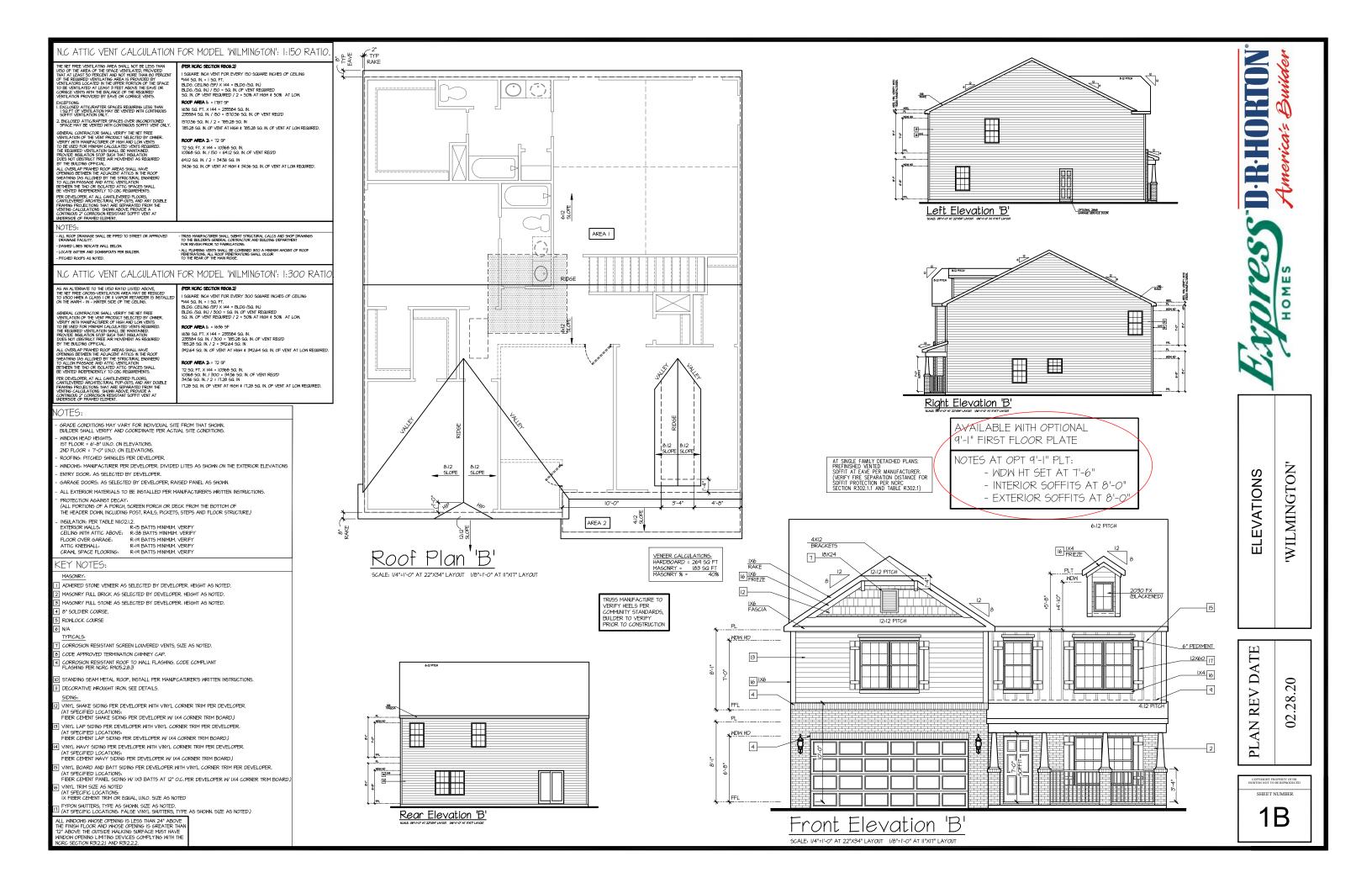
COVERSHEET

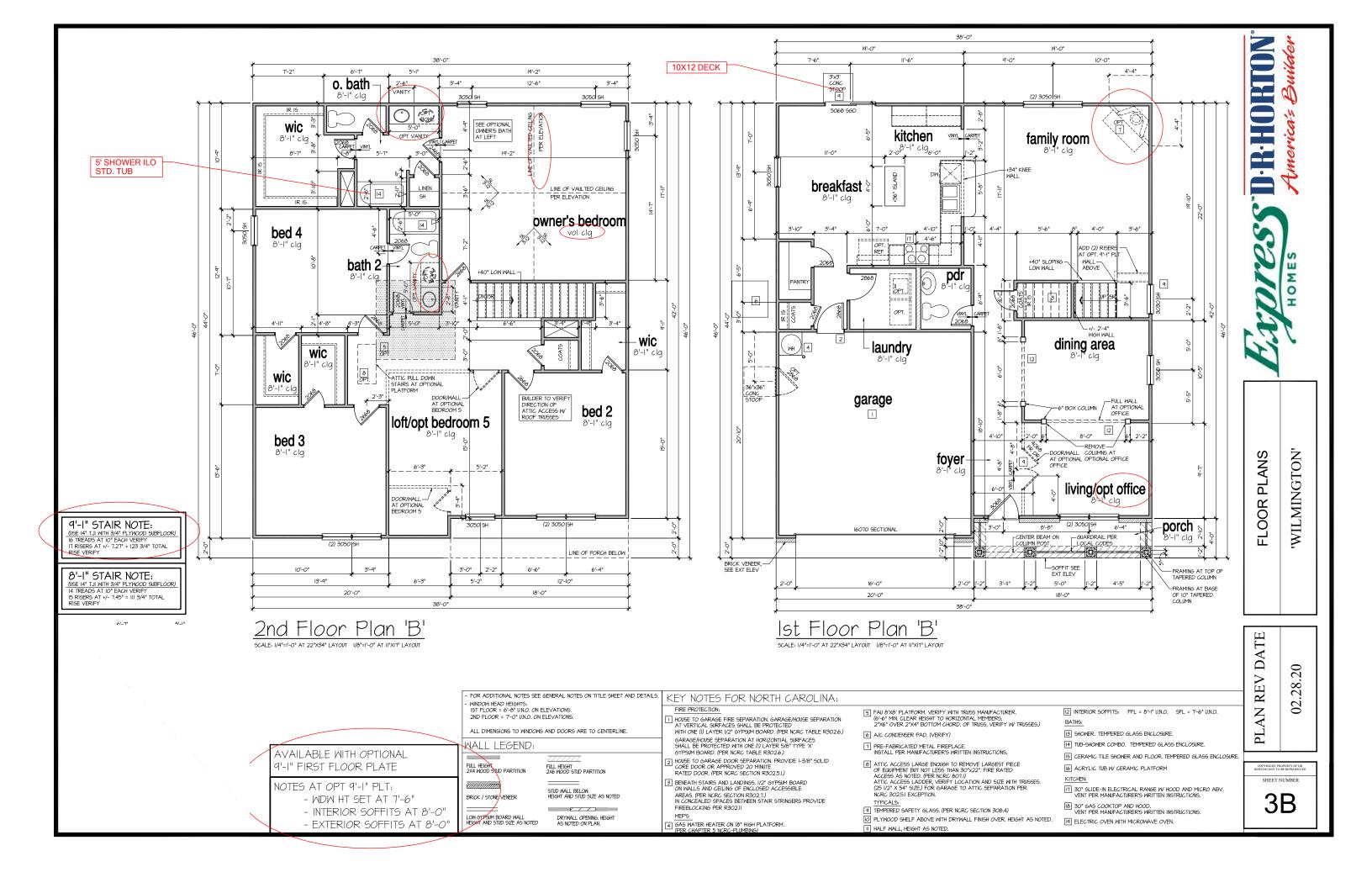
PLAN REV DATE

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HORTON NOT TO BE REPROTACED

SHEET NUMBER

CS





- PROVIDE 2ND GFI/LIGHT AT OPT BOWL o. bath 6FI⊅ PH wic kitchen 8'-1" clg family room 8'-1" clg GFID GFID BELOW FOR PROVIDE ADEQUATE SUPPORT FOR FUTURE CLNG FAN breakfast ~þ PROVIDE ADEQUATE SUPPORT FOR FUTURE CLNG FAN owner's bedroom ABOVE FOR HOOD/ MICRO bed 4 bath 2-PROVIDE ADEQUATE SUPPORT FOR FUTURE CLNG FAN 220∨ 👄 A/C DISCONNECT, 30" MIN. CLEAR PROVIDE WP/GFI PER LOCAL CODE wic dining area laundry wic ₩iC 8'-|" clo \ garage bed 2 \. <mark>\$ ф</mark> 8'-1" clg loft/opt bedroom 5 KEYLESS bed 3 PROVIDE ADEQUATE SUPPORT FOR FUTURE CLING FAN PROVIDE ADEQUATE SUPPORT FOR FUTURE CLNG FAN ∯*GDO* PREWIRE *O*NLY foyer-PROVIDE ADEQUATE SUPPORT FOR FUTURE CLNG FAN living/opt office NOTE: SIZE SERVICE PANEL PER BUILDERS SPECIFICATIONS AND LOCAL CODES -porch 8'-I" clg TO SWITCH COACH LIGHT, CENTERLINE 6'-0" COACH LIGHT, CENTERLINE 6'-O" A.F.F.



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

LEGEND:

ф	DUPLEX OUTLET		CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
ØwP/GFI	WEATHERPROOF GFI DUPLEX OUTLET	ф	WALL MOUNTED INCANDESCENT
∯ 6FI	GROUND-FAULT CIRCUIT-INTERRUPTER DUPLEX OUTLET		LIGHT FIXTURE RECESSED INCANDESCENT LIGHT FIXTURE
ф	HALF-SWITCHED DUPLEX OUTLET	φ.	(VP) = VAPOR PROOF
₽ 220∨	220 VOLT OUTLET	•	CEILING MOUNTED LED LIGHT FIXTURE (VP) = VAPOR PROOF
0	REINFORCED JUNCTION BOX	•	EXHAUST FAN (VENT TO EXTERIOR)
\$	WALL SWITCH	-💝-	EXHAUST FAN/LIGHT COMBINATION (VENT TO EXTERIOR)
\$3	THREE-WAY SWITCH		FLUORESCENT LIGHT FIXTURE
\$4	FOUR-WAY SWITCH		EBOOPSEODERT BIOTE EDITORS
CH	CHIME5		TECH HUB SYSTEM
9	PUSHBUTTON SWITCH	X	CEILING FAN (PROVIDE ADEQUATE SUPPORT)
99	IIOV SMOKE ALARM W BATTERY BACKUP	V \	CEILING FAN WITH INCANDESCENT
609	IIOV SMOKE ALARM CO2 DETECTOR COMBO	X	LIGHT FIXTURE (PROVIDE ADEQUATE SUPPORT)
Ð	THERMOSTAT	∞	GAS SUPPLY WITH VALVE
PH	TELEPHONE	<u> </u>	
ĪV	TELEVISION	→	HOSE BIBB
	ELECTRIC METER	-+GM	I/4" WATER STUB OUT
ı	ELECTRIC PANEL		
	DISCONNECT SWITCH	-	WALL SCONCE

2nd Floor Plan 'A'
scale. 1/4*=1*-0* AT 22*34* LAYOUT 1/8*=1*-0* AT 11*X17* LAYOUT

Ist Floor Plan 'A'
SCALE: 1/4"=1"-0" AT 22"×34" LAYOUT 1/8"=1"-0" AT 11"X17" LAYOUT

ALL ELEVATIONS ARE SIMILAR

TO FLOOD ABOVE FLOOR PLANS
"WILMINGTON"

D-R-HORTON

tmerica's

OME

PLAN REV DATE 02.28.20

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SHEET NUMBER

DESIGN SPECIFICATIONS:

Construction Type: Commerical □ Residential □

Applicable Building Codes:

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

SIGN L	uaus:		
~ 1.	Roof	Live Loads	
		Conventional 2x	
	12.	Truss	20 PS
		I2.I. Attic Truss	60 P
2.	Roof	Dead Loads	
	2.1.	Conventional 2x	10 PS
	2.2.	Truss	20 PS
3.	Snow		15 PSF
	3.1.	Importance Factor	lØ
4.	Floor	Live Loads	
	4.1.	Typ. Dwelling	40 PS
		Sleeping Areas	
		_ / ~	

43. D**e**cks 4.4. Passenger Garage _____ 5. Floor Dead Loads 10 PSF 5.1. Conventional 2x. 53. Fl**o**or Truss ...

6. Ultimate Design Wind Speed (3 sec. gust) _____ 61. Exposure ___ 62. Importance Factor ___ 63. Wind Base Shear 6.3.1. Vx =
6.3.2. Vy =
7. Component and Cladding (in PSF)

MEAN ROC HT.	UP TO 30'	30'1"-35'	35'1"-40'	40 'I"-45'
ZONE 1	16.7,-18.0	17.5,-18.9	18.2,-19.6	1 8 .7,-2 <i>0</i> 2
ZONE 2	16.7,-21.0	17.5,-22.1	182,-22.9	8 .7,-23.5
ZONE 3	16.7,-21.0	17.5,-22.1	182,-22.9	18 .7,-23.5
ZONE 4	182,-19.0	19.2,-200	19.9,-20.7	20.4,-21.3
ZONE 5	18.2,-24.0	19.2,-25.2	19.9,-26.1	20.4,-26.9

8. Seismic

Seismi	C	
8.1.	Site Class	D
82.	Design Category	¢
83.	Importance Factor	Ø
8.4.	Seismic Use Group	1
85.	Spectral Response Acceleration	
	8 5.1. Sms = %a	

8.52.9ml = %g 8.6. Seismic Base Shear

8.6.2.Vu =

81 Basic Structural Sustem (check one) □ Bearing Wall
 □ Building Frame
 □ Moment Frame

□ Dual w/ Special Moment Frame
□ Dual w/ Intermediate R/C or Special Steel ☐ Inverted Pendulum



STRUCTURAL PLANS PREPARED FOR:

WILMINGTON - LH

PROJECT ADDRESS

OUNER: DR Horton, Inc. 8001 Arrowridge Blvd. Charlotte NC 28273

DESIGNER:

GMD Design Group 102 Fountain Brook Circle Cary, NC 27511

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 4 Testing, P.C. before construction begins.

PLAN ABBREVIATIONS:

AB	ANCHOR BOLT	PŤ	PRESSURE TREATED
ΔĦ	ABOVE FINISHED FLOOR	RS	ROOF SUPPORT
CJ	CEILING JOIST	9C	STUD COLUMN
CLR	CLEAR	SJ	SINGLE JOIST
DJ	DOUBLE JOIST	SPF	SPRUCE PINE FIR
D6P	DOUBLE STUD POCKET	55T	SIMPSON STRONG-TIE
EE	EACH END	SYP	SOUTHERN YELLOW PINE
₽W	EACH WAY	TJ	TRIPLE JOIST
NT5	NOT TO SCALE	TSP	TRIPLE STUD POCKET
oc	ON CENTER	TYP	TYPICAL
P9F	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
PSI	POUNDS PER SQUARE INCH	WWF	WELDED WIRE FABRIC

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

SHEET LIST:

Sheet No.	Des c ription			
CSI	Cover Sheet, Specifications, Revisions			
SI.Øm	Monolithic Slab Foundation			
S1.Øs	Stem Wall Foundation			
51. 0¢	Crawl Space Foundation			
51. 06	Basement, Foundation			
52.Ø	Basement Plan			
53.Ø	First Floor Plan			
54.0	Second Floor Plan			
95.Ø	Roof Framing Plan			

DR HORTON PROJECT SIGN-OFF:

Mana g er	Signatur e
Operations	
Operations System	
Operations Product Develo p ment	

summit

SUMMIT Engineering Laboratory & Testing, P.C

PROJECT: Wilmington -

TH CARO SEAL (1048823) MGINE

SCALE: 22x34 1/4"=1"-@"

PROJECT * 528-96R: 11862R4 DRAWN BY: OUF

STRUCTURAL FIBERBOARD PANELS:

Fabrication and placement of structural fiberboard sheathing shall be in accordance with the applicable AFA standards. All structurally required fiberboard sheathing shall bear the

recommended in accordance with the APA.

- mark of the Art.

 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
- Sheathing shall have a 1/8" gap at panel ends and edges are recommended in accordance with the AFA.

REVISION LIST:

R evision No.	Date	Project No.	Descri p tion
1	5.16.17	1261IR	Revised garage slab note. Revised roof overframing. Verified roof truss layouts provided by 84 Lumber on 3281. Verified floor joist layouts provided by 84 Lumber on 8215
2	6.14.17	12611R2	Added stem wall foundation plan
3	4.23.18	17862	Added crawl space foundation plan
4	7.10.18	17862R	Revised per new architectural files dated 6.12.18
5	8.30.18	17862R2	Added dimensions at tapered porch columns
6	10.5.18	17862R3	included stick framing option at extended porch
1	11.30.18	17862R4	Revised NC version only for 2018 NCRC
_			
_			

- GENERAL STRUCTURAL NOTES:

 I. 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 contracto shall provide all required temporary bracing during construction to stabilize the structure.
- The SER is not responsible for construction sequences, method or techniques in connection with the construction of this structure. The SFR will not be held responsible for the contractor's failure to conform to the contract documents should any non-conformities occur.
- Anu structural elements or details not fully developed on the 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 shap drawings for dimensions, or for actual field conditions, is not the responsibility of the SER or SUMMIT.
- 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 fo 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 local building codes.

 All structural assemblies are to meet or exceed to requirements of the current local building code.

FOUNDATIONS:

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 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.

- STRUCTURAL STEEL:

 1. Structural steel shall be fabricated and erected in accordance with the American Institute of Steel Construction "Code of Standard Practice for Steel Buildings and Bridges" and the manual of Steel Construction "Load Resistance Factor Design"
- latest editions. Structural steel shall receive one coat of shop applied rust-inhibitive paint.
- All steel shall have a minimum yield stress (F₁₁) of 36 ksi unless
- otherwise noted.

 Welding shall conform to the latest edition of the American Welding Society's Structural Welding Code AUS DIJ. Electroder for shop and field welding shall be class ETØXX. All welding shall be performed by a certified welder per the above

- ONCETTE:

 Concrete shall have a normal weight aggregate and a minimum compressive strength (f2) 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 38s. "Building Code Requirements for Reinforced Concrete" and ACI 30s. "Specifications for Structural Concrete for Buildings". Air entrained concrete must be used for all structural elements
- exposed to freeze/thaw cycles and delcing chemicals. Air entrainment amounts (in percent) shall be within -1% to +2% of target values as follows:
 3.1. Footings: 5%
 3.2. Exterior **S**labs: 5%

No admixtures shall be added to any structural concrete withou

- 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 (WWF.) for concrete slabs-on-grade shall be placed at mid-depth of slab. The WWF. shall be securely

supported during the concrete pour.

- CONCRETE REINFORCEMENT:

 1. Fibrous concrete reinforcement, or fibermesh, specified in concrete slabs-on-grade may be used for control of cracking due to shrinkage and thermal expansion/contraction, lowered water migration, an increase in impact capacity, increased
- abrasion resistance, and residual strength.
 Fibermesh reinforcing to be 100% virgin polypropylene fibers containing no reprocessed olefin materials and apecifically manufactured for use as concrete secondary reinforcemen
- Application of fibermesh per cubic yard of concrete shall equa a minimum of 0.1% by volume (1.5 pounds per cubic yard) Fibermesh shall comply with ASTM CIlle, 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 A6B, 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
- 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.
- 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-Yellou-Pine (SYP) 2.
- LVL or PSL engineered wood shall have the following minimum
- d**e**sign values: 2.1. E = 1,900,000 psi 22 Fb = 2600 psi
- 23.Fv = 285 psi 2.4.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
- wist wunt-a brancard C-2 Nails shall be common wire nails unless otherwise noted. Lag screws shall conform to ANDI/ASYE standard Bib2.1-1981. Lead holes for lag screws shall be in accordance with NDS specifications.
- specifications.

 All beams shall have full bearing on supporting framing members unless otherwise noted.
- unless otherwise noted.

 Exterior and load bearing stud walls are to be 2x4 5YP *2 e 16"

 OC. unless otherwise noted. Studs shall be continuous from the sale plate to the double top plate. Studs shall only be discontinuous at headers for window/door openings. A minimu of one king stud shall be placed at each end of the header. King studs shall be continuous.
- King stude shall be continuous. Individual stude shall be attached with one lod nail a 6" OC, staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly blocked at all floor levels to ensure proper load transfer. Multi-ply beams shall have each ply attached with (3) lod nails a 24 or
- Four and five ply beams shall be boilted together with (2) rows of 1/2" diameter through bolts staggered @ 16" O.C. unless noted otherwise.

WOOD TRUSSES:

- The wood trues 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 ine wood trusses shall be designed for all required loddings as specified in the local building code, the AGCE Shadard "Minimun Design Loads for Buildings and Other Structures." (ASCE 1-10), 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 secondance 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 information in accordance with Commentary and Recommendations for Handling, Installing, and Bracing Metal Plate Comected 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
- shown as a reference only. The final design of the trusses shall be per the manufacturer.

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.

LOOD 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
- All structurally required wood sheathing shall bear the mark of

orce framing. Apply building paper over the sheathing as required by the state Building Code. Who of the sheathing the sheathing to its supporting framing with (1)-8d CC ringshank half at 6°06 at panel edges and at 12°06 in panel field unless otherwise noticed on the plans. Sheathing sheall be applied perpendicular to framing, sheathing sheall have a span stating chestism with the framing and the other stating chesting the stating chesting the other stating chesting chesting the other stating chesting chesting the other stating chesting chesting the other stating chesting chesting rating consistent with the framing spacing. Use suitable edge support by use of T4G plywood or lumber blocking unless otherwise noted. Panel and 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 STRUCTURAL MEMBERS ONL

mark of the AFA.

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 I or 2.

Roof sheathing shall be 'APA rated sheathing exposure I or 2. Roof sheathing shall be continuous over two supports and attached to its supporting roof framing with (1)-Bd 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 furior blocking unless otherwise noted. Panel end joints shall occur over framing about building paner over the sheathing as

RIGINAL INFORMATION
PROJECT * DATE
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CHECKED BY: MAJ

REFER TO COVER SHEET FOR A COMPLETE LIBT OF REVISIONS

FOUNDATION NOTES:

- FOUNDATIONS TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 4 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE WITH ALL LOCAL AMENDMENTS.
- ATTICUTAL CONCRETE TO BE F₀ = 3000 PGI, 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.

 5. FOOTINGS AND PIERS SHALL BE CENTERED UNDER THEIR RESPECTIVE
- ELEMENTS. PROVIDE 2" MINIMUM FOOTING PROJECTION FROM THE FACE OF MASONRY.

 6. MAXIMUM DEPTH OF UNBALANCED FILL AGAINST MASONRY WALLS TO BE AS
- SPECIFIED IN SECTION R404.1 OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
 PILASTERS TO BE BONDED TO PERIMETER FOUNDATION WALL.
- PROVIDE FOUNDATION WATERPROPING, AND DRAIN WITH POSITIVE SLOPE TO OUTLET AS REQUIRED BY SITE CONDITIONS.

 PROVIDED PERIMETER INSULATION FOR ALL FOUNDATIONS PER 2016 NORTH
- CAROLINA RESIDENTIAL BUILDING CODE.
- 10. CORBEL FOUNDATION WALL AS REQUIRED TO ACCOMMODATE BRICK VENEERS.
- CRAW SPACE TO BE GRADED LEVEL AND CLEARED OF ALL DEBRIS SCAUL STACE DE GRADE LEVEL, AND CLEARED OF ALL DESIGNS
 FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED FER THE 2018 NORTH
 CAROLINA RESIDENTIAL CODE SECTION RADSIG. MINIMUM 12" DIA BOLTS
 SPACED AT 6'-0" ON CENTER WITH A "I" MINIMUM EMBEDMENT INTO MASONRY. OR CONCRETE. ANCHOR BOLTS SHALL BE 12' FROM THE END OF EACH PLATE SECTION MINIMUM (2) ANCHOR BOLTS FER PLATE SECTION, ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE.

DJ = DOUBLE JOIST SJ = SINGLE JOIST FT = FLOOR TRUSS DR = DOUBLE RAFTER GT = GIRDER TRUSS EE = EACH END TR = TRIPLE RAFTER T.J . TRIPLE JOIST OC = ON CENTER

- 10. ALL PIERS TO BE 16 "X16" MASONRY AND ALL PILASTERS TO BE 8 "X16"
- MASONEY, TYPICAL (UNO)
 WALL FOOTINGS TO BE CONTINUOUS CONCRETE, SIZES PER STRUCTURAL PLAN.
- 12. 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 4 TESTING, P.C. MUST BE PROVIDED THE OPPORTUNITY TO REVIEW THE FOOTING DESIGN PRIOR TO CONCRETE PLACEMENT.

ALL FOOTINGS 4 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 HOLDOWNS, ADDITIONAL INFORMATION PER SECTION R602:108 AND FIGURES R602:106.5, R602,10.1, R602,108(1) AND R602,108(2) OF THE 2015 IRC

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

NOTE: A 4" CRISHED STONE BASE COURSE IS NOT REQUIRED WHEN SLAB IS INSTALLED ON
WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP I PER TABLE R4051

REINFORCE GARAGE PORTAL WALLS PER FIGURE R602.10.9 OF THE 2015 IRC.

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

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

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY <u>DR HORTON</u>
COMPLETED/REVISED ON 6/12/2018. 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 ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

STRUCTURAL MEMBERS ONLY

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ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO
BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

CRAWL SPACE FOUNDATION PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"

18"x24" MIN. CRAWL SPACE ACCESS DOOR TO BE LOCATED IN FIELD PER BUILDER PROVIDE MIN. (2) 2x16 HEADER OVER DOOR W/ MIN. 4" BEARING EACH END. AVOID SHOWN POINT LOADS

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







Foundation Space PROJECT: Wilmington -Crawl



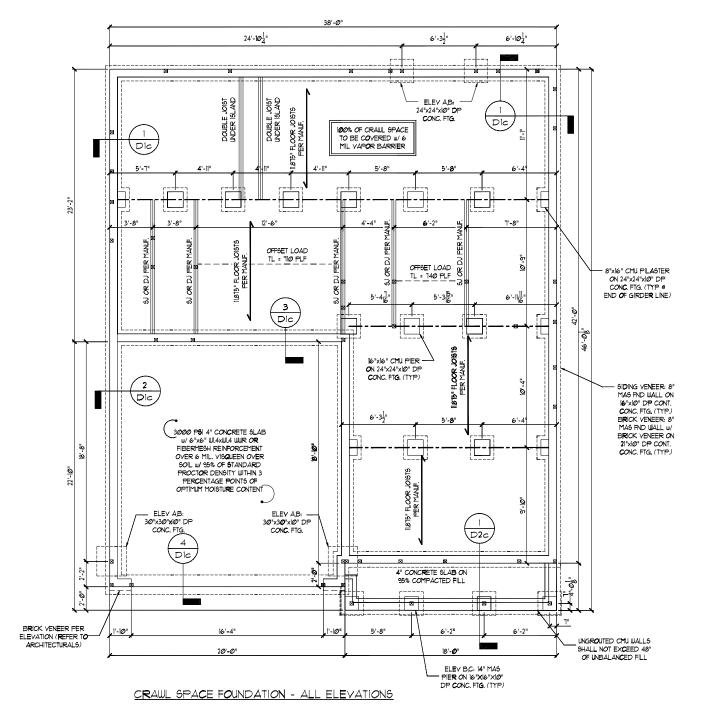
STRUCTURAL MEMBERS ONL

9CALE: 22x34 |/4"=1"-@" |bd1 |/@"=1"-@"

PROJECT * 528-06R: 11862R4 CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SI.Oc



REQUIRED BRACED WALL PANEL CONNECTIONS						
			REQUIRED CONNECTION			
METHOD	MATERIAL	MIN. THICKNE 5 6	@ PANEL EDGES	@ INTERMEDIATE SUPPORTS		
C \$ -W6P	WOOD STRUCTURAL PANEL	3/8"	6 d COMM O N NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.		
GB	GYP9UM BOARD	1/2"	5d COOLER NAILS** @ 7" O.C.	5d COOLER NAILS** @ 7" O.C.		
WSP	WOOD STRUCTURAL PANEL	3/8"	6 d COMM O N NAILS	6d COMMON NAILS 9 12" O.C.		
PF	WOOD STRUCTURAL PANEL	7/16"	PER FIGURE R602.10.6.4	PER FIGURE R602,10.6.4		
**OR FQUIVALENT PER TABLE RT0235						

**OR	EQUIVAL	ENT	PER	TABLE	RTØ2.3.5

GENERAL STRUCTURAL NOTES:

- C**O**NSTRUCTION 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:
- MICROLLA" (LVL). F. B. 1600 PSI, F. F. 255 PSI, E. 19x10° PSI
 PARALLAM (PSI). F. B. 2900 PSI, F. E. 290 PSI, E. E. 135x10° PSI
 ALL WOOD MEMBERS SHALL BE 12 SYP UNLESS NOTED ON PLAN. ALL STUD
 COLUMNS AND JOISTS SHALL BE 12 SYP (UNC).
- ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2x4 12 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" AND SHALL HAYE A MINIMIM COVER OF 3".
 FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER THE 2016 NORTH CAROLINA RESIDENTIAL CODE SECTION R403.16. MINIMIM 1/2" DIA. BOLTS SPACED AT 6"-0" ON CENTER WITH A T" MINIMIM EMBEDMENT INTO MASONRY OR CONCRETE. ANCHOR BOLTS SHALL BE 12" FROM THE END OF EACH PLATE SECTION. MINIMIM (2) ANCHOR BOLTS FER PLATE SECTION. ANCHOR BOLTS SHALL BE LOCATED IN THE CENTER THIRD OF THE PLATE
- CONTRACTOR TO PROVIDED LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
- 10. FLITCH BEAMS, 4-PLY LVLS AND 3-PLY SIDE LOADED LVLS SHALL BE BOLTED TOGETHER WITH 1/2" DIA. THRU BOLTS SPACED AT 24" O.C. (MAX) STAGGERED OR EQUIVALENT CONNECTIONS PER DETAIL 1/D3F, 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 12, DROPPED FOR NON-LOAD BEARING HEADERS EXCEEDING 8'-0" IN WIDTH AND/OR WITH MORE THAN 2'-0" OF CRIPPLE WALL ABOVE, SHALL BE (2) FLAT 2x4 SYP 2, DROPPED. (UNLESS NOTED OTHERWISE)

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

NOTE:

WALL ABOVE. PROVIDE BLOCKING UNDER JOIST SUPPORTED LOAD BEARING WALL.

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

INSTALL ANY REQUIRED HOLDOWNS PER SECTION 18602 108 AND FIGURES R602 1065 R602 101

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY DR HORION

COMPLETED/REVISED ON 6/12/2018, IT IS THE RESPONSIBILITY OF
THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

NOTE: MEMBER NOTED AS PRESSURE TREATED MAY BE FRAMED WITH NON-PRESSURE TREATED LUMBER
PROVIDED THE ENTIRETY OF THE MEMBER IS WRAPPED TO PREVENT MOISTURE INTRUSION.

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

STRUCTURAL MEMBERS ONLY

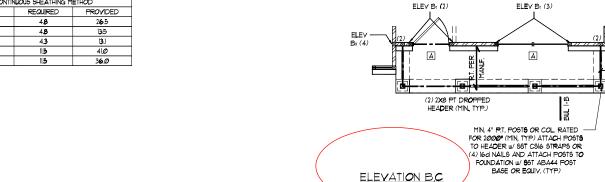
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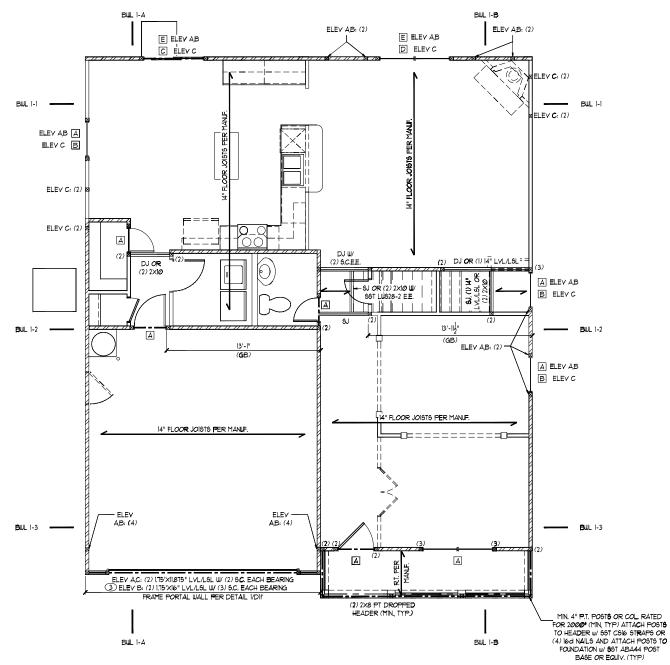
STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

FIRST FLOOR FRAMING PLAN

SCALE: I/4"=1'-0" ON 22"x34" OR I/8"=1'-0" ON II"xIT"

FIRST FLOOR BRACING (FT)				
CONTINUOUS SHEATHING METHOD				
REQUIRED PROVIDED				
BWL 1-1	48	2 6 .5		
BWL 1-2	48	13.5		
BWL 1-3	43	13.1		
BWL 1-A	11.5	41.0		
BWL 1-B	11.5	3 6 .0		





Н	EADER SCHED	ULE
TAG	SIZE	JACKS (EACH END)
Α	(2) 2x6	(1)
8	(2) 2x8	(2)
С	(2) 2xlØ	(2)
D	(2) 2x12	(2)
E	(2) 9-1/4" LSL/LVL	(3)
F	(3) 2x6	(1)
G	(3) 2x8	(2)
H	(3) 2xlØ	(2)
T	(3) 2xl2	(2)

HEADER SIZES SHOWN ON PLANS ARE MINIMUMS, GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION ALL HEADERS TO BE DROPPED UNLESS NOTED OTHERWISE SC NOTED ON PLAN OVERRIDE SC LISTED ABOVE.

LINTEL SCHEDULE				
TAG	SIZE	OPENING SIZE		
\Box	L3x3x1/4"	LE S 6 THAN 6'-0"		
2	L 5 x3x1/4"	6'-0" TO 10'-0"		
3	L5x 3 -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 WHERE BRICK IS USED, TO BE: (1) (UNO)

WALL STUD SCHEDULE

<u>19T & 2ND FLOOR LOAD BEARING 9TUD9:</u> 2x4 9TUD9 @ 16" O.C. OR 2x6 9TUD9 @ 24" O.C. IST FLOOR LOAD BEARING STUDS W WALK-UP ATTIC: 2x4 STUDS ® 12" O.C. OR 2x6 STUDS ® 16" O.C. BASEMENT LOAD BEARING STUDS: 2x4 STUDS @ 12" OC. OR 2x6 STUDS @ 16" OC. NON-LOAD BEARING STUDS (ALL FLOORS). TILD STORY WALLS: 2x4 STUDS = 12" O.C. OR 2x6 STUDS = 16" O.C. BALLOON FRAMED W/ CROSS BRACING = 6'-0" O.C. VERTICALLY

KING STUD R	EQUIREMENTS			
OPENING WIDTH	KINGS (EACH END)			
LESS THAN 3'-@"	(1)			
3'-Ø TO 4'-Ø*	(2)			
4'-0" TO 8'-0"	(3)			
8'-Ø" TO 12'-Ø"	(5)			
12'-0" TO 16'- 0 "	(6)			
KING STUD REQUIREMENTS ABOVE DO N APPLY TO PORTAL FRAMED OPENING				

BRACED WALL NOTES:

- WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R602.10 FROM THE 2015 INTERNATIONAL RESIDENTIAL CODE AS ALLOWED PER SECTION R60210 OF THE 2018 NC RESIDENTIAL CODE.
- WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND ULTIMATE WIND SPEEDS UP TO 130 MPH.
 REFER TO ARCHITECTURAL PLAN FOR DOORWINDOW OPENING

- SIZES.

 BRAICNIG MATERIALS, METHODS AND FASTENERS SHALL BE IN

 ACCORDANCE WITH IRC TABLE R602.10.4.

 ALL BRAICED WALL PANELS SHALL BE FULL WALL HEIGHT AND

 SHALL NOT EXCEED UP REET FOR ISOLATED PANEL METHOD AND 12

 FEET FOR CONTINUOUS SHEATHING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
- EMBINERING JOLEULATIONS,
 MINIMUM PANEL LENGTH SHALL BE PER TABLE R602105,
 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
- BETUERD 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 BE LOCATED WITHIN 10 FEET OF
- EACH END OF A BRACED WALL LINE. THE MAXIMUM EDGE DISTANCE BETWEEN BRACED WALL PANELS SHALL NOT EXCEED 20 FEET MASONRY OR CONCRETE STEM WALLS WITH A LENGTH OF 48" OR
- LEGG SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE REØ2109 OF THE 2015 IRC. BRACED IIIALL PANEL CONNECTIONS TO FLOOR/CEILING SHALL BE
- CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.8
 BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R602.10.82 AND
- FIGURES REQUIDE/(1)4(2)4(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 $R602.106.4~(\mathrm{UNO})$
- 16 ON SCHEMATIC SHADED WALLS INDICATE BRACED WALL PANELS

ABBREVIATIONS:





n, Inc. wridge Blv NC 28213

Plan aming 芷 F100

3



9CALE: 22x34 |/4"=1"-@" |bd1 |/@"=1"-@" PROJECT * 528-06R: 11862R4

CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

53*.*Ø

HEADER SCHEDULE					
SIZE	JACKS (EACH END)				
(2) 2 x6	(1)				
(2) 2x8	(2)				
(2) 2xlØ	(2)				
(2) 2x12	(2)				
(2) 9-1/4" LSL/LVL	(3)				
(3) 2x6	(1)				
(3) 2x8	(2)				
(3) 2xlØ	(2)				
(3) 2x12	(2)				
	9/7E (2) 2x6 (2) 2x8 (2) 2x8 (2) 2x10 (2) 2x12 (2) 9-1/4" L.5/L.VL (3) 2x6 (3) 2x8 (3) 2x8				

HEADER SIZES SHOWN ON PLANS ARE MINIMUMS, GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION. ALL HEADERS TO BE DROPPED UNLESS NOTED OTHERWISE. SC NOTED ON PLAN OVERRIDE SC LISTED ABOVE.

LINTEL SCHEDULE				
TAG	SIZE	OPENING SIZE		
	L3x3xl/4"	LESS THAN 6'-0"		
2	L5x3x1/4"	6'-0" TO 10'-0"		
3	L5x3-1/2" x 5/16"	GREATER THAN IØ'-Ø"		
4	L5x3-1/2" x 5/16" R O LLED OR EQUIY.	ALL ARCHED OPENINGS		
SECURE LINTEL TO HEADER W/ (2) 1/2" DIAMETER LAG				

SCREWS STAGGERED . 16" O.C. (TYP FOR 3)

ALL HEADERS WHERE BRICK IS USED, TO BE: (UNO)

WALL STUD SCHEDULE

| ST & 2ND FLOOR LOAD BEARING STUDS: 2x4 STUDS @ 16" O.C. OR 2x6 STUDS @ 24" O.C. |
| ST FLOOR LOAD BEARING STUDS @ / WALK-UP ATTIC: 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. |
| ASEMINIT LOAD BEARING STUDS: 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. |
| 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. |
| 2x4 STUDS @ 12" O.C. OR 2x6 STUDS @ 16" O.C. | NON-LOAD BEARING STUDS (ALL FLOORS): 2x4 STUDS # 24" O.C. TWO STORY WALLS:

2x4 STUDS = 12" O.C. OR 2x6 STUDS = 16" O.C. BALLOON
FRAMED W/ CROSS BRACING = 6'-O" O.C. VERTICALLY

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL, PLANS PROVIDED BY <u>DR HORTON</u>
COMPLETED/REVISED ON 6/12/08/ IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING, LABORATORY &
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INSTALL ANY REQUIRED HOLDOWNS PER SECTION R602.10.8 AND FIGURES R602.10.6.5, R602.10.1, R602.10.8(1) AND R602.10.8(2) OF THE 2015 IRC

DESIGNATES JOIST SUPPORTED LOAD BEARING WALL ABOVE. PROVIDE BLOCKING UNDER JOIST SUPPORTED LOAD BEARING WALL.

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

NOTE: MEMBER NOTED AS PRESSURE TREATED MAY BE FRAMED WITH NON-PRESSURE TREATED LUMBER PROVIDED THE ENTIRETY OF THE MEMBER IS WRAPPED TO PREVENT MOISTURE INTRUSION.

NOTE: REDU**C**E JOIST SPACING UNDER TILE FLOORS, GRANITE COUNTERTOPS AND/OR ISLANDS.

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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

SECOND FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x17"



BWL 2-A BWL 2-B А A BWL 2-1 А BWL 2-2 BWL 2-2 GIRDER TRUSS PER MANUF. W/ (4) S.C.E.E. (2) A E ROOF TRUSSES FER MANUF. BWL 2-A BWL 2-B

SECOND FLOOR FRAMING PLAN - ELEVATION AB





Plan Framing $\frac{\Pi}{\tilde{Q}}$ ₫ Ĕ PROJECT: Wilmington -Secor



STRUCTURAL MEMBERS ONLY

6CALE: 22x34 1/4"=1'-@" lb:IT 1/8"=1'-@" PROJECT 4: 528-06R: 11862R4 CHECKED BY: BAJ

REFER TO COVER SHEET FOR A COMPLETE LIBT OF REVISIONS

S4.Ø

SECOND FLOOR BRACING (FT) CONTINUOUS SHEATHING METHOD REQUIRED PROVIDED BWL 2-1 6.8 3Ø.1 BWL 2-2 6.8 41.0

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY DR HORTON COMPLETED/REVISED ON 6/12/28). IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENSINEERING, LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

NOTE: 15T PLY OF ALL SHOWN GIRDER TRUSSES TO ALIGN WITH INSIDE FACE OF WALL (TYP, UNO)

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

STRUCTURAL MEMBERS ONLY

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STRUCTURAL ANALYSIS BASED ON 2018 NCRC.

ROOF FRAMING PLAN SCALE: 1/4"=1'-0" ON 22"x34" OR 1/8"=1'-0" ON 11"x11"

ROOF TRUSSES PER MANUF. OR 2X4 -RAFTERS © 24" O.C. W/ 2X6 RIDGE AND FLAT PLATE VALLEYS 2X6 RAFTERS 9 24" O.C. W/ 2X8 RIDGE AND FLAT PLATE VALLEYS OR VALLEY SET TRUSSES PER MANUF. ROOF TRUSSES PER MANUF.

ROOF FRAMING PLAN - ELEVATION B





F Framing F PROJECT: Wilmington -ROOf



9CALE: 22x34 1/4"="-@" 1k/1 1/8"="-@" PROJECT * 528-96R: 11862R4 CHECKED BY: MAJ

REFER TO COVER SHEET FOR A COMPLETE LIGHT OF REVISIONS

S5.1

Applicable Building Codes:

• 2018 North Carolina Residential Building Code with All Local Amendments

• ASCE 7-10: Minimum Design Loads for Buildings and Other Structures

9" -	ougos.		
٦.	Roof	Live Loads	
	1.1.	Conventional 2x	2Ø PSF
	1.2.	Trus 8	2Ø PSF
		12.1. Attic Truss	60 PSF
2.	Roof	Dead Loads	
	2.1.	Conventional 2x	10 PSF
	2.2.	Truse	2Ø PSF
3.	Snow		15 PSF
	3.1.	Importance Factor	lø
4.	Floor	Live Loads	
	4.1.	Typ. Dwelling	40 PSF
		Sleeping Areas	
		Decks	
	4.4.	Passenger Garage	50 PSF

5. Floor Dead Loads
5.I. Conventional 2x ... 5.2 I-Joist

6.l. Exposure 62. Importance Factor... 63. Wind Base Shear

6.3.l. Vx =

632. Vy = T. Component and Cladding (in PSF)

MEAN ROOF HT.	UP T Ø 3Ø'	3 Ø'I"-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,-2 Ø .7	20.4,-21.3
ZONE 5	18.2,-24.0	19.2,-25.2	19.9,-26.1	20.4,-26.9

Seismic Use Group ...

8.5. Spectral Response Acceleration 85.1. Sms = %g 85.2. Sml = %g 8.6. Seismic Base Shear

861.Vx = 862.Vy = 8.1. Basic Structural System (check one)

⊠ Bearing Wall ☐ Building Frame
☐ Moment Frame □ Dual w/ Special Moment Frame

□ Dual w/ Intermediate R/C or Special Steel
□ Inverted Pendulum

8.8. Arch/Mech Components Anchored 8.9. Lateral Design Control: Seismic 🗆 llind 🖂 9. Assumed Soil Bearing Capacity ...

STRUCTURAL PLANS PREPARED FOR

STANDARD DETAILS

PROJECT ADDRESS:

OUNER: DR Horton Carolinas Division

ARCHITECT/DESIGNER

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 recoord (SER, Should any cliarceparcies become apparent, the contractor shall notify SUMMIT Engineering, Laboratory 4 Testing, P.C. before construction begins.

PLAN ABBREVIATIONS:

AB	ANCHOR BOLT	PT	PRESSURE TREATED
AFF	ABOVE FINISHED FLOOR	RS	ROOF SUPPORT
CJ	CEILING JOIST	5C	STUD COLUMN
CLR	CLEAR	SJ	SINGLE JOIST
DJ	DOUBLE JOIST	SPF	SPRUCE PINE FIR
DSP	DOUBLE STUD POCKET	SST	SIMPSON STRONG-TIE
EE	EACH END	SYP	SOUTHERN YELLOW PINE
EW	EACH WAY	TJ	TRIPLE JOIST
NTS	NOT TO SCALE	TSP	TRIPLE STUD POCKET
ОC	ON CENTER	TYP	TYPICAL
P S F	POUNDS PER SQUARE FOOT	UNO	UNLESS NOTED OTHERWISE
₽91	POUNDS PER SQUARE INCH	WWF	WELDED WIRE FABRIC

Roof truss and floor joist layouts, and their corresponding loading details, were not provided to SUMMIT Engineering, Laboratory 4 Testing, P.C. (SUMMIT) prior to the initial design. Therefore, truss and joist directions were assumed based on the information provided by <u>DR Horton. Inc.</u> Subsequent plan revisions based on roof truss and floor joist layouts shall be noted in the revision list, indicating the date the layouts were provided. Should any discrepancies become apparent, the contractor shall notify **5U**1111 immediately.

SHEET LIST:

REVISION LIST:

Date

FIII

T |2 |T

3 2.15.18

4 228.18

5 12.19.18

6 2.19.19

8 3.6.19

9 3220

Project No.

Revision

ôheet Nø.	Description	
CSI	Cover Sheet, Specifications, Revisions	
D1m	Monolithic Slab Foundation Details	
Dis	Stem Wall Foundation Details	
Dlc	Crawl Space Foundation Details	
Dlb	Basement Foundation Details	
DIf	Framing Details	

DR HORTON PROJECT SIGN-OFF:

Manager	Signature
Operations	
Operations System	
Operations Product Development	

SÜMMIT



GENERAL STRUCTURAL NOTES:

- NERAL 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, after, 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 surposes of these construction documents the SER and SUMMIT. 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,
- the shop drawings for dimensions, or for actual field conditions, is not the responsibility of the SER or 9UMMIT. 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 9UMMIT before construction begins.

 The SER is not responsible for any secondary structural elements or non-structural elements, except for the elements specifically noted to the structural drawings.
- 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 local building codes.
 All structural assemblies are to meet or exceed to requirements.
- of the current local building code.

FOUNDATIONS:

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

- 2. The bottom of all footings shall extend below the frost line for the region in which the structure is to be constructed. However, the bottom of all footings shall be a minimum of 12" below grade.
- maximum dry density.

 5. Excavations of footings shall be lined temporarily with a 6 mill polyetylene memorane if placement of concrete does not occur within 24 hours of excavation.

- with the American Institute of Steel Construction "Code of Standard Practice for Steel Buildings and Bridges" and the manual of Steel Construction "Load Resistance Factor Design latest editions.
 Structural steel shall receive one coat of shop applied
- rust-inhibitive paint.

 3. All steel shall have a minimum yield stress (F_u) of 36 kg unless
- otherwise noted

- Number IE.

 Concrete shall have a normal weight aggregate and a minimum compressive strength (fe/ at 28 days of 3000 ps), unless otherwise noted on the plan.

 Concrete shall be proportioned, mixed, and placed in
- 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:
 - 3.1. Footings: 5% 3.2. Exterior Slabs: 5%
- 4. No admixtures shall be added to any structural concrete without written permission of the SER.

- Construction" Any fill shall be placed under the direction or recomme
- of a licensed professional engineer.
 The resulting earl shall be compacted to a minimum of 95%
- No concrete shall be placed against any subgrade containing water, ice, frost, or loose material.

- STRUCTURAL STEEL:

 1. Structural steel shall be fabricated and erected in accordance

- Welding shall conform to the latest edition of the American weraing shall common to the latest edition of the American Welding Society's Structural Welding Code AUS DIJ. Electrodes for shop and field welding shall be class ETØXX. All welding shall be performed by a certified welder per the above

- accordance with the latest editions of ACI 318: "Building Code

- Concrete slabs-on-grade shall be constructed in accordance with ACI 302.IR-96: "Guide for Concrete Slab and Slab
 - 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 urreported conditions not in accordance with the above assumptions. Control or solu cut joints shall be spaced in interior slabs-on-grade at a maximum of 15-01 O.C. and in exterior
 - slabs-on-grade at a maximum of $|\mathcal{O}|$ 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
 - process within 4 to 12 hours after the state has been has been intered.

 9. Reinforcing steel may extend through a control joint.

 Reinforcing steel may extend through a saw cut joint.

 10. All welded wire fabric (www.) for concrete slabs-on-grade shall be placed at mid-depth of slab. The WWW. shall be securely supported during the concrete pour.

- CONCRETE REINFORCEMENT:

 I. 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 (15 pounds per cubic yard) Fibermesh shall comply with ASTM CIII6, any local building code requirements, and shall meet or exceed the current industry
- standard.
 Steel reinforcing bars shall be new billet steel conforming to
- of the inferior of the state of size/spacing as the horizontal reinforcement with a class B
- Lap reinforcement as required, a minimum of 40 bar diameters for tension or compression unless otherwise noted. Splices in masonry shall be a minimum of 48 bar diameters.

- 9. Where reinforcing dowels are required, they shall be equivalent in size and spacing to the vertical reinforcement. The dowel shall extend 48 bar diameters vertically and 20 bar diameters
- into the Footing.

 10. Where reinforcing steel is required vertically, dowels shall be provided unless otherwise nated. WOOD FRAMING: Solid sawn wood framing members shall conform to the specifications listed in the latest edition of the "National"
- Design Specification for Wood Construction" (NDS), Unless otherwise noted, all wood framing members are designed to be Spruce-Yellow-Pise (SYP) 2.

 LVL or PSL engineered wood shall have the following minimum
- sign values: 2.1. E = 1,900,000 psi
 - 2.2. F_b = 2600 psi 2.3. F_v = 285 psi
- 2.4.Fc = 100 psi 1.4.1°C incorption.

 Who in contract 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 confrom to ANSI/ASME standard Bi82.1-1981.

 Lead holes for lag screws shall be in accordance with NDS specification.
- 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 $^{\circ}$ 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.
- of one king stud shall be placed at each end of the header. King stude shall be continuous, individual stude forming a column shall be attached with one lod nail e 6" O.C. staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly blocked at all floor levels to ensure proper load transfer. Multi-ply beams shall have each ply attached with (3) lod nails e
- 10. Flitch beams, 4-ply beams and 3-ply side loaded beams shall be bolted together with (2) rous of 1/2" diameter through boilts staggered # 16" O.C. unless noted otherwise. Min. edge distance shall be 2" and (2) bolts shall be located a min. 6" from each

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.

dded box bay detail (2/D2f). Added deck

stem wall and crawl space foundations

Revised garage door detail, NC only

Added high-wind foundation details

Revised per Mecklenburg County Comments Revised stem wall deck attachment and roo

Corrected dimensions at perimeter footings

Revised stem wall insulation note

Revised per 2018 NCRC

sheathing on wall sections.

Added tall turndown detail

options with basement. Revised deck options with

- Ine wood trusses shall be designed for all required loadings as specified in the local building code, the AGCE Standard "Minimum Design Loads for Buildings and Other Structures."

 (ASCE 1-05), 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 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

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.

- WOOD STRUCTURAL PANELS:

 I. 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
- All structurally required wood sheathing shall bear the mark of

- 3. Wood wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information. Sheathing shall be applied with the long direction perpendicular to framing, unless noted otherwise. Roof sheathing shall be APA rated sheathing exposure I 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
- have a span rating consistent with the framing spacing, Use suitable edge support by use of plywood clips or limber 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 I or 2. Attach sheathing to its supporting framing with (I)-Bd CC ringshark nail at 6 lore at panel edges and at 12 lore 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 14G 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.
- 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:

 1. Fabrication and placement of structural fiberboard sheathing shall be in accordance with the applicable AFA standards
- All structurally required fiberboard sheathing shall bear the mark of the AFA. 3. Fiberboard wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more
- Sheathing shall have a 1/8" gap at panel ends and edges are

PROJECT:
Standard Details
Coversheet TH CARO USBA1 4/2 STRUCTURAL MEMBERS ONLY

DATE: 3/2/2 8CALE: 22x34 V4"+1"-8" lbt1 V8"+1"-8" PROJECT 1 P-19Ø1-1Ø DRAWN BY: LAG CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS



SÜMMIT

SUMMIT Engineering, Laboratory & Testing, P.C.

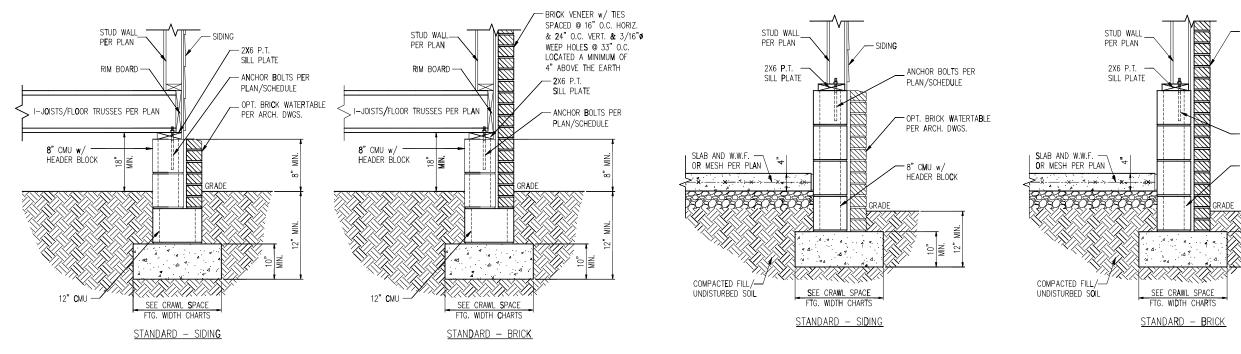


DATE: 3/2/2 8CALE: 22x34 1/4"∗1"-**6"** lbt1 1/8"∗1"-**6"** PROJECT & P-19Ø1-1ØR DRAWN BY: LAG

CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

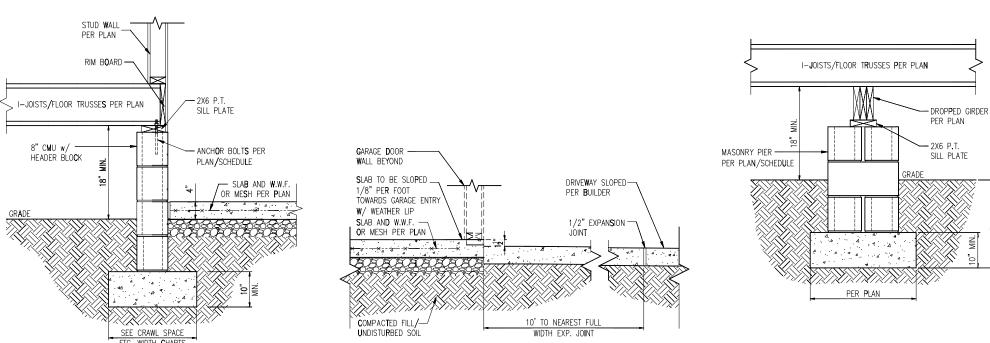




FOUNDATION WALL DETAIL

HOUSE/GARAGE WALL DETAIL

TYP. GARAGE CURB DETAIL



4 SLAB AT GARAGE DOOR TYP. PIER & GI**R**DER DETAIL

PIER SIZE AND HEIGHT SCHEDULE

SI Z E	HOLLOW	SOLID		
8"X16"	UP TO 32" HEIGHT	UP TO 5'-0" HEIGHT		
1 2 "X16"	UP TO 48" HEIGHT	UP TO 9'-0" HEIGHT		
1 6 "X16"	UP TO 64" HEIGHT	UP TO 12'-0" HEI G HT*		
24"X24"	UP TO 96" HEIGHT	UP TO 12'-0" HEI G HT*		
*(4) #4 (*(4) #4 CONT. REBAR w/ #3 STIRRUPS @ 16" O.C.			
AND 24" MIN. LAP JOINTS				

CRAWL SPACE FOOTING WIDTH

CRAWL SPACE FUUTING	חוטוא		
# OF STO R IES	WIDTH BASED	ON SOIL BEARIN	IG CAPACITY
	150 0 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		CRAWL SPACE	

FOOTING WIDTH FOR BRICK SUPPORT

WALL ANOUGH COUEDINE

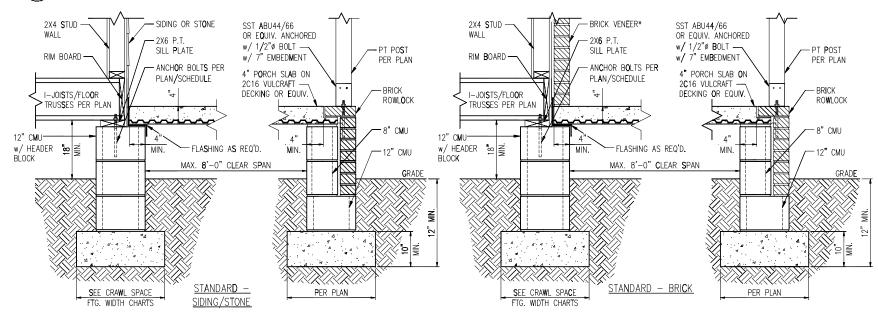
WALL ANCHOR SCHEDULE				
TYPE OF ANCHOR	MIN. CONC.	SPACING	INTERI O R	EXTERIOR
	EMBED M ENT	EMBEDMENT	WALL	WALL
1/2"ø A3 0 7 BOLT S w/	7"	6'-0"	YES	YES
STD. 90° B END				
SST - MAS	4"	5'-0"	NO	YES
HILTI KWIK BOLT KBI 1/2-2-3/4	2-1/4"	6'-0"	YES	NO
1/2"ø HILTI THREADED ROD	7"	6'-0"	YES	YES
w/ HIT HY150 ADHESIVE				

NOTE: INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM PLATE ENDS AND JOINTS.

- NOTES:

 1. REFER TO GENERAL NOTES & SPECIFICATIONS ON COVERSHEET 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.
- 4. REFER TO STRUCTURAL PLANS AND FRAMING DETAILS FOR BRACED WALL PANEL LAYOUT, DIMENSIONS, ATTACHMENT AND CONNECTIONS
- REFER TO LOCAL AND STATEWIDE CODES FOR ADDITIONAL AMENDMENTS AND REQUIREMENTS NOT SHOWN
- 6. PERIMETER INSULATION SHOWN AS REQUIRED BY LOCAL CLIMATE ZONE. INSTALL PER TABLE N1102.1.2 OF THE 2018 NCRC





FRONT PORCH DETAIL W/ SUSPENDED SLAB

DECK ATTACHMENT SCHEDULE (ALL STRUCTURES EXCEPT BRICK)

FASTENERS	MAX. 8'-0" JOIST	MAX. 16'-0" JOIST
	SPAN	SPAN
5/8" GALV. BOLTS w/ NUT & WASHER b	(1) © 3'-6" O.C.	(1) @ 1'-8" O.C.
AND	AND	AND
12d COMMON GALV. NAILS°	(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 $2\frac{1}{2}$ ".
- c. NAILS MUST PENETRATE THE SUPPORTING STRUCTURE BAND A MINIMUM OF 11/2"

DECK ATTACHMENT SCHEDULE (BRICK STRUCTURES)

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

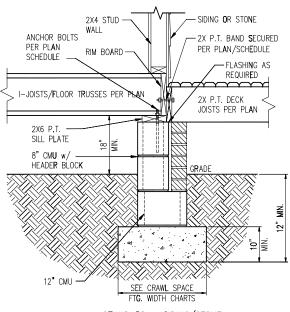
- a. Attachment interpolation between 8' and 16' joist spans is allowed.
- b. MINIMUM EDGE DISTANCE FOR BOLTS IS $2\frac{1}{2}$ ".

CRAWL SPACE FOOTING WIDTH

FOOTING WIDTH FOR BRICK SUPPORT

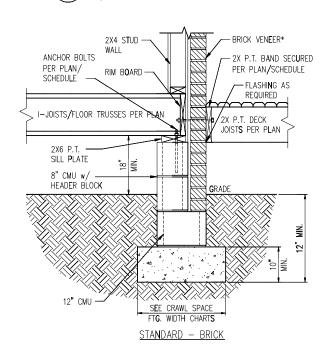
π οι στοικι ε σ	WIDTH DAGED ON SOIL BEARING CALACITY		
	1500 PSF	2000 PSF	2500 P \$ F
1 STORY - STD.	16"	16"	16"
1 STORY - BRICK VENEER	21"*	21"*	21"*
2 STORY - STD.	16"	16"	16"
2 Story - Brick Veneer	21"*	21"*	21"*
3 STORY - STD.	23"	18"	18"
3 STORY - BRICK VENEER	32"*	24"*	24"*
*5" BRICK LEDGE HAS BEEN A	ADDED TO THE	CRAWI SPACE	

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



STANDARD - SIDING/STONE

NDECK ATTACHMENT DETAIL



DE**c**k attachment detail w/ brick

- NOTES:

 1. REFER TO GENERAL NOTES & SPECIFICATIONS ON COVERSHEET 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.
- 4. REFER TO STRUCTURAL PLANS AND FRAMING DETAILS FOR BRACED WALL PANEL LAYOUT, DIMENSIONS, ATTACHMENT AND CONNECTIONS
- 5. REFER TO LOCAL AND STATEWIDE CODES FOR ADDITIONAL AMENDMENTS AND REQUIREMENTS NOT SHOWN
- 6. PERIMETER INSULATION SHOWN AS REQUIRED BY LOCAL CLIMATE ZONE. INSTALL PER TABLE N1102.1.2 OF THE 2018 NCRC





Details undation 8 PROJECT: Standard D Crawl



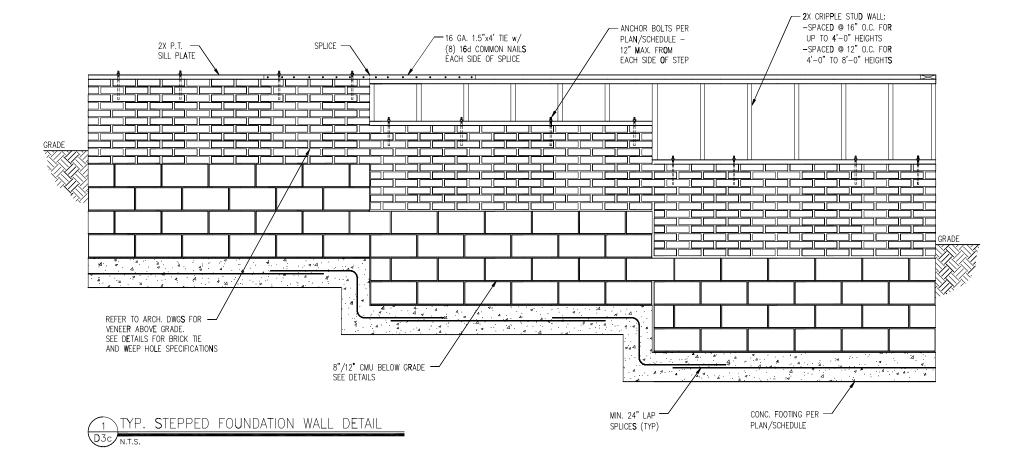
DATE: 3/2/2 8CALE: 22%34 1/4"∗1"-**6"** 16€1 1/8"=1"-**6"** PROJECT 4 P-19Ø1-1Ø DRAWN BY: LAG

CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

D2c





- NOTES:

 1. REFER TO GENERAL NOTES & SPECIFICATIONS ON COVERSHEET FOR ADDITIONAL INFORMATION.
- 2. PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
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- 4. REFER TO STRUCTURAL PLANS AND FRAMING DETAILS FOR BRACED WALL PANEL LAYOUT, DIMENSIONS, ATTACHMENT AND
- CONNECTIONS
 5. REFER TO LOCAL AND STATEWIDE CODES FOR ADDITIONAL AMENDMENTS AND REQUIREMENTS NOT SHOWN
- 6. PERIMETER INSULATION SHOWN AS REQUIRED BY LOCAL CLIMATE ZONE. INSTALL PER TABLE N1102.1.2 OF THE 2018 NCRC

PROJECT:
Standard Details

Crawl Space 1 STRUCTURAL MEMBERS ONLY

Details

Foundation

DRAUNG DATE: 3/2/20 8CALE: 22%34 1/4"∗1"-**6"** 16€1 1/8"=1"-**6"** PROJECT & P-1967-16R DRAIN BY: LAG

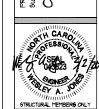
CHECKED BY: WAJ

REFER TO GOVER SHEET FOR A COMPLETE LIST OF REVISIONS

D3c



Details undation Petalls | PROJECT: Standard D Crawl



DATE: 3/2/28

NOTES:

1. REFER TO GENERAL NOTES & SPECIFICATIONS ON COVERSHEET

PROVIDE 6 MIL VAPOR BARRIER UNDER ALL SLABS-ON-GRADE.
 SEE ARCH. DWGS. FOR ALL TOP OF THE SLAB ELEVATIONS, SLOPES AND DEPRESSIONS.

BRACED WALL PANEL LAYOUT, DIMENSIONS, ATTACHMENT AND

4. REFER TO STRUCTURAL PLANS AND FRAMING DETAILS FOR

5. REFER TO LOCAL AND STATEWIDE CODES FOR ADDITIONAL AMENDMENTS AND REQUIREMENTS NOT SHOWN 6. PERIMETER INSULATION SHOWN AS REQUIRED BY LOCAL CLIMATE ZONE. INSTALL PER TABLE N1102.1.2 OF THE 2018 NCRC

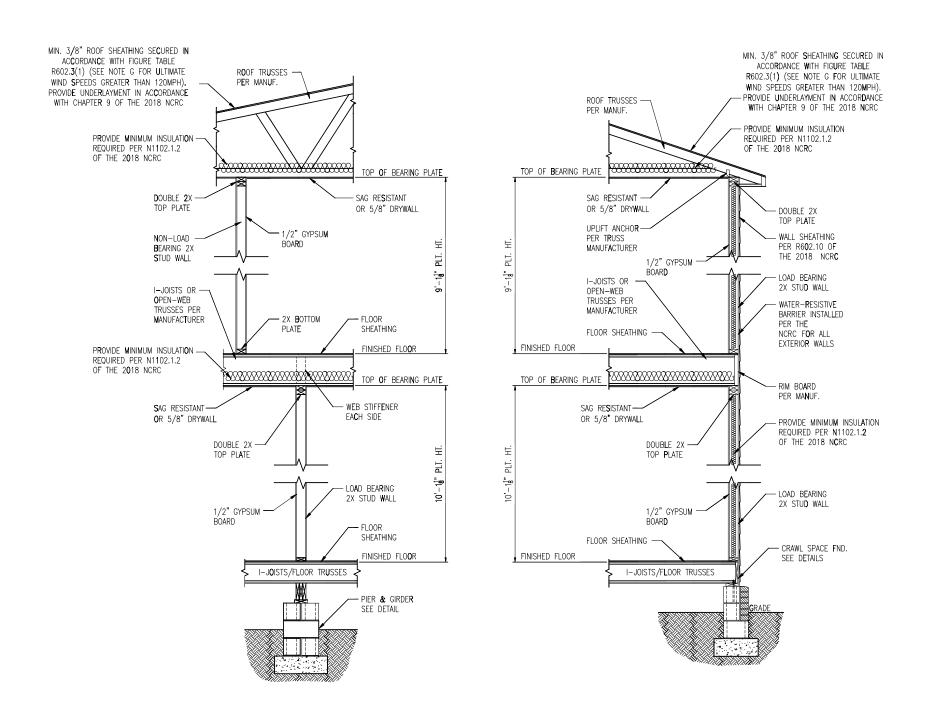
FOR ADDITIONAL INFORMATION.

CONNECTIONS

8CALE: 22%34 1/4"∗1"-**6"** 16€1 1/8"=1"-**6"** PROJECT & P-19Ø1-1ØR DRAIN BY: LAG CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

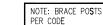
D4c



TYP. INTERIOR LOAD BEARING WALL SECTION

TYP. EXTERIOR LOAD BEARING WALL SECTION

-SIMILAR W/ BRICK AND STONE -BRICK TIES SPACED © 16" O.C. HORIZ. & 24" O.C. VERT. -MIN. 3/16"0 WEEP HOLES © 33" O.C.



6X6 PT POST ON 16"X16"X10" DP. CONC.

FTG (TYP. UNO)

PROVIDE FULL BLOCKING BACK TO SECOND

PARALLEL JOIST AT EACH RAIL POST



SÜMMIT



<u>E</u>ig ij g Details undation Petalls Sp

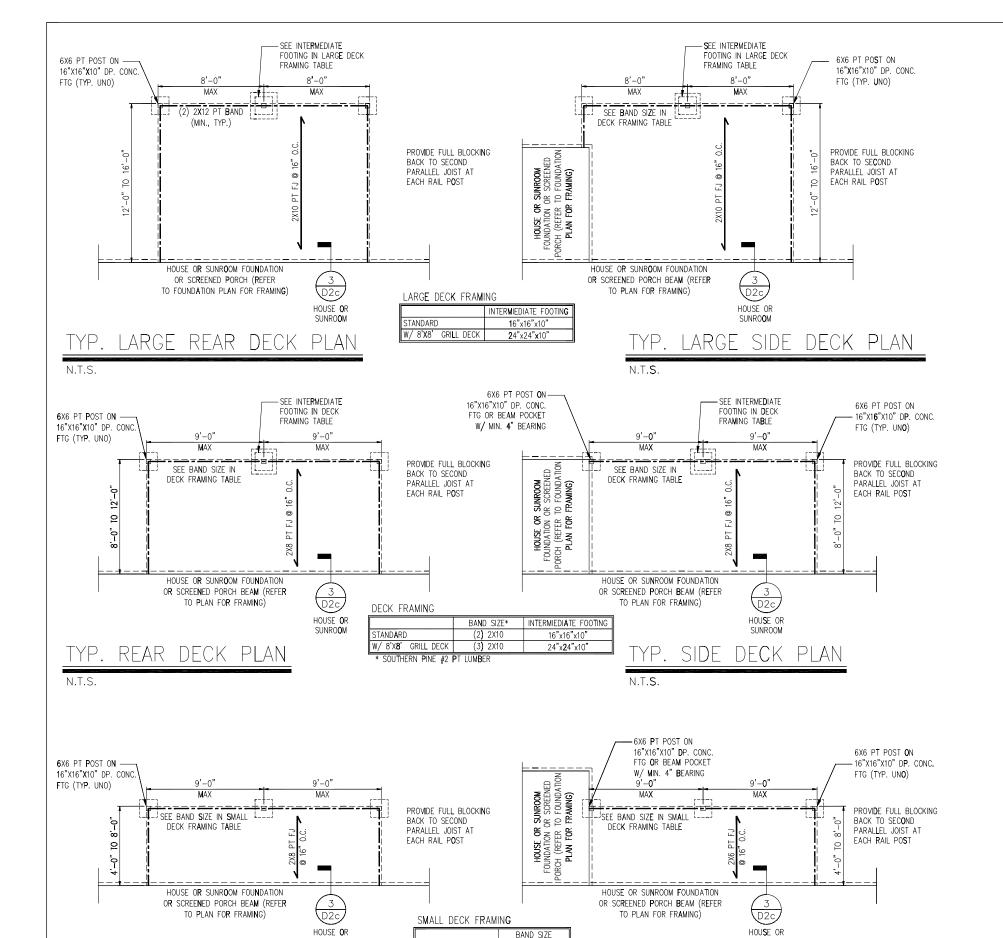
PROJECT: Standard D Crawl STRUCTURAL MEMBERS ONL

DATE: 3/2/2 8CALE: 27x34 1/4"+1"-**8"** 18x1 1/8":1"-**8"** PROJECT & P-19Ø1-1ØR

DRAWN BY: LAG CHECKED BY: WAJ

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

DTC



STANDARD

TYP. SMALL REAR DECK PLAN

W/ 8'X8' GRILL DECK

* SOUTHERN PINE #2 PT LUMBER

(2) 2**X**10

(3) 2X10

SUNROOM

TYP. SMALL SIDE DECK PLAN

8'-0" (2) 2X10 PT BAND (MIN., TYP.)

D2c

HOUSE OR SUNROOM

TYP. DECK PLAN W/ 8'X8' GRILL DECK

SST LUS28-2

DECK FRAMING (REFER

TO DECKS ON THIS SHEET AND

FOUNDATION PLAN FOR

ADDITIONAL INFORMATION)

HOUSE OR SUNROOM FOUNDATION

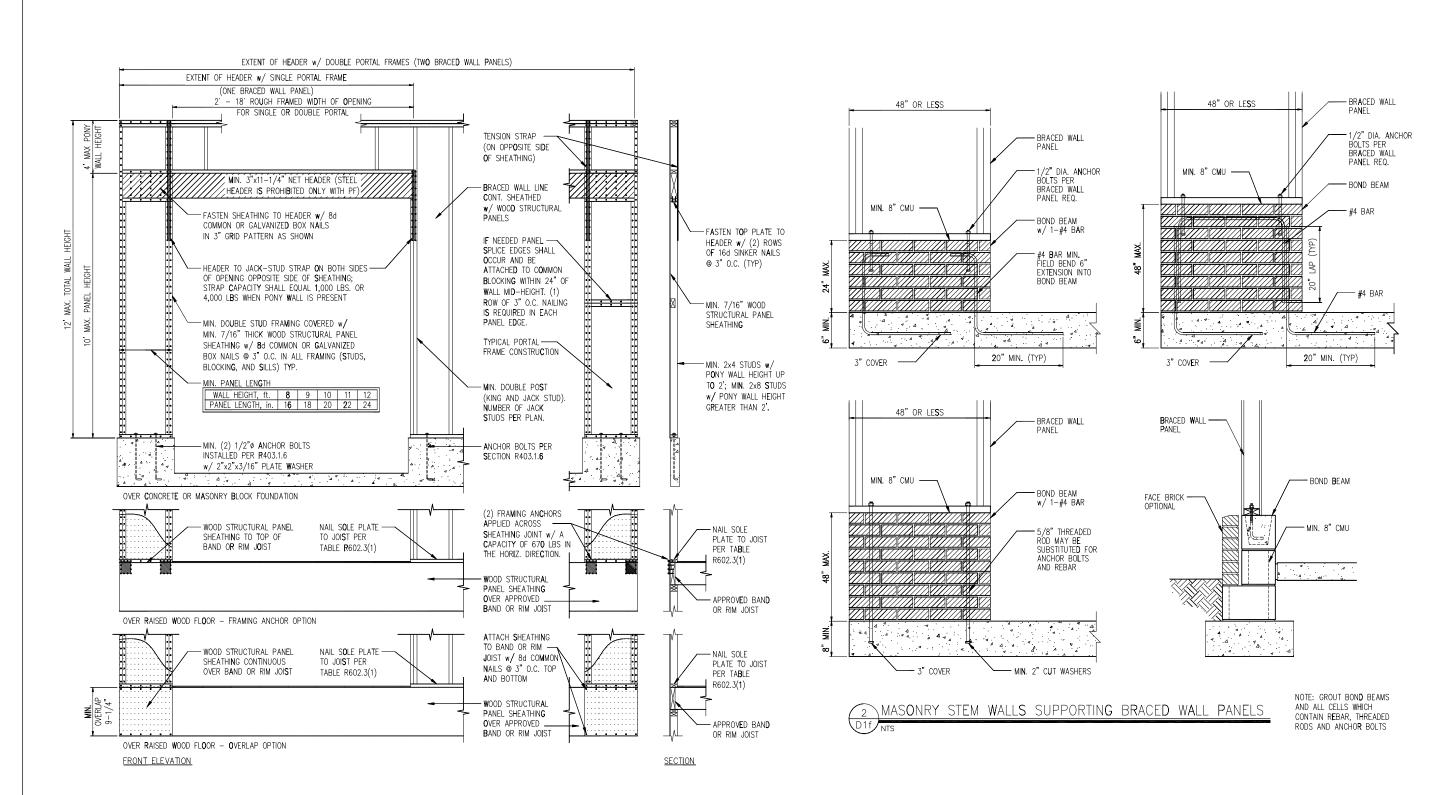
OR SCREENED PORCH (REFER

TO FOUNDATION PLAN FOR FRAMING)

OR EQUIV. _____

- NOTES:

 1. REFER TO GENERAL NOTES & SPECIFICATIONS ON COVERSHEET 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. REFER TO STRUCTURAL PLANS AND FRAMING DETAILS FOR BRACED WALL PANEL LAYOUT, DIMENSIONS, ATTACHMENT AND CONNECTIONS
- 5. REFER TO LOCAL AND STATEWIDE CODES FOR ADDITIONAL AMENDMENTS AND REQUIREMENTS NOT SHOWN
- 6. PERIMETER INSULATION SHOWN AS REQUIRED BY LOCAL CLIMATE ZONE. INSTALL PER TABLE N1102.1.2 OF THE 2018 NCRC





SÜMMIT

SUMMIT Engineering, Laboratory & Testing, P.C.

CLIENT:
DR Horton Carolina Divi
8001 Arrowridge Blvd.
Charlotte, NC 20213

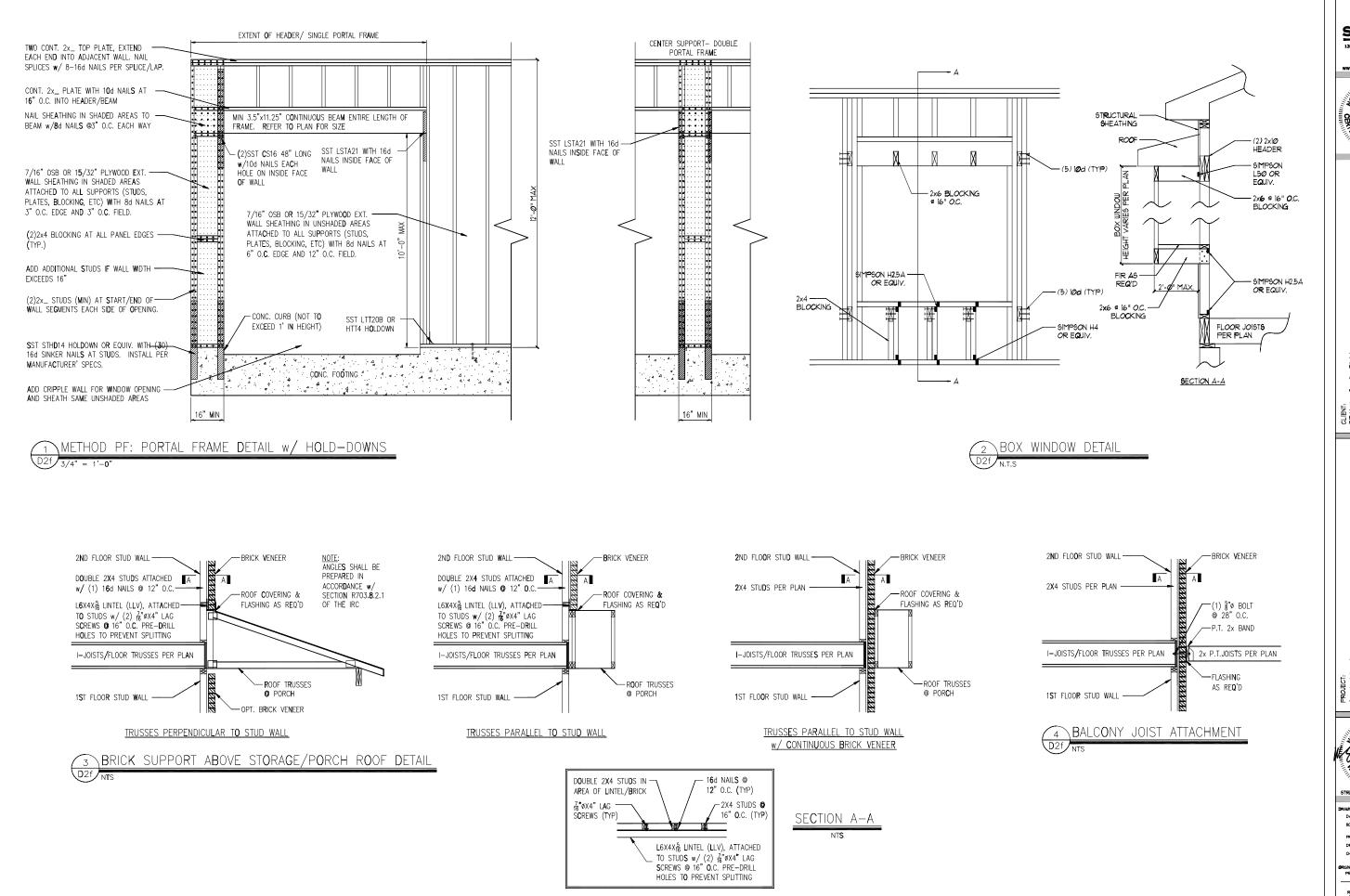


DATE: 3/2/2 8CALE: 22x34 1/4"∗1"-**8"** |bgT 1/8"∗1"-**8"** PROJECT 4 P-19Ø1-1Ø DRAIN BY: LAG CHECKED BY: WAJ

REFER TO GOVER SHEET FOR A COMPLETE LIST OF REVISIONS

D1f

METHOD PF: PORTAL FRAME DETAIL



SUMMIT





Detaí PROJECT: Standard Details Framing

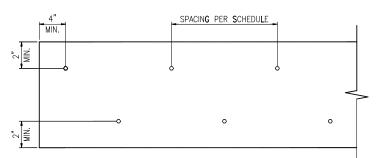


STRUCTURAL MEMBERS ONLY DATE: 3/2/2 8CALE: 22x34 1/4"∗1"-**8"** |bgT 1/8"∗1"-**8"**

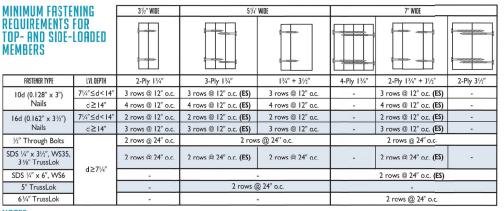
PROJECT & P-19Ø1-1ØR DRAWN BY: LAG CHECKED BY: WAJ

REFER TO GOVER SHEET FOR A COMPLETE LIST OF REVISIONS

D2f



ELEVATION VIEW



- I.All fasteners must meet the minimum requirements in the table above. Side-loaded multiple-ply members must meet the minimum fastening and side-loading capacity
- requirements given on page 48.

 2. Minimum fastening requirements for depths less than 7½" require special consideration. Please contact your technical representative.

L3x3x1/4"x8-1/2" LONG -

STEEL BEAM -

PER PLAN

COPE END OF STEEL

AS REQ'D TO CLEAR

WEB OF STEEL BEAM

LINTEL BOTH SIDES OF WEB

w/ 13/16" # HOLES @ GAGE

side are to be staggered up to one-hall the o.c. spacing, but maintaining the fastene-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).

SECTION VIEW

STEEL BEAM

PER PLAN

- STEEL BEAM PER PLAN

(2) 3/4"ø BOLTS

ÈACH ANGLE LEG

NOTES: 3. Three general rules for staggering or offsetting for a certain fastener schedule:

(1) if staggering or offsetting is not referenced, then none is required;

(2) if staggering is referenced, ther fasteners installed in adjacent rows on the front

MULTI-PLY BEAM CONNECTION DETAIL

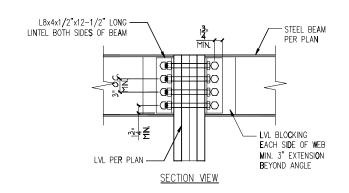
— 10d COMMON NAIL @ 12" O.C.

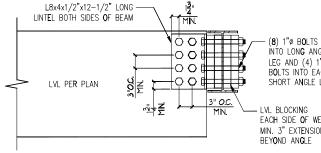
- SIMPSON C\$16 COIL STRAP OR EQUIV. PER MANUF. SPECIFICATIONS

EACH PLY OR PER CODE

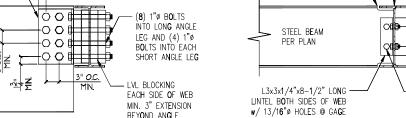
@ 1/3 HEIGHT LOCATIONS

MULTI-PLY STUD CONNECTION DETAIL





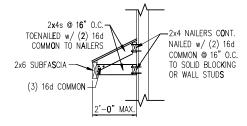
ELEVATION VIEW







ELEVATION VIEW



GABLE ROOF RETURN

SÜMMIT

SUMMIT LEDGE OF THE OF T

PROJECT: Standard Details Framing Details



DATE: 3/2/2 8CALE: 22x34 1/4"∗1"-**6"** lbt1 1/8"∗1"-**6"** PROJECT 4 P-1907-10R DRAIIN BY: LAG CHECKED BY: WAJ

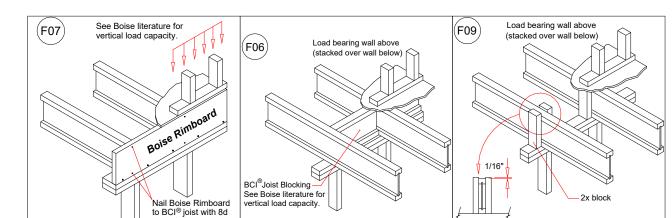
REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

D3f

Start Framing Here 11 7/8" BCI 4500s @ 24" oc spacing RM1 F09 (F06) (F06) DIM BBO F06 F06 Start Framing Here 11 7/8" 4500s @ 16" oc spacing F07 F07 Bk1 Bk1 Bk1 Bk1 Bk1 Bk1 F07 Start Framing Here 11 7/8" BCI 4500s @ 24" oc spacing

DR Horton The Wilmington Elev.B 43 Morgan North

		Products		
PlotID	Net Qty	Product	Length	Plies
1	7	11-7/8" BCI® 4500s-1.8	32' 0"	1
2	2	11-7/8" BCI® 4500s-1.8	32' 0"	2
3	5	11-7/8" BCI® 4500s-1.8	13' 0"	1
4	6	11-7/8" BCI® 4500s-1.8	13' 0"	2
5	18	11-7/8" BCI® 4500s-1.8	12' 0"	1
6	8	11-7/8" BCI® 4500s-1.8	12' 0"	2
7	5	11-7/8" BCI® 6000s-1.8	13' 0"	1
8	10	11-7/8" BCI® 6000s-1.8	13' 0"	2
RM1	14	1" x 11-7/8" BC RIM BOARD OSB	12' 0"	1
Bk1	31	11-7/8" BCI® 4500s-1.8	2' 0"	1



Second Floor Layout

All I-Joist and Versa-Lam Beams
Must be Installed per The
Boise Cascade Installation Guide!

Squash Blocks Required
Under The Ends Of All LVL
And Point Loads For Load
Transfer - See Details

Revisions:	BY:





DR Horton
The Wilmington Elev.B
43 Morgan North
84 Lumber Charlotte EW
Charlotte. North Carolina

BC FRAMER II

Scale: NTS = 1'-0

Arch Date: 02282020 Struc Date: 11302018

Designer: GAT File:11272019

DWG:The Wilmington

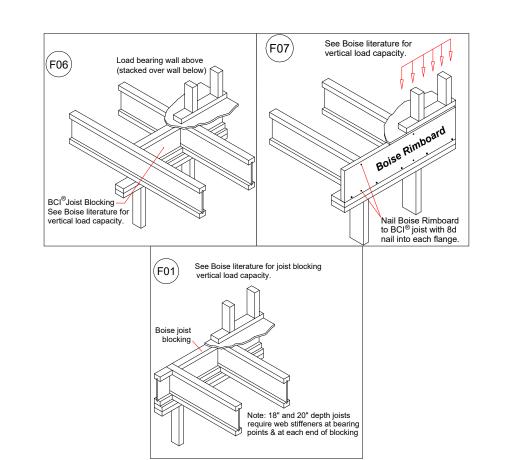
Sheet: 1/2

| H | 1'8" | H | 2'0" RM-1 DB-3 Bk1 Bk1 Bk1 ↑ Bk1 Bk1 | 1<mark>0</mark> 11/16" 14" BCI 6000s 20 14" BCI 6000s 14" BCI 6000s Start Framing Here 14" BCI 6000s -1.8 SP @ 19.2" 17 14" BCI 6000s 14" BCI 6000s 17 14" BCI 6000s F06 14" BCI 6000s 14" BCI 6000s 17 14" BCI 6000s 17 14" BCI 6000s Start Framing Here 14" BCI 6000s-1.8 SP 24"oc 17 14" BCI 6000s 17 7' 7 3/16" 14" BCI 6000s 19 RM-1 F07 Bed2 Window Header RM-1 DB-1 **Second Floor Layout**

DR Horton The Wilmington Elev.B 43 Morgan North

Products				
PlotID	Net Qty	Product	Length	Plies
1	1	14" BCI® 4500s-1.8	24' 0"	1
2	1	14" BCI® 4500s-1.8	24' 0"	1
3	1	14" BCI® 4500s-1.8	24' 0"	1
4	2	14" BCI® 4500s-1.8	24' 0"	1
5	2	14" BCI® 4500s-1.8	18' 0"	2
6	2	14" BCI® 4500s-1.8	17' 0"	2
7	2	14" BCI® 4500s-1.8	17' 0"	2
8	6	14" BCI® 4500s-1.8	17' 0"	2
9	2	14" BCI® 4500s-1.8	8' 0"	2
10	2	14" BCI® 4500s-1.8	7' 0"	1
11	2	14" BCI® 4500s-1.8	7' 0"	1
12	1	14" BCI® 4500s-1.8	7' 0"	1
13	1	14" BCI® 4500s-1.8	5' 0"	1
14	2	14" BCI® 4500s-1.8	5' 0"	2
15	3	14" BCI® 4500s-1.8	4' 0"	1
16	1	14" BCI® 4500s-1.8	3' 0"	1
17	9	14" BCI® 6000s-1.8	38' 0"	1
18	2	14" BCI® 6000s-1.8	38' 0"	2
19	2	14" BCI® 6000s-1.8	21' 0"	2
20	1	14" BCI® 6000s-1.8	19' 0"	1
21	3	14" BCI® 6000s-1.8	19' 0"	1
22	2	14" BCI® 6000s-1.8	18' 0"	1
23	3	14" BCI® 6000s-1.8	18' 0"	1
14	2	14" BCI® 4500s-1.8	4' 0"	2
DB-3	2	1-3/4" x 9-1/4" VERSA-LAM® LVL 2.1E 3100 SP	8' 0"	2
DB-4	2	1-3/4" x 9-1/4" VERSA-LAM® LVL 2.1E 3100 SP	8' 0"	2
DB-2	2	1-3/4" x 9-1/4" VERSA-LAM® LVL 2.1E 3100 SP	6' 0"	2
DB-1	2	1-3/4" x 16" VERSA-LAM® LVL 2.1E 3100 SP	20' 0"	2
RM-1	16	1" x 14" BC RIM BOARD OSB	12' 0"	1
Bk1	28	14" BCI® 4500s-1.8	2' 0"	1

Connector Summary				
PlotID	Qty	Manuf	Product	
H1	4	Simpson	IUS1.81/14	
H2	3	Simpson	IUS1.81/14	
H3	5	Simpson	IUS2.37/14	
H4	2	Simpson	IUS3.56/14	

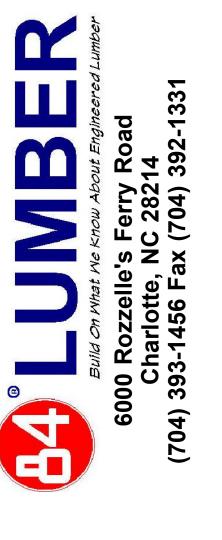


All I-Joist and Versa-Lam Beams Must be Installed per The Boise Cascade Installation Guide!

Squash Blocks Required Under The Ends Of All LVL And Point Loads For Load Transfer - See Details

	Revisions:	BY:
R		





DR Horton
The Wilmington Elev.B
43 Morgan North
84 Lumber Charlotte EW
Charlotte. North Carolina

Scale: NTS = 1'-0

Arch Date: 02282020
Struc Date: 11302018

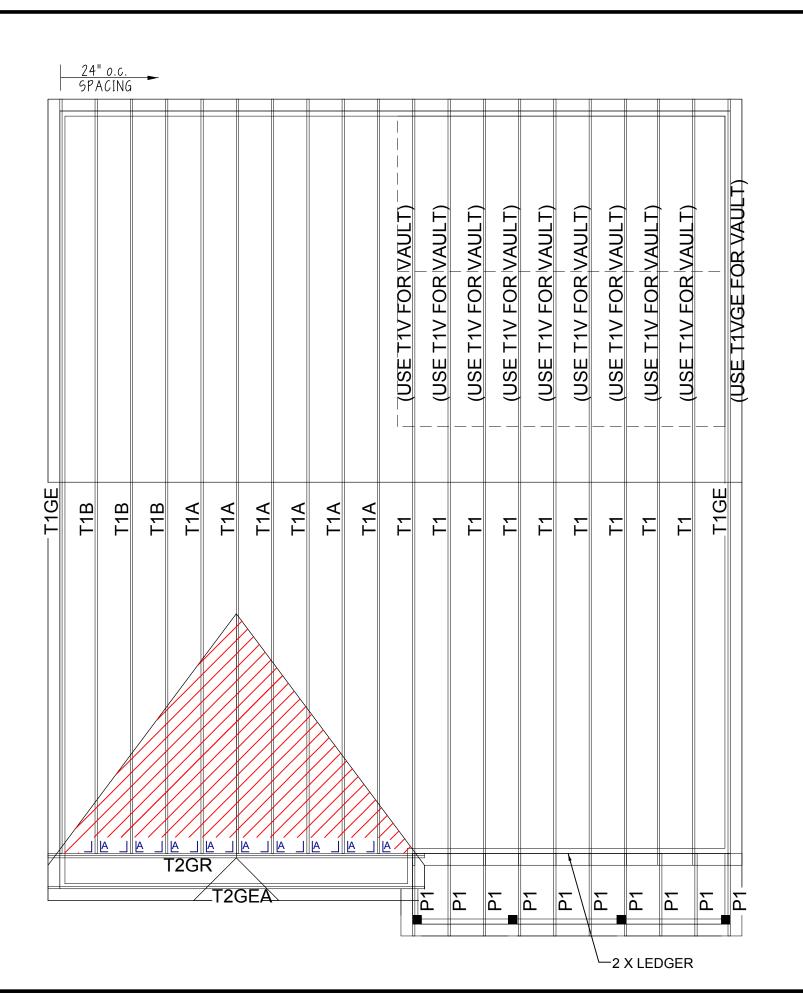
Designer: GAT

File:11272019

BC FRAMER II

DWG:The Wilmington

Sheet: 2/2



NOTES:

1) FOLLOW SIMPSONS INSTALLATION RECOMMENDATIONS FOR HANGER CONNECTIONS.

2) VERIFY ALL BUILDING DIMENSIONS PRIOR TO TRUSS ERECTION.

3) EXTERIOR DIMENSIONS ARE FROM OUT TO OUT OF SHEATHING UNLESS NOTED OTHERWISE.

4) SEE DETAIL SHEETS PROVIDED IN THE TRUSS PACKAGE FOR INSTALLATION INFORMATION CONCERNING PIGGY-BACK AND/OR HINGE-PLATE TRUSSES.

INTERIOR BEARING WALL

BEAM

5) SHADED AREAS TO BE FRAMED IN FIELD.

		MATERIAL SCHEDULE	AL SCI	Ή	JULE			ROOF LOADING	ADING
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					TIE DOWN SCHEDULE	SCHEDU	Щ		D DSE
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COMPONENTS BEDICATED TO QUALI ASDIDIVANIAN, IONETHE ARCULIN 48072 PHONE: 704-87-321.04

	MODEL:	WILM	INGTON "E	3" FLAT &	WILMINGTON "B" FLAT & VLT ROOF
MENTO	COMMUNITY:	TY:	-		LOT#:
TEN O	SCALE:	SCALE: NOT TO SCALE SHIP DATE:	SHIP DATE: -		:#Od
DICATED TO QUALITY BY RECELLENCE 3/28/11	ізттар жыс к.	NCE 3/28/11	LAST REV.:		:#OM
TH CAROLINA 46072 DESIGNED BY:	DESIGNED) BY:	DRAWN BY:	C/VIQ	REG199
:704-937-9358		RWD		RWD	

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