# Residence for

# Garman Homes Lot 0078 Serenity Fuquay Varina, North Carolina

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- **REAR & RIGHT SIDE ELEVATIONS** FIRST & SECOND FLOOR PLANS
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- STRUCTURAL NOTES

# **GENERAL NOTES**

- I. ALL WORK TO BE DONE IN STRICT ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE, 2018 EDITION (HEREWITH SHOWN AS N.C.S.R.B.C.)
- 2. DIMENSIONS SHOWN ON DRAWINGS GOVERN OVER SCALE.
- 3. STUD WALL DESIGN SHALL CONFORM TO ALL N.C.S.R.B.C.
- 4. CONTRACTOR SHALL USE TEMPERED SAFETY GLASS IN ALL LOCATIONS AS REQUIRED BY N.C.S.R.B.C., 2018 EDITION, SECTION
- 5. ANY HABITABLE ROOM SHALL MEET ALL LIGHT/VENTILATION AND EGRESS AS REQUIRED BY N.C.S.R.B.C. 2018 EDITION, SECTIONS R-303.1 AND R-310.1.
- 6. ALL EXTERIOR WALLS SHOWN ON FLOOR PLANS ARE 2X6 FRAME UNLESS NOTED OTHERWISE. ALL INTERIOR WALLS SHOWN ON FLOOR PLANS ARE 2X4 FRAME UNLESS NOTED OTHERWISE.
- 7. ALL ANGLED WALLS SHOWN ON FLOOR PLANS ARE 45 UNLESS NOTED OTHERWISE.
- 8. ALL WINDOWS SHALL HAVE A MINIMUM DPI RATING OF 25. BUILDER SHALL VERIFY WITH WINDOW MANUFACTURER THAT UNITS INSTALLED MEET THESE REQUIREMENTS AS PER N.C.S.R.B.C., 2018 EDITION, TABLE 301.2(4).
- 9. ENERGY EFFICIENCY REQUIREMENTS FOR THE SPECIFIC CLIMATE ZONE WHERE STRUCTURE IS BEING BUILT SHALL BE IN ACCORDANCE WITH CHAPTER 11 OF THE N.C.S.R.B.C., 2018 EDITION, AS SHOWN IN SECTION N1101.2.

# MATERIALS LEGEND

	EARTH/COMPACT FILL	FINISH WOOD
a - A .	CONCRETE	ROUGH WOOD
	BRICK	BLOCKING
	CONCRETE BLOCK/STONE	PLYWOOD
	STEEL	BATT INSULATION
	ALUMINUM	RIGID INSULATION

# ATTIC VENTILATION REQUIREMENTS

**CALCULATIONS** 

<u>1357 SQ. FT.</u> = 9.05 SQ. FT. VENT REQ'D

NATURAL ROOF VENTILATION

BUILDER TO PROVIDE APPROPRIATE VENTILATING AS REQUIRED PER CODE

CALCULATIONS

<u>1357 SQ. FT.</u> = 4.52 SQ. FT. VENT REQ'D

MECHANICAL ROOF VENTILATION

BUILDER TO PROVIDE APPROPRIATE VENTILATING AS

# RESIDENTIAL BUILDING CODE SUMMARY

- 1. PLANS ARE DESIGNED TO THE 2018 N.C.S.R.B.C.
- 2. HOUSE IS DESIGNED FOR 115 MPH ULTIMATE DESIGN WIND SPEED (89 MPH NOMINAL DESIGN WIND SPEED), EXPOSURE B.
- 3. ANCHOR BOLTS SHALL BE MIN. 1/2" DIAMETER AND SHALL EXTEND 7" MIN. INTO MASONRY OR CONCRETE. BOLTS TO BE NO MORE THAN 6' O.C. AND WITHIN 12"
- 4. MEAN ROOF HEIGHT: 35'-1"
- 5. COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS:

MEAN ROOF HGT:	<b>UP TO 30'</b>	30'-1" TO 35'	35'-1" TO 40'	40'-1" TO 4
ZONE 1	16.5,-18.0	17.3,-18.9	17.3,-18.9	17.3,-18.9
ZONE 2	16.5,-21.0	17.3,-22.1	17.3,-22.1	17.3,-22.1
ZONE 3	16.5,-21.0	17.3,-22.1	17.3,-22.1	17.3,-22.1
ZONE 4	18.0,-19.5	18.9,-20.5	18.9,-20.5	18.9,-20.5
ZONE 5	18.0,-24.1	18.9,-25.3	18.9,-25.3	18.9,-25.3

- 6. MINIMUM VALUES FOR ENERGY COMPLIANCE: Zone 4
- 7. MAXIMUM GLAZING U-FACTOR: .35
- 8. INSULATING VALUES: CEILING: R-38 / WALLS: R-15 / FLOOR: R-19 SLABS: R-10. CODE REFERENCE: TABLE N1102.1

# AREA CALCULATIONS

HEATED (SQ. FT.)		UNHEATED (SQ	. FT.)	UNFINISHED	(SQ. FT.)
BASEMENT: 1ST FLOOR: 2ND FLOOR: ATTIC: GARAGE:	N/A 848 1186 N/A N/A	GARAGE: FRONT PORCH: SCREEN PORCH:	428 81 100	BASEMENT: 1ST FLOOR: 2ND FLOOR: ATTIC:	N/A N/A N/A N/A
TOTAL:	2034	TOTAL:	609	TOTAL:	N/A
				OVERALL DIMEN	ISIONS
				WIDTH: DEPTH:	33'-8" 52'-6"

# FOUNDATION VENTILATION CALCULATIONS

REFERENCE: N.C.S.R.B.C. 2018 EDITION SECTION R408)

NOT APPLICABLE WITH SLAB FOUNDATIONS





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# Project Number

Project Number Plan Number

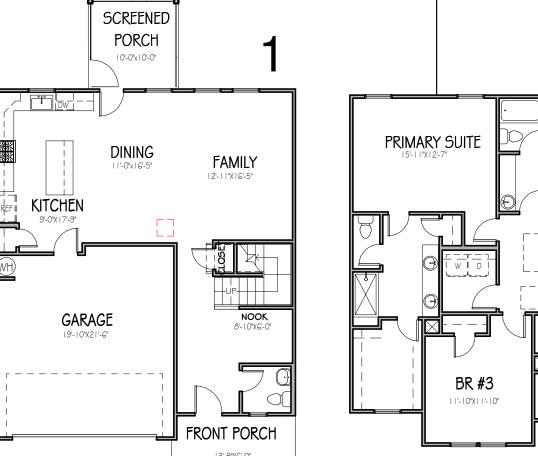
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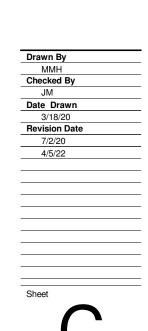
BR #4

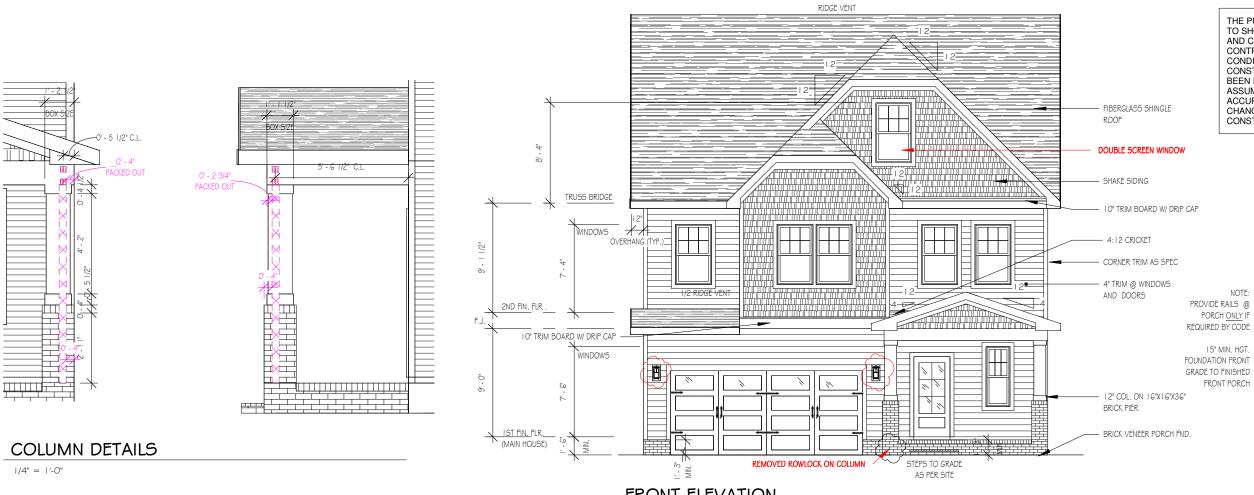
11'-5"X11'-6"

BR #2

SER ELEVATION B LOT 0078 SERENITY







THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. CONTRACTOR SHOULD VERIFY ALL
CONDITIONS AND DIMENSIONS PRIOR TO
CONSTRUCTION. ONCE A PERMIT HAS BEEN ISSUED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY TO THE ACCURACY OF THE PLANS AND ANY CHANGES MADE DURING CONSTRUCTION.



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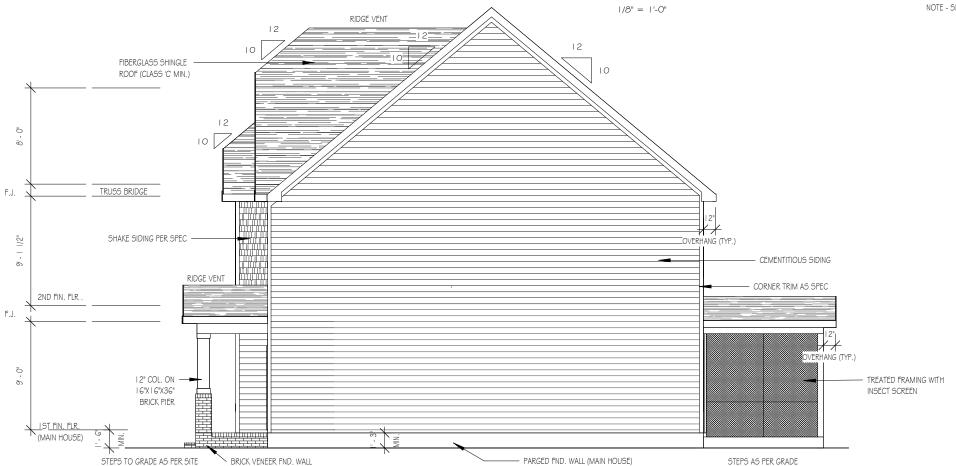
SER ELEVATION B LOT 0078 SERENITY **WISTERIA** 

Drawn By MH Checked By CM Date Drawn 4/8/20 Revision Date 7/1/20 4/5/22

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FRONT ELEVATION

NOTE - SLOPE ALL GRADES AWAY FROM HOUSE FOR POSITIVE DRAINAGE



RIDGE VENT

PBERQUASS SHINGLE
ROOF

CEMENTITIOUS 5DING

CEMENTITIOUS 5DING

CORNER TRIM AS SPEC

PRICE MOLD DILLY @ DOOR

RICK MOLD DILLY @ DOOR

THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. CONTRACTOR SHOULD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. ONCE A PERMIT HAS BEEN ISSUED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY TO THE ACCURACY OF THE PLANS AND ANY CHANGES MADE DURING CONSTRUCTION.

- PARGED FND. WALL



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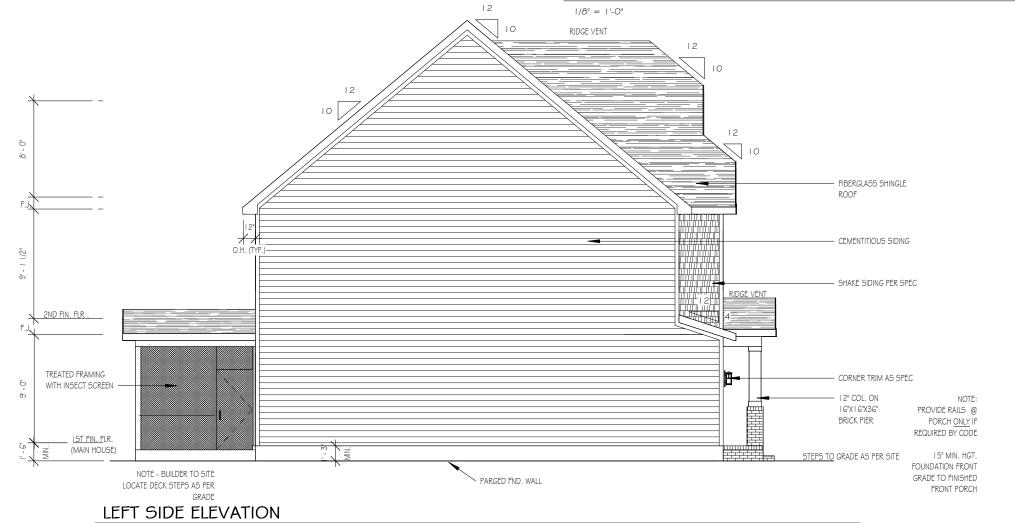
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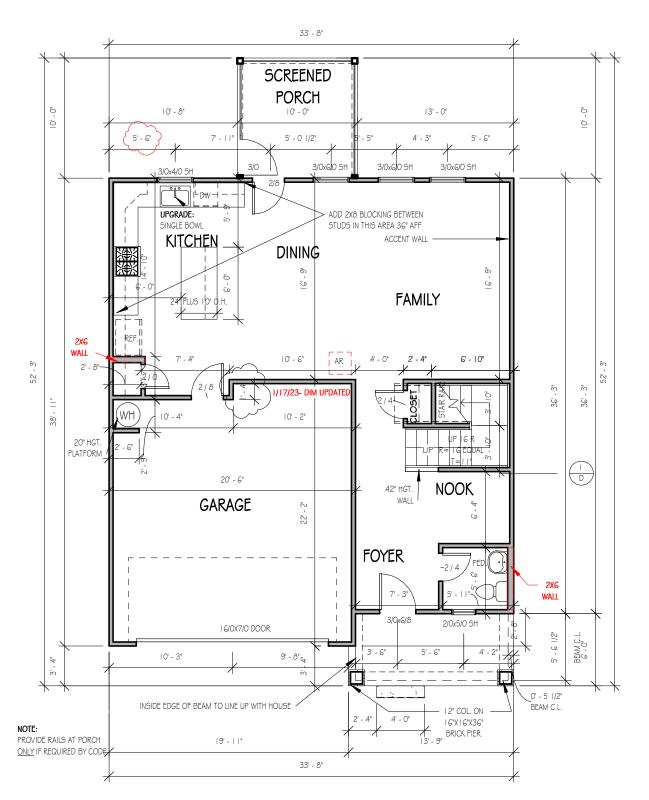
# WISTERIA SER ELEVATION B LOT 0078 SERENITY

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Checked By
CM
Date Drawn
4/8/20
Revision Date
7/1/20
4/5/22

2

# REAR ELEVATION





FIRST FLOOR

1/8" = 1'-0"

9'-0" CLG. HGT. U.N.O. SET WINDOWS @ 7'-6" U.N.O. CASED OPENINGS 8'-0" TALL THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. CONTRACTOR SHOULD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. ONCE A PERMIT HAS BEEN ISSUED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY TO THE ACCURACY OF THE PLANS AND ANY CHANGES MADE DURING CONSTRUCTION.

9' - 0"



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WISTERIA
SER ELEVATION B
LOT 0078 SERENITY

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4/8/20
Revision Date
7/1/20
4/5/22

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3/0x5/0 SH 3/0x5/0 SH 3/0x5/0 SH 16' - 7" 12' - 1" PRIMARY SUITE BR #4 ACCENT WALL AUNDRY BENCH · W.I.C. BR #2 10' - 10" BR #3 3/0x5/0 SH 3/0x5/0 SH 3/0x5/0 SH 2-3/0x5/0 SH 4' - 2" 3' - 3" 4' - 5 1/2" 4' - 7" 12' - 6" 13' - 2" 8' - 0" 33' - 8"

33' - 8"

11' - 3"

10' - 3"

NOTES:

ROUGH FRAME ALL CASED OPENINGS 2" BIGGER THAN FINISHED OPENING CALLS FOR

ROUGH FRAME ALL WINDOW OPENINGS 1/2\* LARGER THAN FINISHED WINDOW CALLS FOR, WHEN PAIRED WITH ANOTHER WINDOW THAT CALLS FOR DSP, ADD EXTRA TO OUTSIDE MEASUREMENT OF WINDOW

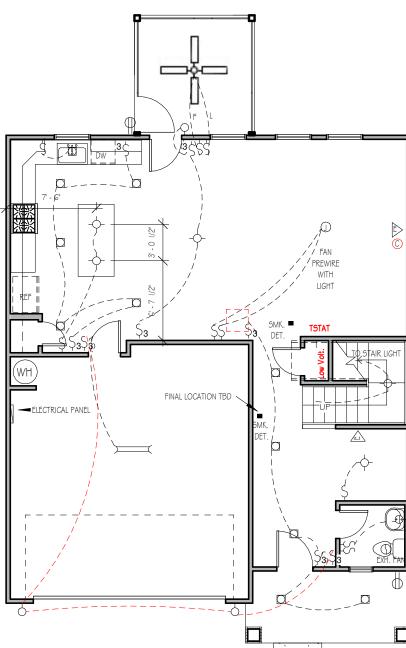
ALL EXTERIOR WALLS 2X4

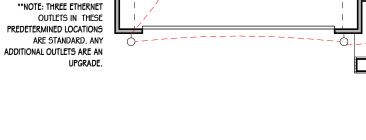
TOP OF ALL WINDOWS SILLS SHALL BE 24" MINIMUM ABOVE THE FINISHED FLOOR <u>OR</u> A FALL PREVENTION DEVICE SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R312.2 OF N.C.S.R.B.C., 2018 EDITION

SECOND FLOOR

1/8" = 1'-0"

9'-0" CLG. HGT. U.N.O. SET WINDOWS @ 7'-4" U.N.O.

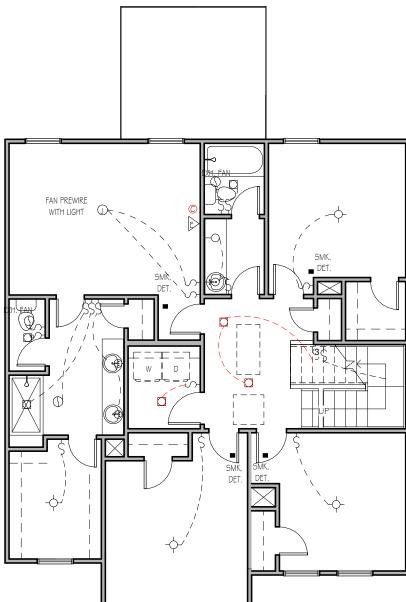




# FIRST FLOOR ELECTRICAL PLAN

1/8" = 1'-0"

NOTE - ELECTRICAL RECEPTACLE AND SWITCH QUANTITIES AND LOCATIONS SHOWN ON PLAN ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL NUMBER AN D LOCATIONS SHALL BE FIELD DETERMINED AS PER CLIENT AND BUILDER EXCEPT WHERE CODE REQUIREMENTS APPLY.



THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. CONTRACTOR SHOULD VERIFY ALL
CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. ONCE A PERMIT HAS BEEN ISSUED, CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY TO THE ACCURACY OF THE PLANS AND ANY CHANGES MADE DURING CONSTRUCTION.

ELECTRICAL LECEND

MP- WATERPROOF OUTLET

II - RECESSED LIGHTING

& - B-WAY SMITCH E - 4-MAY SMITCH

E - DINHER SHITCH

№ - нгоор пянца

W - EYEDALL SOOTS

O - CABLE OVILET A - TELEPHONE OUTLET A - COMPUTER DATA CUILET

- INTERSOM

M - DURBLAR ALARM

NOTE: ALL ELECTRICAL TO SE VERIFED BY OWNER/BULDER BETORE ROUGH-IN.

• DUPLEX RECEPTABLE (1697)

CONTRACTOR - CLA PARCLISHES

. BWITCHED RESERVAGE (TOP WIRE OILY) GROUND FAILT CIRCUIT NTERRIPTOR

- Hubreschir Liehting

- 220 VOLT WEGETTAGLE

- SMOKE DETECTOR

. - SINGLE PULL GATCH

O - PANLISHT

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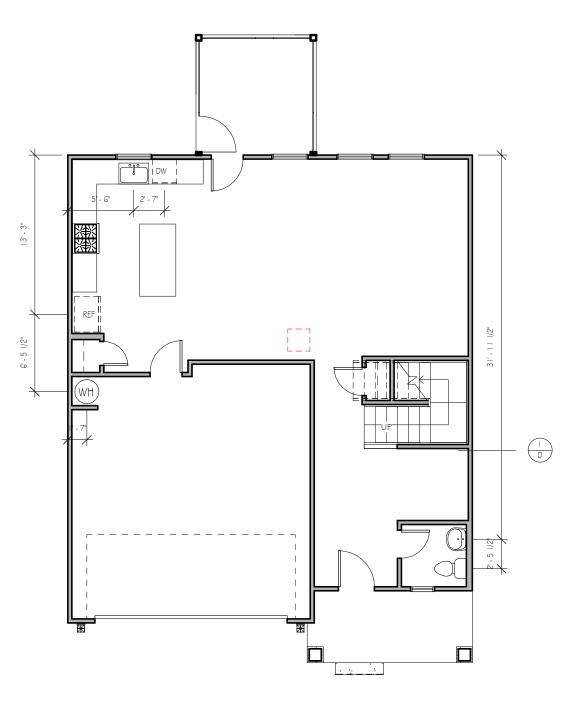
SER ELEVATION B LOT 0078 SERENITY **WISTERIA** 

# SECOND FLOOR ELECTRICAL PLAN

1/8" = 1'-0"

NOTE - ELECTRICAL RECEPTACLE AND SWITCH QUANTITIES AND LOCATIONS SHOWN ON PLAN ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL NUMBER AN D LOCATIONS SHALL BE FIELD DETERMINED AS PER CLIENT AND BUILDER EXCEPT WHERE CODE REQUIREMENTS APPLY.

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# FIRST FLOOR PLUMBING

1/8" = 1'-0"

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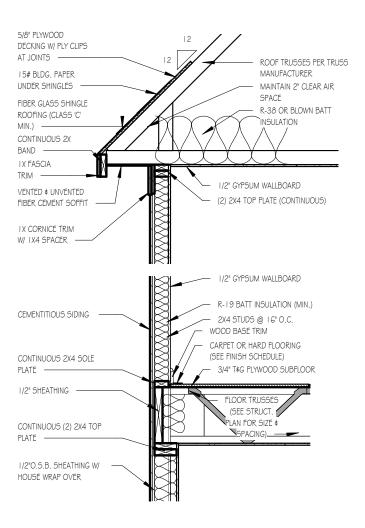
Project Number
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Plan Number
FP-2034

# WISTERIA SER ELEVATION B LOT 0078 SERENITY

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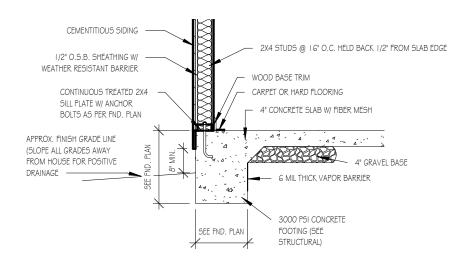
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# TWO-STORY WALL SECTION

1/2" = 1'-0"

1/2" = 1'-0"



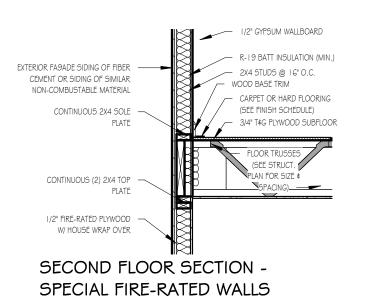
# FOUNDATION DETAIL - SLAB

1/2" = 1'-0"

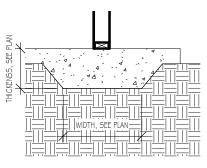
1/2" FIRE-RATED PLYWOOD -DECKING W/ PLY CLIPS AT JOINTS EXTENDING AMIN. OF 4' AWAY FROM WALL ASSEMBLY ROOF TRUSSES PER TRUSS MANUFACTURER 15# BLDG. PAPER UNDER SHINGLES MAINTAIN 2" CLEAR AIR FIBER GLASS SHINGLE SPACE R-38 OR BLOWN BATT ROOFING (CLASS 'C' MIN.) INSULATION CONTINUOUS 2X BAND LX FASCIA TRIM 1/2" GYPSUM WALLBOARD 5'8" PLYWOOD SOFFIT, ALL SOFFITS CONNECTING TO THE (2) 2X4 TOP PLATE (CONTINUOUS) SPECIAL WALL AND A MIN. OF 4' OF CONNECTING POINT SHALL BE SEALED W/ TWO LAYERS OF FIRE-RATED PLYWOOD OR 5/8" EXTERIOR OR MOISTURE RESISTANT GYPSUM BOARD IX CORNICE TRIM W/ IX4 SPACER FIRE RATED OSB

# ROOF DETAIL SPECIAL FIRE-RATED WALLS

1/2" = 1'-0"



1/2" = 1'-0"



# LUG FOOTING

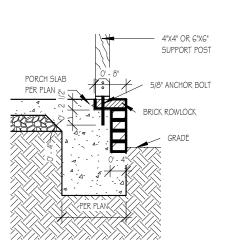
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# I YPICAL DE LAIL SHEET SERENITY COLLECTION

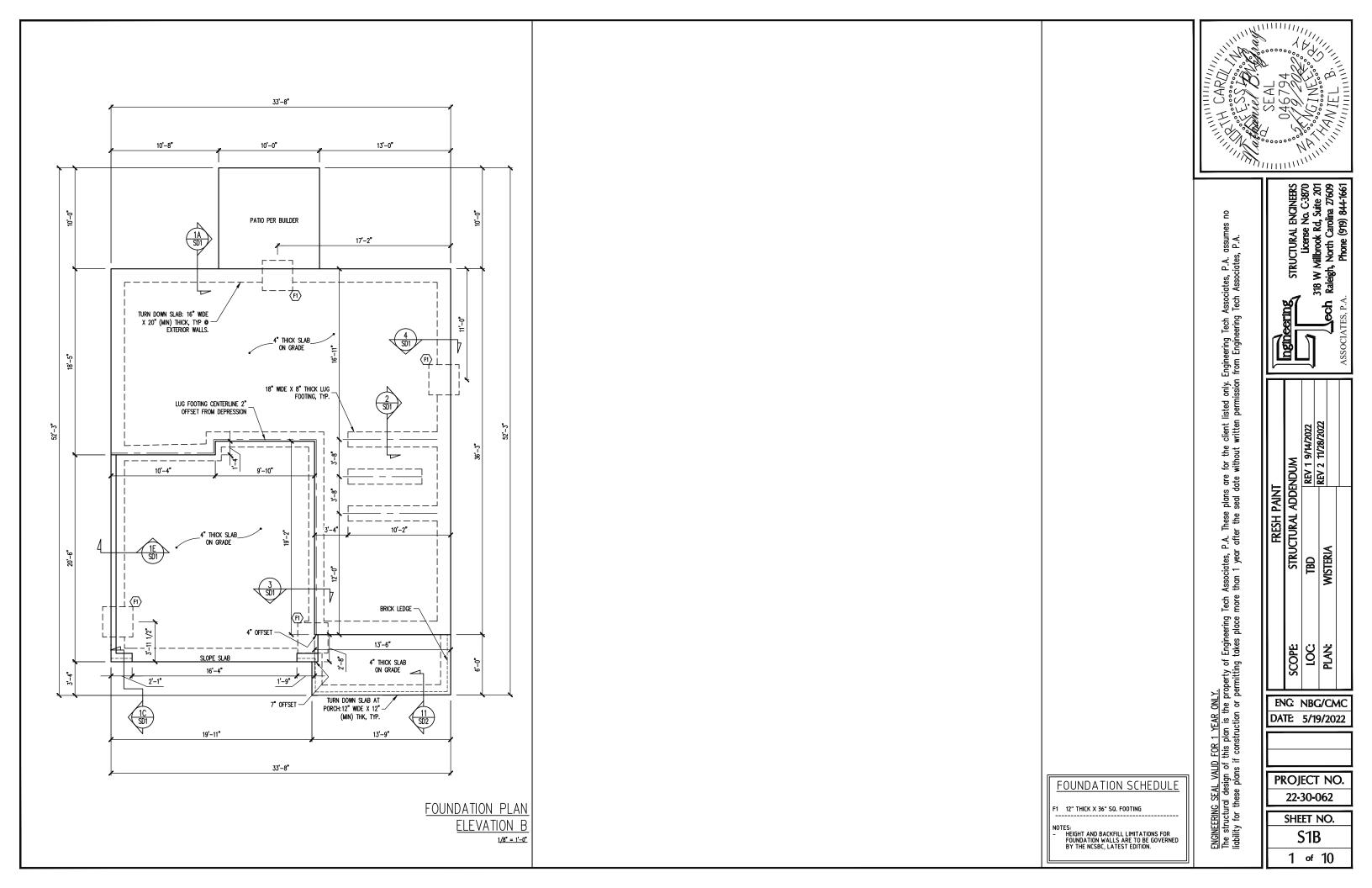


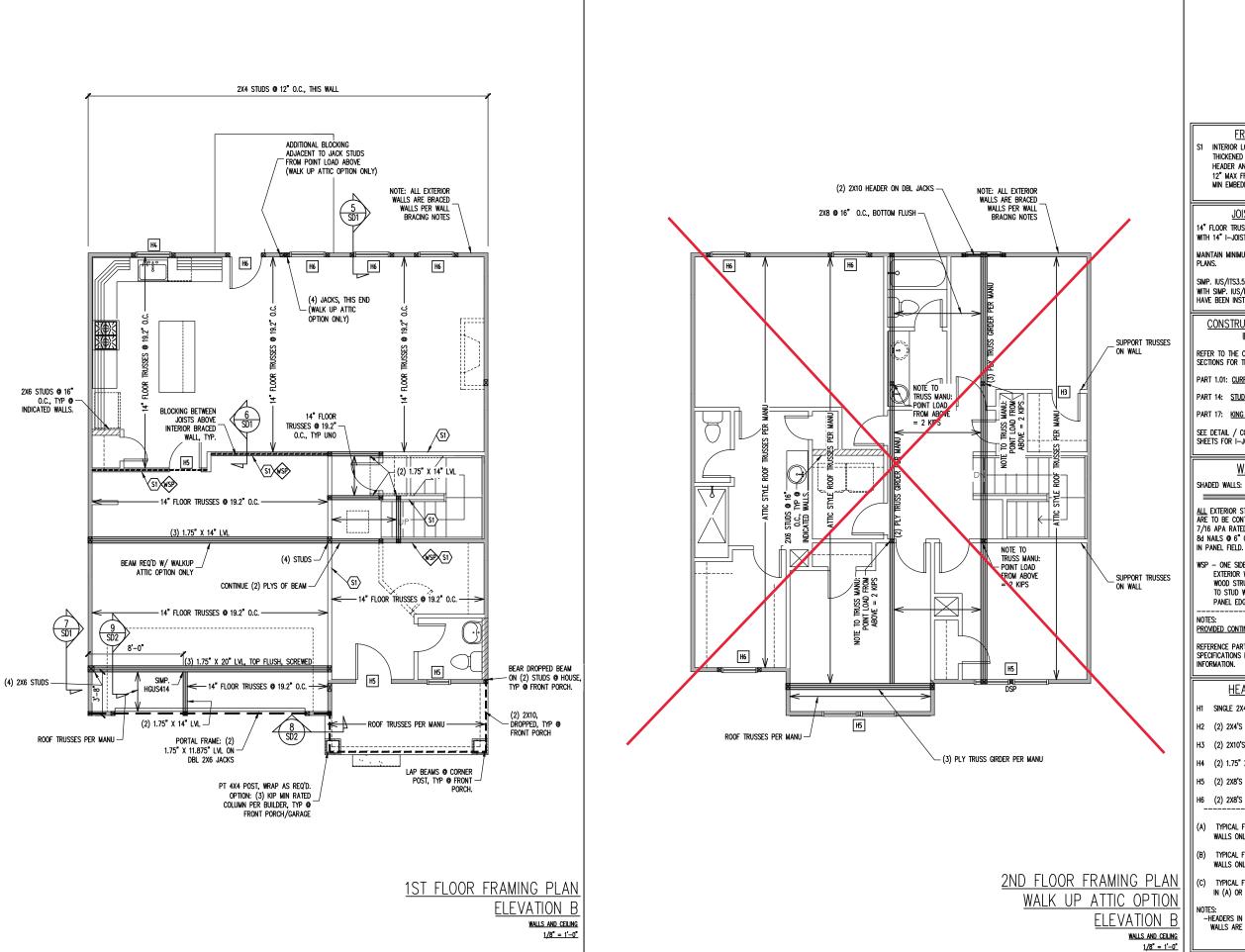
FRONT PORCH COLUMNS
SUPPORT ATTACHMENT

1/2" = 1'-0"

Drawn By	
MMH	
Checked By	
JM	
_Date Drawn	
10/28/20	
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9/20/22	
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D







INTERIOR LOAD BEARING WALL: SECURE TO THICKENED SLAB BELOW WITH 1/2" RED HEADER ANCHOR (OR EQUAL) @ 6'-0" O.C., 12" MAX FROM ENDS / CORNERS OF WALL, 7" MIN EMBEDMENT INTO SLAB BELOW.

# JOIST SUBSTITUTION

14" FLOOR TRUSSES PERMITTED TO BE SUBSTITUTED WITH 14" I-JOISTS.

MAINTAIN MINIMUM SPACING AS CALLED OUT ON

SIMP. IUS/ITS3.56/14 HANGERS TO BE SUBSTITUTED WITH SIMP. IUS/ITS2.06/14 HANGER WHEN I-JOISTS HAVE BEEN INSTALLED.

# CONSTRUCTION SPECIFICATIONS INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS SECTIONS FOR THE FOLLOWING INFORMATION:

PART 1.01: CURRENT GOVERNING CODE

PART 14: STUD SUPPORT FOR BEAMS

PART 17: KING STUDS FOR EXTERIOR WALLS

SEE DETAIL / CONSTRUCTION SPECIFICATIONS SHEETS FOR I—JOISTS ALLOWABLE SUBSTITUTIONS

# WALL BRACING

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

WSP - ONE SIDE OF INTERIOR WALL OR INSIDE OF EXTERIOR WALL WITH 3/8" MIN. THICKNESS WOOD STRUCTURAL PANELING. ATTACH WSP TO STUD WALL WITH 8d NAILS @ 4" O.C. AT PANEL EDGES, 8" O.C. IN PANEL FIELD.

PROVIDED CONTINUOUS SHEATHING = 145' MIN.

REFERENCE PART 16.02 OF CONSTRUCTION SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

# HEADER SCHEDULE

- SINGLE 2X4 TURNED FLAT (A)
- (2) 2X4'S ON SINGLE JACKS (B)
- (2) 2X10'S ON SINGLE JACKS (C)
- (2) 1.75" X 9.25" LVL'S ON DBL JACKS
- (2) 2X8'S ON SINGLE JACKS
- (2) 2X8'S ON DBL JACKS
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.
- TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

-HEADERS IN NON LOAD BEARING INTERIOR
WALLS ARE NOT LABELED.

STRUCTURAL ENGINEERS
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318 W Millbrook Rd, Suite 201
Raleigh, North Carolina 27609
Phone (919) 844-1661 Engineering from Engine only. ission listed perm client I for the without FRESH PAINT STRUCTURAL ADDENDUM plans are seal date v P.A. These

> ENG: NBG/CMC DATE: 5/19/2022

LOC

**WISTERIA** 

180 180

PROJECT NO. 22-30-062

> SHEET NO. S<sub>2</sub>B 2 of 10

O FOR 1 YEAR ONLY. If this plan is the property of E if construction or permitting to sign of the plans if ENGINEERING The structural liability for th

eering place

Engine takes

# NOTE: ALL EXTERIOR WALLS ARE BRACED \_ WALLS PER WALL BRACING NOTES H5 H5 H5 LOCATE PDS BETWEEN TRUSSES @ 16"-TYP @-WALLS H5 H5 H5 (3) PLY TRUSS GIRDER PER MANU - ROOF TRUSSES PER MANU -H5

2ND FLOOR FRAMING PLAN

**ELEVATION B** 

WALLS AND CEILING

1/8" = 1'-0"

# TRUSS UPLIFT CONNECTORS

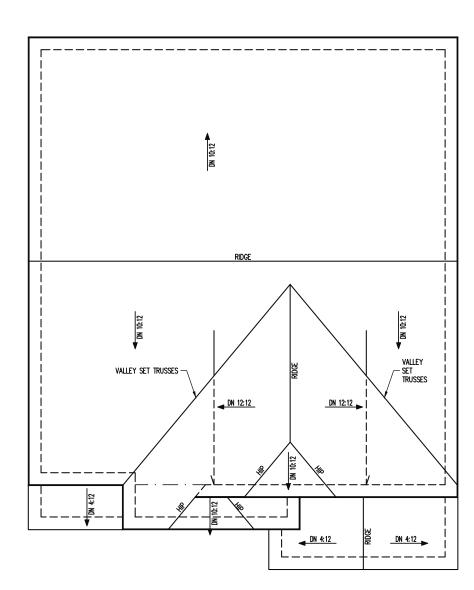
TRUSSES SHALL BE ATTACHED TO SUPPORT WALL FOR UPLIFT
RESISTANCE. CONTINUOUS OSB WALL SHEATHING BELOW PROVIDES
CONTINUOUS UPLIFT RESISTANCE TO FOUNDATION. ALL TRUSSES
SUPPORTED BY INTERMEDIATE SUPPORT WALLS, KNEEWALLS OR
BEAMS SHALL BE ATTACHED TO SUPPORTING MEMBER PER SCHEDULE
BELOW.

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

OVER 28'

(1) SIMPSON H2.5A HURRICANE CLIP TO DBL TOP PLATE OR BEAM

OR (1) SIMPSON H3 CLIP TO SINGLE 2X4 PLATE



ROOF FRAMING PLAN **ELEVATION B** 1/8" = 1'-0" FRAMING NOTES

-ROOF TRUSSES PER MANU. TYPICAL U.N.O.
-VERIFY ALL KNEEWALL HEIGHTS, ROOF PITCHES,
AND ARCHITECTURAL OVERHANGS PRIOR TO CONSTRUCTION

# CONSTRUCTION SPECIFICATIONS INSTANT REFERENCES

REFER TO THE CONSTRUCTION SPECIFICATIONS SECTIONS FOR THE FOLLOWING INFORMATION:

PART 1.01: CURRENT GOVERNING CODE PART 14: STUD SUPPORT FOR BEAMS

PART 17: KING STUDS FOR EXTERIOR WALLS

WALL BRACING

SHADED WALLS:

ALL EXTERIOR STUD WALLS, EXTERIOR SIDE, ARE TO BE CONTINUOUSLY SHEATHED WITH 7/16 APA RATED OSB NAILED TO STUDS WITH 8d NAILS @ 6" O.C. AT PANEL EDGES, 12" O.C. IN PANEL FIELD.

PROVIDED CONTINUOUS SHEATHING = 145' MIN.

REFERENCE PART 16.02 OF CONSTRUCTION SPECIFICATIONS FOR GENERAL WIND BRACING INFORMATION.

# HEADER SCHEDULE

- SINGLE 2X4 TURNED FLAT (A)
- (2) 2X4'S ON SINGLE JACKS (B)
- (2) 2X10'S ON SINGLE JACKS (C)
- H4 (2) 1.75" X 9.25" LVL'S ON DBL JACKS
- H5 (2) 2X8'S ON SINGLE JACKS
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPENING 38" MAX.
- TYPICAL FOR INTERIOR NON LOAD BEARING WALLS ONLY, ROUGH OPNG 38" TO 74" MAX.
- TYPICAL FOR ALL CONDITIONS NOT LISTED IN (A) OR (B) UNO.

-HEADERS IN NON LOAD BEARING INTERIOR WALLS ARE NOT LABELED.

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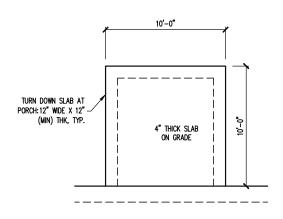
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> ENG: NBG/CMC DATE: 5/19/2022

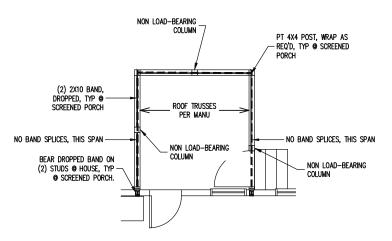
PROJECT NO. 22-30-062

> SHEET NO. S4B

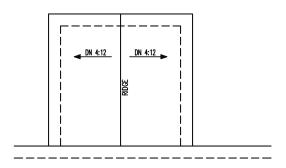
4 of 10



# FOUNDATION PLAN OPTIONAL SCREENED PORCH MONOSLAB FOUNDATION $1/8^{\circ} = 1'-0^{\circ}$



1ST FLOOR FRAMING PLAN OPTIONAL SCREENED PORCH 1/8'' = 1'-0''



ROOF FRAMING PLAN OPTIONAL SCREENED PORCH <u>1/8" = 1'-0"</u>

STRUCTURAL ENCINEERS
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2

Associates, P.A. as Tech Associates, F ENGINEERING SEAL VALID FOR 1 YEAR ONLY.

The structural design of this plan is the property of Engineering Tech Associates, P.A. These plans are for the client listed only. Engineering Tech / liability for these plans if construction or permitting takes place more than 1 year after the seal date without written permission from Engineering STRUCTURAL ADDENDUM

REV 1 9/14/2022

REV 2 11/28/2022 WISTERIA TBD

LOC:

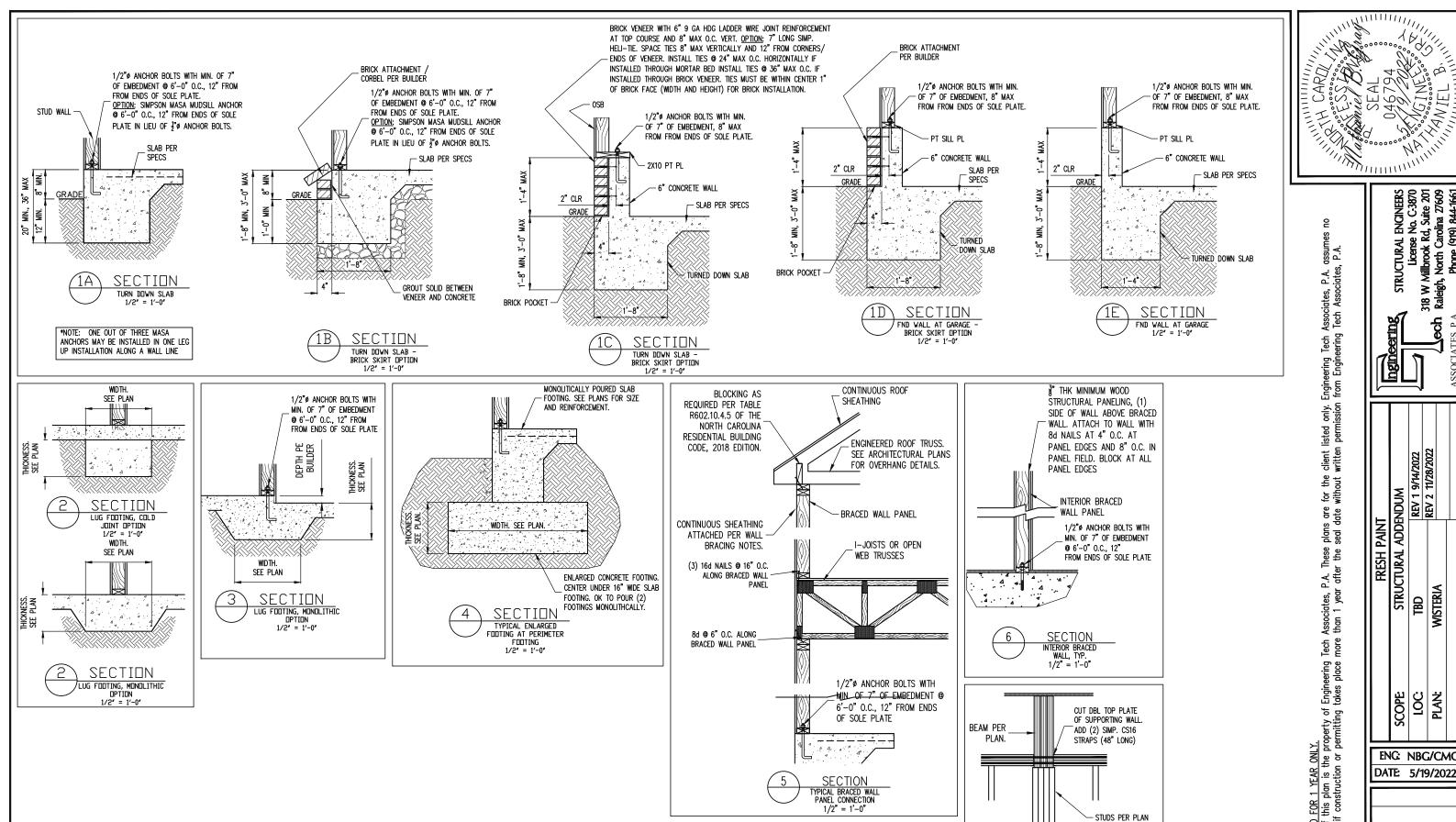
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S<sub>5</sub>B 5 of 10



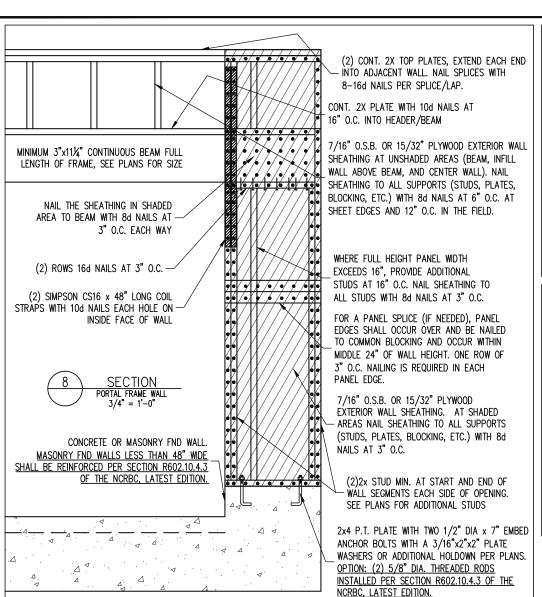
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aleigh, North Carolina 27609
Phone (919) 844-1661 Tech / eering Engineering T from Enginee only. listed permi client I for the without siates, P.A. These plans are 1 year after the seal date **FRESH PAINT** STRUCTURAL WISTERIA **B** eering place Engine takes FA: <u>D FOR 1 YEAR ONLY.</u> f this plan is the property of E if construction or permitting to ENG: NBG/CMC DATE: 5/19/2022

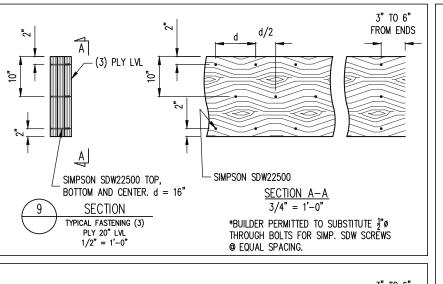
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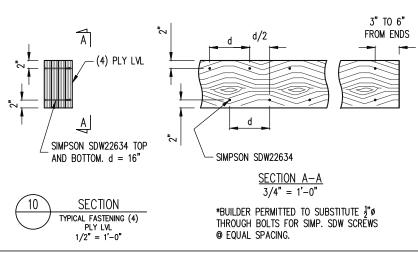
GARAGE BEAM 1/2" = 1'-0"

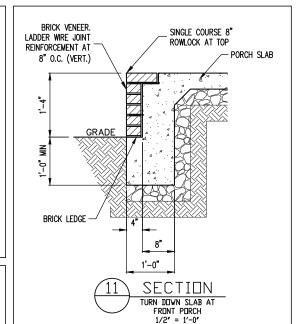
PROJECT NO. 22-30-062

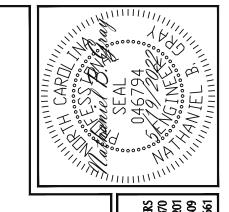
SHEET NO. SD1 8 of 10











STRUCTURAL ADDENDUM
TBD
REV 2 11/28/2022
WISTERIA

FRESH PAINT

REV 2 11/28/2022

ASSOCIATES, P.A.

Phone (919) 844-1661

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ENG: NBG/CMC DATE: 5/19/2022

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PROJECT NO. 22-30-062

SHEET NO. SD2

5D2 9 of 10

# CONSTRUCTION SPECIFICATIONS

# PART 1: GENERAL

- CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- 1.02 DIMENSIONS SHOWN SHALL GOVERN OVER SCALE ON THESE DRAWINGS.
- 1.05 METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.

  8.03 ANCHOR RODS AND BOLTS SHALL CONFORM TO ASTM F1554-15 GRADE 36 UNO. BENT ANCHOR BOLTS SHALL HAVE A 2" MIN HOOK UNO

# PART 2: DESIGN LOADS

2.01 DESIGN LOADS SHALL CONFORM WITH THE TABLE BELOW:

USE	LIVE LOAD (PSF)	DEAD LOAD (PSF)
Balconies, decks, attics with fixed stair access, dwelling units including attics with fixed stair access, stairs, fire escapes	40	10
GARAGES (PASSENGER CARS ONLY	) 50	
ATTICS (NO STORAGE, LESS THAN 5' HEADROOM	) 10	10
ATTICS (WITH STORAGE)	) 20	10
ROOF	20	10 (15 FOR VAULTS)

- NOTES: INDIVIDUAL STAIR TREADS ARE TO BE DESIGNED FOR THE UNIFORMLY DISTRIBUTED LIVE LOAD OF 40 PSF OR A 300 LB. CONCENTRATED LOAD ACTING OVER AN AREA OF 4 SQ. WHICHEVER PRODUCES THE GREATER STRESS. BUILDER TO VERIFY DEAD LOAD DOES NOT EXCEED 10 PSF WHEN HEAVY FLOOR OR FINISHES SUCH AS TILE OR SLATE ARE UTILIZED. NOTIFY ENGINEERING UNDER
- 2.02 INTERIOR WALLS: 5 PSF LATERAL.
- 2.03 BASIC WIND DESIGN VELOCITY OF 120 MPH.
- 2.04 SOIL BEARING CAPACITY 2000 PSF (PRESUMPTIVE).

# PART 5: CONCRETE AND SLABS ON GRADE

- CAST IN PLACE CONCRETE SHALL BE OF NORMAL WEIGHT, 6% AIR ENTRAINMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS TYP UNO. ALL CONCRETE, INCLUDING CONCRETE FOR FOOTINGS, IS TO BE CAST IN PLACE, TYP
- 5.02 REINFORCED CAST IN PLACE CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED IN ACCORDANCE WITH THE SPECIFICATIONS OF ACI 318, LATEST EDITION.
- 5.03 SLABS ON GRADE, IF ANY, SHALL CONTAIN SYNTHETIC POLYPROPYLENE FIBRILLATED MICRO FIBERS, FIBER LENGTH 1 1/2", DOSAGE RATE 1 1/2 LBS/CU YD. SLAB TO BE PLACED ON A 6 MIL VAPOR BARRIER ON 2" MIN GRANULAR FILL ON SOIL WITH 90% MIN STANDARD PROCTOR DENSITY. VAPOR BARRIER MAY BE OMITTED FOR SLABS NOT

# PART 6: REBAR AND WIRE REINFORCEMENT

- REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615 GRADE 60 TYP UNO
- 6.02 LAP SPLICES SHALL BE CLASS B AS DEFINED BY ACI 318, TYP UNO
- 6.03 WIRE REINFORCEMENT SHALL BE 9 GA AND SHALL CONFORM TO ASTM A1064.

- 7.01 CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND C55, NORMAL WEIGHT,
- 7.02 CLAY MASONRY UNITS SHALL CONFORM TO ASTM C62-17 GRADE SW
- 7.03 MORTAR SHALL BE TYPE S. MORTAR AND GROUT SHALL CONFORM TO ASTM C476, MIN COMPRESSIVE STRENGTH OF 2000 PSI.

# 7.04 MASONRY CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS OF ACI 530

LADDER WIRE REINFORCEMENT SHALL CONFORM TO ASTM A951. 6" MIN LAPS FOR CONTINUOUS WALL APPLICATIONS 7.05

## PART 8: BOLTS AND LAG SCREWS

# PART 9: DRIVEN FASTENERS

NAILS, SPIKES AND STAPLES SHALL CONFORM TO ASTM F 1667- 05. NAILS ARE TO BE COMMON WIRE OR BOX

# PART 10: DIMENSIONAL LUMBER

SOLID SAWN WOOD FRAMING DESIGN IS BASED ON NO. 2 SPRUCE PINE FIR  $\underline{OR}$  SYP #2 FOR JOISTS, RAFTERS, GIRDERS, BEAMS, STUDS, ETC. 10.01

# PART 11: ENGINEERED LUMBER

- 11.01 LVL OR PSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS: E= 1.9 X 10E6 PSI, Fb = 2600 PSI, Fv = 285 PSI, Fc = 750 PSI LSL MINIMUM ALLOWABLE DESIGN STRESSES ARE AS FOLLOWS: E= 1.3 X 10E6 PSI, Fb = 1700 PSI, Fv = 400 PSI, Fc = 680 PSI
- 1.02 LVL OR PSL MEMBERS MAY BE RIPPED FROM DEEPER MEMBERS TO MATCH THE MEMBER

# PART 12: PRESSURE TREATED LUMBER

LUMBER IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C-15. ALL OTHER EXPOSED LUMBER SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD C-2 OR BY ANY METHOD GIVING EQUAL PROTECTION. THE BUILDING CODE OFFICE WAY ALSO APPROVE A NATURAL 12.01 DECAY RESISTANT WOOD PER SECTION 19-6(A)

# PART 14: STUD SUPPORTS FOR BEAMS

STEEL, ENCINEERED LUMBER, AND FLITCH PLATE BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS: 14.01

- 1-When the beam is perpendicular to, or skewed relative to the wall, the beam shall bear <u>full width</u> on the supporting wall indicated and shall be supported by a minimum of three garged studs, or a ganged stud column with a number of studs such that the stud column is a least as wide as the true width of the beam being supported, whichever is greater, typ und, for the skewed CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON
- 2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A MINIMUM OF 4 1/2" ONTO THE WALL AND BE SUPPORTED BY A TRPL STUD GANGED
- 4.02 DIMENSIONAL LUMBER BEAMS BEARING ON A STUD WALL SHALL BEAR AS FOLLOWS:
- 1-when the beam is perpendicular to, or skewed relative to the wall, the beam shall bear <u>full width</u> on the supporting wall indicated (less 1 1/2" to allow for a continuous rim joist where applicable) and shall be supported by a GANGED STUD COLUMN THE SAME WIDTH AS THE BEAM TYP UNO. (E.G. A TRIPLE 2X10 IS TO BE SUPPORTED BY (3) STUDS), FOR THE SKEWED CONDITION PARTICULAR CARE SHALL BE TAKEN TO ENSURE STUD COLUMN IS CENTERED ON THE BEAM 2-BEAMS BEARING ONTO THE END OF A STUD WALL PARALLEL TO THE BEAM SHALL BEAR A
- MINIMUM OF 3" ONTO THE WALL AND BE SUPPORTED BY A DBL STUD GANGED COLUMN
- 14.03 Extra joists bearing on a stud wall perpendicular to or skewed relative to the beam shall be supported by one additional stud.
- STUDS THAT ARE GANGED TO FORM A COLUMN SHALL HAVE ADJACENT STUDS WITHIN THE COLUMN NAILED TOGETHER WITH ONE ROW OF 10d NAILS AT 8" O.C. (TWO ROWS OF 10d NAILS @ 8" O.C., 3" APART, FOR 2X8 OR 2X10 STUDS) ALL COLUMNS SHALL BE CONTINUOUS DOWN TO THE FOUNDATION OR OTHER PROPERLY DESIGNED STRUCTURAL ELEMENT SUCH AS A BEAM. COLUMNS TRANSFERRING LOADS THROUGH FLOOR LEVELS SHALL BE SOLIDLY BLOCKED FOR THE FULL WIDTH OF THE STUD COLUMN

# WITHIN THE CAVITY FORMED BY THE

# PART 15: NAILING OF MULTI PLY WOOD BEAMS

- SOLID SAWN LUMBER JOISTS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM NAILED TOGETHER WITH THREE ROWS OF 10d NAILS @ 16" O.C. FOR 2X10 OR LARGER, TWO ROWS OF 10d NAILS @ 16" O.C. FOR 2X8, ONE 10d NAILS @ 16" O.C. FOR 2X6 OR SMALLER. STAGGER ROWS 5" MIN.
- LVL MEMBERS THAT ARE GANGED TO FORM A BEAM SHALL HAVE ADJACENT MEMBERS IN THE BEAM FASTENED TOGETHER PER MANUFACTURERS RECOMMENDATIONS, TYP

# PART 16: WALL FRAMING AND BRACING

STUD WALLS SHALL CONSIST OF 2X4 STUDS SPACED AT 16" O.C. LINO. STUDS SHALL STUD WALLS SHALL CONSIST OF 2X4 STUDS SPACED AT 16" O.C. UNO. STUDS SHALL BE CONTINUOUS FROM SOLE PLATE AT FLOOR TO DOUBLE TOP PLATE AT THE CEILING OR ROOF. NO INTERMEDIATE BANDS OR PLATES SHALL CAUSE DISCONTINUITIES IN A STUD WALL EXCEPT AS REQUIRED FOR DOOR OR WINDOW OPENINGS. THE KING STUDS FOR SUCH OPENINGS SHALL BE CONTINUOUS, TYP UNO.

MAX ALLOWABLE WALL HEIGHTS FOR EXTERIOR STUD WALLS, WITH SOLE PLATE AND DBL TOP PLATE AND 7/16" OSB EXTERIOR BRACING AND ROW OF 2X4 / 2X6 PURLINS AT 8" HEIGHT (AND AT 16" HEIGHT FOR TALL WALLS), TYP UNO: 2X4 @ 12" O.C.: 11'-0" 2X6 @ 16" O.C.: 17'-0"

DBL 2X4 @ 16" O.C.: 13'-4" DBL 2X6 @ 16" O.C.: 21'-0"

16.02 FOR WALL BRACING THE FOLLOWING SHALL APPLY:

-BLOCKING AT UNSUPPORTED PANEL EDGES IS REQUIRED TYP UNO.

-WALL BRACING IS BY ENGINEERED DESIGN AND NOT PRESCRIPTIVE PER SECTION
602.10 OF THE 2018 NCRC. CONTINUOUS SHEATHING HAS BEEN PROVIDED, ALONG
WITH ALTERNATIVE METHODS TO INSURE THE MINIMUM INTENT OF SECTION 602.10
OF THE 2018 NCRC HAS BEEN MET AND EXCEEDED.

-BRACED WALL PANELS SHALL BE FASTENED IN ACCORDANCE WITH TABLE 602.3(1) TO
PROVIDE CONTINUOUS PANEL UPLIFT RESISTANCE AND COMPLIANCE WITH NCRBC
R602.35 AND R802.11 UNILESS NOTED OTHERWISE ON STRUCTURAL PLANS.

-MAY SUBSTITUTE WSP FOR GB
-SINGLE JOIST, CONTINUOUS RIM JOIST, OR BLOCKING OF EQUAL DEPTH IS REQUIRED
ABOVE AND BELOW ALL BRACED WALLS. NAIL BLOCKING ABOVE WALL TO TOP PLATE
WITH 16d TOE NAILS @ 6" O.C. NAIL SOLE PLATE OF BRACED WALL TO BLOCKING
BELOW WITH (3) 16d NAILS @ 16" O.C. BLOCKING AT HORIZONTAL JOINTS IN BRACED
WALL LINES ONLY REQUIRED AT SHADED WALLS, UNO.

WALL LINES ONLY REQUIRED AT SHADED WALLS, UNO.

# PART 17: KING STUDS

17.01 KING STUDS FOR OPENINGS IN EXTERIOR WALLS SHALL BE AS FOLLOWS:

			NUMBE	r of Kin	ig studs		
AX OPENIN	G WIDTH	5'-0"	9'-0"	13'-0"	17'-0"	21'-0"	
	2X4	1	2	3	4	5	
STUD SIZE	2X6	1	1	2	2	2	
	2X8	1	1	1	1	2	

# PART 18: SUBSTITUTIONS

MATERIAL OR MEMBER SIZE SUBSTITUTIONS OR PLAN DEVIATIONS REQUIRE THE WRITTEN AUTHORIZATION OF THE DESIGNERS. UNAUTHORIZED DEVIATIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR

# PART 19: OWNERSHIP OF STRUCTURAL DESIGN

THE STRUCTURAL DESIGN OF THIS PLAN IS THE PROPERTY OF ENGINEERING TECH ASSOCIATES (ETA). THESE PLANS ARE FOR THE ONE TIME USE AT THE LOCATION INDICATED AND FOR THE CLIENT LISTED. ETA ASSUMES NO LIABILITY FOR THESE PLANS IF THEY ARE REPRODUCED, IN WHOLE OR IN PART, FOR CONSTRUCTION AT ANY OTHER LOCATION WITHOUT WRITTEN PERMISSION FROM ETA

# **NOTES**

THE BUILDER IS RESPONSIBLE FOR REVIEWING PLANS PRIOR TO CONSTRUCTION. THE BUILDER SHALL IMMEDIATELY CONTACT THE ENGINEER OF RECORD (EOR) BEFORE PROCEEDING IF THE FOLLOWING CONDITIONS ARE NOTED BEFORE OR DURING CONSTRUCTION:

- 1) THE WORKING PLANS DO NOT BEAR THE SEAL OF THE FOR
- 2) THE PLANS CONTAIN DISCREPANT OR INCOMPLETE INFORMATION

ANY ERRORS DUE TO A FAILURE TO FOLLOW THE ABOVE PROCEDURES SHALL NOT BE THE RESPONSIBILITY OF THE EOR. FURTHERMORE, IT IS THE RESPONSIBILITY OF THE BUILDER TO ENSURE THAN ANY REVISIONS ISSUED BY THE EOR ARE PROMPLY DISTRIBUTED TO THE

THE EOR DOES NOT PERFORM FENESTRATION OR VENTING CALCULATIONS OR ANY OTHER CALCULATIONS THAT ARE NOT DIRECTLY RELATED TO STRUCTURAL ENGINEERING.

ROOF AND FLOOR TRUSSES TO BE DESIGNED BY AN ENGINEER REGISTERED BY THE STATE, FINAL TRUSS DRAWING SHOULD BE SUBMITTED TO THE EOR FOR REVIEW

# **ABBREVIATIONS**

# ALLOWABLE I-JOIST SUBSTITUTION

NOTE: MAINTAIN JOIST DEPTH, DIRECTION, AND SPACING SPECIFIED ON PLANS.

MANUFACTURER	DEPTH	SERIES	SIMPSON FACE MOUNT HGR	SIMPSON TOP FLANGE HGR
BLUELINX BOISE CASCADE BOISE CASCADE LP CORP NORDIC ROSEBURG WEYERHAEUSER WEYERHAEUSER	14" 14" 14" 14" 14" 14" 14" 14" 14"	BLI 40 BCI 5000s BCI 6000S LPI 20+ NI 40X RFPI 40s TJI 210 FFI-20	IUS2.56/14 IUS2.06/14 IUS2.37/14 IUS2.56/14 IUS2.56/14 IUS2.56/14 IUS2.06/14 IUS2.06/14	ITS2.56/14 ITS2.06/14 ITS2.37/14 ITS2.56/14 ITS2.56/14 ITS2.56/14 ITS2.06/14 ITS2.73/14
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JOISTS NOT LISTED IN THE ABOVE TABLE MAY BE USED PROVIDED THEY MEET OR EXCEED THE PROPERTIES OF THOSE LISTED. SUBSTITUTE USP BRAND HANGERS WITH EQUIVALENT VALUES AS DESIRED.

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