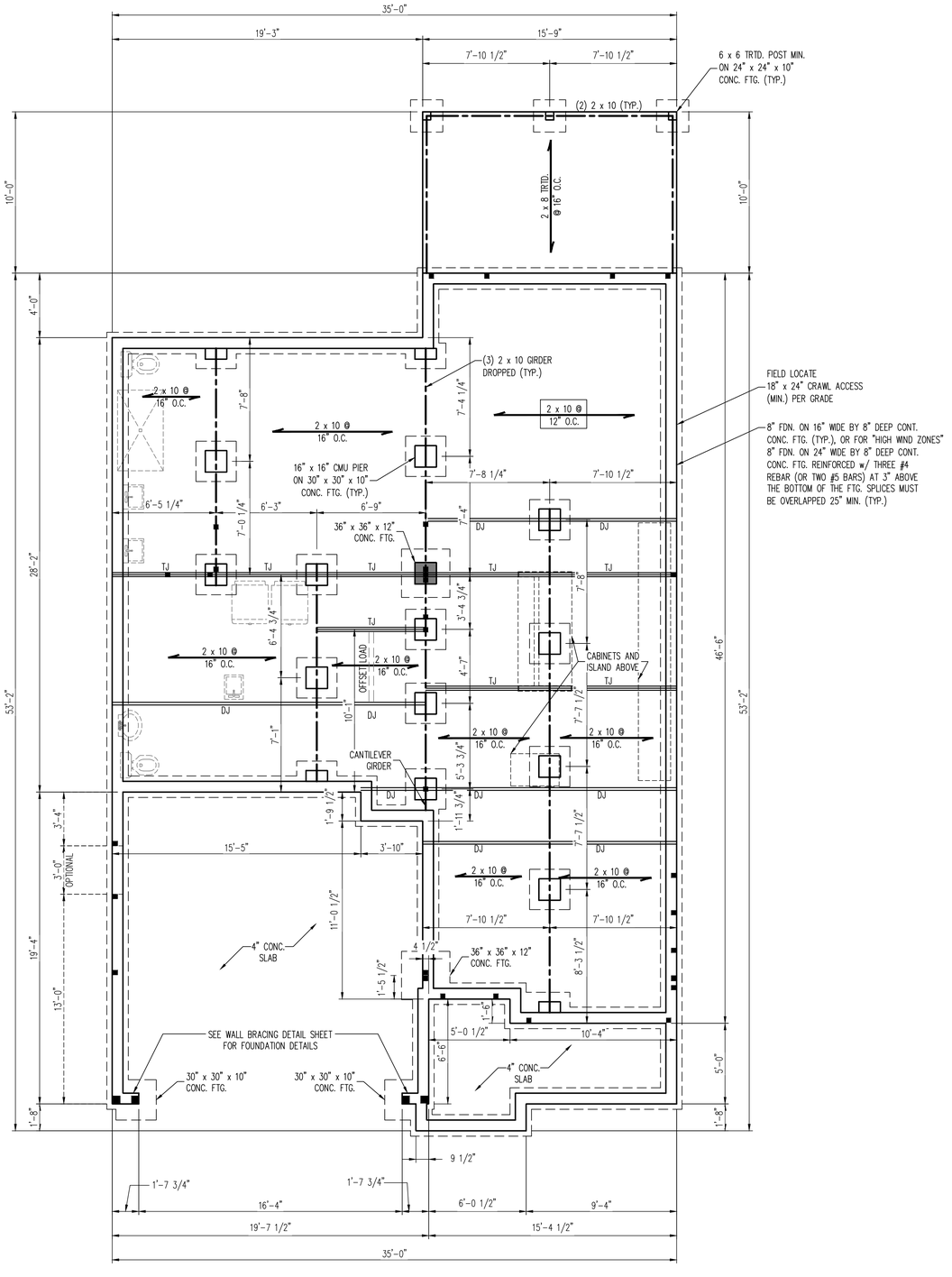

150 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS).
3. BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.
4. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.
5. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
6. ROOF AND WALL CLADDING DESIGNED FOR WIND PRESSURES PER TABLE R301.2.1(1) OF THE 2024 NCRC.
7. 7/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
8. WALLS TO BE BRACED IN ACCORDANCE WITH CHAPTER 45 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION AND AS NOTED ON PLANS.
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2024 EDITION.

120 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
6. ROOF AND WALL CLADDING DESIGNED FOR WIND PRESSURES PER TABLE R301.2.1(1) OF THE 2024 NCRC.
7. INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10 OF THE NCRC, 2024 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
8. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2024 EDITION.
9. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO). ALL TREATED LUMBER TO BE #2 SYP (UNO.)
2. PROVIDE DOUBLE OR TRIPLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
3. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION.
4. SHADED PIERS TO BE FILLED SOLID.
5. INSTALL LADDER WIRE @ 16" O.C. TO SECURE MULTIPLE WYTHE FOUNDATION WALLS TOGETHER.
6. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

LEGEND

CONT	CONTINUOUS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH
FDN	FOUNDATION
FTG	FOOTING
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TRTD	PRESSURE TREATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

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N.C. LICENSE NO.: C-1733

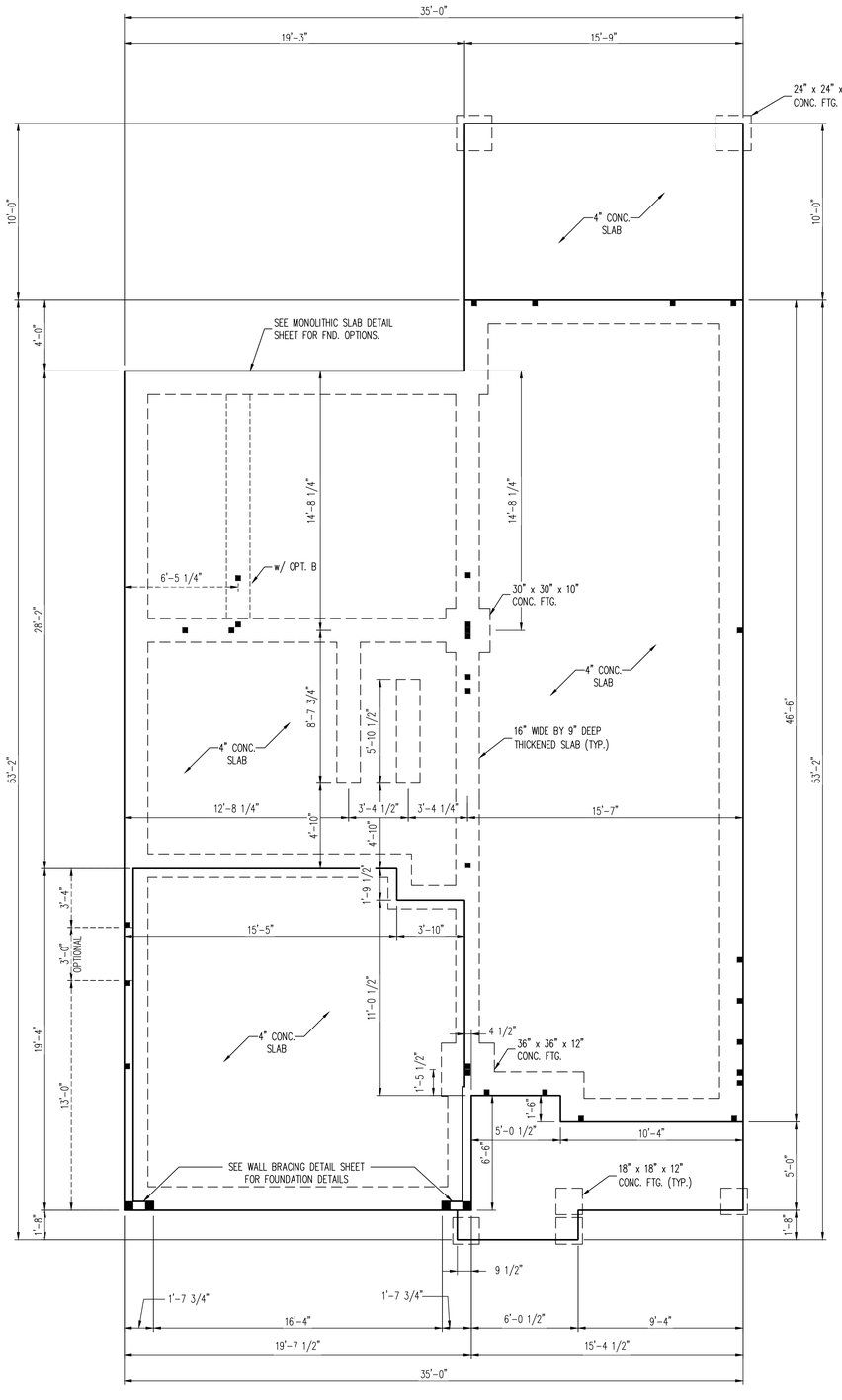
JANVILLE
ASCOT LAND DEVELOPMENT

DATE: JANUARY 3, 2025
SCALE: 1/4" = 1'-0"
DRAWN BY: NS
ENGINEERED BY: WFB

S-1a
CRAWL FOUNDATION PLAN

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

1/3/2025



150 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS).
3. BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 ("HIGH WIND ZONES" FOR 150 MPH WINDS) OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.
4. FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.
5. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
6. ROOF AND WALL CLADDING DESIGNED FOR WIND PRESSURES PER TABLE R301.2.1(1) OF THE 2024 NCRC.
7. 7/16" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
8. WALLS TO BE BRACED IN ACCORDANCE WITH CHAPTER 45 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION AND AS NOTED ON PLANS.
9. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2024 EDITION.

120 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
2. STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.
3. INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. LOCATE BOLT WITHIN MIDDLE THIRD OF PLATE WIDTH.
4. MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
5. EXTERIOR WALLS DESIGNED FOR 120 MPH WINDS.
6. ROOF AND WALL CLADDING DESIGNED FOR WIND PRESSURES PER TABLE R301.2.1(1) OF THE 2024 NCRC.
7. INSTALL 7/16" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORIES IN ACCORDANCE WITH SECTION R602.10 OF THE NCRC, 2024 EDITION. SEE THE WALL BRACING NOTES AND DETAILS SHEET FOR MORE INFORMATION.
8. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2024 EDITION.
9. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

LEGEND	
CONT	CONTINUOUS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH
FDN	FOUNDATION
FTG	FOOTING
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TRTD	PRESSURE TREATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

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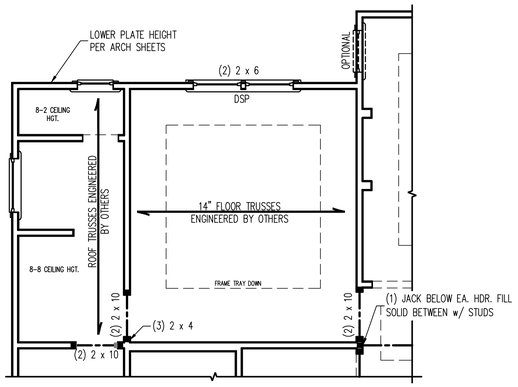
JANVILLE
ASCOT LAND DEVELOPMENT

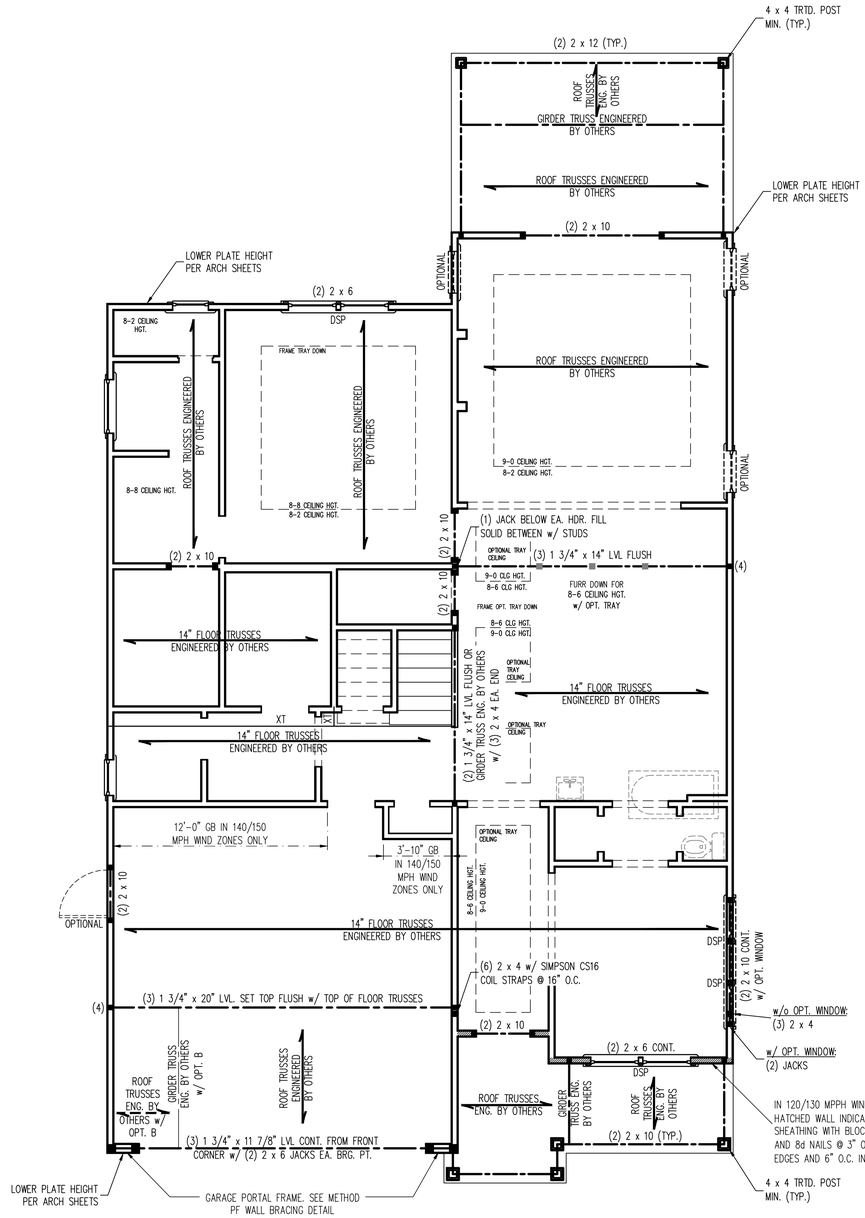
DATE: JANUARY 3, 2025
SCALE: 1/4" = 1'-0"
DRAWN BY: NS
ENGINEERED BY: WFB

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER
1/3/2025

S-1b
MONO SLAB
FOUNDATION PLAN



w/ OPTION B

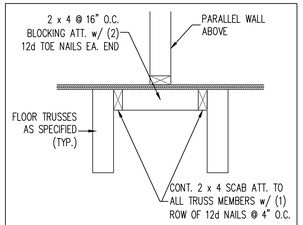


BRACED WALL DESIGN NOTES:

1. WALL BRACING IS BY ENGINEERED DESIGN PER SECTION R301.1.3 "ENGINEERED DESIGN" OF THE NCRC 2024 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.4 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
2. SHEATH ALL EXTERIOR WALLS w/ 7/16" OSB TO PROVIDE CS-WSP WALL BRACING THAT WILL BRACE THE STRUCTURE FOR ALL LATERAL LOADS AS REQUIRED BY THE NCRC 2024 EDITION.
3. CS-WSP REFERS TO "CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS." CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS WITH HORIZONTAL JOINTS BLOCKED. ATTACH SHEATHING w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
4. GB REFERS TO "GYPSUM BOARD." CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM BOARD ON BOTH SIDES OF WALL (UNO) WHERE NOTED ON THE PLANS ATTACHED WITH 1 1/4" LONG #6 SCREWS OR 1 5/8" LONG 5d COOLER NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES. WHERE METHOD GB PANELS ARE INSTALLED HORIZONTALLY, BLOCKING OF HORIZONTAL JOINTS IS NOT REQUIRED.
5. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2024 EDITION.
6. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO.)
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. INSTALL 2 x 4 @ 16" O.C. BLOCKING BETWEEN ADJACENT TRUSSES UNDER WALLS PARALLEL TO FLOOR TRUSSES WHERE WALL LENGTH EXCEEDS 1/3 OF TRUSS SPAN (SEE DETAIL THIS SHEET). TRUSS DESIGNER TO DESIGN ADJACENT TRUSSES FOR ADDITIONAL LOADING FROM WALLS.
4. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE KING STUD TABLES FOR ADDITIONAL KING STUD REQUIREMENTS.
5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO.)
6. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 7/16" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
7. FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.
8. ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS w/ SIMPSON ABU44 POST BASES (OR EQUAL) AND 6 x 6 POSTS w/ ABU66 POST BASES (OR EQUAL) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS AT TOP OR IN HIGH WIND ZONES 1000 LB UPLIFT CONNECTOR AT TOP (UNO.).
9. FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB w/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMNS w/ 1/4" THROUGH BOLTS w/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN.
10. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



TRUSS BLOCKING DETAIL

INSTALL 2 x 4 @ 16" O.C. BLOCKING BETWEEN ADJACENT TRUSSES UNDER WALLS PARALLEL TO FLOOR TRUSSES WHERE WALL LENGTH EXCEEDS 1/3 OF TRUSS SPAN. TRUSS DESIGNER TO DESIGN ADJACENT TRUSSES FOR ADDITIONAL LOADING FROM WALLS.

TABLE R602.7.5
MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 120/130 MPH WIND ZONES

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 4'	1
> 4' TO 8'	2
> 8' TO 14'	3
> 14' TO 18'	4

MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 140/150 MPH WIND ZONES

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 4'	2
> 4' TO 8'	3
> 8' TO 14'	4
> 14' TO 18'	5

LEGEND	
CONT	CONTINUOUS
XT	EXTRA TRUSS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH
( )	NUMBER OF STUDS
DSP	DOUBLE STUD POCKET
TSP	TRIPLE STUD POCKET
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TRTD	PRESSURE TREATED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTTHER

1/3/2025

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N.C. LICENSE NO.: C-1733

JANVILLE
ASCOT LAND DEVELOPMENT

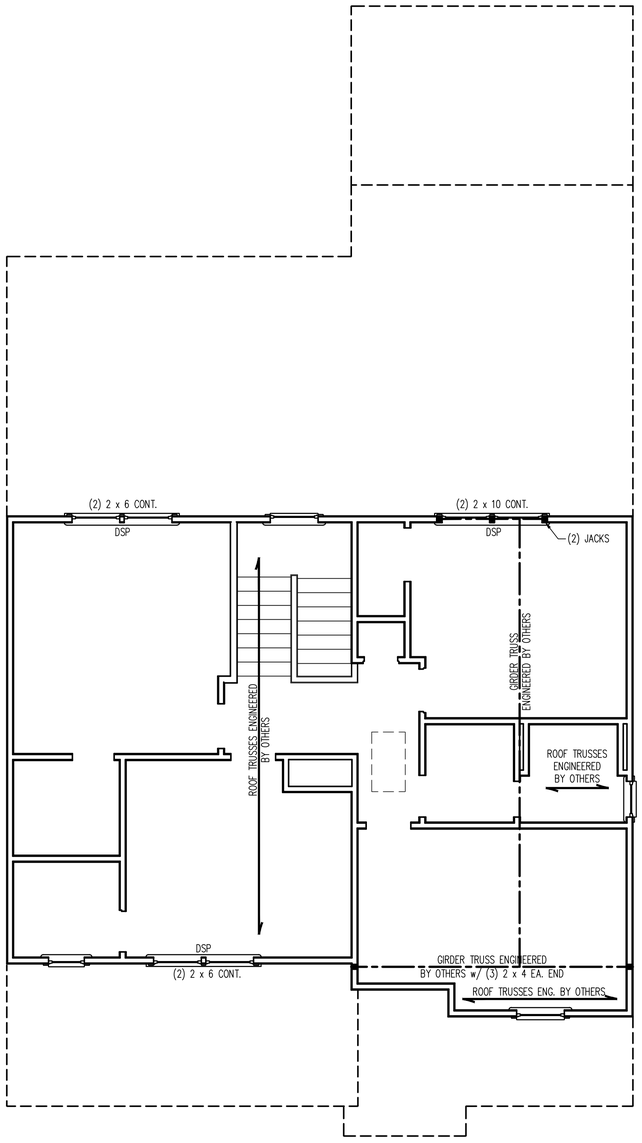
DATE: JANUARY 3, 2025

SCALE: 1/4" = 1'-0"

DRAWN BY: NS

ENGINEERED BY: WFB

S-2
SECOND FLOOR
FRAMING PLAN



BRACED WALL DESIGN NOTES:

1. WALL BRACING IS BY ENGINEERED DESIGN PER SECTION R301.1.3 "ENGINEERED DESIGN" OF THE NCRC 2024 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.4 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
2. SHEATH ALL EXTERIOR WALLS w/ 7/16" OSB TO PROVIDE CS-WSP WALL BRACING THAT WILL BRACE THE STRUCTURE FOR ALL LATERAL LOADS AS REQUIRED BY THE NCRC 2024 EDITION.
3. CS-WSP REFERS TO "CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS." CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS WITH HORIZONTAL JOINTS BLOCKED. ATTACH SHEATHING w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
4. GB REFERS TO "GYPSUM BOARD." CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM BOARD ON BOTH SIDES OF WALL (UNO) WHERE NOTED ON THE PLANS ATTACHED WITH 1 1/4" LONG #6 SCREWS OR 1 5/8" LONG 5d COOLER NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES. WHERE METHOD GB PANELS ARE INSTALLED HORIZONTALLY, BLOCKING OF HORIZONTAL JOINTS IS NOT REQUIRED.
5. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2024 EDITION.
6. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO.)
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
4. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO.)
5. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 7/16" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
6. FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.
7. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 140/150 MPH WND ZONES

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 4'	2
> 4' TO 8'	3
> 8' TO 14'	4
> 14' TO 18'	5

TABLE R602.7.5
MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 120/130 MPH WND ZONES

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 4'	1
> 4' TO 8'	2
> 8' TO 14'	3
> 14' TO 18'	4

LEGEND	
CONT	CONTINUOUS
XT	EXTRA TRUSS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
EA	EACH
( )	NUMBER OF STUDS
DSP	DOUBLE STUD POCKET
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SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TRTD	PRESSURE TREATED
TYP	TYPICAL
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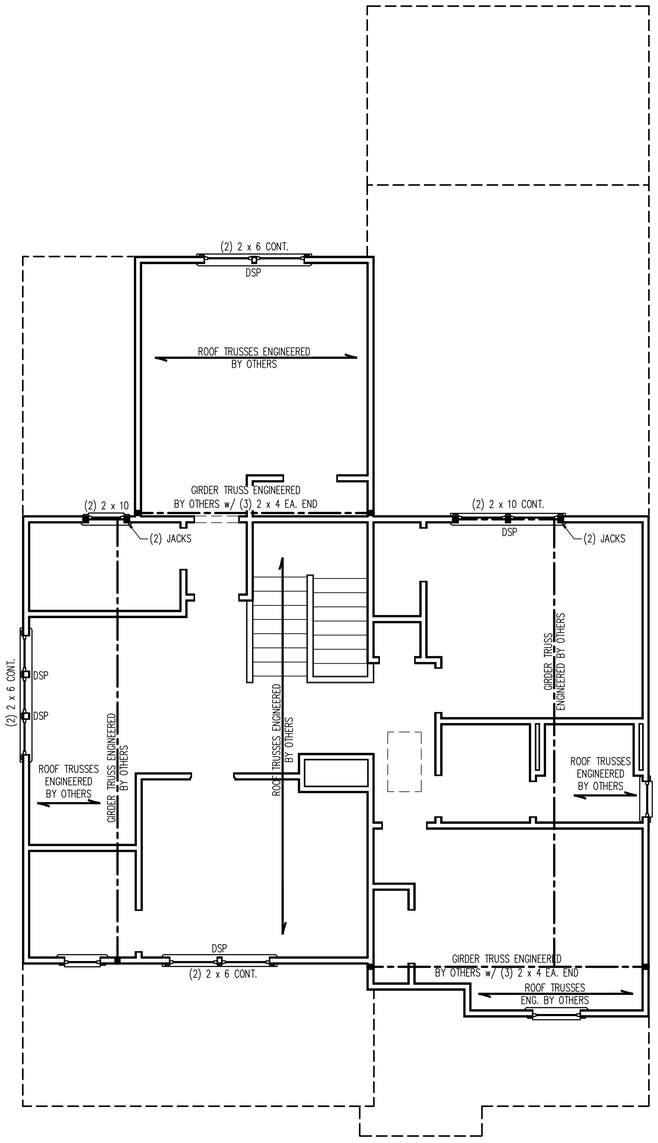
JANVILLE
ASCOT LAND DEVELOPMENT

DATE: JANUARY 3, 2025
SCALE: 1/4" = 1'-0"
DRAWN BY: NS
ENGINEERED BY: WFB

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33736 MATTHEW G. STROTHER
1/3/2025

S-3
ATTIC FLOOR FRAMING PLAN



OPTION B

BRACED WALL DESIGN NOTES:

1. WALL BRACING IS BY ENGINEERED DESIGN PER SECTION R301.1.3 "ENGINEERED DESIGN" OF THE NCRC 2024 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.4 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
2. SHEATH ALL EXTERIOR WALLS w/ 7/16" OSB TO PROVIDE CS-WSP WALL BRACING THAT WILL BRACE THE STRUCTURE FOR ALL LATERAL LOADS AS REQUIRED BY THE NCRC 2024 EDITION.
3. CS-WSP REFERS TO "CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANELS." CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS WITH HORIZONTAL JOINTS BLOCKED. ATTACH SHEATHING w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD INCLUDING TOP AND BOTTOM PLATES.
4. GB REFERS TO "GYPSUM BOARD." CONTRACTOR IS TO INSTALL 1/2" (MIN.) GYPSUM BOARD ON BOTH SIDES OF WALL (UNO) WHERE NOTED ON THE PLANS ATTACHED WITH 1 1/4" LONG #6 SCREWS OR 1 5/8" LONG 5d COOLER NAILS SPACED 7" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM PLATES. WHERE METHOD GB PANELS ARE INSTALLED HORIZONTALLY, BLOCKING OF HORIZONTAL JOINTS IS NOT REQUIRED.
5. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCRC 2024 EDITION.
6. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE SPF #2 (UNO). ALL TREATED LUMBER TO BE SYP #2 (UNO.)
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO.). SEE TABLE R602.7.5 FOR ADDITIONAL KING STUD REQUIREMENTS.
4. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO.)
5. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 7/16" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
6. FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE SILL PLATES THEIR FULL DEPTH.
7. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 140/150 MPH WIND ZONES

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 4'	2
> 4' TO 8'	3
> 8' TO 14'	4
> 14' TO 18'	5

TABLE R602.7.5
MINIMUM NUMBER OF FULL HEIGHT KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS IN 120/130 MPH WIND ZONES

HEADER SPAN (FEET)	MINIMUM NUMBER OF FULL HEIGHT STUDS (KINGS)
UP TO 4'	1
> 4' TO 8'	2
> 8' TO 14'	3
> 14' TO 18'	4

LEGEND	
CONT	CONTINUOUS
XT	EXTRA TRUSS
XJ	EXTRA JOIST
DJ	DOUBLE JOIST
TJ	TRIPLE JOIST
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( )	NUMBER OF STUDS
DSP	DOUBLE STUD POCKET
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JANVILLE
ASCOT LAND DEVELOPMENT

DATE: JANUARY 3, 2025
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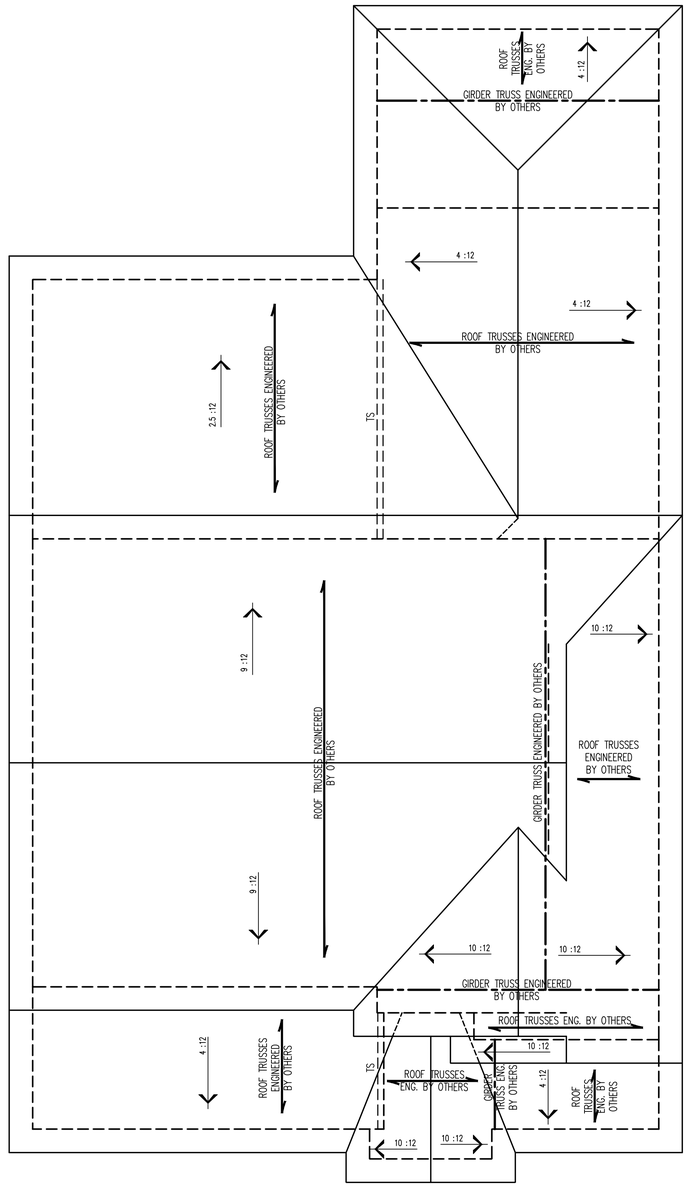
DRAWN BY: NS
ENGINEERED BY: WFB

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER
1/3/2025

S-3B
ATTIC FLOOR FRAMING PLAN



STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP.)
5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H2.5A HURRICANE TIES @ 32" O.C. MAX. PASS HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING. EACH RAFTER IS TO BE FASTENED TO THE FLAT VALLEY WITH A MIN. OF (6) 12d TOE NAILS.
7. REFER TO SECTION R802.11 OF THE 2024 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES. IN HIGH WIND ZONES, SECURE EA. RAFTER OR TRUSS TO BEARING WALL WITH SIMPSON H10 HURRICANE TIE (OR EQUAL) UNLESS NOTED OTHERWISE BY TRUSS ENGINEER BASE ON DESIGN UPLIFT FOR EA. TRUSS. REFER TO SECTION R4508 OF THE 2024 NCRC TO ENSURE COMPLIANCE WITH REQUIRED UPLIFT AND LATERAL CONNECTIONS.
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PITCHES, PLATE HEIGHTS, DIMENSIONS, OVERHANG WIDTHS, AND ATTIC VENT CALCS.

LEGEND	
XR	EXTRA RAFTER
XT	EXTRA TRUSS
DR	DOUBLE RAFTER
TR	TRIPLE RAFTER
RS	RAFTER SUPPORT
TS	TRUSS SUPPORT
CONT	CONTINUOUS
EA	EACH
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

J.S. THOMPSON ENGINEERING, INC
333 EAST SIX FORKS ROAD, SUITE 180 RALEIGH, NC 27609
PHONE: (919) 789-9919 FAX: (919) 789-9921
N.C. LICENSE NO.: C-1733

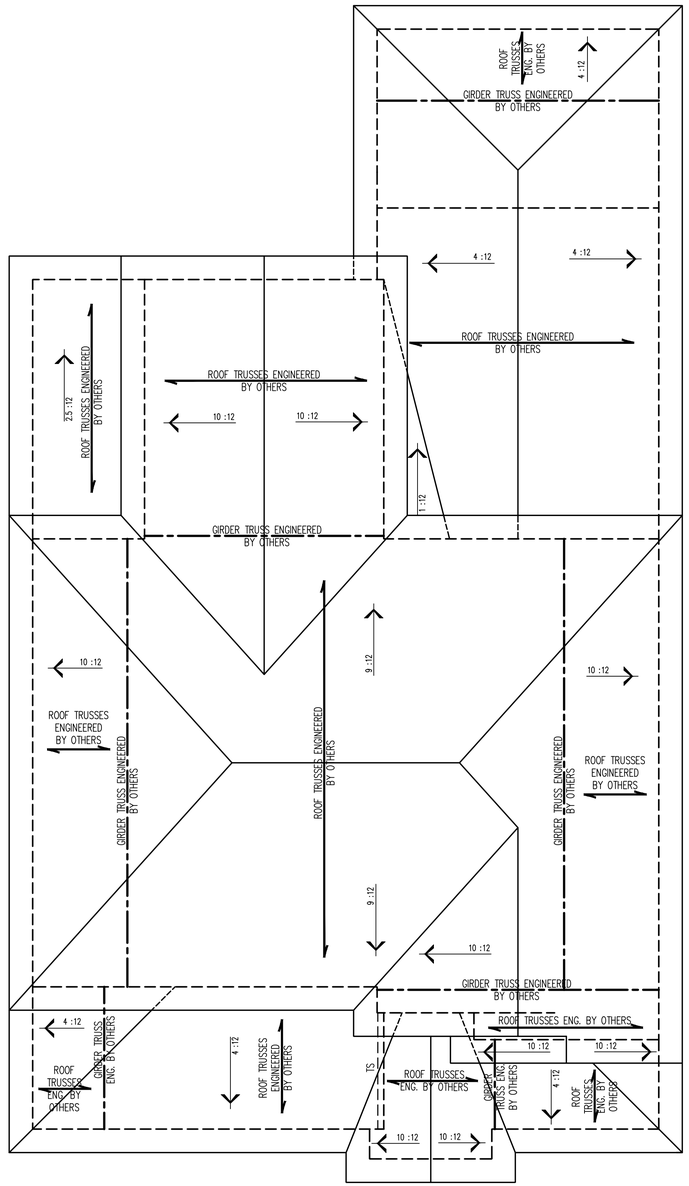
JANVILLE
ASCOT LAND DEVELOPMENT

DATE: JANUARY 3, 2025
SCALE: 1/4" = 1'-0"
DRAWN BY: NS
ENGINEERED BY: WFB

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

1/3/2025

S-4a
ROOF FRAMING PLAN



OPTION B

STRUCTURAL NOTES:

1. ALL FRAMING LUMBER TO BE #2 SPF (UNO).
2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP.)
5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
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7. REFER TO SECTION R802.11 OF THE 2024 NCRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES. IN HIGH WIND ZONES, SECURE EA. RAFTER OR TRUSS TO BEARING WALL WITH SIMPSON H10 HURRICANE TIE (OR EQUAL) UNLESS NOTED OTHERWISE BY TRUSS ENGINEER BASE ON DESIGN UPLIFT FOR EA. TRUSS. REFER TO SECTION R4508 OF THE 2024 NCRC TO ENSURE COMPLIANCE WITH REQUIRED UPLIFT AND LATERAL CONNECTIONS.
8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PITCHES, PLATE HEIGHTS, DIMENSIONS, OVERHANG WIDTHS, AND ATTIC VENT CALCS.

LEGEND	
XR	EXTRA RAFTER
XT	EXTRA TRUSS
DR	DOUBLE RAFTER
TR	TRIPLE RAFTER
RS	RAFTER SUPPORT
TS	TRUSS SUPPORT
CONT	CONTINUOUS
EA	EACH
OC	ON CENTER
SPF	SPRUCE PINE FIR
SYP	SOUTHERN YELLOW PINE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

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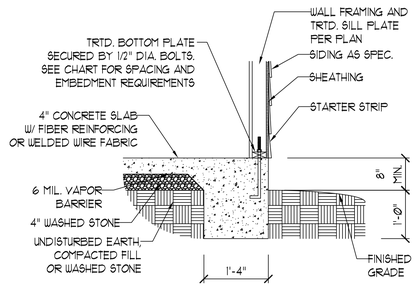
JANVILLE
ASCOT LAND DEVELOPMENT

DATE: JANUARY 3, 2025
SCALE: 1/4" = 1'-0"
DRAWN BY: NS
ENGINEERED BY: WFB

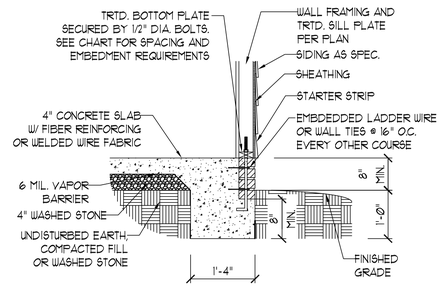
NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

1/3/2025

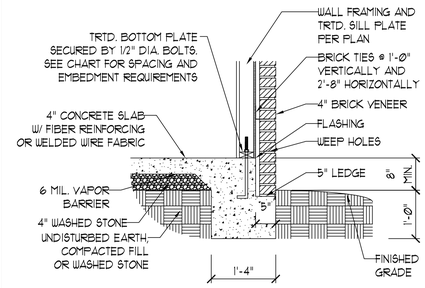
S-4b
ROOF FRAMING PLAN



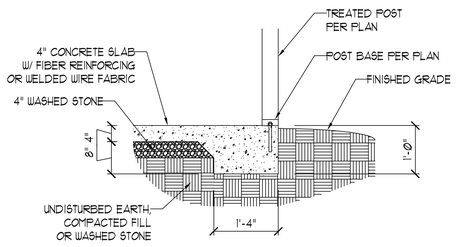
TYPICAL SLAB ①



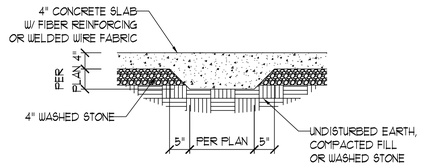
TYPICAL SLAB w/ BRICK LEDGE ②



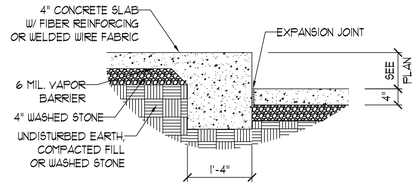
TYPICAL SLAB w/ BRICK VENEER LEDGE ③



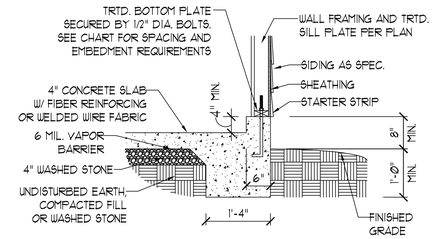
PORCH/SCREEN PORCH ④



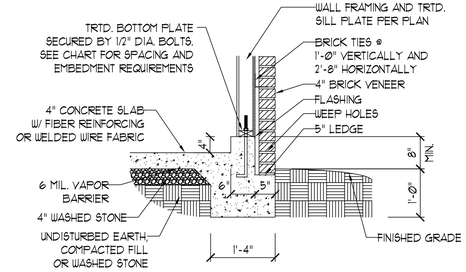
TYPICAL THICKENED SLAB ⑤



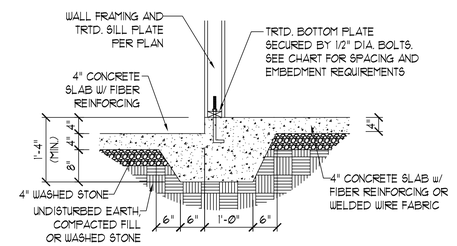
SLAB FLOOR CHANGE ⑥



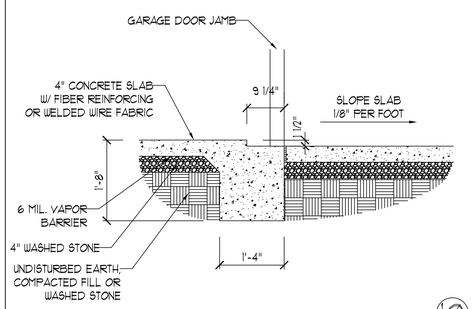
GARAGE CURB ⑦



GARAGE CURB w/ BRICK LEDGE ⑧



STEP IN GARAGE ⑨



SLAB AT GARAGE DOOR ⑩

ANCHOR SPACING AND EMBEDMENT

WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	4'-0" O.C. INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT	7"	15" INTO MASONRY 7" INTO CONCRETE

NOTE:

THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

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MONOLITHIC SLAB FOUNDATION DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

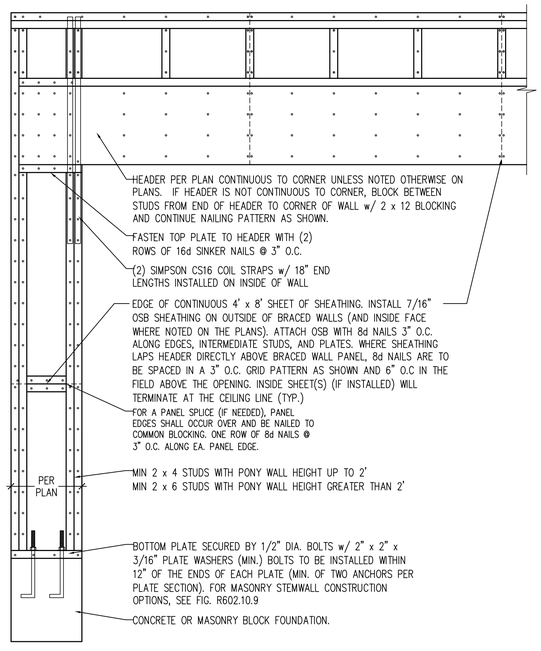
1/3/2025

DATE: NOVEMBER 1, 2024
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JST

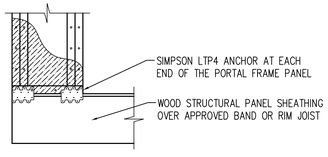
FOUNDATION DETAILS

GENERAL WALL BRACING NOTES:

1. WALL BRACING IS BY ENGINEERED DESIGN PER SECTION R301.1.3 "ENGINEERED DESIGN" OF THE NCRC 2024 EDITION USING BRACING MATERIALS AND METHODS LISTED IN TABLE R602.10.4 ALONG WITH ALTERNATIVE MATERIALS AND METHODS THAT COMPLY WITH ACCEPTED ENGINEERING PRACTICE. BRACED WALL DESIGN IS NOT PRESCRIPTIVE.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2024 NCRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE BEEN DESIGNED PER R602.3.5 (3). WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERED PRACTICE.
4. SEE STRUCTURAL SHEETS FOR HOLD DOWN TYPE AND LOCATIONS WHERE REQUIRED AND ANY SPECIAL NOTES OR REQUIREMENTS.
5. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-WSP IN ACCORDANCE WITH SECTION R602.10 UNLESS NOTED OTHERWISE.
6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R702.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.4
7. CS-WSP REFERS TO THE "CONTINUOUS SHEATHING – WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 7/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS WITH JOINTS BLOCKED. ATTACH SHEATHING w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x 0.113" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (U.N.O.).
8. GB REFERS TO THE "GYPSUM BOARD" WALL BRACING METHOD. 1/2" (MIN.) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 7" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM PLATES AND INTERMEDIATE SUPPORTS (U.N.O.). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R702.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(1). WHERE METHOD GB PANELS ARE INSTALLED HORIZONTALLY, BLOCKING OF HORIZONTAL JOINTS IS NOT REQUIRED. EXTERIOR GB TO BE INSTALLED VERTICALLY.



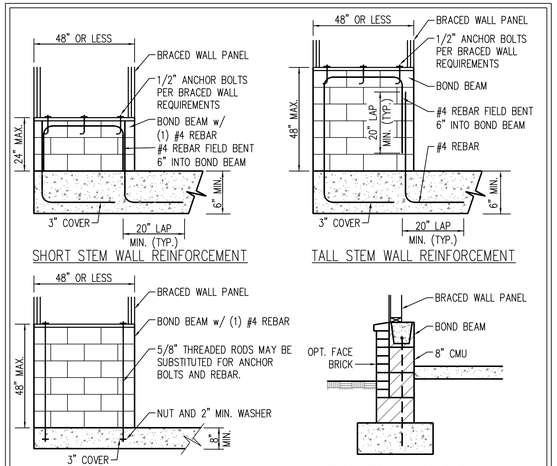
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR – FRAMING ANCHOR OPTION

* APPLICABLE w/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *

METHOD PF-PORTAL FRAME DETAIL (1)



SHORT STEM WALL REINFORCEMENT

TALL STEM WALL REINFORCEMENT

RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM WITH A MINIMUM TENSILE CAPACITY OF 3750 LBS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECS.

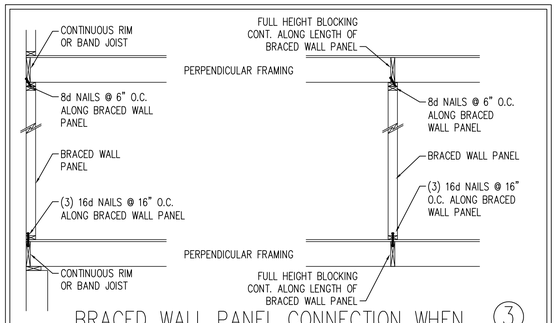
OPTIONAL STEM WALL REINFORCEMENT

TYPICAL STEM WALL SECTION

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

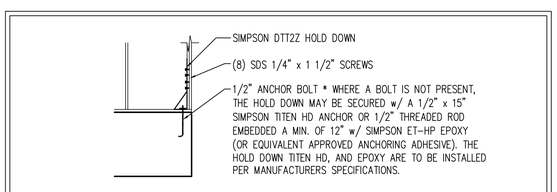
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS (2)

PER FIGURE R602.10.9



BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING (3)

PER FIGURE R602.10.8(1)

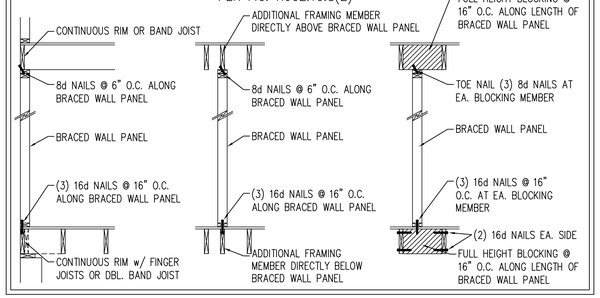


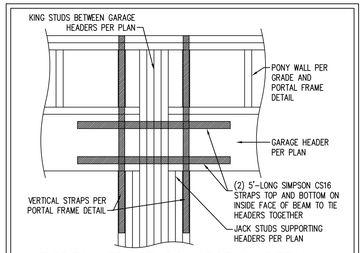
HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB (4)

* APPLICABLE ONLY WHERE SPECIFIED ON PLAN *

BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING (5)

PER FIG. R602.10.8(2)



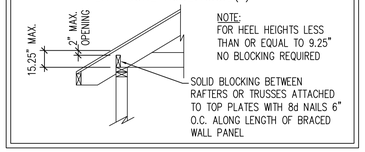


PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS

(REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION) (6)

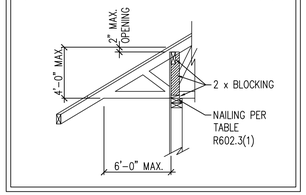
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS (7)

PER FIGURE R602.10.8.2(1)



BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES (8)

PER FIGURE R602.10.8.2(3)
(OR ALTERNATIVE: FIGURE R602.10.8.2(2))



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WALL BRACING NOTES AND DETAILS

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER
1/3/2025

DATE: NOVEMBER 1, 2024
SCALE: NOT TO SCALE
DRAWN BY: JST
ENGINEERED BY: JST

BRACED WALL NOTES AND DETAILS AND PF DETAIL

GENERAL NOTES

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.

2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2024 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2024 EDITION (R301.4 – R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: Pg	20 (PSF)		
SEISMIC DESIGN CATEGORY:	B		

– I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
– FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD

– CLADDING DESIGNED FOR:

120 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 6.3	– 44.5
	2.25 TO 5/12	+ 9.6	– 49.8
	5 TO 7/12	+ 11.6	– 41.9
	7 TO 12/12	+ 14.2	– 35.3
HIP ROOF CLADDING	2.25 TO 5/12	+ 11.6	– 36.6
	5 TO 7/12	+ 11.6	– 28.7
	7 TO 12/12	+ 11.1	– 35.6
WALL CLADDING		+ 15.5	– 20.8

130 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 7.4	– 52.2
	2.25 TO 5/12	+ 11.3	– 58.4
	5 TO 7/12	+ 13.6	– 49.2
	7 TO 12/12	+ 16.7	– 41.4
HIP ROOF CLADDING	2.25 TO 5/12	+ 13.6	– 43
	5 TO 7/12	+ 13.6	– 33.7
	7 TO 12/12	+ 13	– 41.7
WALL CLADDING		+ 18.2	– 24.4

140 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 8.6	– 60.6
	2.25 TO 5/12	+ 13.1	– 67.8
	5 TO 7/12	+ 15.8	– 57
	7 TO 12/12	+ 19.4	– 48
HIP ROOF CLADDING	2.25 TO 5/12	+ 15.8	– 49.8
	5 TO 7/12	+ 15.8	– 39.1
	7 TO 12/12	+ 15.1	– 48.4
WALL CLADDING		+ 21.1	– 28.3

150 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 9.9	– 69.6
	2.25 TO 5/12	+ 15	– 77.8
	5 TO 7/12	+ 18.1	– 65.4
	7 TO 12/12	+ 22.2	– 55.2
HIP ROOF CLADDING	2.25 TO 5/12	+ 18.1	– 57.2
	5 TO 7/12	+ 18.1	– 44.9
	7 TO 12/12	+ 17.3	– 55.6
WALL CLADDING		+ 24.3	– 32.5

4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2024 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2024 EDITION.

5. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2024 EDITION.

FOOTING AND FOUNDATION NOTES

1. FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.

2. FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. EXCEPTION: #57 OR #67 STONE MAY BE USED AS FILL FOR MAXIMUM DEPTH OF 4 FEET WITHOUT CONSOLIDATION. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 2024 EDITION.

3. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" – 1" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.

4. CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2024 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.

5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.

6. THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.

7. THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.

8. ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2024 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE NCRC, 2024 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.2(8) OF THE NCRC, 2024 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

FRAMING NOTES

1. ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (Fb = 875 PSI, Fv = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (Fb = 975 PSI, Fv =175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).

2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb =2600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

A.	W AND WT SHAPES:	ASTM A992
B.	CHANNELS AND ANGLES:	ASTM A36
C.	PLATES AND BARS:	ASTM A36
D.	HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E.	STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S

4. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):

A. WOOD FRAMING	(2) 1/2" DIA. x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA. x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS
D. STEEL PIPE COLUMN	(4) 3/4" DIA. A325 BOLTS OR 3/16" FILLET WELD

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 9/16" DIAMETER HOLES @ 16" O.C.

5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.

6. ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(2) OF THE NCRC, 2024 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.

7. ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).

8. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).

9. ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.

10. BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2024 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.

11. PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER STRUCTURAL PLAN. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.

12. FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (U.N.O). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.8.2.1 OF THE NCRC, 2024 EDITION.

13. FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).

14. FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).

15. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED TO WOOD FRAMING WITH SIMPSON CS16 COIL STRAPPING WITH 9" END LENGTHS OR (2) 6" LONG SIMPSON SDS SCREWS (OR EQUAL) DRIVEN AT AN ANGLE FROM OPPOSITE SIDES. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

16. CONSTRUCT ALL WOOD DECKS ACCORDING TO CHAPTER 47-WOOD DECKS.

1/3/2025

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N.C. LICENSE NO.: C-1733

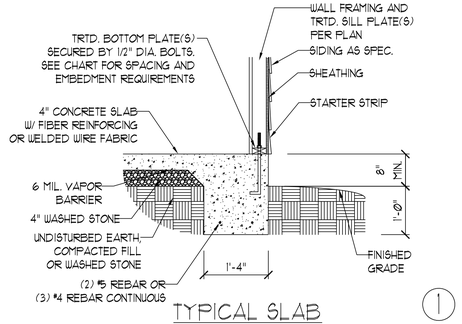
STANDARD STRUCTURAL NOTES

DATE: NOVEMBER 4, 2024

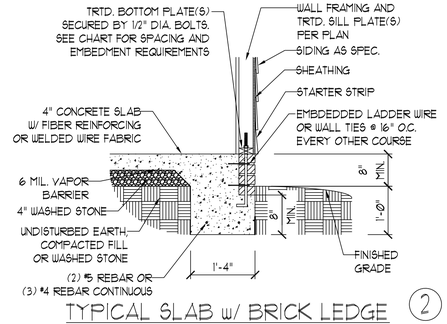
DRAWN BY: JST

ENGINEERED BY: JST

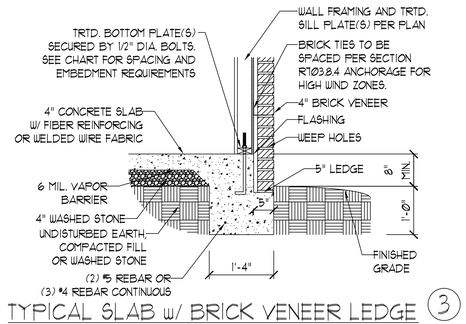
STRUCTURAL NOTES



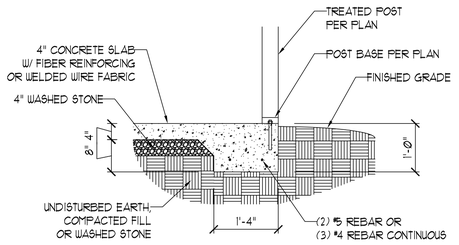
TYPICAL SLAB ①



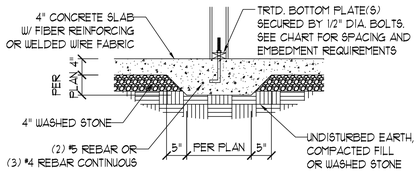
TYPICAL SLAB w/ BRICK LEDGE ②



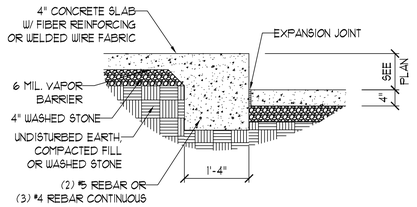
TYPICAL SLAB w/ BRICK VENEER LEDGE ③



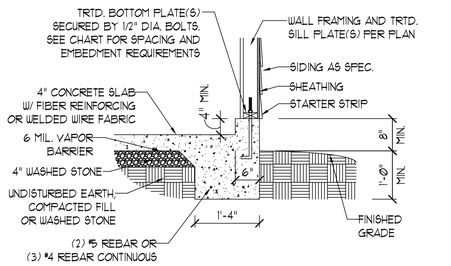
PORCH/SCREEN PORCH ④



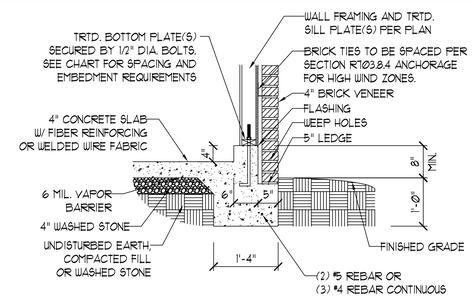
TYPICAL THICKENED SLAB ⑤



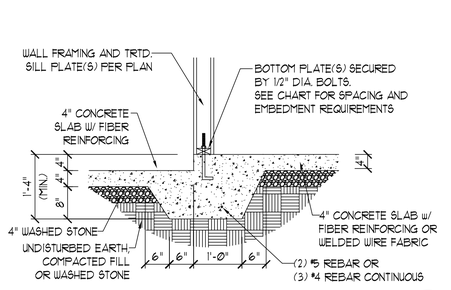
SLAB FLOOR CHANGE ⑥



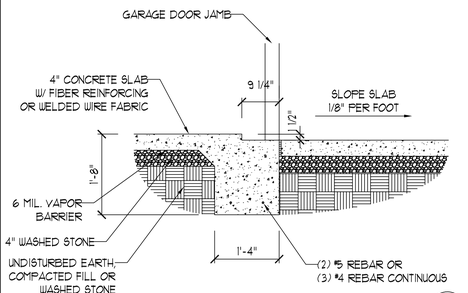
GARAGE CURB ⑦



GARAGE CURB w/ BRICK LEDGE ⑧



STEP IN GARAGE ⑨



SLAB AT GARAGE DOOR ⑩

NOTE:

LOCATE REBAR 3" ABOVE BOTTOM OF FOOTING w/ MIN. 25" LAP SPLICE LENGTH.

ANCHOR SPACING AND EMBEDMENT

WIND ZONE	140 MPH	150 MPH
SPACING	6'-0" O.C. w/ DBL. SILL PLATE OR 1'-9" O.C w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS	6'-0" O.C. w/ DBL. SILL PLATE OR 1'-6" O.C w/ SINGLE SILL PLATE w/ 2" x 2" x 1/8" WASHERS INSTALL MIN. (2) ANCHORS PER PLATE SECTION AND (1) ANCHOR WITHIN 12" OF CORNERS
EMBEDMENT	7"	7"

NOTE:

THREADED ROD WITH EPOXY, SIMPSON TITEN HD, OR APPROVED ANCHORS SPACED AS REQUIRED TO PROVIDE EQUIVALENT ANCHORAGE TO 1/2" DIAMETER ANCHOR BOLTS MAY BE USED IN LIEU OF 1/2" ANCHOR BOLTS.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33736 MATTHEW G. STROTHER

1/3/2025

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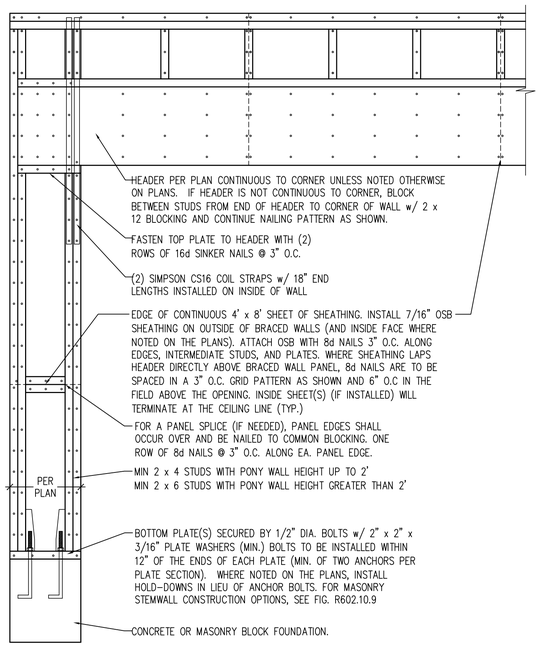
140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED
MONOLITHIC SLAB FOUNDATION DETAILS

DATE: NOVEMBER 4, 2024
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JST

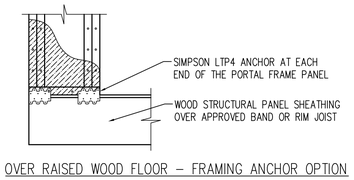
FOUNDATION DETAILS

GENERAL WALL BRACING NOTES:

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 AND CHAPTER 45 OF THE 2024 NC RESIDENTIAL BUILDING CODE (NCRC). TABLES AND FIGURES REFERENCED ARE FROM THE 2024 NCRC.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2024 NCRC FOR ADDITIONAL INFORMATION AS NEEDED.
3. SEE STRUCTURAL SHEETS FOR DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, AND ANY SPECIAL NOTES OR REQUIREMENTS.
4. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH 7/16" OSB WITH BLOCKING AT ALL SHEATHING JOINTS AND 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD UNLESS NOTED OTHERWISE.
5. SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BAND JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C.. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND SILL PLATES THEIR FULL DEPTH.
6. ALL EXTERIOR WALLS TO BE SHEATHED ON INSIDE FACE WITH 1/2" GYPSUM BOARD PER TABLE R702.3.5 (UNO).



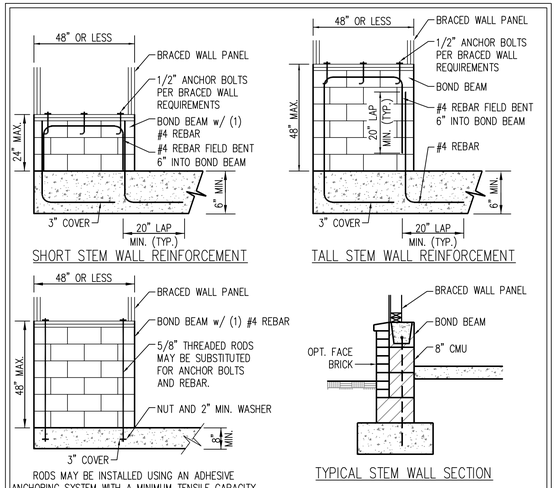
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR – FRAMING ANCHOR OPTION

* APPLICABLE w/ GREATER THAN 12" KNEE WALL HEIGHTS IN CRAWL SPACE AND ABOVE FRAMED BASEMENT WALLS *

METHOD PF–PORTAL FRAME DETAIL (1)



SHORT STEM WALL REINFORCEMENT

TALL STEM WALL REINFORCEMENT

RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM WITH A MINIMUM TENSILE CAPACITY OF 3750 LBS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECS.

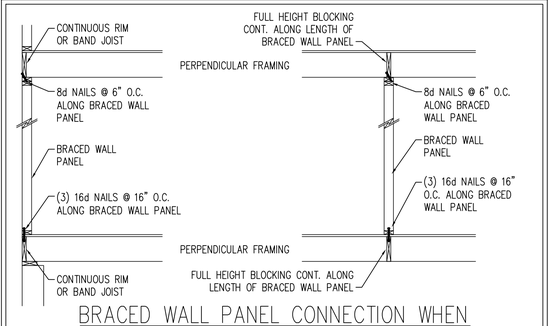
OPTIONAL STEM WALL REINFORCEMENT

TYPICAL STEM WALL SECTION

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

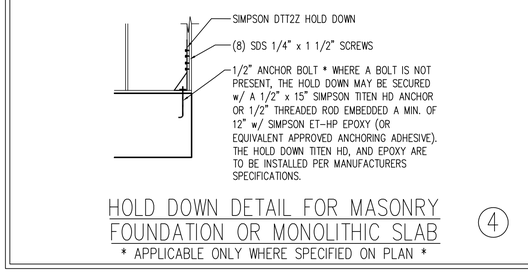
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS (2)

PER FIGURE R602.10.9



BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING (3)

PER FIGURE R602.10.8(1)

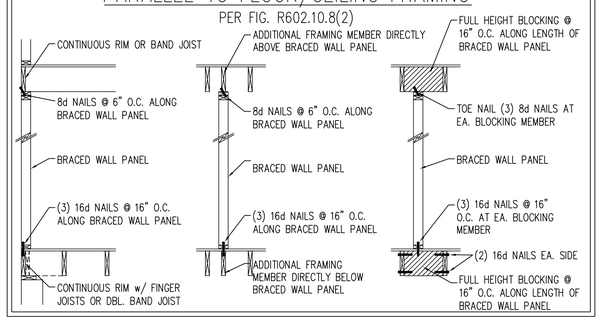


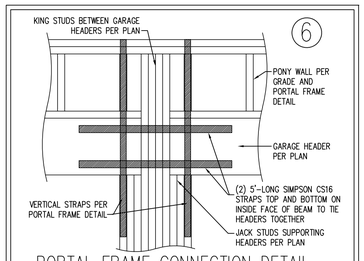
HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB (4)

* APPLICABLE ONLY WHERE SPECIFIED ON PLAN *

BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING (5)

PER FIG. R602.10.8(2)



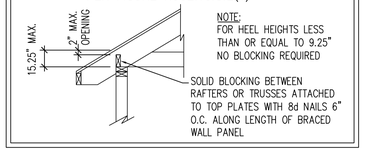


PORTAL FRAME CONNECTION DETAIL BETWEEN GARAGE DOOR HEADERS

(REFERENCE PORTAL FRAME DETAIL FOR ALL OTHER PORTAL FRAME INFORMATION)

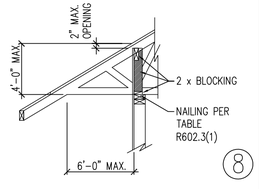
BRACED WALL PANEL CONNECTION TO PERPENDICULAR RAFTERS (7)

PER FIGURE R602.10.8.2(1)



BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES (8)

PER FIGURE R602.10.8.2(3))
(OR ALTERNATIVE: FIGURE R602.10.8.2(2))



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NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

1/3/2025

140 MPH - 150 MPH ULTIMATE DESIGN WIND SPEED WALL BRACING NOTES AND DETAILS

DATE: NOVEMBER 5, 2024
SCALE: NTS
DRAWN BY: JST
ENGINEERED BY: JST

D-2
BRACED WALL NOTES AND DETAILS AND PF DETAIL

GENERAL NOTES

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.

2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NCRC), 2024 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTORS FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3. STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NCRC, 2024 EDITION (R301.4 – R301.7)

DESIGN CRITERIA:	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (IN)
ATTIC WITH LIMITED STORAGE	20	10	L/240 (L/360 w/ BRITTLE FINISHES)
ATTIC WITHOUT STORAGE	10	10	L/360
DECKS	40	10	L/360
EXTERIOR BALCONIES	40	10	L/360
FIRE ESCAPES	40	10	L/360
HANDRAILS/GUARDRAILS	200	10	L/360
PASSENGER VEHICLE GARAGE	50	10	L/360
ROOMS OTHER THAN SLEEPING ROOM	40	10	L/360
SLEEPING ROOMS	30	10	L/360
STAIRS	40	10	L/360
WIND LOAD	(BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE)		
GROUND SNOW LOAD: Pg	20 (PSF)		
SEISMIC DESIGN CATEGORY:	B		

– I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/480
– FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD

– CLADDING DESIGNED FOR:

120 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 6.3	– 44.5
	2.25 TO 5/12	+ 9.6	– 49.8
	5 TO 7/12	+ 11.6	– 41.9
	7 TO 12/12	+ 14.2	– 35.3
HIP ROOF CLADDING	2.25 TO 5/12	+ 11.6	– 36.6
	5 TO 7/12	+ 11.6	– 28.7
	7 TO 12/12	+ 11.1	– 35.6
WALL CLADDING		+ 15.5	– 20.8

130 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 7.4	– 52.2
	2.25 TO 5/12	+ 11.3	– 58.4
	5 TO 7/12	+ 13.6	– 49.2
	7 TO 12/12	+ 16.7	– 41.4
HIP ROOF CLADDING	2.25 TO 5/12	+ 13.6	– 43
	5 TO 7/12	+ 13.6	– 33.7
	7 TO 12/12	+ 13	– 41.7
WALL CLADDING		+ 18.2	– 24.4

140 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 8.6	– 60.6
	2.25 TO 5/12	+ 13.1	– 67.8
	5 TO 7/12	+ 15.8	– 57
	7 TO 12/12	+ 19.4	– 48
HIP ROOF CLADDING	2.25 TO 5/12	+ 15.8	– 49.8
	5 TO 7/12	+ 15.8	– 39.1
	7 TO 12/12	+ 15.1	– 48.4
WALL CLADDING		+ 21.1	– 28.3

150 MPH WIND ZONE			
		POS. (PSF) PRESSURE	NEG. (PSF) PRESSURE
GABLE ROOF CLADDING	FLAT ROOF	+ 9.9	– 69.6
	2.25 TO 5/12	+ 15	– 77.8
	5 TO 7/12	+ 18.1	– 65.4
	7 TO 12/12	+ 22.2	– 55.2
HIP ROOF CLADDING	2.25 TO 5/12	+ 18.1	– 57.2
	5 TO 7/12	+ 18.1	– 44.9
	7 TO 12/12	+ 17.3	– 55.6
WALL CLADDING		+ 24.3	– 32.5

4. FOR 115 AND 120 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R403.1.6 OF THE NCRC, 2024 EDITION. FOR 130 MPH, 140 MPH, AND 150 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NCRC, 2024 EDITION.

5. ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 11 OF THE NCRC, 2024 EDITION.

FOOTING AND FOUNDATION NOTES

1. FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.

2. FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. EXCEPTION: #57 OR #67 STONE MAY BE USED AS FILL FOR MAXIMUM DEPTH OF 4 FEET WITHOUT CONSOLIDATION. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NCRC, 2024 EDITION.

3. PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" – 1" DEEP CONTROL JOINTS ARE TO BE SAWED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.

4. CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NCRC, 2024 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.

5. MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.

6. THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.

7. THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.

8. ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NCRC, 2024 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCMA TR68-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.1(1), R404.1.1(2), R404.1.1(3), OR R404.1.1(4) OF THE NCRC, 2024 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1.2(8) OF THE NCRC, 2024 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

FRAMING NOTES

1. ALL FRAMING LUMBER SHALL BE #2 SPF MINIMUM (Fb = 875 PSI, Fv = 375 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (Fb = 975 PSI, Fv =175 PSI, E = 1600000 PSI) UNLESS NOTED OTHERWISE (UNO).

2. LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb =2600 PSI, Fv = 285 PSI, E = 1900000 PSI. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fb = 2325 PSI, Fv = 310 PSI, E = 1550000 PSI. PARALLEL STRAND LUMBER (PSL) UP TO 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2500 PSI, E =1800000 PSI. PARALLEL STRAND LUMBER (PSL) MORE THAN 7" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: Fc = 2900 PSI, E = 2000000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.

3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS

A.	W AND WT SHAPES:	ASTM A992
B.	CHANNELS AND ANGLES:	ASTM A36
C.	PLATES AND BARS:	ASTM A36
D.	HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E.	STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S

4. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):

A. WOOD FRAMING	(2) 1/2" DIA. x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA. x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA. x 4" LONG SIMPSON TITEN HD ANCHORS
D. STEEL PIPE COLUMN	(4) 3/4" DIA. A325 BOLTS OR 3/16" FILLET WELD

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 9/16" DIAMETER HOLES @ 16" O.C.

5. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.

6. ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.7(1) AND R602.7(2) OF THE NCRC, 2024 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.7.5 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2024 EDITION.

7. ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).

8. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).

9. ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.

10. BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2024 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.

11. PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER STRUCTURAL PLAN. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.

12. FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (U.N.O). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R703.8.2.1 OF THE NCRC, 2024 EDITION.

13. FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).

14. FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).

15. ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 700 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO.) POSTS MAY BE SECURED TO WOOD FRAMING WITH SIMPSON CS16 COIL STRAPPING WITH 9" END LENGTHS OR (2) 6" LONG SIMPSON SDS SCREWS (OR EQUAL) DRIVEN AT AN ANGLE FROM OPPOSITE SIDES. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.

16. CONSTRUCT ALL WOOD DECKS ACCORDING TO CHAPTER 47-WOOD DECKS.

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STANDARD STRUCTURAL NOTES

DATE: NOVEMBER 4, 2024

DRAWN BY: JST

ENGINEERED BY: JST

STRUCTURAL NOTES

NORTH CAROLINA PROFESSIONAL SEAL 33736 ENGINEER MATTHEW G. STROTHER

1/3/2025