GENERAL NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY THAT ALL DIMENSIONS, ROOF PITCHES, AND SQUARE FOOTAGE ARE CORRECT PRIOR TO CONSTRUCTION. K&A HOME DESIGNS, INC. IS NOT RESPONSIBLE FOR ANY DIMENSIONING, ROOF PITCH, OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
2. ALL WALLS SHOWN ON THE FLOOR PLANS ARE DRAWN AT 4" UNLESS NOTED OTHERWISE.
3. ALL ANGLED WALL SHOWN ON THE PLANS ARE 45 DEGREES UNLESS NOTED OTHERWISE.
4. STUD WALL DESIGN SHALL CONFORM TO ALL NORTH CAROLINA STATE BUILDING CODE REQUIREMENTS.
5. DO NOT SCALE PLANS. DRAWING SCALE MAY BE DISTORTED DUE TO COPIER IMPERFECTIONS.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH CAROLINA RESIDENTIAL STATE BUILDING CODE, 2018 EDITION.

SQUARE FOOTAGE

HEATED SQUARE FOOTAGE		UNHEATED SQUARE FOOTAGE	
FIRST FLOOR=	1555	GARAGE=	453
SECOND FLOOR=	1111	FRONT PORCH=	37
THIRD FLOOR=	N/A	SCREEN PORCH=	241
BASEMENT=	N/A	OPT. DECK=	104
TOTAL HEATED=	2666	TOTAL UNHEATED=	1045

CRAWL SPACE VENTILATION CALCULATIONS

-VENT LOCATIONS MAY VARY FROM THOSE SHOWN ON THE PLAN BUT SHOULD BE PLACED TO PROVIDE ADEQUATE VENTILATION AT ALL POINTS TO PREVENT DEAD AIR POCKETS.

-100% VAPOR BARRIER MUST BE PROVIDED WITH 12" MIN. LAP JOINTS.

-THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1500 AS LONG AS REQUIRED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS-VENTILATION OF THE SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED. (COMPLY WITH NC CODE MIN. WITH REGARD TO VENT PLACEMENT FROM CORNERS)

1555 SQ. FT. OF CRAWL SPACE/1500

1.03 SQ. FT. OF REQUIRED VENTILATION

PROVIDED BY: 3 VENTS AT 0.45 SQ. FT. NET FREE

VENTILATION EACH= 1.35 SQ. FT. OF VENTILATION

**FOUNDATION DRAINAGE- WATERPROOFING PER SECTIONS 405 & 406.*

ATTIC VENTILATION CALCULATIONS

- CALCULATIONS SHOWN BELOW ARE BASED ON VENTILATORS USED AT LEAST 3 FT. ABOVE THE CORNICE VENTS WITH THE BALANCE OF VENTIALTION PROVIDED BE EAVE VENTS.

- CATHEDRAL CEILINGS SHALL HAVE A MIN. 1" CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

2299 SQ. FT. OF ATTIC/300= 7.66

EACH OF INLET AND OUTLET REQUIRED.

**WALL AND ROOF CLADDING DESIGN VALUES*

- WALL CLADDING IS DESIGNED FOR A 24.1 SQ. FT. OR GREATER POSITIVE AND NEGATIVE PRESSURE.

- ROOF VALUES BOTH POSITVE AND NEGATIVE SHALL BE AS FOLLOWS:

45.5 LBS. PER SQ. FT. FOR ROOF PITCHES OF 0/12 TO 2.25/12

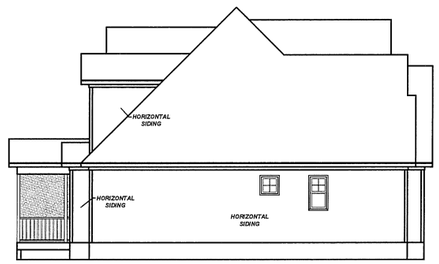
34.8 LBS. PER SQ. FT. FOR ROOF PITCHES OF 2.25/12 TO 7/12

21 LBS. PER SQ. FT. FOR ROOF PITCHES OF 7/12 TO 12/12

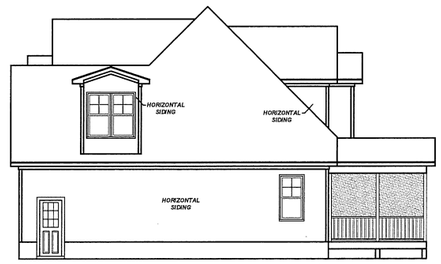
***MEAN ROOF HEIGHT 30' OR LESS*

FRONT ELEVATION
1/4" = 1'-0"

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



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



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

Project #: 23-098
Date: 3-17-23
Drawn/Design By: KBB
Scale: REFER TO ELEV.

REVISIONS

No.	Date:	Remarks
1		
2		
3		
4		

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@KandAHomeDesigns.com

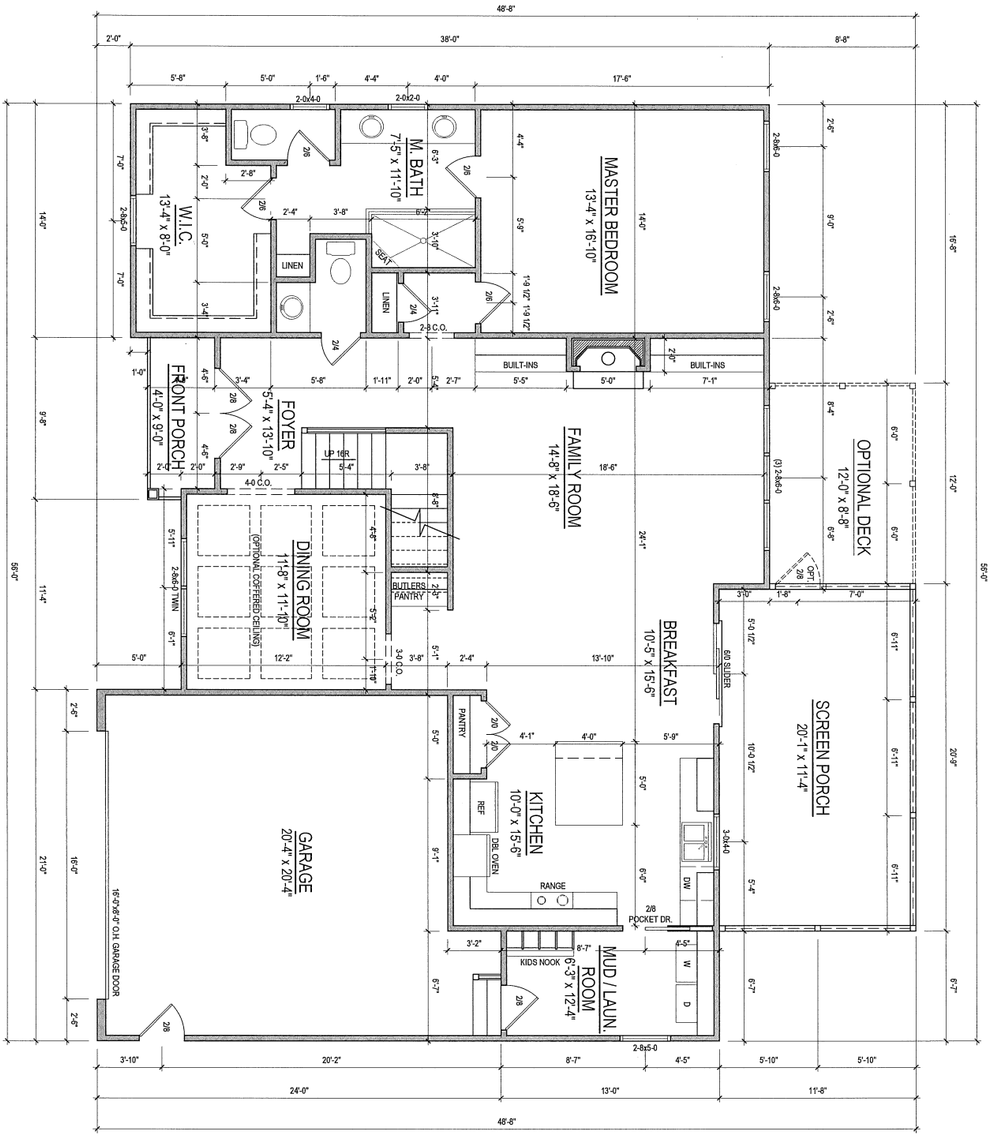
K&A HOME DESIGN Inc.

Project Name: Lot 7, Cotton Farms

Client Name: J. Douglas Contracting
PO Box 145
Willow Spring, NC 27592

ELEVATIONS

Sheet Number 1 of 3



FIRST FLOOR PLAN

1/4" = 1'-0" CEILING HT. = 9'-0"

Sheet Number 2 of 3

FIRST FLOOR

Client Name:

J. Douglas Contracting
PO Box 145
Willow Spring, NC 27592

Project Name:

Lot 7,
Cotton Farms

K&A HOME DESIGN Inc.
9101 Ten-Ten Rd.
Raleigh, NC 27603
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Email: Kent@KandAHomeDesigns.com
Website: www.KandAHomeDesigns.com

No.	Date	Remarks
4		
3		
2		
1		

REVISIONS

Project #: 22-038
Date: 3-17-23
Drawn/Designed By: KBB
Scale: 1/4" = 1'-0"

STRUCTURAL NOTES

1) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.

2) DESIGN LOADS:

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION (DL & LL)
ALL FLOORS	40	10	L/360
ATTIC (pull down access)	20	10	L/240
ATTIC (no access)	10	5	L/240
EXTERNAL BALCONY	60	10	L/360
ROOF	20	10	L/180
ROOF TRUSS	20	20	L/240
WIND LOAD	[BASED ON 115 MPH (3-second gusts)]		

3) MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF

4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE (UNO).

5) MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R404 OF 2018 NC RESIDENTIAL BUILDING CODE FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT

6) ALL FRAMING LUMBER SHALL BE SYP #2 (Fb = 800 PSI) UNO.
ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL.

7) ALL LOAD BEARING HEADERS SHALL BE (2)2x10 (UNO). ALL WINDOW AND DOOR HEADERS SHALL BE SUPPORTED BY (1) JACK STUD AND (1) KING STUD AT EACH END UNLESS NOTED. ALL OTHER BEAMS SHALL BE SUPPORTED BY 2 STUDS OR THE AMOUNT OF STUDS REQUIRED FOR FULL BEARING AT EACH END UNLESS NOTED. POINT LOADS (STIFF KNEES, ETC.) SHALL CONSIST OF 2 STUDS UNLESS NOTED. ALL SUPPORTS OF 2 STUDS OR MORE SHALL BE TRANSFERRED THROUGH EACH FLOOR TO THE FOUNDATION.

8) ALL EXTERIOR WALLS TO BE SHEATHED WITH MIN. 7/16" WOOD STRUCTURAL PANELS FASTNED WITH 8D NAILS 6" O.C. AT EDGES AND 12" O.C. AT INT. SUPPORTS. BLOCKING SHALL BE INSTALLED IF LESS THAN 50 PERCENT OF THE WALL LENGTH IS SHEATHED. WHERE BLOCKING IS REQ'D, ALL PANELS SHALL BE FASTENED AT 3" O.C AT EDGES AND 6" O.C. AT INT. SUPPORTS.

9) ALL STRUCTURAL STEEL SHALL ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3-1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2 DIAMETER AND 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE SOLE PLATES, AND THE SOLE PLATES ARE NAILED OR BOLTED TO THE BEAM FLANGES @ 48" O.C.

10) ANCHOR BOLT PLACEMENT PER SECTION R403.1.6. 1/2" DIAMETER ANCHOR BOLTS SPACED AT 6'-0" O/C AND PLACED 12" FROM THE END OF EACH PLATE SECTION

11) FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF 2018 NC RESIDENTIAL BUILDING CODE

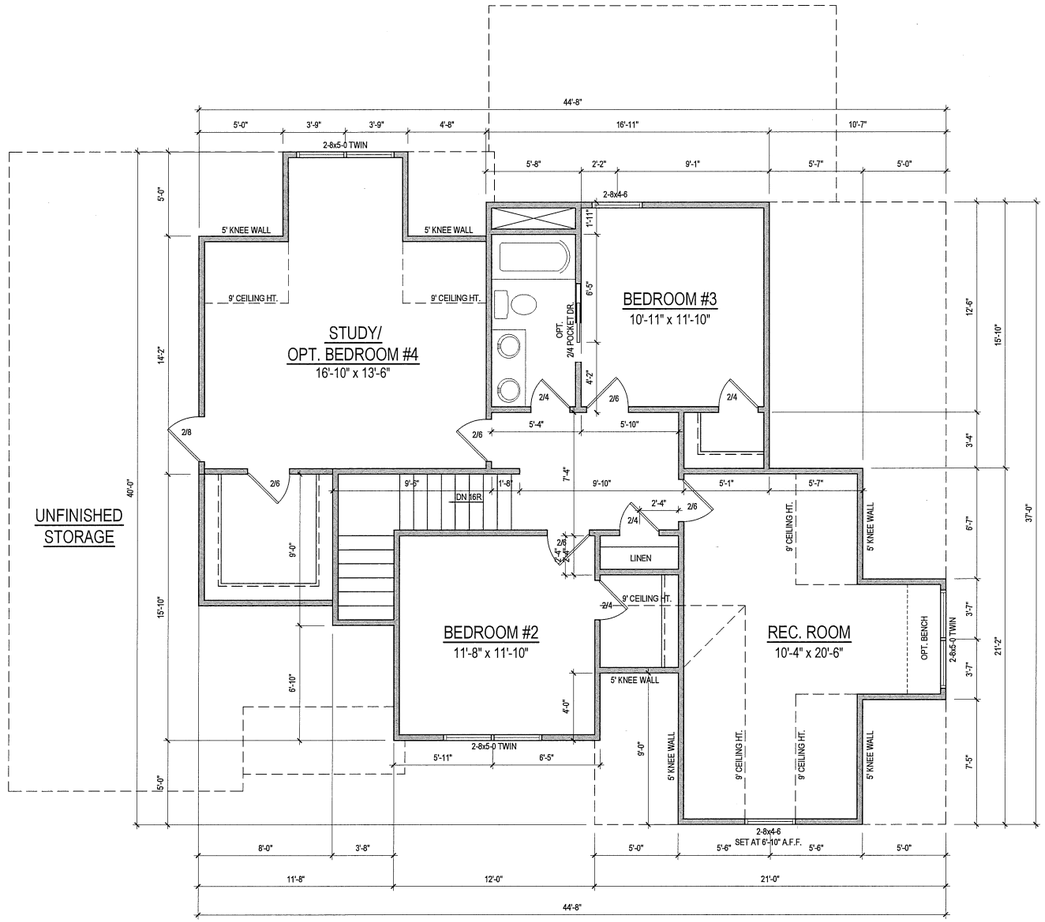
12) WALL AND ROOF CLADDING VALUES:
WALL CLADDING SHALL BE DESIGNED FOR A 24.1 SQ.FT. OR GREATER POSITIVE AND NEGATIVE PRESSURE
ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:
45.5 LBS/SQFT FOR ROOF PITCHES OF 0/12 TO 2.25/12
34.8 LBS/SQFT FOR ROOF PITCHES OF 2.25/12 TO 7/12
21.0 LBS/SQFT FOR ROOF PITCHES OF 7/12 TO 12/12
** MEAN ROOF HEIGHT 30' OR LESS

13) FOR ROOF SLOPES FROM 2:12 THROUGH 4:12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER

14) IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQ. FTG. ARE CORRECT PRIOR TO CONSTRUCTION. DESIGNER IS NOT RESPONSIBLE FOR DIMENSIONING OR SQ. FTG. ERRORS ONCE CONSTRUCTION BEGINS

TABLE N1102.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

CLIMATE ZONE	MAXIMUM GLAZING U-FACTOR	MINIMUM INSULATION R-VALUE					
		CEILINGS	WALLS	FLOORS	BASEMENT WALLS	SLAB PERIMETER	CRAWL SPACE WALLS
3	.35	R-38 or R-30	R-15	R-19	R-5/13	R-0	R-5/13
4	.35	R-38 or R-30	R-15	R-19	R-10/15	R-10	R-10/15



SECOND FLOOR PLAN

1/4" = 1'-0" *CEILING HT. = 9'-0"*

Project #: 23-098
Date: 3-17-23
Drawn/Design By: KBB
Scale: 1/4"=1'-0"

REVISIONS

No.	Date:	Remarks
1		
2		
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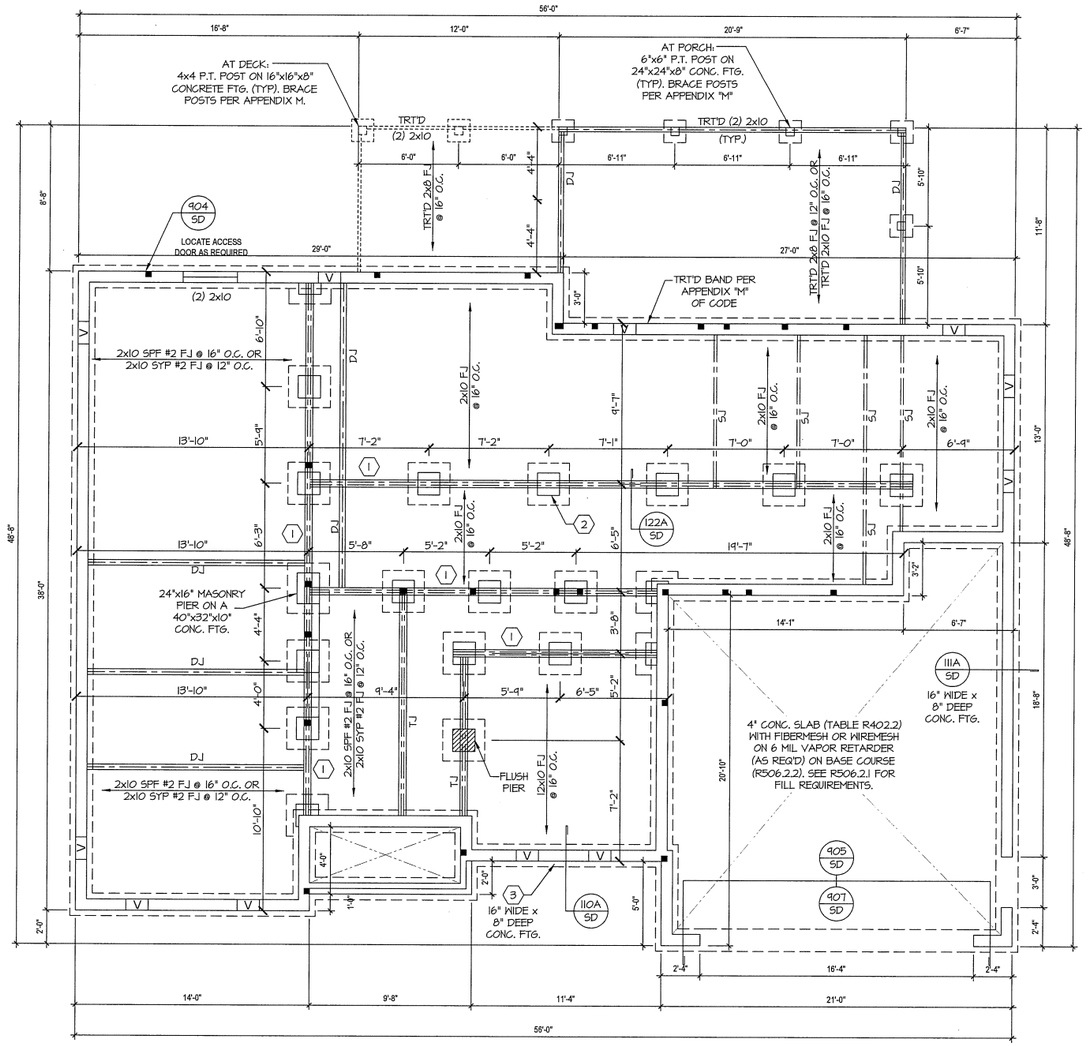
Client Name: *Lot 7, Cotton Farms*

Client Name: *J. Douglas Contracting*
PO Box 145
Willow Spring, NC 27592

SECOND FLOOR

Sheet Number
3
of 3



FOUNDATION STRUCTURAL NOTES

NC (2018 NCRC), Wind: 115-120 mph - CRAWL

1. (3)2x10 SYP#2 OR SPF#2 GIRDER, TYPICAL UNO.
2. CONCRETE BLOCK PIER SIZE SHALL BE:

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

WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.

3. WALL FOOTING AS FOLLOWS

DEPTH:	8" - UP TO 2 STORY	
	10" - 3 STORY	
WIDTH:		
SIDING:	16" - UP TO 2 STORY	
	20" - 3 STORY	
BRICK:	16" - 1 STORY	
	20" - 2 STORY	
	24" - 3 STORY	

- FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO CODE TABLE R404.1.1 (1 THRU 4) NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

4. (4) 2x10 SPF #2 OR SYP #2 GIRDER
5. (2) 1.75x9.25 LVL OR LSL GIRDER
6. (3) 1.75x9.25 LVL OR LSL GIRDER
7. "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO END, TYPICAL.
8. ABBREVIATIONS:
   - "S.J" = SINGLE JOIST
   - "D.J" = DOUBLE JOIST
   - "T.J" = TRIPLE JOIST
9. ADJUST SUBFLOOR THICKNESS OR JOIST SPACING AS REQ'D FOR FLOOR FINISH MATERIALS.

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

FOUNDATION STRUCTURAL PLAN

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

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS AND STRUCTURAL NOTES

NORTH CAROLINA PROFESSIONAL SEAL 035153 ENGINEER MARK MOORE

PROJECT # 23-1486

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Seal is valid for projects permitted one year from date of seal.
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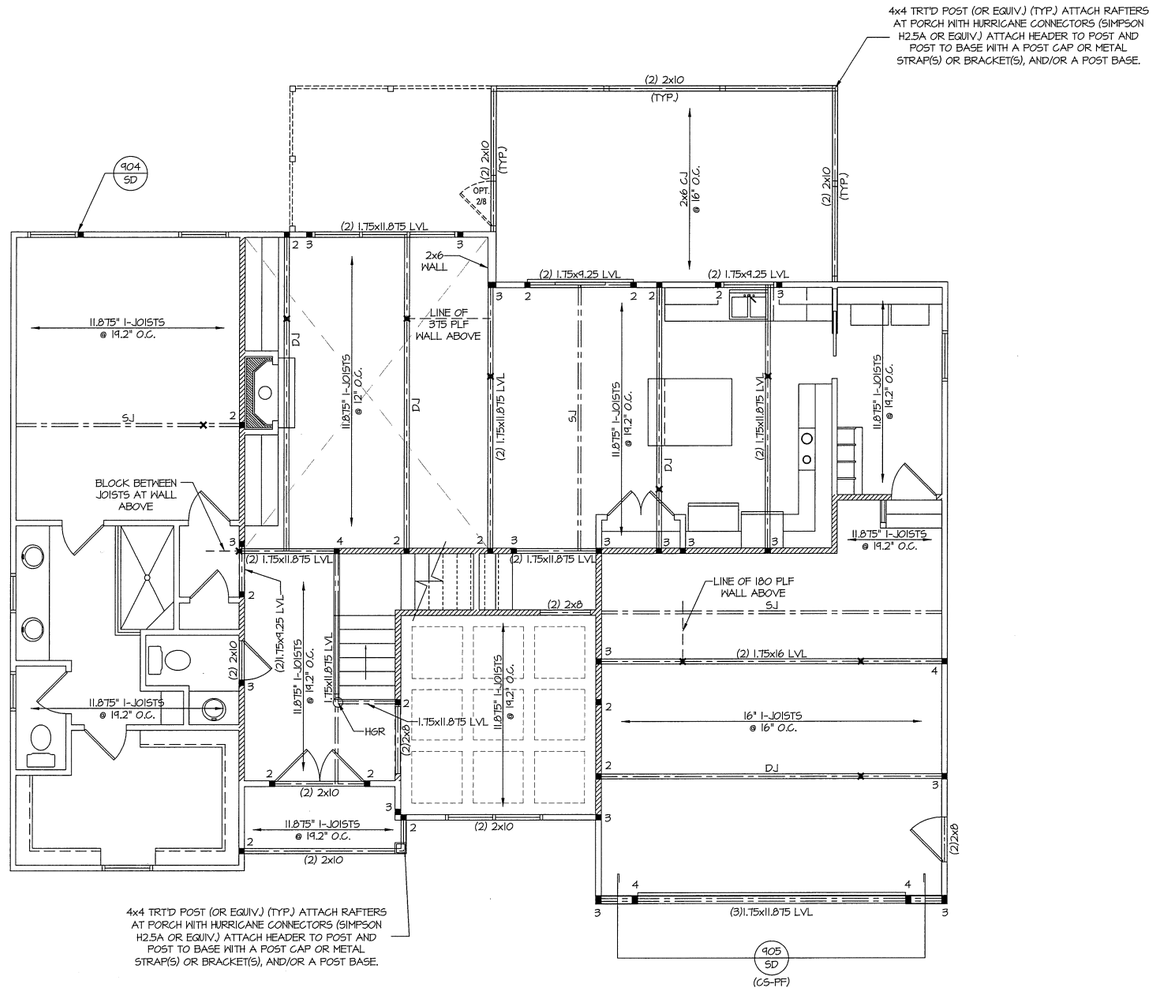
License: C-4772
www.southernengineers.com

K&A HOME DESIGN, INC.

Lot 7, Cotton Farms
"Eli Plan"
J. DOUGLAS CONTRACTING

S-1



FRAMING NOTES

NC (2018 NCRC); Wind: 115-120 mph

1. BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP; CS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.
2. EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (WSP) (EXPOSURE B, 7/16", EXPOSURE C, 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.
3. WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF PER SECTION R602.10.4.5 AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL BE SPLICED ALONG CONTINUOUS BAND OR THE WSP SHEATHING MAY BE SPLICED ACROSS STUDS (CONTINUOUS ACROSS FLOOR SYSTEM) WITH BLOCKING AT PANEL EDGES. (MINIMUM 12" BEYOND FLOOR BREAK) OR OTHER APPROVED METHOD.
4. "HD" = HOLDOWN. HOLD-DOWN DEVICE (NOTED AS "HD" ON PLANS) SHALL BE AN 800 POUND CAPACITY ASSEMBLY AS NOTED ON PLANS. SEE DETAILS FOR HD ASSEMBLY.
   - **GROUND/FIRST FLOOR: USE "HD HOLD-DOWN DETAIL" ON SD SHEET (OR EQUIV.)
   - **UPPER FLOORS: ATTACH BASE OF KING STUD WITH A SIMPSON CS20 OR CSHP20 STRAP DOWN ACROSS THE BAND AND DOWN TO A STUD BELOW OR HEADER BELOW. EXTEND STRAP 7" MIN ALONG EACH STUD (OR HEADER) AND ATTACH EACH END W/ (7) 8d NAILS.
5. INTERIOR BRACED WALL: (NOTED AS "IBW" ON PLANS) ATTACH 1/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.
6. INTERIOR BRACED WALL-WOOD STRUCTURAL PANEL (NOTED AS "IBW-WSP" ON PLANS). ATTACH ONE SIDE WITH 7/16" WSP SHEATHING WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP AS REQUIRED. ATTACH OPPOSITE SIDE WITH 1/2" GB WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" OC ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.

HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
2. THE NUMBER SHOWN AT BEAM AND HEADER SUPPORTS INDICATES THE NUMBER OF SUPPORT STUDS REQUIRED IN STUD POCKET OR COLUMN. THE NUMBER OF KING STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS SHALL BE ACCORDING TO ITEM "d" IN TABLE R602.3(5) OR AS BELOW PER NCDOI COMMENTARY "KING STUDS AT WALL OPENINGS" REVISED 1-9-2020:
   - ** UP TO 3' SPAN: (1) KING STUD
   - ** OVER 3' UP TO 6' SPAN: (2) KING STUDS
   - ** OVER 6' UP TO 9' SPAN: (3) KING STUDS
   - ** OVER 9' UP TO 12' SPAN: (4) KING STUDS
   - ** OVER 12' UP TO 15' SPAN: (5) KING STUDS

PORCH POST NOTES:

- 4X4 (6x6) TRT'D POST (OR EQUAL).
- ATTACH TRUSSES (RAFTERS) AT PORCH WITH HURRICANE CONNECTORS.

1. POST CAP: SIMPSON ACA-MAX (AC6-MAX)
2. POST CAP AT CORNERS: (2) SIMPSON LCE4 (MITER HEADER AT CORNER). HIGH WIND; ADD (1) SIMPSON H6.
3. POST BASE: SIMPSON ABU44 (ABU66).
   - 3.1. MONO: 5/8" ANCHOR (EMBED 7")
   - 3.2. CMU: 5/8" ANCHOR (EXTEND TO FOOTING - HIGH WIND ONLY)
4. POST BASE: WOOD FOUNDATION. (2) SIMPSON CS16 STRAPS AT POSTS. EXTEND 12" ONTO EACH POST (UPPER AND LOWER) OR TO GIRDER.

- NOTE: THE ABOVE CONNECTORS ARE SUGGESTIONS. EQUIVALENT CONNECTORS THAT MEET THE REQUIREMENTS OF THE NC RESIDENTIAL BUILDING CODE, LOCAL CODES, AND/OR ARE APPROVED BY THE BUILDING INSPECTOR MAY BE SUBSTITUTED.

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

WOOD I-JOISTS

(SHALL BE ONE OF THE FOLLOWING):

- TJI 210 BY TRUS JOIST
- LPI 20 PLUS BY LP
- BCI 5000s I.D BY BC
- BLI 40 BY ONCENTER

- ALL I-JOISTS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
- INSTALL SQUASH BLOCKS, WEB STIFFENERS, ETC. AS REQUIRED BY AND ACCORDING TO THE I-JOIST MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS.
- HANGERS FOR I-JOISTS ARE THE RESPONSIBILITY OF THE I-JOIST SUPPLIER.

FIRST FLOOR STRUCTURAL PLAN

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

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS AND STRUCTURAL NOTES

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License: C-4772
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PROJECT # 23-1486

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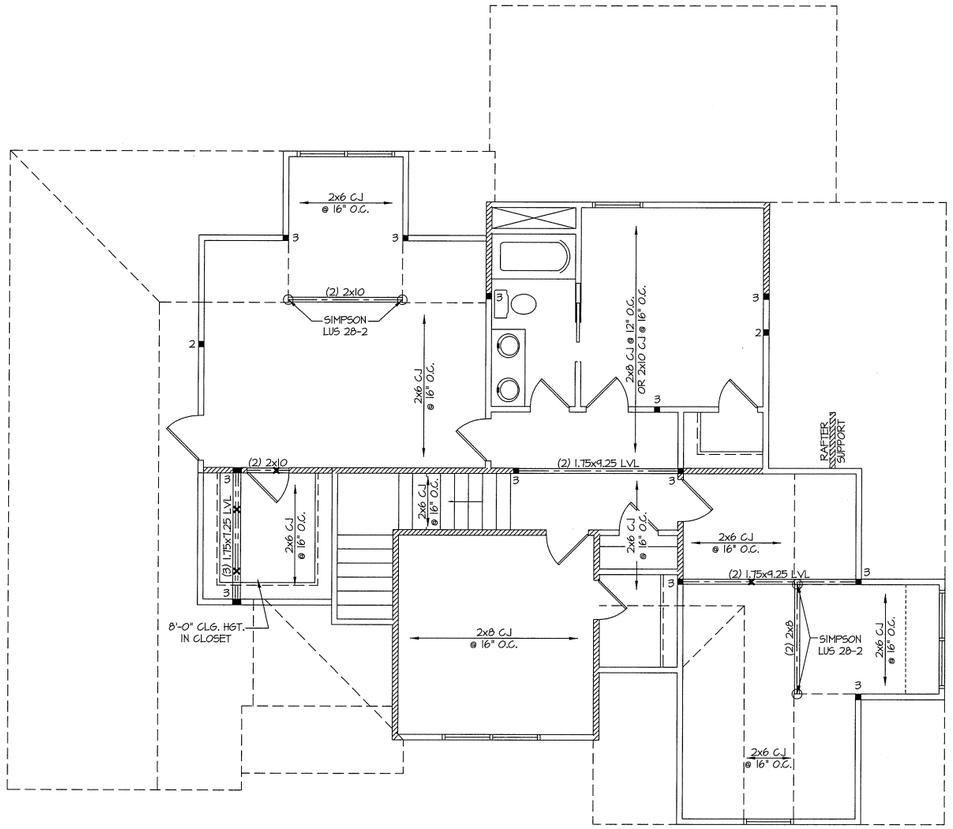
K&A HOME DESIGN, INC.

Lot 7, Cotton Farms
"Eli Plan"
J. DOUGLAS CONTRACTING

S-2



FRAMING NOTES

NC (2018 NCRC); Wind: 115-120 mph

1. BRACING METHOD AND TYPE: CONTINUOUSLY SHEATHED WSP; GS-WSP. NOTE THAT THE WALL BRACING AMOUNT PROVIDED ON THE PLANS (DETAILS AND SPECIFICATIONS) IS GREATER THAN THE AMOUNT OF WALL BRACING REQUIRED BY SECTION R602.10 OF THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.
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5. INTERIOR BRACED WALL: (NOTED AS "IBW" ON PLANS) ATTACH 1/2" GYPSUM BOARD (GB) ON EACH SIDE OF WALL WITH A MIN. OF 5d COOLER NAILS OR #6 SCREWS @ 7" O.C. ALONG THE EDGES AND AT INTERMEDIATE SUPPORTS.
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HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2)2x6 (4" WALL) OR (3)2x6 (6" WALL) WITH (1) SUPPORT STUD, UNLESS NOTED OTHERWISE.
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   - UP TO 3' SPAN: (1) KING STUD
   - OVER 3' UP TO 6' SPAN: (2) KING STUDS
   - OVER 6' UP TO 9' SPAN: (3) KING STUDS
   - OVER 9' UP TO 12' SPAN: (4) KING STUDS
   - OVER 12' UP TO 15' SPAN: (5) KING STUDS

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

SECOND FLOOR STRUCTURAL PLAN

SCALE: ¼"=1'-0"

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS AND STRUCTURAL NOTES

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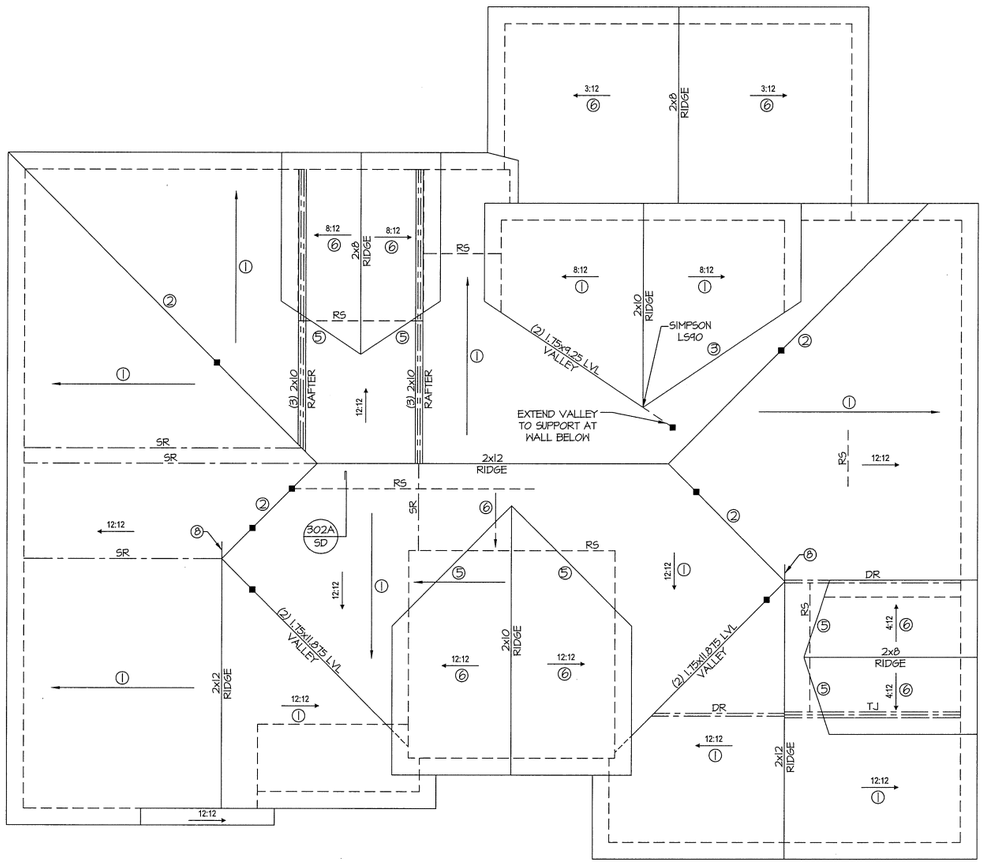
K&A HOME DESIGN, INC.

Lot 7, Cotton Farms
"Eli Plan"
J. DOUGLAS CONTRACTING

S-3



ROOF FRAMING NOTES:

NC (2018 NCRC); Wind: 115-120 mph

1. 2x8 RAFTERS @ 16" O.C. WITH 2x10 RIDGE, UNO.
2. (2) 2x10 OR 1.75x11.875 LVL HIP. (2) 2x10 HIPS MAY BE SPLICED WITH A MIN. 6'-0" OVERLAP AT CENTER
3. (2) 2x10 OR 1.75x9.25 LVL VALLEY. DO NOT SPLICE VALLEYS
4. 1.75x11.875 LVL OR (2)1.75x9.25 LVL VALLEY
5. FALSE FRAME VALLEY ON 2x10 FLAT PLATE
6. 2x6 RAFTERS @ 16" O.C. W/ 2x8 RIDGE, UNO.
7. 2x10 RAFTERS @ 16" O.C. W/ 2x12 RIDGE, UNO.
8. EXTEND RIDGE 12" BEYOND INTERSECTION

- "SR" = SINGLE RAFTER
- "DR" = DOUBLE RAFTER
- "TR" = TRIPLE RAFTER
- "RS" = ROOF SUPPORT
- "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT (USE 2X6 STUDS OR 6X6 POST FOR SUPPORT OVER 10'-0" IN HEIGHT)
- ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS; SIMPSON "H-2.5A" OR EQUIVALENT. TIES TO BE INSTALLED ON THE OUTSIDE FACE OF FRAMING.
- INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R802.3.1 OF THE 2018 NC RESIDENTIAL CODE.

FRAMING NOTE: ALL DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2, UNLESS SPECIFICALLY NOTED OTHERWISE.

ROOF STRUCTURAL PLAN

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

REFER TO "SD" SHEET(S) FOR STANDARD DETAILS AND STRUCTURAL NOTES

NORTH CAROLINA PROFESSIONAL SEAL 035422 ENGINEER MARK MINNICH

PROJECT # 23-1486

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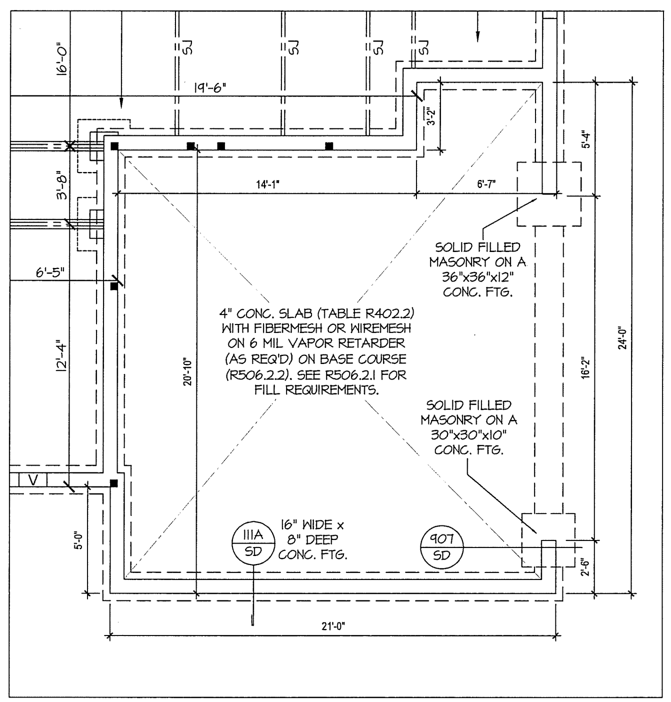
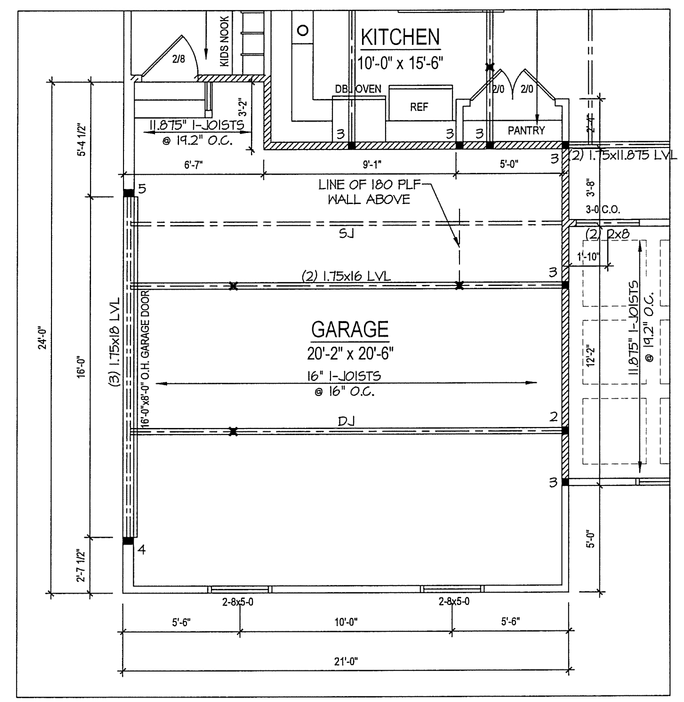


FOUNDATION PLAN
1/4" = 1'-0"



FIRST FLOOR PLAN
CEILING HT. = 9'-0" *1/4" = 1'-0"*

SIDELOAD GARAGE OPTION
SCALE: 1/4"=1'-0"
REFER TO "SD" SHEET(S) FOR STANDARD DETAILS AND STRUCTURAL NOTES

PROJECT #
23-1486

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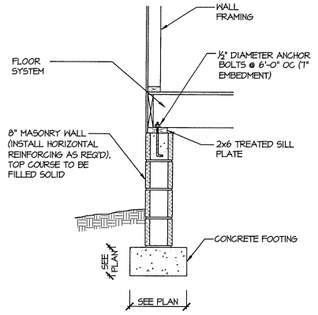
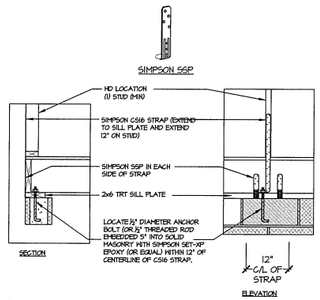
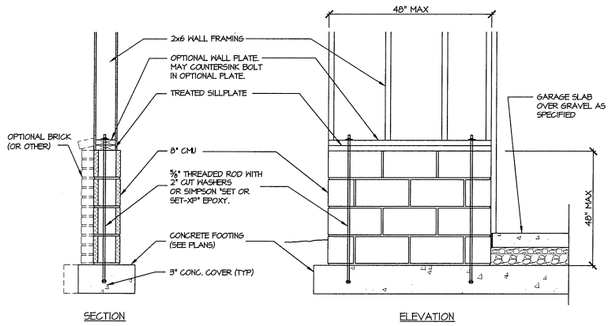
S-5



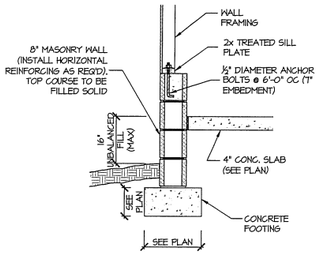
115-120 MPH | 110A 5D — CRAWL SPACE FOOTING
(SIDING OR EQUAL)



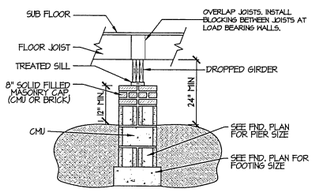
904 5D — BRACED WALL END CONDITION " HD" HOLD-DOWN DETAIL
NOTE: SIMPSON DTT-1Z IS ACCEPTABLE ALTERNATE
NOTE: ALTERNATE HD HOLD-DOWN DEVICES OR SYSTEMS MAY BE USED TO MEET THE CODE REQUIRED 800 LB CAPACITY IN LIEU OF THE ABOVE DETAIL.



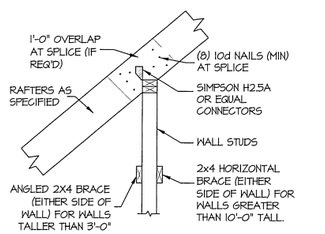
907 5D — GARAGE 'WING WALL' REINFORCING
PER IRC FIGURE R602.10.4.3



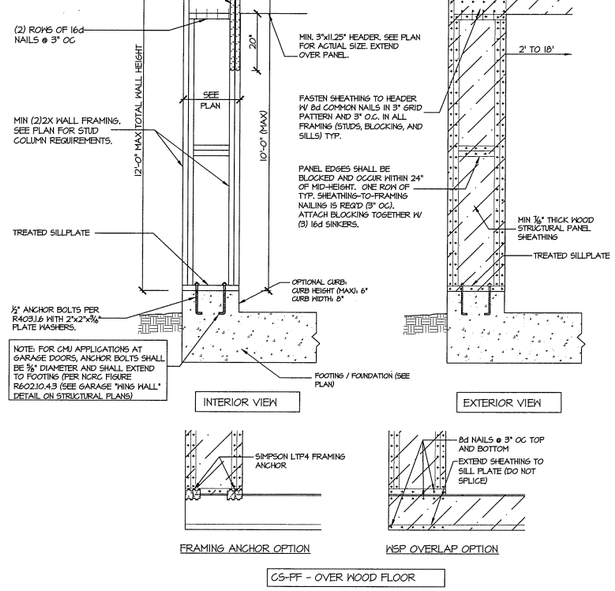
115-120 MPH | 111A 5D — GARAGE WALL FOOTING
(SIDING OR EQUAL)



122A 5D — DROPPED GIRDER
NTS



302A 5D — TYPICAL RAFTER SUPPORT ON ATTIC KNEEWALL
2X4 BRACES NOT REQ'D FOR WALLS THAT ARE SHEATHED W/ WSP OR DRYWALL. NTS.



905 5D — CS-PF: CONTINUOUS PORTAL FRAME CONSTRUCTION
DETAIL AND APPLICATION BASED ON NCRC FIGURE R602.10.1 - PORTAL FRAME CONSTRUCTION

STRUCTURAL NOTES

NC (2018 NCRC): Wind: 115-120 mph

1. ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS AND HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIER & GIRDER SYSTEM, FOOTING, AND PILING SYSTEM. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM. ALL REQUIREMENTS FOR PROFESSIONAL CERTIFICATION SHALL BE PROVIDED BY THE APPROPRIATE PROFESSIONAL. SOUTHERN ENGINEERS, P.A. CERTIFIES ONLY THE STRUCTURAL COMPONENTS AS SPECIFICALLY STATED.
2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE 2018 NC RESIDENTIAL CODE, 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 FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK, NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. "CONSTRUCTION REVIEW" SERVICES ARE NOT PART OF OUR CONTRACT. ALL MEMBERS SHALL BE FRAMED ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.
3. DESIGN LOADS (LISTED AS: LIVE LOAD, DEAD LOAD, DEFLECTION)
   - ROOMS OTHER THAN SLEEPING ROOMS: (40 PSF, 10 PSF, L/360)
   - SLEEPING ROOMS: (30 PSF, 10 PSF, L/360)
   - ATTIC WITH PERMANENT STAIR: (40 PSF, 10 PSF, L/360)
   - ATTIC WITHOUT PERMANENT STAIR: (20 PSF, 10 PSF, L/360)
   - ATTIC WITHOUT STORAGE: (10 PSF, 10 PSF, L/240)
   - STAIRS: (40 PSF, 10 PSF, L/360)
   - DECKS AND EXTERIOR BALCONIES: (40 PSF, 10 PSF, L/360)
   - PASSENGER VEHICLE GARAGES: (50 PSF, 10 PSF, L/360)
   - SNOW: (20 PSF)
4. WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANELS. SEE FRAMING NOTES FOR THICKNESS AND NAILING REQUIREMENTS.
5. SEE APPENDIX M (DCA6) FOR EXTERIOR DECK REQUIREMENTS INCLUDING ATTACHMENTS FOR LATERAL LOADS.
6. CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIR ENTRAINED PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT END OF THE PUMP. CONTROL JOINTS IN SLABS SHALL BE SPACED ON A GRID OF +-30 TIMES THE DEPTH (D). CONTROL JOINTS SHALL BE SAWCUT TO A DEPTH OF 1/D. (I.E. 4" CONCRETE SLABS SHALL HAVE ¼" DEEP CONTROL JOINTS SAWCUT IN SLAB ON A +-10'-0" x +-10'-0" GRID).
7. ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.
8. ALL FRAMING LUMBER SHALL BE SPF #2 (Fb = 875 PSI) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE SYP # 2. PLATE MATERIAL MAY BE SPF # 3 OR SYP #3 ($F_{c(perp)}$ = 425 PSI - MIN).
9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.9x10 PSI.
   9.1. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0x10 PSI.
   9.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10 PSI.
   INSTALL ALL CONNECTIONS PER MANUFACTURERS INSTRUCTIONS.
10. ALL ROOF TRUSS AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH THE SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURES SPECIFICATIONS. ANY CHANGE IN TRUSS OR I-JOIST LAYOUT SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.
11. ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. ALL STEEL TUBING SHALL BE ASTM A500.
12. REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.
13. FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM A325) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX), AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.
14. BRICK LINTELS (WHEN REQUIRED) SHALL BE 3 1/2"x3 1/2"x1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"x4"x5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO 9'-0". SEE PLANS FOR SPANS OVER 9'-0". SEE ALSO SECTION R703.8.3 LINTELS.
15. METAL CONNECTORS REFERENCED ON PLANS CORRESPOND TO SIMPSON STRONG-TIE BRAND. CONNECTORS OF EQUAL OR BETTER CAPACITY ARE ACCEPTABLE. CORROSION RESISTANCE PER CODE AND AS RECOMMENDED BY MANUFACTURER.

NORTH CAROLINA PROFESSIONAL SEAL 030363 ENGINEER MARK MINNICH

PROJECT # 23-1486

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