FRONT ELEVATION

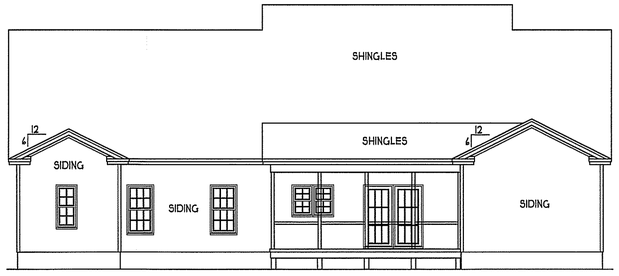
SCALE 1/4" = 1'-0"

ATTIC VENTILATION:

THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300 , PROVIDED AT LEAST 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3 FEET ABOVE EAVE OR CORNICE VENTS, WITH THE BALANCE OF THE REQUIRED VENTILATION TO BE PROVIDED BY EAVE OR CORNICE VENTS.

GROSS ATTIC AREA TO BE VENTILATED 2932 SQ.FT.

2932/150 = 19.55 SQ.FT. NET FREE AREA



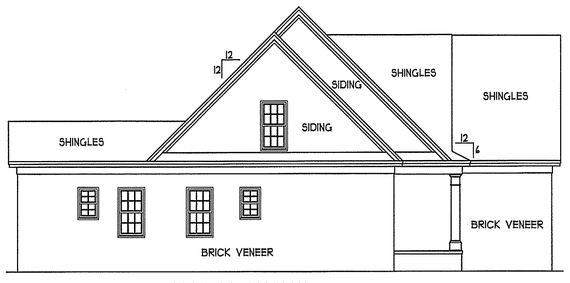
REAR ELEVATION

SCALE 1/8" = 1'-0"

ENERGY COMPLIANCE

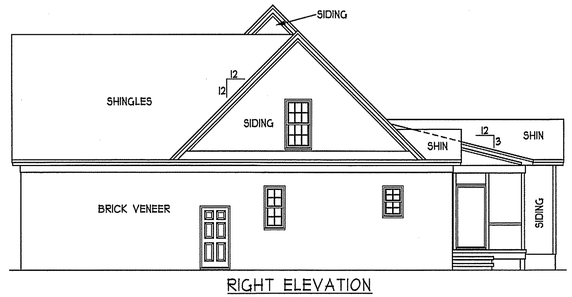
ZONE 3 = MAX. GLAZING U-FACTOR .35
R-VALUE = CEILING R38, WALLS R15,
FLOORS R19 FOR JOHNSTON, WAYNE COUNTY

ZONE 4 = MAX. GLAZING U-FACTOR .35
R-VALUE = CEILING R38, WALLS R15,
FLOORS R19 FOR WAKE, ORANGE COUNTY



LEFT ELEVATION

SCALE 1/8" = 1'-0"



RIGHT ELEVATION

SCALE 1/8" = 1'-0"

KIM BREEDEN
& FERGIE ROPER

HEATED FOOTAGE: #2778

SQUARE FOOTAGE:
FIRST FLOOR = 1825
SECOND FLOOR = 953
COVERED PORCHES = 443
DBL CAR GARAGE = 581

DESIGNED BY:
HEATHER HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

H SQUARED HOME DESIGN, INC.

ANY DEVIATION OF THIS PLAN, DIMENSIONS OR OTHERWISE, H SQUARED HOME DESIGN, INC. IS NOT LIABLE.

THIS PLAN HAS BEEN DRAWN IN ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODES 2018 EDITION

DATE: 08/20/20

1 1/2 STORY

FILE: 030120

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3714 BENSON DR., RALEIGH, NC 27609
LICENSE: C-1287, PHONE: 919-878-1417
PROJECT #: 20-1102 (TRUSS)

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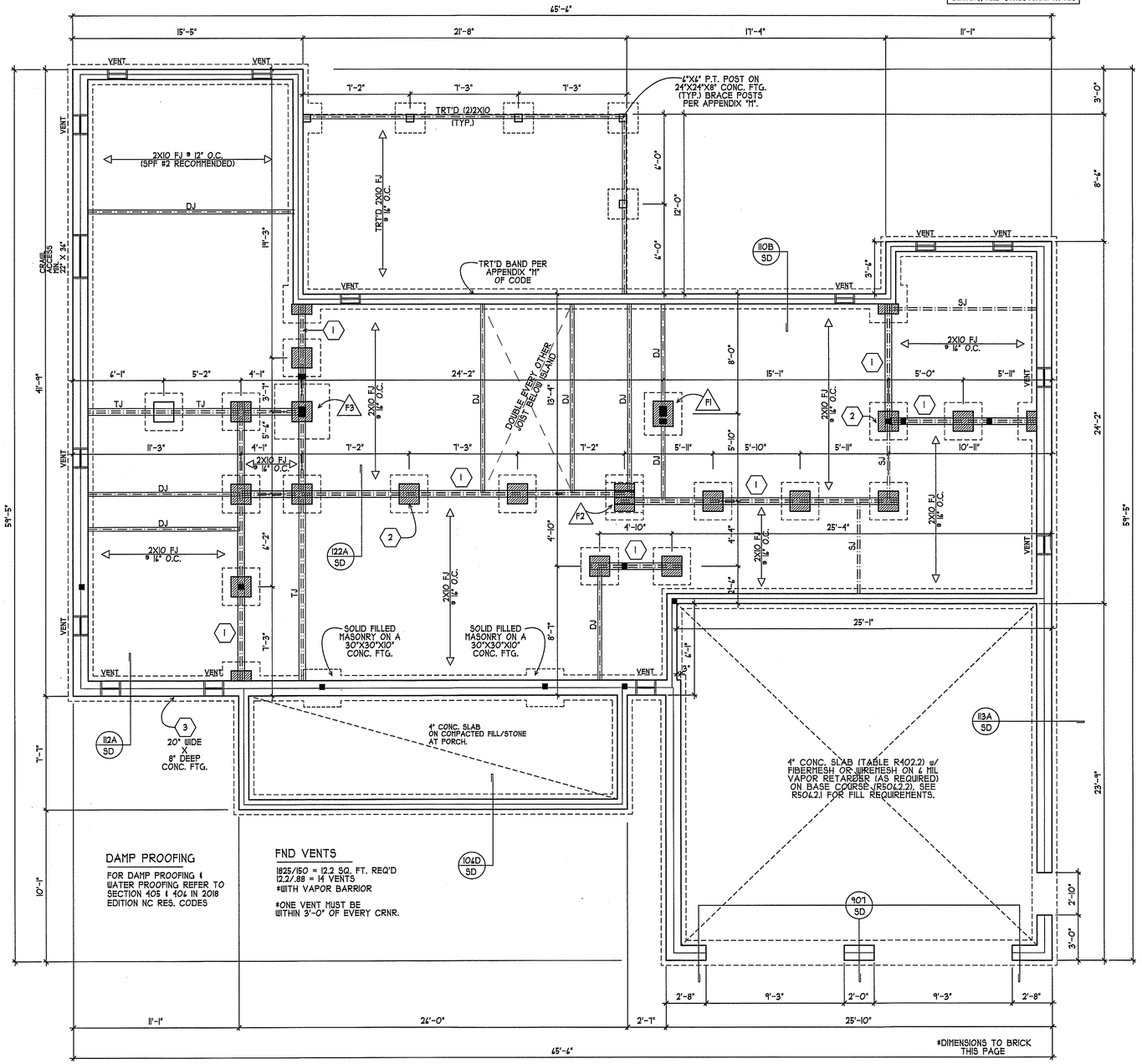
NORTH CAROLINA PROFESSIONAL SEAL 38253 ENGINEER MARK MINGUS

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



DIMENSIONAL LUMBER ON THIS SHEET MAY BE SPF #2 OR SYP #2

FOUNDATION STRUCTURAL NOTES:

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

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

SIZE	HOLLOW MASONRY	SOLID MASONRY
8 x 16	UP TO 32" HIGH	UP TO 5'-0" HIGH
12 x 16	UP TO 48" HIGH	UP TO 9'-0" HIGH
16 x 16	UP TO 64" HIGH	UP TO 12'-0" HIGH
24 x 24	UP TO 96" HIGH	

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

3. WALL FOOTING AS FOLLOWS:
   DEPTH: 8" - UP TO 2-1/2 STORY
   10" - 3 STORY
   WIDTH: SIDING (OR EQUAL)
   - 16" - UP TO 2-1/2 STORY
   - 20" - 3 STORY
   BRICK VENEER
   - 16" - 1 STORY
   - 20" - 2 STORY
   - 24" - 3 STORY

   FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL 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 SYP#2 OR SPF#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 FND. TYPICAL.
8. ABBREVIATIONS:
   "SJ" = SINGLE JOIST
   "DJ" = DOUBLE JOIST
   "TJ" = TRIPLE JOIST

F1 24"X16" SOLID FILLED, FLUSH MASONRY PIER ON A 48"X38"X12" CONC. FTG. REINFORCED WITH #5 BAR @ 7" O.C. (MIN. OF (5) BARS) IN THE LONG DIRECTION AND @ 6" O.C. (MIN. OF (7) BARS) IN THE SHORT DIRECTION.

F2 24"X16" MASONRY PIER ON A 38"X30"X10" CONC. FTG.

F3 16"X16" SOLID FILLED MASONRY PIER ON A 44"X44"X12" CONC. FTG. REINFORCED WITH #5 BAR @ 7" O.C. (MIN. OF (6) BARS) EACH WAY.

DAMP PROOFING

FOR DAMP PROOFING & WATER PROOFING REFER TO SECTION 405 & 406 IN 2018 EDITION NC RES. CODES

FND VENTS

1825/150 = 12.2 SQ. FT. REQ'D
12.2/.88 = 14 VENTS
*WITH VAPOR BARRIOR

*ONE VENT MUST BE WITHIN 3'-0" OF EVERY CRNR.

FOUNDATION PLAN

SCALE 1/4" = 1'-0"

KIM BREEDEN & FERGIE ROPER

HEATED FOOTAGE: #2778

SQUARE FOOTAGE:
FIRST FLOOR = 1825
SECOND FLOOR = 953
COVERED PORCHES = 443
DBL CAR GARAGE = 581

DESIGNED BY:
HEATHER HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

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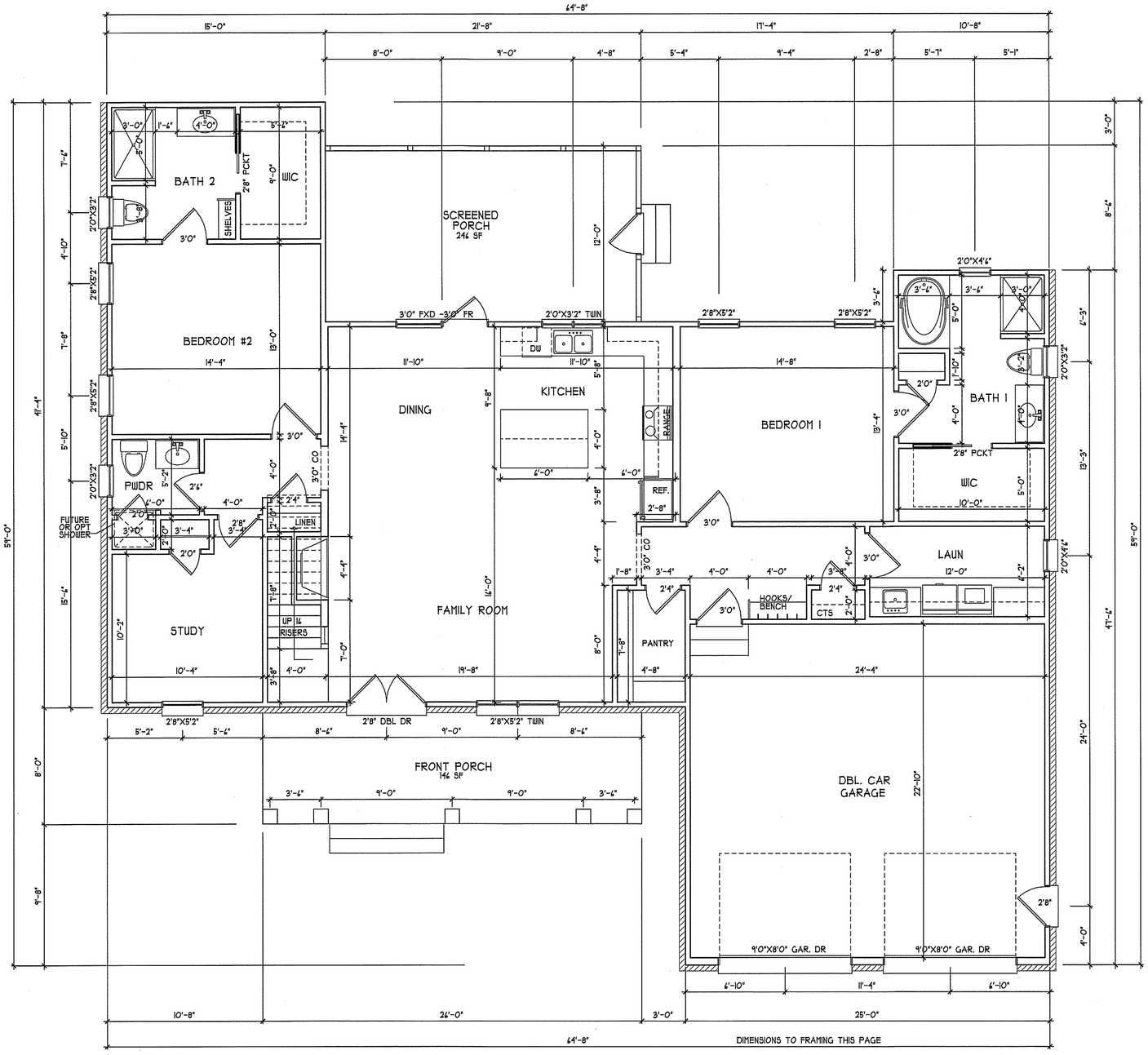
DATE: 08/20/20

1 1/2 STORY

FILE: 030120



FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

KIM BREEDEN & FERGIE ROPER

HEATED FOOTAGE: #2778

SQUARE FOOTAGE:

FIRST FLOOR	= 1825
SECOND FLOOR	= 953
COVERED PORCHES	= 443
DBL CAR GARAGE	= 581

DESIGNED BY:
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DATE: 08/20/20

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PORCH POST NOTES:

- 4"x4" (6"x6") TRT'D POST (OR EQUAL).
- ATTACH TRUSSES (RAFTERS) AT PORCH WITH HURRICANE CONNECTORS.

1. POST CAP: SIMPSON AC4-MAX (AC6-MAX)

2. POST CAP AT CORNER: (2) SIMPSON LCE4 (MITER HEADER AT CORNER). HIGH WIND; ADD (1) SIMPSON H4.

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 CS14 STRAPS AT POSTS. EXTEND 12" ONTO EACH POST (UPPER AND LOWER) OR TO GIRDER.

- NOTE: EQUIVALENT POST CAP AND BASE ACCEPTABLE.

HEADER/BEAM & COLUMN NOTES

1. ALL EXTERIOR AND LOAD BEARING HEADERS SHALL BE MIN. (2) 2x4 (4" WALL) OR (3) 2x4 (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:

- UP TO 4' SPAN: (1) KING STUD
- OVER 4' UP TO 8' SPAN: (2) KING STUDS
- OVER 8' UP TO 11' SPAN: (3) KINGS STUDS
- OVER 11' SPAN: (4) KING STUDS

TRUSS SYSTEM REQUIREMENTS

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

1.TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED STRUCTURAL PLANS. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.

2.TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.

3.ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).

4.ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

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 THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.

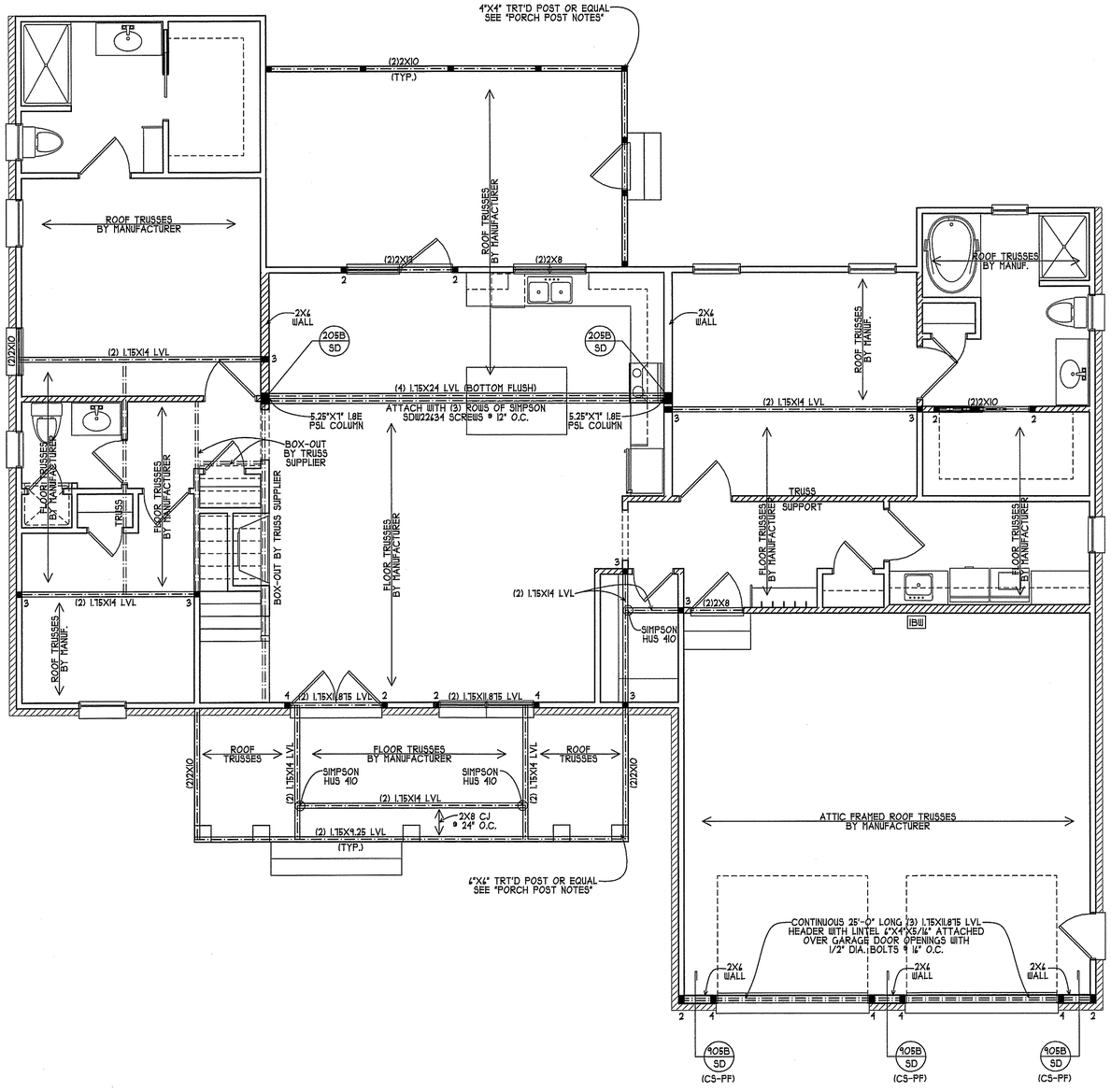
2. EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (WSP) (EXPOSURE B: 7/16", EXPOSURE C: 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 4"/12" NAILING PATTERN (4" O.C AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.

3. WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL 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 CS22 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 4"/12" NAILING PATTERN (4" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP 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.



FIRST FLOOR PLAN

SCALE 1/4" = 1'-0"

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3714 BENSON DR., RALEIGH, NC 27609
LICENSE: C-1281, PHONE: 919-878-1471
PROJECT #: 20-1102 (TRUSS)

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

NORTH CAROLINA PROFESSIONAL SEAL 38153 ENGINEER MARK WINSHIP

KIM BREEDEN & FERGIE ROPER

HEATED FOOTAGE: #2778

SQUARE FOOTAGE:

FIRST FLOOR	= 1825
SECOND FLOOR	= 953
COVERED PORCHES	= 443
DBL CAR GARAGE	= 581

DESIGNED BY:
HEATHER HALL
165 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

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DATE: 08/20/20

1 1/2 STORY

FILE: 030120

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3714 BENSON DR., RALEIGH, NC 27609
LICENSE: C-1287, PHONE: 919-878-1417
PROJECT #: 20-1102 (TRUSS)

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NORTH CAROLINA PROFESSIONAL SEAL 43783 ENGINEER MARK MERRITT 9/4/2020

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

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:

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- OVER 8' UP TO 11' SPAN: (3) KINGS STUDS
- OVER 11' SPAN: (4) KING STUDS

TRUSS SYSTEM REQUIREMENTS

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

1.TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED STRUCTURAL PLANS. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.

2.TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.

3.ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).

4.ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

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 THE CODE. SEE NOTES BELOW FOR DETAILS AND SPECIFICATIONS FOR WALL BRACING AND WALL FRAMING.

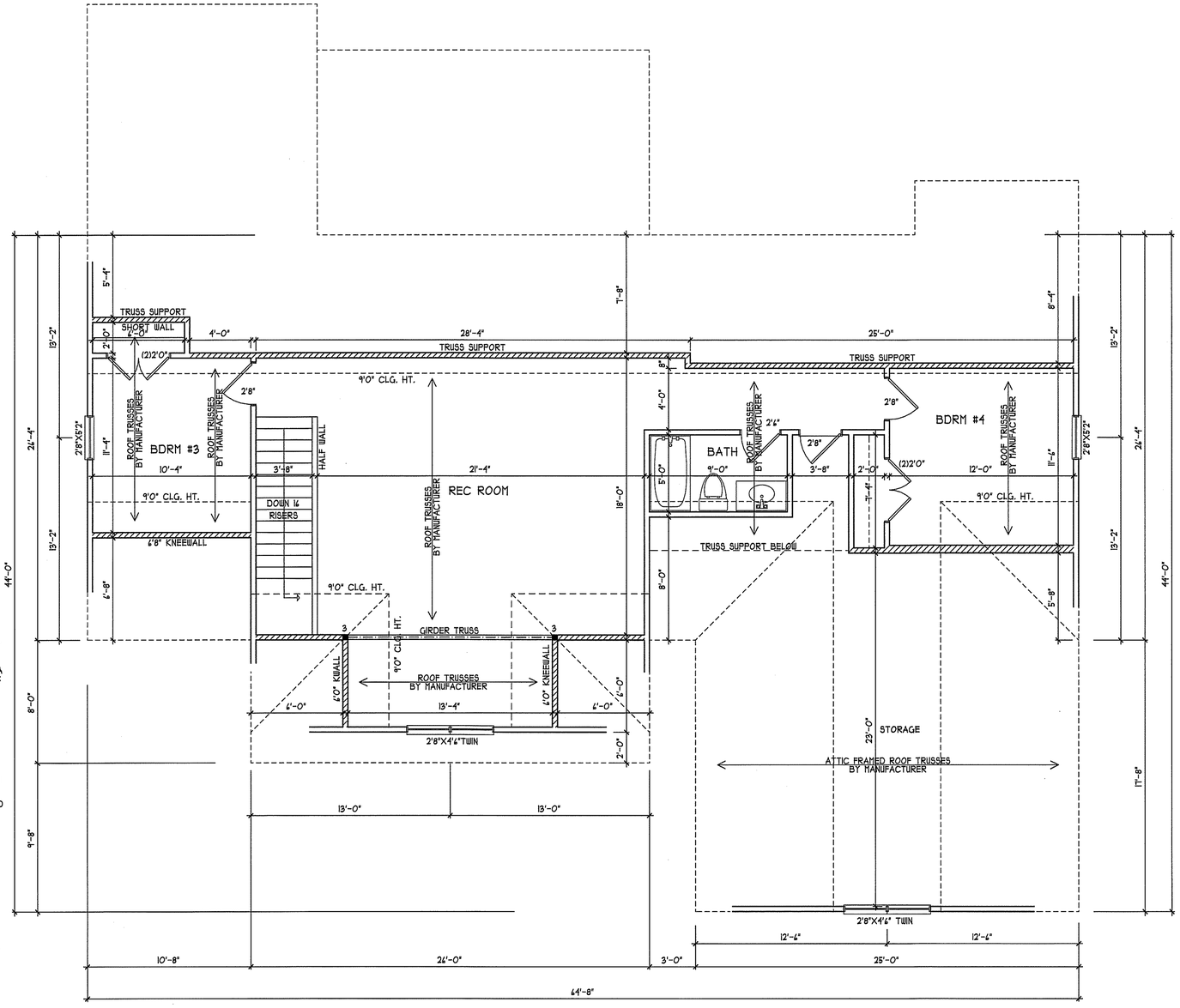
2. EXTERIOR WALL SHEATHING: WALLS SHALL BE BRACED BY SHEATHING WALLS ON ALL STORIES WITH WOOD STRUCTURAL PANEL SHEATHING (WSP) (EXPOSURE B: 7/16", EXPOSURE C: 15/32"). SHEATHING SHALL BE ATTACHED WITH 8d NAILS AT A 6"/12" NAILING PATTERN (6" O.C AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES.

3. WSP SHEATHING SHALL EXTEND TO THE UPPERMOST DOUBLE BEARING PLATE. BLOCK AT ROOF AND ATTACH BRACED WALLS PER CODE. WSP SHEATHING BETWEEN FLOORS SHALL 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 CS22 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 (4" OC AT PANEL EDGES AND 12" OC AT INTERMEDIATE SUPPORTS). INSTALL BLOCKING AT ALL PANEL EDGES. ATTACH GB OVER WSP 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.



SECOND FLOOR PLAN

SCALE 1/4" = 1'-0"

KIM BREEDEN & FERGIE ROPER

HEATED FOOTAGE: #2778

SQUARE FOOTAGE:

FIRST FLOOR	= 1825
SECOND FLOOR	= 953
COVERED PORCHES	= 443
DBL CAR GARAGE	= 581

DESIGNED BY:
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185 HEATHERSTONE CT
BENSON NC 27504
(919) 207-1403

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DATE: 08/20/20

1 1/2 STORY

FILE: 030120

STRUCTURAL DESIGN BY:
SOUTHERN ENGINEERS, P.A.
3114 BENSON DR., RALEIGH, NC 27609
LICENSE: C-1281, PHONE: 919-878-1411
PROJECT #: 20-1102 (TRUSS)

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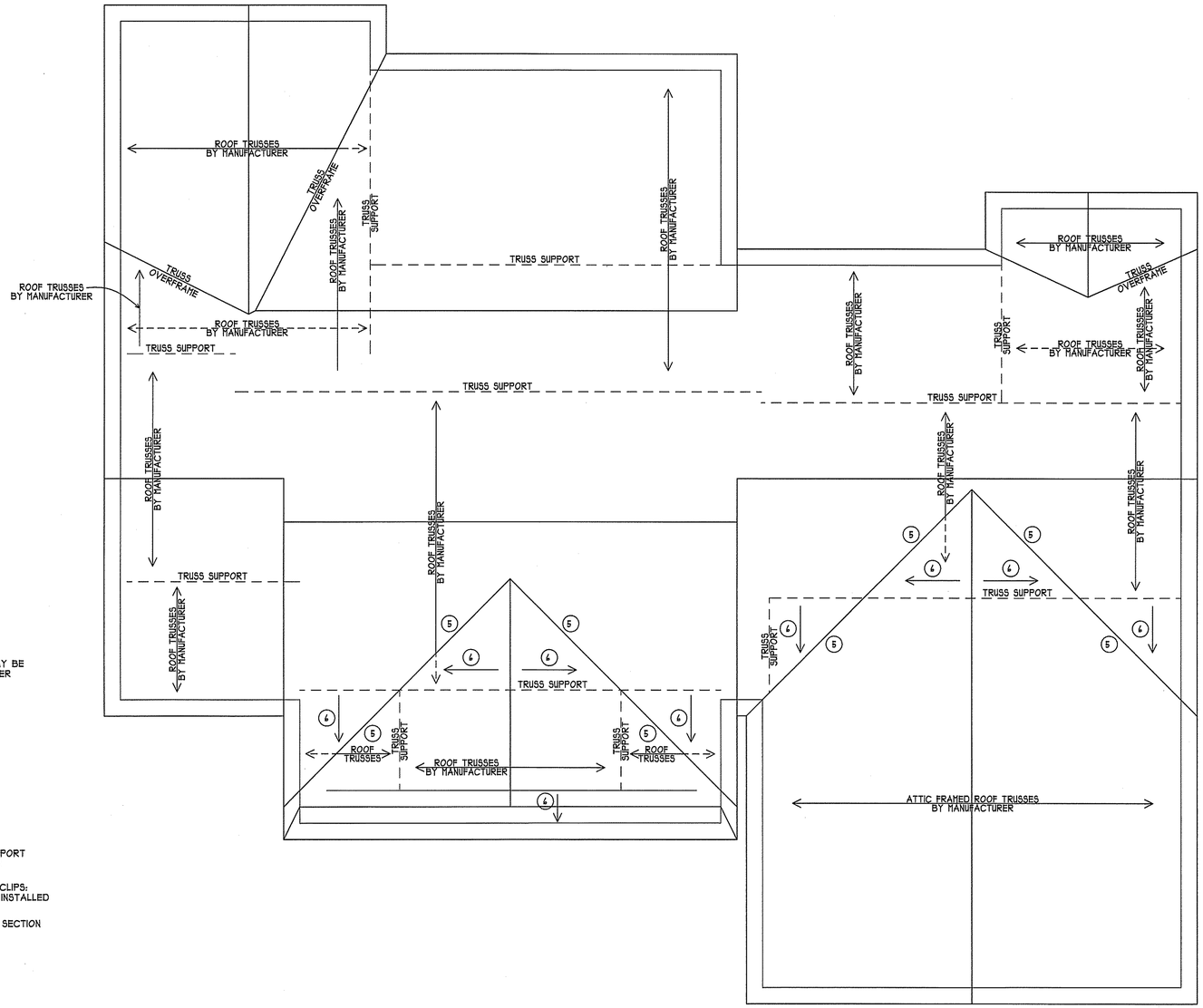
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 38263 MARK MINCHEW

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



ROOF PLAN
SCALE 1/4" = 1'-0"

TRUSS SYSTEM REQUIREMENTS

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

1.TRUSS SYSTEM LAYOUTS (PLACEMENT PLANS) SHALL BE DESIGNED IN ACCORDANCE WITH SEALED STRUCTURAL PLANS. ANY NEED TO CHANGE TRUSSES SHALL BE COORDINATED WITH SOUTHERN ENGINEERS.

2.TRUSS SCHEMATICS (PROFILES) SHALL BE PREPARED AND SEALED BY TRUSS MANUFACTURER.

3.ALL TRUSSES SHALL BE DESIGNED FOR BEARING ON SPF #2 OR #3 PLATES OR LEDGERS (UNO).

4.ALL REQUIRED ANCHORS FOR TRUSSES DUE TO UPLIFT OR BEARING SHALL MEET THE REQUIREMENTS AS SPECIFIED ON THE TRUSS SCHEMATICS.

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 @ 24" 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 OR 6X6 FOR SUPPORT POSTS OVER 10'-0" IN HEIGHT)
- ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS: SIMPSON "H2.5A" OR EQUIVALENT. TIES TO BE INSTALLED ON THE OUTSIDE FACE FRAMING.
- INSTALL RAFTER TIES AND COLLAR TIES PER SECTION R802.3.1 OF THE 2018 NC RESIDENTIAL CODE

KIM BREEDEN
& FERGIE ROPER

HEATED FOOTAGE: #2778

SQUARE FOOTAGE:
FIRST FLOOR = 1825
SECOND FLOOR = 953
COVERED PORCHES = 443
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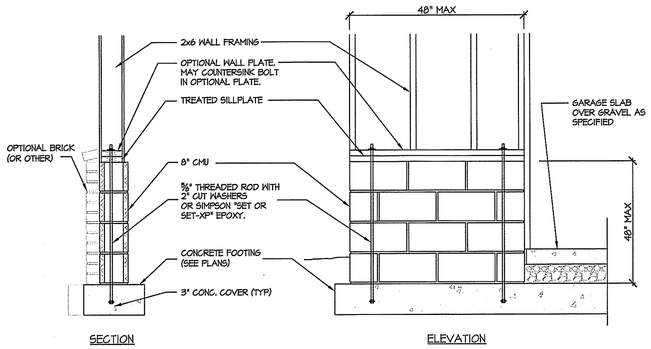
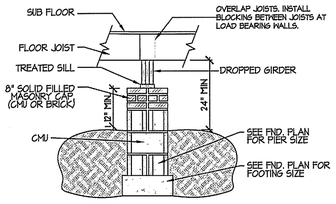
1 1/2 STORY

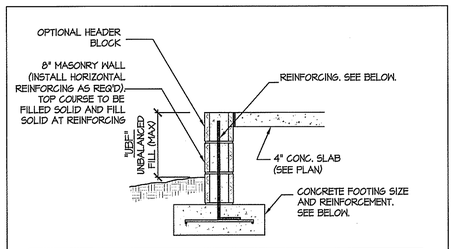
FILE: 030120



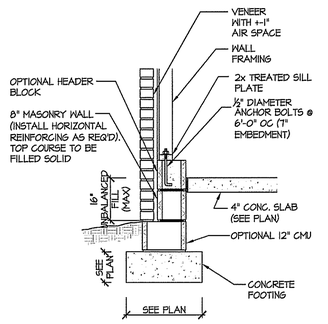
907 5D GARAGE 'WING WALL' REINFORCING
PER IRC FIGURE R602.10.4.3



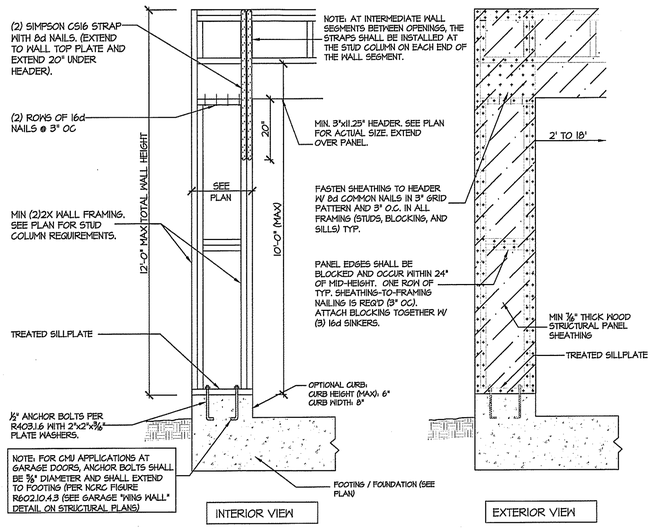
122A 5D DROPPED GIRDER
NTS



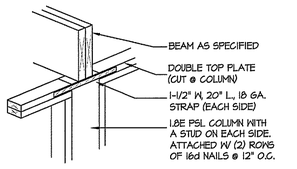
115-120 MPH 106D 5D FILLED PORCH WALL



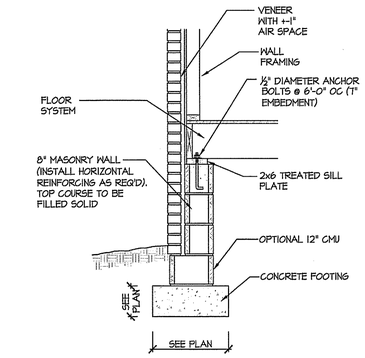
115-120 MPH 113A 5D GARAGE WALL FOOTING
(VENEER)



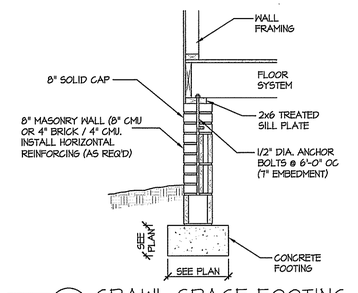
905B 5D CS-PF: CONTINUOUS PORTAL FRAME CONSTRUCTION
DETAIL AND APPLICATION BASED ON NCRC FIGURE R602.10.1 - PORTAL FRAME CONSTRUCTION



205B 5D DIRECT BEAM BEARING
NTS



115-120 MPH 112A 5D CRAWL SPACE FOOTING
(VENEER)



115-120 MPH 110B 5D CRAWL SPACE FOOTING
(SIDING W/ BRICK SKIRT)

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, FOOTINGS, 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)
   - EXTERIOR BALCONIES: (60 PSF, 10 PSF, L/360)
   - DECKS: (40 PSF, 10 PSF, L/360)
   - GUARDRAILS AND HANDRAILS: (200 LBS)
   - PASSENGER VEHICLE GARAGES: (50 PSF, 10 PSF, L/360)
   - FIRE ESCAPES: (40 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 STRUCTUAL 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 DRAINSURFACE 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 (Fc(perp) = 425 PSI - MIN).

9. L.V.L. SHALL BE LAMINATED VENEER LUMBER: Fb=2600 PSI, Fv=285 PSI, E=1.9x10⁶ PSI.
   - 9.1. P.S.L. SHALL BE PARALLEL STRAND LUMBER: Fb=2900 PSI, Fv=290 PSI, E=2.0x10⁶ PSI.
   - 9.2. L.S.L. SHALL BE LAMINATED STRAND LUMBER: Fb=2250 PSI, Fv=400 PSI, E=1.55x10⁶ 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 MANUFACTURE'S 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. LAP ALL REBAR SPLICES 30 BAR DIAMETERS.

12. REBAR SHALL BE DEFORMED STEEL, ASTM615, GRADE 60.

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.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039163 MARK MINNICH 4/14/2020

PROJECT # 20-1702

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Kim Breeden & Fergie Roper Residence

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