



MASTER ISSUE DATE  
4/22/2020  
DO NOT SCALE PAPER  
CONSTRUCTION SHALL BE  
PER INDICATED DIMENSIONS  
DATE  
LATEST REVISION DATE

GAR  
LEFT

DOVE HOMES, LLC  
RALEIGH, NC  
919-427-6991

AUBREY  
ELEVATION 'B' - CRAWL

SHEET #  
4.00

**General Elevation Notes**

General Elevation Notes shall apply unless noted otherwise on plan.

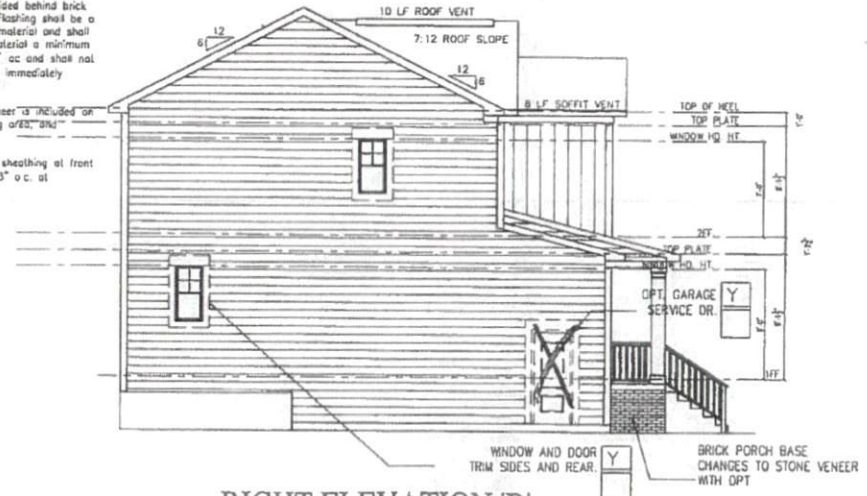
- Roof shall be finished with composition shingles with slopes as noted on plan.
- Metal Roof finish is used as an accent material and may be optional, consult community specifications.
- Ridge Vents shall be provided and installed on all ridges greater than 6" in length per manufacturer's specifications.
- Soffit Vents shall be continuous soffit vent, consult community specifications for material.
- Additional Vents may be required to meet ventilation requirements, consult ventilation calculations and additional vents noted on plan.
- House Wrap, "Tyvek" or approved equal shall be installed over entire exterior wall per manufacturer's specifications and recommendations. "Zip" system sheathing may substitute for House Wrap.
- Flashing shall be provided above all door and window openings, above finish wall material changes and at wall surfaces where lower roof areas abut vertical wall surfaces.
- Porch Railings shall be provided at all porch walking surfaces greater than 30" above adjacent finished grade. It shall be 36" high with guards spaced no more than 4" apart. Consult community specifications for material.
- Finish Wall Material shall be as noted on elevation drawings. Consult community specifications for material make-up of siding, shown as generic on drawing.
- Brick Veneer, if included on elevation shall be tied to wall surface with galvanized corrugated metal ties at a rate of 24" o.c. horizontally and 16" o.c. vertically so that no more than 2.67sf of brick is supported by (1) tie. Space between face of wall and back face of brick shall be limited to a maximum of 1". Flashing shall be provided behind brick above all wall openings and at base of brick wall. Flashing shall be a minimum of 6-mil poly or other corrosion resistant material and shall be installed so that it laps under the house wrap material a minimum of 2". Weepholes shall be provided at a rate of 48" o.c. and shall not be less than 3/16" in diameter and shall be located immediately above flashing.
- Brick Veneer Support Lath shall be provided if brick veneer is included on elevation. See structural plans for lath size, bearing and connection to header.
- Sheathing House is covered 100% with structural wood sheathing at front and rear and side elevations provide nail pattern of 3" o.c. at perimeter and 6" o.c. at field.

*side  
no Duct/Hung 5*

OPT. MAIN ROOF O.H.



**FRONT ELEVATION 'B'**  
SCALE: 1/4"=1'-0" ON 22x34 AND 1/8"=1'-0" ON 11x17



**RIGHT ELEVATION 'B'**  
SCALE: 1/8"=1'-0" ON 22x34 AND 1/16"=1'-0" ON 11x17

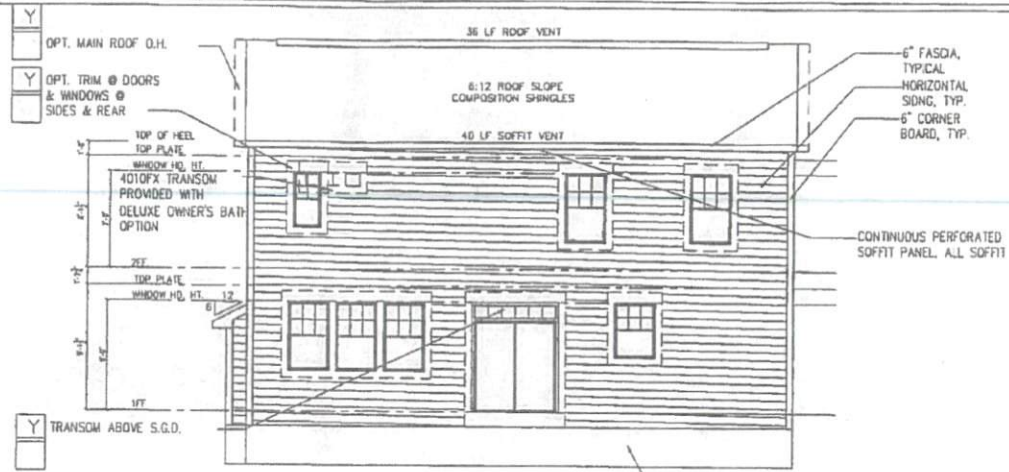
**ROOF VENT. CALCULATIONS ELEV 'B'**

MAIN ROOF ATIC	
1198 SQ. FT.	
ATIC VENTILATION REQUIRED	
1198 SQ. FT.	= 3.99 SQ. FT. REQUIRED
46 LF RIDGE VENT @ 18 S.I./LF = 46x18 = 828 S.I. = 5.75 SF	
63 LF SOFFIT VENT @ 4.5 S.I./LF = 63x4.5 = 283 S.I. = 1.96 SF	
7.71 SF PROVIDED	
ROOF OF GARAGE AND FRONT PORCH	
328 SQ. FT.	
ATIC VENTILATION REQUIRED	
328 SQ. FT.	= 1.09 SQ. FT. REQUIRED
40 LF SOFFIT VENT @ 4.5 S.I./LF = 40x4.5 = 180 S.I. = 1.25 SF	
0.87 SF PROVIDED	
OPT COVERED OR SCREEN PORCH	
120 SQ. FT.	
ATIC VENTILATION REQUIRED	
120 SQ. FT.	= 0.4 SQ. FT. REQUIRED
10 LF RIDGE VENT @ 18 S.I./LF = 10x18 = 180 S.I. = 1.25 SF	
20 LF SOFFIT VENT @ 4.5 S.I./LF = 20x4.5 = 90 S.I. = 0.62 SF	
1.87 SF PROVIDED	

**General Elevation Notes**

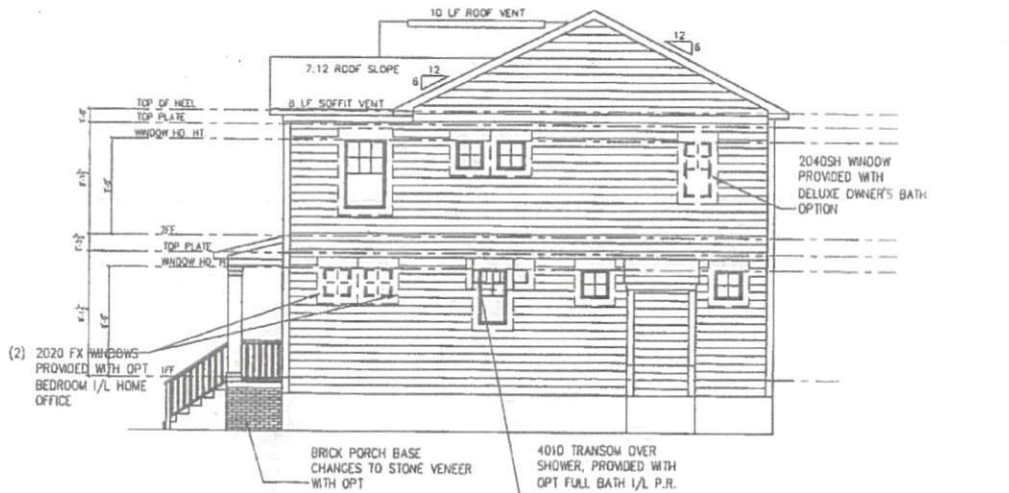
General Elevation Notes shall apply unless noted otherwise on plan.

1. Roof shall be finished with composition shingles with slopes as noted on plan.
2. Metal Roof finish is used as an accent material and may be optional, consult community specifications.
3. Ridge Vents shall be provided and installed on all ridges greater than 6' in length per manufacturer's specifications.
4. Soffit Vents shall be continuous soffit vent, consult community specifications for material.
5. Additional Vents may be required to meet ventilation requirements, consult ventilation calculations and additional vents noted on plan.
6. House Wrap, "lytek" or approved equal shall be installed over entire exterior wall per manufacturer's specifications and recommendations. "Zo" system sheathing may substitute for House Wrap.
7. Flashing shall be provided above all door and window openings, above finish wall material changes and at wall surfaces where lower roof areas abut vertical wall surfaces.
8. Fench Railings shall be provided at all porch walking surfaces greater than 30" above adjacent finished grade. It shall be 36" high with guards spaced no more than 4" apart. Consult community specifications for material.
9. Finish Wall Material shall be as noted on elevation drawings. Consult community specifications for material make-up of siding, shown as generic on drawing.
10. Brick Veneer, if included on elevation shall be tied to wall surface with galvanized corrugated metal ties at a rate of 24" oc horizontally and 16" oc vertically so that no more than 2.07sf of brick is supported by (1) tie. Spaces between face of wall and back face of brick shall be limited to a maximum of 1". Flashing shall be provided behind brick above all wall openings and at base of brick wall. Flashing shall be a minimum of 6-mil poly or other corrosion resistant material and shall be installed so that it laps under the house wrap material a minimum of 2". Weepholes shall be provided at a rate of 48" oc and shall not be less than 3/16" in diameter and shall be located immediately above flashing.
11. Brick Veneer Support Laths shall be provided if brick veneer is included on elevation. See structural plans for lath size, bearing area, and connection to header.
12. Sheathing House is covered 100% with structural wood sheathing at front and rear and side elevations provide nail pattern of 3" o.c. at perimeter and 6" o.c. at field.



**REAR ELEVATION**

SCALE: 1/8"=1'-0" ON 22x34 AND 1/16"=1'-0" ON 11x17



**LEFT ELEVATION 'B'**

SCALE: 1/8"=1'-0" ON 22x34 AND 1/16"=1'-0" ON 11x17

MASTER ISSUE DATE: 4/20/2019  
 30 DAY SCALE PERIOD: 4/20/2019 TO 5/20/2019  
 DATE REVISION DATE: 4/20/2019

**GAR LEFT**

**DOVE HOMES, LLC**  
 RALEIGH, NC  
 919-427-6691

**AUBREY**  
 ELEVATION 'B' - CRAWL

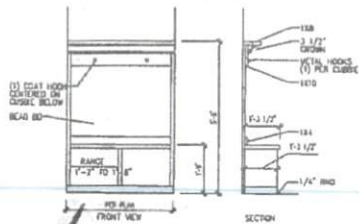
SHEET #  
 4.00



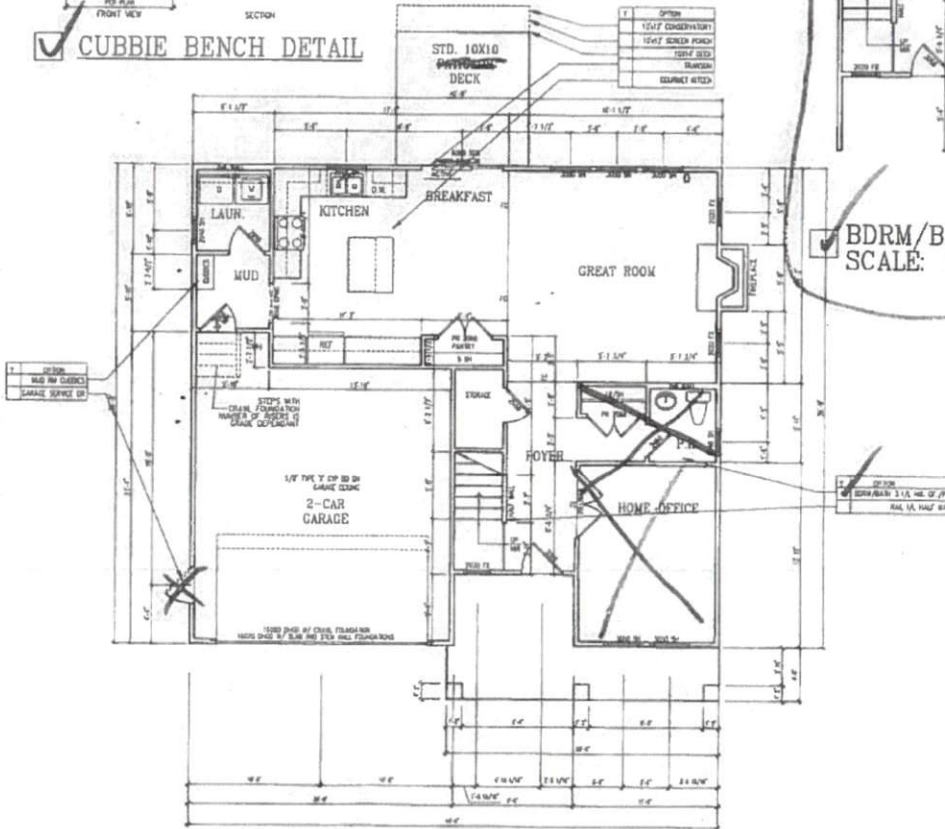
**General Floor Plan Notes**

General Floor Plan Notes shall apply unless noted otherwise on a plan.

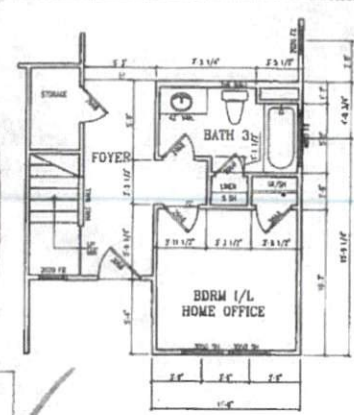
1. Wall Heights: Typically 9'-1-1/2" first floor and 8'-1-1/2" second floors U.N.O.. All walls are constructed using a double top plate. Splices of Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from Joint in other Top Plate layer. Special wall heights are noted on plans where they occur.
2. Wall Thickness is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.
3. Header height shall be 7'-11" AFF at 9" plate height and 6'-11" at 8" plate height, unless noted otherwise.
4. Soffits, Cofferded Ceilings, Tray Ceilings and other significant ceiling plan elements are shown on the floor plans and are denoted as single dashed lines. Unless specifically call out as included, Kitchens do not include soffits over wall cabinetry.
5. Door & Window Frames, where occurring near corners, shall be a minimum of 4-1/2" from corner. Except for walk-in closets with doors near a corner, doors at closets shall be centered on closet.
6. Windows: Shall have at least (1) window in each sleeping room, that meets egress. Shall be provided with tempered glass at hazardous glazing areas. Windows used at unfinished attic spaces as elevation decorative elements only shall have obscure glazing.
7. Closets for clothing or coat storage shall be equipped with 1 rod/shelf. Closets for linen shall have 5. Closets for pantries shall have 5 shelves. Consult spec level for solid or wire shelves.
8. Stairs shall have a minimum width dimensioned as 3'-7", treads shall be 10" deep, risers shall be a maximum of 7-3/4", unless noted otherwise.
9. Handrails and Guards of stairs shall be 34" above the finished surface of the ramp surface of the stair. Handrails at landings and overlooks of multilevel spaces shall be 42" above finished floor. Guards (pickets or bolusters) shall be spaced with no more than 4" between guards.
10. Attic Access shall be provided to attic areas that exceed 400 square feet and have a vertical height of 80" or greater. Minimum clear attic access shall be 20" x 30". Pull down stairs and access doors in knee walls meeting minimum criteria are also acceptable.
11. Garage Door to Living Space shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.
12. Garage Walls, as a minimum, shall be separated from living space and living space attic by installing 1/2" gypsum board on the garage side of the wall.
13. Garage Ceilings, 5/8" type "X" gypsum board on the garage ceilings when heated space is above.



**CUBBIE BENCH DETAIL**



**FIRST FLOOR PLAN**  
SCALE: 1/8"=1'-0"



**BDRM/BA3 I/L, HM OF/PR**  
SCALE: 1/8"=1'-0"

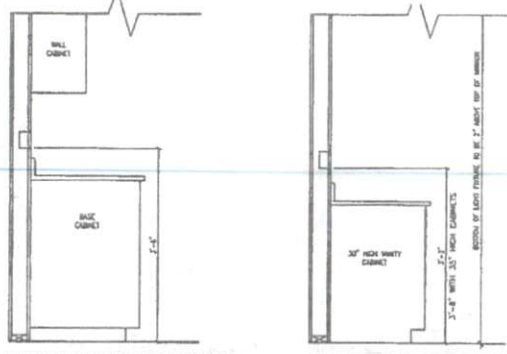
MASTER ISSUE DATE: 4/22/2020  
BY: J. H. HARRIS  
CHECKED BY: J. H. HARRIS  
DATE: 4/22/2020

GAR LEFT

DOVE HOMES, LLC  
RALEIGH, NC  
919-427-6991

AUBREY  
1ST FLOOR PLAN - ELEVATION "B"

SHEET #  
6.00



SWITCH & RECEPTACLE BOXES OVER KITCHEN CABINETS

SWITCH & RECEPTACLE BOXES OVER BATH CABINETS

**ELECTRICAL LEGEND**

○	SWITCH & RECEPTACLE BOX
○	SWITCH
○	RECEPTACLE
○	3-WAY SWITCH
○	4-WAY SWITCH
○	1-WAY SWITCH
○	2-WAY SWITCH
○	3-WAY SWITCH
○	4-WAY SWITCH
○	5-WAY SWITCH
○	6-WAY SWITCH
○	7-WAY SWITCH
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○	41-WAY SWITCH
○	42-WAY SWITCH
○	43-WAY SWITCH
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○	45-WAY SWITCH
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○	48-WAY SWITCH
○	49-WAY SWITCH
○	50-WAY SWITCH

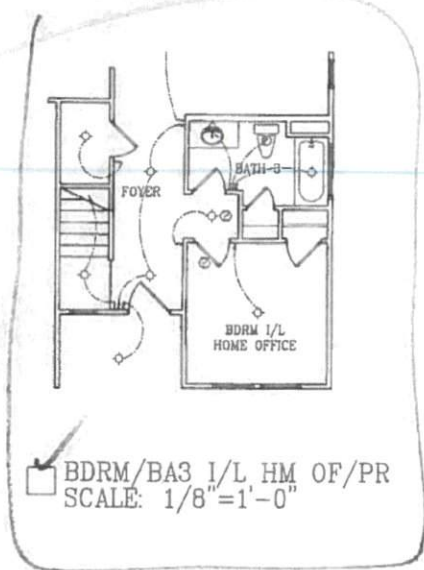
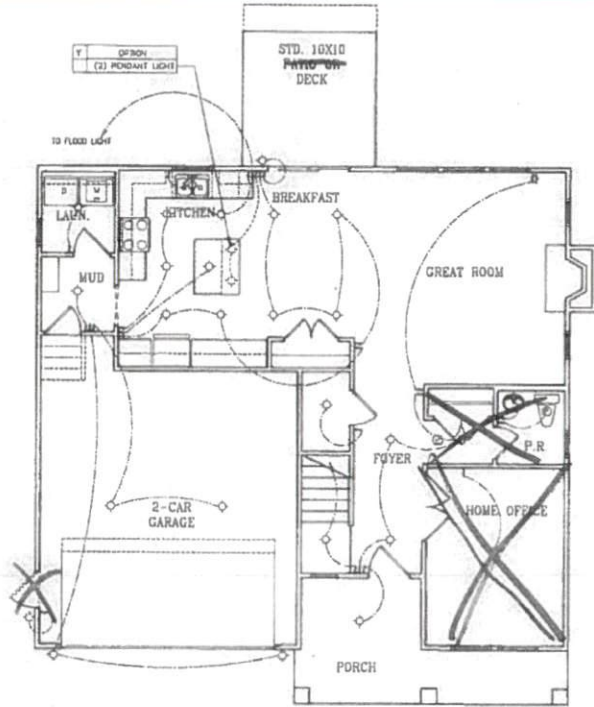
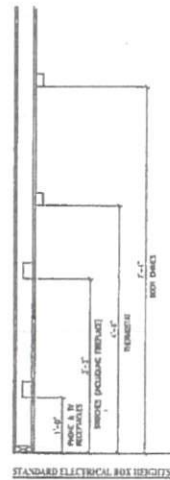
**GENERAL NOTES AND LEGEND:**

1. THE PLAN SHOWS LOCATING THE LIGHT SWITCHES ONLY. CORRESPONDING RESULTS ARE PLACED IN NOTES BY ELECTRICAL CONSTRUCTION BASED ON REQUIREMENTS SHOWN IN THE ORIGINAL CDD CODE.

2. GENERAL POWER AND LIGHTING NOTES SHALL APPLY UNLESS NOTED OTHERWISE ON PLANS. ALL WORK SHALL BE INSTALLED PER THE 2014 NC RESIDENTIAL ELECTRICAL CODE, AND THE NATIONAL ELECTRICAL CODE. ALIAS SERVICES SHALL MEET WITH THE.

3. SWITCHES SHALL BE PROVIDED AS A MINIMUM OF (1) FOR EACH ROOM, INCLUDING BATHROOMS IF APPLICABLE, (2) IN EACH BEDROOM, BATH, AND (3) THROUGH EACH BATHING AREA, WITHIN THE APPLICABLE SCOPE OF BATHING AREAS. MORE THAN ONE SWITCH IS REQUIRED. THE ALIAS SERVICES SHALL BE RESPONSIBLE TO DETERMINE THAT THE LOCATION OF ONE SWITCH WILL LOCATE ALL OF THE APPLICABLE BATHING AREAS SHALL BE MADE KNOWN TO PERFORMER POWER AND SHALL HAVE NECESSARY BACK-UPS.

4. SWITCHES - FOR LIGHTING - SHALL BE INSTALLED AS INDICATED ILLUSTRATED ON THIS PAGE AND SHALL BE LOCATED A MINIMUM OF 4 FT FROM BATH CROCKERS TO ALLOW FOR THE PROPER INSTALLATION OF BATH CROCKERS, TUBS, SHOWER, SECURITY FROM FIRE AND OTHER ALIAS SERVICES SHALL BE CONSULTED REGARDING AND INSTALLED THROUGHOUT THE COMPLIANCE OF USE AND TO AVOID INTERFERENCE WITH OTHERS OF WALL, MISC.



FIRST FLOOR PLAN  
SCALE: 1/8"=1'-0"

ELECTRICAL OUTLETS ARE NOT SHOWN UNLESS SPECIFICALLY CALLED FOR TO BE SWITCHED. PROVIDE OUTLETS IN REQUIRED VOLTAGES TO MEET PLAN REQUIREMENTS AND TO MEET ALL APPLICABLE CODES AND NATIONAL ELECTRICAL CODE CURRENT EDITIONS AND REQUIRED SPACING.

MASTER ISSUE DATE: 04/2019  
FOR THE BEST RESULTS, CONSULTATION SHALL BE PER AREA TO INCLUDE DET.  
LATEST REVISION DATE:

GAR LEFT

DOVE HOMES, LLC  
RALEIGH, NC  
919-427-6891

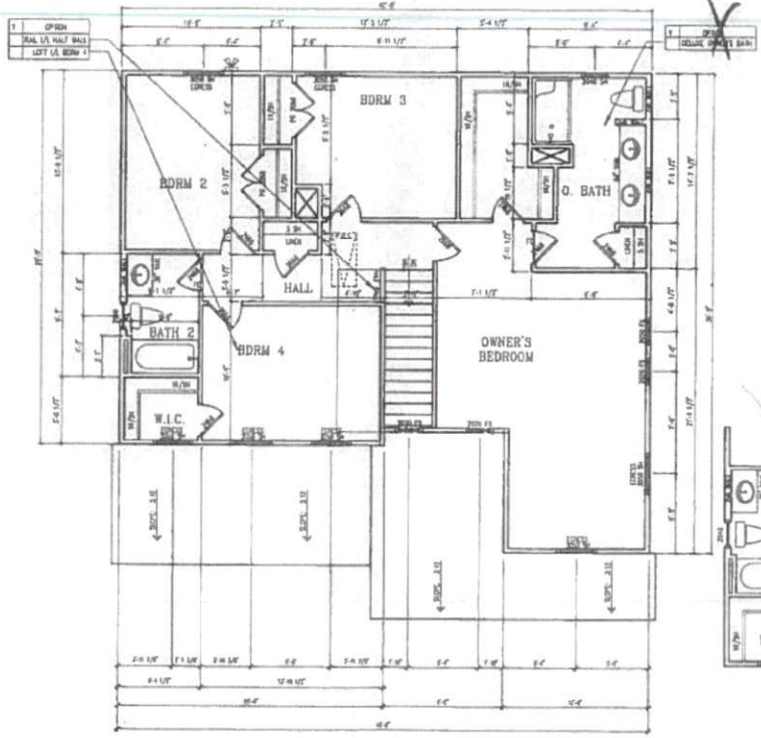
AUBREY  
1ST FLOOR ELECTRICAL PLANS - ELEV "B"

SHEET #  
7.00

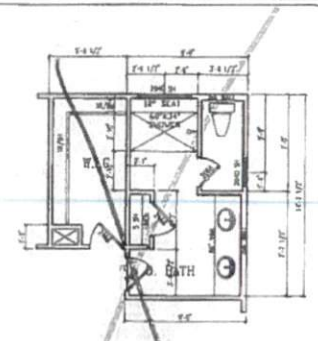
**General Floor Plan Notes**

General Floor Plan Notes shall apply unless noted otherwise on plan.

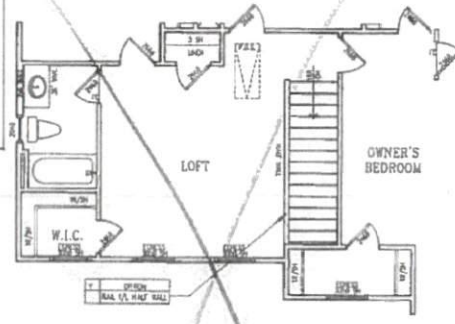
1. **Wall Heights:** Typically 9'-1-1/2" first floor and 8'-1-1/2" second floors U.N.O. All walls are constructed using a double top plate. Splices at Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from joint in other Top Plate layer. Special wall heights are noted on plans where they occur.
2. **Wall Thickness:** is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.
3. **Header height** shall be 7'-11" AFF at 9' plate height and 6'-11" at 8' plate height, unless noted otherwise.
4. **Soffits, Catted Ceilings, Tray Ceilings** and other significant ceiling plan elements are shown on the floor plans and are denoted as single dashed lines. Unless specifically call out as included, Kitchens do not include soffits over wall cabinetry.
5. **Door & Window Frames,** where occurring near corners, shall be a minimum of 4'-1/2" from corner. Except for walk-in closets with doors near a corner, doors at closets shall be centered on closet.
6. **Windows:** Shall have at least (1) window in each sleeping room, that meets egress. Shall be provided with tempered glass at hazardous glazing areas. Windows used at unfinished attic spaces as elevation decorative elements only shall have obscure glazing.
7. **Closets** for clothing or coat storage shall be equipped with 1 rod/shelf. Closets for linen shall have 5. Closets for pantries shall have 3 shelves. Consult spec level for solid or wire shelves.
8. **Stairs** shall have a minimum width dimensioned as 3'-7", treads shall be 10" deep, risers shall be a maximum of 7-3/4", unless noted otherwise.
9. **Handrails and Guards** at stairs shall be 34" above the finished surface of the ramp surface of the stair. Handrails at landings and overlooks of multi-level spaces shall be 42" above finished floor. Guards (pickets or balusters) shall be spaced with no more than 4" between guards.
10. **Attic Areas** shall be provided to attic areas that exceed 400 square feet and have a vertical height of 60" or greater. Minimum clear attic access shall be 20" x 30". Pull down stairs and access doors in knee walls meeting minimum criteria are also acceptable.
11. **Garage floor to Living Space** shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.
12. **Garage Walk,** as a minimum, shall be separated from living space and living space attic by installing 1/2" gypsum board on the garage side of the wall.
13. **Garage Ceilings,** 5/8" type "X" gypsum board on the garage ceilings when heated space is above.



SECOND FLOOR PLAN  
SCALE: 1/8"=1'-0"



DELUXE OWNER'S BATH  
SCALE: 1/8"=1'-0"



LOFT I/L BDRM 4  
SCALE: 1/8"=1'-0"

MASTER ISSUE DATE:  
4/21/2023  
IF ANY FIELD PERISH  
CONSTRUCTION SHALL BE  
FOR PRELIMINARY  
DATE  
LATEST REVISION DATE:

GAR LEFT

DOVE HOMES, LLC  
RALEIGH, NC  
919-427-6891

AUBREY  
2ND FLOOR PLAN - ELEVATION "B"

SHEET #  
6.00





**DESIGN SPECIFICATIONS:**

Construction Type: Commercial  Residential

**Applicable Building Codes:**

- 2018 North Carolina Residential Building Code
- ASCE 7-10: Minimum Design Loads for Buildings and Other Structures

**Design Loads:**

- Roof Live Loads
  - Conventional 2x ..... 20 PSF
  - Truss ..... 20 PSF
    - Attic Truss ..... 60 PSF
- Roof Dead Loads
  - Conventional 2x ..... 10 PSF
  - Truss ..... 20 PSF
- Snow ..... 15 PSF
  - Importance Factor ..... 1.0
- Floor Live Loads
  - Typ. Dwelling ..... 40 PSF
  - Sleeping Areas ..... 30 PSF
  - Decks ..... 40 PSF
  - Passenger Garage ..... 50 PSF
- Floor Dead Loads
  - Conventional 2x ..... 10 PSF
  - I-Joist ..... 15 PSF
  - Floor Truss ..... 15 PSF
- Ultimate Wind Speed (3 sec. gust) ..... 130 MPH
  - Exposure ..... B
  - Importance Factor ..... 1.0
    - Wind Base Shear
      - V<sub>x</sub> =
      - V<sub>y</sub> =
- Component and Cladding (in PSF)

MEAN ROOF HT.	UP TO 30'	30'1"-35'	35'1"-40'	40'1"-45'
ZONE 1	16.7,-18.0	17.5,-18.9	18.2,-19.6	18.7,-20.2
ZONE 2	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 3	16.7,-21.0	17.5,-22.1	18.2,-22.9	18.7,-23.5
ZONE 4	18.2,-19.0	19.2,-20.0	19.9,-20.7	20.4,-21.3
ZONE 5	18.2,-24.0	19.2,-25.2	19.9,-26.1	20.4,-26.9

**8. Seismic**

- Site Class ..... D
- Design Category ..... C
- Importance Factor ..... 1.0
- Seismic Use Group ..... 1
- Spectral Response Acceleration
  - S<sub>ms</sub> = %g
  - S<sub>m1</sub> = %g
- Seismic Base Shear
  - V<sub>x</sub> =
  - V<sub>y</sub> =
- Basic Structural System (check one)
  - Bearing Wall
  - Building Frame
  - Moment Frame
  - Dual w/ Special Moment Frame
  - Dual w/ Intermediate R/C or Special Steel
  - Inverted Pendulum
- Arch/Mech Components Anchored ..... No
- Lateral Design Control: Seismic  Wind
- Assumed Soil Bearing Capacity ..... 2000psf



STRUCTURAL PLANS PREPARED FOR:

**AUBREY**

PROJECT ADDRESS: TBD  
 OWNER: John Dove  
 2516 Brook Crossing Circle  
 Raleigh, NC 27606

DESIGNER: Mike Majewski, architect, PLLC  
 8227 Hillside Drive  
 Raleigh, NC 27612

These drawings are to be coordinated with the architectural, mechanical, plumbing, electrical, and civil drawings. This coordination is not the responsibility of the structural engineering of record (SER). Should any discrepancies become apparent, the contractor shall notify SUMMIT Engineering, Laboratory and Testing, P.C. before construction begins.

**PLAN ABBREVIATIONS:**

AB	Anchor Bolt	OC	On Center
ACI	American Concrete Institute	PCF	Pounds per Cubic Foot
ASCE	American Society of Civil Engineers	PCI	Pounds per Cubic Inch
AFA	American Fiberboard Association	PSF	Pounds per Square Foot
AFF	Above Finished Floor	PSI	Pounds per Square Inch
AISC	American Institute for Steel Construction	PT	Pressure Treated
APA	American Plywood Association	SC	Stud Column
AWS	American Welding Society	SER	Structural Engineer of Record
CJ	Ceiling Joist	SJ	Single Joist
CLR	Clear	SPF	Spruce Pine Fir
DBL	Double	SST	Simpson Strong Tie
DJ	Double Joist	ST	Single Truss
DSP	Double Stud Pocket	STD	Standard
EA	Each	SYP	Southern Yellow Pine
EE	Each End	TJ	Triple Joist
EOS	Edge of Slab	TOF	Top of Footing
EW	Each Way	TSP	Triple Stud Pocket
HDG	Hot Dipped Galvanized	TYP	Typical
NDS	Nation Design Spec. for Wood	UNO	Unless Noted Otherwise
NIS	Not to Scale	WWF	Welded Wire Fabric

**SHEET LIST:**

Sheet No.	Description
CS1	Cover Sheet, Specifications, Revisions
CS2	Specifications Continued
CS3	Revision Log
S1.0m	Monolithic Slab Foundation
S1.0s	Stem Wall Foundation
S1.0c	Crawl Space Foundation
S1.0b	Basement Foundation
S2.0	Basement Framing Plan
S3.0	First Floor Framing Plan
S4.0	Second Floor Framing Plan
S5.0	Roof Framing Plan
S6.0	Basement Bracing Plan
S7.0	First Floor Bracing Plan
S8.0	Second Floor Bracing Plan

197  
 Farah - Shae  
 Way  
 Angier, NC 27501



STRUCTURAL MEMBERS ONLY



PROJECT: Aubrey LH  
 Coversheet  
 CLIENT: John Dove  
 2516 Brook Crossing Circle  
 Raleigh, NC 27606

CURRENT DRAWING  
 DATE: 6/24/2020  
 SCALE: 1/8"=1'-0"  
 PROJECT #: 2672-12R-28266  
 DRAWN BY: LBV  
 CHECKED BY: LAG

ORIGINAL INFORMATION  
 PROJECT # DATE  
 28266 6/23/20

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

**CS1**



**GENERAL STRUCTURAL NOTES:**

- The design professional whose seal appears on these drawings is the structural engineer of record (SER) for this project. The SER bears the responsibility of the primary structural elements and the performance of this structure. No other party may revise, alter, or delete any structural aspects of these construction documents without written permission of SUMMIT Engineering, Laboratory & Testing, P.C. (SUMMIT) or the SER. For the purposes of these construction documents the SER and SUMMIT shall be considered the same entity.
- The structure is only stable in its completed form. The contractor shall provide all required temporary bracing during construction to stabilize the structure.
- The SER is not responsible for construction sequences, methods, or techniques in connection with the construction of this structure. The SER will not be held responsible for the contractor's failure to conform to the contract documents, should any non-conformities occur.
- Any structural elements or details not fully developed on the construction drawings shall be completed under the direction of a licensed professional engineer. These shop drawings shall be submitted to SUMMIT for review before any construction begins. The shop drawings will be reviewed for overall compliance as it relates to the structural design of this project. Verification of the shop drawings for dimensions, or for actual field conditions, is not the responsibility of the SER or SUMMIT.
- Verification of assumed field conditions is not the responsibility of the SER. The contractor shall verify the field conditions for accuracy and report any discrepancies to SUMMIT before construction begins.
- The SER is not responsible for any secondary structural elements or non-structural elements, except for the elements specifically noted on the structural drawings.
- This structure and all construction shall conform to all applicable sections of the international residential code.
- All structural and all construction shall conform to all applicable sections of the 2018 North Carolina Residential Code (NCR) and any local codes or restrictions.

**FOUNDATIONS:**

- Foundations shall be constructed in accordance with chapter 4 of the 2018 NC Residential Code (Special consideration shall be given to chapter 45 in wind zones 130 mph and above.)
- Footings sizes are based on a presumptive soil bearing capacity of 2000 PSF. The contractor is solely responsible for verifying the suitability of the site soil conditions at the time of construction.
- Maximum depth of unbalanced fill against masonry walls to be as specified in section R404.1 of the 2018 NCR.
- The structural engineer has not performed a subsurface investigation. Verification of this assumed value is the responsibility of the owner or the contractor. Should any adverse soil condition be encountered the SER must be contacted before proceeding.
- The bottom of all footings shall extend below the frost line for the region in which the structure is to be constructed. However, the bottom of all footings shall be a minimum of 12" below grade.
- Any fill shall be placed under the direction or recommendation of a licensed professional engineer. The resulting soil shall be compacted to a minimum of 95% maximum dry density.
- Excavations of footings shall be lined temporarily with a 6 mil polyethylene membrane if placement of concrete does not occur within 24 hours of excavation.
- No concrete shall be placed against any subgrade containing water, ice, frost, or loose material.
- Each crawl space pier shall bear in the middle third of its respective footing and each girder shall bear in the middle third of the pier. Piers are to be bonded to the perimeter foundation wall.
- Crawl space to be graded level and clear of all debris.
- Proved foundation waterproofing and drain with positive slope to outlet as required by site conditions.
- Energy efficiency compliance and insulation of the structure to be in accordance with chapter 11 of the 2018 NCR.

**STRUCTURAL STEEL:**

- Structural steel shall be fabricated and erected in accordance with the American Institute of Steel Construction "Code of Standard Practice for Steel Buildings and Bridges" and the manual of Steel Construction "Load Resistance Factor Design" latest editions.
- All steel shall have a minimum yield stress ( $F_y$ ) of 36 ksi unless otherwise noted.
- Welding shall conform to the latest edition of the American Welding Society's Structural Welding Code AWS D1.1. Electrodes for shop and field welding shall be class E70XX. All welding shall be performed by a certified welder per the above standards.

**CONCRETE:**

- Concrete shall have a normal weight aggregate and a minimum compressive strength ( $f'_c$ ) at 28 days of 3000 psi, unless noted otherwise on the plans.
- Concrete shall be proportioned, mixed, and placed in accordance with the latest editions of ACI 318: "Building Code Requirements for Reinforced Concrete" and ACI 301: "Specifications for Structural Concrete for Buildings".
- Air entrained concrete must be used for all structural elements exposed to freeze/thaw cycles and deicing chemicals. Air entrainment amounts (in percent) shall be within -1% to +2% of target values as follows:
  - Footings: 5%
  - Exterior Slabs: 5%
- No admixtures shall be added to any structural concrete without written permission of the SER.
- Concrete slab-on-grade shall be constructed in accordance with ACI 302.1R-98: "Guide for Concrete Slab and Slab Construction".
- The concrete slab-on-grade has been designed using a subgrade modulus of  $k=250$  pci and a design loading of 200 psf. The SER is not responsible for differential settlement, slab cracking or other future defects resulting from unreported conditions not in accordance with the above assumptions.
- Control or saw cut joints shall be spaced in interior slabs-on-grade at a maximum of 15'-0" O.C. and in exterior slabs-on-grade at a maximum of 10'-0" unless noted otherwise.
- Control or saw cut joints shall be produced using conventional process within 4 to 12 hours after the slab has been finished. Reinforcing steel may not extend through a control joint. Reinforcing steel may extend through a saw cut joint.
- All welded wire fabric (W.W.F.) for concrete slabs-on-grade shall be placed at mid-depth of slab. The W.W.F. shall be securely supported during the concrete pour.

**CONCRETE REINFORCEMENT:**

- Fibrous concrete reinforcement, or fibermesh, specified in concrete slabs-on-grade may be used for control of cracking due to shrinkage and thermal expansion/contraction, lowered water migration, an increase in impact capacity, increased abrasion resistance, and residual strength.
- Fibermesh reinforcing to be 100% virgin polypropylene fibers containing no reprocessed olefin materials and specifically manufactured for use as concrete secondary reinforcement.
- Application of fibermesh per cubic yard of concrete shall equal a minimum of 0.1% by volume (1.5 pounds per cubic yard)
- Fibermesh shall comply with ASTM C1116, any local building code requirements, and shall meet or exceed the current industry standard.
- Steel reinforcing bars shall be new billet steel conforming to ASTM A615, grade 60.
- Detailing, fabrication, and placement of reinforcing steel shall be in accordance with the latest edition of ACI 315: "Manual of Standard Practice for Detailing Concrete Structures"
- Horizontal footing and wall reinforcement shall be continuous and shall have 90° bends, or corner bars with the same size/spacing as the horizontal reinforcement

with a class B tension splice.

- Lap reinforcement as required, a minimum of 40 bar diameters for tension or compression unless otherwise noted. Splices in masonry shall be a minimum of 48 bar diameters.
- Where reinforcing dowels are required, they shall be equivalent in size and spacing to the vertical reinforcement. The dowel shall extend 48 bar diameters vertically and 20 bar diameters into the footing.
- Where reinforcing steel is required vertically, dowels shall be provided unless otherwise noted.

**WOOD FRAMING:**

- Solid sawn wood framing members shall conform to the specifications listed in the latest edition of the "National Design Specification for Wood Construction" (NDS). Unless otherwise noted, all wood framing members are designed to be Southern-Yellow-Pine (SYP) #2.
- LVL or PSL engineered wood shall have the following minimum design values:
  - $E = 1,900,000$  psi
  - $F_b = 2600$  psi
  - $F_v = 285$  psi
  - $F_c = 700$  psi
- Wood in contact with concrete, masonry, or earth shall be pressure treated in accordance with AWPA standard C-15. All other moisture exposed wood shall be treated in accordance with AWPA standard C-2.
- Nails shall be common wire nails unless otherwise noted.
- Lag screws shall conform to ANSI/ASME standard B18.2.1-1981. Load holes for lag screws shall be in accordance with NDS specifications.
- All beams shall have full bearing on supporting framing members unless otherwise noted.
- Exterior and load bearing stud walls are to be 2x4 SYP #2 @ 16" O.C. unless otherwise noted. Studs shall be continuous from the sole plate to the double top plate. Studs shall only be discontinuous at headers for window/door openings. A minimum of one king stud shall be placed at each end of the header. King studs shall be continuous.
- Individual studs forming a column shall be attached with one 10d nail @ 5" O.C. staggered. The stud column shall be continuous to the foundation or beam. The column shall be properly braced at all floor levels to ensure proper load transfer.
- Multi-ply beams shall have each ply attached with (3) 12d nails @ 12" O.C.
- Fitch beams, 4-ply beams and 3-ply side loaded beams shall be bolted together with (2) rows of 1/2" diameter through bolts staggered @ 24" O.C. unless noted otherwise. Min. edge distance shall be 2" and (2) bolts shall be located a min. 6" from each end of the beam.

**WOOD TRUSSES:**

- The wood truss manufacturer/fabricator is responsible for the design of the wood trusses. The SER shall assume no responsibility for the correctness for the structural design for the wood trusses. SUMMIT shall be notified by the truss manufacturer/fabricator or the client of any discrepancies between the truss/joint layouts and the sealed structural plans prior to the start of construction.
- The wood trusses shall be designed for all required loadings as specified in the local building code, the ASCE Standard "Minimum Design Loads for Buildings and Other Structures." (ASCE 7-10), and the loading requirements shown on these specifications. The truss drawings shall be coordinated with all other construction documents and provisions provided for loads shown on these drawings including but not limited to HVAC equipment, piping, and architectural fixtures attached to the trusses.
- All girder truss to girder truss connections, truss to top plate connections and uplift connections are the responsibility of the wood truss manufacturer/fabricator.
- The trusses shall be designed, fabricated, and erected in accordance with the latest edition of the "National Design Specification for Wood Construction." (NDS) and "Design Specification for Metal Plate Connected Wood Trusses."
- The truss manufacturer shall provide adequate bracing

information in accordance with "Commentary and Recommendations for Handling, Installing, and Bracing Metal Plate Connected Wood Trusses" (HIB-91). This bracing, both temporary and permanent, shall be shown on the shop drawings. Also, the shop drawings shall show the required attachments for the trusses.

**EXTERIOR WOOD FRAMED DECKS:**

- Decks are to be framed in accordance with local building codes and as referenced on the structural plans, either through code references or construction details.

**WOOD STRUCTURAL PANELS:**

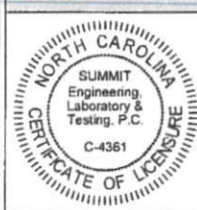
- Fabrication and placement of structural wood sheathing shall be in accordance with the APA Design/Construction Guide "Residential and Commercial," and all other applicable APA standards.
- All structurally required wood sheathing shall bear the mark of the APA.
- Wood wall sheathing shall comply with the requirements of local building codes for the appropriate state as indicated on these drawings. Refer to wall bracing notes in plan set for more information. Sheathing shall be applied with the long direction perpendicular to framing, unless noted otherwise.
- Roof sheathing shall be APA rated sheathing exposure 1 or 2. Roof sheathing shall be continuous over two supports and attached to its supporting roof framing with (1)-8d CC nail at 8" O.C. at panel edges and at 12" O.C. in panel field unless otherwise noted on the plans. Sheathing shall be applied with the long direction perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of plywood clips or lumber blocking unless otherwise noted. Panel and joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
- Wood floor sheathing shall be APA rated sheathing exposure 1 or 2. Attach sheathing to its supporting framing with (1)-8d CC ringhead nail at 5" O.C. at panel edges and at 12" O.C. in panel field unless otherwise noted on the plans. Sheathing shall be applied perpendicular to framing. Sheathing shall have a span rating consistent with the framing spacing. Use suitable edge support by use of T&G plywood or lumber blocking unless otherwise noted. Panel and joints shall occur over framing. Apply building paper over the sheathing as required by the state Building Code.
- Sheathing shall have a 1/8" gap at panel ends and edges as recommended in accordance with the APA.

**STRUCTURAL FIBERBOARD PANELS:**

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



8/25/2020  
STRUCTURAL MEMBERS ONLY



PROJECT  
Aubrey LH  
Coversheet  
CLIENT  
John Dove  
2516 Brook Crossing Circle  
Raleigh, NC 27606

CURRENT DRAWING  
DATE: 6/24/2020  
SCALE: 1/8"=1'-0"  
PROJECT #: 2672-12R 20246  
DRAWN BY: LBY  
CHECKED BY: LAG

ORIGINAL INFORMATION  
PROJECT # DATE  
28246 6/23/20

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

CS2



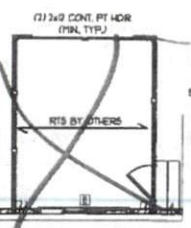
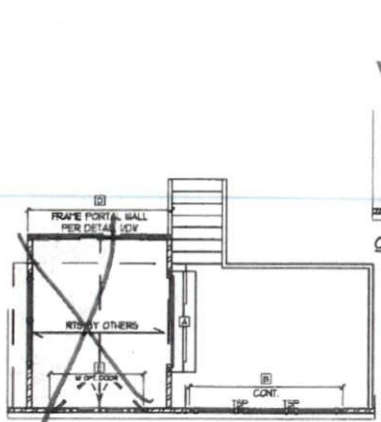




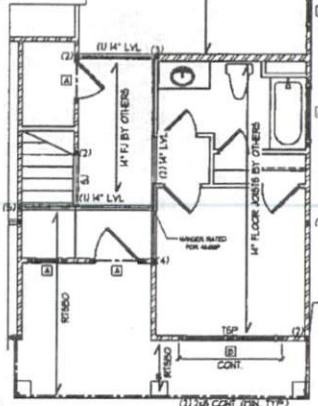


**GENERAL STRUCTURAL NOTES**

- CONSTRUCTION SHALL CONFORM TO 2009 NC RESIDENTIAL BUILDING CODE.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE DRAWING FOR THIS SPECIFIC PROJECT. ENGINEER IS NOT RESPONSIBLE FOR ANY DEVIATIONS FROM THIS PLAN.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY BRACINGS REQUIRED TO RESIST ALL FORCES ENCOUNTERED DURING ERECTION.
- PROPERTIES USED IN THE DESIGN ARE AS FOLLOWS:  
 FRAGILLARY (F<sub>1</sub>) = 2400 PSI, F<sub>v</sub> = 200 PSI, E = 15000 PSI  
 PARALLEL (P<sub>1</sub>) = 2000 PSI, F<sub>v</sub> = 250 PSI, E = 12000 PSI
- ALL WOOD MEMBERS SHALL BE 9" STP UNLESS NOTED ON PLAN.
- ALL STUD COLUMNS AND JOISTS SHALL BE 9" STP (UND).
- ALL BEAMS SHALL BE SUPPORTED WITH A (2) 2x4 9" STP STUD COLUMN AT EACH END UNLESS NOTED OTHERWISE.
- FOUNDATION ANCHORAGE SHALL BE CONSTRUCTED PER NC RESIDENTIAL BUILDING CODE 2009 SECTION 406.14. 1/2" DIA. BOLTS SPACED AT 8'-0" CENTERS WITH A 1" FINISH IF EMBEDDED INTO FOOTING OR CONCRETE. ANCHOR BOLTS SHALL BE 2" FROM THE END OF EACH PLATE SECTION. FINISH (2) ANCHOR BOLTS PER PLATE SECTION.
- POSITIVE AND NEGATIVE WALL CLADDING DESIGN VALUES FOR 160 MPH CATEGORY II, AND 170 MPH OR LESS ARE S3 AND 249 RESPECTIVELY.
- CONTRACTOR TO PROVIDE LOOKOUTS WHEN CEILING JOISTS SPAN PERPENDICULAR TO RAFTERS.
- FLOOR BEAMS, 4-PLY LVL'S AND 3-PLY SIDE LOADED LVL'S SHALL BE BOLTED TOGETHER WITH 1/2" DIA. THRU BOLTS SPACED AT 24" O.C. (THRU STAGGERED). FIN. EDGE DISTANCE SHALL BE 2" AND (2) BOLTS SHALL BE LOCATED A FINISH 6" FROM EACH END OF THE BEAM. EQUIVALENT SCHEM'S MAY BE SUBMITTED PER MANUFACTURER'S SPECIFICATIONS.
- ALL NON-LOAD BEARING HEADERS SHALL BE (1) FLAT 2x4 STP 2, DROPPED. FOR NON-LOAD BEARING HEADERS EXCEEDING 8'-0" IN WIDTH ANCHOR WITH MORE THAN 7'-0" OF CRIPPLE WALL ABOVE. SHALL BE (2) FLAT 2x4 STP 2, DROPPED (UND).



4x4 PT. POSTS OR COL. RATED FOR 2600P (TN, TYP) ATTACH POSTS TO BAND w/ 50T C36 STRAPS OR (4) 1/2" NAILS ATTACH POSTS TO FND w/ 50T 20x44 POST BASE OR EQUIV. (TYP)



4x4 PT. POSTS OR COL. RATED FOR 2600P (TN, TYP) ATTACH POSTS TO BAND w/ 50T C36 STRAPS OR (4) 1/2" NAILS ATTACH POSTS TO FND w/ 50T 20x44 POST BASE OR EQUIV. (TYP)

OPT. CONSERVATORY

OPT. BEDROOM I/O HOME OFFICE

ALL HEADERS WHERE BRICK IS USED, TO BE (1) Lintel (UND)

**LINTEL SCHEDULE**

STEEL ANGLES TO HAVE FIN 4" BEARINGS ONTO BRICK AT EACH END.

1	1x3x3/4"
2	1x3x3/4"
3	1x3x1/2x3/8"
4	1x3x1/2x3/8" ROLLED OR EQUAL ANCHED COMPONENT

NOTE: JOIST & BEAM SIZES SHOWN ARE FINISH. BUILDER MAY INCREASE DEPTH FOR EASE OF CONSTRUCTION.

NOTE: SHADED WALLS INDICATED LOAD BEARING WALLS.

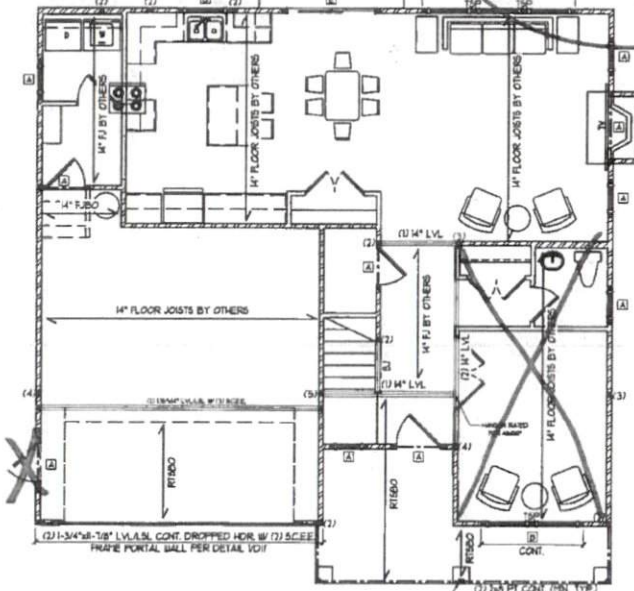
2ND STORY SHALL NOTE (BALCONY FRAMING) 2x4 STUDS @ 24" O.C. OR 2x6 STUDS @ 18" O.C. w/ CROSS BRACING @ 8'-0" O.C. VERTICALLY.

**HEADER SCHEDULE**

TAG	SIZE	JACKS (EED)
A	(2) 2x6	(2)
B	(2) 2x6	(2)
C	(2) 2x6	(2)
D	(2) 2x6	(2)
E	(2) 3-1/4" LVL LVL	(3)
F	(2) 2x6	(2)
G	(2) 2x6	(2)
H	(2) 2x6	(2)
I	(2) 2x6	(2)

**NOTES**

- HEADER SIZES SHOWN ON PLANS ARE FINISH. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.
- ALL HEADERS TO BE DROPPED UNLESS NOTED OTHERWISE.
- STUD COLUMNS NOTED ON PLAN OVERSIDE STUD COLUMNS LISTED ABOVE UNLESS NOTED OTHERWISE.
- KNO STUDS SHALL BE FRAMED PER TABLE R602.3(9) (RENOTE if UNLESS NOTED OTHERWISE)



4x4 PT. POSTS OR COL. RATED FOR 2600P (TN, TYP) ATTACH POSTS TO BAND w/ 50T C36 STRAPS OR (4) 1/2" NAILS ATTACH POSTS TO FND w/ 50T 20x44 POST BASE OR EQUIV. (TYP)

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY THESE MEMBERS. ALL COMPLETE/REVIEWED ON 6/25/20. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY ANY CHANGES TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. ENGINEER CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

**STRUCTURAL MEMBERS ONLY**

ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

STRUCTURAL ANALYSES BASED ON 2019 NCBC.

**FIRST FLOOR FRAMING PLAN**

SCALE: 1/8"=1'-0"

**SUMMIT**  
 ENGINEERING LABORATORY TESTING  
 3070 HAMMOND BUSINESS  
 PLAZA, SUITE 171  
 RALEIGH, NC 27603  
 OFFICE: 919.380.9991  
 FAX: 919.380.9993  
 WWW.SUMMIT-COMPANIES.COM



PROJECT: **Aubrey LH**  
**First Floor Framing**  
 CLIENT: **John Dove**  
**2516 Brook Crossing Circle**  
**Raleigh, NC 27606**

CURRENT DRAWING  
 DATE: 6/24/2020  
 SCALE: 1/8"=1'-0"  
 PROJECT #: 2672-12R-28266  
 DRAWN BY: LSV  
 CHECKED BY: LAG

ORIGINAL INFORMATION  
 PROJECT # DATE  
 28266 6/23/20

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS



6/25/2020  
 STRUCTURAL MEMBERS ONLY

**S3.1**



PROJECT: **Aubrey LH**  
**Second Floor Framing**  
 CLIENT: **John Dove**  
**2516 Brook Crossing Circle**  
**Raleigh, NC 27605**

CURRENT DRAWING  
 DATE: 6/24/2020  
 SCALE: 1/8" = 1'-0"  
 PROJECT #: 2072-13A 28266  
 DRAWN BY: LBV  
 CHECKED BY: LAG

ORIGINAL INFORMATION  
 PROJECT # DATE  
 28266 6/23/20

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET  
**S4.1**

HEADER SCHEDULE		
TAG	SIZE	JACKS (EQ)
(A)	(2) 2x6	(1)
(B)	(2) 2x6	(2)
(C)	(2) 2x8	(2)
(D)	(2) 2x8	(2)
(E)	(2) 8-1/4" LBL.VL.	(3)
(F)	(3) 2x6	(1)
(G)	(3) 2x6	(2)
(H)	(3) 2x8	(2)
(I)	(3) 2x8	(3)

**NOTES**  
 1. HEADER SIZES SHOWN ON PLANS ARE MINIMUM. GREATER HEADER SIZES MAY BE USED FOR EASE OF CONSTRUCTION.  
 2. ALL HEADERS TO BE DROPPED UNLESS NOTED OTHERWISE.  
 3. GRID COLLARS NOTED ON PLAN OVERRIDE GRID COLLARS LISTED ABOVE UNLESS NOTED OTHERWISE.  
 4. KING STUDS SHALL BE PROVIDED PER TABLE 1604.2.2.5) SEE NOTE d UNLESS NOTED OTHERWISE.

ALL HEADERS WHERE BRICK IS USED, TO BE (1) Lintel (MIN.)

**LINTEL SCHEDULE**  
 STEEL ANGLES TO HAVE MIN. 4" BEARING ON TO BRICK AT EACH END.  
 (1) L3x3x1/4"  
 (2) L3x3x3/4"  
 (3) L3x3-1/2x3/8"  
 (4) L3x3-1/2x3/8" ROLLED OR EQUAL ARCHED COMPONENT.

NOTE: JOIST & BEAM SIZES MIGHT BE 1/8" MIN. BUILDER MAY INCREASE DEPTH FOR EASE OF CONSTRUCTION.

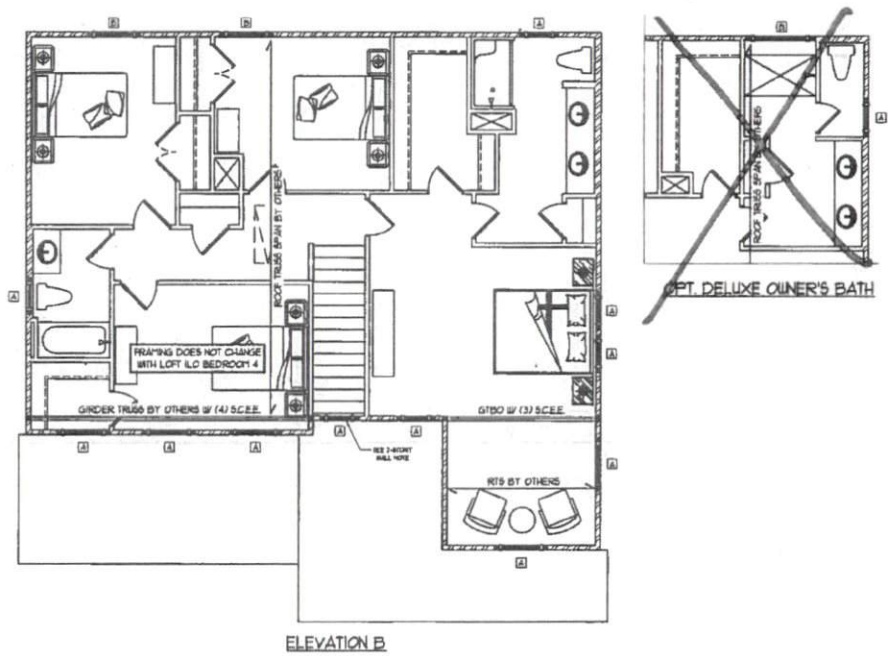
NOTE: SHADED BALLS INDICATED LOAD BEARING WALLS.

2ND STORY SHALL NOTE (ALL) CORNER FRAMING 2x4 STUDS = 8" O.C. OR 2x6 STUDS = 16" O.C. W/ CROSS BRACING = 8'-0" O.C. VERTICALLY.

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY THE CLIENT. ALL COMPLETED/REVIEWED ON 5/26/20. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT CANNOT GUARANTEE THE ADEQUACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

**STRUCTURAL MEMBERS ONLY**  
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STRUCTURAL ANALYSIS BASED ON 2018 NCBC.  
**SECOND FLOOR FRAMING PLAN**  
 SCALE: 1/8" = 1'-0"



*Brian C. Philbrick, Jr.*  
 SEAL  
 046048  
 ENGINEER  
 BRIAN C. PHILBRICK, JR.  
 6/25/2020  
 STRUCTURAL MEMBERS ONLY

NOTES: 1) PLY OF ALL SHOWN GIRDER TRUSSES TO ALIGN WITH INSIDE FACE OF WALL (IND)

NOTES: 2) ROOF TRUSSES SHALL BE SPACED TO SUPPORT FALSE FRAMED DOWN WALLS (IND)

**TRUSS GIRDER TRUSS REACTION LINES**

NO. TRUSS TOP PLATE		
# OF PLYS	3/4" WALL	2" WALL
2	8D4	7D5
3	7D5	6D6
4	6D6	5D7

MIN. TRUSS TOP PLATE		
#	TRUSS	WALL
2	8D4	7D5
3	7D5	6D6
4	6D6	5D7

GIRDER TRUSS PLYS SHOWN ARE FOR ILLUSTRATION ONLY. PLEASE REFER TO TRUSS LAYOUT DRAWING PROVIDED BY TRUSS MANUFACTURER FOR ACTUAL NUMBER OF PLYS NEEDED.

**TRUSS UPLIFT CONNECTOR SCHEDULE**

TRUSS UPLIFT	ROOF TO WALL	FLOOR TO FLOOR	FLOOR TO FIN
1000 LBS	12EA	PER WALL BEARING PARTITION	
2000 LBS	(2) 12EA	CRS (IND + P)	(2) 12EA
3000 LBS	(3) 12EA	CRS (IND + P)	(3) 12EA
4000 LBS	(4) 12EA	CRS (IND + P)	(4) 12EA
5000 LBS	(5) 12EA	CRS (IND + P)	(5) 12EA
6000 LBS	(6) 12EA	CRS (IND + P)	(6) 12EA

1. ALL PRODUCTS LISTED ARE APPROX. EQUIVALENT PRODUCTS MAY BE USED PER MANUFACTURER'S SPECIFICATIONS.
2. UPLIFT VALUES LISTED ARE FOR R/T IN GROUND CONDITIONS.
3. REFER TO TRUSS LAYOUT FOR FRAME FOR UPLIFT VALUES AND TRUSS TO TRUSS CONNECTIONS. CONNECTIONS SPECIFIED BY TRUSS MANUFACTURER OTHERWISE THOSE LISTED ABOVE.
4. CONTACT SUPPLIER FOR REQUIRED CONNECTIONS WHEN LOADS EXCEED THOSE LISTED ABOVE.

NOTE: TRUSS UPLIFT LOADS SHALL BE DETERMINED PER TRUSS MANUFACTURER IN ACCORDANCE WITH SECTION 1605.00. WALL BEARINGS AND PARTITIONS HAVE BEEN DIMENSIONED TO RESIST THE END UPLIFT LOAD PER IN ACCORDANCE WITH SECTION 1605.00. REFER TO TRUSS LAYOUT FOR BEARINGS AND PARTITION DIMENSIONS.

REFER TO DETAIL ROOF FOR EXTERNAL RETURN OR SLOPE ROOF FINISH REQUIREMENTS. (TYP FOR ROOF FINISHING PARTS) 34' FROM STRUCTURE.

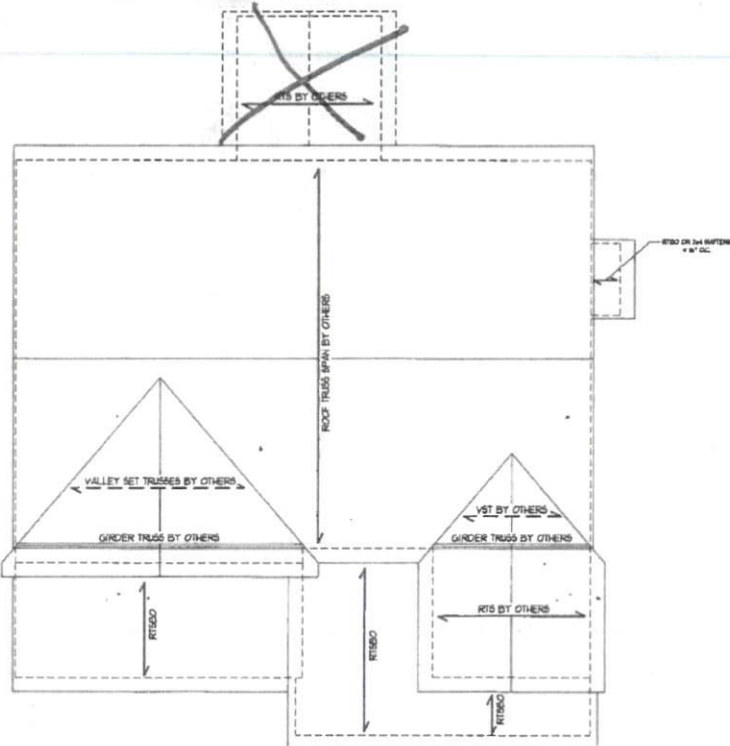
THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY THE ARCHITECTURAL FIRM. THE ARCHITECTURAL FIRM IS RESPONSIBLE FOR THE ACCURACY OF THESE ARCHITECTURAL PLANS. SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. DOES NOT GUARANTEE THE ACCURACY OF THESE ARCHITECTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

**STRUCTURAL MEMBERS ONLY**  
 ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THIS DOCUMENT. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING, LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

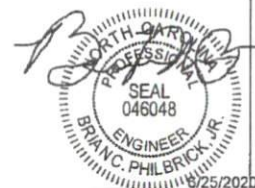
STRUCTURAL ANALYSIS BASED ON 2018 NCBC.

**ROOF FRAMING PLAN**  
 SCALE: 1/8"=1'-0"

~~OPT. SCREENED PORCH / OPT. CONCRETE PATIO~~



ELEVATION B



**SUMMIT**  
 ENGINEERING LABORATORY TESTING  
 3070 HAMMOND BUSINESS PLACE, SUITE 171  
 RALEIGH, NC 27603  
 OFFICE: 919.380.9991  
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 WWW.SUMMIT-COMPANIES.COM



PROJECT: Aubrey LH  
 Roof Framing Plan  
 CLIENT: John Dove  
 2516 Brook Crossing Circle  
 Raleigh, NC 27606

CURRENT DRAWING  
 DATE: 6/24/2020  
 SCALE: 1/8"=1'-0"  
 PROJECT #: 2572-12R 28266  
 DRAWN BY: LSV  
 CHECKED BY: LAG

ORIGINAL INFORMATION  
 PROJECT #: 28266  
 DATE: 6/23/20

REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET **S5.1**

STRUCTURAL MEMBERS ONLY



REQUIRED BRACED WALL PANEL CONNECTIONS				
METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			* PANEL EDGES	* INTERMEDIATE SUPPORTS
CS-SEP	WOOD STRUCTURAL PANEL	3/8"	4d COPPER NAILS @ 6" O.C.	4d COPPER NAILS @ 2' O.C.
GS	GYPUM BOARD	1/2"	4d COOLER NAILS @ 7" O.C.	4d COOLER NAILS @ 7" O.C.
SEP	WOOD STRUCTURAL PANEL	3/8"	4d COPPER NAILS @ 6" O.C.	4d COPPER NAILS @ 2' O.C.
FF	WOOD STRUCTURAL PANEL	1/4"	PER FIGURE (R402.3B)	PER FIGURE (R402.3B)

\*OR EQUIVALENT PER TABLE R402.3B

NOTE: WALL BRACING AND FASTENERS HAVE BEEN DESIGNED TO RESIST THE WIND UPLIFT LOAD PATH IN ACCORDANCE WITH DETAIL 3 OF SECTION R402.3A.

INITIAL HOLD-DOWNS FOR BRACED WALL END CONDITIONS PER SECTION R402.3A AND FIGURE (R402.3A) OF THE 2018 IBC.



**BRACED WALL NOTES**

- WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R402.3 FROM THE 2018 NORTH CAROLINA RESIDENTIAL CODE WITH APPLICABLE PERMISSIVE RULES.
- WALLS ARE DESIGNED FOR SEISMIC ZONES A-C AND ULTIMATE WIND SPEEDS OF 150 MPH.
- BRACING MATERIALS, METHODS AND FASTENERS SHALL BE IN ACCORDANCE WITH TABLE R402.3E.
- ALL BRACED WALL PANELS SHALL BE FULL WALL HEIGHT AND SHALL NOT EXCEED 16 FEET FOR ISOLATED PANEL METHOD AND 8 FEET FOR CONTINUOUS BRACING METHOD WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
- REFER TO ARCHITECTURAL PLAN FOR DOOR/WINDOW OPENING SIZES.
- THE INTERIOR SIDE OF EXTERIOR WALLS AND BOTH SIDES OF INTERIOR WALLS SHALL BE SHEATHED CONTINUOUSLY WITH 5/8"X11" 1/2" GYPUM BOARD (GB).
- FOR CONTINUOUS BRACING METHOD, EXTERIOR WALLS SHALL BE SHEATHED ON ALL WEATHABLE SURFACES INCLUDING WALL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW WALL OPENINGS, AND ON GABLE END WALLS.
- FLOORS SHALL NOT BE CANTILEVERED MORE THAN 24" BEYOND THE FOUNDATION OR BEARINGS SHALL BE PROVIDED WITHOUT ADDITIONAL ENGINEERING CALCULATIONS.
- CORNERS AND BRACED WALL LINE INTERSECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R402.3A.1.
- A BRACED WALL PANEL SHALL BE LOCATED WITHIN 3 FEET OF EACH CORNER OF EACH ELEVATION VIEW OF THE HOUSE OR EACH END OF THE OVERLAPPED RECTANGLE.
- THE EDGE DISTANCE BETWEEN BRACED WALL PANELS SHALL NOT EXCEED 2 FEET.
- ADEQUATE CONTINUOUS LOAD PATHS FOR TRANSFER OF BRACING LOADS AND UPLIFT LOADS SHALL COMPLY WITH SECTION R402.3A.4.
- MASONRY OR CONCRETE STRIP WALLS WITH A LENGTH OF 48" OR LESS SUPPORTING A BRACED WALL PANEL SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE R402.3A.3.
- BRACED WALL PANEL CONNECTIONS TO FLOORCELS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R402.3A.4.
- BRACED WALL PANEL CONNECTIONS TO ROOF SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R402.3A.5.
- CRYPLE WALLS AND BALKY OUT BARRIERS WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R402.3A.6.
- BALLOON FRAMED WALLS SHALL BE DESIGNED IN ACCORDANCE WITH SECTION R402.3A.8 WITH A MAXIMUM LENGTH OF 36 FEET.
- PORTAL WALLS SHALL BE DESIGNED IN ACCORDANCE WITH FIGURE (R402.3) (SEP).
- ON SCHEMATIC, SHADDED WALLS INDICATE BRACED WALL PANELS.
- ABBREVIATIONS:

GB = GYPUM BOARD  
SEP = WOOD STRUCTURAL PANEL  
CS-XXX = CONT. BRACED  
FF = PORTAL FRAMED

THESE PLANS ARE DESIGNED IN ACCORDANCE WITH ARCHITECTURAL PLANS PROVIDED BY THESE MEMBERS. AS COMPLETED/REVISED ON 05/20/20. IT IS THE RESPONSIBILITY OF THE CLIENT TO NOTIFY SUMMIT ENGINEERING LABORATORY & TESTING, P.C. IF ANY CHANGES ARE MADE TO THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. SUMMIT ENGINEERING LABORATORY & TESTING, P.C. DOES NOT GUARANTEE THE ACCURACY OF THESE STRUCTURAL PLANS WHEN USED WITH ARCHITECTURAL PLANS DATED DIFFERENTLY THAN THE DATE LISTED ABOVE.

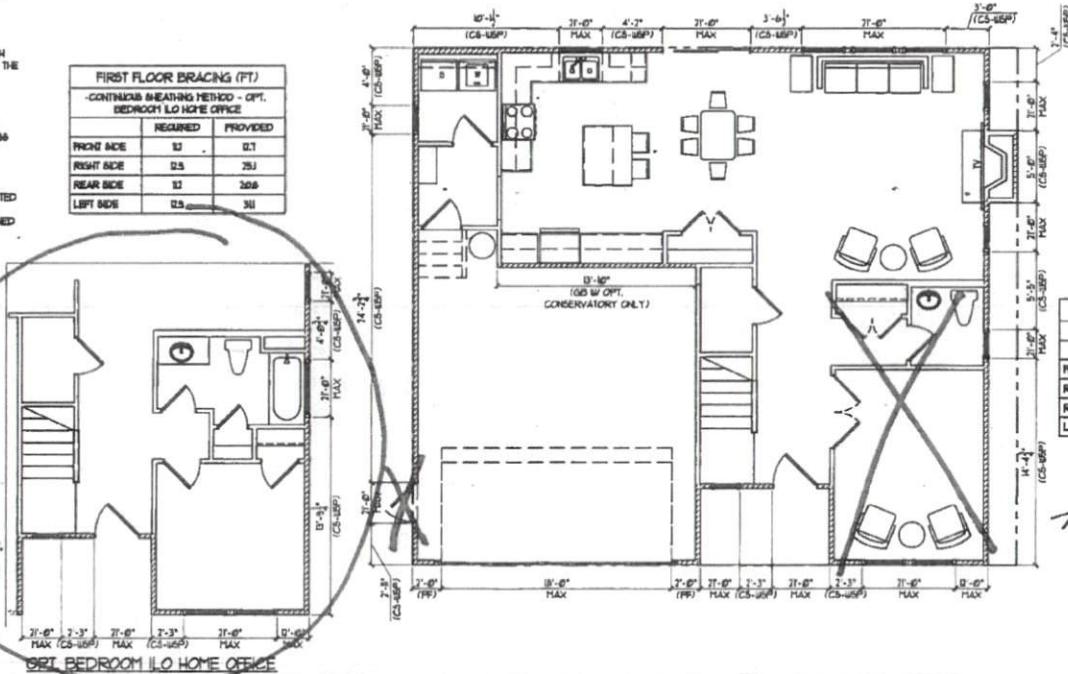
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ENGINEERING SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS ON THESE DOCUMENTS. SEAL DOES NOT INCLUDE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS. ANY DEVIATIONS OR DISCREPANCIES ON PLANS ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF SUMMIT ENGINEERING LABORATORY & TESTING, P.C. FAILURE TO DO SO WILL VOID SUMMIT LIABILITY.

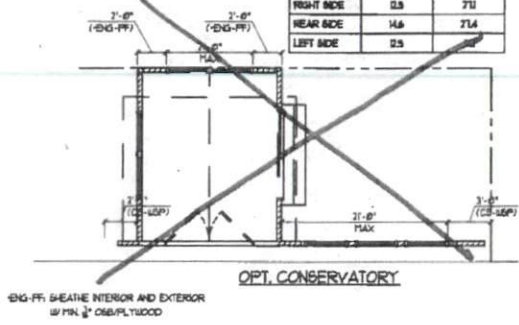
STRUCTURAL ANALYSIS BASED ON 2018 IBC.

**FIRST FLOOR BRACING PLAN**  
SCALE: 1/8"=1'-0"

FIRST FLOOR BRACING (FT)		
CONTINUOUS BRACING METHOD - OPT. BEDROOM LO HOME OFFICE		
	REQUIRED	PROVIDED
FRONT SIDE	02	02
RIGHT SIDE	02	20
REAR SIDE	02	20
LEFT SIDE	02	30



FIRST FLOOR BRACING (FT)		
CONTINUOUS BRACING METHOD - OPT. CONSERVATORY		
	REQUIRED	PROVIDED
FRONT SIDE	14.6	15.6
RIGHT SIDE	02	21
REAR SIDE	14.6	21.4
LEFT SIDE	02	



FIRST FLOOR BRACING (FT)		
CONTINUOUS BRACING METHOD		
	REQUIRED	PROVIDED
FRONT SIDE	02	02
RIGHT SIDE	02	21
REAR SIDE	02	20
LEFT SIDE	02	30



5/25/2020  
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PROJECT: **Aubrey LH**  
**First Floor Bracing**  
CLIENT: **John Dove**  
**2516 Brook Crossing Circle**  
**Raleigh, NC 27606**

CURRENT DRAWING  
DATE: 6/24/2020  
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PROJECT #: 2672-12R-28266  
DRAWN BY: LBV  
CHECKED BY: LAG

ORIGINAL INFORMATION  
PROJECT #: 28266  
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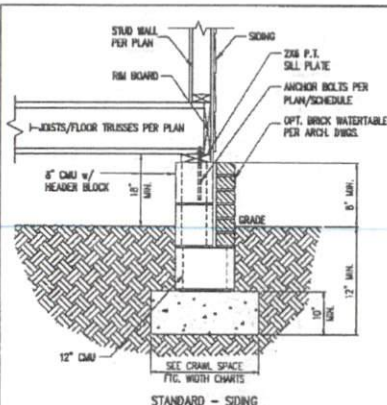
REFER TO COVER SHEET FOR A COMPLETE LIST OF REVISIONS

SHEET

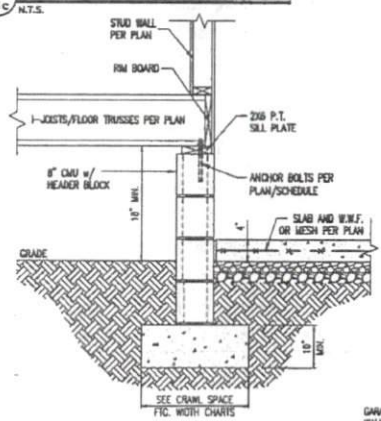
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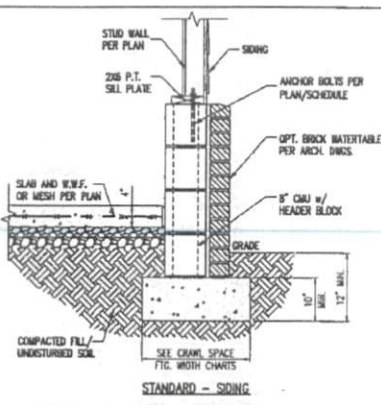


1 TYP. FOUNDATION WALL DETAIL  
D1c N.T.S.

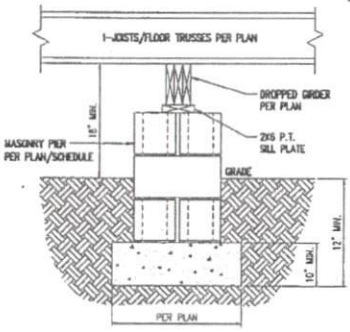


3 HOUSE/GARAGE WALL DETAIL  
D1c N.T.S.

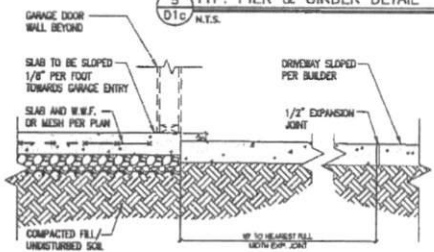
VERTICAL REBAR SHALL BE INSTALLED IN WALLS WITH GREATER THAN 4'-0" OF UNBALANCED FILLED SHALL HAVE VERTICAL REINFORCING BARS. REINFORCEMENT SHALL BE SIZED AND SPACED IN ACCORDANCE WITH TABLE 404.1.1(4) BASED ON SITE CONDITIONS. HORIZONTAL LADDER REINFORCEMENT SHALL BE INSTALLED BETWEEN CMU COURSES AS REQUIRED.



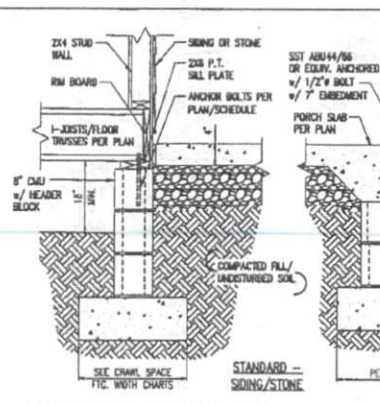
2 TYP. GARAGE CURB DETAIL  
D1c N.T.S.



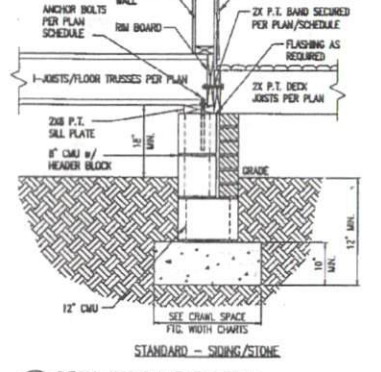
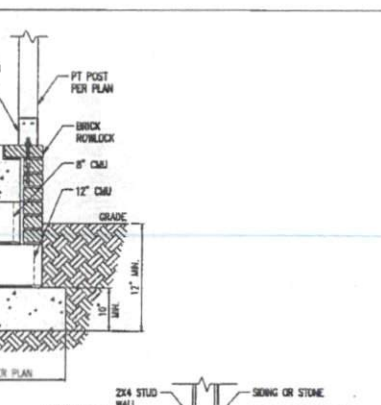
5 TYP. PIER & GIRDER DETAIL  
D1c N.T.S.



4 SLAB AT GARAGE DOOR  
D1c N.T.S.



6 TYP. FRONT PORCH DETAIL  
D1c N.T.S.



4 DECK ATTACHMENT DETAIL  
D1c N.T.S.

PIER SIZE AND HEIGHT SCHEDULE

SIZE	HOLLOW	SOLID
6"x6"	UP TO 3'-0" HEIGHT	UP TO 5'-0" HEIGHT
8"x8"	UP TO 4'-0" HEIGHT	UP TO 8'-0" HEIGHT
12"x12"	UP TO 8'-0" HEIGHT	UP TO 12'-0" HEIGHT
16"x16"	UP TO 12'-0" HEIGHT	UP TO 16'-0" HEIGHT
24"x24"	UP TO 16'-0" HEIGHT	UP TO 24'-0" HEIGHT

(4) #4 CONT. REBAR w/ #3 STIRRUPS @ 16" O.C. AND 24" MIN. LAP JOINTS

CRAWL SPACE FOOTING WIDTH

# OF STORES	WIDTH BASED ON SOIL BEARING CAPACITY		
	1500 PSF	2000 PSF	2500 PSF
1 STORY - STEEL	18"	18"	18"
1 STORY - BRICK VENEER	21"	21"	21"
2 STORY - STEEL	18"	18"	18"
2 STORY - BRICK VENEER	21"	21"	21"
3 STORY - STEEL	23"	18"	18"
3 STORY - BRICK VENEER	32"	24"	24"

\*#3 BRICK LEDGE HAS BEEN ADDED TO THE CRAWL SPACE FOOTING WIDTH FOR BRICK SUPPORT

WALL ANCHOR SCHEDULE

TYPE OF ANCHOR	MIN. CONC. EMBEDMENT	SPACING	INTERIOR WALL	EXTERIOR WALL
1/2" # A307 BOLTS w/ 5/8" W/ RING	7"	6'-0"	YES	YES
1/2" # WIRELASS ROD w/ w/ SST SET-UP EPOXY	7"	6'-0"	YES	YES
1/2" # SST TITAN HD	4-1/2"	4'-0"	YES	YES

NOTE:  
1) INSTALL ALL ANCHORS 12" MAX. FROM ALL BOTTOM PLATE ENDS AND JOINTS.  
2) EQUIVALENT ANCHORS MAY BE USED. SIZE & SPACING PER MANUF. SPECS.

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PROJECT: Aubrey LH  
CLIENT: John Dove  
2516 Brook Crossing Circle  
Raleigh, NC 27606

CURRENT DRAWING  
DATE: 6/24/2020  
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PROJECT #: 2672-12R 26266  
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REVISION INFORMATION  
PROJECT # DATE  
28266 6/23/20

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6/25/2020  
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D1c



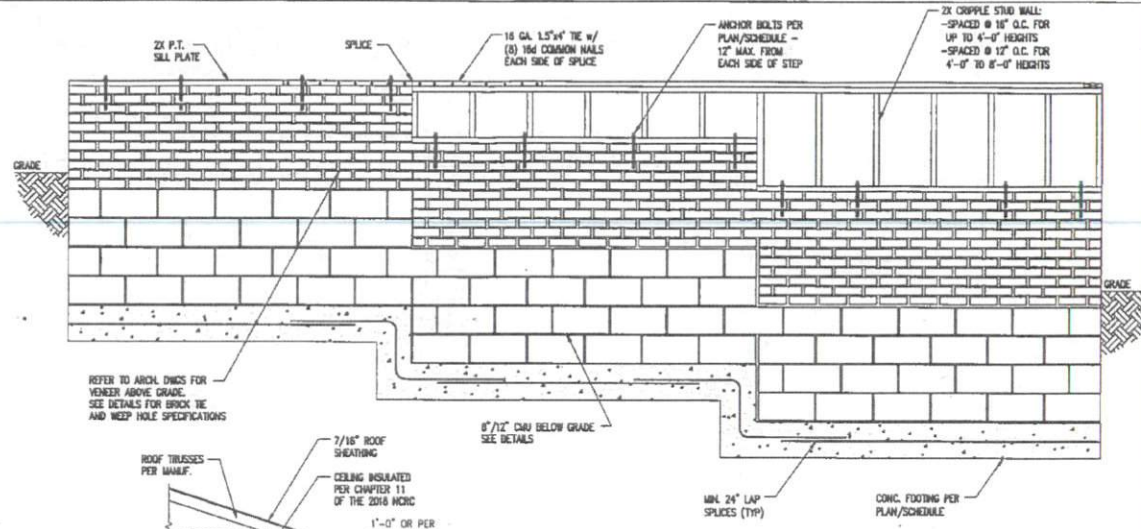
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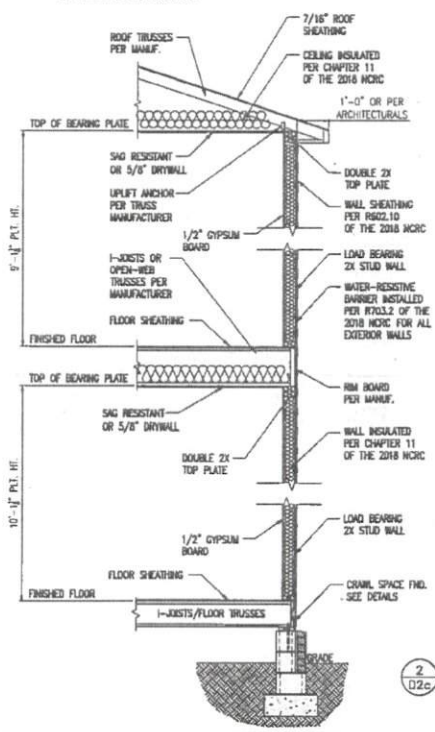
PROJECT  
 Aubrey LH  
 Crawl Space Foundation Details  
 CLIENT  
 John Dove  
 2516 Brook Crossing Circle  
 Raleigh, NC 27606

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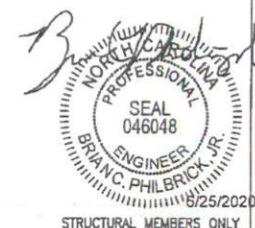
SHEET  
**D2c**



3 TYP. STEPPED FOUNDATION WALL DETAIL  
 D2c K.T.S.



2 TYP. EXTERIOR LOAD BEARING WALL SECTION  
 D2c 3/4" = 1'-0" -SIMILAR w/ BRICK AND STONE  
 -BRICK TIES SPACED @ 24" O.C. HORIZ. & 16" O.C. VERT.  
 -MIN. 3/16" DEEP HOLES @ 32" O.C.



8/25/2020  
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1 TYP. INTERIOR LOAD BEARING WALL SECTION  
 D2c 3/4" = 1'-0"

