Harnett COUNTY NORTH CAROLINA

NOTICE TO CONTRACTOR
THIS PLAN IS APPROVED FOR ZONING COMPLIANCE ONLY
NOT APPROVED FOR BUILDING CODE COMPLIANCE
06/02/2020

4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR CONTRACT ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION, VARIANCE FROM, OR REVISION OF DESIGNS.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

OWNER / CONTRACTOR NOTES:

1. THE SEALING OF THIS PLAN AUTHORIZES THE CONSTRUCTION FROM THESE PLANS FOR ONE HOUSE ON ONE LOT. UNSEALED PLANS MUST NOT BE USED FOR CONSTRUCTION. CONSTRUCTION FROM THESE PLANS MUST BE FROM THE LATEST APPROVED DATE PLANS, INCLUDING REVISIONS AND ADDENDA.

2. CONSTRUCTION DEVIATING FROM THESE PLANS WILL INVALIDATE THEIR PLANS REVIEW PERMITTED USE. THE DESIGNER MUST BE NOTIFIED IMMEDIATELY OF CONSTRUCTION DEVIATING FROM DEPICTED OR IMPLIED INFORMATION HEREIN. LETTER FROM THE ARCHITECT/ENGINEER MAY BE OBTAINED FOR A FEE TO VERIFY THE FEASIBILITY AND COMPLIABILITY OF ANY CHANGES. HOWEVER, THE OWNER/CONTRACTOR ASSUMES ALL RISK FROM DEVIATING FROM THESE PLANS.

3. DO NOT SCALE DRAWINGS, BUT RATHER INQUIRE OF DESIGNER. REPRODUCTION OF THESE DRAWINGS ARE PROHIBITED UNLESS GRANTED WRITTEN CONSENT FROM DESIGNER.

4. THE OWNER AND/OR CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE FOLLOWING INFORMATION (NON-EXHAUSTIVE): BUILDING PERMITS, SITE ENGINEERING INCLUDING SURVEYING, TOPOGRAPHIC STUDIES, GEOTECHNICAL REPORTS, AND SEPTIC PERMITS; INTERIOR CASEWORK DESIGN; PLUMBING, MECHANICAL, AND ELECTRICAL DESIGN.

BUILDING CODE NOTES

THIS PLAN HAS BEEN DESIGNED UNDER THE 2018 NORTH CAROLINA RESIDENTIAL CODE.

APPLICABLE CODES:
N.C. FIRE CODE, 2018
N.C. MECHANICAL CODE, 2018
N.C. PLUMBING CODE, 2018
N.C. ENERGY CODE, 2018
NATIONAL ELECT. CODE, 2017
N.C. GAS CODE 2018

CONSTRUCTION NOTES:

THE FOLLOWING IS A NON-EXHAUSTIVE LIST OF SOME COMMONLY MISSED CODE REQUIREMENTS AND ARE ENFORCEABLE IN THE CONSTRUCTION FROM THESE PLANS. SEE THE N.C. RESIDENTIAL CODE BOOK FOR MORE INFO.

1. (R308.4) ALL GLAZING WITHIN 24" OF EITHER SIDE OF A DOOR IN A CLOSED POSITION, AND ON THE SAME WALL PLANE SHALL BE TEMPERED. ALL WINDOWS THAT MEET ALL OF THE FOLLOWING CONDITIONS SHALL BE TEMPERED: A) INDIVIDUAL PANES OF MIN. 9 S.F., B) BOTTOM EDGE IS WITHIN 18" OF FLOOR, C) TOP EDGE IS AT LEAST 36" ABOVE FLOOR, AND D) GLAZING IS WITHIN 36" HORIZ.OF WALKING SURFACE. TEMPERED GLAZING IS ALSO REQUIRED WITHIN 60" OF HOT TUBS OR STAIR LEADING AND FINISH EDGES. TEMPERED WINDOWS ALSO REQUIRED PER REMAINDER OF THIS CODE SECTION.

2. (R310.1) ALL SLEEPING ROOMS AND BASEMENTS WITH HABITABLE SPACE SHALL HAVE AT LEAST ONE EGRESS WINDOW CONFORMING TO THE FOLLOWING: A) MIN. 4.0 S.F. CLEAR OPENING; B) MIN. TOTAL GLASS AREA OF 5.0 SQ (GROUND FLOOR WINDOW) AND 5.7 S.F. (UPPER STORY WINDOW). IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHOSE THE PROPER CONFORMING WINDOW, AND HAVE EGRESS WINDOWS PROPERLY DISTRIBUTED AND INSTALLED AS REQUIRED.

3. (R311.2) ALL INTERIOR EGRESS DOORS AND A MINIMUM OF ONE EXTERIOR EGRESS DOOR SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT USE OF A KEY OR SPECIAL KNOWLEDGE.

4. (R311.7.5) MAXIMUM STAIR RISER HEIGHT SHALL BE 8-1/4", AND MINIMUM TREAD SHALL BE 9".

5. (R314.3) SMOKE ALARMS SHALL BE INSTALLED AND INTERCONNECTED, WITH BATTERY BACK-UP IN THE FOLLOWING AREAS: EACH SLEEPING ROOM; IN THE AREA (HALLWAY) RIGHT OUTSIDE THE SLEEPING ROOMS; AND EACH STORY. THE ONE OUTSIDE THE SLEEPING ROOMS WILL SATISFY THAT STORY.

6. (R402.1.2) ALL LUMBER SHALL BE PRESSURE TREATED AND DRIED AFTER TREATMENT IN ACCORDANCE WITH AWPA U1 AND SHALL BEAR THE LABEL OF AN ACCREDITED AGENCY.

7. (R406.1) BITUMINOUS DAMPPROOFING SHALL BE APPLIED TO EXTERIOR FOUNDATIONS OF ALL HABITABLE AND USABLE (STORAGE, ETC) SPACES.

8. (R408.1.2) INSTALL ONE FOUNDATION VENT WITHIN 3' OF EACH CORNER (NOT ONE EACH SIDE OF EACH CORNER).

9. (R703.4) FLASH ALL VALLEYS AND WALL/ROOF INTERSECTIONS, AND CHIMNEY AND OTHER ROOF PENETRATIONS. USE ICE AND WATER SHIELD ON ALL ROOFS LESS THAN 4:12 SLOPE. FLASHING TO BE NON-CORROSIVE.

10. (R807.1) BUILDER TO LOCATE 22"x30" ATTIC ACCESS IN ALL ATTICS WITHOUT STAIR ACCESS. LOCATE ACCESS TO PROVIDE A 30" CLEAR SPACE ABOVE ACCESS DOOR-TYP.

11. (R1001) MASONRY FIREPLACE WALLS TO BE MIN. 8" THICK, AND MIN. 2" TO FRAMING. POURED HEARTHS TO HAVE MIN #4@12" O.C. EACH WAY. HEARTHS TO BE MIN. 20" FROM FIREBOX AND HAVE MIN. 12" WIDER THAN FIREBOX ON EACH SIDE.

12. (R403.1.6) ANCHOR BOLTS SHALL BE MIN. ½"DIAMETER & SHALL EXTEND A MINIMUM 7"INTO MASONRY OR CONCRETE. ANCHOR BOLTS TO BE NO MORE THAN 6" O.C. AND WITHIN 12"OF THE CORNER.

13. (R315) INSTALL APPROVED CARBON MONOXIDE ALARM OUTSIDE EACH BEDROOM AND IN IMMEDIATE VICINITY OF EACH SEPARATE SLEEPING AREA.

CLIMATE ZONE	FENESTRATION U-FACTOR	FENEST. SHGC	CEILING R-VALUE	FRAME WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE	CRAWL WALL R-VALUE
3	0.35	0.30	38 or 30ci	15, 13+2.5	19	5/13 †	0	5/13
4	0.35	0.30	38 OR 30 CI	15, 13+2.5	19	10/15	10	10/13
5	0.35	NR	38 OR 30 CI	19, 13+5, OR 15+3	30	10/15	10	10/19

CLIMATIC AND GEOGRAPHIC NOTES:

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

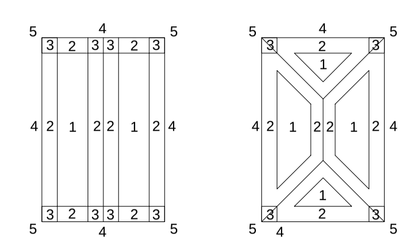
ROOF SNOW LOAD	WIND SPEED (MPH) (110LINE 301.2.4)	DESIGNIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP.	FLOOD HAZARDS
25	3 SEC. GUST: 115	B	WEATHERING	FROST LINE	TERMITE	DECAY	20	N/A
	FASTEST MILE: 120	(REF. FIG. 310.2(2))	MODERATE	12"	MOD. TO HEAVY	MOD.		

Wind Load:

Basic Wind Speed 120 MPH (3-SECOND GUST)
115 MPH (FASTEST MILE)

Exposure Category B (Suburban)

Wind Zone Exposure Plans:



Note:
3 = 4' Long (Typ.)

Component and Cladding Loads:

Worst Case – 10 s.f. (typ.)

TABLE R301.2(2) & (3)

Mean Roof Hgt.	Up to 30'		30'–1" – 35'		35'–1" – 40'		40'–1" – 45'	
Exposure Zone	Design Pressure	Uplift Force	Design Pressure	Uplift Force	Design Pressure	Uplift Force	Design Pressure	Uplift Force
Zone 1:	16.7 psf	–18.0 psf	17.5 psf	–18.9 psf	18.2 psf	–19.6 psf	18.7 psf	–20.2 psf
Zone 2:	16.7 psf	–21.0 psf	17.5 psf	–22.1 psf	18.2 psf	–22.9 psf	18.7 psf	–23.5 psf
Zone 3:	16.7 psf	–21.0 psf	17.5 psf	–22.1 psf	18.2 psf	–22.9 psf	18.7 psf	–23.5 psf
Wall, Zone 4:	18.2 psf	–19.0 psf	19.1 psf	–20.0 psf	19.8 psf	–20.7 psf	20.4 psf	–21.3 psf
Wall, Zone 5:	18.2 psf	–24.0 psf	19.1 psf	–25.2 psf	19.8 psf	–20.7 psf	20.4 psf	–26.9 psf

Windows:

***All windows shall be labeled to conform with AAMA/WDMA/CSA 101/I.S.2/A440

***All windows shall be rated with Impact Glazing if windspeeds are equall to or exceed 145 MPH

REV: 03/01/12

PROJECT DATA:

LEAD DESIGN PROFESSIONAL:

DESIGNER	FIRM	NAME	License #	Telephone #
Architectural		Gabe Reyes		(919)491-5855
Structural		Marc W. Mills, R.A.	7579	(919) 795-3845
Landscape	–	–	–	(---) --- ---
Interiors	–	–	–	(---) --- ---
Other	–	–	–	(---) --- ---

DESIGN DATA:

PROJECT SQUARE FOOTAGES

SQUARE FOOTAGE

FIRST FLOOR HTD. =	1,925
SECOND FLOOR HTD. =	1,060
TOTAL HTD. SQ. FT. =	2,985
GARAGE =	541
FRONT PORCH =	288
SCREENED PORCH =	319

BUILDING DATA:

Construction Type: V-B
Use Group: R-3
Building Height: 33'-11"
Number of Stories: 2
Mean Roof Height: 23'-4"

Structure:

Basic Structural System: Bearing Wall
Lateral Design Control: Earthquake ☐ Wind ☒

Soil Bearing Capacity: 2,000 psf (Presumptive)

INDEX OF DRAWINGS:

CS	SHEET NAME
CS	Cover Sheet
A-1	Front & Right Elevations
A-2	Rear & Left Elevations
A-3	Sections & Details
A-4	First Floor Plan
A-5	Second Floor Plan
AS-1	Crawl Foundation/First Floor Framing
AS-2	Second Floor Framing
AS-3	Second Floor Ceiling Framing
AS-4	Roof Framing
D-1	Detail Sheet

STRUCTURAL DESIGN BY
MARC W. MILLS, RA
DATE SEALED:
INVALID IF UNSEALED
NORTH CAROLINA LICENSE # 7579

MARC W. MILLS REGISTERED ARCHITECT 7579 NORTH CAROLINA RALEIGH, NC

GENERAL NOTES:
1. ALL REAL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.

COPYRIGHT © ALL RIGHTS RESERVED - 2019
REPRODUCTION OF THESE PLANS IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

REVISIONS

DATE	BY:	DESCRIPT.

Cover Sheet
-

SHEET NO.
CS

PLAN NO.
P-01220

FRONT ELEVATION

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

GENERAL NOTES

*USE ICE AND WATER SHIELD AT ALL ROOF PLANES SLOPED BELOW 4:12.

SEE FLOOR PLANS , ROOF PLAN, AND/OR ROOF FRAMING DETAIL SHEET FOR PLATE HEIGHTS AT RAFTER AND/OR TRUSS BEARING LOCATIONS.

SEE ROOF PLANS FOR ATTIC VENTILATION CALCULATIONS.

SEE SHEET D-2 FOR FLASHING DETAILS AND REQUIRED LOCATIONS.

REQUIRED FLASHING LOCATIONS

1) ALL MATERIAL CHANGE INTERSECTIONS.
2) ALL WINDOW / DOOR OPENINGS.
3) ALL ROOF VALLEYS.

BUILDER TO VERIFY ON SITE FLASHING IS INSTALLED TO MEET CODE REQUIREMENTS.

ARCHITECTURAL PLANS

EXTERIOR MATERIALS

= SHINGLE ROOF PER BUILDER

= METAL ROOF PER BUILDER

= HORIZONTAL SIDING PER BUILDER

= SCREEN SIDING PER BUILDER

= BRICK PER BUILDER

RIGHT ELEVATION

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR CONTRACTS ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONTRACTUAL SAVINGS AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © ALL RIGHTS RESERVED - 2019
REPRODUCTION OF THESE PLANS IN WHOLE OR IN PART IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATES	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

REVISIONS

DATE	BY:	DESCRIPT.

Elevations - Front and Right

SHEET NO.
A-1-0

PLAN NO.
P-01220

REAR ELEVATION

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

GENERAL NOTES

*USE ICE AND WATER SHIELD AT ALL ROOF PLANES SLOPED BELOW 4:12.

SEE FLOOR PLANS , ROOF PLAN, AND/OR ROOF FRAMING DETAIL SHEET FOR PLATE HEIGHTS AT RAFTER AND/OR TRUSS BEARING LOCATIONS.

SEE ROOF PLANS FOR ATTIC VENTILATION CALCULATIONS.

SEE SHEET D-2 FOR FLASHING DETAILS AND REQUIRED LOCATIONS.

REQUIRED FLASHING LOCATIONS

1) ALL MATERIAL CHANGE INTERSECTIONS.
2) ALL WINDOW / DOOR OPENINGS.
3) ALL ROOF VALLEYS.

BUILDER TO VERIFY ON SITE FLASHING IS INSTALLED TO MEET CODE REQUIREMENTS.

ARCHITECTURAL PLANS

EXTERIOR MATERIALS

= SHINGLE ROOF PER BUILDER

= METAL ROOF PER BUILDER

= HORIZONTAL SIDING PER BUILDER

= SCREEN SIDING PER BUILDER

= BRICK PER BUILDER

LEFT ELEVATION

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR CONTRACTS ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION SURVEYS AS A RESULT OF A RESPONSE.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.

COPYRIGHT © 2014
ALL RIGHTS RESERVED.
REPRODUCTION OF THIS DOCUMENT OR ANY PART THEREOF IS STRICTLY PROHIBITED.
PLANS MAY BE USED PRACE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

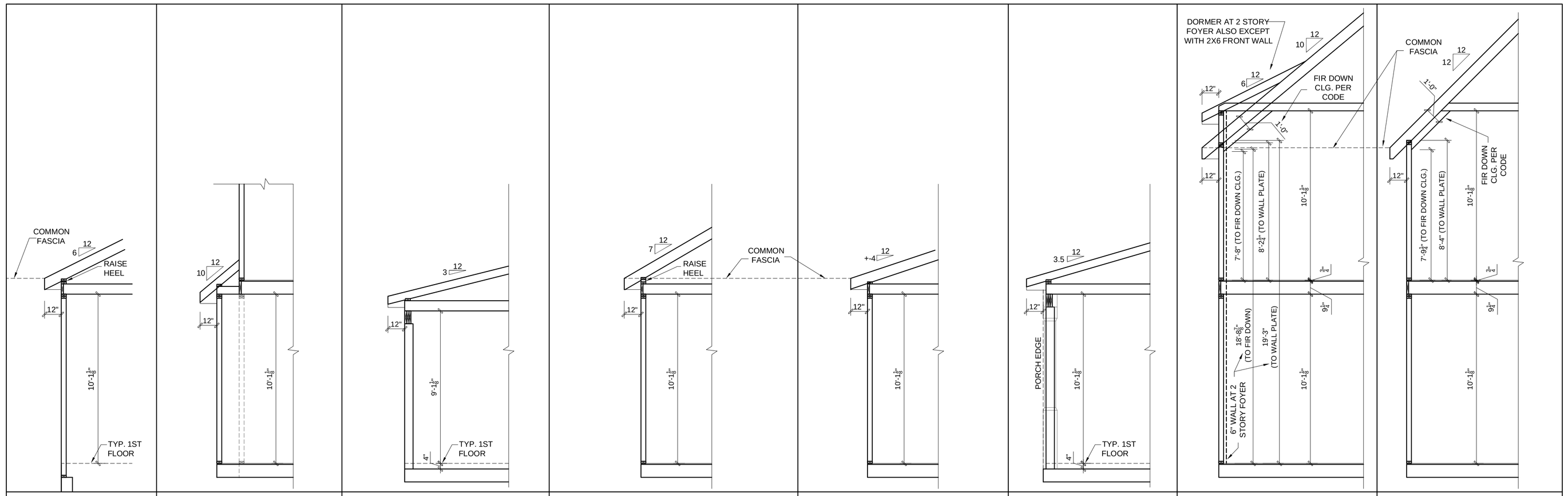
REVISIONS

DATE	BY	DESCRIPT.

Elevations - Rear and Left

SHEET NO.
A-2-0

PLAN NO.
P-01220



8	7	6	5	4	3	2	1
GARAGE	STUDY BOXOUT	REAR SCREEN PORCH	OWNER'S SUITE BED	OWNER'S SUITE BEDROOM/BATH	FRONT PORCH	STUDY/FOYER BED#3/GAMERM	BEDROOM #2
22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"	22X34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"	11x17 SCALE: 1/8"=1'-0"

ARCHITECTURAL PLANS

EXTERIOR MATERIALS

= SHINGLE ROOF PER BUILDER

= METAL ROOF PER BUILDER

= HORIZONTAL SIDING PER BUILDER

= SCREEN SIDING PER BUILDER

= BRICK PER BUILDER

**NOTE: DETAILS PROVIDED ARE FOR PLATE DETAILS ONLY.
REFER TO STRUCTURAL SHEETS TO CONFIRM FLOOR MEMBER SIZE & DIRECTIONS, RAFTER SIZE & DIRECTIONS, AND ROOF OVERHANGS.

GENERAL NOTES

*USE ICE AND WATER SHIELD AT ALL ROOF PLANES SLOPED BELOW 4:12.

SEE FLOOR PLANS , ROOF PLAN, AND/OR ROOF FRAMING DETAIL SHEET FOR PLATE HEIGHTS AT RAFTER AND/OR TRUSS BEARING LOCATIONS.

SEE ROOF PLANS FOR ATTIC VENTILATION CALCULATIONS.

SEE SHEET D-2 FOR FLASHING DETAILS AND REQUIRED LOCATIONS.

REQUIRED FLASHING LOCATIONS

1) ALL MATERIAL CHANGE INTERSECTIONS.
2) ALL WINDOW / DOOR OPENINGS.
3) ALL ROOF VALLEYS.

BUILDER TO VERIFY ON SITE FLASHING IS INSTALLED TO MEET CODE REQUIREMENTS.

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR CORRECT ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION SURVEYS AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © 2019 ALL RIGHTS RESERVED.
REPRODUCTION OF THESE PLANS IN WHOLE OR PART IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

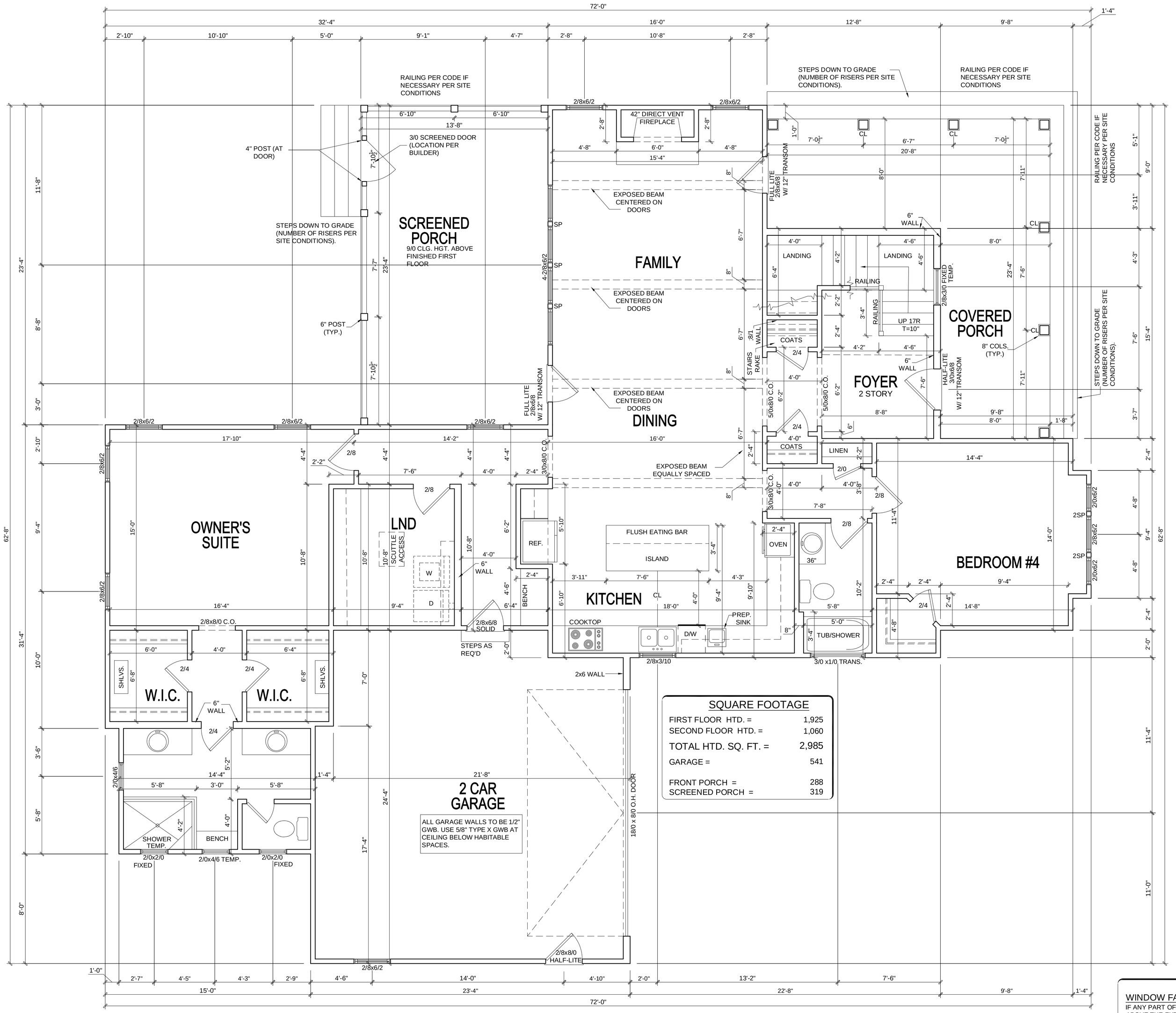
REVISIONS

DATE	BY:	DESCRIPT.

Wall Section Wall Details

SHEET NO.
A-3-0

PLAN NO.
P-01220



FIRST FLOOR PLAN

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

SQUARE FOOTAGE

FIRST FLOOR HTD. =	1,925
SECOND FLOOR HTD. =	1,060
TOTAL HTD. SQ. FT. =	2,985
GARAGE =	541
FRONT PORCH =	288
SCREENED PORCH =	319

GENERAL NOTES

WALL THICKNESS / ANGLES

ALL EXTERIOR STUD WALLS ARE DRAWN 4" THICK U.N.O.

ALL INTERIOR STUD WALLS ARE DRAWN 4" THICK U.N.O.

ANGLED WALLS ARE DRAWN @ 45° U.N.O.

EGRESS

ALL BEDROOMS MUST HAVE AT LEAST ONE WINDOW WHICH CONFORMS TO EGRESS REQUIREMENTS FOR CLEAR OPENING HEIGHT AND WIDTH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EGRESS SIZING PER CODE BASED ON CHOSEN MANUFACTURER, AS PRODUCT SIZES MAY VARY.

WALL/CEILING HEIGHTS

WALL AND CEILING HEIGHTS NOTES ARE BASED ON NOMINAL WALL SIZE (I.E. A 10'-1 1/8" ACTUAL WALL HEIGHT IS LABELED 10/0 ON THE PLANS).

ALL VAULTED OR SLOPED CEILINGS ARE TO BE FURRED DOWN TO ACCOMMODATE REQUIRED CEILING INSULATION AND 1" AIRSPACE. VERIFY CODES FOR INFORMATION ON INSULATION REQUIREMENTS.

STAIRS

STAIR TREADS ARE MEASURED FROM NOSING TO NOSING (N/N). MAXIMUM STAIR RISE HEIGHT TO BE NO GREATER THAN 8-1/4"

ARCHITECTURAL PLANS WALL LEGEND

- STANDARD STUD WALL INT OR EXT IF EXT SEE ELEVATIONS FOR SIDING STYLE THICKNESS OF WALL NOTED IN PLAN NOTES OR AT WALL LOCATIONS
- STANDARD STUD WALL WITH 5" BRICK VENEER FOUNDATION WALL LEDGE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS
- STANDARD STUD WALL WITH STACKED STONE VENEER. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS. (NOTE BUILDER TO VERIFY STONE THICKNESS & NOTIFY PLAN DESIGNER IF THICKNESS IS MORE THAN 5" BEFORE FOOTINGS ARE POURED)
- STANDARD STUD WALL WITH APPLIED STONE VENEER STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS (NOTE: NO FOUNDATION SUPPORT IS REPRESENTED ON STRUCTURAL PLANS) IF STACKED STONE IS TO BE USED BUILDER MUST NOTIFY PLAN DESIGNER BEFORE FOOTINGS ARE POURED
- STANDARD STUD WALL WITH LOW APPLIED STONE WAINSCOTING. SEE ELEVATIONS FOR HEIGHT & FINISH MATERIAL AT EXT STUD WALL ABOVE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS
- STANDARD STUD WALL WITH 5" FOUNDATION LEDGE FOR LOW BRICK OR STACKED STONE WAINSCOTING. SEE ELEVATIONS FOR HEIGHT & FINISH MATERIAL AT EXT STUD WALL ABOVE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS.
- HALF WALL WITH 1x CAP (42" HEIGHT UNLESS NOTED OTHERWISE ON PLANS)

WINDOW FALL PREVENTION PROTECTION

IF ANY PART OF THE CLEAR OPENING OF THE OPERABLE PORTION OF A WINDOW IS LOCATED MORE THAN 72" ABOVE THE EXTERIOR GRADE THEN THE LOWEST PART OF THE CLEAR OPENING MUST BE AT LEAST 24" ABOVE THE FLOOR OF THE ROOM IN WHICH IT IS LOCATED.

EXCEPTIONS:
1. THE WINDOW IS A FIXED UNIT
2. THE OPENING DOES NOT ALLOW THE PASSAGE OF A 4- INCH DIAMETER SPHERE.
3. THE WINDOW IS EQUIPPED WITH A WINDOW FALL PREVENTION DEVICE MEETING ASTM F2090.
4. THE WINDOW IS EQUIPPED WITH AN APPROVED WINDOW OPENING LIMITING DEVICE.

NOTE: WHEN USED WITH AN EMERGENCY ESCAPE AND RESCUE WINDOW, OPENING LIMITING DEVICES AND FALL PREVENTION DEVICES MUST BE APPROVED FOR EMERGENCY ESCAPE AND RESCUE PROVISIONS.

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM EXPECTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIANCE FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR DIMENSIONS ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION, SURVEY, AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © 2019 ALL RIGHTS RESERVED.
REPRODUCTION OF THESE PLANS IN PART OR WHOLE IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

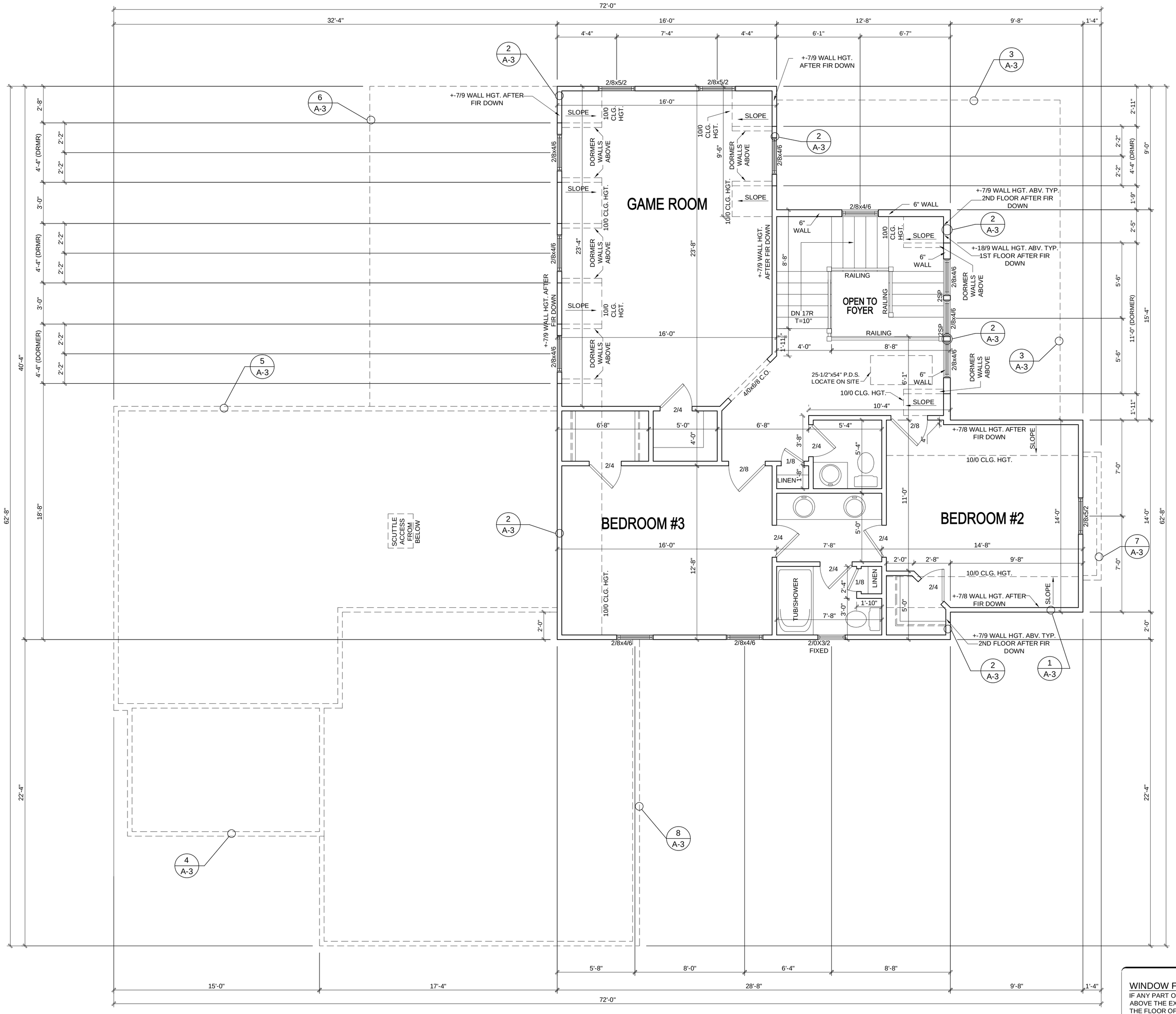
REVISIONS

DATE	BY:	DESCRIPT.

First Floor Plan
-

SHEET NO.
A-4-0

PLAN NO.
P-01220



SECOND FLOOR PLAN

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

GENERAL NOTES

WALL THICKNESS / ANGLES

ALL EXTERIOR STUD WALLS ARE DRAWN 4" THICK U.N.O.

ALL INTERIOR STUD WALLS ARE DRAWN 4" THICK U.N.O.

ANGLED WALLS ARE DRAWN @ 45° U.N.O.

EGRESS

ALL BEDROOMS MUST HAVE AT LEAST ONE WINDOW WHICH CONFORMS TO EGRESS REQUIREMENTS FOR CLEAR OPENING HEIGHT AND WIDTH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EGRESS SIZING PER CODE BASED ON CHOSEN MANUFACTURER, AS PRODUCT SIZES MAY VARY.

WALL/CEILING HEIGHTS

WALL AND CEILING HEIGHTS NOTES ARE BASED ON NOMINAL WALL SIZE (I.E. A 10'-1 1/8" ACTUAL WALL HEIGHT IS LABELED 10/0 ON THE PLANS).

ALL VAULTED OR SLOPED CEILINGS ARE TO BE FURRED DOWN TO ACCOMMODATE REQUIRED CEILING INSULATION AND 1" AIRSPACE. VERIFY CODES FOR INFORMATION ON INSULATION REQUIREMENTS.

STAIRS

STAIR TREADS ARE MEASURED FROM NOSING TO NOSING (N/N). MAXIMUM STAIR RISE HEIGHT TO BE NO GREATER THAN 8-1/4"

ARCHITECTURAL PLANS WALL LEGEND

- STANDARD STUD WALL INT OR EXT IF EXT SEE ELEVATIONS FOR SIDING STYLE THICKNESS OF WALL NOTED IN PLAN NOTES OR AT WALL LOCATIONS
- STANDARD STUD WALL WITH 5" BRICK VENEER FOUNDATION WALL LEDGE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS
- STANDARD STUD WALL WITH STACKED STONE VENEER. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS. (NOTE BUILDER TO VERIFY STONE THICKNESS & NOTIFY PLAN DESIGNER IF THICKNESS IS MORE THAN 5" BEFORE FOOTINGS ARE POURED)
- STANDARD STUD WALL WITH APPLIED STONE VENEER STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS (NOTE: NO FOUNDATION SUPPORT IS REPRESENTED ON STRUCTURAL PLANS) IF STACKED STONE IS TO BE USED BUILDER MUST NOTIFY PLAN DESIGNER BEFORE FOOTINGS ARE POURED
- STANDARD STUD WALL WITH LOW APPLIED STONE WAINSCOTING. SEE ELEVATIONS FOR HEIGHT & FINISH MATERIAL AT EXT STUD WALL ABOVE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS
- STANDARD STUD WALL WITH 5" FOUNDATION LEDGE FOR LOW BRICK OR STACKED STONE WAINSCOTING. SEE ELEVATIONS FOR HEIGHT & FINISH MATERIAL AT EXT STUD WALL ABOVE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS.
- HALF WALL WITH 1x CAP (42" HEIGHT UNLESS NOTED OTHERWISE ON PLANS)

WINDOW FALL PREVENTION PROTECTION

IF ANY PART OF THE CLEAR OPENING OF THE OPERABLE PORTION OF A WINDOW IS LOCATED MORE THAN 72" ABOVE THE EXTERIOR GRADE THEN THE LOWEST PART OF THE CLEAR OPENING MUST BE AT LEAST 24" ABOVE THE FLOOR OF THE ROOM IN WHICH IT IS LOCATED.

EXCEPTIONS:
1. THE WINDOW IS A FIXED UNIT
2. THE OPENING DOES NOT ALLOW THE PASSAGE OF A 4- INCH DIAMETER SPHERE.
3. THE WINDOW IS EQUIPPED WITH A WINDOW FALL PREVENTION DEVICE MEETING ASTM F2090.
4. THE WINDOW IS EQUIPPED WITH AN APPROVED WINDOW OPENING LIMITING DEVICE.

NOTE: WHEN USED WITH AN EMERGENCY ESCAPE AND RESCUE WINDOW, OPENING LIMITING DEVICES AND FALL PREVENTION DEVICES MUST BE APPROVED FOR EMERGENCY ESCAPE AND RESCUE PROVISIONS.

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR CONFLICTS ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONTRACTORS SURVEYS AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © 2019
ALL RIGHTS RESERVED.
REPRODUCTION OF THESE PLANS IN WHOLE OR IN PART IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

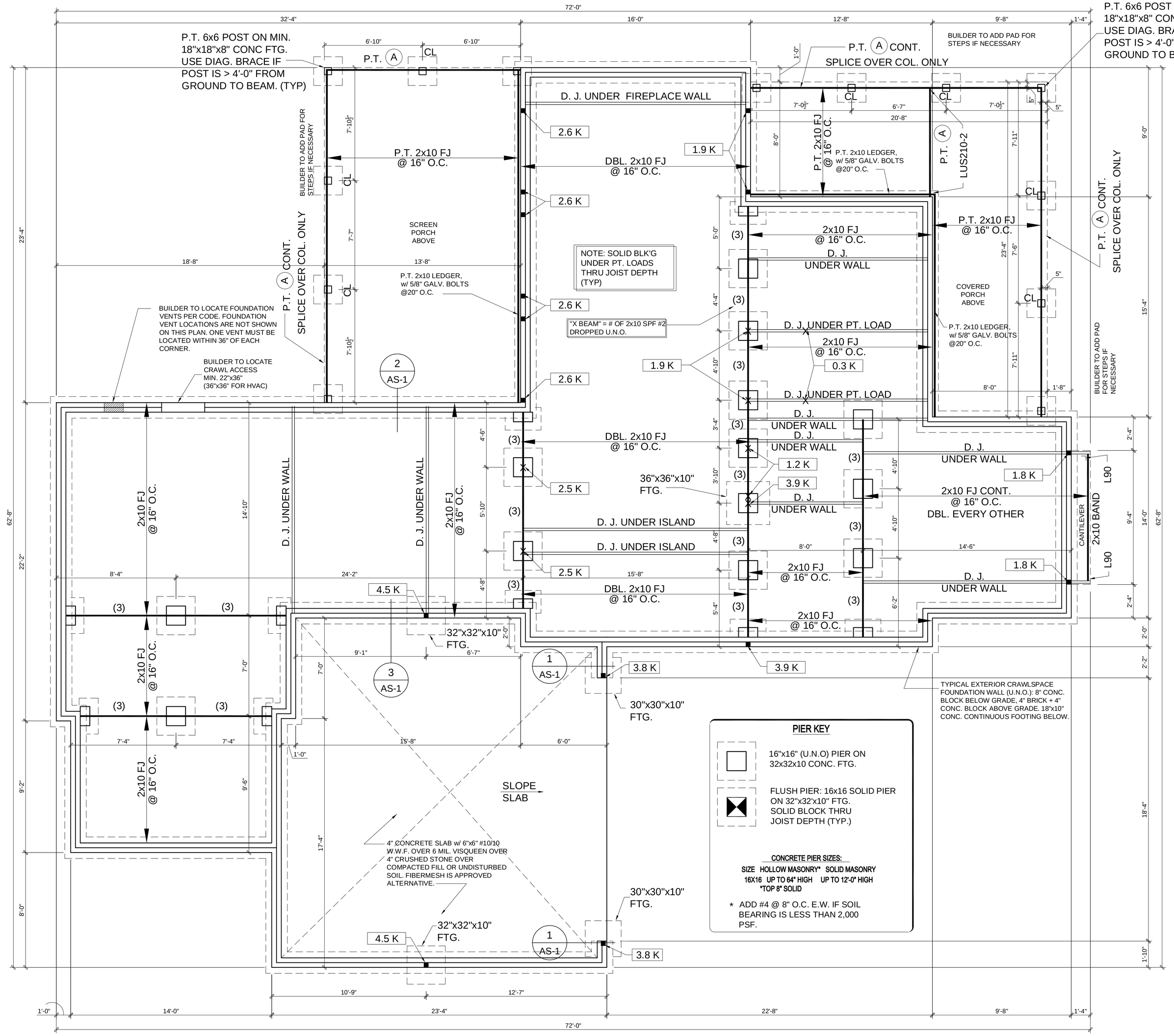
REVISIONS

DATE	BY	DESCRIPT.

Second Floor Plan
-

SHEET NO.
A-5-0

PLAN NO.
P-01220

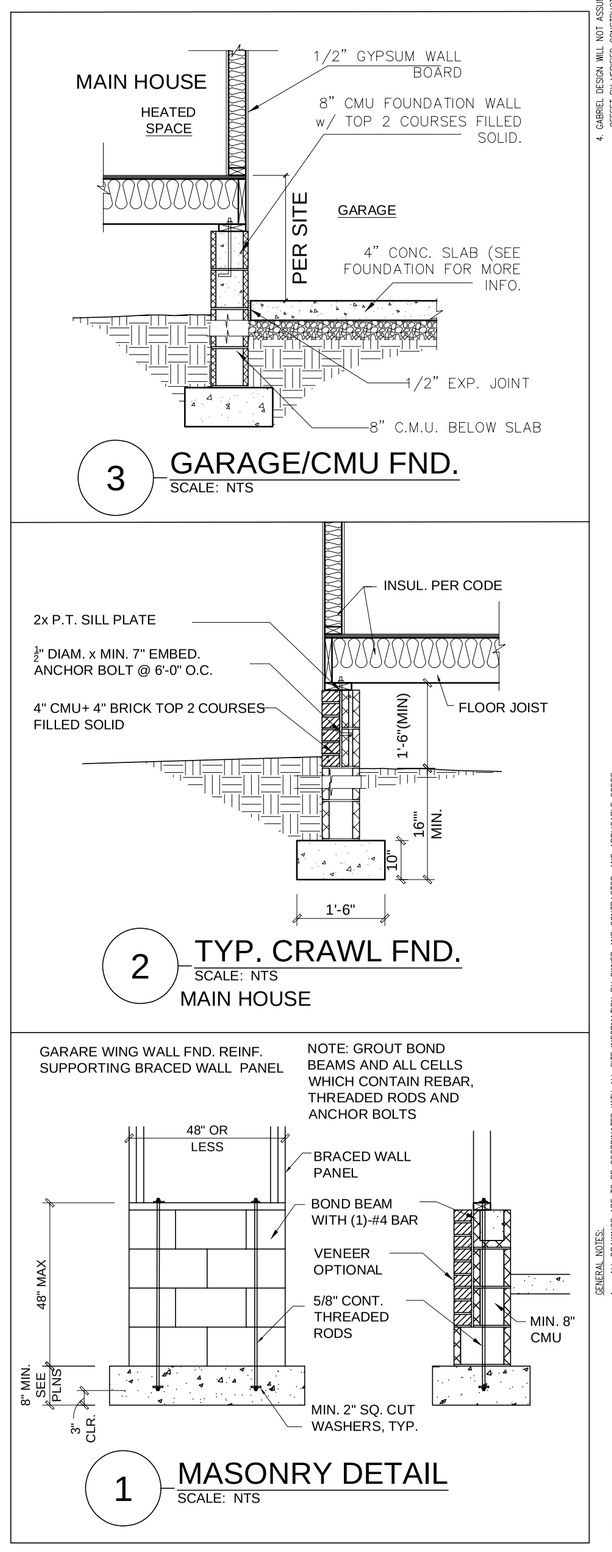


HEADER SCHEDULE

- (A) (2) 2x10 FLUSH
- (B) (2) 2x10 DROPPED
- (C) (2) 2x8 FLUSH
- (D) (2) 2x8 DROPPED

D.J. =DOUBLE JOIST
U.W. = UNDER WALL

NOTE: ■,⊠= INDICATES SIGNIFICANT POINT LOAD, BLOCK SOLID DOWN TO FOUNDATION, PIER, OR SUPPORT BEAM.



OPT. SEALED CRAWLSPACE
MECHANICAL VENTILATION REQUIREMENT:
MINIMUM OF 1 CFM PER 50 SQUARE FEET

VENTILATION
OPTIOANAL SEALED CRAWL
1,909 SQ. FT. / 50 = 39 CFM FAN

CRAWL FOUNDATION/FIRST FLOOR FRAMING

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

Crawlspace Vent Calculations

A	Crawl Space Area	1909
B	Ventable Area Required by Code (without vapor barrier)	12.7
C	Number of vents required	27.1
D	Actual number of vents required	28.0
E	Number of vents with vapor barrier reduction	14.0

Formulas:
B = A / 150
C = B / 0.47 (sqft - net venting area per vent)
E = D / 2

Notes:
1. Builder must adjust ventilation calculations if using vents with a net area that is different than 0.47 sqft per vent.
2. One foundation vent must be placed within 3 feet of each major corner in the building
3. Foundation vents must be placed to allow for cross ventilation

THESE PLANS ARE SEALED FOR A SINGLE LOT ONLY.

STRUCTURAL DESIGN BY
MARC W. MILLS, RA
DATE SEALED:
INVALID IF UNSEALED
NORTH CAROLINA LICENSE # 7579
VALID ONLY IF SIGNED IN BLUE

MARC W. MILLS REGISTERED ARCHITECT 7579 NORTH CAROLINA RALEIGH, NC

GENERAL NOTES:
1. GENERAL DESIGN, WILL NOT BE RESPONSIBLE FOR ANY ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY WRITTEN CONTRACTUAL AGREEMENT.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM EXPECTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIANCE FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT BE RESPONSIBLE FOR ANY ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY WRITTEN CONTRACTUAL AGREEMENT.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MANHOURS, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © 2019 ALL RIGHTS RESERVED. REPRODUCTION IN WHOLE OR IN PART IS STRICTLY PROHIBITED. PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

REVISIONS

DATE	BY:	DESCRIPT.

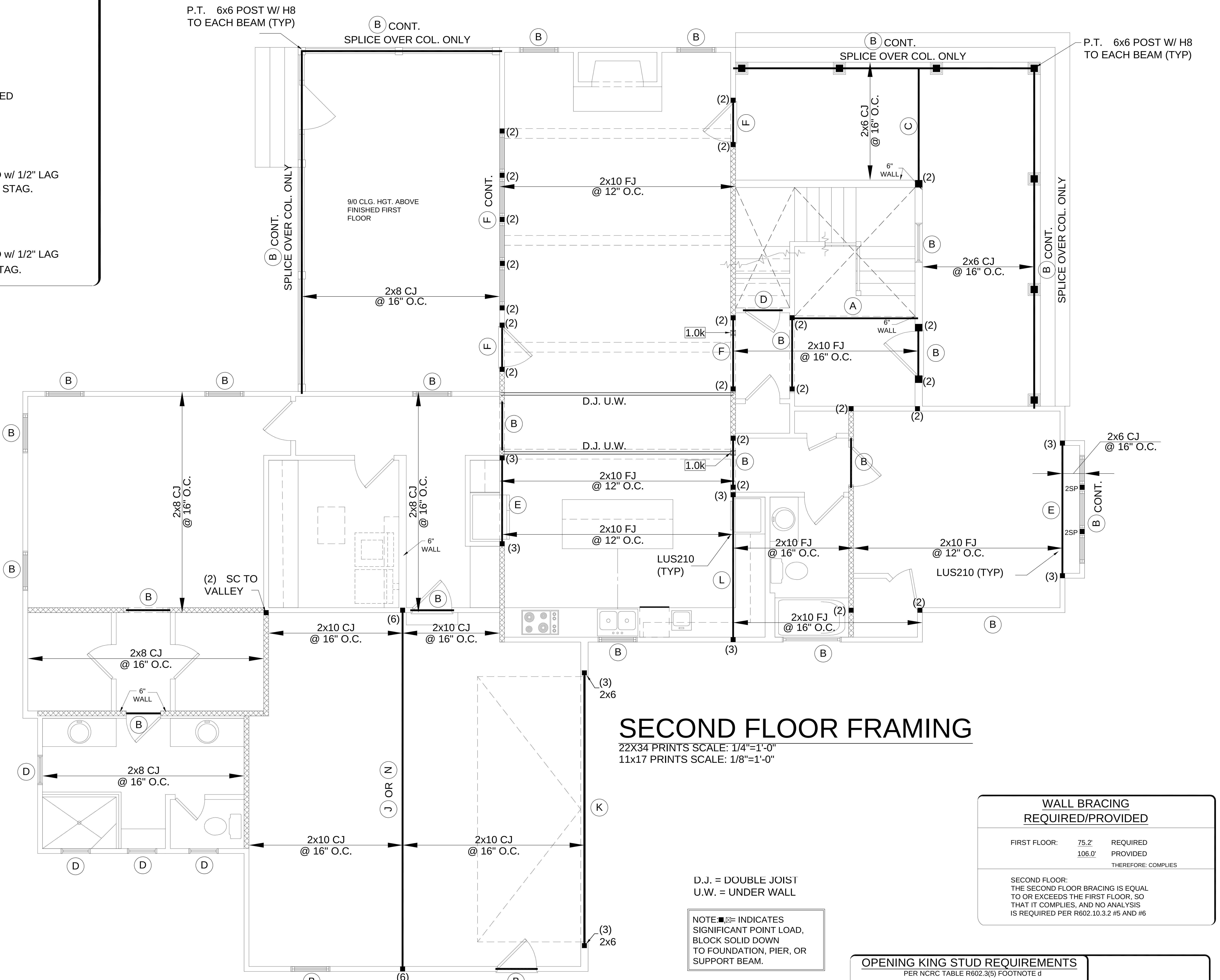
Crawl Foundation & First Floor Framing

SHEET NO.
AS-1

PLAN NO.
P-01220

HEADER SCHEDULE

- (A) (2) 2x10 FLUSH
- (B) (2) 2x10 DROPPED
- (C) (2) 2x8 FLUSH
- (D) (2) 2x8 DROPPED
- (E) (2) 9 1/4" LVL FLUSH
- (F) (2) 9 1/4" LVL DROPPED
- (G) (3) 2x10 DROPPED
- (H) (2) 16" LVL
- (J) W14x26, DROPPED
- (K) (3) 14" LVL DROPPED w/ 1/2" LAG SCREWS @ 18" O.C., STAG.
- (L) (3) 9 1/4" LVL FLUSH
- (M) (3) 2x10 DROPPED
- (N) (4) 18" LVL DROPPED w/ 1/2" LAG BOLTS @ 18" O.C., STAG.



SECOND FLOOR FRAMING

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

D.J. = DOUBLE JOIST
U.W. = UNDER WALL

NOTE: ■ ⊠ = INDICATES SIGNIFICANT POINT LOAD, BLOCK SOLID DOWN TO FOUNDATION, PIER, OR SUPPORT BEAM.

WALL FRAMING: MIN. 2x4
SPF #2 @ 16" O.C., UNO

WALL SHEATHING: MIN. 1/2"
APA RATED SHEATHING

ROOF SHEATHING: MIN. 1/2"
APA RATED SHEATHING

BRACED WALL PANELS SHALL BE CONNECTED TO ROOF FRAMING PER R602.10.5.5

OPENING KING STUD REQUIREMENTS

PER NCRC TABLE R602.3(5) FOOTNOTE d

1. HEADERS IN NON LOAD BEARING WALLS ARE NOT LABELED.
2. KING STUDS EXTERIOR WALLS:
   SINGLE KING STUDS FOR 6'-0" MAX. OPENING.
   DOUBLE KING STUDS FOR 10'-0" MAX. OPENING.
   TRIPLE KING STUDS FOR 14'-0" MAX. OPENING.
   QUAD KING STUDS FOR 18'-0" MAX. OPENING.
3. FOR 2x6 STUD WALLS, ON HALF THE AMOUNT OF KING STUDS REQUIRED (ROUND UP) U.N.O.
4. FOR PORTAL FRAME WALL REFER TO DETAIL #1 SHEET D-4.
5. FOR WINDOW GROUPS DIVIDED BY STUD POCKETS, DOUBLE CRIPPLE STUDS IN LINE WITH STUD POCKETS. END KING STUDS ARE THEN DETERMINED BY THIS CHART AS LAST OPENING ON EITHER SIDE.

NOTE:2

WALL BRACING REQUIRED/PROVIDED

FIRST FLOOR:	75.2'	REQUIRED
	106.0'	PROVIDED
		THEREFORE: COMPLIES

SECOND FLOOR:
THE SECOND FLOOR BRACING IS EQUAL TO OR EXCEEDS THE FIRST FLOOR, SO THAT IT COMPLIES, AND NO ANALYSIS IS REQUIRED PER R602.10.3.2 #5 AND #6

STRUCTURAL NOTES

REV: 12/11/18

A. GENERAL NOTES

1. Contractors assumes all responsibility for deviating from depicted or implied structural information. Architect/Structural Engineer must be notified immediately about alternate construction or problem areas before contractor proceeds.
2. Only sealed drawing with latest revisions are applicable for construction.
3. All construction, workmanship, and materials to comply with 2018 N.C. State Residential Code and local regulations.
4. Design Loads:

Structural System	L.L.	D.L.	T.L.	Structural System	L.L.	D.L.	T.L.
Dwelling Units (general)	40	10	50	Stairs	40	5	45
Sleeping Rooms	30	10	40	Guardrails and Handrails	200		200
Balconies(exterior)	60	10	70	Roof Systems	20	10	30
Decks	40	10	50	Cathedral Ceilings	20	15	35
Attics(limited attic storage)	10	10	20	Internal Partition Walls		9	9
Attics(with storage)	20	10	30	Passenger Garage	50	per eng.	
Attics(with fixed stairways)	40	10	50				

5. Deflection: Floors: L/360, Roofs: L/240, L/480 for engineered flooring and under tiled areas, L/600 for vertical masonry support.
6. Do not scale drawings. Contractor shall contact architect for queries on non-labeled items.
7. Owner or builder is responsible for information on soil bearing capacity, min. assumed = 2,000 psf.

B. FOOTINGS AND FOUNDATION

1. Minimum Spread Footing Sizes: (28 day strength: min 2500 psi)

Stories	Wood Frame		Wood Frame + Face Brick		8" Masonry	
	Min. Ftg Width	Min. Ftg Depth	Min. Ftg Width	Min. Ftg Depth	Min. Ftg Width	Min. Ftg Depth
1	16"	8"	16"	8"	18"	8"
2	16"	8"	20"	8"	24"	10"
3	18"	10"	24"	10"	32"	12"

Footings shall be min 2" wider overhang on each side than the foundation above. Minimum footing depth 12" below grade, u.n.o. Footings for close adjacent piers can be combined.

2. Girders and piers shall bear on center 1/3 of pier and footing optimally, but no less than 4" from pier or footing edge.
3. Maximum height of unbalanced fill and reinforcing to conform with Tables R404.1.1(2), (3), (4). with variables of: total wall height, and soil classification. Amount and placement of rebars are per tables.
4. Multiple wythe masonry walls shall have galvanized ties every 24" max. vertical and 36" horizontal.
5. Anchor bolts to be min. 1/2" dia. @ 6'-0"max. o.c. and max 12" from corners, and splices. Bolts shall extend min. 7" into concrete or masonry. Compression type anchors can be substituted in a case where an occasional anchor bolt is missing or misplaced.
6. Concrete Pier Sizes: (Note: the larger of the two chart's requirements governs)

Size	Hollow Masonry*	Solid Masonry	Size	Hollow Masonry*	Solid Masonry
8X16	up to 32" high	up to 5-0" high	16X16	up to 64" high	up to 12'-0" high
12X16	up to 48" high	up to 9'-0" high	24X16	up to 96" high	up to 15'-0" high

*Top 8" Solid

7. Typical lug footing to be 20"x 10" deep, u.n.o.
8. Poured concrete walls shall be min 10" thick. If retaining under 6' of unballanced fill reinforce wall vertically w/ #4 @16" o.c. and horizontal bars: #4 @ 16" o.c. If retaining over 6' unballanced fill use #4@12" o.c. hooked into footing, and horizontal bars: #4 @ 12" o.c.

C. FRAMING

REV: 12/11/18

1. Crawl space girders are (3) 2x10 #2 spruce/pine/fir, dropped, u.n.o.
2. All framing lumber shall be #2 SPF (modulus of elasticity 1,400,000 psi, fb 950) or better. All beams and treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min #2 or stud grade.
   I joists: min 1-3/4" joist bearing, min 3-1/2" at intermediate supports. Max 3,200 ft-lb moment. EI= 185,000,000, max 1,100# vert. shear, max 1,015# end reaction.
   LVL's to be 2.0E grade, Fb=2850, L/360 max. deflection.
3. Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
4. Provide double top plates in all exterior walls. Stagger joints min 48", w/ (8) 16d.
5. Set all joists and beams with natural camber up. Ends lapped min. 6" over bearing shall be securely spiked together. Provide at least 1-1/2" bearing on all joists and 3" for beams (U.N.O.).
6. All framing exposed to masonry or weather to be pressure treated. Sills min. 2x6.
7. Structural member fastening to conform to Table R602.3(1) and (2).
8. With 2x flooring members, use double joists: A) under parallel partitions; B) under opening multiple jacks C) under tubs if joist spans > 12'. I-joists and floor trusses do not have to be doubled unless shown on the structural plans.
9. Provide 2x6 attic collar ties at 32" O.C. at upper 1/3 of attic space, u.n.o.
10. Studs and joists shall not be cut for plumbing/electrical/mechanical runs without adding strapping to each side per R602.6. Architect/Structural Engineer is not responsible for failures in cut members. Do not cut beams or girders.
11. Balloon frame gable end vaulted walls and all walls higher than 12' w/ 2x6 @16" o.c. or dbl. 2x4 @ 12", or platformed 2x4 with dbl 2x10 band with Simpson CS16 x 36" @ 32" o.c., top studs to bottom studs.
12. All exterior headers to be (2) 2X10 spf u.n.o. w/ dbl. jacks for all openings > 5'-0"
13. All interior bearing headers to be (2) 2X10 u.n.o. w/ dbl. jacks for all openings > 6'-0"
14. All interior non-bearing headers to be min. (2) 2X4 flat u.n.o.
15. Fireblock to conform with R302.11.

WALL BRACING DESIGN SPEC'S

BASED ON 2018 NCSBC

1. THIS HOUSE IS DESIGNED PER R602.10.3 AND TABLE R602.10.1, USING CONTINUOUS SHEATHING METHOD.
2. BASIC WIND SPEED DOES NOT EXCEED 115 (MPH)
3. EAVE TO RIDGE HEIGHT DOES NOT EXCEED 20'-0".
4. EXTERIOR WALLS HAVE BEEN SHEATHED ON ALL SHEATHABLE SURFACES W/ 7/16" OSB INCLUDING WALL AREAS BETWEEN BRACED WALL PANELS, ABOVE AND BELOW OPENINGS, AND ON ALL GABLE END WALLS.NAIL W/ 6d AT 6" O.C. AT PANEL EDGES AND 12" AT INTERMEDIATE SUPPORTS.
5. ALL INTERIOR OF SIDES OF EXTERIOR CS-WSP WALLS ARE CONTINUOUSLY SHEATHED WITH MIN 1/2" THICK GYPSUM WALL BOARD ATTACHED PER NCSBC TABLE R702.3.5
6. GARAGE PORTAL FRAME SPECIFICATIONS USED PER DETAIL #1A ON SHEET AS-2, IF APPLICABLE
7. SPECIAL FRAMING REINFORCEMENT (IF REQUIRED) IS SHOWN ON PLAN WITH A DIAMOND SYMBOL = ◇. THE NUMBER INSIDE SYMBOL DESIGNATES LENGTH OF SIMPSON CS-16 STRAP CONTINUOUS VERTICALLY EITHER
   A) FROM UPPER FLOOR STUDS OVER INTERMEDIATE FLOOR BAND ONTO LOWER FLOOR STUDS BELOW, OR
   B) FROM TOP PLATES OF ONE STORY WALL, DOWN CRIPPLE STUDS AND HEADER END, WITH # IN DIAMOND BEING LENGTH ONTO JACKS BELOW.
   AT FLOOR TO FOUNDATION CONNECTION USE EITHER
   (a) SIMPSON MAS OR MASB
   (b) SIMPSON DTT2Z (1800lb UPLIFT RESISTANCE) W/ (MIN) 1/2" ANCHOR BOLT W/ (MIN) 7" EMBEDMENT.
8. IN LIEU OF THE STRAPPING USE OSB ON BOTH SIDES OF GARAGE WALLS. THIS WILL BE NAILED WITH EITHER 6d DEFORMED OF 8d COMMON NAILS AT 6" O.C. AT EDGES AND 12" O.C. IN FIELD. PER NCRC TABLE R602.3(1).

THESE PLANS ARE SEALED FOR A SINGLE LOT ONLY.

STRUCTURAL DESIGN BY:
MARC W. MILLS, RA
DATE SEALED:
INVALID IF UNSEALED
NORTH CAROLINA LICENSE # 7579
VALID ONLY IF SIGNED IN BLUE

MARC W. MILLS REGISTERED ARCHITECT 7579 NORTH CAROLINA RALEIGH, NC

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR EXPENSES ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION SAVINGS AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © ALL RIGHTS RESERVED. 2019
REPRODUCTION OF THIS SHEET, IN WHOLE OR IN PART, IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

REVISIONS

DATE	BY:	DESCRIPT.

Second Floor Framing
-

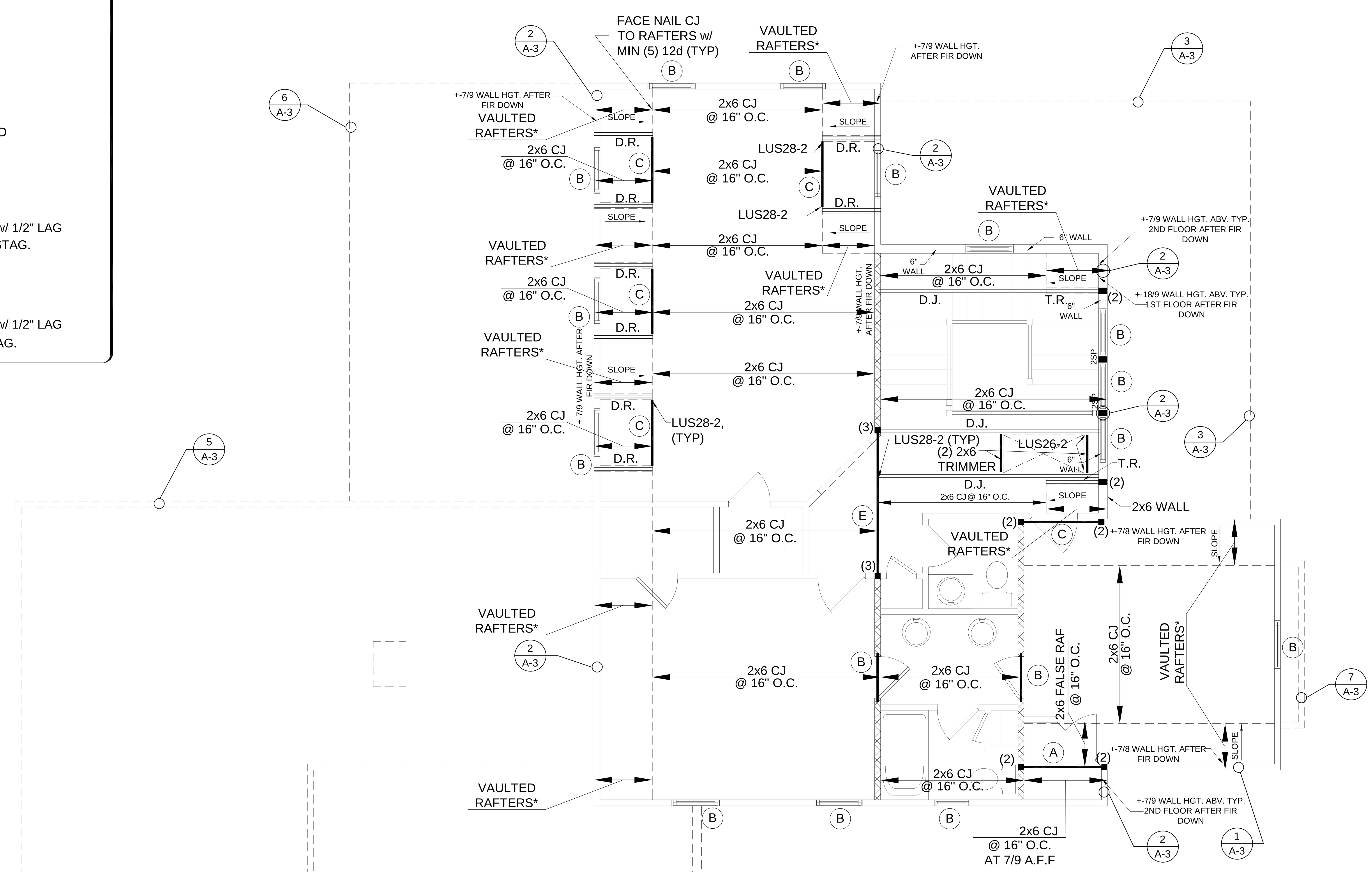
SHEET NO.
AS-2

PLAN NO.
P-01220

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

HEADER SCHEDULE

- (A) (2) 2x10 FLUSH
- (B) (2) 2x10 DROPPED
- (C) (2) 2x8 FLUSH
- (D) (2) 2x8 DROPPED
- (E) (2) 9 1/4" LVL FLUSH
- (F) (2) 9 1/4" LVL DROPPED
- (G) (3) 2x10 DROPPED
- (H) (2) 16" LVL
- (J) W14x26, DROPPED
- (K) (3) 14" LVL DROPPED w/ 1/2" LAG SCREWS @ 18" O.C., STAG.
- (L) (3) 9 1/4" LVL FLUSH
- (M) (3) 2x10 DROPPED
- (N) (4) 18" LVL DROPPED w/ 1/2" LAG BOLTS @ 18" O.C., STAG.



* NOTE: FURR DOWN VAULTED RAFTERS FOR R=30 UNCOMPRESSED BATTS AND 1" VENT. BAFFLE (TYP)

NOTE: ■,☒= INDICATES SIGNIFICANT POINT LOAD, BLOCK SOLID DOWN TO FOUNDATION, PIER, OR SUPPORT BEAM.

WALL FRAMING: MIN. 2x4 SPF #2 @ 16" O.C., UNO

WALL SHEATHING: MIN. 1/2" APA RATED SHEATHING

ROOF SHEATHING: MIN. $\frac{1}{2}$" APA RATED SHEATHING

BRACED WALL PANELS SHALL BE CONNECTED TO ROOF FRAMING PER R602.10.5.5

SECOND FLOOR CEILING FRAMING

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

WALL BRACING REQUIREMENTS

BASED ON 2018 NC RESIDENTIAL CODE SECTION R602.10

1. METHOD USED: 2018 INTERNATIONAL RESIDENTIAL CODE (ALL CODE REFERENCES REFER TO 2018 NCRC).
2. BRACING MATERIALS & METHODS SHALL COMPLY WITH SECTION R602.10.1 AND LOAD PATH DETAILING IN ACCORDANCE WITH SECTION R602.10.4.
3. WALL FRAMING SHALL BE CONSTRUCTED PER R602.3(1).
4. EXTERIOR WALL BRACING, UNLESS SPECIFIED OTHERWISE, SHALL BE CONTINUOUS SHEATHING METHOD (CS-WSP) AS SPECIFIED IN TABLE R602.10.1 W/ 6d COMMON NAILS (OR EQUAL) @ 6" OC AT PANEL EDGES & 12" O.C. AT PANEL INTERMEDIATE SUPPORTS.
5. INTERIOR WALL BRACING PANELS, UNLESS SPECIFIED OTHERWISE, SHALL BE GYPSUM BOTH SIDES (GB) AS SPECIFIED IN TABLE R602.10.1.
6. EXTERIOR AND INTERIOR BRACED WALL PANELS, IF SPECIFIED, SHALL BE ATTACHED TOP AND BOTTOM PER SECTION R602.10.4.4 AND FIGURES R602.10.4.4(1) OR R602.10.4.4(2).
7. EXTERIOR WALL BRACING PORTAL FRAMES, IF SPECIFIED WITHOUT HOLD DOWNS, SHALL BE INSTALLED PER FIGURE R602.10.1 OR ALTERNATE DETAIL PROVIDED.

OPENING KING STUD REQUIREMENTS

PER NCRC TABLE R602.3(5) FOOTNOTE d

1. HEADERS IN NON LOAD BEARING WALLS ARE NOT LABELED.
2. KING STUDS EXTERIOR WALLS:
   SINGLE KING STUDS FOR 6'-0" MAX. OPENING.
   DOUBLE KING STUDS FOR 10'-0" MAX. OPENING.
   TRIPLE KING STUDS FOR 14'-0" MAX. OPENING.
   QUAD KING STUDS FOR 18'-0" MAX. OPENING.
3. FOR 2x6 STUD WALLS, ON HALF THE AMOUNT OF KING STUDS REQUIRED (ROUND UP) U.N.O.
4. FOR PORTAL FRAME WALL REFER TO DETAIL #1 SHEET D-4.
5. FOR WINDOW GROUPS DIVIDED BY STUD POCKETS, DOUBLE CRIPPLE STUDS IN LINE WITH STUD POCKETS. END KING STUDS ARE THEN DETERMINED BY THIS CHART AS LAST OPENING ON EITHER SIDE.

NOTE:2

STRUCTURAL NOTES

REV: 12/11/18

A. GENERAL NOTES

1. Contractors assumes all responsibility for deviating from depicted or implied structural information. Architect/Structural Engineer must be notified immediately about alternate construction or problem areas before contractor proceeds.
2. Only sealed drawing with latest revisions are applicable for construction.
3. All construction, workmanship, and materials to comply with 2018 N.C. State Residential Code and local regulations.
4. Design Loads:

Structural System	L.L.	D.L.	T.L.	Structural System	L.L.	D.L.	T.L.
Dwelling Units (general)	40	10	50	Stairs	40	5	45
Sleeping Rooms	30	10	40	Guardrails and Handrails	200		200
Balconies(exterior)	60	10	70	Roof Systems	20	10	30
Decks	40	10	50	Cathedral Ceilings	20	15	35
Attics(limited attic storage)	10	10	20	Internal Partition Walls		9	9
Attics(with storage)	20	10	30	Passenger Garage	50	per eng.	
Attics(with fixed stairways)	40	10	50				

5. Deflection: Floors: L/360, Roofs: L/240, L/480 for engineered flooring and under tiled areas, L/600 for vertical masonry support.
6. Do not scale drawings. Contractor shall contact architect for queries on non-labeled items.
7. Owner or builder is responsible for information on soil bearing capacity, min. assumed = 2,000 psf.

B. FOOTINGS AND FOUNDATION

1. Minimum Spread Footing Sizes: (28 day strength: min 2500 psi)

Stories	Wood Frame		Wood Frame + Face Brick		8" Masonry	
	Min. Ftg Width	Min. Ftg Depth	Min. Ftg Width	Min. Ftg Depth	Min. Ftg Width	Min. Ftg Depth
1	16"	8"	16"	8"	18"	8"
2	16"	8"	20"	8"	24"	10"
3	18"	10"	24"	10"	32"	12"

Footings shall be min 2" wider overhang on each side than the foundation above. Minimum footing depth 12" below grade, u.n.o. Footings for close adjacent piers can be combined.

2. Girders and piers shall bear on center 1/3 of pier and footing optimally , but no less than 4" from pier or footing edge.
3. Maximum height of unbalanced fill and reinforcing to conform with Tables R404.1.1(2), (3), (4). with variables of: total wall height, and soil classification. Amount and placement of rebars are per tables.
4. Multiple wythe masonry walls shall have galvanized ties every 24" max. vertical and 36" horizontal.
5. Anchor bolts to be min. 1/2" dia. @ 6'-0"max. o.c. and max 12" from corners, and splices. Bolts shall extend min. 7" into concrete or masonry. Compression type anchors can be substituted in a case where an occasional anchor bolt is missing or misplaced.
6. Concrete Pier Sizes: (Note: the larger of the two chart's requirements governs)

Size	Hollow Masonry*	Solid Masonry	Size	Hollow Masonry*	Solid Masonry
8X16	up to 32" high	up to 5-0" high	16X16	up to 64" high	up to 12'-0" high
12X16	up to 48" high	up to 9'-0" high	24X16	up to 96" high	up to 15'-0" high

*Top 8" Solid

7. Typical lug footing to be 20"x 10" deep, u.n.o.
8. Poured concrete walls shall be min 10" thick. If retaining under 6' of unballanced fill reinforce wall vertically w/ #4 @16" o.c. and horizontal bars: #4 @ 16" o.c. If retaining over 6' unballanced fill use #4@12" o.c. hooked into footing, and horizontal bars: #4 @ 12" o.c.

C. FRAMING

REV: 12/11/18

1. Crawl space girders are (3) 2x10 #2 spruce/pine/fir, dropped, u.n.o.
2. All framing lumber shall be #2 SPF (modulus of elasticity 1,400,000 psi, fb 950) or better. All beams and treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min #2 or stud grade.
   I joists: min 1-3/4" joist bearing, min 3-1/2" at intermediate supports. Max 3,200 ft-lb moment. EI= 185,000,000, max 1,100# vert. shear, max 1,015# end reaction.
   LVL's to be 2.0E grade, Fb=2850, L/360 max. deflection.
3. Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
4. Provide double top plates in all exterior walls. Stagger joints min 48", w/ (8) 16d.
5. Set all joists and beams with natural camber up. Ends lapped min. 6" over bearing shall be securely spiked together. Provide at least 1-1/2" bearing on all joists and 3" for beams (U.N.O.).
6. All framing exposed to masonry or weather to be pressure treated. Sills min. 2x6.
7. Structural member fastening to conform to Table R602.3(1) and (2).
8. With 2x flooring members, use double joists: A) under parallel partitions; B) under opening multiple jacks C) under tubs if joist spans > 12'. I-joists and floor trusses do not have to be doubled unless shown on the structural plans.
9. Provide 2x6 attic collar ties at 32" O.C. at upper 1/3 of attic space, u.n.o.
10. Studs and joists shall not be cut for plumbing/electrical/mechanical runs without adding strapping to each side per R602.6. Architect/Structural Engineer is not responsible for failures in cut members. Do not cut beams or girders.
11. Balloon frame gable end vaulted walls and all walls higher than 12' w/ 2x6 @16" o.c. or dbl. 2x4 @ 12", or platformed 2x4 with dbl 2x10 band with Simpson CS16 x 36" @ 32" o.c., top studs to bottom studs.
12. All exterior headers to be (2) 2X10 spf u.n.o. w/ dbl. jacks for all openings > 5'-0"
13. All interior bearing headers to be (2) 2X10 u.n.o. w/ dbl. jacks for all openings > 6'-0"
14. All interior non-bearing headers to be min. (2) 2X4 flat u.n.o.
15. Fireblock to conform with R302.11.

REV: 12/11/18

17. Roof Framing Notes:
   a. Double hips may be spliced with a minimum 6'0" overlap at center. No valley splices.
   b. Use 2x10 or fir down rafters for vaulted areas.
   c. Attach vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal.
   d. Align all rafters under studs below.
18. Brick above low roofs to have triple rafter at low roof with L4"x3-1/2"x1/4" and 16d nails @12" o.c. Low end to have 3"x3"x1/4" welded plate dam.
19. All point loads to be columned/blocked (though joists) down to foundation.
20. Hanger Schedule (Simpson hangers) for beam to beam connections (unless noted otherwise):
   -(2) 2X10: LUS210-2 -(3) 2X10: LUS210-3 -(2) 9-1/4" LVL: HUS410
21. Deck posts min 4'-0" above grade are to be knee or diagonally braced per Appendix M. Fastening to house will be by nailer with 5/8" bolts @ 20" o.c. and (3) 12d hot dipped galv. @ 6" o.c.
22. Truss drawings must be sealed by the truss manufacturer and reviewed by Planworx Architecture. Truss drawings to design and document all required beams, hangers, and point load reactions. Truss drawing package to supply all information required under R502.11.4.
23. Corners shall be braced with one of the approved methods as outlines in R602.10.3.
24. Multiple LVL's up to a 3-ply shall be connected by min. 3-16d nails per row 12" on center on each side. Also, for double 14" LVL's or deeper, connect beams with min. 4-10d nails per row at 12" on center. (unless noted otherwise) Please refer to manufacturer specifications for further instructions for proper nailing on specific products. All 4-ply LVL's shall be through bolted with 1/2" bolts @ 18" O.C. staggered or 5/8" bolts @ 24" O.C. staggered

D. STEEL

1. BRICK VENEER LINTEL ATTACHMENT:
   Use Min. (2) 7/16X4" lag screws into double studs @ 16" o.c.
2. All bolts shall be high strength conforming to ASTM A-325.
3. Structural steel shall be ASTM grade A-36 supported across full width of flange. Provide min. 3-1/2" bearing, or more if indicated. Steel beams shall be anchored at each end with min. (4) 16d nails or (2) 1/2" x 4" lag bolts and laterally supported.
4. Flitch beams to be fastened together using 1/2 inch diameter A307 bolts with washers under threaded end of bolt, square washers preferred. Bolts will be spaced at 24" maximum staggered top and bottom of beam.

THESE PLANS ARE SEALED FOR A SINGLE LOT ONLY.

STRUCTURAL DESIGN BY:
MARC W. MILLS, RA
DATE SEALED:
INVALID IF UNSEALED
NORTH CAROLINA LICENSE # 7579
VALID ONLY IF SIGNED IN BLUE

MARC W. MILLS REGISTERED ARCHITECT 7579 NORTH CAROLINA RALEIGH, NC

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR EXPENSES ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION SAVINGS AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © ALL RIGHTS RESERVED. 2019
REPRODUCTION OF THIS SHEET, IN WHOLE OR IN PART, IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

REVISIONS

DATE	BY:	DESCRIPT.

Second Floor Ceiling Framing

SHEET NO. AS-3

PLAN NO. P-01220

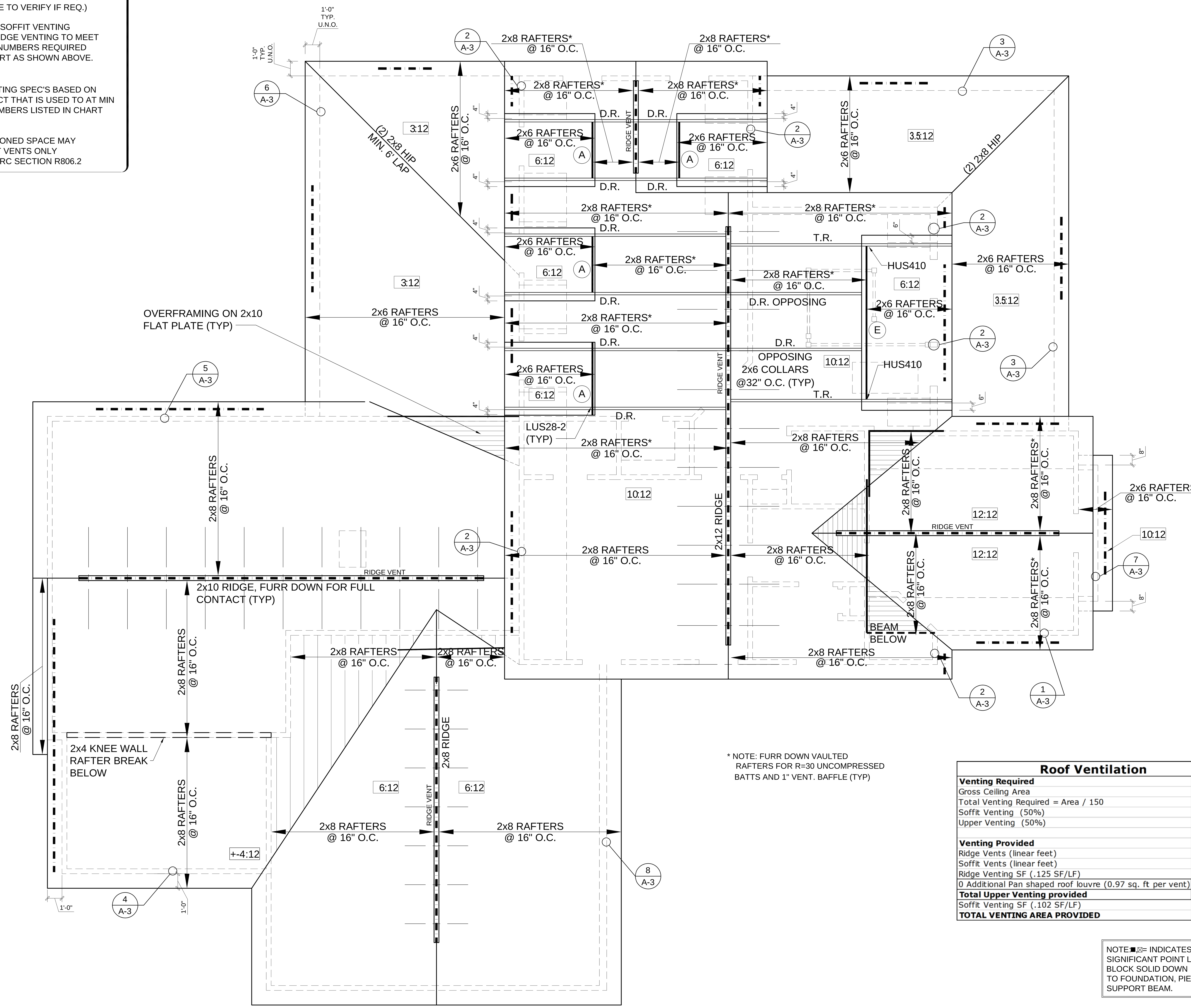
= LOCATIONS OF PAN TYPE ROOF LOUVERS FOR ADDITIONAL UPPER VENTILATION (SEE TABLE ABOVE TO VERIFY IF REQ.)

= LOCATIONS OF SOFFIT VENTING AND RIDGE VENTING TO MEET AREA NUMBERS REQUIRED IN CHART AS SHOWN ABOVE.

NOTES:

1) BUILDER TO VERIFY VENTING SPEC'S BASED ON MANUFACTURES PRODUCT THAT IS USED TO AT MIN MEET THE REQUIRED NUMBERS LISTED IN CHART ABOVE.

2) ROOFS OVER UNCONDITIONED SPACE MAY BE VENTED WITH SOFFIT VENTS ONLY PER EXCEPTION #2 IN NCRC SECTION R806.2



* NOTE: FURR DOWN VAULTED RAFTERS FOR R=30 UNCOMPRESSED BATTS AND 1" VENT. BAFFLE (TYP)

ROOF FRAMING

22X34 PRINTS SCALE: 1/4"=1'-0"
11x17 PRINTS SCALE: 1/8"=1'-0"

Roof Ventilation

Venting Required	
Gross Ceiling Area	**2,554**
Total Venting Required = Area / 150	17.0
Soffit Venting (50%)	8.5
Upper Venting (50%)	8.5
Venting Provided	
Ridge Vents (linear feet)	**90**
Soffit Vents (linear feet)	**111**
Ridge Venting SF (.125 SF/LF)	11.3
0 Additional Pan shaped roof louvre (0.97 sq. ft per vent)	0
Total Upper Venting provided	**11.3**
Soffit Venting SF (.102 SF/LF)	11.3
TOTAL VENTING AREA PROVIDED	**22.6**

NOTE: ■,⊠= INDICATES SIGNIFICANT POINT LOAD, BLOCK SOLID DOWN TO FOUNDATION, PIER, OR SUPPORT BEAM.

WALL FRAMING: MIN. 2x4 SPF #2 @ 16" O.C., UNO

WALL SHEATHING: MIN. 1/2" APA RATED SHEATHING

ROOF SHEATHING: MIN. 1/2" APA RATED SHEATHING

BRACED WALL PANELS SHALL BE CONNECTED TO ROOF FRAMING PER R602.10.5.5

STRUCTURAL NOTES

REV: 12/11/18

A. GENERAL NOTES

1. Contractors assumes all responsibility for deviating from depicted or implied structural information. Architect/Structural Engineer must be notified immediately about alternate construction or problem areas before contractor proceeds.
2. Only sealed drawing with latest revisions are applicable for construction.
3. All construction, workmanship, and materials to comply with 2018 N.C. State Residential Code and local regulations.
4. Design Loads:

Structural System	L.L.	D.L.	T.L.	Structural System	L.L.	D.L.	T.L.
Dwelling Units (general)	40	10	50	Stairs	40	5	45
Sleeping Rooms	30	10	40	Guardrails and Handrails	200		200
Balconies(exterior)	60	10	70	Roof Systems	20	10	30
Decks	40	10	50	Cathedral Ceilings	20	15	35
Attics(limited attic storage)	10	10	20	Internal Partition Walls		9	9
Attics(with storage)	20	10	30	Passenger Garage	50	per eng.	
Attics(with fixed stairways)	40	10	50				

5. Deflection: Floors: L/360, Roofs: L/240, L/480 for engineered flooring and under tiled areas, L/600 for vertical masonry support.
6. Do not scale drawings. Contractor shall contact architect for queries on non-labeled items.
7. Owner or builder is responsible for information on soil bearing capacity, min. assumed = 2,000 psf.

B. FOOTINGS AND FOUNDATION

1. Minimum Spread Footing Sizes: (28 day strength: min 2500 psi)

Stories	Wood Frame		Wood Frame + Face Brick		8" Masonry	
	Min. Ftg Width	Min. Ftg Depth	Min. Ftg Width	Min. Ftg Depth	Min. Ftg Width	Min. Ftg Depth
1	16"	8"	16"	8"	18"	8"
2	16"	8"	20"	8"	24"	10"
3	18"	10"	24"	10"	32"	12"

Footings shall be min 2" wider overhang on each side than the foundation above. Minimum footing depth 12" below grade, u.n.o. Footings for close adjacent piers can be combined.

2. Girders and piers shall bear on center 1/3 of pier and footing optimally , but no less than 4" from pier or footing edge.
3. Maximum height of unbalanced fill and reinforcing to conform with Tables R404.1.1(2), (3), (4). with variables of: total wall height, and soil classification. Amount and placement of rebars are per tables.
4. Multiple wythe masonry walls shall have galvanized ties every 24" max. vertical and 36" horizontal.
5. Anchor bolts to be min. 1/2" dia. @ 6'-0"max. o.c. and max 12" from corners, and splices. Bolts shall extend min. 7" into concrete or masonry. Compression type anchors can be substituted in a case where an occasional anchor bolt is missing or misplaced.
6. Concrete Pier Sizes: (Note: the larger of the two chart's requirements governs)

Size	Hollow Masonry*	Solid Masonry	Size	Hollow Masonry*	Solid Masonry
8X16	up to 32" high	up to 5-0" high	16X16	up to 64" high	up to 12'-0" high
12X16	up to 48" high	up to 9'-0" high	24X16	up to 96" high	up to 15'-0" high

*Top 8" Solid

7. Typical lug footing to be 20"x 10" deep, u.n.o.
8. Poured concrete walls shall be min 10" thick. If retaining under 6' of unballanced fill reinforce wall vertically w/ #4 @16" o.c. and horizontal bars: #4 @ 16" o.c. If retaining over 6' unballanced fill use #4@12" o.c. hooked into footing, and horizontal bars: #4 @ 12" o.c.

C. FRAMING

REV: 12/11/18

1. Crawl space girders are (3) 2x10 #2 spruce/pine/fir, dropped, u.n.o.
2. All framing lumber shall be #2 SPF (modulus of elasticity 1,400,000 psi, fb 950) or better. All beams and treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min #2 or stud grade.
I joists: min 1-3/4" joist bearing, min 3-1/2" at intermediate supports. Max 3,200 ft-lb moment. EI= 185,000,000, max 1,100# vert. shear, max 1,015# end reaction.
LVL's to be 2.0E grade, Fb=2850, L/360 max. deflection.
3. Use hangers for all beam to beam connections. Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
4. Provide double top plates in all exterior walls. Stagger joints min 48", w/ (8) 16d.
5. Set all joists and beams with natural camber up. Ends lapped min. 6" over bearing shall be securely spiked together. Provide at least 1-1/2" bearing on all joists and 3" for beams (U.N.O.).
6. All framing exposed to masonry or weather to be pressure treated. Sills min. 2x6.
7. Structural member fastening to conform to Table R602.3(1) and (2).
8. With 2x flooring members, use double joists: A) under parallel partitions; B) under opening multiple jacks C) under tubs if joist spans > 12'. I-joists and floor trusses do not have to be doubled unless shown on the structural plans.
9. Provide 2x6 attic collar ties at 32" O.C. at upper 1/3 of attic space, u.n.o.
10. Studs and joists shall not be cut for plumbing/electrical/mechanical runs without adding strapping to each side per R602.6. Architect/Structural Engineer is not responsible for failures in cut members. Do not cut beams or girders.
11. Balloon frame gable end vaulted walls and all walls higher than 12' w/ 2x6 @16" o.c. or dbl. 2x4 @ 12", or platformed 2x4 with dbl 2x10 band with Simpson CS16 x 36" @ 32" o.c., top studs to bottom studs.
12. All exterior headers to be (2) 2X10 spf u.n.o. w/ dbl. jacks for all openings > 5'-0"
13. All interior bearing headers to be (2) 2X10 u.n.o. w/ dbl. jacks for all openings > 6'-0"
14. All interior non-bearing headers to be min. (2) 2X4 flat u.n.o.
15. Fireblock to conform with R302.11.

REV: 12/11/18

17. Roof Framing Notes:
   a. Double hips may be spliced with a minimum 6'0" overlap at center. No valley splices.
   b. Use 2x10 or fir down rafters for vaulted areas.
   c. Attach vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal.
   d. Align all rafters under studs below.
18. Brick above low roofs to have triple rafter at low roof with L4"x3-1/2"x1/4" and 16d nails @12" o.c. Low end to have 3"x3"x1/4" welded plate dam.
19. All point loads to be columned/blocked (though joists) down to foundation.
20. Hanger Schedule (Simpson hangers) for beam to beam connections (unless noted otherwise): -(2) 2X10: LUS210-2 -(3) 2X10: LUS210-3 -(2) 9-1/4" LVL: HUS410
21. Deck posts min 4'-0" above grade are to be knee or diagonally braced per Appendix M. Fastening to house will be by nailer with 5/8" bolts @ 20" o.c. and (3) 12d hot dipped galv. @ 6" o.c.
22. Truss drawings must be sealed by the truss manufacturer and reviewed by Planworx Architecture. Truss drawings to design and document all required beams, hangers, and point load reactions. Truss drawing package to supply all information required under R502.11.4.
23. Corners shall be braced with one of the approved methods as outlines in R602.10.3.
24. Multiple LVL's up to a 3-ply shall be connected by min. 3-16d nails per row 12" on center on each side. Also, for double 14" LVL's or deeper, connect beams with min. 4-10d nails per row at 12" on center. (unless noted otherwise) Please refer to manufacturer specifications for further instructions for proper nailing on specific products. All 4-ply LVL's shall be through bolted with 1/2" bolts @ 18" O.C. staggered or 5/8" bolts @ 24" O.C. staggered

D. STEEL

1. BRICK VENEER LINTEL ATTACHMENT:
   Use Min. (2) 7/16X4" lag screws into double studs @ 16" o.c.
2. All bolts shall be high strength conforming to ASTM A-325.
3. Structural steel shall be ASTM grade A-36 supported across full width of flange. Provide min. 3-1/2" bearing, or more if indicated. Steel beams shall be anchored at each end with min. (4) 16d nails or (2) 1/2" x 4" lag bolts and laterally supported.
4. Flitch beams to be fastened together using 1/2 inch diameter A307 bolts with washers under threaded end of bolt, square washers preferred. Bolts will be spaced at 24" maximum staggered top and bottom of beam.

THESE PLANS ARE SEALED FOR A SINGLE LOT ONLY.

STRUCTURAL DESIGN BY:
MARC W. MILLS, RA
DATE SEALED:
INVALID IF UNSEALED
NORTH CAROLINA LICENSE # 7579
VALID ONLY IF SIGNED IN BLUE

MARC W. MILLS REGISTERED ARCHITECT 7579 NORTH CAROLINA RALEIGH, NC

GENERAL NOTES:
1. ALL DRAWINGS ARE TO BE COORDINATED WITH ALL SITE INFORMATION BY OWNER AND CONTRACTOR, AND APPLICABLE CODES.
2. CONTRACTOR IS TO NOTIFY DESIGNER IMMEDIATELY OF CONDITIONS OR ITEMS VARYING FROM DEPICTED INFORMATION.
3. GABRIEL DESIGN IS NOT RESPONSIBLE FOR CONSTRUCTED VARIATIONS FROM THE INFORMATION DEPICTED.
4. GABRIEL DESIGN WILL NOT ASSUME ANY LIABILITY FOR EXPENSES ASSOCIATED WITH ERRORS AND OMISSIONS ON THESE DRAWINGS UNLESS OFFSET BY VERIFIED CONSTRUCTION SAVINGS AS A RESULT OF DESIGNER.
5. GABRIEL DESIGN RETAINS OWNERSHIP OF ALL OF DESIGNS DEPICTED AND IMPLIED HEREIN.
6. GABRIEL DESIGN IS NOT RESPONSIBLE FOR ESTIMATING, MAINTAINING, OR REGULATING CONSTRUCTION COSTS ASSOCIATED WITH THESE PLANS.

COPYRIGHT © ALL RIGHTS RESERVED. 2019
REPRODUCTION OF THIS SHEET, IN WHOLE OR IN PART, IS STRICTLY PROHIBITED.
PLANS MAY BE USED ONCE BY CLIENT, UNAUTHORIZED USE STRICTLY PROHIBITED.

gabriel design
pwx architecture
raleigh, nc
email:gabereyesdesign@gmail.com
phone: (919) 491-5855

Glenwood Builders
New Home Plan
88 Florence Pines Lot 4
Fuquay Varina, NC - Permit Set

PROGRESS DATE:	
ISSUE DATE:	04-14-20
DRAWN BY	GR
CHECKED BY	MM

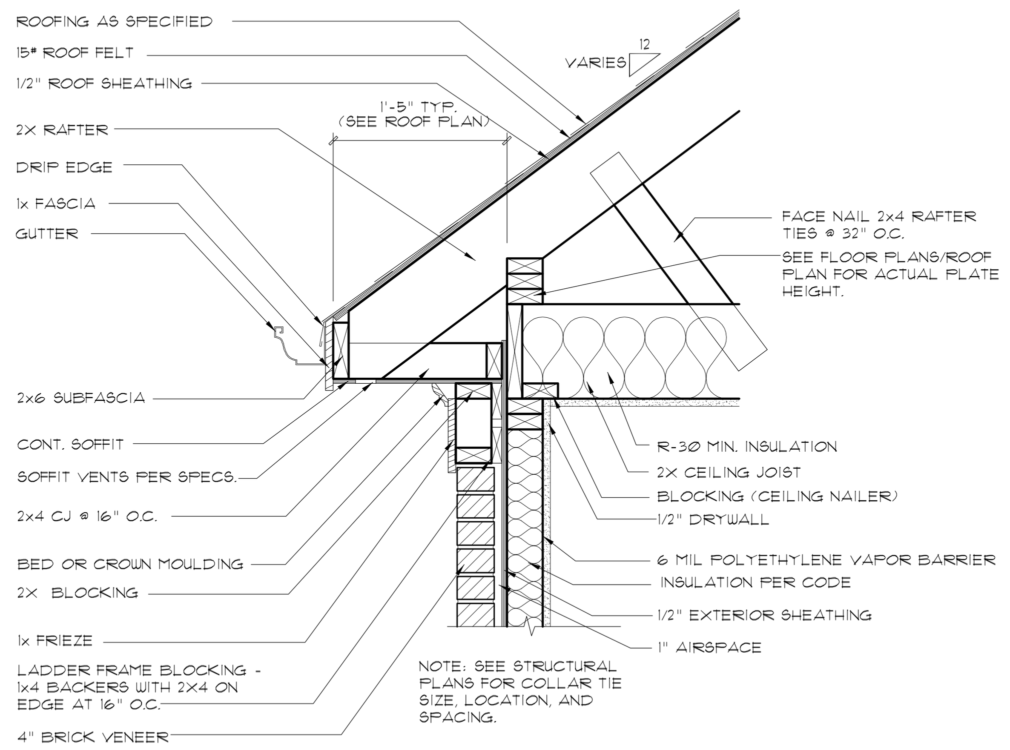
REVISIONS

DATE	BY:	DESCRIPT.

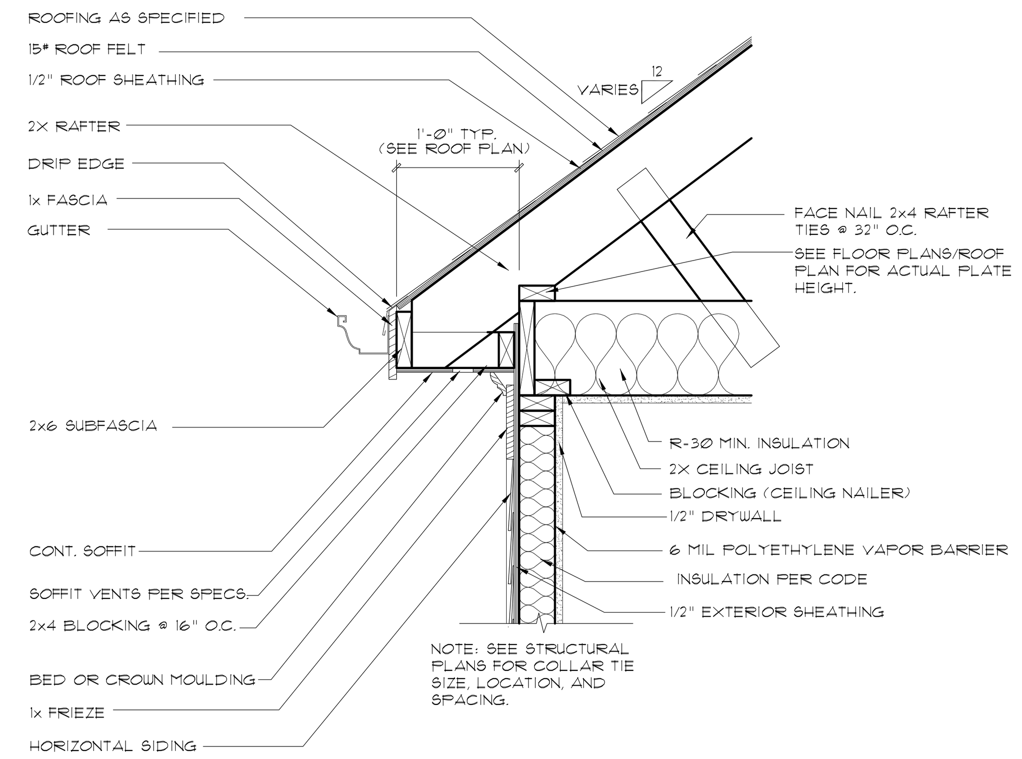
Roof Framing
-

SHEET NO.
AS-4

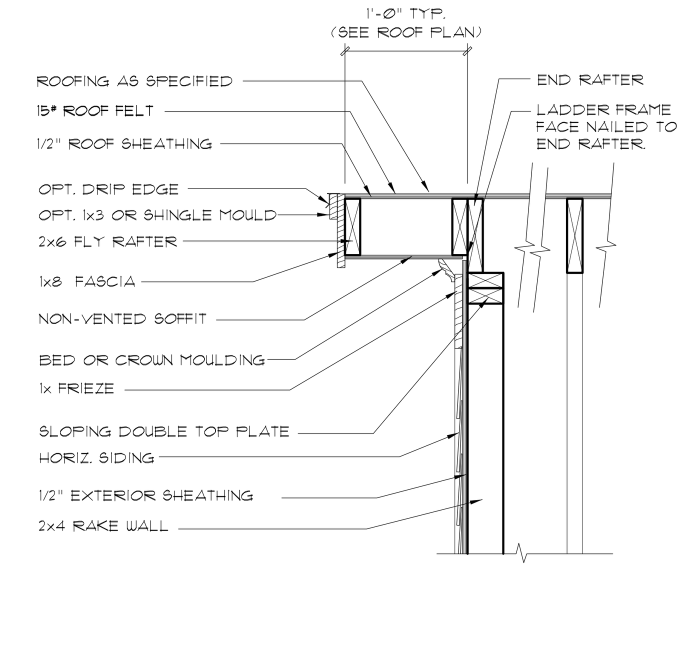
PLAN NO.
P-01220



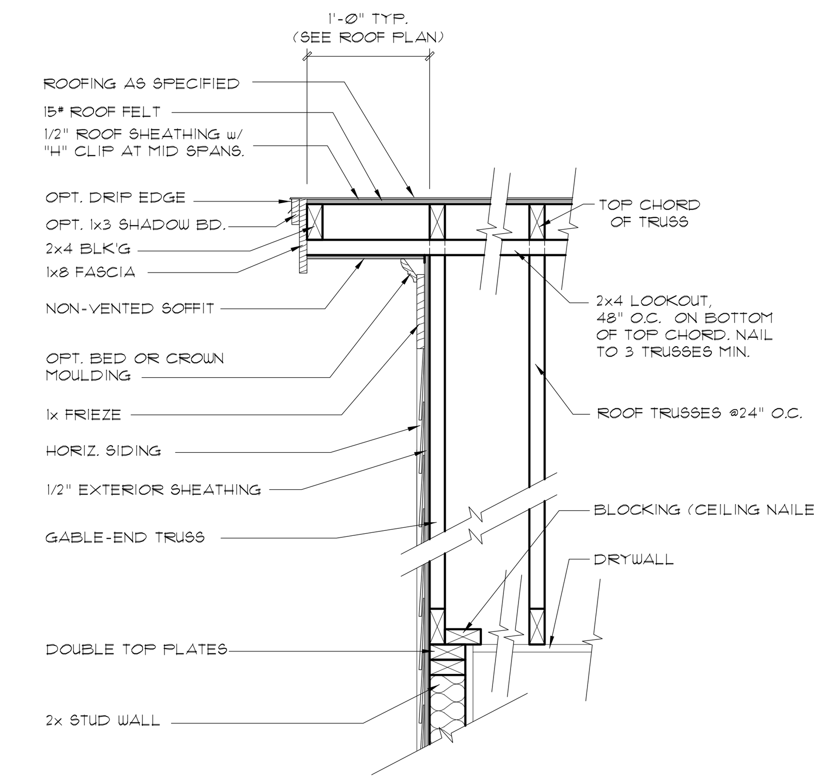
-- CORNICE AT BRICK
1"=1'-0"
DT0051



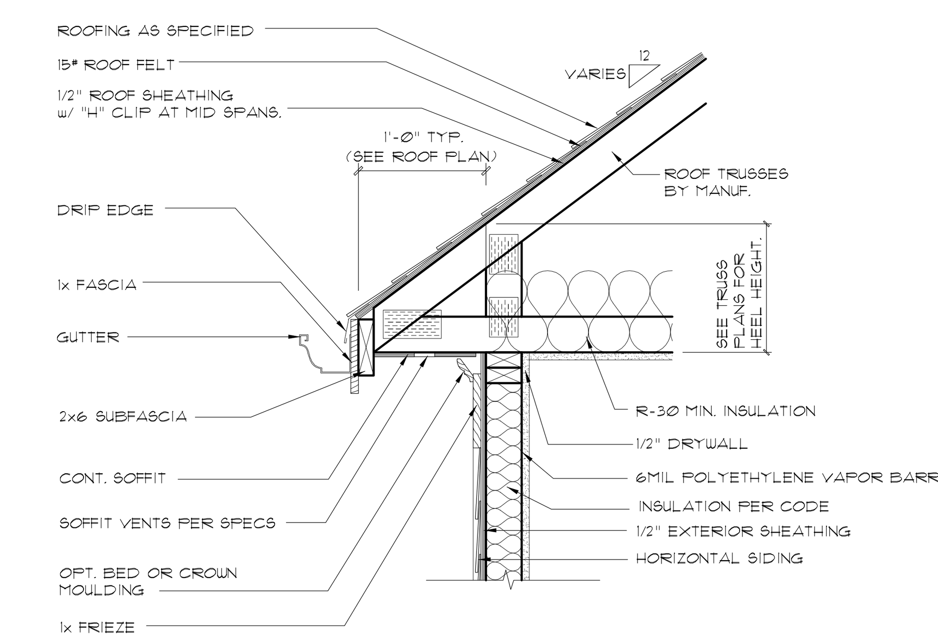
-- CORNICE AT SIDING
1"=1'-0"
DT0014



-- RAKE OVERHANG - STICK
1"=1'-0"
DT0039



-- RAKE OVERHANG - TRUSSES
1"=1'-0"
DT0040



-- TYP. CORNICE - TRUSSES
1"=1'-0"
DT0041

ARCHITECTURAL NOTES

1) AT LEAST ONE OPERABLE WINDOW IN EACH BEDROOM SHALL BE EGRESS APPROVED, WITH MIN. 4.0 S.F. NET CLEAR OPENING. IN ADDITION, MIN. GLASS AREA TO BE 5.0 S.F. (GROUND FLOOR) AND 5.7 S.F. (UPPER FLOOR).

2) STAIRS TO HAVE MIN. 6'-8" CLEAR HEADROOM MEASURED FROM THE SLOPE TANGENT TO THE NOSINGS. MAX. 8 1/4" RISER, MIN. 9" TREAD. PROVIDE HANDRAIL ON AT LEAST ONE SIDE, 30-38" HIGH ABOVE NOSINGS.

3) PORCHES, BALCONIES, OR RAISED EXTERIOR FLOOR SURFACES MORE THAN 30" ABOVE FLOOR OR GRADE TO HAVE MIN. 36" HIGH GUARDRAIL. MAXIMUM BALUSTRADE CLEAR OPENING TO BE 4".

4) PRESSURE TREATED LUMBER SHALL BE USED IN THE FOLLOWING LOCATIONS:
A) WOOD JOISTS WITHIN 18" OF EXPOSED GROUND;
B) WOOD GIRDERS WITHIN 12" OF EXPOSED GROUND;
C) WOOD IN CONTACT WITH CONCRETE OR MASONRY;
D) SIDING WITHIN 6" OF THE GROUND;
E) WOOD EXPOSED TO WEATHER.

5) CONCRETE STRENGTHS (28 DAYS):
A) BASEMENT SLABS AND INTERIOR SLABS: 2,500 PSI
B) FOUNDATIONS, GARAGE SLABS, EXTERIOR SLABS: 3,000 PSI AIR-ENT.

6) PROVIDE MINIMUM 18"x24" ACCESS CRAWL HOLE WITH HINGED OR REMOVABLE PANEL INTO CRAWL SPACE.

7) FIRESTOP WITH CODE APPROVED MATERIALS AT ALL FLOOR/WALL INTERSECTIONS, SOFFITS, DROPPED CEILINGS, AND BETWEEN STRINGERS AT TOP AND BOTTOM OF RUN. PLACE APPROVED NON-COMBUSTIBLE FILLERS AT PENETRATIONS (FOR PIPES, DUCTS, ETC.) OF FLOOR/CEILING ASSEMBLIES AND THROUGH RATED PARTITIONS.

8) INSTALL WATER-RESISTANT GYPSUM BOARD BEHIND ALL TUB AND SHOWER WALLS, AND AT SHOWER CEILING.

9) FLASH AT THE FOLLOWING LOCATIONS (AT MINIMUM):
A) VALLEY FLASH MIN. 12" UP EACH SLOPE, AND INSTALL SPLASH DIVERTER RIB;
B) STEP FLASH AT ROOF/WALL INTERSECTIONS, MIN. 8" VERTICALLY;
C) COLLAR OR STEP FLASH AT ALL ROOF PENETRATIONS;
D) UNDER BRICK INSTALLED ON TOP OF ROOF SURFACE;
E) UNDER EXTERIOR FINISH MATERIAL AT ADJOINING DECK SURFACE.
F) WINDOW/DOOR HEADS
G) SILLS AND THRESHOLDS
H) MASONRY/FRAME WALL INTERSECTIONS
I) OTHER AREAS AS PER PROPER CONSTRUCTION PRACTICE

10) EXHAUST DRYERS, BATHROOMS, AND RANGES TO EXTERIOR WITH PROPER TERMINUS.

11) PROVIDE THE MINIMUM INSULATION LEVELS, REQUIRED IN ALL ZONE 7 AREAS AS APPLICABLE (IRC TABLE N1102.1):

AREA	MIN. R-VALUE
WALLS	R-19
CEILINGS/ROOF	R-30/38
FLOOR	R-19
SLABS ON GRADE	MAY VARY

12) ALL FINISHES ARE TO BE SELECTED BY OWNER OR BUILDER U.N.O.

13) CABINETS/CASEWORK TO BE DESIGNED BY OTHERS. CABINET DESIGNER SHALL FIELD MEASURE AREA OF WORK AFTER DRYWALL INSTALLATION FOR PROPER FITTING.

14) TEMPERED GLASS SHALL BE INSTALLED BY CODE IN THE FOLLOWING LOCATIONS:
A. DOOR GLAZING AND SIDELIGHTS;
B. GLAZING FOR BATHROOM FIXTURE ENCLOSURES (SHOWERS, ETC.);
C. GLAZING LESS THAN 60" ABOVE TUB & SHOWER DRAINS;
D. GLAZING WITHIN 24" OF AN ADJACENT DOOR W/ SILL <60"
E. GLAZING >9 S.F., AND SILL <18" AND TOP EDGE >36" AND WHERE WALKING SURFACES ARE WITHIN 36" HORIZONTALLY OF GLAZING

15) ALL ANGLED FLOOR PLAN WALLS ARE 45 DEGREES U.N.O.

PLUMBING:

1) PLUMBING FIXTURES SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN SECTION IN CURRENT PLUMBING CODE NC

2) SHOWER RECEPTORS SHALL BE OF SHEETS OF LEAD, COPPER, PVC (COMPLING W/ ASTM D 4551), OR CPE (COMPLING W/ ASTM D 4068) AND WILL COMPLY WITH 417.5 OF THE IPC

3) MATERIALS:
DOMESTIC HOT AND COLD WATER PIPING: TYPE L COPPER WITH WROUGHT COPPER SOLDER JOINTS
DOMESTIC WATER SUPPLY TO METER: TYPE M COPPER
SANITARY PIPING: CAST IRON
VENT PIPING: SCHEDULE 80 PVC

4) MINIMUM PIPE/TRAP SIZING:

	COLD WATER	HOT WATER	TRAP	WASTE	VENT
WATER CLOSET	1/2"	--	INTERNAL	3"	2"
LAVATORIES	1/2"	1/2"	1-1/4"	2"	1-1/2"
SINKS	1/2"	1/2"	1-1/2"	2"	1-1/2"
BATHTUBS	1/2"	1/2"	1-1/2"	2"	1-1/2"
SHOWERS	1/2"	1/2"	2"	2"	1-1/2"
URINALS	1/2"	--	INTERNAL	2"	2"
DISHWASHER	--	1/2"	1-1/2"	1-1/2"	1-1/2"
BIDET	1/2"	3/8"	1-1/4"	2"	1-1/2"

5) ALL FIXTURES SHALL HAVE SHUT-OFF VALVES AT THE FIXTURE.

6) LAVATORY AND SINK FAUCETS SHALL DELIVER MAX. 2.2 GPM @60 PSI. WATER CLOSETS SHALL BE 1.6 GALLONS MAX. PER FLUSH.

7) ALL PLUMBING LINES IN EXTERIOR WALLS OR IN CONCEALED SPACES AROUND UNHEATED AREAS OR EXPOSED UNHEATED AREA TO BE INSULATED MINIMALLY WITH R=5 BATTS.

8) PLUMBING FIXTURES SHALL BE SET AND TESTED BY THE PLUMBING CONTRACTOR. ALL WATER LINES SHALL BE TESTED UNDER 15 PSI AIR PRESSURE FOR 14 HOURS, AND 30 PSI FOR 30 MINUTES, WITHOUT APPRECIABLE DROP, OR ELSE, REPAIR AND RETEST.

ELECTRICAL:

1) ALL ELECTRICAL DESIGN AND INSTALLATION IS TO CONFORM TO THE NATIONAL ELECTRICAL CODE, LATEST EDITION. ALL EQUIPMENT SHALL BE U.L. LABELED.

2) ALL SWITCHES TO BE MOUNTED 3'-10" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.

3) INSTALL CONVENIENCE OUTLETS AT 18" ABOVE FINISHED FLOOR; MAXIMUM SPACING 12'-0" O.C. INSTALL AT ALL WALLS OF 24" OR GREATER WIDTH.

4) U.L. SMOKE DETECTORS SHALL BE LOCATED IN ALL BEDROOMS, AND ONE EACH ADDITIONALLY AT EACH LEVEL. OTHER LOCATIONS SHOWN ON DRAWINGS. HARDWIRE ALL DETECTORS TOGETHER, AND PROVIDE BATTERY BACK-UP.

5) INSTALL GROUND FAULT RECEPTACLES IN BATHROOMS, KITCHENS, AND OTHER WET LOCATIONS AS REQUIRED BY N.E.C. 210-8.

DECK NOTES:

1) GIRDERS/BEAMS SHALL BE CONNECTED TO POSTS WITH (2) 1/2" GALVANIZED BOLTS.

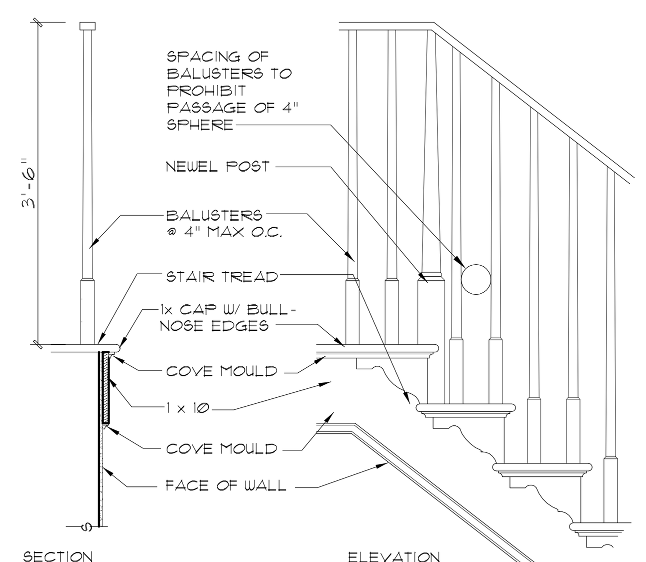
2) FLOOR DECKING SHALL BE #2 GRADE PRESSURE TREATED SOUTHERN PINE OR EQUIVALENT. THE MIN. FLOOR DECKING THICKNESS SHALL BE AS FOLLOWS:

JOIST SPACING	DECKING (NOMINAL)
12" O.C.	1" S4S
16" O.C.	1" T & G
24" O.C.	2" S4S

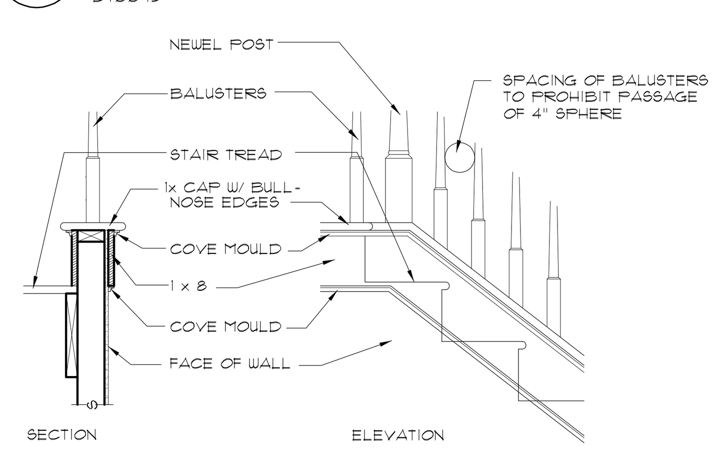
3) MAXIMUM HEIGHT OF DECK SUPPORT SHALL BE AS FOLLOWS:

POST SIZE*	UNBRACED MAX. POST HEIGHT**
4 X 4	AS SHOWN
6 X 6	AS SHOWN
AS SHOWN	

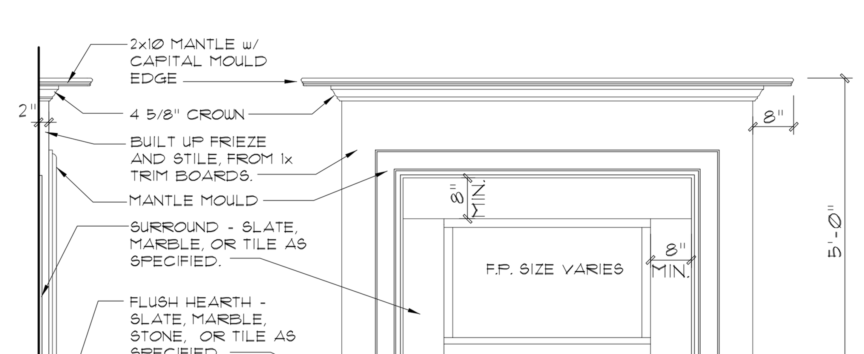
* TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS. MAXIMUM TRIBUTARY AREA = 128 TOTAL SQ. FT., WHICH MAY BE LOCATED AT DIFFERENT LEVELS.
** FROM TOP OF FOOTING TO BOTTOM OF GIRDER.



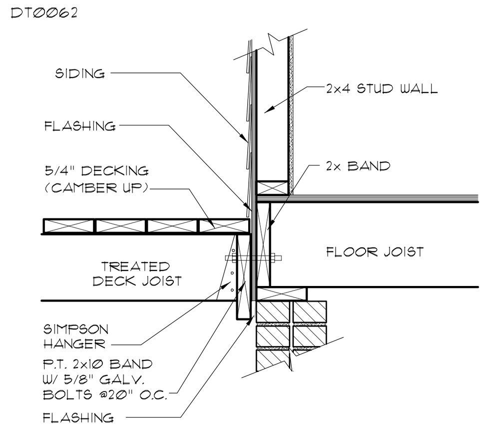
-- STAIR TRIM - OPEN RISERS
3/4"=1'-0"
DT0043



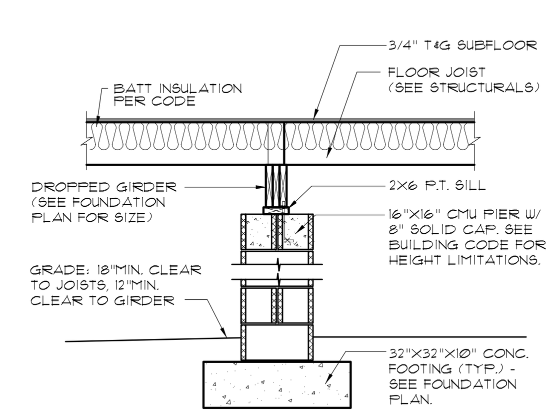
-- STAIR TRIM - CLOSED RISERS
3/4"=1'-0"
DT0042



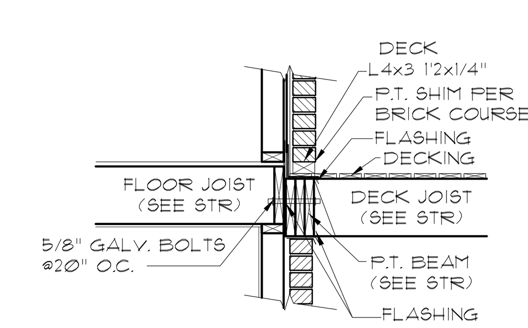
-- FIREPLACE TRIM
1/2"=1'-0"
DT0062



3 DECK ATTACHMENT
1"=1'-0"
DT0031



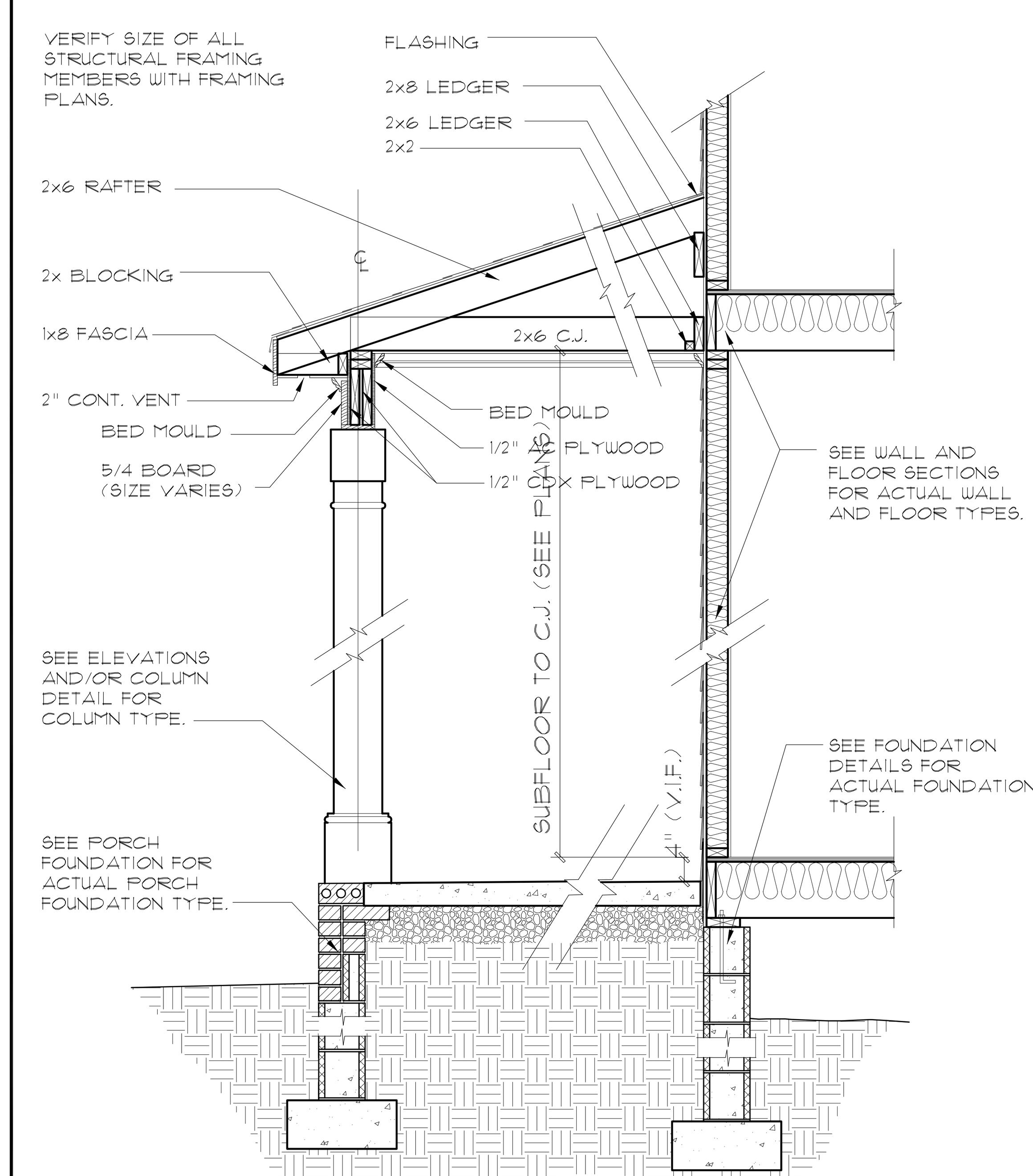
4 PIER/GIRDER AT CRAWL
1/2"=1'-0"
DT0059



5 BLOCKED DECK ATTACHMENT
1/2"=1'-0"
DT1200

* 1 HOUR RATED (PRESCRIPTIVE 1.33 HR) W/ (2) LAYERS 5/8" TYPE X GYP BD. AT UNDERSIDE OF SOFFIT/RAKE AS REQUIRED. SEE PLANS FOR LOCATIONS. USE EXTERIOR GRADE (G-P FIREGUARD EXTERIOR OR EQUAL) UNDER FINISHED NON-VENTED SOFFIT.

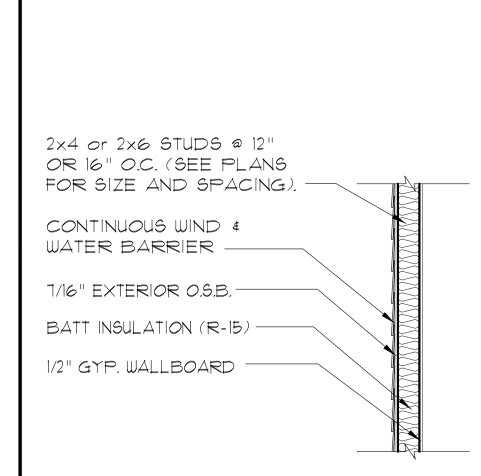
TYP. PORCH DETAIL



1 PORCHES - MASTER
1/2"=1'-0"

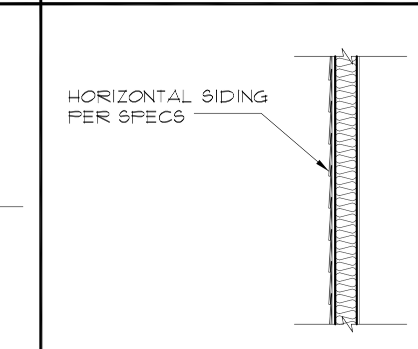
WALL SECTION DETAILS

MASTER DETAIL

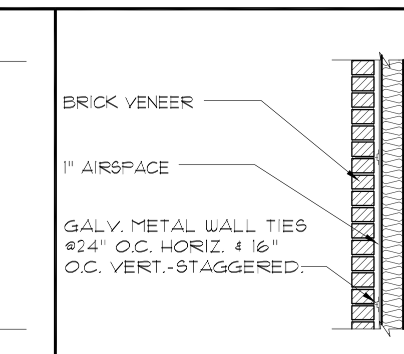


2 MASTER
1/2"=1'-0"

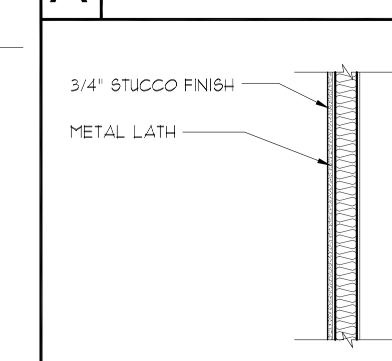
DETAIL VARIATIONS



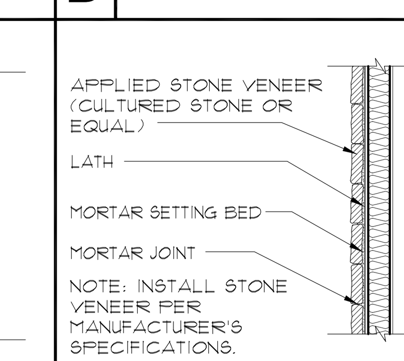
A EXTERIOR WALL SIDING



B EXTERIOR WALL BRICK VENEER



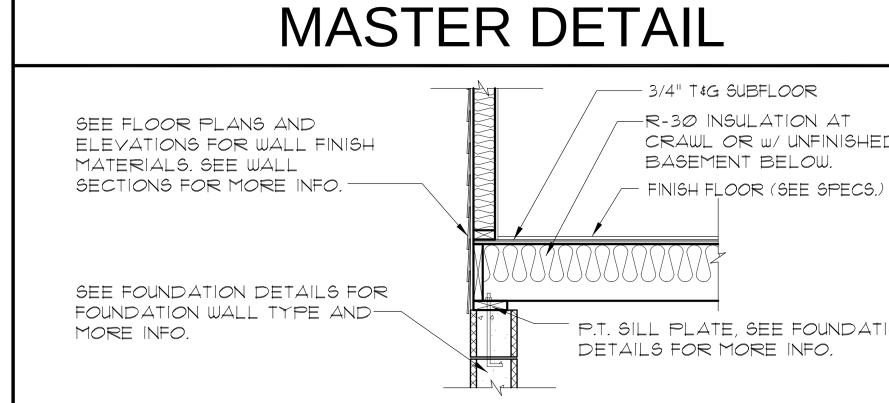
C EXTERIOR WALL STUCCO FINISH



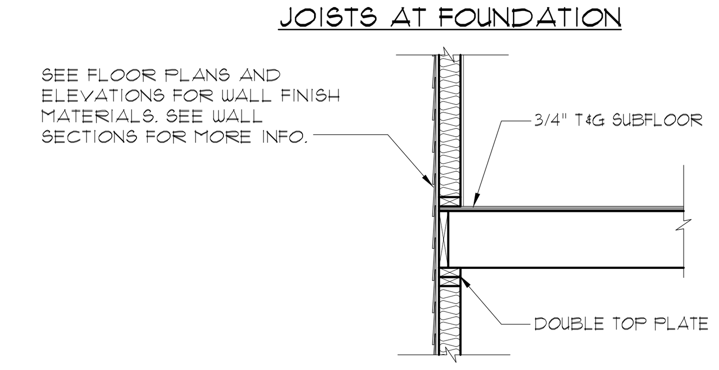
D EXTERIOR WALL STONE VENEER (APPLIED)

FLOOR SECTION DETAILS

MASTER DETAIL

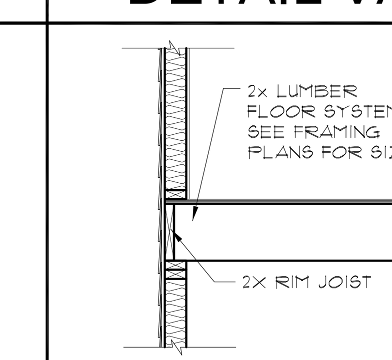


JOISTS AT FOUNDATION

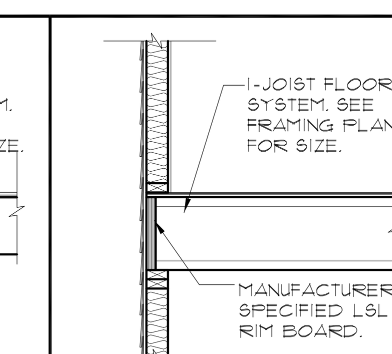


JOISTS AT STUD WALL

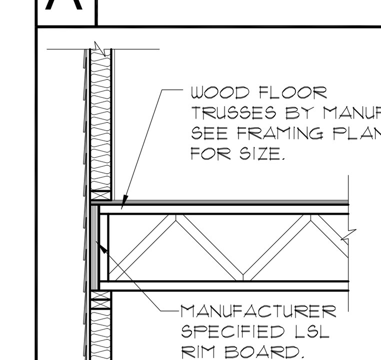
DETAIL VARIATIONS



A FLOOR SYSTEM AT STUD WALL CONVENTIONAL LUMBER



B FLOOR SYSTEM AT STUD WALL I-JOISTS



C FLOOR SYSTEM AT STUD WALL FLOOR TRUSSES

D

PROGRESS DATE:	
ISSUE DATE:	12/12/07
DRAWN BY	
CHECKED BY	
REVISIONS	
DATE BY:	DESCRIPT.

Miscellaneous Details
--

SHEET NO.
D-1

PLAN NO.