

NOTICE TO CONTRACTOR  
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

APPROVED

Limited building only review  
Permit holder responsible for full compliance with the code

03/04/2021



# ENGAGE H&H HOMES

## PLAN REVISIONS

- 11-00-11 COMPLETED CONSTRUCTION DOCUMENTS INCLUDING CLIENT REVIEW COMMENTS.
- 11-16-11 MIRRORED PLANS TO CREATE LEFT HAND GARAGE VERSION.
- 09-12-10 STANDARD CLIENT CHANGES PER CLIENT WALK-THRU NOTES DATED 08-30-10. CHANGES INCLUDE BUT NOT LIMITED TO THE FOLLOWING: REMOVE OPT. LAUNDRY TUB, REMOVE KITCHEN ISLAND KNEEWALLS, ADD PLUMBING DROP UNDER CABINET, REVISE ALL SECONDARY CLOSETS AND LINENS TO HAVE BI-FOLD DOORS, REMOVE WINDOW GRIDS AT SIDES AND REAR ELEVATIONS, REVISE DATA DROPS TO BE 1 PHONE IN KITCHEN AND 1 TV. IN OWNER'S SUITE AND GATHERING ROOM ONLY, REMOVE COVERED PORCH OPTION, REVISE KITCHEN LIGHTING TO BE 4-BULB FLOURESCENT LIGHT.  
  
PLAN SPECIFIC CHANGES INCLUDE BUT NOT LIMITED TO THE FOLLOWING: CENTERED WINDOW AT GATHERING ROOM IN KITCHEN HALLWAY, REMOVE OPT. DOOR AT LAUNDRY, REMOVE OPT. WINDOW AT POWDER BATH AND BEDROOM 3, MADE OPT. WINDOW AT LOFT STANDARD AND MADE 2ND FLOOR HALL CLOSET 2-6 DOOR.
- 02-15-19 COMPLETED CLIENT COMMENTS.
- 02-11-20 UPDATED DIMENSIONS FOR PAD AND PATIO.  
REVISED ROOM DIMENSIONS FOR THE FOLLOWING ROOM:  
GATHERING ROOM WAS 15'-0" X 16'-5", NOW IT IS 15'-0" X 17'-3".  
CHANGED WASHER, DRYER, AND REFRIGERATOR TO OPTIONAL COMPONENTS.  
CREATED CUTSHEETS.  
CHANGE LOCATIONS OF HOSE BIBBS TO BE ON HEATED WALLS.  
VERIFY HDR HGTS ARE AT LEAST 1'-0".  
VERIFIED MASTER'S WAS CHANGED TO OWNER'S.  
CHANGED 2X4 WALL AT REAR GARAGE WALL TO 2X6.  
REMOVED FLOOD LIGHTS AND SWITCHES/WIRING AT REAR.  
ADDED ROOF VENT CALCULATIONS.  
ADDED THERMOSTAT TO FIRST FLOOR ELECTRICAL PLAN.  
DIMENSIONS CEILING FAN IN GATHERING ROOM ON ELECTRICAL PLAN.  
UPDATED FOR NC RC 2018 AND SC IRC 2018.  
VERIFIED VENTILATION REQMTS AT OWNER'S BEDROOM.  
ADDED INSULATION INFORMATION ON PLANS.  
UPDATED THE SF AS FOLLOWS:  
ELEV-A 1ST FLOOR WAS 111 SF, NOW 116 SF  
ELEV-A 2ND FLOOR WAS 918 SF, NOW 916 SF  
ELEV-A TOTAL SF WAS 1155 SF, NOW 1152 SF  
ELEV-C 1ST FLOOR WAS 111 SF, NOW 116 SF  
ELEV-C 2ND FLOOR WAS 918 SF, NOW 912 SF  
ELEV-A TOTAL SF WAS 1155 SF, NOW 1148 SF

04-01-20 GATHERING WAS CHANGED TO FAMILY.  
CAFE WAS CHANGED TO CASUAL DINING.  
REVISED ROOM DIMENSIONS FOR THE FOLLOWING ROOM:  
FAMILY ROOM WAS 15'-0" X 16'-5", NOW IT IS 14'-10" X 16'-3".  
REMOVED HANSEN BOX AND DRYER VENT.  
CREATED NEW SHEETS FOR FIRST FLOOR PLAN AND SECOND FLOOR PLAN OPTIONS.  
UPDATED CUTSHEETS.  
ADDED (2) HOSE BIBBS RIGHT AND LEFT SIDE OF THE HOUSE.  
CHANGED 2X4 WALL AT LEFT GARAGE WALL TO 2X6.  
REMOVED OUTLETS, PHONES AND TV'S FROM ELECTRICAL PLANS.  
ADDED CARBON MONOXIDE DETECTOR AT BEDROOMS.  
UPDATED THE SF AS FOLLOWS:  
ELEV-A 2ND FLOOR WAS 916 SF, NOW 912 SF  
ELEV-A TOTAL SF WAS 1152 SF, NOW 1148 SF  
ELEV-C 2ND FLOOR WAS 912 SF, NOW 908 SF  
ELEV-C TOTAL SF WAS 1148 SF, NOW 1144 SF  
CREATED ELEVATION FARMHOUSE 'B'.  
CREATED ELEVATION ARTS AND CRAFTS 'D'.  
REMOVED HATCH AT SIDES AND REAR ELEVATIONS.  
CHANGED CORNER BOARDS ON ELEVATIONS TO BE 1X4 TRIM BOARD.  
SHOWED COACH LIGHTS ON ELEVATIONS.  
ADDED DIAGONAL DIMENSIONS ON SLAB INTERFACE PLAN.  
CREATED LEFT HAND GARAGE VERSION.  
REMOVED ELEVATION C.  
REMOVED FIRST STEP AT FIRST FLOOR AND ADDED IT TO SECOND FLOOR. UPDATED SQ. FT. LOG. FIRST FLOOR WAS 912 SF, NOW 908 SF. GARAGE WAS 260 SF, NOW 259 SF.  
CHANGED SHUTTERS TO BE 14" WIDE.

SQUARE FOOTAGE	
AREA	ELEV 'A'
FIRST FLOOR	776 SQ. FT.
SECOND FLOOR	968 SQ. FT.
TOTAL (HEATING)	1744 SQ. FT.
GARAGE (UNHEATED)	259 SQ. FT.
PORCH	36 SQ. FT.
PAD	16 SQ. FT.
OPTIONAL GARAGE	240 SQ. FT.
OPTIONAL PATIO	80 SQ. FT.

SQUARE FOOTAGE	
AREA	ELEV 'B'
FIRST FLOOR	776 SQ. FT.
SECOND FLOOR	968 SQ. FT.
TOTAL (HEATING)	1744 SQ. FT.
GARAGE (UNHEATED)	260 SQ. FT.
PORCH	36 SQ. FT.
PAD	16 SQ. FT.
OPTIONAL GARAGE	240 SQ. FT.
OPTIONAL PATIO	80 SQ. FT.

SQUARE FOOTAGE	
AREA	ELEV 'D'
FIRST FLOOR	776 SQ. FT.
SECOND FLOOR	968 SQ. FT.
TOTAL (HEATING)	1744 SQ. FT.
GARAGE (UNHEATED)	260 SQ. FT.
PORCH	61 SQ. FT.
PAD	16 SQ. FT.
OPTIONAL GARAGE	240 SQ. FT.
OPTIONAL PATIO	80 SQ. FT.

ISSUANCE OF PLANS FROM THIS DRAFTER'S OFFICE SHALL NOT RELIEVE THE BUILDER OF RESPONSIBILITY TO REVIEW AND VERIFY ALL NOTES, DIMENSIONS, AND ADHERENCE TO APPLICABLE BUILDING CODES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.  
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IF ANY MODIFICATIONS ARE MADE TO THESE PLANS BY ANY OTHER PARTY OTHER THAN THE DRAFTER'S OFFICE, THE DRAFTER SHALL NOT BE HELD RESPONSIBLE.

Permit Marked

OFV000043



JOB NUMBER	B-1815070*
GRID FILE NAME	1755-L
ISSUED	11-08-17
REVISED	11-16-17
	09-12-18
	02-15-19
	02-11-20
	04-01-20

DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

ENGAGE -Garage Left  
H&H HOMES

1755

TITLE  
REVISION LOG

SHEET  
CS



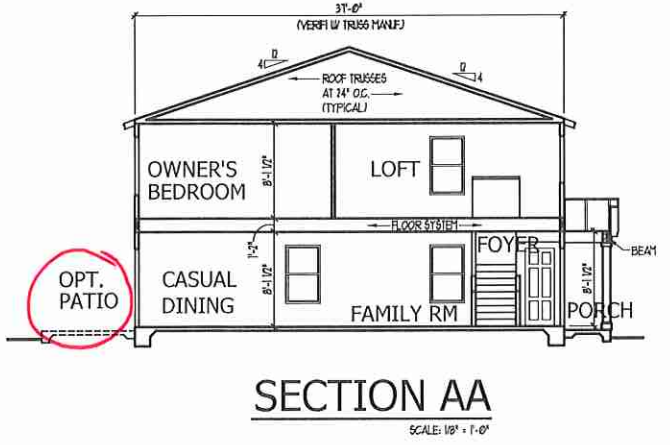
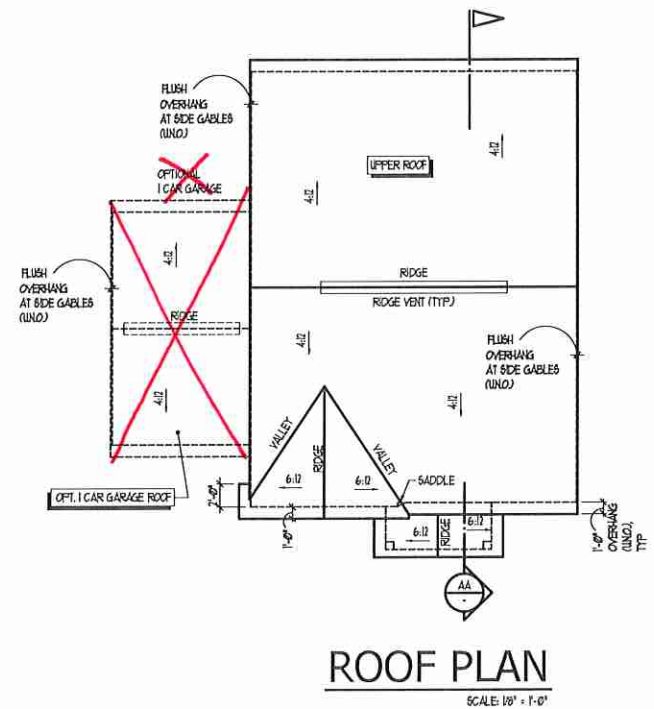
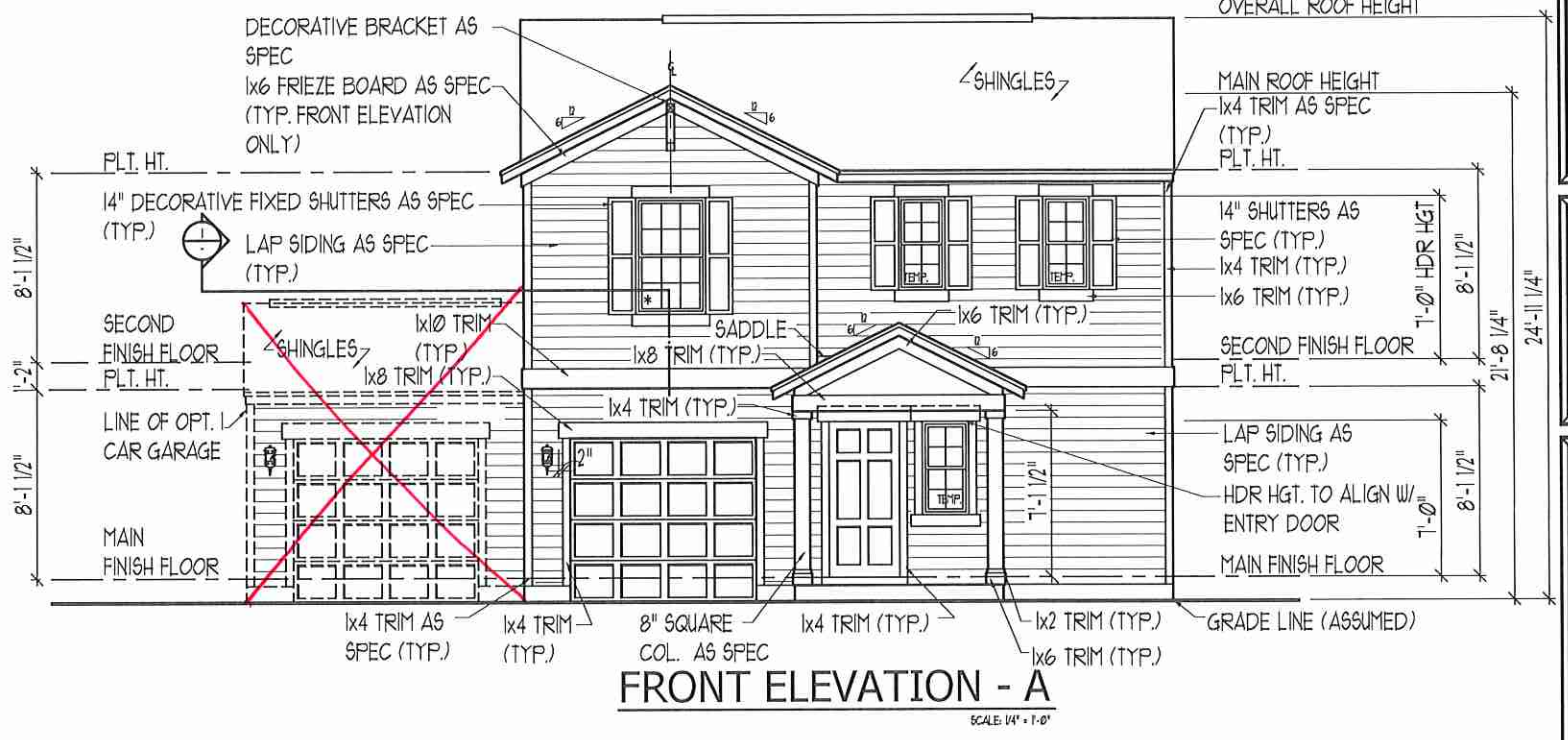
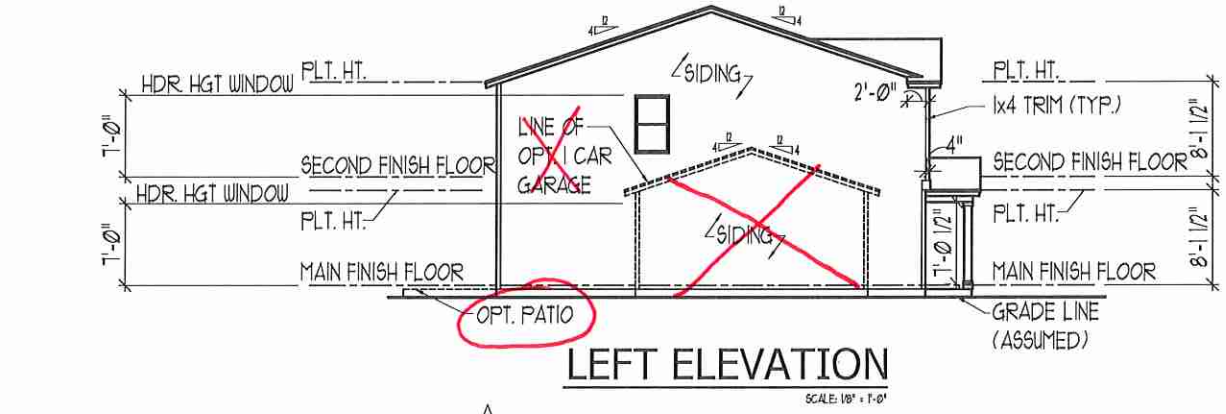
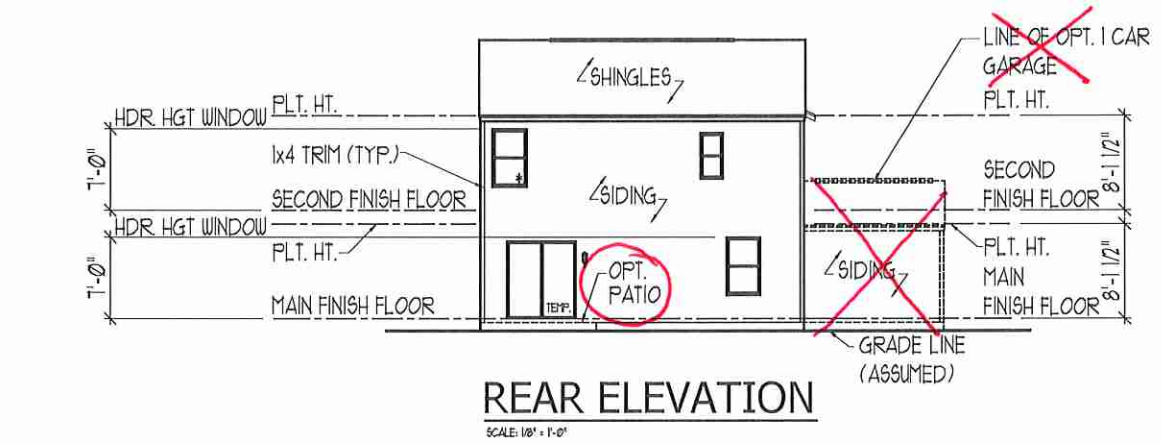
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CAD FILE NAME	1755-L
ISSUED	11-08-17
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1755

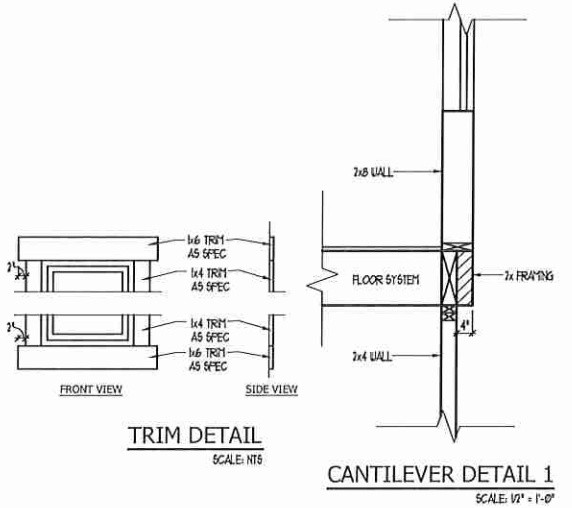
TITLE  
FRONT ELEVATION  
REAR ELEVATION  
RIGHT ELEVATION  
LEFT ELEVATION  
ROOF PLAN  
BUILDING SECTION

SHEET  
**A3.0**



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TOTAL UNDER ROOF AREA:	1040	SQ. FT.	1040	SQ. FT.
VENTING AREA REQUIRED:	1040 SQ. FT. / 300 =	3.47	SQ. FT.	
TOTAL REQUIREMENTS:	LOWER: 1.74	UPPER: 1.74		
LOWER AREA VENTING				
SOFFIT VENT	SIZE:	PER UNIT:	# UNITS:	PROVIDED:
		.041 SF/LF	45'-4"	1.86
LOWER AREA VENTING PROVIDED:				
UPPER AREA VENTING				
RIDGE VENT	SIZE:	PER UNIT:	# UNITS:	PROVIDED:
		.125 SF/LF	16'-0"	2.0
UPPER AREA VENTING PROVIDED:				
TOTAL AREA PROVIDED				
SOFFIT AND RIDGE VENT				3.86



**ELEVATIONS, ROOF PLAN, & SECTION - TRADITIONAL 'A'**

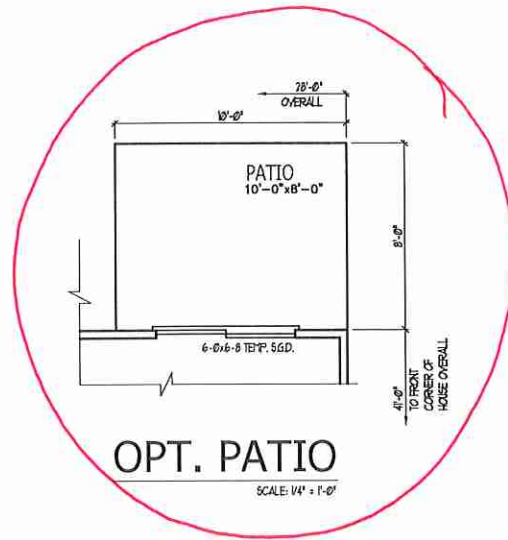




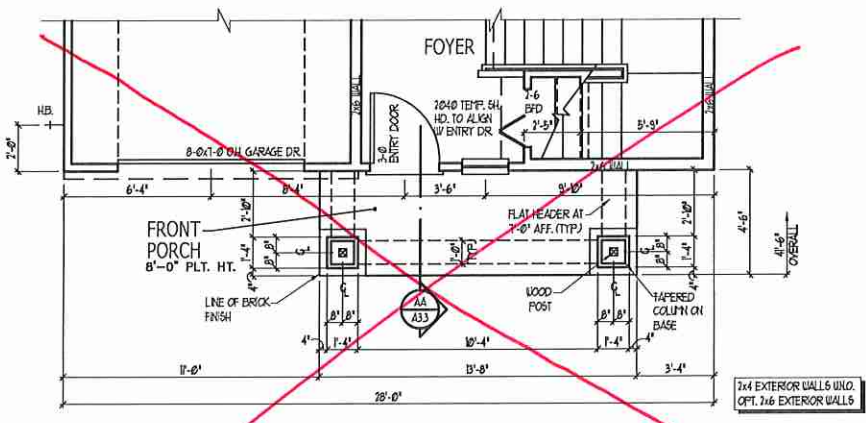


JOB NUMBER	B-1815878*
OLD FILE NAME	1755-L
ISSUED	11-08-17
REVISED	11-16-17
	09-12-18
	02-15-19
	02-11-20
	04-01-20

DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

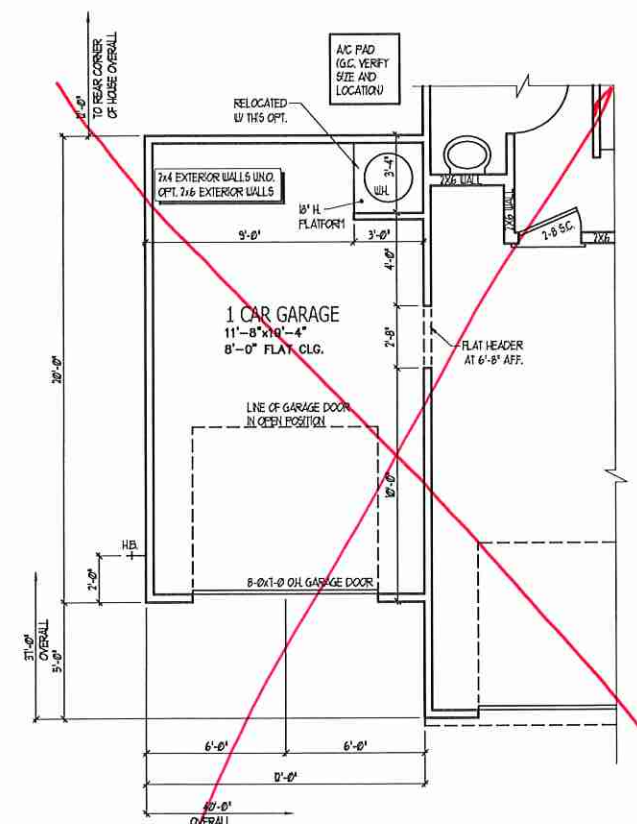


SQUARE FOOTAGE	
AREA	ELEV 'D'
FIRST FLOOR	776 SQ. FT.
SECOND FLOOR	968 SQ. FT.
TOTAL (HEATING)	1744 SQ. FT.
GARAGE (UNHEATED)	260 SQ. FT.
PORCH	61 SQ. FT.
PAD	16 SQ. FT.
OPTIONAL GARAGE	240 SQ. FT.
OPTIONAL PATIO	80 SQ. FT.



REFER TO STANDARD PLAN FOR INFORMATION NOT SHOWN.

THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN 1/2 INCH (12.7 mm) GYPSUM BOARD APPLIED TO THE GARAGE SIDE. GARAGES BENEATH HABITABLE ROOMS SHALL BE SEPARATED FROM ALL HABITABLE ROOMS ABOVE BY NOT LESS THAN 5/8 INCH (15.9 mm) TYPE 'X' GYPSUM BOARD OR EQUIVALENT, WHERE THE SEPARATION IS A FLOOR-CEILING ASSEMBLY, THE STRUCTURE SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED BY NOT LESS THAN 1/2 INCH (12.7 mm) GYPSUM BOARD OR EQUIVALENT.



**OPT. 1 CAR GARAGE**  
SCALE: 1/4" = 1'-0"

**FIRST FLOOR PLAN OPTIONS**

**ENGAGE -Garage Left**  
**H&H HOMES**

1755

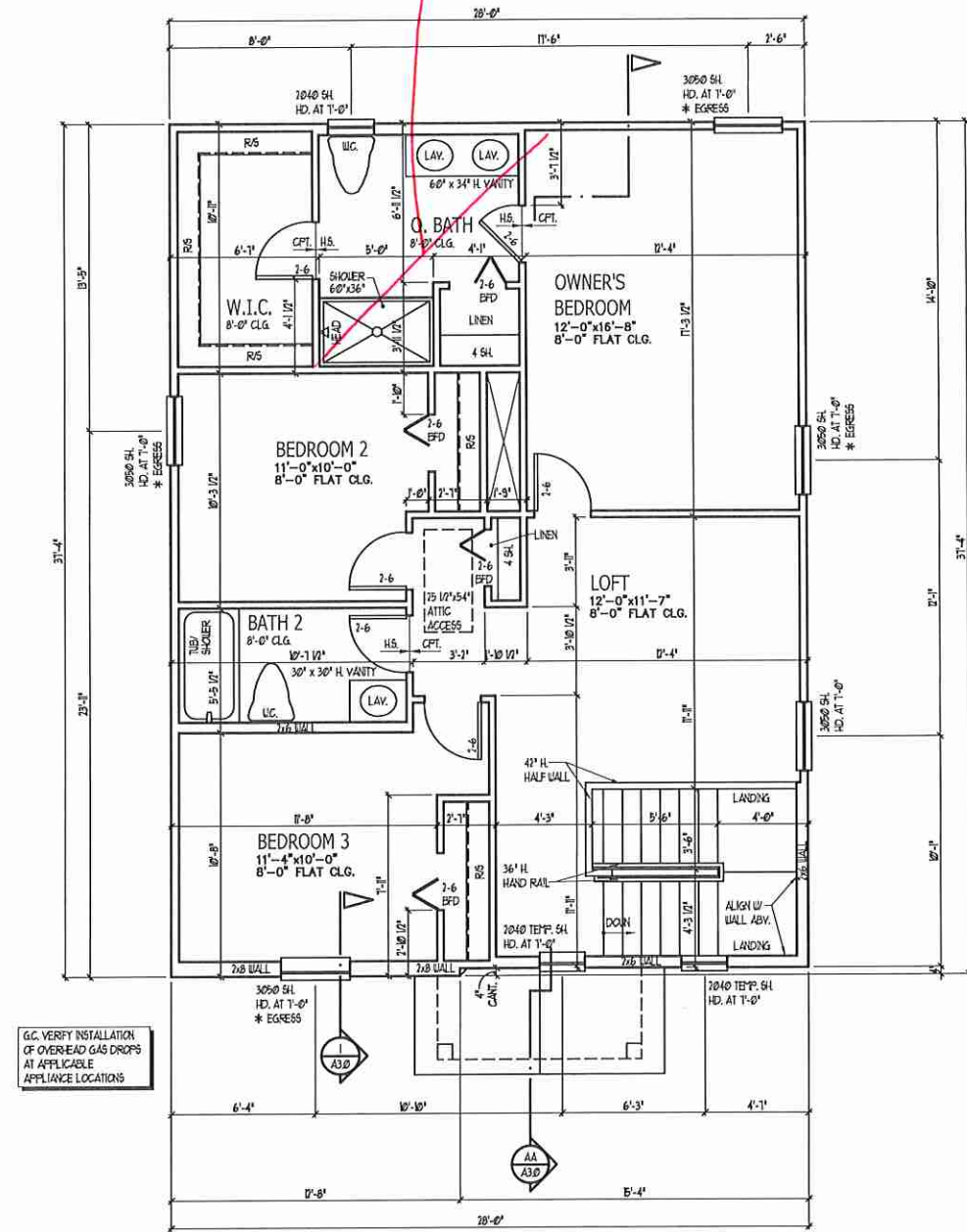
TITLE  
MAIN FLOOR PLAN OPT.

SHEET  
**A2.1**

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**PURL HOMES**  
 Built by H&H Homes

JOB NUMBER	B-1015070*
CAD FILE NAME	1755-1
ISSUED	11-08-17
REVISED	11-16-17
	09-12-18
	02-15-19
	02-11-20
	04-01-20

DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

ENGAGE -Garage Left  
 H&H HOMES

1755

TITLE  
 UPPER FLOOR PLAN  
 DETAIL

SECOND FLOOR PLAN  
 SCALE 1/4" = 1'-0"

SHEET  
**A2.2**

JOB NUMBER	B-1015070*
CAD FILE NAME	1755-L
ISSUED	11-08-17
REVISED	11-16-17
	09-12-18
	02-15-19
	02-11-20
	04-01-20

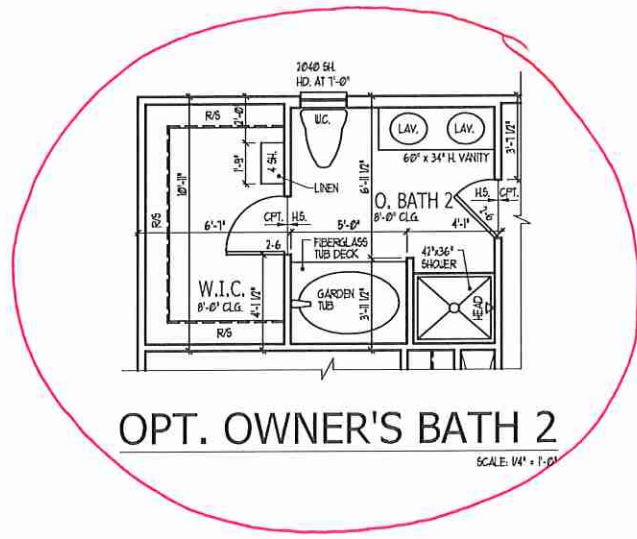
DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

**ENGAGE -Garage Left  
H&H HOMES**

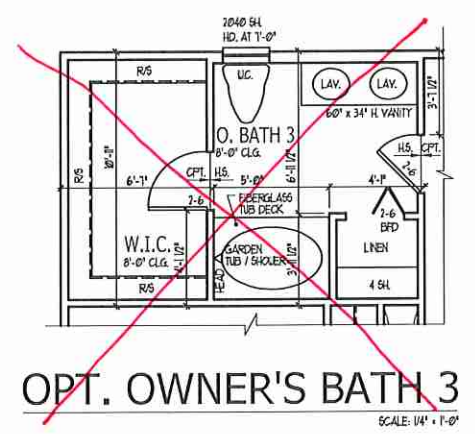
1755

TITLE  
UPPER FLOOR PLAN OPT.

SHEET  
**A2.3**



**OPT. OWNER'S BATH 2**  
SCALE: 1/4" = 1'-0"



**OPT. OWNER'S BATH 3**  
SCALE: 1/4" = 1'-0"

**SECOND FLOOR PLAN OPTIONS**

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JOB NUMBER	B-1815878
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	09-12-18
	02-15-19
	02-11-20
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**ENGAGE - Garage Left**  
**H&H HOMES**

1755

TITLE  
MAIN FLOOR ELEC. PLAN

SHEET  
**E1.0**

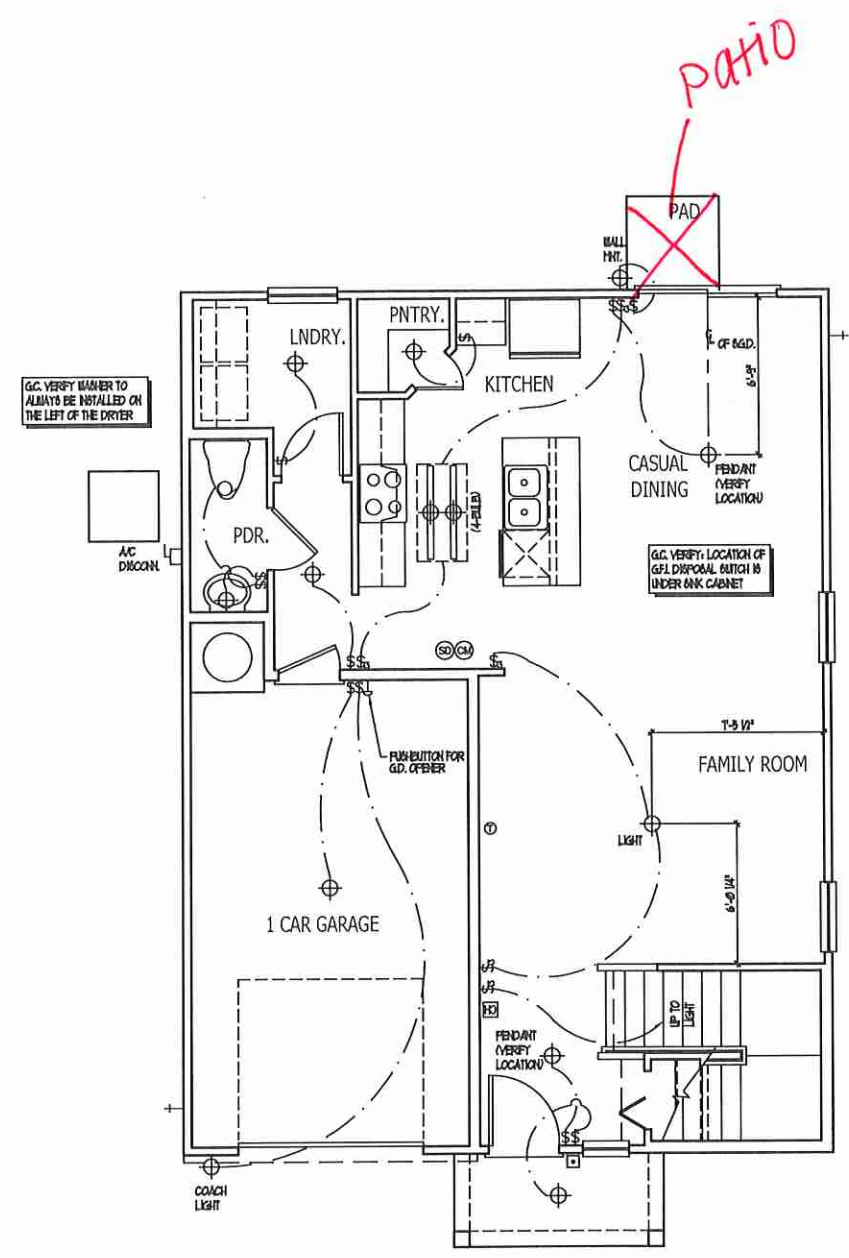
**ELECTRICAL KEY**

- ⊕ DIFLEX COMMERCE OUTLET
- ⊕ DIFLEX OUTLET ABOVE COUNTER
- ⊕ LEATHERPROOF DIFLEX OUTLET
- ⊕ GROUND FAULT INTERRUPTER DIFLEX OUTLET
- ⊕ HALF-SWITCHED DIFLEX OUTLET
- ⊕ SPECIAL PURPOSE OUTLET
- ⊕ DIFLEX OUTLET IN FLOOR
- ⊕ 220 VOLT OUTLET
- ⊕ WALL SWITCH
- ⊕ THREE-WAY SWITCH
- ⊕ FOUR-WAY SWITCH
- ⊕ DIMMER SWITCH
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ WALL MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ RECESSED INCANDESCENT LIGHT FIXTURE
- ⊕ LIGHT FIXTURE WITH FULL CHAIN
- ⊕ TRACK LIGHT
- ⊕ FLUORESCENT LIGHT FIXTURE
- ⊕ EXHAUST FAN
- ⊕ EXHAUST FAN/LIGHT COMBINATION
- ⊕ ELECTRIC DOOR OPERATOR (OPTIONAL)
- ⊕ CABLE (OPTIONAL)
- ⊕ PUSHBUTTON SWITCH (OPTIONAL)
- ⊕ CARBON MONOXIDE DETECTOR
- ⊕ SMOKE DETECTOR
- ⊕ SMOKE / CARBON MONOXIDE DETECTOR
- ⊕ TELEPHONE (OPTIONAL)
- ⊕ TELEVISION (OPTIONAL)
- ⊕ THERMOSTAT
- ⊕ ELECTRIC METER
- ⊕ ELECTRIC PANEL
- ⊕ DISCONNECT SWITCH
- ⊕ SPEAKER (OPTIONAL)
- ⊕ ROUGH-IN FOR OPT. CEILING FAN
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE W/ ROUGH-IN FOR OPT. CEILING FAN

**NOTES:**

1. PROVIDE AND INSTALL GROUND FAULT CIRCUT INTERRUPTERS (GFCI) AS INDICATED ON PLANS OR AS ITEM NO. 4 AND 5 BELOW INDICATED.
2. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES AND RECEPTACLES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:  
SWITCHES... 48"  
OUTLETS... 18"  
TELEPHONE... 18" (UNLESS ABV COUNTERTOP)  
TELEVISION... 36"
3. ALL SMOKE DETECTORS SHALL BE HARDWIRED INTO AN ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH A MONITORED BATTERY BACKUP. PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS.
4. ALL 120V AND 240V RECEPTACLES IN SLEEPING ROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BATHROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND SIMILAR AREAS SHALL REQUIRE A COMBINATION TYPE AFCI DEVICE AND TAMPER-PROOF RECEPTACLES PER NEC 201.46(B) AND 406.5.
5. ALL 120V AND 240V RECEPTACLES LOCATED IN THE GARAGE AND UTILITY ROOMS SHALL BE GFCI PROTECTED (GFI).
6. IT IS THE RESPONSIBILITY OF THE LICENSED ELECTRICIAN TO ENSURE THAT ALL ELECTRICAL WORK IS IN FULL COMPLIANCE WITH N.E.P.A. 10, N.E.C. 200, AND ALL APPLICABLE LOCAL STANDARDS, CODES, AND ORDINANCES.
7. EVERY BUILDING HAVING A FURNACE, FURNACE HEATER OR APPLIANCE, FIREPLACE, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE DETECTOR INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.
8. ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS SERVED FROM THE LOCAL POWER UTILITY. SUCH ALARMS SHALL HAVE BATTERY BACKUP. COMBINATION SMOKE/CARBON MONOXIDE ALARMS SHALL BE LISTED OR LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

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**FIRST FLOOR ELEC. PLAN - A AND B**

**FIRST FLOOR ELECTRICAL PLAN**



JOB NUMBER	B-1015878
CAD FILE NAME	1755-L
ISSUED	11-08-17
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	09-12-18
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DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

**ENGAGE - Garage Left**  
**H&H HOMES**

1755

TITLE  
MAIN FLOOR ELEC. PLAN  
OPT.

SHEET  
**E1.1**

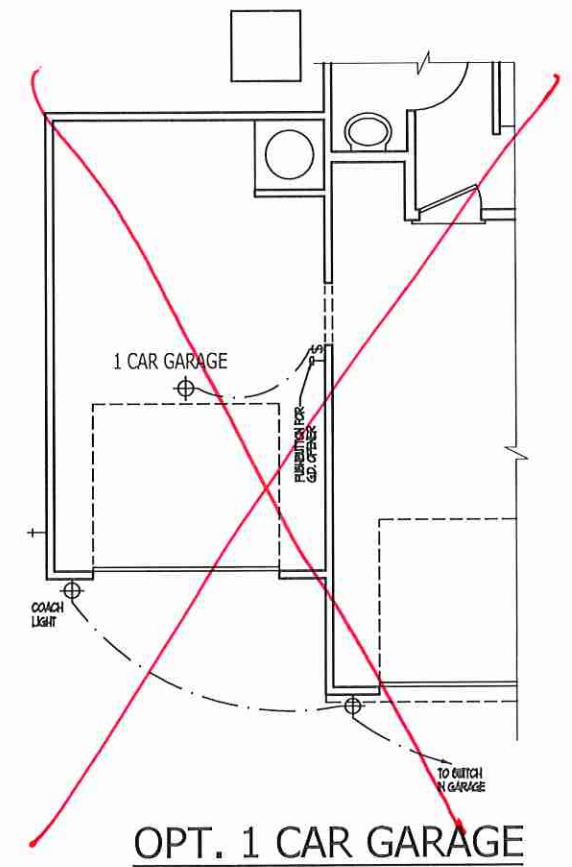
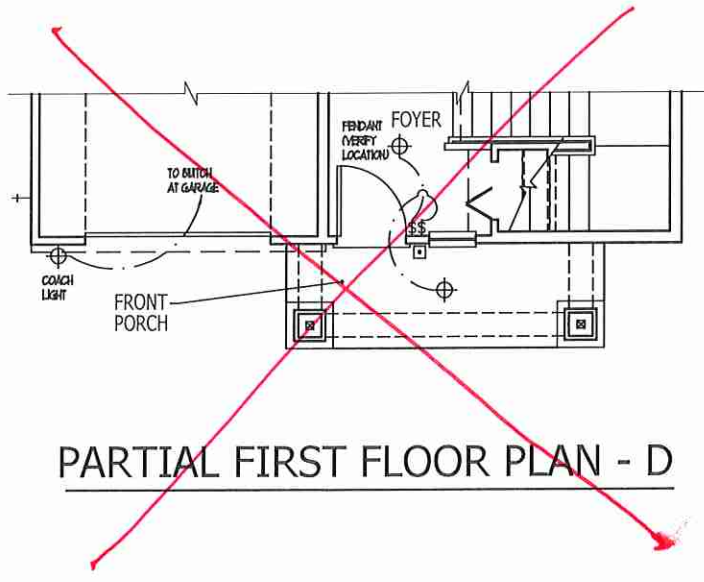
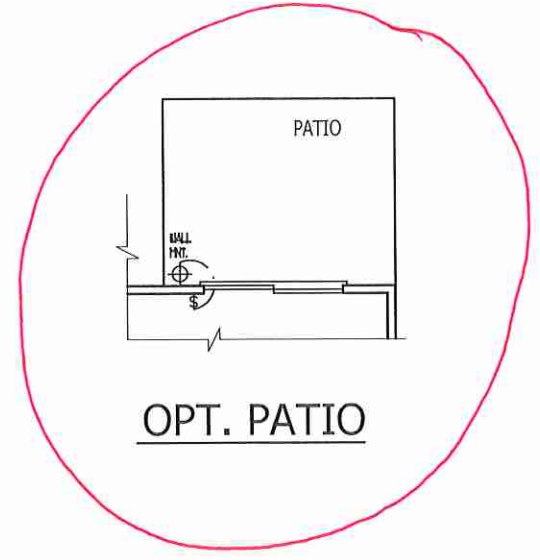
**ELECTRICAL KEY**

- ⊕ DUPLEX CONVENTION OUTLET
- ⊕ DUPLEX OUTLET ABOVE COUNTER
- ⊕ WEATHERPROOF DUPLEX OUTLET
- ⊕ GROUND FAULT INTERRUPTER DUPLEX OUTLET
- ⊕ HALF-SWITCHED DUPLEX OUTLET
- ⊕ SPECIAL PURPOSE OUTLET
- ⊕ DUPLEX OUTLET IN FLOOR
- ⊕ 220 VOLT OUTLET
- ⊕ WALL SWITCH
- ⊕ THREE-WAY SWITCH
- ⊕ FOUR-WAY SWITCH
- ⊕ DIMMER SWITCH
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ WALL MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ RECESSED INCANDESCENT LIGHT FIXTURE
- ⊕ LIGHT FIXTURE WITH FULL CHAIN
- ⊕ TRACK LIGHT
- ⊕ FLUORESCENT LIGHT FIXTURE
- ⊕ EXHAUST FAN
- ⊕ EXHAUST FAN/LIGHT COMBINATION
- ⊕ ELECTRIC DOOR OPERATOR (OPTIONAL)
- ⊕ GFI'S (OPTIONAL)
- ⊕ FAN/EXHAUST SWITCH (OPTIONAL)
- ⊕ CARBON MONOXIDE DETECTOR
- ⊕ SMOKE DETECTOR
- ⊕ SMOKE / CARBON MONOXIDE COMBO DETECTOR
- ⊕ TELEPHONE (OPTIONAL)
- ⊕ TELEVISION (OPTIONAL)
- ⊕ THERMOSTAT
- ⊕ ELECTRIC METER
- ⊕ ELECTRIC PANEL
- ⊕ DISCONNECT SWITCH
- ⊕ BREAKER (OPTIONAL)
- ⊕ ROUGH-IN FOR OPT. CEILING FAN
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE BY ROUGH-IN FOR OPT. CEILING FAN

**NOTES:**

1. PROVIDE AND INSTALL GROUND FAULT CIRCUIT INTERRUPTERS (GFI) AS INDICATED ON PLANS OR AS NOTED NO. 4 AND 5 BELOW INDICATED.
2. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES AND RECEPTACLES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:  
SWITCHES ..... 4"  
OUTLETS ..... 18"  
TELEPHONE ..... 14" (UNLESS ANY COUNTERTOP)  
TELEVISION ..... 14"
3. ALL SMOKE DETECTORS SHALL BE HARDWIRED INTO AN ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH A MONITORED BATTERY BACKUP. PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS.
4. ALL 15A AND 20A RECEPTACLES IN SLEEPING ROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND SIMILAR AREAS WILL REQUIRE A COMBINATION TYPE AFCI DEVICE AND TAMPER-PROOF RECEPTACLES PER NEC 408.17 AND 408.15
5. ALL 15A AND 20A 120V RECEPTACLES LOCATED IN THE GARAGE AND UTILITY ROOMS SHALL BE GFCI PROTECTED (GFI).
6. IT IS THE RESPONSIBILITY OF THE LICENSED ELECTRICIAN TO ENSURE THAT ALL ELECTRICAL WORK IS IN FULL COMPLIANCE WITH NFPA 70, NEC 200, AND ALL APPLICABLE LOCAL STANDARDS, CODES, AND ORDINANCES.
7. EVERY BUILDING HAVING A FOSAL-FUEL-BURNING HEATER OR APPLIANCE, FIREPLACE, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE DETECTOR INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.
8. ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS DERIVED FROM THE LOCAL POWER UTILITY. SUCH ALARMS SHALL HAVE BATTERY BACKUP. COMBINATION SMOKE-CARBON MONOXIDE ALARMS SHALL BE LISTED OR LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

WAIVER OF PLANS FROM THE DRAFTER'S OFFICE SHALL NOT RELIEVE THE BUILDER OF RESPONSIBILITY TO REVIEW AND VERIFY ALL NOTES, DIMENSIONS, AND ADHERENCE TO APPLICABLE BUILDING CODES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.  
ANY DISCREPANCY OF ERROR IN NOTES, DIMENSIONS, OR ADHERENCE TO APPLICABLE BUILDING CODES SHALL BE BROUGHT TO THE ATTENTION OF THE DRAFTER'S OFFICE FOR CORRECTION BEFORE COMMENCEMENT OF ANY CONSTRUCTION.  
ANY REVISIONS OR CHANGES, NOT RELATED TO THE CORRECTION OF ERRORS THAT ARE MADE AFTER THE FINAL PLANS HAVE BEEN COMPLETED SHALL BE SUBJECT TO ADDITIONAL FEES.  
IF ANY MODIFICATIONS ARE MADE TO THESE PLANS BY ANY OTHER PARTY OTHER THAN THE DRAFTER'S OFFICE, THE DRAFTER SHALL NOT BE HELD RESPONSIBLE.



**FIRST FLOOR ELECTRICAL PLAN OPTIONS**

JOB NUMBER	B-1815878*
CAD FILE NAME	1755-L
ISSUED	11-08-17
REVISED	11-16-17
	08-12-18
	02-15-19
	02-11-20
	04-01-20

DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

ENGAGE -Garage Left  
H&H HOMES

1755

TITLE  
UPPER FLOOR ELEC. PLAN

SHEET  
E1.2

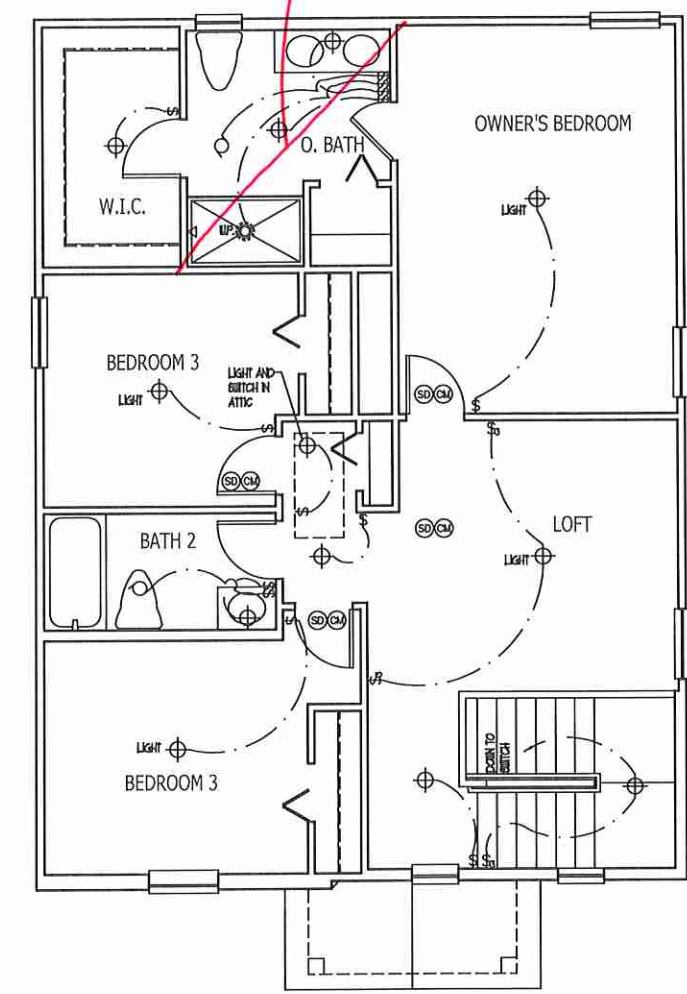
**ELECTRICAL KEY**

- ⊕ DUPLEX CONVENIENCE OUTLET
- ⊕ DUPLEX OUTLET ABOVE COUNTER
- ⊕ WEATHERPROOF DUPLEX OUTLET
- ⊕ GROUND FAULT INTERRUPTER DUPLEX OUTLET
- ⊕ HALF-SWITCHED DUPLEX OUTLET
- ⊕ SPECIAL PURPOSE OUTLET
- ⊕ DUPLEX OUTLET IN FLOOR
- ⊕ 240 VOLT OUTLET
- ⊕ WALL SWITCH
- ⊕ THREE-WAY SWITCH
- ⊕ FOUR-WAY SWITCH
- ⊕ DIMMER SWITCH
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ WALL MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ RECESSED INCANDESCENT LIGHT FIXTURE
- ⊕ LIGHT FIXTURE WITH FULL CHAIN
- ⊕ TRACK LIGHT
- ⊕ FLUORESCENT LIGHT FIXTURE
- ⊕ EXHAUST FAN
- ⊕ EXHAUST FAN/LIGHT COMBINATION
- ⊕ ELECTRIC DOOR OPERATOR (OPTIONAL)
- ⊕ CHIMNEY (OPTIONAL)
- ⊕ FURNITURE SWITCH (OPTIONAL)
- ⊕ CARBON MONOXIDE DETECTOR
- ⊕ SMOKE DETECTOR
- ⊕ SMOKE / CARBON MONO. COMBO DETECTOR
- ⊕ TELEPHONE (OPTIONAL)
- ⊕ TELEVISION (OPTIONAL)
- ⊕ THERMOSTAT
- ⊕ ELECTRIC METER
- ⊕ ELECTRIC PANEL
- ⊕ DISCONNECT SWITCH
- ⊕ SPEAKER (OPTIONAL)
- ⊕ ROUGH-IN FOR OPT. CEILING FAN
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE W/ ROUGH-IN FOR OPT. CEILING FAN

**NOTES:**

1. PROVIDE AND INSTALL GROUND FAULT CREDIT-INTERCEPTORS (GFCI) AS INDICATED ON PLANS OR AS ITEM NO. 4 AND 5 BELOW INDICATED.
2. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES AND RECEPTACLES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:  
SWITCHES... 48"  
OUTLETS... 18"  
TELEPHONE... 14" (UNLESS ABOV COUNTERTOP)  
TELEVISION... 36"
3. ALL SMOKE DETECTORS SHALL BE HARDWIRED INTO AN ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH A MONITORED BATTERY BACKUP. PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS.
4. ALL 120V AND 240V RECEPTACLES IN SLEEPING ROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND SIMILAR AREAS SHALL REQUIRE A COMBINATION TYPE AFCI DEVICE AND TAMPER-PROOF RECEPTACLES PER NEC 400.466(B) AND 400.466(D).
5. ALL 120V AND 240V RECEPTACLES LOCATED IN THE GARAGE AND UTILITY ROOMS SHALL BE GFCI PROTECTED (GFI).
6. IT IS THE RESPONSIBILITY OF THE LICENSED ELECTRICIAN TO ENSURE THAT ALL ELECTRICAL WORK IS IN FULL COMPLIANCE WITH N.E.P.A. 10, N.E.C. 308, AND ALL APPLICABLE LOCAL STANDARDS, CODES, AND ORDINANCES.
7. EVERY BUILDING HAVING A FURNACE, FUEL-BURNING HEATER OR APPLIANCE, FIREPLACE OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE DETECTOR INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.
8. ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS DERIVED FROM THE LOCAL POWER UTILITY. SUCH ALARMS SHALL HAVE BATTERY BACKUP. COMBINATION SMOKE/CARBON MONOXIDE ALARMS SHALL BE LISTED OR LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

*OWNERS  
BATH #2*



ISSUANCE OF PLANS FROM THIS DRAFTER'S OFFICE SHALL NOT RELIEVE THE BUILDER OF RESPONSIBILITY TO REVIEW AND VERIFY ALL NOTES, DIMENSIONS, AND ADHERENCE TO APPLICABLE BUILDING CODES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.  
ANY DISCREPANCY OF ERROR IN NOTES, DIMENSIONS, OR ADHERENCE TO APPLICABLE BUILDING CODES SHALL BE BROUGHT TO THE ATTENTION OF THE DRAFTER'S OFFICE FOR CORRECTION BEFORE COMMENCEMENT OF ANY CONSTRUCTION.  
ANY REVISIONS OR CHANGES NOT RELATED TO THE CORRECTION OF ERRORS THAT ARE MADE AFTER THE FINAL PLANS HAVE BEEN COMPLETED SHALL BE SUBJECT TO ADDITIONAL FEES.  
IF ANY MODIFICATIONS ARE MADE TO THESE PLANS BY ANY OTHER PARTY OTHER THAN THE DRAFTER'S OFFICE, THE DRAFTER SHALL NOT BE HELD RESPONSIBLE.

**SECOND FLOOR ELECTRICAL PLAN A**  
ELEVATION B AND D SIMILAR



JOB NUMBER	B-1815878*
CAD FILE NAME	1755-L
ISSUED	11-08-17
REVISED	11-16-17
	09-12-18
	02-15-19
	02-11-20
	04-01-20

DRAWINGS ON 11"x17" SHEET ARE ONE HALF THE SCALE NOTED

**ENGAGE -Garage Left  
H&H HOMES**

1755

TITLE  
UPPER FLOOR ELEC. PLAN  
OPT.

SHEET  
**E1.3**

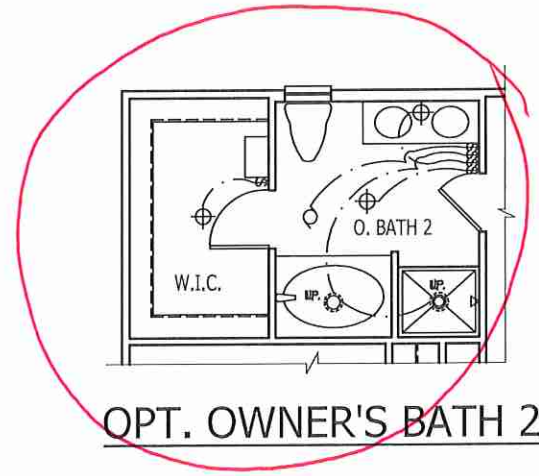
**ELECTRICAL KEY**

- ⊕ DUPLEX CONVENIENCE OUTLET
- ⊕ DUPLEX OUTLET ABOVE COUNTER
- ⊕ LEATHERPROOF DUPLEX OUTLET
- ⊕ GROUND FAULT INTERRUPTER DUPLEX OUTLET
- ⊕ HALF-SWITCHED DUPLEX OUTLET
- ⊕ SPECIAL PURPOSE OUTLET
- ⊕ DUPLEX OUTLET IN FLOOR
- ⊕ 220 VOLT OUTLET
- ⊕ WALL SWITCH
- ⊕ THREE-WAY SWITCH
- ⊕ FOUR-WAY SWITCH
- ⊕ DIMMER SWITCH
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ WALL MOUNTED INCANDESCENT LIGHT FIXTURE
- ⊕ RECESSED INCANDESCENT LIGHT FIXTURE
- ⊕ LIGHT FIXTURE WITH FULL CHAIN
- ⊕ TRACK LIGHT
- ⊕ FLUORESCENT LIGHT FIXTURE
- ⊕ EXHAUST FAN
- ⊕ EXHAUST FAN/LIGHT COMBINATION
- ⊕ ELECTRIC DOOR OPERATOR (OPTIONAL)
- ⊕ CHIMNEY (OPTIONAL)
- ⊕ FURNITURE SWITCH (OPTIONAL)
- ⊕ CARBON MONOXIDE DETECTOR
- ⊕ SMOKE DETECTOR
- ⊕ SMOKE / CARBON MON. COMBO DETECTOR
- ⊕ TELEPHONE (OPTIONAL)
- ⊕ TELEVISION (OPTIONAL)
- ⊕ THERMOSTAT
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- ⊕ DISCONNECT SWITCH
- ⊕ SPEAKER (OPTIONAL)
- ⊕ ROUGH-IN FOR OPT. CEILING FAN
- ⊕ CEILING MOUNTED INCANDESCENT LIGHT FIXTURE W/ ROUGH-IN FOR OPT. CEILING FAN

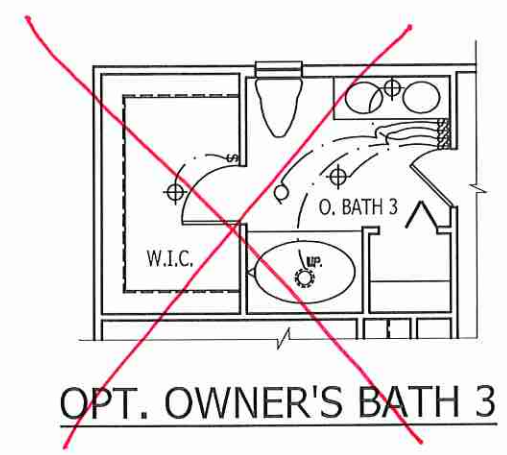
**NOTES:**

1. PROVIDE AND INSTALL GROUND FAULT CIRCUIT INTERRUPTERS (GFCI) AS INDICATED ON PLANS OR AS ITEM NO. 4 AND 5 BELOW INDICATES.
2. UNLESS OTHERWISE INDICATED, INSTALL SWITCHES AND RECEPTACLES AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR:  
SWITCHES... 4"  
OUTLETS... 18"  
TELEPHONE... 18" (UNLESS ABV COUNTERTOP)  
TELEVISION... 36"
3. ALL SMOKE DETECTORS SHALL BE HARDWIRED INTO AN ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH A MONITORED BATTERY BACKUP. PROVIDE AND INSTALL LOCALLY CERTIFIED SMOKE DETECTORS.
4. ALL 15A AND 20A RECEPTACLES IN SLEEPING ROOMS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEBS, BUNDRUMS, RECREATION ROOMS, CLOSETS, HALLWAYS, AND OTHER AREAS SHALL REQUIRE A COMBINATION TYPE AFCI DEVICE AND TAMPER-PROOF RECEPTACLES PER NEC 201.46(B) AND 406.3.
5. ALL 15A AND 20A DRY RECEPTACLES LOCATED IN THE GARAGE AND UTILITY ROOMS SHALL BE GFCI PROTECTED (GFI).
6. IT IS THE RESPONSIBILITY OF THE LICENSED ELECTRICIAN TO ENSURE THAT ALL ELECTRICAL WORK IS IN FULL COMPLIANCE WITH NFPA 70, NEC 2018, AND ALL APPLICABLE LOCAL STANDARDS, CODES, AND ORDINANCES.
7. EVERY BUILDING HAVING A FORMAL-BURNING HEATER OR APPLIANCE, FIREPLACE, OR AN ATTACHED GARAGE SHALL HAVE AN OPERATIONAL CARBON MONOXIDE DETECTOR INSTALLED WITHIN 10 FEET OF EACH ROOM USED FOR SLEEPING PURPOSES.
8. ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS DERIVED FROM THE LOCAL POWER UTILITY. SUCH ALARMS SHALL HAVE BATTERY BACKUP. COMBINATION SMOKE/CARBON MONOXIDE ALARMS SHALL BE LISTED OR LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.

WAIVER OF PLANS FROM THIS DRAFTER'S OFFICE SHALL NOT RELIEVE THE BUILDER OF RESPONSIBILITY TO REVIEW AND VERIFY ALL NOTES, DIMENSIONS, AND ADHERENCE TO APPLICABLE BUILDING CODES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.  
ANY DISCREPANCY OF ERROR IN NOTES, DIMENSIONS, OR ADHERENCE TO APPLICABLE BUILDING CODES SHALL BE BROUGHT TO THE ATTENTION OF THE DRAFTER'S OFFICE FOR CORRECTION BEFORE COMMENCEMENT OF ANY CONSTRUCTION.  
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IF ANY MODIFICATIONS ARE MADE TO THESE PLANS BY ANY OTHER PARTY OTHER THAN THE DRAFTER'S OFFICE, THE DRAFTER SHALL NOT BE HELD RESPONSIBLE.



**OPT. OWNER'S BATH 2**



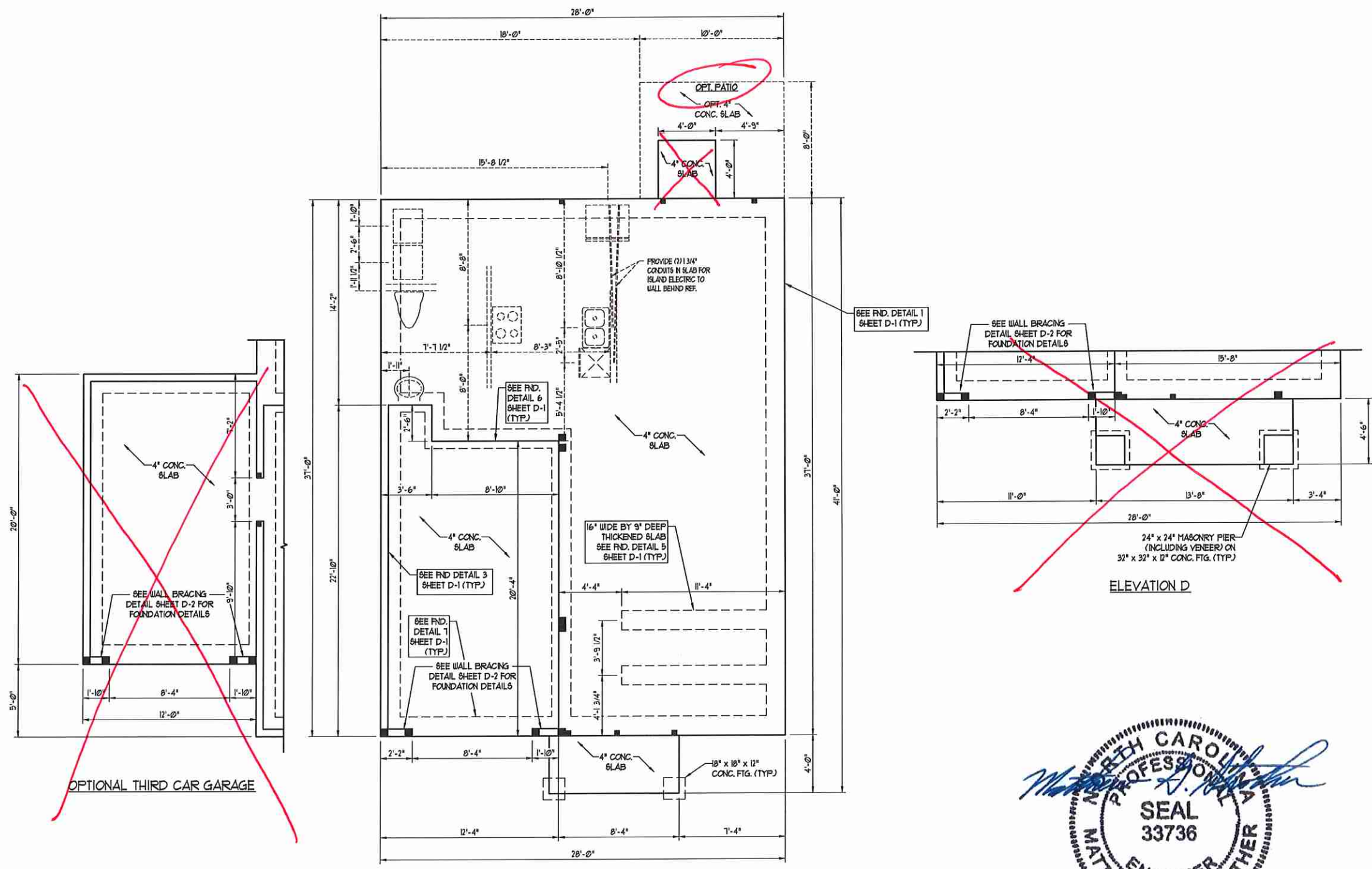
**OPT. OWNER'S BATH 3**

**SECOND FLOOR ELECTRICAL PLAN OPTIONS**

SCALE NOTE:  
 LARGE FORMAT PRINTS ARE TO SCALE AS NOTED  
 11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

- 50 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:**
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
  - STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION WITH SPECIAL CONSIDERATION TO CHAPTER 45 (HIGH WIND ZONES) FOR 50 MPH WINDS.
  - BUILDER IS TO PROVIDE FRAMING CONNECTIONS AS REQUIRED BY CHAPTER 45 (HIGH WIND ZONES) FOR 50 MPH WINDS.
  - FOUNDATION ANCHORAGE TO COMPLY WITH SECTION 4504 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
  - MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
  - WALL CLADDING DESIGNED FOR 43 PSF AND -37 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
  - ROOF CLADDING DESIGNED FOR 42 PSF AND -28 PSF FOR ROOF PITCHES 1/2 TO 1/12 AND -14 PSF AND -31 PSF FOR ROOF PITCHES 2/12 TO 1/12.
  - 1/4" OSB SHEATHING IS REQUIRED ON ALL EXTERIOR WALLS.
  - WALLS TO BE BRACED IN ACCORDANCE WITH SECTION R602.3 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION AND AS NOTED ON PLANS.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 8 OF THE NRC, 2018 EDITION.

- 100 MPH ULTIMATE DESIGN WIND SPEED NOTES FOR LESS THAN 30' MEAN ROOF HEIGHT:**
- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT INCLUDING ROOF SYSTEM.
  - STRUCTURAL DESIGN PER NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
  - INSTALL 1/2" ANCHOR BOLTS 6'-0" O.C. AND WITHIN 1'-0" FROM END OF EACH CORNER. ANCHOR BOLTS MUST EXTEND A MINIMUM OF 1" INTO MASONRY OR CONCRETE LOCATE BOLT WITHIN MIDDLE THIRD OF FLUTE WIDTH.
  - MEAN ROOF HEIGHT IS LESS THAN 30 FEET.
  - EXTERIOR WALLS DESIGNED FOR 60 MPH WINDS.
  - WALL CLADDING DESIGNED FOR 43 PSF AND -37 PSF (+/- INDICATE POSITIVE / NEGATIVE PRESSURE (TYP)).
  - ROOF CLADDING DESIGNED FOR 44 PSF AND -18 PSF FOR ROOF PITCHES 1/2 TO 1/12 AND -10 PSF AND -36 PSF FOR ROOF PITCHES 2/12 TO 1/12.
  - INSTALL 1/4" OSB SHEATHING ON ALL EXTERIOR WALLS OF ALL STORES IN ACCORDANCE WITH SECTION R602.3 OF THE NRC, 2018 EDITION. SEE THE WALL BRACING NOTES AND DETAIL 6 SHEET FOR MORE INFORMATION.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER 8 OF THE NRC, 2018 EDITION.
  - REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



NORTH CAROLINA  
 PROFESSIONAL  
 SEAL  
 33736  
 ENGINEER  
 MATTHEW G. STROTHER  
 6/22/2020

**J.S. THOMPSON  
 ENGINEERING, INC**  
 608 WADE AVE. SUITE 104 RALEIGH, NC 27605  
 PHONE: (919) 789-9919 FAX: (919) 789-9921  
 N.C. LICENSE NO.: C1733

ENGAGE  
 H & H HOMES

DATE: JUNE 22, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: PURL HOMES  
 ENGINEERED BY: WFB

SHEET 2 OF 10  
 S-1b  
 MONO SLAB  
 FOUNDATION PLAN



**NOTE: ALL FIRST FLOOR EXTERIOR WALLS ARE TO BE 2 x 4 @ 16" O.C. (UNO). 2 x 6 @ 16" O.C. FIRST FLOOR EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS (UNO). ALL INTERIOR LOAD BEARING AND NON-LOAD BEARING WALLS ARE TO BE 2 x 4 SFF 1/2 @ 24" O.C. (UNO).**

**BRACED WALL DESIGN NOTES:**

- BRACED WALL DESIGN PER SECTION R602.10 OF THE NCR 2018 EDITION.
- CS-USP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 1/2" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
- GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 12" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM FLATES.
- BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NCR 2018 EDITION.
- SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

TABLE R602.15  
MINIMUM NUMBER OF FULL HEIGHT STUDS  
AT EACH END OF HEADERS IN EXTERIOR WALLS

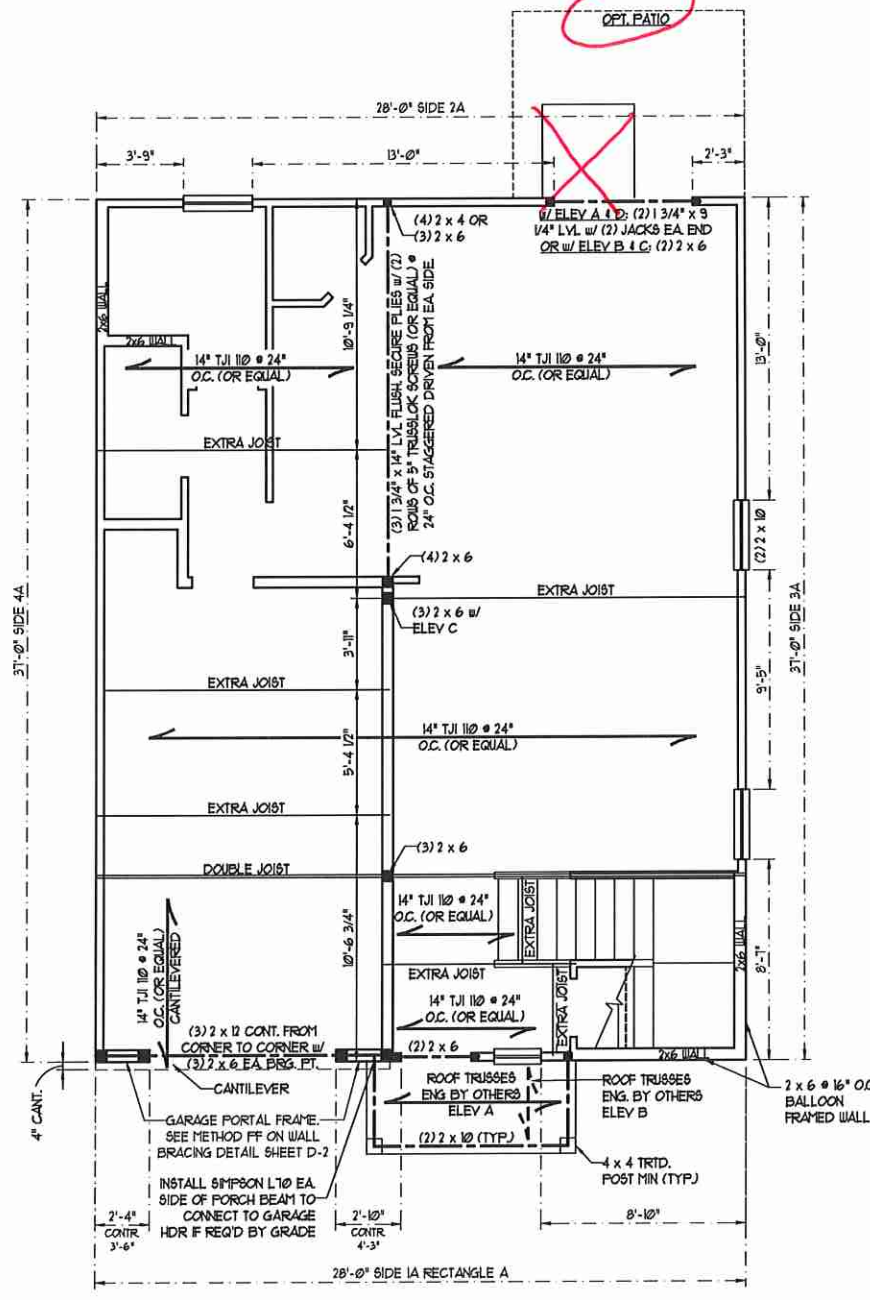
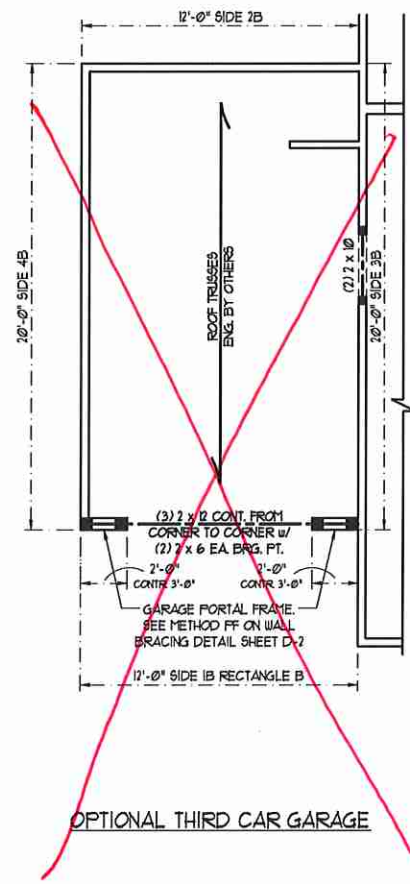
MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.15)	16	24
1	1	UP TO 5'
2	2	4'
3	3	8'
4	6	16'

**BRACED WALL DESIGN**

RECTANGLE B	RECTANGLE A
SIDE 1B METHOD: CS-USP/FF TOTAL REQUIRED LENGTH: 3.0' TOTAL PROVIDED LENGTH: 6.0'	SIDE 1A METHOD: CS-USP/FF TOTAL REQUIRED LENGTH: 14.1' TOTAL PROVIDED LENGTH: 16.5'
SIDE 2B METHOD: CS-USP TOTAL REQUIRED LENGTH: 3.0' TOTAL PROVIDED LENGTH: 12.0'	SIDE 2A METHOD: CS-USP TOTAL REQUIRED LENGTH: 14.1' TOTAL PROVIDED LENGTH: 19'
SIDE 3B 1 4A COMBINED METHOD: CS-USP TOTAL REQUIRED LENGTH: 0.36' TOTAL PROVIDED LENGTH: 3.05'	SIDE 3A METHOD: CS-USP TOTAL REQUIRED LENGTH: 11.3' TOTAL PROVIDED LENGTH: 31'
SIDE 4B METHOD: CS-USP TOTAL REQUIRED LENGTH: 7.66' TOTAL PROVIDED LENGTH: 16.33'	SIDE 4A METHOD: CS-USP TOTAL REQUIRED LENGTH: 11.3' TOTAL PROVIDED LENGTH: 31.33'

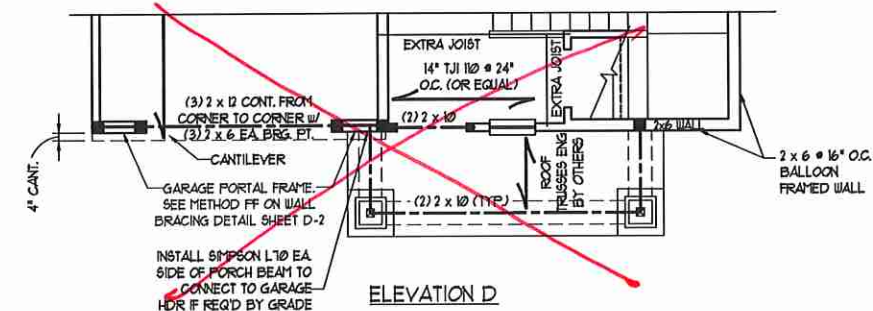
**STRUCTURAL NOTES:**

- ALL FRAMING LUMBER TO BE SFF 1/2 (UNO). ALL TREATED LUMBER TO BE SYP 1/2 (UNO).
- ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
- INSTALL AN EXTRA JOIST UNDER WALLS PARALLEL TO FLOOR JOISTS WHERE NOTED ON THE PLANS.
- WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA END (UNO). SEE TABLE R602.15 FOR ADDITIONAL KING STUD REQUIREMENTS.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
- FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 1/2" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
- FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 12" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE BILL PLATES THEIR FULL DEPTH.
- ALL 4 x 4 POSTS SHALL BE ANCHORED TO SLABS w/ SIMPSON ABU44 POST BASES (OR EQUAL) (UNO). ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS AT TOP (UNO).
- FOR FIBERGLASS, ALUMINUM, OR COLUMN ENG. BY OTHERS, SECURE TO SLAB w/ (2) METAL ANGLES USING 2" CONC. SCREWS. FASTEN ANGLES TO COLUMN w/ 1/4" THROUGH BOLTS w/ NUTS AND WASHERS. LOCATE ANGLES ON OPPOSITE SIDES OF COLUMN. THROUGH BOLTS MUST BE INSTALLED PRIOR TO SETTING COLUMN. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

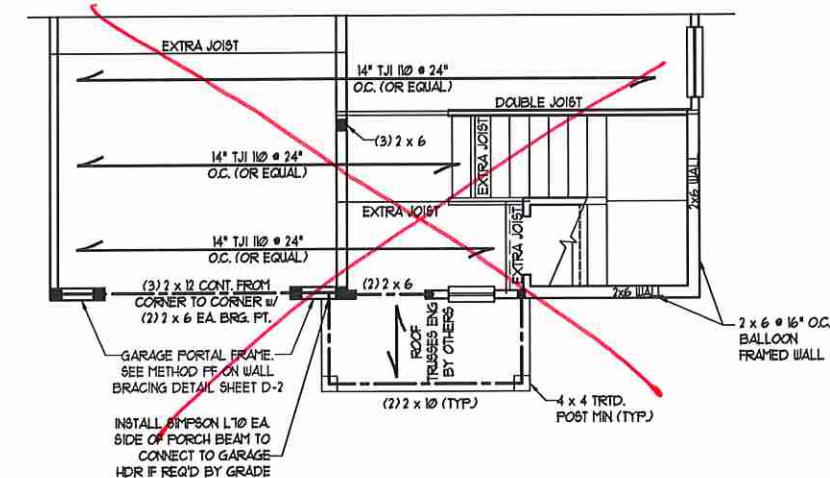


ELEVATIONS A & B

SCALE NOTE:  
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE



ELEVATION D



ELEVATION C

**J.S. THOMPSON ENGINEERING, INC**  
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PHONE: (919) 789-9919 FAX: (919) 789-9921  
N.C. LICENSE NO.: C-1733

ENGAGE  
H & H HOMES

DATE: JUNE 22, 2020  
SCALE: 1/4" = 1'-0"  
DRAWN BY: PUBLI HOMES  
ENGINEERED BY: WFB

SHEET 4 OF 10  
S-2  
SECOND FLOOR FRAMING PLAN



**SCALE NOTE:**  
 LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
 11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

**NOTE: ALL SECOND FLOOR EXTERIOR WALLS AND ATTIC WALLS ARE TO BE 2 x 4 SFF @ 24" O.C. (UNO). 2 x 6 SFF @ 24" O.C. SECOND FLOOR EXTERIOR WALLS MAY BE CONSTRUCTED IN LIEU OF 2 x 4 WALLS (UNO). ALL INTERIOR LOAD BEARING AND NON-LOAD BEARING WALLS ARE TO BE 2 x 4 SFF @ 24" O.C. (UNO).**

**BRACED WALL DESIGN NOTES:**

1. BRACED WALL DESIGN PER SECTION R602.10 OF THE NRCR 2018 EDITION
2. CS-USP REFERS TO "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" CONTRACTOR IS TO INSTALL 7/16" OSB ON ALL EXTERIOR WALLS ATTACHED w/ 8d NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.
3. GB REFERS TO "GYPSUM BOARD" CONTRACTOR IS TO INSTALL 1/2" (MIN) GYPSUM WALL BOARD WHERE NOTED ON THE PLANS. FASTEN GB WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 1" O.C. ALONG PANEL EDGES AND IN THE FIELD INCLUDING TOP AND BOTTOM FLATES.
4. BRACED WALL DESIGN APPLIED IN WIND ZONES UP TO 130 MPH. FOR HIGH WIND ZONES, BRACE WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 45 OF THE NRCR 2018 EDITION.
5. SEE NOTES AND DETAIL SHEETS FOR ADDITIONAL BRACED WALL INFORMATION.

**NOTE:**

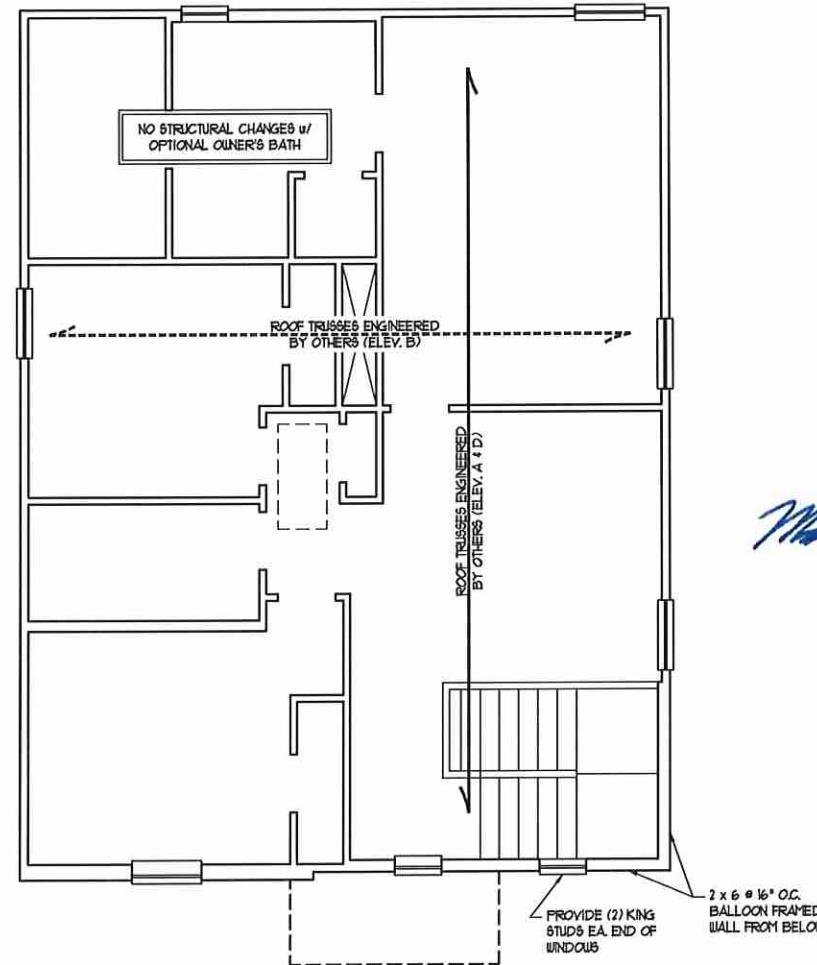
1. PER SECTION R602.10.3.2 OF THE 2018 NRCR, THE AMOUNT OF BRACING ON THE SECOND FLOOR EXCEEDS THE AMOUNT REQUIRED FOR THE FIRST FLOOR AND NO BRACED WALL ANALYSIS IS REQUIRED.
2. SHEATH ALL EXTERIOR WALLS WITH 7/16" OSB SHEATHING ATTACHED WITH 8d NAILS AT 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD.

**STRUCTURAL NOTES:**

1. ALL FRAMING LUMBER TO BE SFF @ (UNO). ALL TREATED LUMBER TO BE SYP @ (UNO).
2. ALL LOAD BEARING HEADERS TO BE (2) 2 x 6 (UNO).
3. WINDOW AND DOOR HEADERS TO BE SUPPORTED w/ (1) JACK STUD AND (1) KING STUD EA. END (UNO). SEE TABLE R602.15 FOR ADDITIONAL KING STUD REQUIREMENTS.
4. SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. ALL SQUARES TO BE (2) STUDS (UNO).
5. FOR HIGH WIND ZONES, ALL EXTERIOR WALLS TO BE SHEATHED WITH 7/16" OSB SHEATHING WITH JOINTS BLOCKED AND SECURED WITH 8d NAILS AT 3" O.C. ALONG EDGES AND 6" O.C. IN THE FIELD.
6. FOR HIGH WIND ZONES, SECURE ALL EXTERIOR WALL SHEATHING PANELS TO DOUBLE TOP PLATES, BANDS, JOISTS, AND GIRDERS WITH (2) ROWS OF 8d NAILS STAGGERED AT 3" O.C. PANELS SHALL EXTEND 1" BEYOND CONSTRUCTION JOINTS AND SHALL OVERLAP GIRDERS AND DOUBLE GILL FLATES THEIR FULL DEPTH.
7. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.

**TABLE R602.15**  
 MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS

HEADER SPAN (FEET)	MAXIMUM STUD SPACING (INCHES) (PER TABLE R602.15)	
	16	24
UP TO 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4



ELEVATIONS A, B, & D



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ENGAGE  
 H & H HOMES

DATE: JUNE 22, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: PUBLI HOMES  
 ENGINEERED BY: WFB

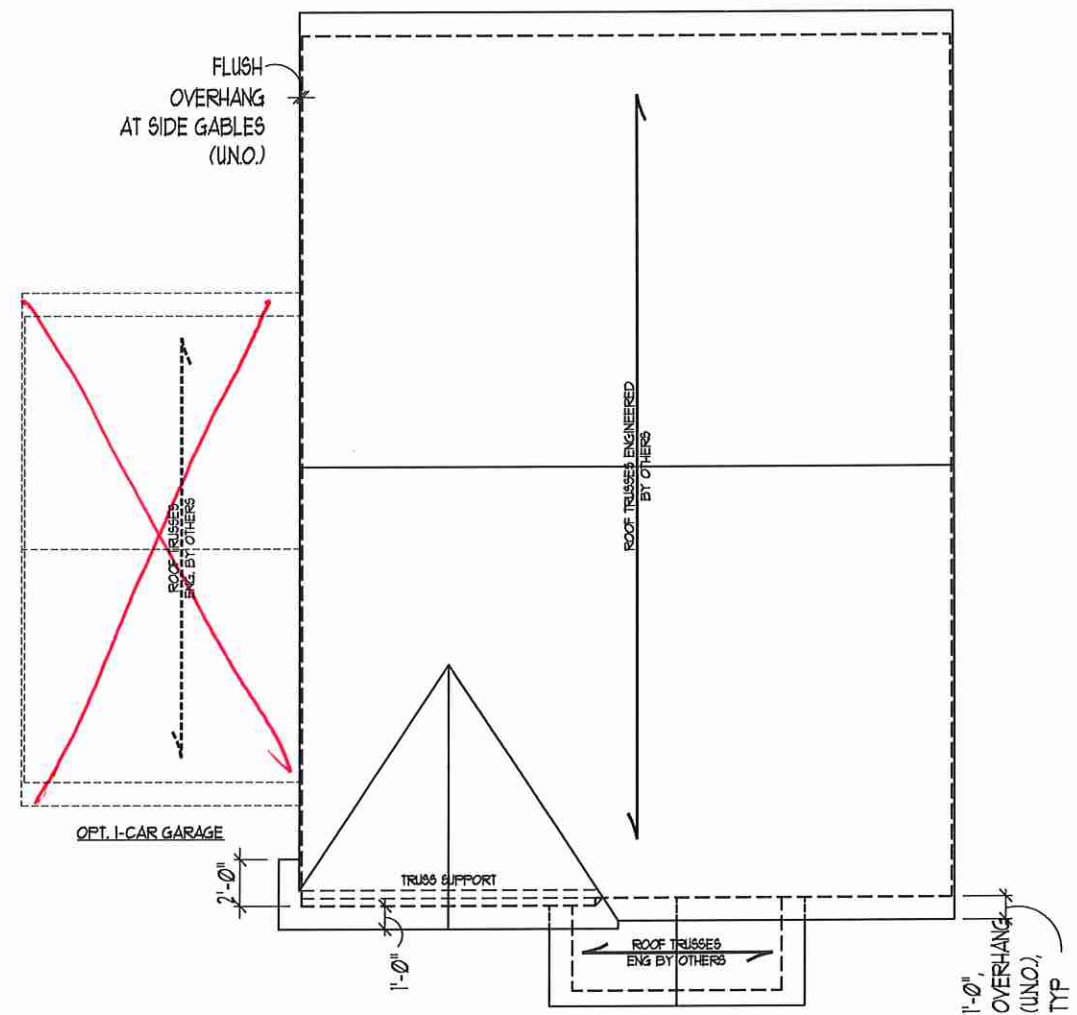
SHEET 5 OF 10  
 S-3a  
 CEILING FRAMING  
 PLAN ELEV. A



SCALE NOTE:  
 LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
 11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

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- STRUCTURAL NOTES:**
1. ALL FRAMING LUMBER TO BE #2 SFF (NO).
  2. CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF SUPPORT.
  3. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS.
  4. HIP SPLICES ARE TO BE SPACED A MIN. OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS @ 16" O.C. (TYP.)
  5. STICK FRAME OVER-FRAMED ROOF SECTIONS W/ 2 x 8 RIDGES, 2 x 6 RAFTERS @ 16" O.C. AND FLAT 2 x 10 VALLEYS OR USE VALLEY TRUSSES.
  6. FASTEN FLAT VALLEYS TO RAFTERS OR TRUSSES WITH SIMPSON H25A HURRICANE TIES @ 32" O.C. MAX. PASS HURRICANE TIES THROUGH NOTCH IN ROOF SHEATHING. EACH RAFTER IS TO BE FASTENED TO THE FLAT VALLEY WITH A MIN. OF (6) 12d TOE NAILS.
  7. REFER TO SECTION R802.11 OF THE 2018 NRC FOR REQUIRED UPLIFT RESISTANCE AT RAFTERS AND TRUSSES.
  8. REFER TO NOTES AND DETAIL SHEETS FOR ADDITIONAL STRUCTURAL INFORMATION.



ELEVATION A



ENGAGE  
 H & H HOMES

DATE: JUNE 22, 2020  
 SCALE: 1/4" = 1'-0"  
 DRAWN BY: PUBL HOMES  
 ENGINEERED BY: WFB

SHEET 7 OF 10  
 S4a  
 ROOF FRAMING PLAN



MONOLITHIC SLAB DETAILS

**DETAIL 1**

TYPICAL SLAB DETAIL

**DETAIL 2**

BRICK VENEER DETAIL

**DETAIL 3**

GARAGE CURB DETAIL

**DETAIL 4**

GARAGE CURB BRICK LEDGE DETAIL

**DETAIL 5**

THICKENED SLAB DETAIL

**DETAIL 6**

STEP IN GARAGE DETAIL

**DETAIL 7**

SLAB AT GARAGE DOOR DETAIL

STEMWALL DETAILS

**DETAIL 1**

TYPICAL STEM WALL DETAIL (w/ OPTIONAL WATERTABLE)

**OPTIONAL DETAIL 1**

OPTIONAL STEM WALL DETAIL

**DETAIL 2**

TYPICAL STEM WALL FND. w/ BRICK DETAIL

**DETAIL 3**

TYPICAL STEM WALL FND. DETAIL w/ CURB @ GARAGE

**OPTIONAL DETAIL 3**

OPTIONAL STEM WALL FND. DETAIL w/ CURB @ GARAGE

**DETAIL 4**

TYPICAL STEM WALL FND. DETAIL w/ BRICK AND CURB @ GARAGE

**DETAIL 8**

THREADED ROD THROUGH BRICK MASONRY

MASONRY STEMWALL SPECIFICATIONS

WALL HEIGHT (FEET)	MASONRY WALL TYPE			
	8" CMU	4" BRICK AND 4" CMU	4" BRICK AND 8" CMU	12" CMU
2 AND BELOW	UNGRADED	GROUT SOLID	UNGRADED	UNGRADED
3	UNGRADED	GROUT SOLID	UNGRADED	UNGRADED
4	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 48" O.C.	GROUT SOLID	GROUT SOLID w/ #4 REBAR @ 64" O.C.
5	GROUT SOLID w/ #4 REBAR @ 36" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 36" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
6	GROUT SOLID w/ #4 REBAR @ 24" O.C.	NOT APPLICABLE	GROUT SOLID w/ #4 REBAR @ 24" O.C.	GROUT SOLID w/ #4 REBAR @ 64" O.C.
1 AND GREATER	ENGINEERED DESIGN BASED ON SITE CONDITIONS			

STRUCTURAL NOTES:

- WALL HEIGHT MEASURED FROM TOP OF FOOTING TO TOP OF THE WALL.
- THE MULTIPLE W/THES TOGETHER WITH LADDER WIRE AT 16" O.C. VERTICALLY.
- CHART APPLICABLE FOR HOUSE FOUNDATION ONLY. CONSULT ENGINEER FOR DESIGN OF GARAGE FOUNDATION NOT COMMON TO HOUSE.
- BACKFILL OF CLEAN #1 1/2" WASHED STONE IS ALLOWABLE.
- BACKFILL OF WELL DRAINED OR SAND - GRAVEL MIXTURE SOILS (45 PFSF BELOW GRADE) CLASSIFIED AS GROUP 1 ACCORDING TO UNIFIED SOILS CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE 2008.1 OF THE 2008 INTERNATIONAL RESIDENTIAL CODE ARE ALLOWABLE.
- PREP SLAB PER R506.2.1 AND R506.2.2 BASE OF THE 2008 INTERNATIONAL RESIDENTIAL CODE. MINIMUM 24" LAP SPICE LENGTH.
- LOCATE REBAR IN CENTER OF FOUNDATION WALL.
- WHERE REQUIRED, FILL BLOCK SOLID WITH TYPE 15" MORTAR OR 3000 PSI GROUT. USE OF "LOW LIFT GROUTING" METHOD REQUIRED WHEN FILLING WALLS WITH GROUT AT HEIGHTS OF 3' AND GREATER.

ANCHOR SPACING AND EMBEDMENT

WIND ZONE	120 MPH	130 MPH
SPACING	6'-0" O.C.	4'-0" O.C.
EMBEDMENT	1'	15" INTO MASONRY 1" INTO CONCRETE



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120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED  
 FOUNDATION DETAILS

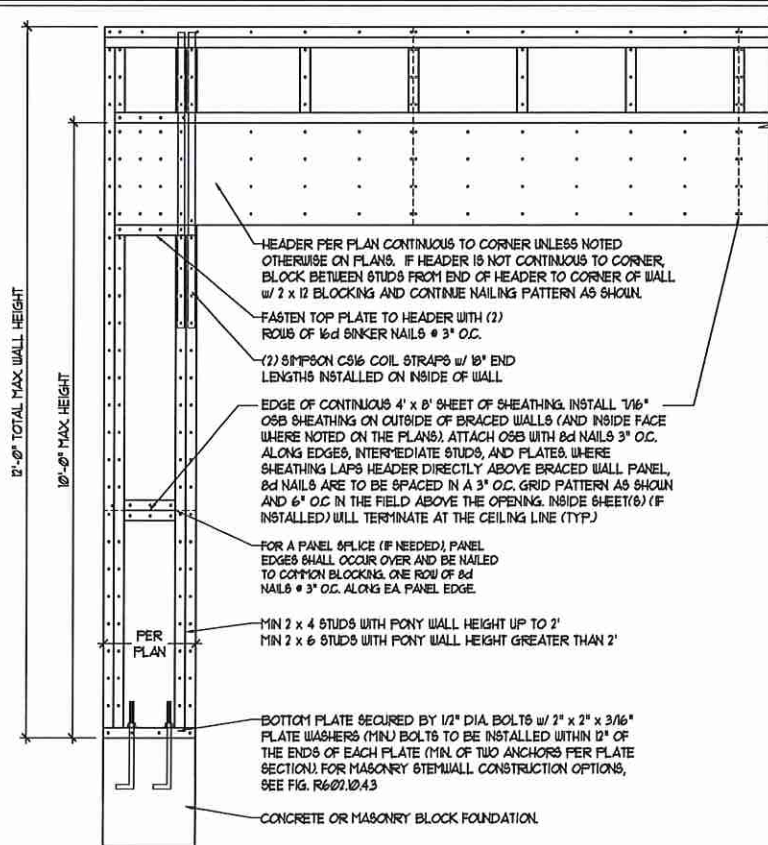
DATE: NOVEMBER 14, 2018  
 SCALE: NTS  
 DRAWN BY: JST  
 ENGINEERED BY: JES

D-1  
 FOUNDATION DETAILS

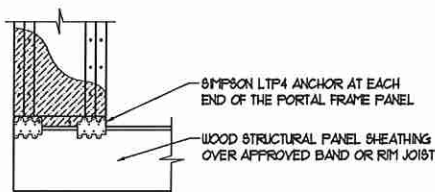


**GENERAL WALL BRACING NOTES:**

1. WALL BRACING DESIGNED IN ACCORDANCE WITH CHAPTER 6 OF THE 2018 NC RESIDENTIAL BUILDING CODE (NCR). TABLES AND FIGURES REFERENCED ARE FROM THE 2018 NCR.
2. SEE THIS SHEET FOR GENERAL DETAILS. REFER TO THE 2018 NCR FOR ADDITIONAL INFORMATION AS NEEDED.
3. BRACED EXTERIOR WALLS SUPPORTING ROOF TRUSSES AND RAFTERS, INCLUDING STORIES BELOW THE TOP FLOOR, HAVE BEEN DESIGNED PER R602.3.5 (3). WALL SHEATHING AND FASTENERS HAVE BEEN DESIGNED TO RESIST COMBINED UPLIFT AND SHEAR FORCES IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE.
4. SEE STRUCTURAL SHEETS FOR BRACED WALL LOCATIONS, DIMENSIONS, HOLD DOWN TYPE AND LOCATIONS, BRACED WALL LINE KEY WITH WALL DESIGN SUMMARY OF REQUIRED/PROVIDED TOTALS FOR EACH WALL LINE AND ANY SPECIAL NOTES OR REQUIREMENTS.
5. ALL EXTERIOR WALLS ARE TO BE SHEATHED WITH CS-USP IN ACCORDANCE WITH SECTION R602.10.3 UNLESS NOTED OTHERWISE.
6. ALL EXTERIOR AND INTERIOR WALLS TO HAVE 1/2" GYPSUM INSTALLED. WHEN NOT USING METHOD "GB", GYPSUM TO BE FASTENED PER TABLE R702.3.5. METHOD GB TO BE FASTENED PER TABLE R602.10.3.
7. CS-USP REFERS TO THE "CONTINUOUS SHEATHING - WOOD STRUCTURAL PANELS" WALL BRACING METHOD. 1/16" OSB SHEATHING IS TO BE INSTALLED ON ALL EXTERIOR WALLS ATTACHED w/ 6d COMMON NAILS OR 8d (2 1/2" LONG x Ø13" DIAMETER) NAILS SPACED 6" O.C. ALONG PANEL EDGES AND 12" O.C. IN THE FIELD (UNO).
8. GB REFERS TO THE "GYPSUM BOARD" WALL BRACING METHOD. 1/2" (MIN) GYPSUM WALL BOARD IS TO BE INSTALLED ON BOTH SIDES OF THE BRACED WALL FASTENED WITH 1 1/4" SCREWS OR 1 5/8" NAILS SPACED 1" O.C. ALONG PANEL EDGES INCLUDING TOP AND BOTTOM FLATES AND INTERMEDIATE SUPPORTS (UNO). VERIFY ALL FASTENER OPTIONS FOR 1/2" AND 5/8" GYPSUM PRIOR TO CONSTRUCTION. FOR INTERIOR FASTENER OPTIONS SEE TABLE R702.3.5. FOR EXTERIOR FASTENER OPTIONS SEE TABLE R602.3(1). EXTERIOR GB TO BE INSTALLED VERTICALLY.
9. REQUIRED BRACED WALL LENGTH FOR EACH SIDE OF THE CIRCUMSCRIBED RECTANGLE ARE INTERPOLATED PER TABLE R602.10.3. METHOD CS-USP CONTRIBUTES ITS ACTUAL LENGTH, METHOD GB CONTRIBUTES 5 TIMES ITS ACTUAL LENGTH, AND METHOD PF CONTRIBUTES 15 TIMES ITS ACTUAL LENGTH.



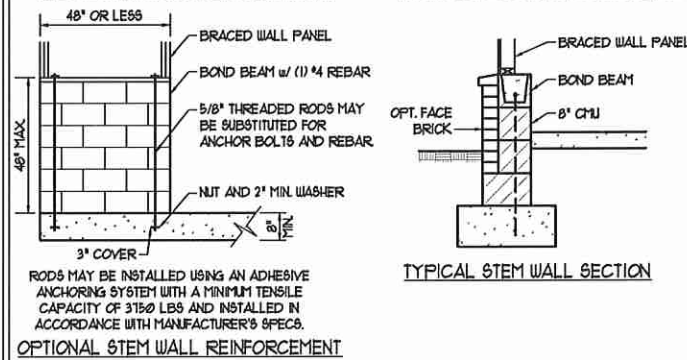
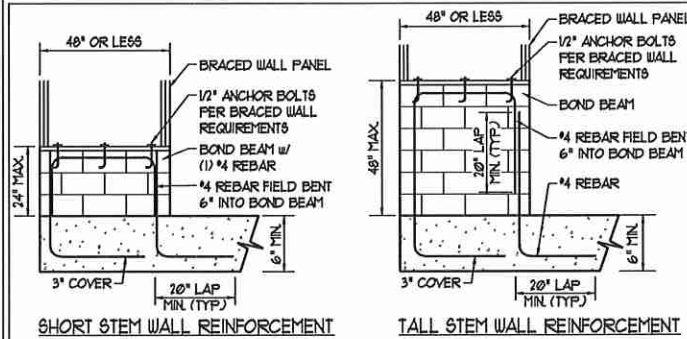
OVER CONCRETE OR MASONRY BLOCK FOUNDATION



OVER RAISED WOOD FLOOR - FRAMING ANCHOR OPTION

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

**METHOD PF-PORTAL FRAME DETAIL ①**



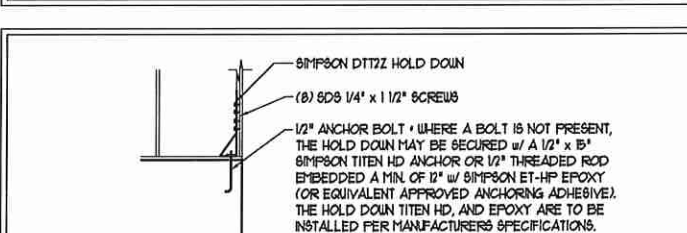
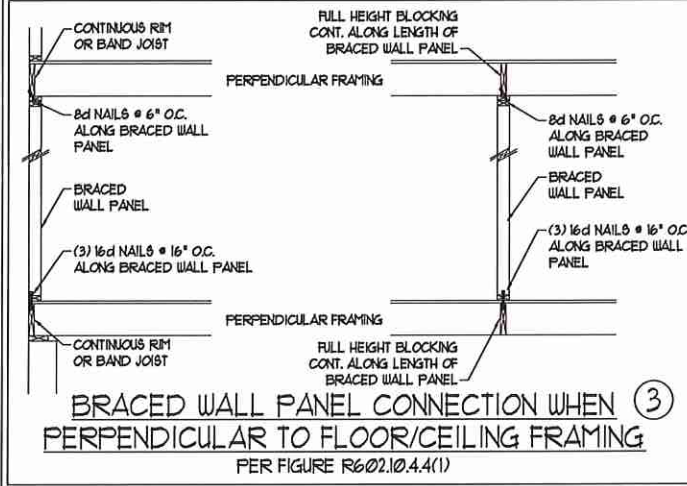
RODS MAY BE INSTALLED USING AN ADHESIVE ANCHORING SYSTEM WITH A MINIMUM TENSILE CAPACITY OF 3750 LBS AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECS.

**OPTIONAL STEM WALL REINFORCEMENT**

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

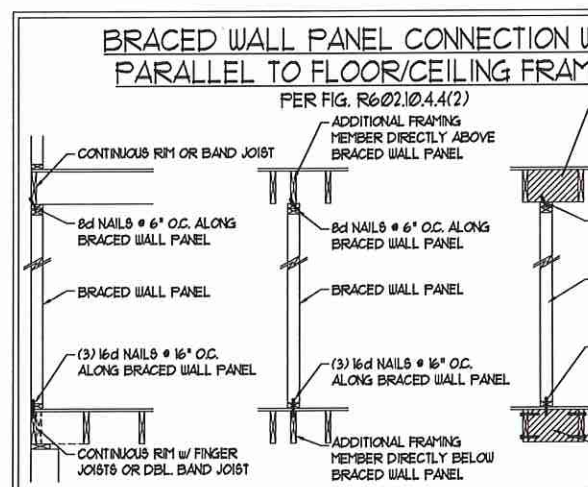
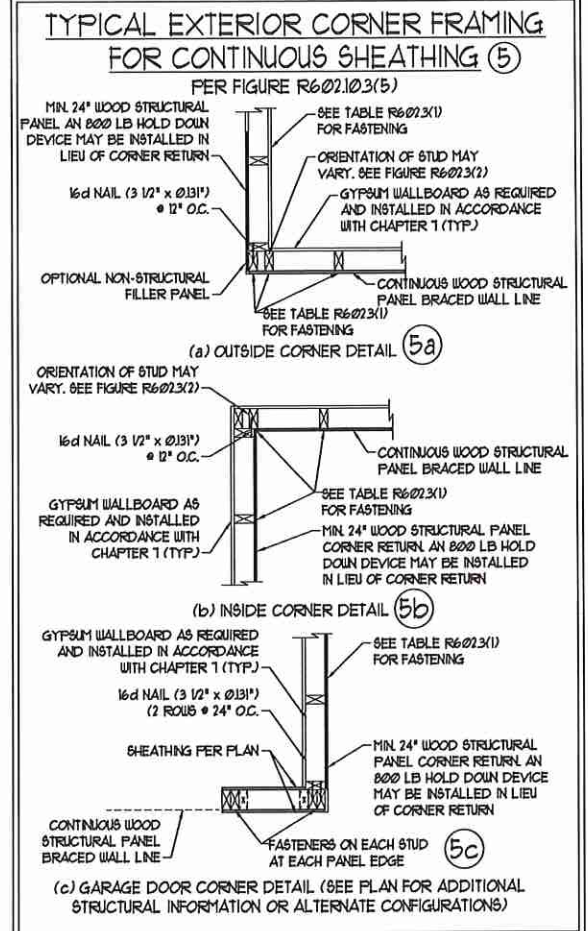
**MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS ②**

PER FIGURE R602.10.4.3



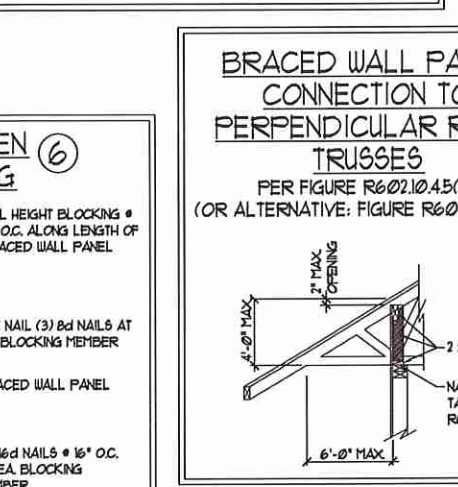
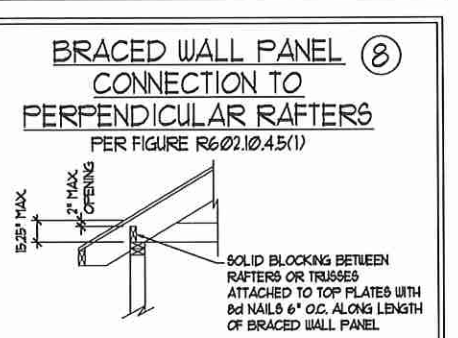
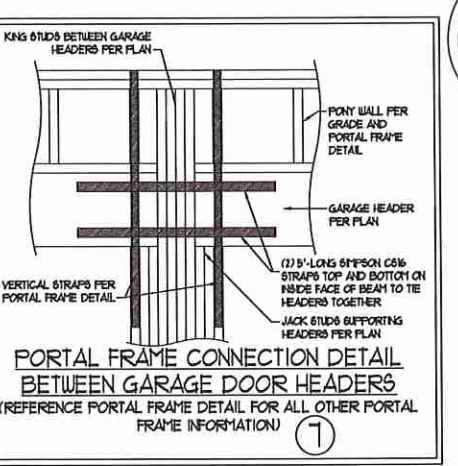
**HOLD DOWN DETAIL FOR MASONRY FOUNDATION OR MONOLITHIC SLAB ④**

\* APPLICABLE ONLY WHERE SPECIFIED ON PLAN \*



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**SCALE NOTE:**  
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE



**BRACED WALL PANEL CONNECTION TO PERPENDICULAR ROOF TRUSSES ⑨**

PER FIGURE R602.10.4.5(3) (OR ALTERNATIVE: FIGURE R602.10.4.5(2))

DATE: OCTOBER 13, 2016  
SCALE: 1/4" = 1'-0"  
DRAWN BY: JST  
ENGINEERED BY: JST

D-2  
BRACED WALL NOTES AND DETAILS AND PF DETAILS

6/22/2020

**SEAL 33736**  
ENGINEER  
MATTHEW G. STROTHER

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N.C. LICENSE NO.: C-1733

120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED  
WALL BRACING NOTES AND DETAILS



SCALE NOTE:  
LARGE FORMAT PRINTS ARE TO SCALE AS NOTED.  
11" x 17" PRINTS ARE ONE HALF THE NOTED SCALE

**GENERAL NOTES**

- ENGINEER'S SEAL APPLIES ONLY TO STRUCTURAL COMPONENTS INCLUDING ROOF RAFTERS, HIPS, VALLEYS, RIDGES, FLOORS, WALLS, BEAMS, HEADERS, COLUMNS, CANTILEVERS, OFFSET LOAD BEARING WALLS, PIERS, GIRDER SYSTEM AND FOOTING. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OF ARCHITECTURAL LAYOUT INCLUDING ROOF. ENGINEER'S SEAL DOES NOT APPLY TO I-JOIST OR FLOOR/ROOF TRUSS LAYOUT DESIGN AND ACCURACY.
  - ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE (NRC), 2018 EDITION, PLUS ALL LOCAL CODES AND REGULATIONS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR, AND WILL NOT HAVE CONTROL OF, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION WORK. NOR WILL THE ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
  - STRUCTURAL DESIGN BASED ON THE PROVISIONS OF THE NRC, 2018 EDITION (R301.4 - R301.7)
- | DESIGN CRITERIA:                 | LIVE LOAD (PSF)                                   | DEAD LOAD (PSF) | DEFLECTION (IN)                   |
|----------------------------------|---|-----------------|-----------------------------------|
| ATTIC WITH LIMITED STORAGE       | 20  | 10              | L/240 (L/360 w/ BRITTLE FINISHES) |
| ATTIC WITHOUT STORAGE            | 10  | 10              | L/360                             |
| DECKS                            | 40  | 10              | L/360                             |
| EXTERIOR BALCONIES               | 40  | 10              | L/360                             |
| FIRE ESCAPES                     | 40  | 10              | L/360                             |
| HANDRAILS/GUARDRAILS             | 200 LB OR 50 (PLF)                                | 10              | L/360                             |
| PASSENGER VEHICLE GARAGE         | 50  | 10              | L/360                             |
| ROOMS OTHER THAN SLEEPING ROOM   | 40  | 10              | L/360                             |
| SLEEPING ROOMS                   | 30  | 10              | L/360                             |
| STAIRS                           | 40  | 10              | L/360                             |
| WIND LOAD                        | (BASED ON TABLE R301.2(4) WIND ZONE AND EXPOSURE) |                 |                                   |
| GROUND SNOW LOAD: P <sub>g</sub> | 20 (PSF)  |                 |                                   |
- I-JOIST SYSTEMS DESIGNED WITH 12 PSF DEAD LOAD AND DEFLECTION (IN) OF L/400
  - FLOOR TRUSS SYSTEMS DESIGNED WITH 15 PSF DEAD LOAD
- FOR 15 AND 20 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION R402.1.6 OF THE NRC, 2018 EDITION. FOR 30 MPH, 40 MPH, AND 50 MPH WIND ZONES, FOUNDATION ANCHORAGE IS TO COMPLY WITH SECTION 4504 OF THE NRC, 2018 EDITION.
  - ENERGY EFFICIENCY COMPLIANCE AND INSULATION VALUES OF THE BUILDING TO BE IN ACCORDANCE WITH CHAPTER II OF THE NRC, 2018 EDITION.

**FOOTING AND FOUNDATION NOTES**

- FOUNDATION DESIGN BASED ON A MINIMUM ALLOWABLE BEARING CAPACITY OF 2000 PSF. CONTACT GEOTECHNICAL ENGINEER IF BEARING CAPACITY IS NOT ACHIEVED.
- FOR ALL CONCRETE SLABS AND FOOTINGS, THE AREA WITHIN THE PERIMETER OF THE BUILDING ENVELOPE SHALL HAVE ALL VEGETATION, TOP SOIL AND FOREIGN MATERIAL REMOVED. FILL MATERIAL SHALL BE FREE OF VEGETATION AND FOREIGN MATERIAL. THE FILL SHALL BE COMPACTED TO ASSURE UNIFORM SUPPORT OF THE SLAB, AND EXCEPT WHERE APPROVED, THE FILL DEPTHS SHALL NOT EXCEED 24" FOR CLEAN SAND OR GRAVEL. A 4" THICK BASED COURSE CONSISTING OF CLEAN GRADED SAND OR GRAVEL SHALL BE PLACED. A BASE COURSE IS NOT REQUIRED WHERE A CONCRETE SLAB IS INSTALLED ON WELL-DRAINED OR SAND-GRAVEL MIXTURE SOILS CLASSIFIED AS GROUP 1, ACCORDING TO THE UNITED SOIL CLASSIFICATION SYSTEM IN ACCORDANCE WITH TABLE R405.1 OF THE NRC, 2018 EDITION.
- PROPERLY DEWATER EXCAVATION PRIOR TO POURING CONCRETE WHEN BOTTOM OF CONCRETE SLAB IS AT OR BELOW WATER TABLE. IF APPLICABLE, 3/4" - 1" DEEP CONTROL JOINTS ARE TO BE SAILED WITHIN 4 TO 12 HOURS OF CONCRETE FINISHING AND WALL LOCATIONS HAVE BEEN MARKED. ADJUST WHERE NECESSARY.
- CONCRETE SHALL CONFORM TO SECTION R402.2 OF THE NRC, 2018 EDITION. CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60. WELDED WIRE FABRIC TO BE ASTM A185. MAINTAIN A MINIMUM CONCRETE COVER AROUND REINFORCING STEEL OF 3" IN FOOTINGS AND 1 1/2" IN SLABS. FOR POURED CONCRETE WALLS, CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE INSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 3/4". CONCRETE COVER FOR REINFORCING STEEL MEASURED FROM THE OUTSIDE FACE OF THE WALL SHALL NOT BE LESS THAN 1 1/2" FOR #5 BARS OR SMALLER, AND NOT LESS THAN 2" FOR #6 BARS OR LARGER.
- MASONRY UNITS TO CONFORM TO ACE 530/ASCE 5/TMS 402. MORTAR SHALL CONFORM TO ASTM C270.
- THE UNSUPPORTED HEIGHT OF MASONRY PIERS SHALL NOT EXCEED FOUR TIMES THEIR LEAST DIMENSION FOR UNFILLED HOLLOW CONCRETE MASONRY UNITS AND TEN TIMES THEIR LEAST DIMENSION FOR SOLID OR SOLID FILLED PIERS. PIERS MAY BE FILLED SOLID WITH CONCRETE OR TYPE M OR S MORTAR. PIERS AND WALLS SHALL BE CAPPED WITH 8" OF SOLID MASONRY.
- THE CENTER OF EACH OF THE PIERS SHALL BEAR IN THE MIDDLE THIRD OF ITS RESPECTIVE FOOTING. EACH GIRDER SHALL BEAR IN THE MIDDLE THIRD OF THE PIERS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF SECTION R404 OF THE NRC, 2018 EDITION OR IN ACCORDANCE WITH ACI 318, ACI 332, NCM 186B-A OR ACE 530/ASCE 5/TMS 402. MASONRY FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(1), R404.1X(2), R404.1X(3), OR R404.1X(4) OF THE NRC, 2018 EDITION. CONCRETE FOUNDATION WALLS ARE TO BE REINFORCED PER TABLE R404.1X(5) OF THE NRC, 2018 EDITION. STEP CONCRETE FOUNDATION WALLS TO 2 x 6 FRAMED WALLS AT 16" O.C. WHERE GRADE PERMITS (UNO).

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**FRAMING NOTES**

- ALL FRAMING LUMBER SHALL BE #2 SFF MINIMUM (F<sub>b</sub> = 875 PSF, F<sub>v</sub> = 375 PSF, E = 1600000 PSF) UNLESS NOTED OTHERWISE (UNO). ALL TREATED LUMBER SHALL BE #2 SYP MINIMUM (F<sub>b</sub> = 975 PSF, F<sub>v</sub> = 475 PSF, E = 1600000 PSF) UNLESS NOTED OTHERWISE (UNO).
- LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2600 PSF, F<sub>v</sub> = 285 PSF, E = 1800000 PSF. LAMINATED STRAND LUMBER (LSL) SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>b</sub> = 2375 PSF, F<sub>v</sub> = 310 PSF, E = 1500000 PSF. PARALLEL STRAND LUMBER (PSL) UP TO 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 PSF, E = 1800000 PSF. PARALLEL STRAND LUMBER (PSL) MORE THAN 1" DEPTH SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: F<sub>c</sub> = 2900 PSF, E = 1000000 PSF. INSTALL ALL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS
 

A. W AND WT SHAPES:	ASTM A992
B. CHANNELS AND ANGLES:	ASTM A36
C. PLATES AND BARS:	ASTM A36
D. HOLLOW STRUCTURAL SECTIONS:	ASTM A500 GRADE B
E. STEEL PIPE:	ASTM A53, GRADE B, TYPE E OR S
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH (UNO). PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED AT THE BOTTOM FLANGE TO EACH SUPPORT AS FOLLOWS (UNO):
 

A. WOOD FRAMING	(2) 1/2" DIA x 4" LONG LAG SCREWS
B. CONCRETE	(2) 1/2" DIA x 4" WEDGE ANCHORS
C. MASONRY (FULLY GROUTED)	(2) 1/2" DIA x 4" LONG SIMPSON TITEN HD ANCHORS

LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDING THE JOISTS ARE TOE NAILED TO THE 2x NAILER ON TOP OF THE STEEL BEAM, AND THE 2x NAILER IS SECURED TO THE TOP OF THE STEEL BEAM w/ (2) ROWS OF SELF TAPPING SCREWS @ 16" O.C. OR (2) ROWS OF 1/2" DIAMETER BOLTS @ 16" O.C. IF 1/2" BOLTS ARE USED TO FASTEN THE NAILER, THE STEEL BEAM SHALL BE FABRICATED w/ (2) ROWS OF 3/16" DIAMETER HOLES @ 16" O.C.
- SQUARES DENOTE POINT LOADS WHICH REQUIRE SOLID BLOCKING TO GIRDER OR FOUNDATION. SHADED SQUARES DENOTE POINT LOADS FROM ABOVE WHICH REQUIRE SOLID BLOCKING TO SUPPORTING MEMBER BELOW.
- ALL LOAD BEARING HEADERS TO CONFORM TO TABLE R602.1(1) AND R602.1(2) OF THE NRC, 2018 EDITION OR BE (2) 2 x 6 WITH (1) JACK AND (1) KING STUD EACH END (UNO), WHICHEVER IS GREATER. ALL HEADERS TO BE SECURED TO EACH JACK STUD WITH (4) 8d NAILS. ALL BEAMS TO BE SUPPORTED WITH (2) STUDS AT EACH BEARING POINT (UNO). INSTALL KING STUDS PER SECTION R602.13 OF THE NORTH CAROLINA RESIDENTIAL CODE, 2018 EDITION.
- ALL BEAMS, HEADERS, OR GIRDER TRUSSES PARALLEL TO WALL ARE TO BEAR FULLY ON (1) JACK OR (2) STUDS MINIMUM OR THE NUMBER OF JACKS OR STUDS NOTED. ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY (3) STUDS OR LESS ARE TO HAVE 1 1/2" MINIMUM BEARING (UNO). ALL BEAMS OR GIRDER TRUSSES PERPENDICULAR TO WALL AND SUPPORTED BY MORE THAN (3) STUDS OR OTHER NOTED COLUMN ARE TO BEAR FULLY ON SUPPORT COLUMN FOR ENTIRE WALL DEPTH (UNO). BEAM ENDS THAT BUTT INTO ONE ANOTHER ARE TO EACH BEAR EQUAL LENGTHS (UNO).
- FLITCH BEAMS SHALL BE BOLTED TOGETHER USING 1/2" DIAMETER BOLTS (ASTM A307) WITH WASHERS PLACED AT THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" CENTERS (MAXIMUM), AND STAGGERED AT TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH (2) BOLTS LOCATED AT 6" FROM EACH END (UNO).
- ALL I-JOIST OR TRUSS LAYOUTS ARE TO BE IN COMPLIANCE WITH THE OVERALL DESIGN SPECIFIED ON THE PLANS. ALL DEVIATIONS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
- BRACED WALL PANELS SHALL BE CONSTRUCTED ACCORDING TO THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION WALL BRACING CRITERIA. THE AMOUNT, LENGTH, AND LOCATION OF BRACING SHALL COMPLY WITH ALL APPLICABLE TABLES IN SECTION R602.10.
- PROVIDE DOUBLE JOIST UNDER ALL WALLS PARALLEL TO FLOOR JOISTS. PROVIDE SUPPORT UNDER ALL WALLS PARALLEL TO FLOOR TRUSSES OR I-JOISTS PER MANUFACTURER'S SPECIFICATIONS. INSTALL BLOCKING BETWEEN JOISTS OR TRUSSES FOR POINT LOAD SUPPORT FOR ALL POINT LOADS ALONG OFFSET LOAD LINES.
- FOR ALL HEADERS SUPPORTING BRICK VENEER THAT ARE LESS THAN 8'-0" IN LENGTH, REST A 6" x 4" x 5/16" STEEL ANGLE WITH 6" MINIMUM EMBEDMENT AT SIDES FOR BRICK SUPPORT (UNO). FOR ALL HEADERS 8'-0" AND GREATER IN LENGTH, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO HEADER WITH 1/2" LAG SCREWS AT 12" O.C. STAGGERED FOR BRICK SUPPORT. FOR ALL BRICK SUPPORT AT ROOF LINES, BOLT A 6" x 4" x 5/16" STEEL ANGLE TO (2) 2 x 10 BLOCKING INSTALLED w/ (4) 12d NAILS EA. PLY BETWEEN WALL STUDS WITH (2) ROWS OF 1/2" LAG SCREWS AT 12" O.C. STAGGERED AND IN ACCORDANCE WITH SECTION R103.2(2) OF THE NRC, 2018 EDITION.
- FOR STICK FRAMED ROOFS: CIRCLES DENOTE (3) 2 x 4 POSTS FOR ROOF MEMBER SUPPORT. HIP SPLICES ARE TO BE SPACED A MINIMUM OF 8'-0". FASTEN MEMBERS WITH THREE ROWS OF 12d NAILS AT 16" O.C. FRAME DORMER WALLS ON TOP OF DOUBLE OR TRIPLE RAFTERS AS SHOWN (UNO).
- FOR TRUSSED ROOFS: FRAME DORMER WALLS ON TOP OF 2 x 4 LADDER FRAMING AT 24" O.C. BETWEEN ADJACENT ROOF TRUSSES. STICK FRAME OVER-FRAMED ROOF SECTIONS WITH 2 x 8 RIDGES, 2 x 6 RAFTERS AT 16" O.C. AND FLAT 2 x 10 VALLEYS (UNO).
- ALL 4 x 4 AND 6 x 6 POSTS TO BE INSTALLED WITH 100 LB CAPACITY UPLIFT CONNECTORS TOP AND BOTTOM (UNO). POSTS MAY BE SECURED USING ONE SIMPSON I46 OR LT312 UPLIFT CONNECTOR FASTENED TO THE BAND AT THE BOTTOM AND THE BEAM AT THE TOP OF EACH POST. ONE 16" SECTION OF SIMPSON C916 COIL STRAPPING WITH (8) 8d HDG NAILS AT EACH END MAY BE USED IN LIEU OF EACH TWIN STRAP IF DESIRED. FOR MASONRY OR CONCRETE FOUNDATION USE SIMPSON POST BASE.



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120 MPH - 130 MPH ULTIMATE DESIGN WIND SPEED  
STANDARD STRUCTURAL NOTES

DATE: NOVEMBER 14, 2018  
DRAWN BY: JES  
ENGINEERED BY: JST

S-0  
STRUCTURAL NOTES

6/22/2020