FAIRWAY POINT GARAGE BUILDING

SPRING LAKE, NC

PROJECT SCOPE

- SINGLE 9 BAY GARAGE BUILDING TYPE

STATE OF NORTH CAROLINA ADOPTED CODES

- 2018 NORTH CAROLINA STATE BUILDING CODE
- 2018 NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE
- 2020 NATIONAL ELECTRICAL CODE
- 2009 ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

PROJECT TEAM

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Fairway Point Garage Building
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Issued For Permit Review

MARC W. MILLS
REGISTERED ARCHITECT
1579
3-16-23
NORTH CAROLINA
RALEIGH, NC

PROGRESS DATE:
ISSUE DATE: 03-16-23

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM

SHEET TITLE:
Project Cover Sheet

SHEET NUMBER:
G000

ABBREVIATIONS LIST

ATOS	ABOVE TOP OF SLAB
AFF	ABOVE FINISHED FLOOR
ACT	ACOUSTIC(AL) CEILING TILE
ADD	ADDENDUM
ADH	ADHESIVE
ADJ	ADJACENT
ALUM	ALUMINUM
ARCH	ARCHITECT(URAL)
BM	BEAM
BET	BETWEEN
BLK	BLOCK(ING)
BD	BOARD
BLDG	BUILDING
BHD	BULKHEAD
BTOS	BELOW TOP OF SLAB
CAB	CABINET
CLG	CEILING
CT	CERAMIC TILE
CTR	CENTER
CLR	CLEAR(ANCE)
CL	CLOSET
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONF	CONFERENCE
CONST	CONSTRUCTION
CJ	CONSTRUCTION JOINT
CONT	CONTINUOUS
CONTR	CONTRACTOR
DEMO	DEMOLITION
DTL	DETAIL
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DR	DOOR
DBL	DOUBLE
DN	DOWN
DWR	DRAWER
DWG	DRAWING
DF	DRINKING FOUNTAIN
EA	EACH
ELEC	ELECTRIC(AL)
EWC	ELECTRIC WATER COLLER
EL	ELEVATION
ELEV	ELEVATOR
ENCL	ENCLOSE(URE)
EQ	EQUAL
EX	EXISTING
EJ	EXPANSION JOINT
EXP	EXPOSED
EXT	EXTERIOR
FF	FINISHED FLOOR
FIN	FINISH(ED)
FA	FIRE ALARM
FC	FLOORING CHANGE
FE	FIRE EXTINGUISHER
FHC	FIRE HOSE CABINET
FR	FIRE RATED(ING)
FL	FLOOR(ING)
FD	FLOOR DRAIN
FT	FULLY TEMPERED
FUR	FURR(ING)
GA	GAUGE
GWB	GYPSUM WALL BOARD
HORZ	HORIZONTAL
H&V	HORIZONTAL AND VERTICAL
HR	HOUR
INCL	INCLUDE(D)(ING)
ID	INSIDE DIAMETER
INSUL	INSULATE(D)(ION)
INT	INTERIOR
ISG	INSULATED SAFETY GLAZING
JC	JANITORS CLOSET
KD	KNOCK DOWN
JT	JOINT
KIT	KITCHEN
LBL	LABEL
LAM	LAMINATE
LAV	LAVATORY
LH	LEFT HAND
LT	LIGHT
LG	LONG, LENGTH
MFR	MANUFACTURER
MO	MASONRY OPENING
MTL	MATERIAL(S)
MAX	MAXIMUM
MECH	MECHANICAL
MET	METAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
MOV	MOVABLE
MUL	MULLION
NOM	NOMINAL
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NUMBER
OFF	OFFICE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OA	OVERALL
AH	OVERHEAD
PTD	PAINTED
JPR	PAIR
PBD	PARTICLE BOARD
PTN	PARTITION
PERF	PERFORATED
PLAS	PLASTER
PLAM	PLASTIC LAMINATE
PWD	PLYWOOD
PT	PAPER TOWEL DISPENSER/DISPOSAL
PROJ	PROJECTED(ION)
QT	QUARRY TILE
RAD, R	RADIUS
REF	REFERENCE
REINF	REINFORCE(D)(ING)
REQ	REQUIRED
RES	RESILIENT
REV	REVISION
RH	RIGHT HAND
R	RISER
RM	ROOM
RO	ROUGH OPENING
RB	RUBBER BASE
SND	SANITARY NAPKIN DISPENSER
SR	SANITARY NAPKIN RECEPTACLE
SCHED	SCHEDULE
SD	SOAP DISPENSER
SG	SAFETY GLAZING
SH	SHELF, SHELVING
SIM	SIMILAR
SC	SOLID CORE
SPEC	SPECIFICATION, SPECIFIED
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUC	STRUCTURAL
SUSP	SUSPENDED
TEL	TELEPHONE
THK	THICKENS
THRES	THRESHOLD
TP	TOILET PAPER DISPENSER
T&G	TONGUE AND GROOVE
T	TREAD
TOS	TOP OF SLAB
TYP	TYPICAL
UC	UNDERCUT
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
VIF	VERIFY IN FIELD
VB	VINYL BASE
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
WC	WALL COVERING
WP	WATERPROOFING
W/	WITH
W/O	WITHOUT
WD	WOOD

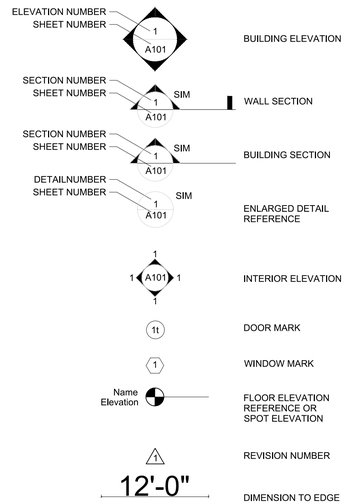
FAIRWAY POINTE GARAGE BUILDING - BUILDING TABULATION

BUILDING TYPE	BUILDING DESCRIPTION	UNITS PER BLDG	UNIT MIX	TOTAL HEATED SQFT. (PER BUILDING CODE)	GROSS SQFT (PER BUILDING CODE. TOTAL AREA UNDER ROOF)	# OF BLDGS ON SITE	TOTAL NET SQFT	TOTAL GROSS SQFT
*GARAGE TYPE 1	1- STORY BLDG	N/A	N/A	-	2,457	1	-	2,457
* = NON HEATED/CONDITIONED BUILDING								

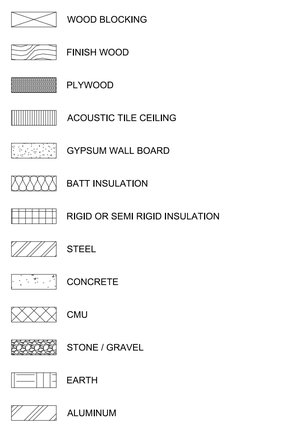
GARAGE TYPE 1 SHEET INDEX

GENERAL				ARCHITECTURAL				STRUCTURAL				PME - ELECTRICAL			
SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE	SHEET NUMBER	REV. #	REVISION DATE	SHEET TITLE
G000			COVER SHEET	A100			GARAGE TYPE 1 PLAN	S101			GARAGE BUILDING FOUNDATION PLAN	E001			ELECTRICAL SCHEDULES AND NOTES
G001			SHEET INDEX & GENERAL PROJECT INFO	A101			GARAGE TYPE 1 ROOF PLAN	S201			GARAGE BUILDING ROOF FRAMING	E002			ELECTRICAL DETAILS
G002			GENERAL PROJECT NOTES	A102			GARAGE TYPE 1 ELEVATIONS	S301			FOUNDATION DETAILS	E101			ELECTRICALGARAGE PLAN
G003			GARAGE TYPE 1 CODE SUMMARY					S401			FRAMING DETAILS				
G004			UL DETAILS					S402			FRAMING DETAILS				
G005			UL DETAILS					S501			GENERAL NOTES AND SPECIAL INSPECTIONS				

ARCHITECTURAL SYMBOLS



MATERIAL GRAPHICS



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Sheet Index & General Project Info

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G001

AIR SEALING NOTES - NORTH CAROLINA

NOTE: COVER ALL AIR SEALING LOCATIONS NOR DOES IT ADDRESS TECHNIQUES. SEE NC STATE BUILDING CODE: ENERGY CONSERVATION CODE, 2018 EDITION FOR ADDITIONAL INFORMATION. OTHER CODE PROVISIONS MAY BE APPLICABLE AS WELL.

1. PLATE AND WALL PENETRATIONS BY PLUMBING, ELECTRICAL, PHONE, CATV, ETC.
2. TUB/SHOWER ON OUTSIDE OR ATTIC WALL.
3. WINDOW AND DOOR ROUGH OPENINGS.
4. AIRTIGHT, IC-RATED RECESSED LIGHTS AND ELECTRICAL FIXTURES EXPOSED TO ATTIC.
5. EXTERIOR WALL EXHAUST FAN TERMINATIONS.
6. CEILING MOUNTED BATH FANS, SPEAKERS, ETC.
7. BOTTOM PLATE AND TOP PLATE.
8. SEAMS BETWEEN RIGID EXTERIOR SHEATHING.
9. BAND AREA BETWEEN FLOORS, CONDITIONED SPACE AND ATTIC.
10. MECHANICAL EQUIPMENT AND DUCTWORK CHASES IN ATTICS, CRAWLSPACES.
11. CEILING/CRAWLSPACE ELECTRICAL BOXES.
12. CEILING/CRAWLSPACE HVAC BOOTS.
13. SHOWER AND TUB DRAIN LINE.
14. FIREPLACE INSERTS.
15. ATTIC KNEEWALL DOORS.
16. JOIST CAVITIES UNDER ATTIC KNEEWALLS.
17. TRANSITION BETWEEN CEILING HEIGHTS.
18. ATTIC SCUTTLE HATCH.
19. WALL PENETRATIONS OF MECHANICAL COMBUSTION CLOSETS.
20. THRESHOLDS AT MECHANICAL COMBUSTION CLOSETS.
21. BAND JOIST EXPOSED TO EXTERIOR.
22. EXTERIOR WALL PENETRATIONS FOR REFRIGERATION LINES, CONDENSATE LINE, ETC.
23. DOORS AND WINDOWS BETWEEN UNHEATED AND HEATED SPACE SHALL BE WEATHER-STRIPPED AROUND THEIR PERIMETER TO LIMIT AIR LEAKAGE WHEN CLOSED.
24. FOAM GASKETS SHALL BE USED ON ALL RECEPTACLES, SWITCHES, AND OTHER UTILITY BOXES ON EXTERIOR WALLS.
25. CAULK AND SEAL OPENINGS IN ELECTRICAL BOXES AND WHERE BOX MEETS DRYWALL WITH AN APPROVED SEALANT.

ACCESSIBILITY NOTES - NORTH CAROLINA

THE FOLLOWING ARE GENERAL NOTES FOR ACCESSIBILITY REQUIREMENTS, IT IS NOT AN ALL-ENCOMPASSING LIST NOR DOES IT ADDRESS SPECIFIC TECHNIQUES. THESE NOTES ARE

INTENDED AS A GENERAL OUTLINE. ENTIRETY OF BUILDING, SPACES, RESIDENTIAL UNITS, ETC. SHALL MEET THE 2018 NORTH CAROLINA STATE BUILDING CODE, ACCESSIBILITY CODE,

MOST CURRENT VERSION, INCLUDING AMENDMENTS, IN ADDITION, ANY AND ALL APPLICABLE LOCAL, STATE, FEDERAL, ETC. CODES SHALL APPLY IN JURISDICTION OF THE PROJECT.

1. ACCESSIBLE ENTRANCES TO BE PROVIDED WITH SIGNS WITH THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.
2. ALL HORIZONTAL WALKING SURFACES TO BE CONTINUOUS AND WITHOUT ABRUPT VERTICAL CHANGES EXCEEDING 1/4" MINIMUM. ALL HORIZONTAL WALKING SURFACES WILL BE MAINTAINED SLIP RESISTANT.
3. DOOR OPENING REQUIREMENTS SHALL COMPLY WITH ICC/ANSI 117.1 - 2009 SECTION 404.
4. THE FLOOR OR LANDING ON EACH SIDE OF AN EXIT DOOR WILL BE LEVEL AND CLEAR. THE LEVEL AREA WILL HAVE A LENGTH IN THE DIRECTION OF DOOR SWING OF AT LEAST 44" AND A LENGTH OPPOSITE OF 44", AS MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN A CLOSED POSITION.
5. MAXIMUM EFFORT TO OPERATE DOORS AND BLDG ENTRY GATES WILL NOT EXCEED 8.5 LBS. FOR EXTERIOR DOORS AND 5 LBS. FOR INTERIOR DOORS. SUCH PULL OR PUSH

EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT CENTER PLANE OF SLIDING OR FOLDING COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED/REQUIRED TO MEET THE ABOVE STANDARDS.

6. THE BOTTOM 10" OF ALL DOORS, EXCEPT AUTOMATIC AND SLIDING, WILL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALL THE DOOR TO BE OPENED BY A WHEELCHAIR

FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH SMOOTH PANEL WILL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

9. THRESHOLDS WILL NOT EXCEED 1/2" IN TOTAL HEIGHT. VERTICAL FACES WILL NOT EXCEED 1/4". CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" WILL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2. CHANGE IN LEVEL GREATER THAN 1/2" WILL BE ACCOMPLISHED BY MEANS OF A RAMP.

8. STAIRWAY TREADS MUST BE SLIP RESISTANT WITH, ROUNDED OR BEVELED EDGES AND NO ABRUPT EDGES AT THE NOSE.

9. THE FLOOR OR LANDING IMMEDIATELY OUTSIDE THE ENTRY MAY BE SLOPED UP TO 1/8" PER FOOT IN THE DIRECTION AWAY FROM THE BUILDING FOR DRAINAGE.

10. PET WASTE STATIONS SHALL BE LOCATED ON AN ACCESSIBLE ROUTE AND LOCATED PER ICC/ANSI A117.1 - 2009 SECTION 308.

11. ALL MAILBOXES/PARCEL BOXES SHALL BE LOCATED ON AN ACCESSIBLE ROUTE AND MEET/LOCATED PER ICC/ANSI 117.1 -2009 SECTION 308 AND U.S. POSTAL SERVICE STD-4C.

CONFIRM WITH THE LOCAL USPS RESPONSIBLE FOR MAIL SERVICE TO/FROM THE SITE.

12. ACCESSIBLE RAMP CROSS SLOPES SHALL NOT EXCEED A MAXIMUM 2% CROSS SLOPE.

13. ACCESSIBLE RAMP SLOPES SHALL NOT EXCEED A MAXIMUM 8.33% SLOPE AND PROVIDE A LEVEL LANDING AT THE TOP AND BOTTOM OF THE RAMP, AT A MINIMUM THE LANDING SHALL BE 60" X WIDTH OF RAMP RUN.

14. ACCESSIBLE WALKING SURFACE SLOPES SHALL NOT EXCEED A MAXIMUM 5% SLOPE.

PROJECT GENERAL NOTES

1. THE GENERAL CONTRACTOR (G.C.) SHALL FULLY ACQUAINT THEMSELVES WITH THE CONDITIONS OF THE CONTRACT, LOCAL CONDITIONS RELATING TO THE JOB SITE, ACCESSIBILITY AND GENERAL CHARACTER OF THE CONSTRUCTION SITE AND LOCAL LABOR CONDITIONS SO THAT THEY UNDERSTAND THE NATURE, EXTENT, DIFFICULTIES AND RESTRICTIONS RELATED TO THE EXECUTION OF THE WORK.
2. ALL WORK PERFORMED BY THE CONTRACTOR/SUB-CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE MUNICIPAL, LOCAL OR FEDERAL AND STATE LAWS, AS WELL AS ANY OTHER GOVERNING REQUIREMENTS, WHETHER OR NOT SPECIFIED WITHIN THE CONSTRUCTION DOCUMENTS.
3. THE CONTRACTOR/SUB-CONTRACTOR EXPRESSLY WARRANTS THAT ALL WORK SHALL BE EXECUTED IN A SOUND AND WORKMANLIKE MANNER IN CONFORMANCE WITH THE HIGHEST STANDARDS WITHIN THE INDUSTRY AND WARRANTS THAT ALL MATERIALS USED TO COMPLETE THE WORK/PROJECT ARE MERCHANTABLE, FREE FROM ANY PATENT OR LATENT DEFECT, FIT FOR THEIR INTENDED USE, AND EQUAL IN QUALITY TO THE BEST OF THEIR KIND.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND ALERT THE ARCHITECT AND OWNER IN ADVANCE, TO ANY UNFORESEEN CONDITIONS AND/OR CONSTRUCTION DIFFICULTIES PRIOR TO COMMENCING WORK OR WORKING ON THE AFFECTED PORTION OF THE WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL EXISTING UTILITIES. ANY EXISTING UTILITIES INDICATED HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND ARE INDICATED FOR CONVENIENCE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL UTILITY LOCATIONS NOT INDICATED. CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID DAMAGE OR DISTURBANCE TO EXISTING UTILITIES.
6. THROUGHOUT THE DRAWINGS ARE ABBREVIATIONS THAT ARE IN COMMON USE AND/OR DEFINED WITHIN. THE ARCHITECT SHALL DEFINE THE INTENT OF ANY IN QUESTION.
7. TYPICAL WALL SECTIONS, FINISHES, DETAILS, ETC. ARE NOT INDICATED EVERYWHERE THEY OCCUR ON THE DRAWINGS; REFER TO DETAILED DRAWINGS WHERE PROVIDED.

9. NOTHING IN THE DRAWINGS AND/OR THE SPECIFICATIONS/PROJECT MANUAL SHALL BE CONSTRUED TO PERMIT AN INSTALLATION IN VIOLATION OF APPLICABLE CODES, MANUFACTURER RECOMMENDATIONS, AND/OR REQUIREMENTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND OWNER IMMEDIATELY AND CEASE WORK ON ALL PARTS OF THE CONTRACT THAT ARE AFFECTED. THE WORK TO BE PERFORMED UNDER THIS CONTRACT SHALL BE IN FULL ACCORDANCE WITH THE MOST CURRENT ADOPTED, AND AS APPLICABLE, AMENDED, RULES, REGULATIONS, RESTRICTIONS, REQUIREMENTS AND CODES.

9. IN CASE OF ANY CONFLICT WHEREIN THE METHODS OR STANDARDS OF INSTALLATION OR THE MATERIALS SPECIFIED DO NOT EQUAL OR EXCEED THE REQUIREMENTS OF THE LAWS OR ORDINANCES, THE LAWS OR ORDINANCES SHALL GOVERN. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND OWNER OF ALL CONFLICTS ONCE KNOWN.

10. THE ARCHITECT ASSUMES NO RESPONSIBILITY AS TO THE PHYSICAL CHARACTERISTICS OF THE SOIL(S) OR THE ACCURACY OF ENGINEERING DATA SUPPLIED BY OTHERS.
11. THE G.C. SHALL VERIFY DIMENSIONS, LEVELS, EASEMENTS, BOUNDARIES AND CONSTRUCTION INDICATED ON CONTRACT DRAWINGS BEFORE PROCEEDING WITH THE WORK. ALSO, THE G.C. SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES OR OMISSIONS BETWEEN THE CONSTRUCTION DOCUMENTS AND FIELD CONDITIONS, BEFORE COMMENCING WITH ANY WORK AND REQUEST CLARIFICATION AS REQUIRED.
12. DIMENSIONS, NOTES, FINISHES, AND FIXTURES SHOWN ON TYPICAL PLANS, SECTIONS, OR DETAILS SHALL APPLY TO SIMILAR, SYMMETRICAL OR OPPOSITE PLANS, SECTIONS OR DETAILS.
13. DIMENSIONS NOTED AS "CLR." ARE TO BE CLEAR FROM FACE OF FINISH MATERIAL TO FACE OF FINISH MATERIAL OR CENTERLINE OF FIXTURE AND ARE NOT ADJUSTABLE WITHOUT WRITTEN APPROVAL OF ARCHITECT.
14. THE CONTRACTOR SHALL VERIFY ALL ROUGH-IN DIMENSIONS FOR THE EQUIPMENT FURNISHED AND INSTALLED BY CONTRACTOR OR OTHERS.
15. THE CONTRACTOR SHALL BE BOUND TO THE FINISH SCHEDULE(S) PROVIDED FOR ROOMS AND SPACES BUT SHALL ALSO BE RESPONSIBLE FOR PROVIDING OTHER MATERIALS NOT DESIGNATED IN THE SCHEDULE IF REQUIRED TO CREATE A FINISHED PRODUCT.
16. INSTALL AND SEAL ALL BATHROOM ACCESSORIES (E.G. GRAB BARS, TOWEL BARS, ETC.) ON OR WITHIN WALLS TO PROTECT ELEMENTS FROM MOISTURE. WALLS AT SHOWERS AND BATHTUBS SHALL BE WATERTIGHT TO A MINIMUM OF 7'-0" HIGH ABOVE DRAIN INLET.
17. PROVIDE APPROPRIATE SEALANT AROUND WINDOWS, DOOR JAMBS & HEADS, AND ADJACENT CONSTRUCTION.
18. WOOD IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE PRESERVATIVE TREATED; USE OF CCA PRESERVATIVE IS PROHIBITED. USE APPROPRIATE FASTENERS PER PRESERVATIVE.
19. ALL MATERIALS AND/OR EQUIPMENT SHALL BE INSTALLED/USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS & SHALL COMPLY W/ ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS.
20. THE G.C. SHALL PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY CODE AND LOCAL FIRE MARSHALL. GENERAL CONTRACTOR SHALL REVIEW AND CONFIRM ESTABLISHED LOCATIONS W/ ARCHITECT PRIOR TO COMMENCEMENT OF BUILDING FRAMING.
21. PROVIDE INTERIOR EXIT STAIRWAY NUMBERING SYSTEM PER NORTH CAROLINA BUILDING CODE SECTION 1023.9.1 AND ANY AND ALL OTHER APPLICABLE CODES/REGULATIONS.
22. THESE DRAWINGS DO NOT CONTAIN THE REQUIREMENTS FOR JOB SAFETY. ALL PROVISIONS FOR SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
23. THE G.C. SHALL MAINTAIN A CURRENT AND COMPLETE SET OF APPROVED CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE BY ALL TRADES.
24. THE G.C. SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND FOR ITEMS LISTED IN THE PROJECT MANUAL (UNDER SEPARATE COVER).
25. ALL FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 8" ABOVE THE FINISHED GRADE OR AS INDICATED ON THE DRAWINGS.
26. PROVIDE TEMPERED GLASS AS REQUIRED BY CODE ADJACENT TO DOORS AND EXIT WAYS.
27. GRADE SHALL BE SLOPED AWAY FROM BUILDING FOR POSITIVE DRAINAGE.
28. ROWLOCKS ARE TO PROJECT MIN. 1/2" FROM THE FACE OF RUNNING BOND BELOW. UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
29. ALL HVAC, PLUMBING AND ELEC. PENETRATIONS THROUGHOUT THE EXTERIOR WALLS AND AT THE TOP AND BOTTOM PLATES SHALL BE PROPERLY SEALED.
30. EXTERIOR SEALANT SHALL BE SILICONE BASED; NO OTHER TYPES SHALL BE USED.
31. PROVIDE 1/2" TO 3/4" SEPARATION BETWEEN BASE FLASHING AND EXTERIOR MATERIALS.
32. APPROVE ALL EXTERIOR MATERIALS & COLORS WITH THE OWNER & ARCHITECT PRIOR TO ORDERING/FABRICATION. CONTRACTOR TO CONSTRUCT A MOCK-UP PANEL OF BUILDING EXTERIOR (IN ACCORDING TO ARCHITECT'S

INSTRUCTIONS PRIOR TO APPLICATION OF EXTERIOR FINISHES AND WINDOWS ON BUILDING. FINAL APPROVAL BY ARCHITECT & OWNER OF ALL EXTERIOR FINISHES / COLORS WILL BE MADE BASED ON THE MOCK-UP PANEL.

33. THE G.C. SHALL ASSURE THAT ANY AND ALL MATERIAL COMPATIBILITY IS ACHIEVED WITH NO NEGATIVE EFFECT ON MATERIALS, I.E. CONTACT OF DISSIMILAR MATERIALS WILL HAVE NO NEGATIVE IMPACT/EFFECT ON EITHER

MATERIAL OR SURROUNDING CONSTRUCTION. G.C. SHALL INFORM ARCHITECT OF ANY AND ALL CONCERNS PRIOR TO FABRICATION/INSTALLATION. PROVIDE GALVANIC INSULATION BETWEEN DISSIMILAR METALS.

34. NO BRICK/MASONRY CORE HOLES SHALL BE EXPOSED, TYP. CLOSURE (SOLID CORE) BRICK/MASONRY SHALL BE USED WHERE CORE HOLES WOULD OTHERWISE BE EXPOSED TO THE ELEMENTS.
35. EXPOSED STEEL LINTELS AND 'BREAK' METAL TO BE PAINTED TO MATCH ADJACENT SURFACE UNLESS NOTES OTHERWISE.
36. PROVIDE SOLID BLOCKING WITHIN WALL CAVITY SEGMENTS BEHIND ALL EXTERIOR LIGHTS, SIGNAGE, BRACKETS, ETC.
37. COORDINATE ALL EXTERIOR PAVING CONDITIONS WITH CIVIL DRAWINGS.
38. ALL CAULKING/SEALANT COLORS TO MATCH ADJACENT SURFACES.
39. PROVIDE 5/8" GWB WITHIN FIRE RATED WALL CAVITY SEGMENTS BEHIND ALL SURFACE MOUNTED ELECTRICAL PANELS PRIOR TO PANEL INSTALLATION.
40. VERIFY ALL FINISH FLOOR ELEVATIONS WITH CIVIL DRAWINGS.
41. COORDINATE ALL SIDEWALK LOCATIONS AND HEIGHTS WITH ALL HARDSCAPE PLANS. ALL SIDEWALKS AT DOOR THRESHOLDS SHALL BE LEVEL AND MEET ALL FHA REQUIREMENTS.
42. LOADS ON HANDRAILS, GUARDS, AND VEHICLE BARRIERS SHALL COMPLY WITH 2018 NCSBC CHAPTER 16.
43. ANY AND ALL MECHANICAL EQUIPMENT, APPLIANCES, AND SUPPORTS THAT ARE EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND LOADING/PRESSURES DETERMINED IN ACCORDANCE WITH THE 2018 NCSBC

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3-16-23

PROGRESS DATE:
ISSUE DATE: 03-16-23

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM
SHEET TITLE: General Project Notes
SHEET NUMBER: G002

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Fairway Pointe – Garage Type 1
Address: 135 Gallery Dr, Spring Lake, NC Zip Code: 28390
Owner/Authorized Agent: Bryan Benoit Phone # 910.580.2425 E-Mail: bryanbenoit@hufffamilyoffice.com
Owned By: Private
Code Enforcement Jurisdiction: County

CONTACT: Marc W. Mills (Planworx Architecture, P.A.)

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Planworx Architecture	Marc W. Mills	7579	919.424.1949	mmills@planworx.com
Civil					
Electrical	Maple Engineering, PLLC	Zack L. Tomlin	037509	919.341.4247	zlt@maple-eng.com
Fire Alarm					
Plumbing					
Mechanical	Maple Engineering, PLLC	Zack L. Tomlin	037509	919.341.4247	zlt@maple-eng.com
Sprinkler-Standpipe				( )	
Structural	Hauser-Creech Inc.	Michael Gabriel Hauser	35814	919.817.7676	gabriel@hauser-creech.com
Retaining Walls >5' High				( )	
Other				( )	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building
2018 NC EXISTING BUILDING CODE: N/A N/A N/A
CONSTRUCTED: (date) ______ **CURRENT OCCUPANCY(S)** (Ch. 3): ______
RENOVATED: (date) ______ **PROPOSED OCCUPANCY(S)** (Ch. 3): ______
RISK CATEGORY (Table 1604.5): **Current:** N/A **Proposed:** II

BASIC BUILDING DATA
Construction Type: V-B
Sprinklers: No N/A
Standpipes: N/A
Primary Fire District: No **Flood Hazard Area:** No
Special Inspections Required: Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
1st Floor		2,457	2,457
TOTAL		2,457	2,457

ALLOWABLE AREA

Primary Occupancy Classification(s): Utility and Miscellaneous Business Select one Select one Select one Select one
Accessory Occupancy Classification(s): ______
Incidental Uses (Table 509): ______
Special Uses (Chapter 4 – List Code Sections): ______
Special Provisions: (Chapter 5 – List Code Sections): ______
Mixed Occupancy: Yes Separation: Select one Exception: ______

Non-Separated Use (508.3)

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

______ + ______ + = ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	U	2,457	5,500	NOT TAKEN	5,500

[1] Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _ (F)
b. Total Building Perimeter = ___ (P)
c. Ratio (F/P) = ___ (F/P)
d. W = Minimum width of public way = _ (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30$ = __ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE[1]
Building Height in Feet (Table 504.3)[2]	40'	14'-6 ½"	
Building Height in Stories (Table 504.4)[3]	1	1	

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
[2] The maximum height of air traffic control towers must comply with Table 412.3.1.
[3] The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/______* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North	>30'	0	0	-	-		
East	>30'	0	0	-	-		
West	>30'	0	0	-	-		
South	>30'	0	0	-	-		
Interior							
Nonbearing Walls and Partitions Exterior walls							
North	>30'	0	0	-	-		
East	>30'	0	0	-	-		
West	>30'	0	0	-	-		
South	>30'	0	0	-	-		
Interior walls and partitions		1	1	1/G004	U305		
Floor Construction Including supporting beams and joists							
Floor Ceiling Assembly			-	-	-	-	
Columns Supporting Floors			-	-	-	-	-
Roof Construction, including supporting beams and joists			-	-	-	-	-
Roof Ceiling Assembly		1	1	1/G005	P522	-	
Columns Supporting Roof			-	-	-	-	-
Shaft Enclosures - Exit			-	-	-	-	-
Shaft Enclosures - Other							
Corridor Separation			-	-	-	-	
Occupancy/Fire Barrier Separation			-	-	-	-	-
Party/Fire Wall Separation			-	-	-	-	-
Smoke Barrier Separation			-	-	-	-	-
Smoke Partition			-	-	-	-	-
Tenant/Dwelling Unit/ Sleeping Unit Separation			-	-	-	-	
Incidental Use Separation							

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
705.8.1 exc. #2	U, NS	Unlimited	N/A

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: No
Exit Signs: No
Fire Alarm: No
Smoke Detection Systems: No
Carbon Monoxide Detection: Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: N/A

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☐ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☐ Occupant loads for each area
- ☐ Exit sign locations (1013)
- ☐ Exit access travel distances (1017)
- ☐ Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- ☐ Dead end lengths (1020.4)
- ☐ Clear exit widths for each exit door
- ☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☐ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (202)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

UNIT CLASSIFICATION	TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
N/A								

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED 96" SPACES	# OF ACCESSIBLE SPACES PROVIDED 132" SPACES	TOTAL # ACCESSIBLE PROVIDED
SEE CIVIL DRAWINGS					
TOTAL					

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	WATERCLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXIST'G										
	NEW	N/A								N/A	
	REQ'D									N/A	

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: No

Exempt Building: No Provide code or statutory reference:

Climate Zone: 3A **Unconditioned Building**

Method of Compliance: Energy Code - Prescriptive
(If "Other" specify source here)______

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A
Skylights in each assembly: N/A
U-Value of skylight: N/A
total square footage of skylights in each assembly: N/A

Exterior Walls (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A
Openings (windows or doors with glazing)
U-Value of assembly: N/A
Solar heat gain coefficient: N/A
projection factor: N/A
Door R-Values: N/A

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors over unconditioned space (each assembly)
Description of assembly: N/A
U-Value of total assembly: N/A
R-Value of insulation: N/A

Floors slab on grade
Description of assembly: Concrete slab on grade
U-Value of total assembly: 0
R-Value of insulation: 0
Horizontal/vertical requirement: N/R
slab heated: N/A

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(SEE STRUCTURAL DRAWINGS)

DESIGN LOADS:

Importance Factors: Snow (I_S) Select one
Seismic (I_E) Select one

Live Loads: Roof ______ psf
Mezzanine ______ psf
Floor ______ psf

Ground Snow Load: ______ psf

Wind Load: Ultimate Wind Speed ______ mph (ASCE-7)
Exposure Category Select one

SEISMIC DESIGN CATEGORY: Select one
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) Select one
Spectral Response Acceleration S_S______ %g S_1______ %g
Site Classification (ASCE 7) Select one
Data Source: Select one
Basic structural system Select one
Analysis Procedure: Select one
Architectural, Mechanical, Components anchored? Select one

LATERAL DESIGN CONTROL: Select one

SOIL BEARING CAPACITIES:
Select one ______ psf
Pile size, type, and capacity ______

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(SEE MECHANICAL DRAWINGS)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: ______
summer dry bulb: ______

Interior design conditions
winter dry bulb: ______
summer dry bulb: ______
relative humidity: ______

Building heating load: ______

Building cooling load: ______

Mechanical Spacing Conditioning System
Unitary
description of unit: ______
heating efficiency: ______
cooling efficiency: ______
size category of unit: ______
Boiler
Size category. If oversized, state reason.: ______
Chiller
Size category. If oversized, state reason.: ______

List equipment efficiencies: ______

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(SEE ELECTRICAL DRAWINGS)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Select one

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture
number of ballasts in fixture
total wattage per fixture
total interior wattage specified vs. allowed (whole building or space by space)
total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
- ☐ C406.2 More Efficient HVAC Equipment Performance
- ☐ C406.3 Reduced Lighting Power Density
- ☐ C406.4 Enhanced Digital Lighting Controls
- ☐ C406.5 On-Site Renewable Energy
- ☐ C406.6 Dedicated Outdoor Air System
- ☐ C406.7 Reduced Energy Use in Service Water Heating

PLANWORX ARCHITECTURE
5711 SIX FORKS ROAD, SUITE 100
RALEIGH NC 27609
website www.planworx.com

PLANWORX ARCHITECTURE, PA · REGISTERED ARCHITECTURAL CORPORATION · CERT. NO. 50909 · N.C. · RALEIGH, NC

Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

MARC W. MILLS · REGISTERED ARCHITECT · 7579 · NORTH CAROLINA · RALEIGH, NC · 3-16-23

PROGRESS DATE:
ISSUE DATE: 03-16-23

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM
SHEET TITLE: Garage Type 1 Code Summary
SHEET NUMBER: G003

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.
2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. 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 Planworx Architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

UL Product iQ®

BXUV.U305 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

Fire-resistance Ratings - ANSI/UL 263

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

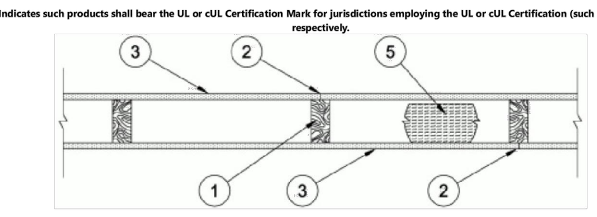
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

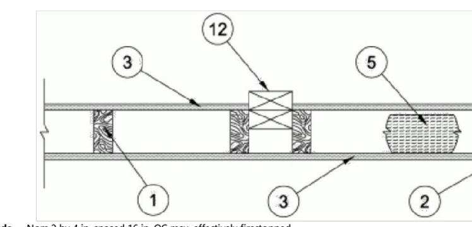
Design No. **U305**

February 3, 2023

Bearing Wall Rating — 1 Hr
Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L.
STC Rating - 56 (See Item 9)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**





1. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

2. **Joints and Nail-Heads —** Joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with joint compound.

3. **Gypsum Board* —** 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of attachment of gypsum panels, refer to Items 6 through 6F, **Steel Framing Members***.
When Items 6, 6B, 6C, 6D, 6E, or 6F, **Steel Framing Members***, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min), Type LWTX (finish rating 18 min), Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX (finish rating 21 min), Type CLLX (finish rating 24 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min), Type ULIX (finish rating 20 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min), Type RSX (finish rating 26 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), Type PG-C or PGI (finish rating 26 min)

PANEL REY S A — Type ARX, GREX, GRIX, PRX, PRC, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min), PRX2 (finish rating 21 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.

AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LightRoc (finish rating 25 min.)

CERTAINTEED GYPSUM INC — Type C, Type X-1 (finish rating 26 min), Type EGRG or GlasRoc, LWTX.

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. **Gypsum Board* —** (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.
CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

3C. **Gypsum Board* —** (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.
CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

3D. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips or optional at other locations. Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RAY-BAR ENGINEERING CORP — Type RB-LBG (finish rating 24 min)

3E. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.
CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC — , Type USGX (finish rating 22 min.)

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. **Gypsum Board* —** (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. **Gypsum Board* —** (As an alternate to Item 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
NATIONAL GYPSUM CO — Type SBWB

3I. **Gypsum Board* —** (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured with 1-1/4 in. Type W coarse thread gypsum panel steel screws spaced a maximum of 12 in. OC.
CERTAINTEED GYPSUM INC — Type SilentFX

3K. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. **Gypsum Board* —** (As an alternate to Item 3) — For Direct Application to Studs Only — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".
MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. **Gypsum Board* —** (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.
CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3O. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

3P. **Gypsum Board* —** (As an alternate to Item 3, Not Shown) — Two layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger.
NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CERTAINTEED GYPSUM INC — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3R. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5H) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied either horizontally or vertically, and screwed to panels with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

3S. **Gypsum Board* —** 3/4 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels secured as described in Item 3 with nail length increased to 2 in.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

3T. **Wall and Partition Facings and Accessories* —** (As an alternate to 5/8 in. thick board as outlined in Item 3) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened with #6 x 2 in. long drywall screws spaced 8 in. OC along the perimeter and 12 in. OC in the field.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

3U. **Gypsum Board* —** (As an alternate to Item 3 - For use with Foamed Plastic products, Item 5J) — 5/8 in. thick, 4 ft. wide, applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
AMERICAN GYPSUM CO — Types AGX-1

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CABOT MANUFACTURING ULC — Type X

CERTAINTEED GYPSUM INC — Type X

CGC INC — Type SCX

PANEL REY S A — Type ARX, PRX

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X

UNITED STATES GYPSUM CO — Types SCX and SGX

USG BORAL DRYWALL SFZ LLC — Types SCX and SGX

USG MEXICO S A DE C V — Type SCX

3V. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5K) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field.

3W. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5L) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-1/4 in. long Type W screws spaced 8 in. OC at perimeter and in the field.

4. **Steel Corner Fasteners —** (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. **Batts and Blankets* —** (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.
CERTAINTEED CORP

JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC

ROCKWOOL — Types Acoustical Fire Batts and Type AFB, min. density 1.69 pcf / 27.0 kg/m³

ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts

ROCK WOOL MANUFACTURING CO — Delta Board

THERMAFIBER INC — Type SAFB, SAFB FF

5A. **Fiber, Sprayed* —** (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. When Item 6B is used, Fiber, Sprayed shall be INS735, INS745, INS750LD, INS765LD, INS773LD or SANCTUARY.

Applegate Greenfiber Acquisition LLC — INS735, INS745, INS750LD, Insulmax, and SANCTUARY for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only

5B. **Fiber, Sprayed* —** (Not Shown - Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.
NU-WOOL CO INC — Cellulose Insulation

5C. **Batts and Blankets* —** Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior of wall.
THERMAFIBER INC — Type SAFB, SAFB FF

5D. **Glass Fiber Insulation —** (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5E. **Batts and Blankets* —** (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5F. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5G. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D). — As an alternate to Batts and Blankets (Item 5) and Item 5A - Brown Colored Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed stud cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft³.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

5H. **Foamed Plastic* —** (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
SES FOAM INC — Nexseal™ 2.0 or Nexseal™ 2.0 LE Spray Foam and Sucraseal Spray Foam.

5I. **Fiber, Sprayed* —** (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - Spray-applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³.
APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

5J. **Foamed Plastic* —** (Optional, Not Shown - For use with Item 3U) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
GACO WESTERN L L C — Types GacoEZSpray F4500, GacoProFill FR6500R, Gaco 052N, GacoOnePass F1850, GacoOnePass Low GWP F1880, and Gaco WallFoam 183M

5K. **Foamed Plastic* —** (Optional, Not Shown - For use with Item 3V) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO.

5L. **Foamed Plastic*** - (Optional, Not Shown – For use with Item 3W) - Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.

BASF CORP – Types Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, Walltite® HP+, Spraytite® Comfort XL, and Walltite® XL.

6. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

6B. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6D. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with a double strand of No. 18 AWG twisted steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

6E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6F. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Fa) to studs. Clips spaced 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

6G. **Steel Framing Members* —** (Optional, Not Shown) — Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 16 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions.
PAC INTERNATIONAL L L C — Type RC-1 Boost

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. **STC Rating —** The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the wood framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

11. **Cementitious Backer Units* —** (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Non-Bearing Wall Partition Intersection —** (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. **Mesh Netting —** (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with 2 in. long Type W steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

14A. **Mineral and Fiber Board* —** (Optional, Not Shown) — For use with Items 14B-14E) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

14B. **Glass Fiber Insulation —** (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. **Batts and Blankets* —** (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.
THERMAFIBER INC — Type SAFB, SAFB FF

14D. **Adhesive —** (For use with Item 14A) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 14A).

14E. **Gypsum Board* —** (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 14A). Secured to outermost studs and bearing plates with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound. Finish Rating 30 Min.
AMERICAN GYPSUM CO — Type AG-C

CGC INC — Types C, IP-X2, IPC-AR

CERTAINTEED GYPSUM INC — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

14F. **Mineral and Fiber Board —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
BLUE RIDGE FIBERBOARD INC — SoundStop

14G. **Building Units** – (Optional Item Not Shown – For use over Gypsum Board, Item 3) 1 in., 2 in. or 3 in. thick, 4 ft. wide – Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with wafer head screws of adequate length to penetrate framing by a minimum of of ¾ in., spaced a max 8 in. o.c.
NATIONAL GYPSUM CO – Type PBCI

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2023-02-03

1 U.L. # U305 (1-HR INTERIOR BEARING WALL ASSEMBLY)
NTS

1. All drawings are to be coordinated with all site information by owner and contractor, and applicable codes.
2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
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Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

MARC W. MILLS — REGISTERED ARCHITECT — 7579 — 3-16-23 — NORTH CAROLINA — RALEIGH, NC

PROGRESS DATE:
ISSUE DATE: 03-16-23

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM
SHEET TITLE: UL Details
SHEET NUMBER: G004

UL Product iQ™

BXUV.P522

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

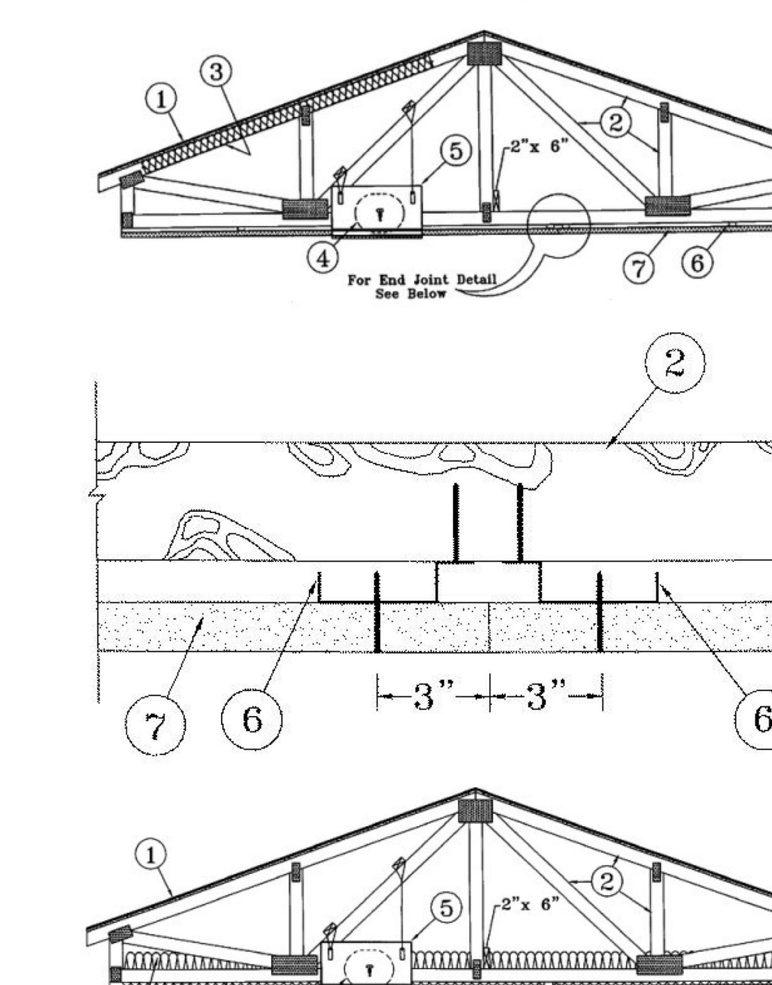
BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. P522
May 22, 2021
Unrestrained Assembly Rating — 1 Hr
Finish Rating — 25 Min (See Items 3 or 3A)
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



Alternate Insulation Placement

1. **Roofing System* —** Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or staples.

2. **Trusses —** Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Minimum parallel chord truss depth shall be 18 in. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets* —** (Optional) — Required when Item 6B is used — Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When **Steel Framing Members** (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ba) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Bd). The finished rating has only been determined when the insulation is secured to the decking.

3A. **Fiber, Sprayed* —** As an alternate to Item 3 (not evaluated for use with Item 6B) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft^3, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft^3 over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft^3 behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.
U S GREENFIBER L L C — INS735, INS745, INS750LD, and SANCTUARY for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only.

3B. **Foamed Plastic* —** (As an alternate to Item 3 or 3A, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft^3 density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — Sucraseal

3C. **Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* —** (As described above) in Items 3 and 3A — (For Use with Item 7B, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6G)/gypsum board (Item 7B) ceiling membrane.

3D. **Foamed Plastic* —** (As alternate to Item 3, 3A, or 3B, Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft^3 or 2.0 lb/ft^3 density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
BASF CORP — Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, and Walltite® HP+

3E. **Foamed Plastic* —** (As an alternate to Item 3, 3A, 3B, 3C, or 3D, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft^3 density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — EasySeal.5

3F. **Foamed Plastic* —** (As alternate to Item 3 - not to be used in combination with any alternates to item 3) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 11 in. at a nominal 1.0 lb/ft^3 - 2.5 lb/ft^3 density, while maintaining a minimum 7 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Only for use with item 6 not evaluated for use with alternates to item 6.
CARLISLE SPRAY FOAM INSULATION — Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamsulate Closed Cell, Foamsulate OCX, Foamsulate 70, and Foamsulate HFO.

4. **Air Duct* —** Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

5. **Ceiling Damper* —** Max nom area, 324 sq in. Max square size, 18 in. by 18 in. rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max damper height is 14 in. Installed in accordance with manufacturers installation instructions provided with the damper. Max damper openings not to exceed 162 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521

5A. **Alternate Ceiling Damper* —** Max nom area, 196 sq in. Max square size, 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max overall damper height is 7 in. Installed in accordance with the manufacturers installation instructions provided with the damper. Max damper openings not to exceed 98 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT.

5B. **Alternate Ceiling Damper* —** Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-IP, RD-521-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

5C. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturers installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD

5D. **Alternate Ceiling Damper* —** Ceiling damper & fan. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SIG-CRD

5E. **Alternate Ceiling Damper* —** Max nom area shall be 144 sq in. with the length not to exceed 14 in. and the width not to exceed 12 in. Max height of damper shall be 17-7/8 in. Aggregate damper openings shall not exceed 74 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-90, RD-521-NP90

POTTORFF — Models CFD-521-90, CFD-521-90NP

5F. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SMT-CRD

5G. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05C5

5H. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDFUWT

5I. **Alternate Ceiling Damper* —** Ceiling damper & fan. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Models RDJ1 and RDH

5J. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT

5K. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT2

6. **Furring Channels —** Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane, or when insulation (Item 3B, 3D or 3E) is applied to the underside of the roofing system (Item 1). Two courses of resilient channel positioned 6 in. OC at wallboard

butt-joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type S screws.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:
a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to trusses when no insulation (Items 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane or 24 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane and a second layer of gypsum board is attached as described in Item 7 for steel framing members. Channels secured to trusses as described in Item 6Ab. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Aa. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

6B. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 and 6A.
a. **Furring Channels —** Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.

d. **Steel Framing Members* —** Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.
KINETICS NOISE CONTROL INC — Type ICW.

6C. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A and 6B.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (48 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap,

with one screw on each flange of the channel. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PLITEQ INC — Type Genie Clip

6D. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A, 6B and 6C.
a. **Main runners —** Installed perpendicular to trusses — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.

b. **Cross tees or channels —** Nom 4 ft long, 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long, 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. **Wall angles or channels —** Used to support steel framing member ends and for screw-attachment of the gypsum wallboard — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.
CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6E. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6, 6A, 6B, and 6C, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6F. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 through 6E- Not for use with Items 3 or 3A. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.
USG INTERIORS LLC — Type DGL or RX

6G. **Resilient Channels —** For Use With Item 7B - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 3C is applied over the resilient channel/gypsum panel ceiling membrane.

6H. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6 through 6G, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
REGUPOL AMERICA — Type SonusClip

7. **Gypsum Board* —** One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or a max of 8 in. OC along butted end-joints and in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane. When insulation (Item 3B, 3D or 3E) is fitted in the concealed space, spray-applied to the underside of the roofing system (Item 1), screws are spaced a max of 8 in. OC along resilient channels, fasteners are increased in length to 1-1/4 in, and gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels.
When **Steel Framing Members*** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset minimum 18 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. in from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached with a RESILMOUNT Sound Isolation Clip secured to underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 20 in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joist with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

When **Steel Framing Members** (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

When alternate **Steel Framing Members*** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

When **Steel Framing Members** (Item 6H) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.

CGC INC — Types C, IP-X2, IPC-AR

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

7A. **Gypsum Board* —** For use with Steel Framing Members (Item 6D) when Batts and Blankets* (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five wallboard screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at wallboard end joints, wallboard screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with wallboard screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with wallboard screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members*** (Item 6D) when **Batts and Blankets*** (Item 3) are used - Ratings limited to 1 Hour - 5/8 in. thick, 4 ft wide; installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.
CGC INC — Type C or IP-X2

UNITED STATES GYPSUM CO — Type C or IP-X2

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C or IP-X2

7B. **Gypsum Board* —** For use with Items 3C and 6G. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.
CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

8. **Finishing System —** (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board. **Alternate Ceiling Membrane** — Not Shown.

9. **Netting —** Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2021-05-22

1 U.L. # P522 (1-HR ROOF - CEILING ASSEMBLY)
NTS

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2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. 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 Planworx Architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

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PLANWORX ARCHITECTURE, PA — REGISTERED ARCHITECTURAL CORPORATION — CERT. NO. 50909 — N.C. — RALEIGH, NC

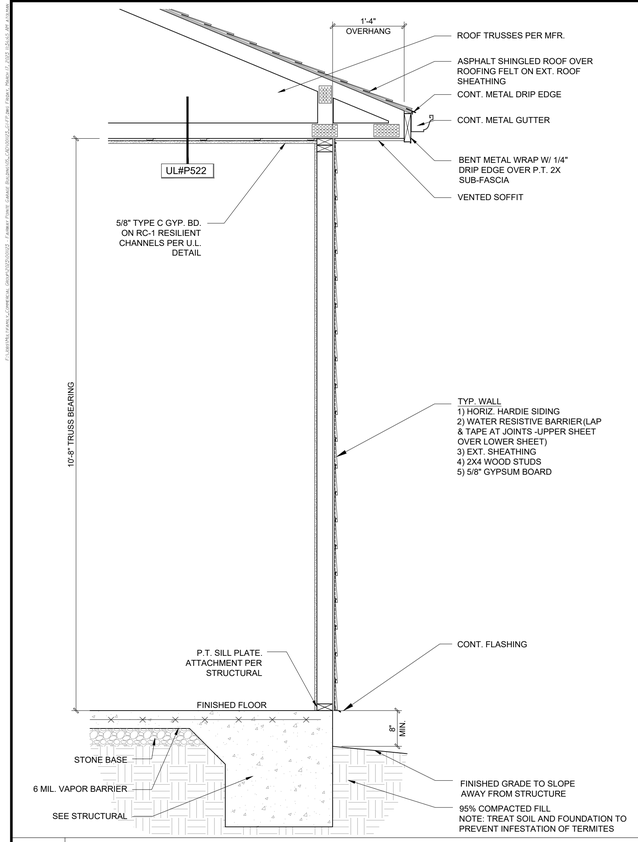
Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

MARC W. MILLS — REGISTERED ARCHITECT — 7579 — 3-16-23 — NORTH CAROLINA — RALEIGH, NC

PROGRESS DATE:
ISSUE DATE: 03-16-23

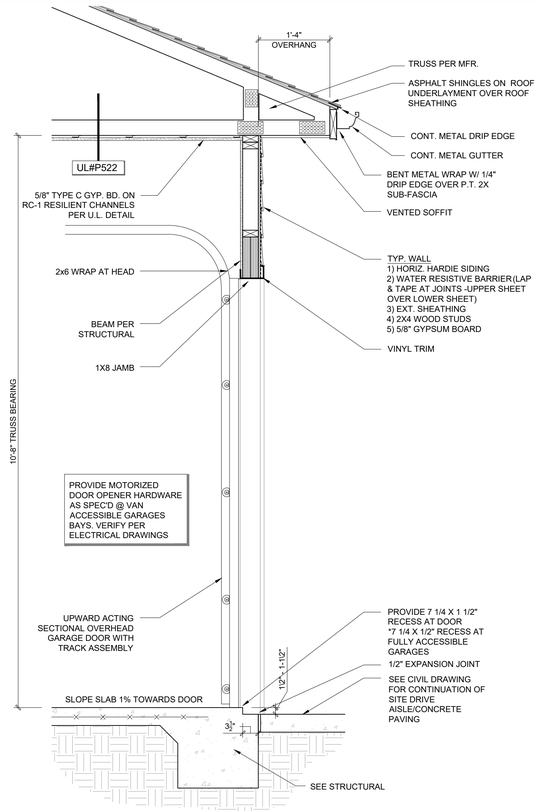
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM
SHEET TITLE: UL Details
SHEET NUMBER: G005



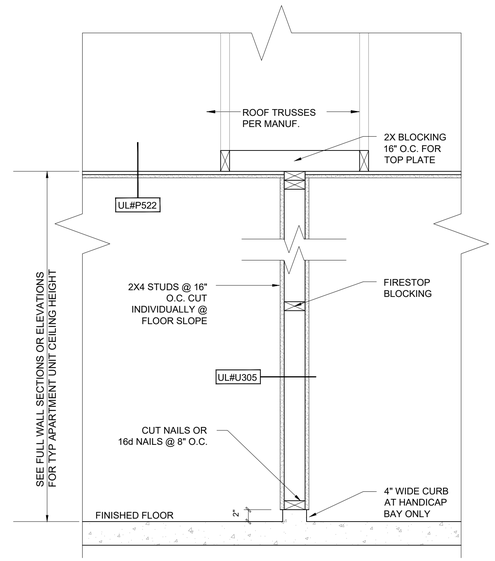
2 TYPICAL EXT. WALL SECTION

SCALE: 3/4" = 1'-0"



3 TYPICAL EXT. WALL SECTION AT GARAGE DOOR

SCALE: 3/4" = 1'-0"



4 WALL SECTION AT ACCESSIBLE BAY DEMISING WALL

SCALE: 1" = 1'-0"

5 GENERAL NOTES

GENERAL NOTES

WALLS
ALL WALLS ARE DRAWN 3.5" THICK U.N.O.
ANGLED WALLS ARE DRAWN @ 45° U.N.O.

SMOKE DETECTORS
NUMBER AND LOCATION OF SMOKE DETECTORS SHALL CONFORM TO N.E.C.

ATTIC ACCESS
ATTIC ACCESS SHALL BE PROVIDED BY BUILDER ACCORDING TO CODE.

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/O ON THE PLANS).

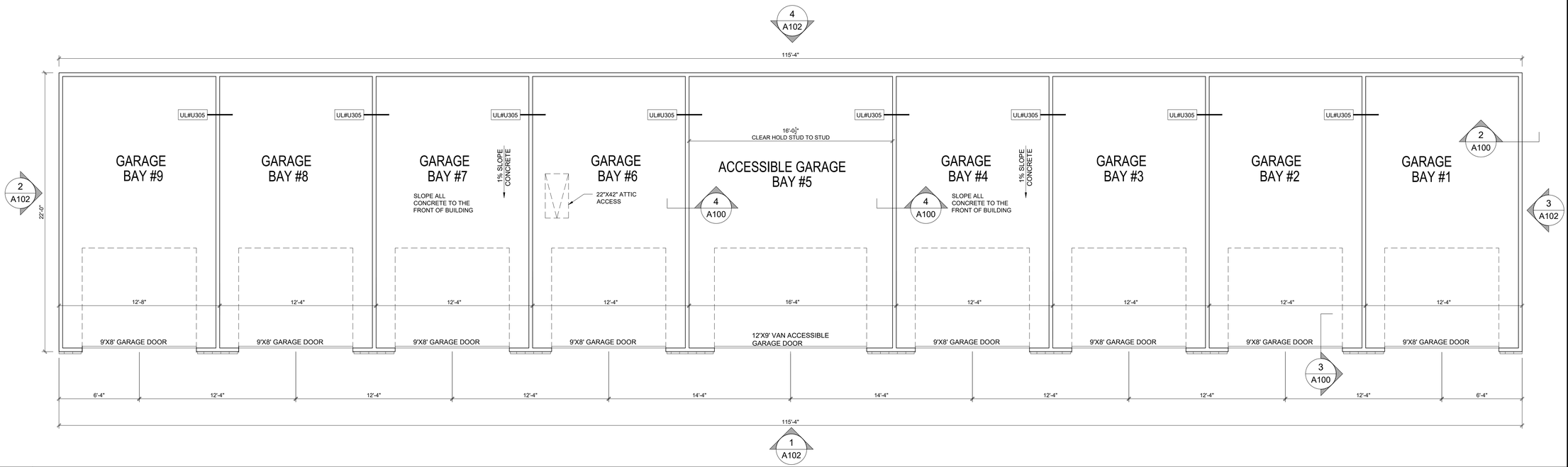
WALL LEGEND

= 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
FOR STONE VENEER WAINSCOTING. SEE ELEVATIONS FOR HEIGHT & FINISH MATERIAL AT EXT STUD WALL ABOVE. STUD THICKNESS AS NOTED IN PLAN NOTES OR AT WALL LOCATIONS

SQUARE FOOTAGE

TOTAL BUILDING SQUARE FOOTAGE =	2,457
EACH BAY =	258
VAN ACCESSIBLE BAY =	344



1 GARAGE TYPE 1 - FLOOR PLAN

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

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PLANWORX ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50909 N.C. RALEIGH, NC

Fairway Point Garage Building

H&H Constructors, Inc.

Gallery Dr, Spring Lake, NC 28390

Issued For Permit Review

MARC W. MILLS REGISTERED ARCHITECT 15794 3-16-23 NORTH CAROLINA RALEIGH, NC

PROGRESS DATE:
ISSUE DATE: 03-16-23

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM

SHEET TITLE: Garage Type 1 Plan

SHEET NUMBER: A100

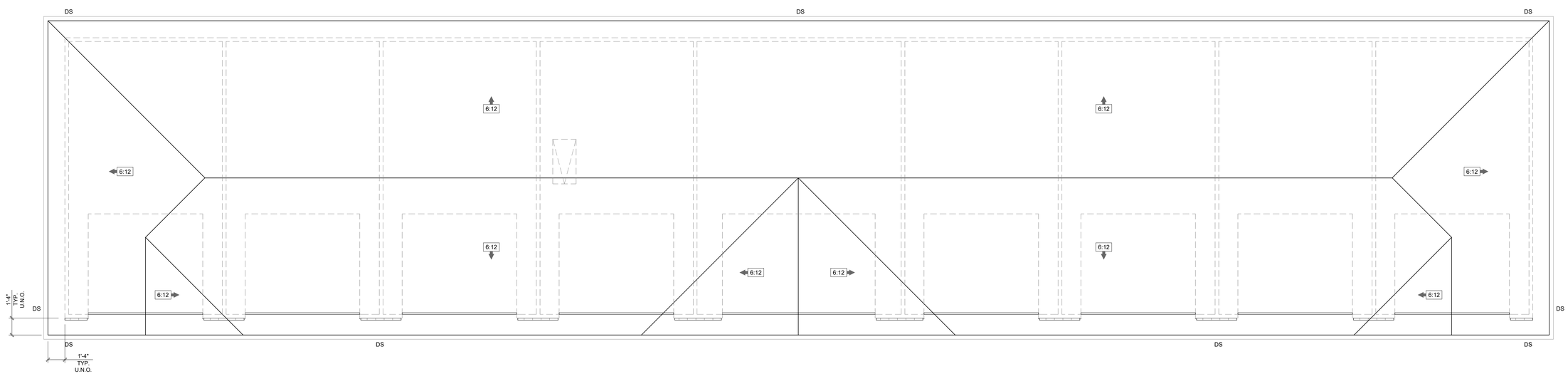
ROOF PLAN GENERAL NOTES

1. ALL DOWNSPOUTS ARE 3"X4"

2. WHERE RIDGE VENTS ARE INDICATED AT OVER FRAMED DORMERS, PROVIDE A MIN. 22X36 ACCESS OPENING IN MAIN ROOF SHEATHING

3. APPLY ICE+WATER SHIELD TO ALL AREAS OF ROOF NOTED BELOW:
   - VALLEYS
   - ROOF SLOPES BELOW 4:12
   - ROOF/WALL INTERSECTIONS
   - EAVES
   - RIDGES
   - HIPS

D.S. = DOWNSPOUT



Roof Ventilation		
A	Ceiling area (square footage)	**2910**
B	Sqft. of ventilation required	19.4
Formulas:	B = A / 150	
Notes:		
Builder to calculate quantities and types of vents to make up the minimum requirement. Attic ventilation shall be approximately 50% soffit, and 50% high (gable end or ridge vents).		

1 GARAGE TYPE 1 - ROOF PLAN

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

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Fairway Point Garage Building

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MARC W. MILLS — REGISTERED ARCHITECT — 15794 — 3-16-23 — NORTH CAROLINA — RALEIGH, NC

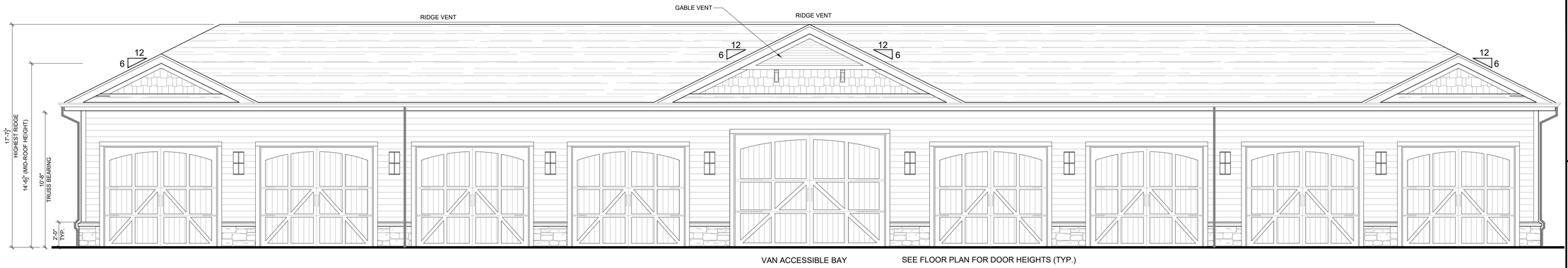
PROGRESS DATE:
ISSUE DATE: 03-16-23

REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM

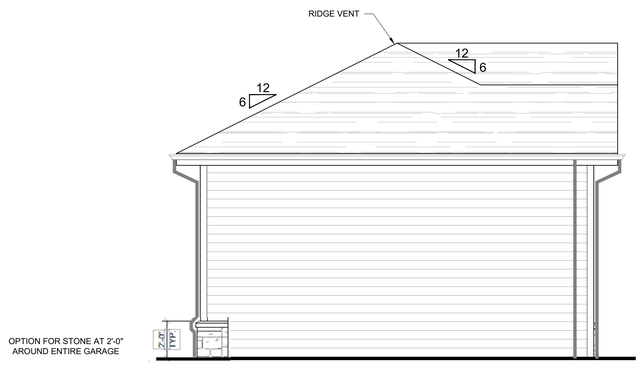
SHEET TITLE: Garage Type 1 Roof Plan

SHEET NUMBER: A101



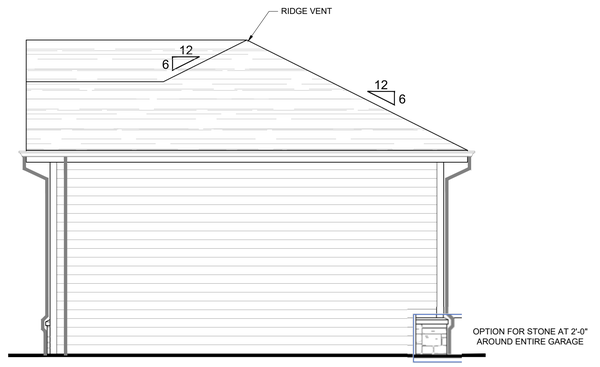
1 GARAGE TYPE 1 - FRONT ELEVATION

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



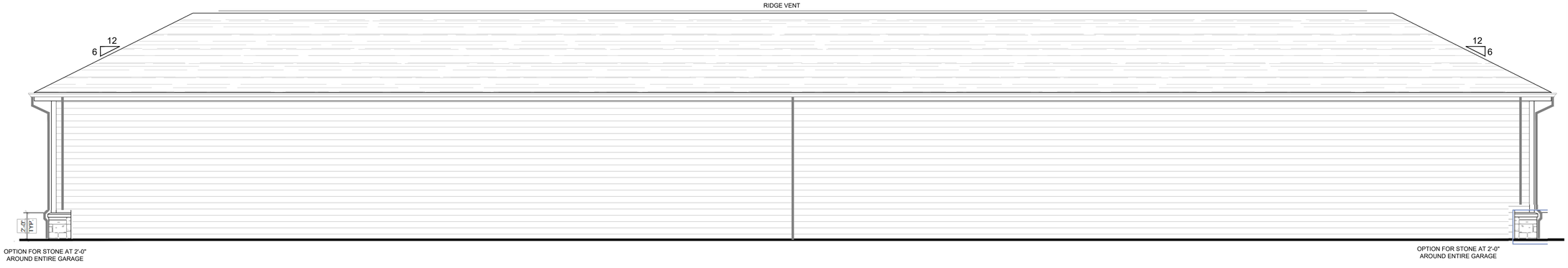
2 GARAGE TYPE 1 - LEFT SIDE ELEVATION

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



3 GARAGE TYPE 1 - RIGHT SIDE ELEVATION

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



4 GARAGE TYPE 1 - REAR ELEVATION

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

EXTERIOR MATERIAL LEGEND

- = ASPHALT SHINGLE ROOF
- = HORIZONTAL HARDIE SIDING
- = HARDIE SHAKE SIDING
- = STONE VENEER

ELEVATION GENERAL NOTES

ADDRESSING

ADDRESS IDENTIFICATION SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS 6" MIN. IN HEIGHT. ADDRESS NUMBERS SHALL BE PLACED ON EACH SIDE AS WELL AS APARTMENT NUMBERS ON THE FRONT OF EACH BREEZEWAY.

PENETRATIONS

ALL WALL/ROOF PENETRATIONS TO MATCH COLOR OF ADJACENT MATERIAL

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PLANWORX ARCHITECTURE, PA
REGISTERED ARCHITECTURAL CORPORATION
CERT. NO. 50909
N.C.
RALEIGH, NC

Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

MARC W. WILLS
REGISTERED ARCHITECT
15179
3-16-23
NORTH CAROLINA
RALEIGH, NC

PROGRESS DATE:			
ISSUE DATE:	03-16-23		
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION

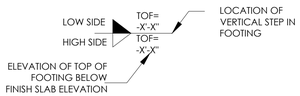
PROJECT NO: 001123
DRAWN BY: AT
CHECKED BY: RW, MM

SHEET TITLE:
Garage Type 1 Elevations

SHEET NUMBER:
A102

FOUNDATION NOTES:

1. PROVIDE 4" THICK CONCRETE SLAB ON GRADE REINFORCED WITH WWF 6x6 W1.4-W1.4, OVER 6 MIL POLY VAPOR BARRIER. SLAB MAY BE PLACED DIRECTLY OVER COMPACTED SUBGRADE OR OVER 4" POROUS BASE, REFER TO GEOTECHNICAL REPORT RECOMMENDATIONS.
2. ALL DIMENSIONS REFERENCED TO EDGE OF SLAB, EDGE OF THICKENED SLAB. VERIFY DIMENSIONS PRIOR TO CONSTRUCTION.
3. SEE ARCH. DWGS. FOR DIMENSIONS NOT SHOWN.
4. REFER TO ARCH. DWGS. FOR LOCATIONS OF RECESSED OR SLOPED SLAB AREAS. PROVIDE POSITIVE DRAINAGE.
5. SEE DETAIL 6/S301 FOR SLAB CONTROL JOINTS (CJ). ALTERNATE LAYOUT PLANS MAY BE SUBMITTED FOR APPROVAL.
6. REFER TO ARCHITECTURAL DRAWINGS FOR RATED WALL LOCATIONS.
7. SEE FOOTING SCHEDULE/SECTIONS FOR SIZES AND REINFORCING.
8. SEE STUD SCHEDULE FOR MEMBER SIZES
9. INTERIOR FOOTING DIMENSIONS SHOULD NOT BE USED TO LOCATE INTERIOR WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL INTERIOR WALL DIMENSIONS.
10. "HD" INDICATED LOCATIONS OF HOLDOWNS. REFER TO HOLD DOWN SCHEDULE FOR MORE INFORMATION. HOLDOWNS HAVE BEEN DESIGNED TO RESIST OVERTURNING MOMENTS FROM SEISMIC AND WIND LOADS. ANY SUBSTITUTIONS MUST BE APPROVED BY THE EOR.
11. PREPARE SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS.



SHEAR WALL SCHEDULE

EXTERIOR WALLS	INTERIOR DEMISING WALLS
7/16" APA RATED OSB SHEATHING, **BLOCK ALL UNSUPPORTED EDGES WITH 2x4 BLOCKS**. PROVIDE MIN 8d'S AT 6" O.C. AT ALL EDGES AND 12" O.C. AT FIELD	GYP-BOARD NAILED TO ALL FRAMING MEMBER AT 7" O.C. MAX. HORIZONTAL BLOCKS ARE NOT REQUIRED.

STUD SCHEDULE

SUPPORTING	EXTERIOR WALLS	INTERIOR NON BEARING WALLS
ROOF	(1) 2x4 @ 16" O.C.	(1) 2x4 @ 16" O.C.

HOLDOWN SCHEDULE (HD)

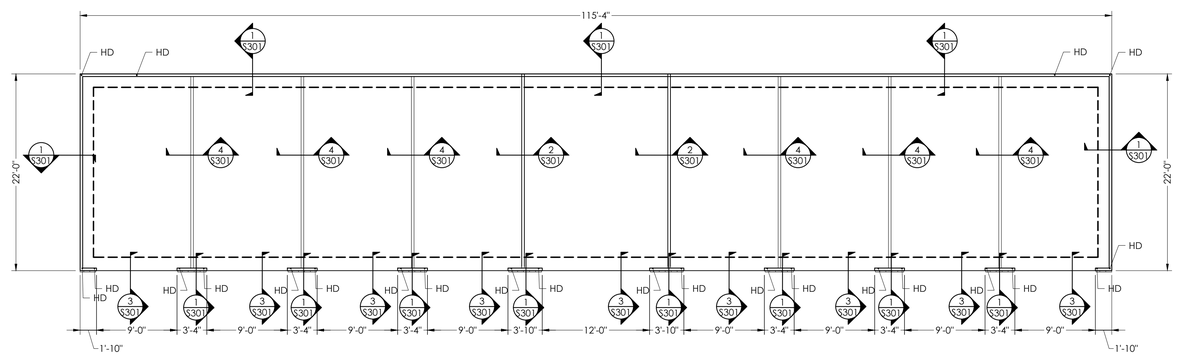
LOCATION	EXTERIOR WALLS
FOUNDATION	(1) SIMPSON HTT4 TIE (2) STUDS TO FOUNDATION. DRILL AND EPOXY 5/8" THREADED ROD (7" EMBED)

1. HOLDOWNS INDICATED IN TABLE SHALL BE USED AT ALL "HD" LOCATIONS ON THE PLANS.

N
PLAN NORTH

ABBREVIATIONS:

COL.	COLUMN
EX.	EXISTING
S.O.G.	SLAB ON GRADE
T.O.S.	TOP OF STEEL
T.O.P.	TOP OF PARAPET
T.O.M.	TOP OF MASONRY
O.C.	ON CENTERS SPACING
T+B	TOP AND BOTTOM
F.F.E.	FINISH FLOOR ELEVATION
TYP.	TYPICAL
DEMO.	DEMOLITION
CONT.	CONTINUOUS
CMU	CONCRETE MASONRY UNIT
STD.	STANDARD
XS.	EXTRA STRONG
XXS.	DOUBLE EXTRA STRING
GALV.	GALVANIZED
HD	HOLDDOWN
WWF	WIRE WELDED FABRIC
RT	ROOF TRUSS
GT	GIRDER TRUSS
FLRT	FLOOR TRUSS



Garage Building Foundation Plan
SCALE: 1/8"=1'-0"

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27597

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035814 MICHAEL GABRIEL HAUSER
3/16/2023

Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

PROGRESS DATE:
ISSUE DATE: 03.16.2023

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION
1			

PROJECT NO: 001123
DRAWN BY: RA
CHECKED BY: MGH

SHEET TITLE:
Garage Building Foundation Plan

SHEET NUMBER:
S101

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ROOF FRAMING NOTES:

1. ALL TRUSS SPACING IS AT 2'-0" O.C. UNLESS NOTED OTHERWISE. SPACE TRUSSES AT ATTIC ACCESS DOORS TO ALLOW FOR PROPER INSTALLATION.
2. TRUSS FABRICATOR SHALL VERIFY ALL DIMENSIONS, LAYOUTS AND COORDINATE WITH BEARING WALL AND BEAM LOCATIONS. ALTERNATE LAYOUT PLANS MAY BE SUBMITTED FOR APPROVAL.
3. THE CONTRACTOR MUST VERIFY THAT ALL LATERAL BRACING REQUIRED FOR TRUSS WEBS IS INSTALLED PER THE TRUSS SHOP DRAWINGS.
4. REFER TO FOUNDATION PLAN FOR DIMENSIONS AND TO ARCHITECTURAL PLANS FOR DIMENSIONS NOT SHOWN.
5. ALL TRUSS TO TRUSS CONNECTIONS SHALL BE SPECIFIED BY THE TRUSS DESIGNER AND SHALL BE CLEARLY INDICATED ON THE TRUSS SHOP DRAWINGS.
6. ROOF SHEATHING SHALL BE 7/16" OSB APA RATED, EXPOSURE 1 WITH "H" CLIPS AT UNSUPPORTED EDGES BETWEEN TRUSSES. SEE DETAIL 1/S401 OR 2/S401 FOR ROOF DECK NAILING PATTERN.
7. VERIFY LOCATION AND AMOUNTS OF ALL HEADERS.
8. PRE-FABRICATED TRUSS OVER-BUILD FRAMING. ROOF SHEATHING SHALL BE CONTINUOUS BENEATH TRUSS OVERBUILD. PROVIDE ATTACHMENT OF OVERBUILD FRAMING TO ROOF SHEATHING AND TRUSSES BELOW ACCORDING TO TRUSS MANUFACTURER. SEE 12/S402
9. SEE DETAIL 6/S401 FOR TOP PLATE SPLICE DETAIL.
10. SEE DETAILS 3/S401 AND 4/S401 FOR PERMANENT ROOF TRUSS BRACING.
11. PROVIDE MIN. (3) 2X STUDS BELOW ALL GIRDER TRUSS BEARING POINTS PROVIDE LGT TIE DOWN (U.N.O). SEE DETAIL 9/S402. PROVIDE HTT4 HOLDOWN AT FOUNDATION.
12. ANY TRUSS TIE DOWN SUBSTITUTIONS MUST BE APPROVED BY THE EOR
13. PROVIDE DRAG TRUSS ALIGNED WITH EACH DEMISING WALL. NAIL TRUSS AT ROOF SHEATHING AT 6" O.C. OVER ENTIRE LENGTH OF TRUSS. DESIGN TRUSS TO TRANSFER 150 PLF LATERAL LOAD FROM TOP CHORD TO BOTTOM CHORD. LATERAL LOAD IS RESISTED OVER ENTIRE LENGTH OF SHEAR WALL.

ABBREVIATIONS:

COL.	COLUMN
EX.	EXISTING
S.O.G.	SLAB ON GRADE
T.O.S.	TOP OF STEEL
T.O.P.	TOP OF PARAPET
T.O.M.	TOP OF MASONRY
O.C.	ON CENTERS SPACING
T+B	TOP AND BOTTOM
F.F.E.	FINISH FLOOR ELEVATION
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CMU	CONCRETE MASONRY UNIT
STD.	STANDARD
XS.	EXTRA STRONG
XXS.	DOUBLE EXTRA STRING
GALV.	GALVANIZED
HD	HOLDDOWN
WWF	WIRE WELDED FABRIC
RT	ROOF TRUSS
GT	GIRDER TRUSS
FLRT	FLOOR TRUSS

SHEAR WALL SCHEDULE

EXTERIOR WALLS	INTERIOR DEMISING WALLS
7/16" APA RATED OSB SHEATHING. **BLOCK ALL UNSUPPORTED EDGES WITH 2x4 BLOCKS**. PROVIDE MIN 8d'S AT 6" O.C. AT ALL EDGES AND 12" O.C. AT FIELD	GYP-BOARD NAILED TO ALL FRAMING MEMBER AT 7" O.C. MAX. HORIZONTAL BLOCKS ARE NOT REQUIRED.

STUD SCHEDULE

SUPPORTING	EXTERIOR WALLS	INTERIOR NON BEARING WALLS
ROOF	(1) 2x4 @ 16" O.C.	(1) 2x4 @ 16" O.C.

HEADER SCHEDULE

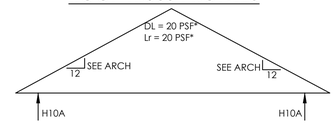
TYPE	SIZE	NOTES	SUPPORT
H1	(2) 1 3/4"x9 1/4" LVL	Fb = 2800 PSI, E= 2.0	(2) JACK + (2) KING

HOLDOWN SCHEDULE (HD)

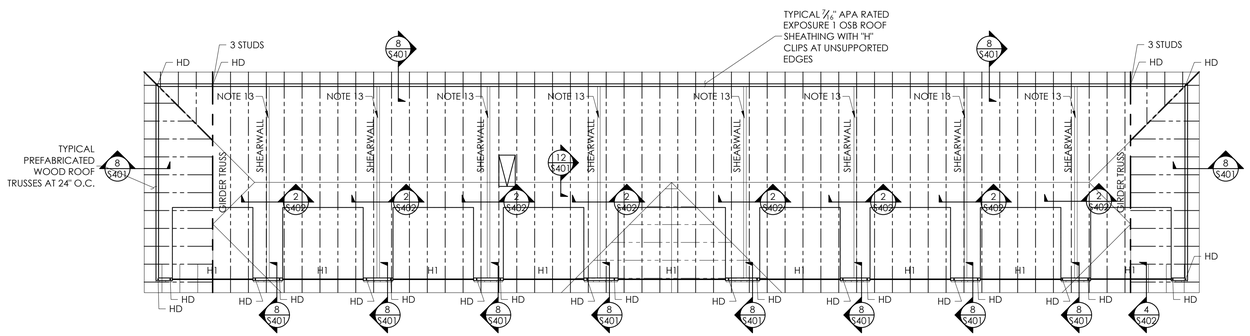
LOCATION	EXTERIOR WALLS
FOUNDATION	(1) SIMPSON HTT4 TIE (2) STUDS TO FOUNDATION, DRILL AND EPOXY 5/8" THREADED ROD (7" EMBED)

1. HOLDOWNS INDICATED IN TABLE SHALL BE USED AT ALL "HD" LOCATIONS ON THE PLANS.

ROOF TRUSS PROFILES



TYP. ROOF TRUSS



Garage Building Roof Framing Plan

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

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035814 MICHAEL GABRIEL HAUSER
3/14/2023

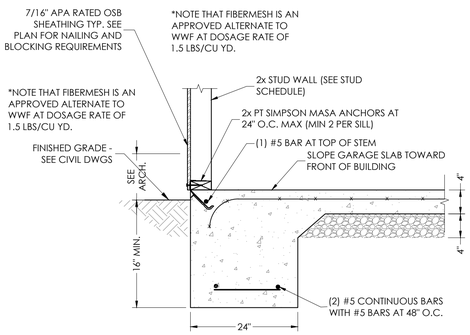
Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

PROGRESS DATE:			
ISSUE DATE:			03.16.2023
REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123
DRAWN BY: RA
CHECKED BY: MGH

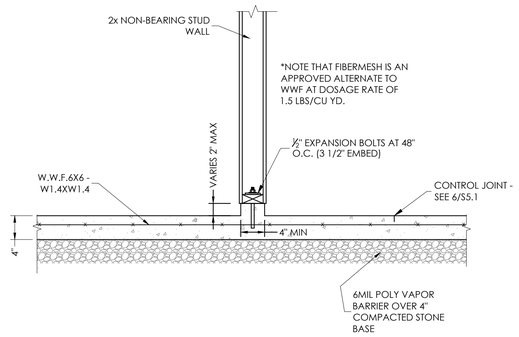
SHEET TITLE:
Garage Building Roof Framing

SHEET NUMBER:
S201



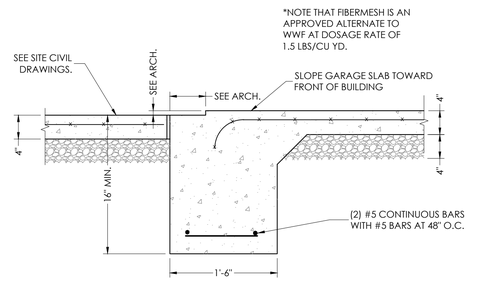
1 TYP. EXTERIOR WALL SECTION

SCALE: NONE



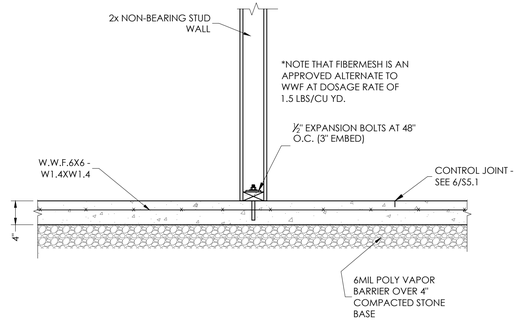
2 GARAGE STEM WALL AT HANDICAP BAY

SCALE: NONE



3 GARAGE DOOR THRESHOLD

SCALE: NONE



4 TYPICAL GARAGE DEMISING WALL

SCALE: NONE

5 CONTINUITY CORNER DETAIL

SCALE: NONE

6 SLAB ON GRADE

SCALE: NONE

7 ELEVATION OF WALL ANCHORAGE

SCALE: NONE

8 PERSPECTIVE OF MASA INSTALLATION

SCALE: NONE

SCALE: NONE

SCALE: NONE

SCALE: NONE

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Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

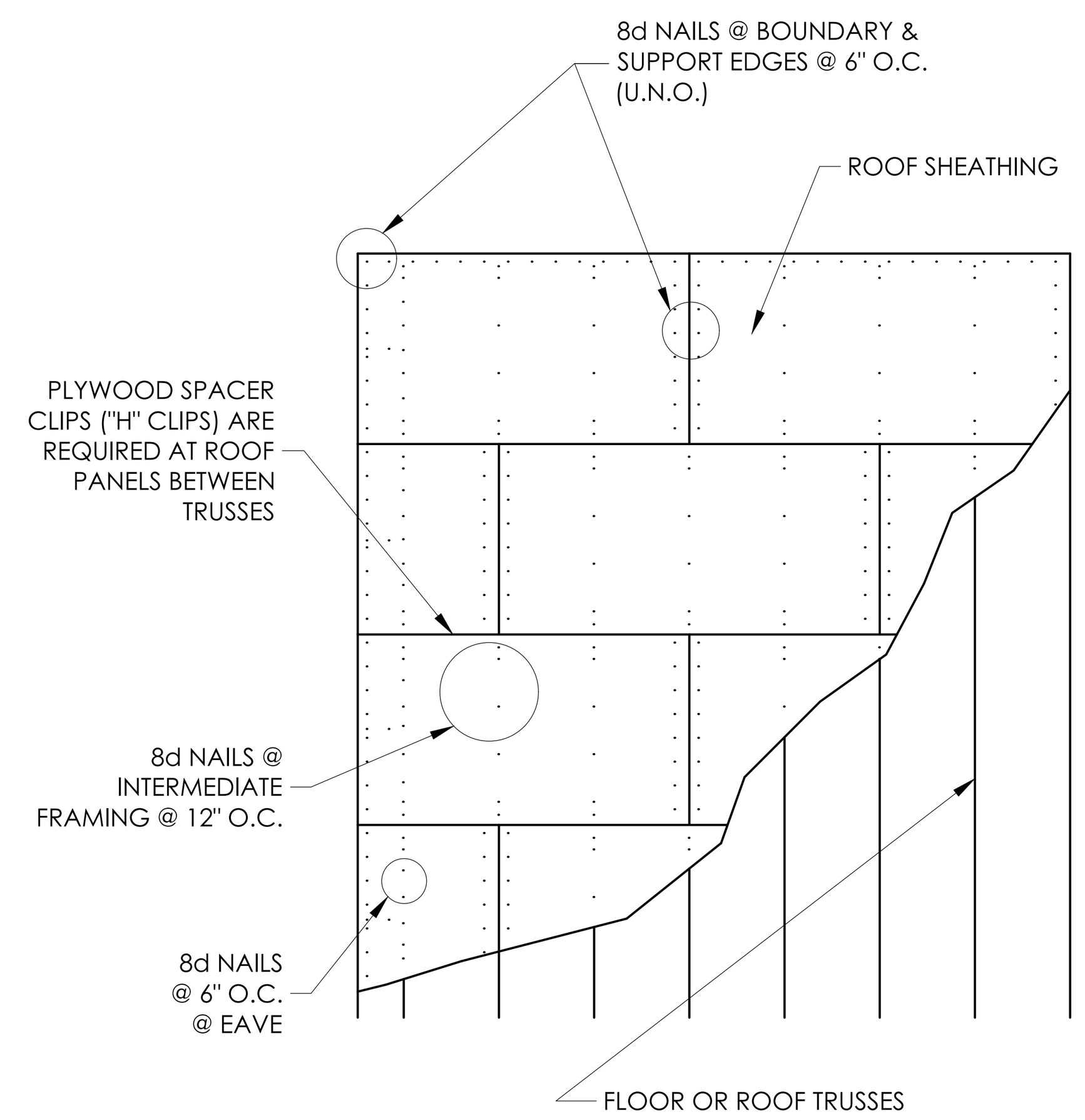
PROGRESS DATE:
ISSUE DATE: 03.16.2023

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION
1			

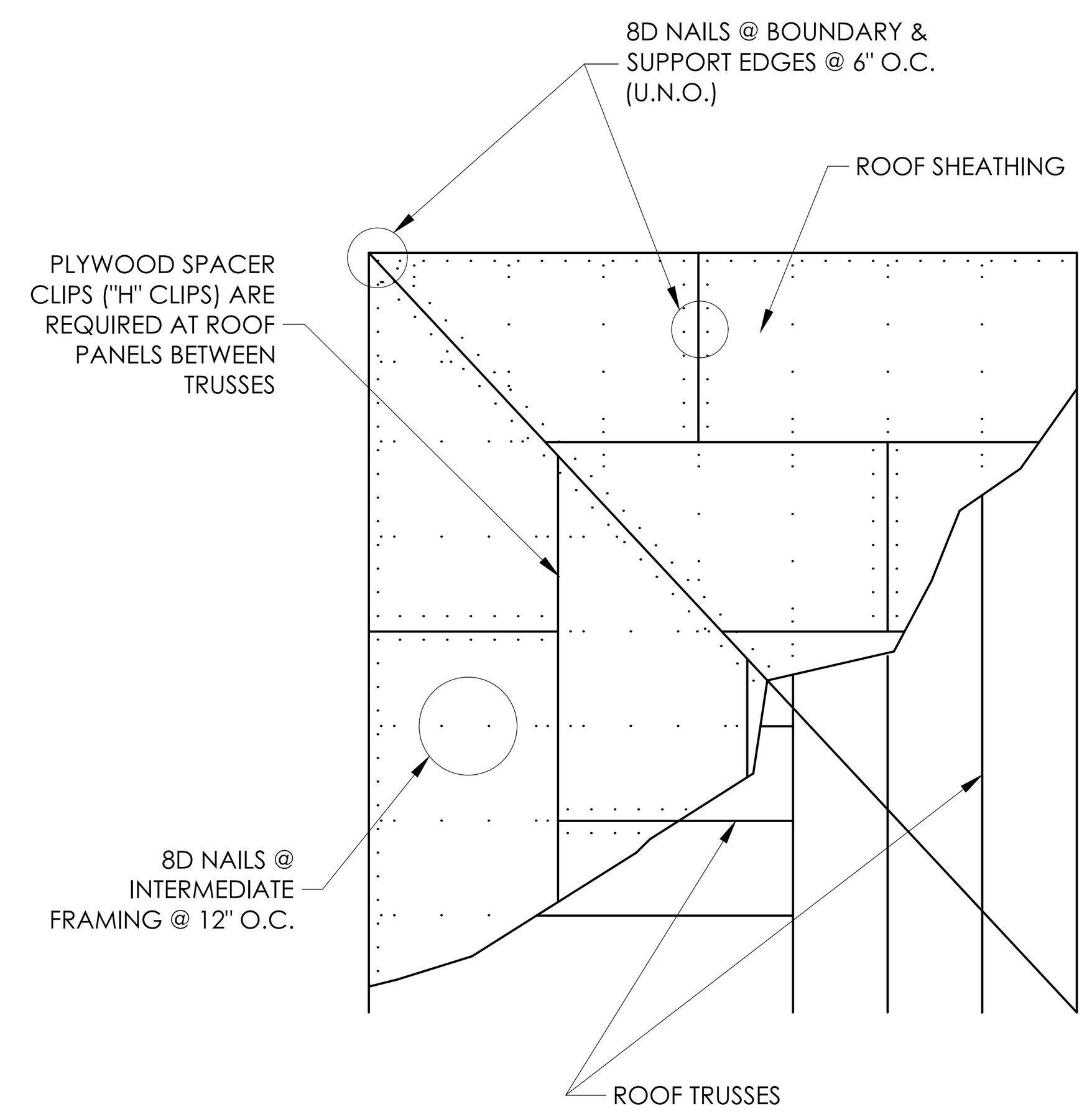
PROJECT NO: 001123
DRAWN BY: RA
CHECKED BY: MGH

SHEET TITLE:
Foundation Details

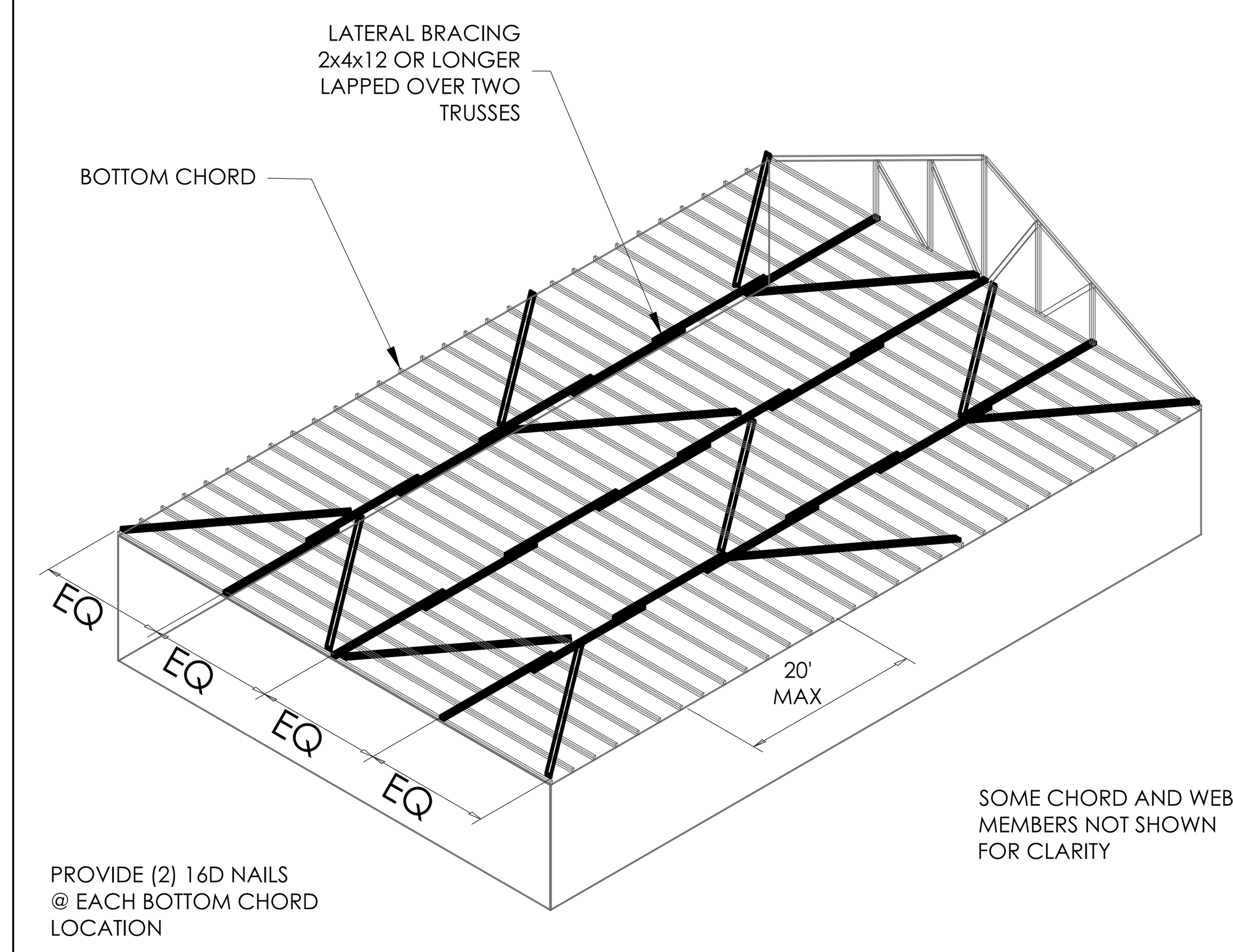
SHEET NUMBER:
S301



1 **FLOOR DECK AND ROOF DECK NAILING PATTERNS**
SCALE: NONE

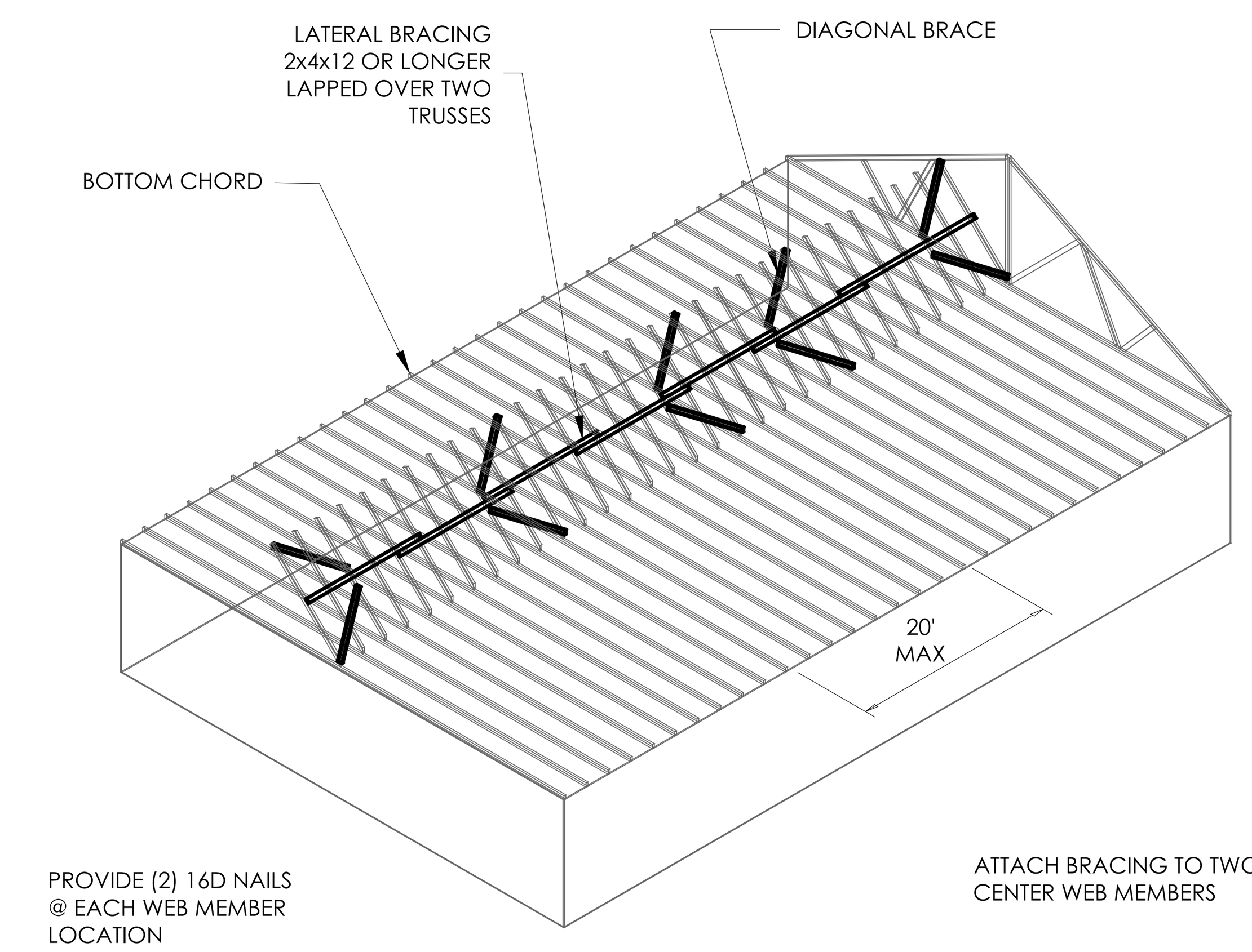


2 **HIP ROOF NAILING PATTERN**
SCALE: NONE



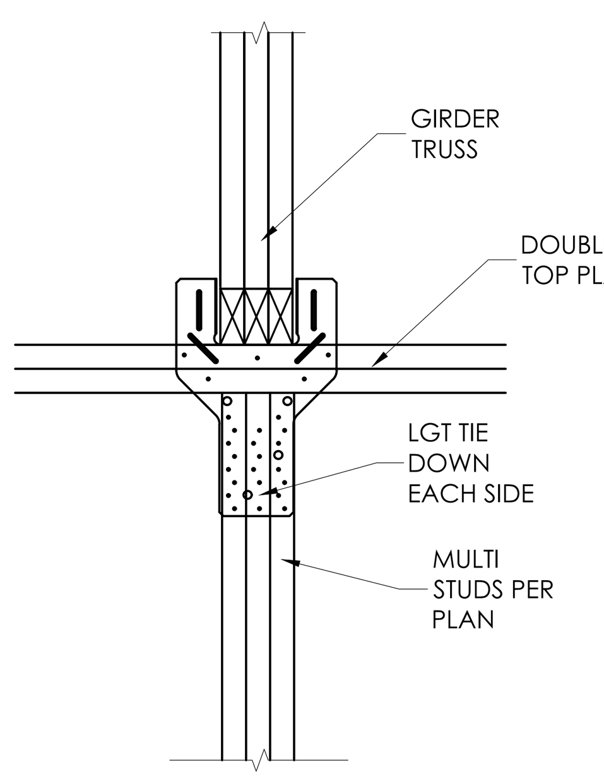
PERMANENT BRACING OF THE BOTTOM TRUSS CHORD

3 **PERMANENT TRUSS BRACING**
SCALE: NONE



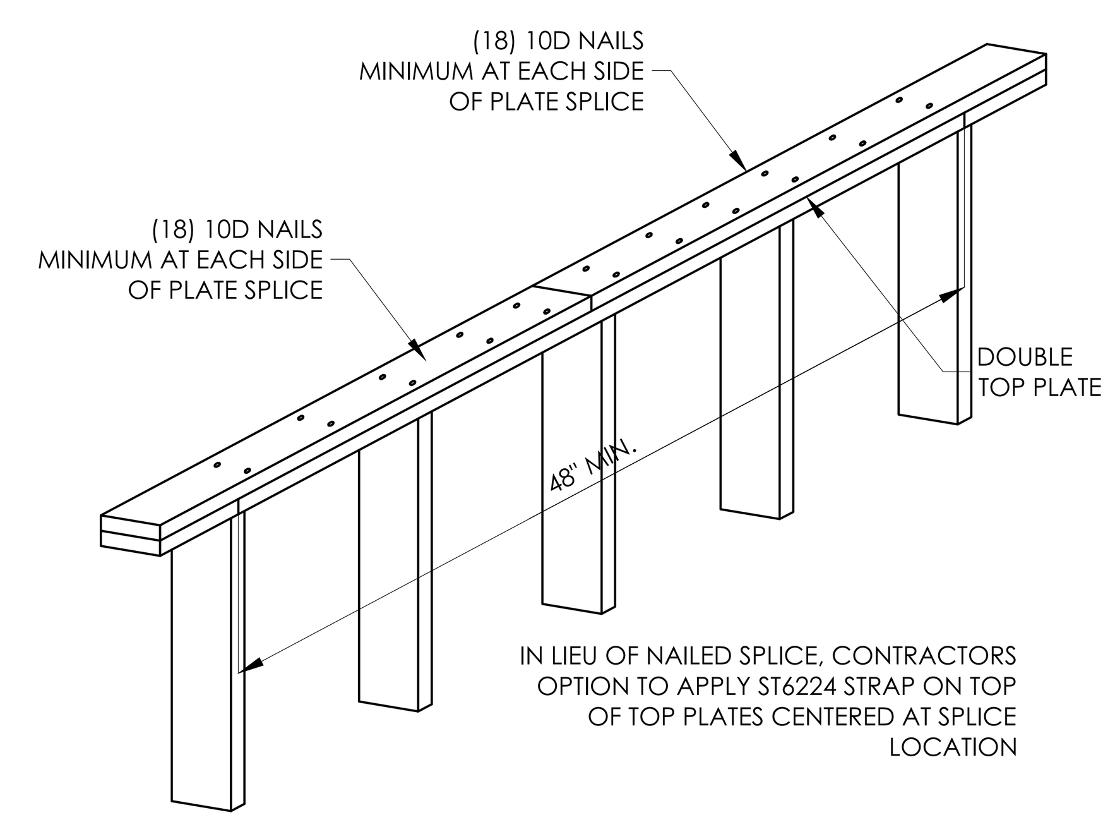
PERMANENT BRACING OF CENTER WEB MEMBERS

4 **PERMANENT TRUSS BRACING**
SCALE: NONE

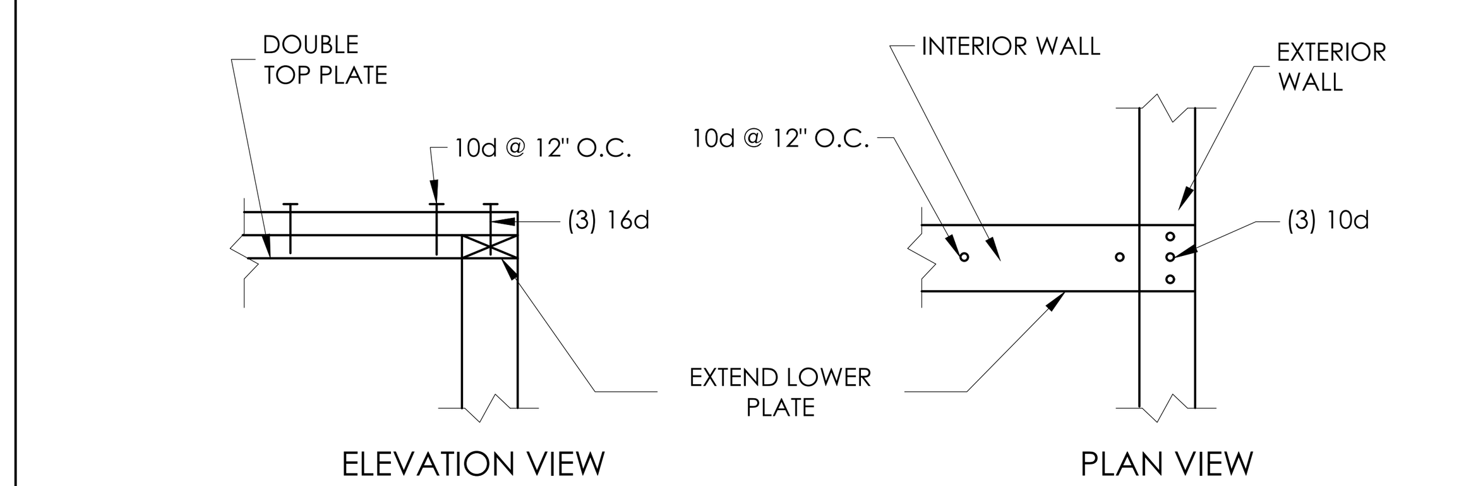


5 **GIRDER TRUSS TIE DOWN**
SCALE: NONE

TOP PLATE SPLICE CONDITION AT ALL EXTERIOR WALLS.

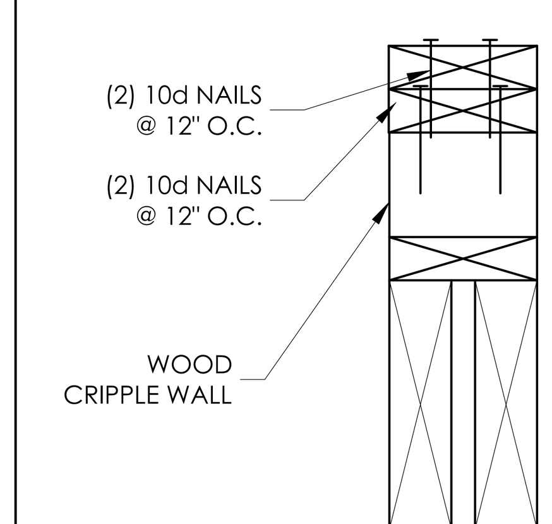


6 **TYPICAL DOUBLE TOP PLATE SPLICE**
SCALE: NONE



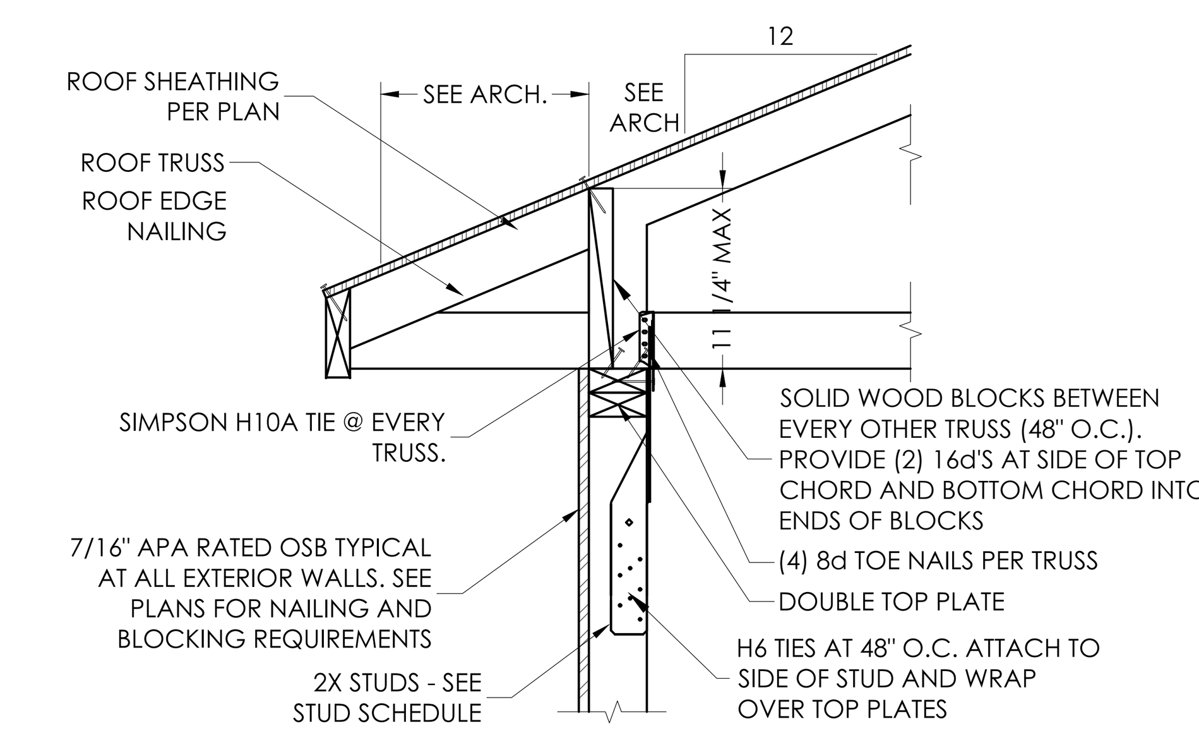
INTERSECTION OF INTERIOR AND EXTERIOR WALLS

ATTACH SHEATHING AND WALLBOARD TO STUDS @ 7" O.C. U.N.O. PROVIDE DETAIL AT WALL BETWEEN EACH UNIT



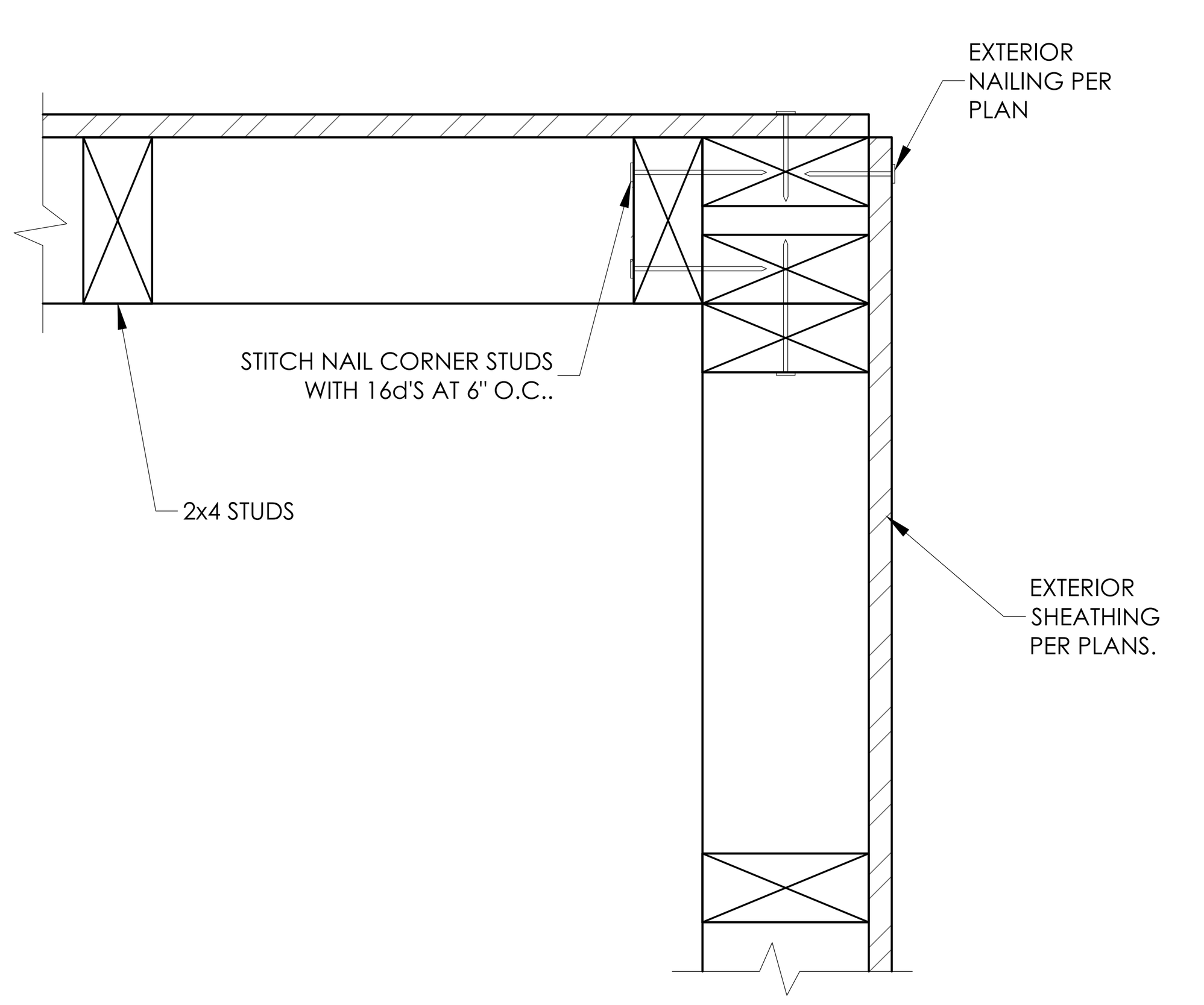
TYPICAL SECTION AT HEADER

7 **HEADER SECTION**
SCALE: NONE

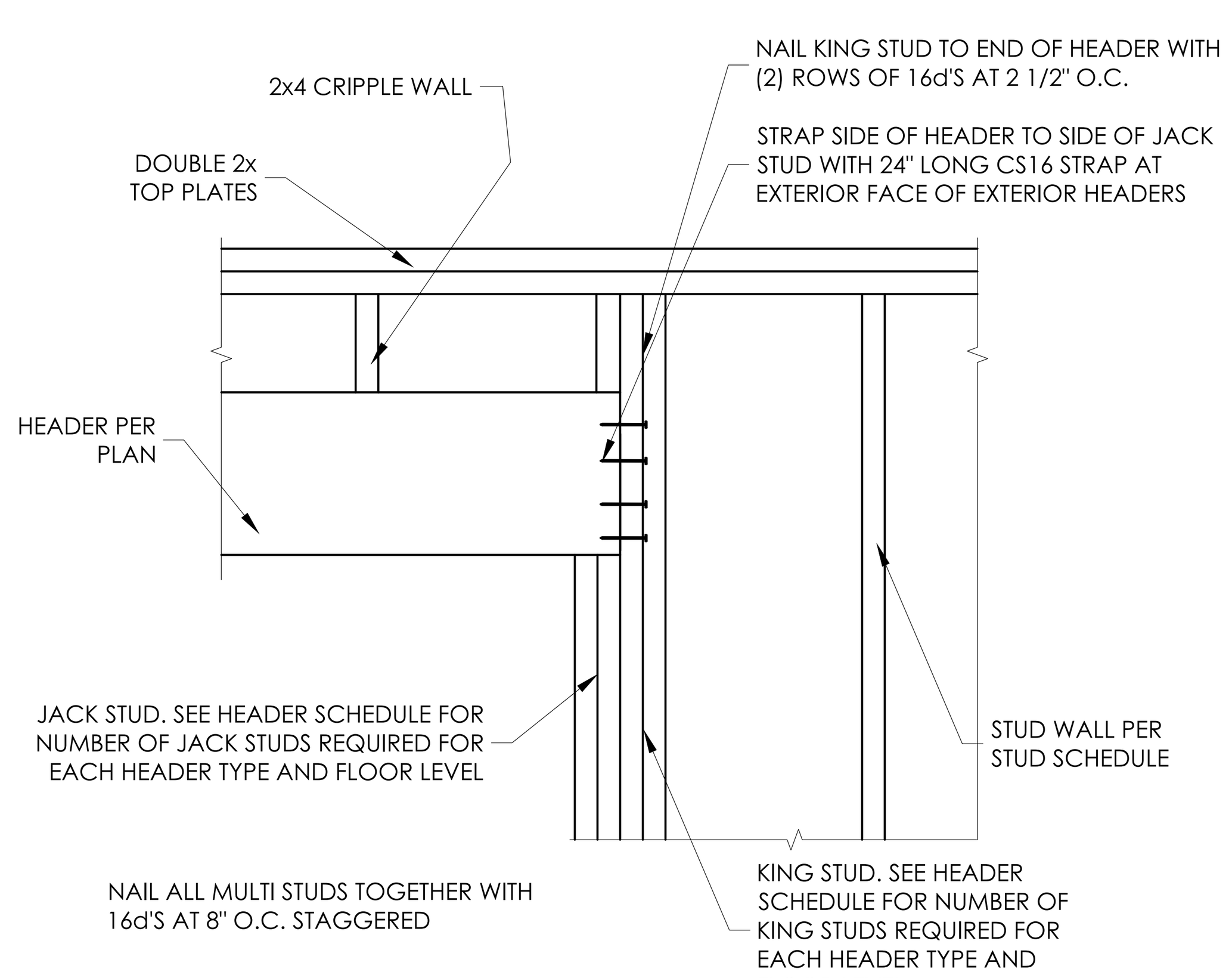


BLOCKING REQUIRED BETWEEN TRUSSES AT HEEL HEIGHTS EXCEEDING 7"
WHERE HEEL HEIGHTS EXCEED 11 ¼" TRUSS MANUFACTURER SHALL PROVIDE TRUSS STYLE BLOCKS

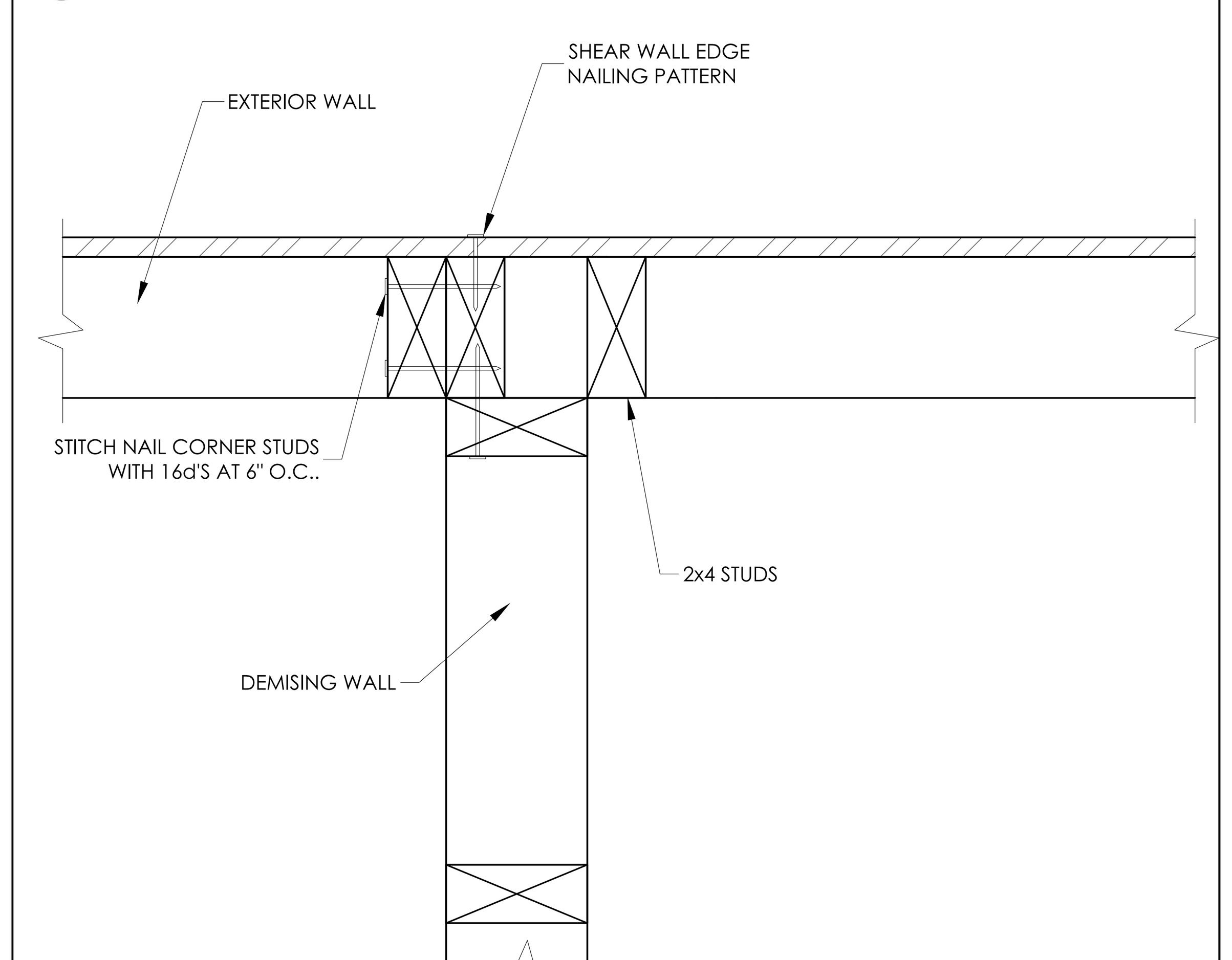
8 **ROOF TRUSS CONNECTION AT EXTERIOR WALL**
SCALE: NONE



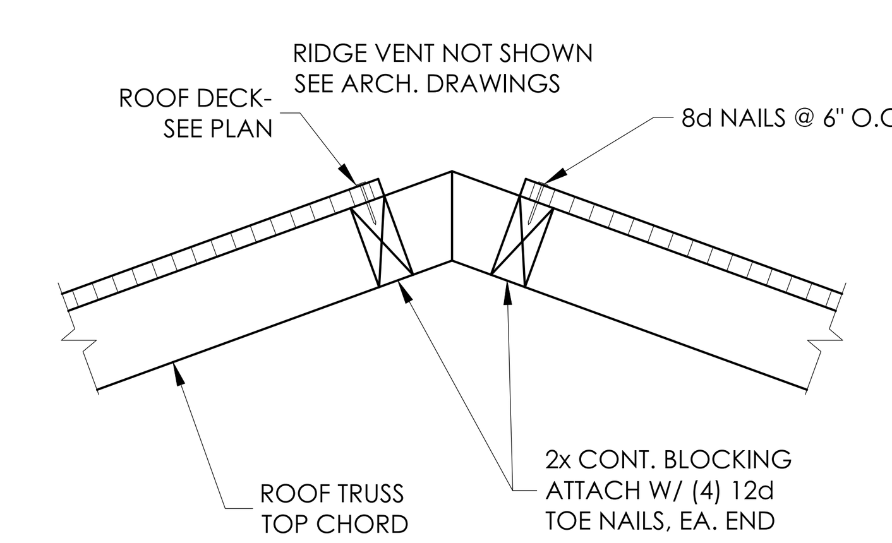
9 **CORNER FRAMING DETAIL**
SCALE: NONE



10 **HEADER BEARING DETAIL**
SCALE: NONE



11 **DEMISING WALL TO EXTERIOR WALL**
SCALE: NONE



SECTION @ RIDGE

12 **RIDGE VENT**
SCALE: NONE

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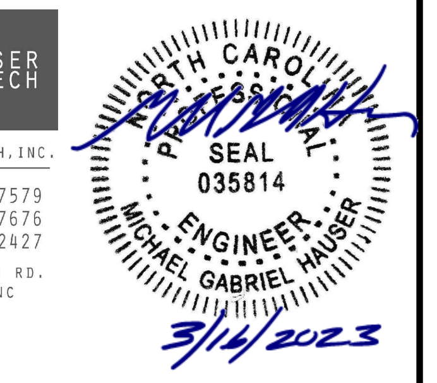
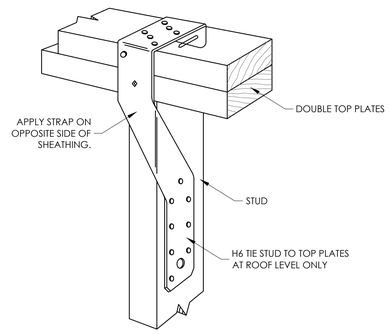


Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

PROGRESS DATE:
ISSUE DATE: 03.16.2023

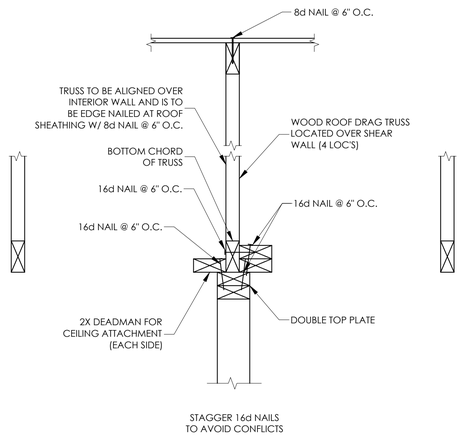
REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION
△			

PROJECT NO: 001123
DRAWN BY: RA
CHECKED BY: MGH
SHEET TITLE:
Framing Details
SHEET NUMBER:
S401



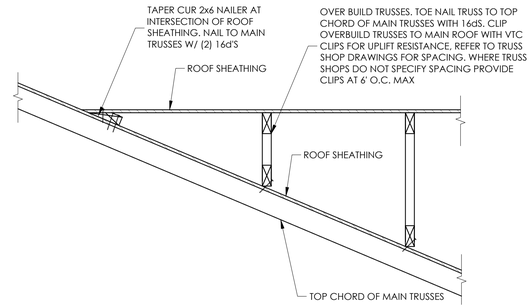
1 H6 TIE ISOMETRIC

SCALE: NONE



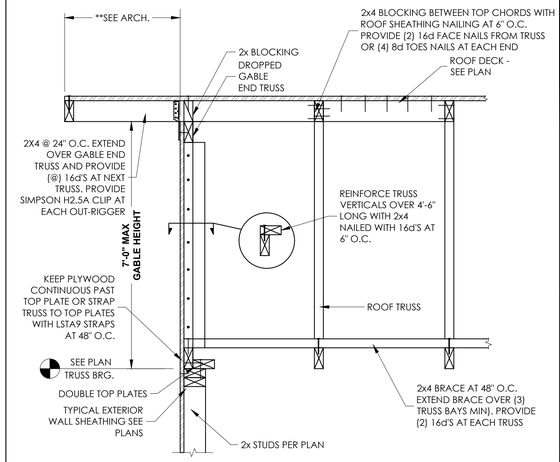
2 TRUSS ATTACHMENT AT DEMISING WALL

SCALE: NONE



3 TRUSS OVERBUILD

SCALE: NONE



4 GABLE TRUSS SECTION

SCALE: NONE

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2. Contractor is to notify architect immediately of conditions or items varying from depicted information.
3. Planworx Architecture, P.A. is not responsible for constructed variations from the information depicted.
4. Planworx Architecture, P.A. 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 planworx architecture, P.A. Design.
5. Planworx Architecture, P.A. retains ownership of all of designs depicted and implied herein.
6. Planworx Architecture, P.A. is not responsible for estimating, maintaining, or regulating construction costs associated with these plans.

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NORTH CAROLINA
SEAL
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ENGINEER
MICHAEL GABRIEL HAUSER
3/14/2023

Fairway Point Garage Building

H&H Constructors, Inc.

Gallery Dr, Spring Lake, NC 28390

Issued For Permit Review

PROGRESS DATE:				
ISSUE DATE:				
REVISIONS: NUMBER	DATE	INITIALS	DESCRIPTION	
1			03.16.2023	

PROJECT NO: 001123
DRAWN BY: RA
CHECKED BY: MGH

SHEET TITLE:
Framing Details

SHEET NUMBER:
S402

FOUNDATION NOTES:

1. FOUNDATION DESIGN IS BASED UPON AN ASSUMED SOIL BEARING VALUE OF 2000 PSF
2. THE SOIL BEARING CAPACITY AND CONSISTENCY SHALL BE VERIFIED FOR THE BUILDING LIMITS BY A REGISTERED GEO-TECHNICAL ENGINEER WHEN FOUNDATION EXCAVATIONS HAVE BEEN CARRIED DOWN TO THE PROPOSED ELEVATIONS. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE BELOW THE FROST LINE OR 12" BELOW GRADE, WHICH EVER IS GREATER. (U.N.O.)
4. WHERE FOOTING EXCAVATIONS ARE TO REMAIN OPEN AND MAY BE EXPOSED TO RAINFALL, THE EXCAVATIONS SHALL BE UNDERCUT AND A 3" THICK MUD MAT OF 2000 PSI CONCRETE SHALL BE PLACED OR CLEAN GRAVEL SHALL BE PLACED IN THE BOTTOM TO PROTECT THE BEARING SOILS.
5. WHERE FOOTING STEPS ARE NECESSARY, THEY SHALL BE NO STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL, UNLESS SHOWN OTHERWISE ON PLANS.

REINFORCED CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," (ACI 318, 05)
2. REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A-615 (GRADE 60)
3. FOUNDATIONS AND SLAB-ON-GRADE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 3000 P.S.I. (SEE CIVIL DRAWINGS FOR SITE CONCRETE) KEEP COPY OF CONC. TEST REPORTS ON SITE AT ALL TIMES.
4. WALL COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 4000 P.S.I. (SEE CIVIL DRAWINGS FOR SITE CONCRETE) KEEP COPY OF CONC. TEST REPORTS ON SITE AT ALL TIMES
5. LAP SPLICES FOR #5 REINFORCING BARS SHALL BE 36" MIN., AND #6 REINFORCING BARS SHALL BE 43" MIN., UNLESS SUBMITTED AND APPROVED OTHERWISE.
6. CLEAR CONCRETE COVER FOR REINFORCING STEEL:
   - WALLS: 3" CAST AGAINST GROUND; 2" FORMED EDGES
   - FOOTINGS: 2" FORMED EDGES; 3" CAST AGAINST GROUND
   - SLAB ON GRADE: MID-HEIGHT OF SLAB
6. THE LONGITUDINAL REINFORCING STEEL IN WALLS AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS. SEE TYPICAL DETAILS.
7. SLUMP LIMIT IS 5 INCHES FOR CONCRETE WITH VERIFIED SLUMP OF 2 TO 4 INCHES BEFORE ADDING HIGH-RANGE WATER-REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURE, PLUS OR MINUS 1 INCH
8. AIR CONTENT: 6 PERCENT, PLUS OR MINUS 1.5 PERCENT AT POINT OF DELIVERY FOR 3/4-INCH NOMINAL MAXIMUM AGGREGATE SIZE. EXCEPTION TROWEL-FINISHED FLOOR SHALL NOT EXCEED 3 PERCENT.
9. MAXIMUM COARSE-AGGREGATE SIZE: 3/4 INCH NOMINAL.
10. PORTLAND CEMENT: ASTM C 150/C 150M, TYPE I.
11. COLD-WEATHER PLACEMENT: COMPLY WITH ACI 306.1.
12. HOT-WEATHER PLACEMENT: COMPLY WITH ACI 301.
13. DESIGN, ERECT, SHORE, BRACE, AND MAINTAIN FORMWORK, ACCORDING TO ACI 301, TO SUPPORT VERTICAL, LATERAL, STATIC, AND DYNAMIC LOADS, AND CONSTRUCTION LOADS THAT MIGHT BE APPLIED, UNTIL STRUCTURE CAN SUPPORT SUCH LOADS. PLACE FORMWORK SO CONCRETE MEMBERS AND STRUCTURES ARE OF SIZE, SHAPE, ALIGNMENT, ELEVATION, AND POSITION INDICATED, WITHIN TOLERANCE LIMITS OF ACI 117. CHAMFER EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE
14. BEFORE PLACING CONCRETE, VERIFY THAT INSTALLATION OF FORMWORK, REINFORCEMENT, AND EMBEDDED ITEMS IS COMPLETE AND THAT REQUIRED INSPECTIONS ARE COMPLETED. DEPOSIT CONCRETE CONTINUOUSLY IN ONE LAYER OR IN HORIZONTAL LAYERS OF SUCH THICKNESS THAT NO NEW CONCRETE IS PLACED ON CONCRETE THAT HAS HARDENED ENOUGH TO CAUSE SEAMS OR PLANES OF WEAKNESS. IF A SECTION CANNOT BE PLACED CONTINUOUSLY, PROVIDE CONSTRUCTION JOINTS AS INDICATED. DEPOSIT CONCRETE TO AVOID SEGREGATION. CONSOLIDATE PLACED CONCRETE WITH MECHANICAL VIBRATING EQUIPMENT ACCORDING TO ACI 301.
15. ALL CONCRETE SHALL BE VIBRATED BY MECHANICAL VIBRATORS.

DESIGN INFORMATION:

1. ALL CONSTRUCTION SHALL CONFORM TO THE 2018 NORTH CAROLINA STATE BUILDING CODE AND ASCE 7-10
2. DESIGN LOADS:
   - DEAD AND LIVE LOADS
   - ROOF LOADS
     - TOP CHORD DEAD: 15 psf
     - BOTTOM CHORD DEAD: 10 psf
     - TOP CHORD LIVE: 20 psf
     - BOTTOM CHORD LIVE: 10 psf (NON CONCURRENT WITH TOP CHORD LIVE)
   - OCCUPENCY CATEGORY: II
   - IMPORTANCE FACTORS
     - I seismic: 1.0
     - I snow: 1.0
   - GROUND SNOW LOAD (pg): 10 psf
   - DESIGN WIND SPEED: Risk Cat II = 118 mph (ASCE 7-10)
   - EXPOSURE: B
   - SEISMIC DESIGN PARAMETERS
     - S1: 0.091
     - Ss: 0.199
     - SITE CLASS: D
     - Sds: 0.212
     - Sd1: 0.146
     - SEISMIC DESIGN CATEGORY: C
3. ADDITIONAL LIVE LOADS PRESCRIBED IN ASCE7-10 RELATED TO ROOF ATTICS AND ROOF TRUSSES, INCLUDING LIMITED ACCESS STORAGE IN ATTICS SHALL APPLY TO PRE-FABRICATED TRUSSES, AND SHALL BE CLEARLY IDENTIFIED ON THE TRUSS SHOP DRAWINGS..
4. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. FOR LOCATION OF MISCELLANEOUS ITEMS (SUCH AS INSERTS, ETC.) AFFECTING STRUCTURAL WORK, SEE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
6. THIS PROJECT CONTAINS A SERIES OF DETAILS CONSIDERED "TYPICAL DETAILS". THESE SHALL APPLY AT ALL SITUATIONS THAT ARE THE SAME OR SIMILAR AS THESE DETAILS. THESE "TYPICAL DETAILS" SHALL APPLY WHETHER OR NOT THEY ARE INDICATED OR CUT AT EACH LOCATION.
7. VERIFY EXISTING CONDITIONS AND NOTIFY ARCHITECT AND ENGINEER OF ANY CONDITIONS WHICH DO NOT COMPLY WITH PLANS AND SPECIFICATIONS. STRUCTURAL DRAWINGS MUST BE WORKED WITH ARCHITECTURAL DRAWINGS.
8. USE OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS ACCORDINGLY PRIOR TO SUBMITTING TO THE ENGINEER. THE OMISSION OF ITEMS FROM SHOP DRAWINGS SHALL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY OF FURNISHING AND INSTALLING ITEMS REGARDLESS OF WHETHER SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.

WOOD FRAMING (NOT INCLUDING PRE-FABRICATED TRUSSES):

1. ALL WOOD CONSTRUCTION SHALL CONFORM TO THE 2018 NORTH CAROLINA STATE BUILDING CODE AND TO THE NDS.
2. ALL NAILING (UNLESS NOTED OTHERWISE) SHALL CONFORM TO THE 2018 NORTH CAROLINA STATE BUILDING CODE
3. ALL STUDS, TOP PLATES AND SILL PLATES IN BEARING WALLS SHALL BE SPF NO. 2 OR BETTER OR SYP NO. 2 OR BETTER.
4. ALL STUDS, TOP PLATES AND SILL PLATES IN NON-BEARING WALLS SHALL BE SPF STUD GRADE OR BETTER.
5. ALL 2x NOMINAL HEADERS SHALL BE SPF NO. 2 OR BETTER OR SYP NO. 2 OR BETTER.
6. ALL EXPOSED LUMBER SHALL BE PRESERVATIVE TREATED.
7. FINGER JOINTED STUDS MAY BE USED IN INTERIOR APPLICATIONS PROVIDED THE STRUCTURAL PROPERTIES EQUAL OR EXCEED THAT OF THE SOLID SAWN LUMBER. FINGER JOINTED LUMBER SHALL NOT BE USED IN EXPOSED CONDITIONS.
8. ALL CONNECTIONS IN EXPOSED LUMBER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
9. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESERVATIVE TREATED.
10. ALL MANUFACTURED LAMINATED VENEER LUMBER (LVL) SHALL HAVE A MODULUS OF ELASTICITY OF 2E6 psi AND A MINIMUM BENDING STRENGTH OF 2800 psi.
11. UNDER NO CIRCUMSTANCE SHALL LAMINATED VENEER LUMBER BE USED IN AN EXPOSED CONDITION. WHERE MANUFACTURER LUMBER IS REQUIRED IN AN EXPOSED CONDITION THE CONTRACTOR MUST USED PRESERVATIVE TREATED GLU-LAMINATED LUMBER (GLB).

WOOD TRUSSES:

1. IN ADDITION TO THE UNIFORM LOADING SPECIFIED FOR TRUSS DESIGN, THE TRUSS SUPPLIER SHALL INCLUDE ANY CONCENTRATED LOADS CAUSED BY ARCHITECTURAL FEATURES OR M, P&E EQUIPMENT OR MATERIALS AND BY SPRINKLER LOADS IN THE TRUSS DESIGN.
2. TRUSSES SHALL BE DESIGNED BY A REGISTERED ENGINEER IN THE STATE OF NORTH CAROLINA AND SHOP DRAWINGS BEARING THE ENGINEER'S SEAL SHALL BE SUBMITTED FOR APPROVAL.
3. TRUSSES SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH APPLICABLE STANDARDS OF THE TRUSS PLATE INSTITUTE.
4. LIMIT LIVE LOAD DEFLECTION TO L/360. LIMIT TOTAL LOAD DEFLECTION TO L/240 OR 1" MAX.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 035814 MICHAEL GABRIEL HAUSER
3/14/2023

Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION
1			

PROGRESS DATE:
ISSUE DATE: 03.16.2023

PROJECT NO: 001123
DRAWN BY: RA
CHECKED BY: MGH

SHEET TITLE:
General Notes and Special Inspections

SHEET NUMBER:
S501

GENERAL ELECTRICAL NOTES

I. GENERAL REQUIREMENTS:

1. ELECTRICAL CONTRACTOR IS TO FURNISH AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS & FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK.
2. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH NEC AND ALL OTHER APPLICABLE CODES. EC IS TO COORDINATE W/ G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AS WELL AS ANY BONDING OR INSURANCE REQUIREMENTS.
3. ALL ELECTRICAL & LIGHTING EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, SUPPORTS, CONTROLS, ETC FOR A FULLY FUNCTIONING SYSTEM REGARDLESS OF PRESENCE ON PLANS.
4. ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT.
5. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL PERMIT.
6. DO NOT SCALE DRAWINGS FOR MEASUREMENT.
7. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND MANUFACTURER'S MODEL #. IF CONFLICT IS PRESENT BETWEEN DESCRIPTION AND MODEL #, EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN CASE OF CONFLICT BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT.
8. BEFORE BID EC IS RESPONSIBLE FOR CLARIFYING W/ G.C. ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK.
9. AS SOON AS POSSIBLE (AND NOT MORE THAN 30 DAYS) AFTER CONTRACT IS SIGNED, THE EC SHALL PROVIDE SUBMITTALS OF EQUIPMENT HE/SHE INTENDS TO PURCHASE FOR REVIEW AND COMMENT BY THE ENGINEER. ENGINEER IS TO APPROVE SUBMITTALS BEFORE EQUIPMENT IS ORDERED.
10. ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
11. E.C. IS TO REVIEW COMPLETE DRAWING SET. E.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN AND WORK IMPLIED. UNLESS OTHERWISE NOTED FINAL ELECTRICAL CONNECTION TO ALL EQUIPMENT, FURNITURE (I.E. CUBICLES, WORKSTATIONS, ETC) IS THE RESPONSIBILITY OF THE E.C..

II. DIVISION OF WORK:

1. ALL LOW VOLTAGE WIRING RELATED TO MECHANICAL EQUIPMENT AND SYSTEMS IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR (ANY LOW VOLTAGE FIRE ALARM WIRING TO BE BY E.C.). ALL HIGH VOLTAGE CONNECTIONS TO MECHANICAL EQUIPMENT, TO BE PROVIDED AND INSTALLED BY E.C. (SEE EQUIPMENT SCHEDULE FOR DISCONNECT RESPONSIBILITY).
2. G.C. TO BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS (WALL, FLOOR, CEILING) RELATED TO ELECTRICAL SYSTEM. E.C. RESPONSIBLE FOR COMMUNICATING TO G.C. SIZE AND LOCATION OF REQ'D ACCESS DOOR(S).
3. ELECTRICAL CONTRACTOR IS TO EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF ELECTRICAL EQUIPMENT & SYSTEMS.
4. G.C. RESPONSIBLE FOR PAINTING OF ANY EXPOSED CONDUIT, WIRE, BOXES ETC. E.C. RESPONSIBLE FOR CLEANING AND PREPARING ITEMS FOR PAINT, COORDINATE W/ G.C.

III. MATERIALS:

1. ALL MATERIAL, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC., AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
2. PROVIDE HANGERS & SUPPORTS APPROVED FOR USE BY NEC.
3. ALL FIRE SEALANTS TO BE U.L. LISTED AND APPROVED FOR USE W/ APPROPRIATE U.L. PENETRATION DETAIL.
4. ELECTRICAL BOXES IN RATED WALLS MUST BE METAL OR LISTED FOR USE IN RATED WALLS. ONLY SINGLE AND DOUBLE GANG BOXES ARE TO BE USED IN RATED WALLS. LARGER BOXES ARE NOT ALLOWED AS THEY EXCEED THE 16 SQUARE INCH MAXIMUM BOX OPENING ALLOWED IN RATED WALLS PER NEC 300.21
5. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.MINIMUM SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER MAY BE SOLID OR STRANDED, UNLESS OTHERWISE NOTED. CONDUCTOR INSULATION SHALL BE TYPE THHN UNLESS OTHERWISE NOTED. ALL EXTERIOR CABLE OR OTHER WIRE EXPOSED TO SUNLIGHT SHALL BE RATED FOR EXTERIOR USE & SUNLIGHT RESISTANT.
6. ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT, OR EMT, EXCEPT AS ALLOWED BELOW. EMT SHALL NOT BE USED IN OR UNDER CONCRETE SLABS, OR IN MASONRY WALLS. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. PVC NOT TO BE USED IN PATIENT CARE AREAS. MINIMUM CONDUIT SIZE TO BE 1/2". TYPE MC AND AC CABLE MAY BE USED WHERE PERMISSIBLE BY NEC. FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTIONS TO VIBRATING EQUIPMENT AND LUMINAIRES, BUT SHALL NOT EXCEED 6' IN LENGTH. NM & SER CABLE MAY BE USED IN CONSTRUCTION TYPES AND OCCUPANCIES ALLOWED BY NEC. NO NM OR SER CABLE MAY BE INSTALLED EXPOSED. ALL NM AND SER CABLE SHOULD BE PROTECTED FROM PHYSICAL DAMAGE AND INSTALLED IN ACCORDANCE WITH NEC 310.
7. METAL CONDUIT COUPLINGS TO BE COMPRESSION TYPE OR THREADED WHEN ACCESSIBLE TO BUILDING OCCUPANTS. METAL CONDUIT COUPLINGS MAY BE SET-SCREW TYPE WHEN CONCEALED IN BUILDING STRUCTURE OR LOCATED MORE THAN 10' AFF. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE.
8. FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE.
9. ALL TERMINALS/LUGS SHALL BE 60/75° RATED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
10. RECEPTACLES IN COMMERCIAL AREAS SHALL BE 20 AMP COMMERCIAL SPECIFICATION GRADE EQUAL TO HUBBELL SERIES. GROUND FAULT RECEPTACLES SHALL BE EQUAL TO COOPER VGF SERIES.
11. LIGHTING SWITCHES IN COMMERCIAL AREAS SHALL BE 20 AMP COMMERCIAL SPECIFICATION GRADE EQUAL TO HUBBELL SERIES.
12. ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT 0° F AND SHALL BE DAMP OR WET LABELED AS REQUIRED.
13. ANY MULTI-WIRE BRANCH CIRCUITS ARE TO PROVIDED WITH MULTI-POLE BREAKERS.

IV. COORDINATION:

1. THE ELECTRICAL CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE ELECTRICAL WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ETC).
2. E.C. TO COORDINATE ELEVATION OF WALL MOUNTED LIGHTS (INTERIOR & EXTERIOR) W/ ARCHITECT/ARCH PLANS.
3. E.C. TO VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.
4. E.C. TO VERIFY DEVICE PLATE COLOR AND MATERIAL WITH ARCHITECT PRIOR TO PURCHASE.

V. EXECUTION:

1. E.C. TO FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING ELECTRICAL EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED. IF CONFLICT EXISTS BETWEEN THESE PLANS AND MFG INSTRUCTIONS CONTACT ENGINEER.
2. E.C. IS TO ENSURE THAT THEIR INSTALLATION OF NEW CONDUITS, PIPES, DUCTWORK, AND SIMILAR DOES NOT BLOCK ACCESS TO NEW OR EXISTING AREA EQUIPMENT AND THAT THE FORE MENTIONED DOES NOT INTERFERE WITH THE REQUIRED SERVICE CLEARANCE OF NEW OR EXISTING EQUIPMENT. COORDINATE WITH OTHER TRADE CONTRACTORS AND CONTACT ENGINEER IF UNCERTAINTY EXISTS REGARDING EQUIPMENT SERVICE CLEARANCE REQUIREMENTS.
3. A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
4. PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
5. PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND.
6. ALL PENETRATIONS THROUGH EXTERIOR WALLS & ROOF SHALL BE FLASHED & COUNTER-FLASHED IN A WATERPROOF MANNER.
7. SEAL ALL PENETRATIONS OF SMOKE PARTITIONS OR FIRE RATED WALLS, CEILING, FLOORS IN ACCORDANCE W/ APPROPRIATE U.L. PENETRATION DETAIL AND NC BUILDING CODE.
8. PENETRATIONS OF NON-RATED WALLS, PARTITIONS AND FLOOR OF COMBUSTIBLE CONSTRUCTION SHALL BE FIRESTOPPED WITH MATERIALS EQUIVALENT TO TWO INCHES OF WOOD. FIRESTOPPING SHALL COMPLY WITH ASTM E-814.
9. ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE.
10. SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.
11. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER AND IN ACCORDANCE W/ 2018 NCECC C402.5.1.1 FOR COMMERCIAL PROJECTS & R402.4.2 FOR RESIDENTIAL PROJECTS.
12. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK THE ELECTRICAL CONTRACTOR SHALL CLEAN, WASH, ETC ALL ITEMS AND EQUIPMENT WITHIN HIS SCOPE OF WORK AND LEAVE ALL ITEMS BRIGHT AND CLEAN.
13. UNLESS OTHERWISE INDICATED THE ELECTRICAL CONTRACTOR AT HIS/HER DISCRETION MAY COMBINE MULTIPLE CIRCUITS INTO A SINGLE CONDUIT AND DE-RATE WIRE. COMBINING AND DE-RATING IS TO BE DONE IN STRICT ACCORDANCE W/ NEC.
14. DEVICES INCLUDING GFCI PROTECTION MUST HAVE THEIR TESTING MEANS READILY ACCESSIBLE. PROVIDE REMOTE TESTING MEANS OR GFCI BREAKER FOR GFCI RECEPTACLES AND SIMILAR DEVICES WHICH ARE NOT READILY ACCESSIBLE (I.E. BEHIND EQUIPMENT, AT CEILING, ETC). (NEC 210.8).
15. RECEPTACLE, LIGHT SWITCHES AND OTHER CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE W/ ANSI A117.1 AND ADA REQ'S CONCERNING HEIGHT AND ACCESSIBILITY. FHA REQ'S TO BE FOLLOWED FOR MULTI-FAMILY AND RESIDENTIAL PROJECTS.
16. E.C. IS TO CONFIRM EXACT ELECTRICAL NAMEPLATE DATA OF ALL PLUMBING, MECHANICAL AND ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, MCA, MOCP, VOLTAGE & PHASE BEFORE BEGINNING WORK.
17. CEILING MOUNTED ELECTRICAL FIXTURES SHALL BE A MINIMUM OF 80 INCHES ABOVE THE FINISHED FLOOR UNLESS ABOVE COUNTERTOPS OR SIMILAR FIXED OBSTRUCTIONS.
18. ALL WORK IN/THROUGH REQUIRED FIRE RATED WALLS, BARRIERS, AND PARTITIONS SHALL COMPLY WITH 2018 NCBC/IBC SEC 714. OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. AND 2018 NCBC/IBC SEC 714.
19. BACK-TO-BACK BOXES IN 1 OR 2 HOUR RATED WALLS WITHIN 24" OF EACH OTHER SHALL BE PROTECTED BY (1) OF THE FOLLOWING, OR EQUAL: METACAULK BOX GUARD (METAL BOXES ONLY), METACAULK COVER GUARD, OR METACAULK PUTTY PADS.
20. OPENINGS IN REQUIRED FIRE RATED WALLS, PARTITIONS, AND BARRIERS THAT REMAIN DUE TO DEMOLITION OF ELECTRICAL DEVICES AND SIMILAR SHALL BE PATCHED BACK IN A WAY THAT MAINTAINS THE FIRE RATING AND INTEGRITY OF THE ASSEMBLY.
21. CEILING MOUNTED OCCUPANCY SENSORS ARE TO BE MOUNTED AT LEAST 6'-0" FROM DIFFUSERS, GRILLES, FANS, AND OTHER SIMILAR SOURCES OF VIBRATION. COORDINATE INSTALLATION LOCATIONS WITH M.C..

LIGHTING FIXTURE SCHEDULE

MARK	MANUF.	CATALOG NUMBER	LAMP DATA		VOLTS	BALLAST DATA		INPUT WATTS	MOUNTING	DESCRIPTION
			NO.	TYPE		NO.	TYPE			
A	LITHONIA	LBL4	-	LED	MVOLT	1	DRIVER	32	SURFACE	4' SURFACE MOUNTED LED WRAPAROUND LIGHT. NARROW HOUSING. ACRYLIC LENS. 4000 LUMENS. 3000K. INTEGRAL MOTION SENSOR "LSXR10".
B	-	-	-	-	120	-	-	15W MAX	WALL	EXTERIOR RATED LED WALL SCONCE. COLOR TEMP TO MATCH EXISTING AREA EXTERIOR FIXTURES. SELECTED BY OTHERS. PROVIDED & INSTALLED BY E.C.. INCLUDE $150/FIXTURE MAT'L ALLOWANCE IN BID.
Z	-	-	1	13W LED	120	-	-	13	SURFACE	INCANDESCENT LAMP HOLDER W/ 100 W EQUIVALENT LED A19 BULB. PROVIDE "JELLY JAR" CONFIG. WHERE SUBJECT TO PHYSICAL DAMAGE.

NOTES:
1. UNLESS OTHERWISE NOTED COLOR & FINISH OF FIXTURE HOUSING, BAFFLE, OR SIMILAR EXPOSED ELEMENTS TO BE BY ARCHITECT.
2. ALL LAMPS OF A SINGLE FIXTURE TYPE INSTALLED IN EACH AREA/ROOM/SPACE ARE TO BE OF SAME TEMPERATURE/COLOR.

LIGHTING SYSTEMS

NCECC SECTION C405 & C406

LIGHTING POWER DENSITY CALCULATION COMPLIANCE

INTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.4.2. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

INTERIOR WATTAGE SPECIFIED VS. ALLOWED 301 VS. 516

EXTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE C405.5.1. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

TRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED 120 VS. 2280

NONTRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED NA VS. NA

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE LIGHTING SYSTEMS REQUIREMENTS OF THE NORTH CAROLINA ENERGY CONSERVATION CODE, SECTION C405 & C406 AND ANY LOCAL AMENDMENTS THEREOF.

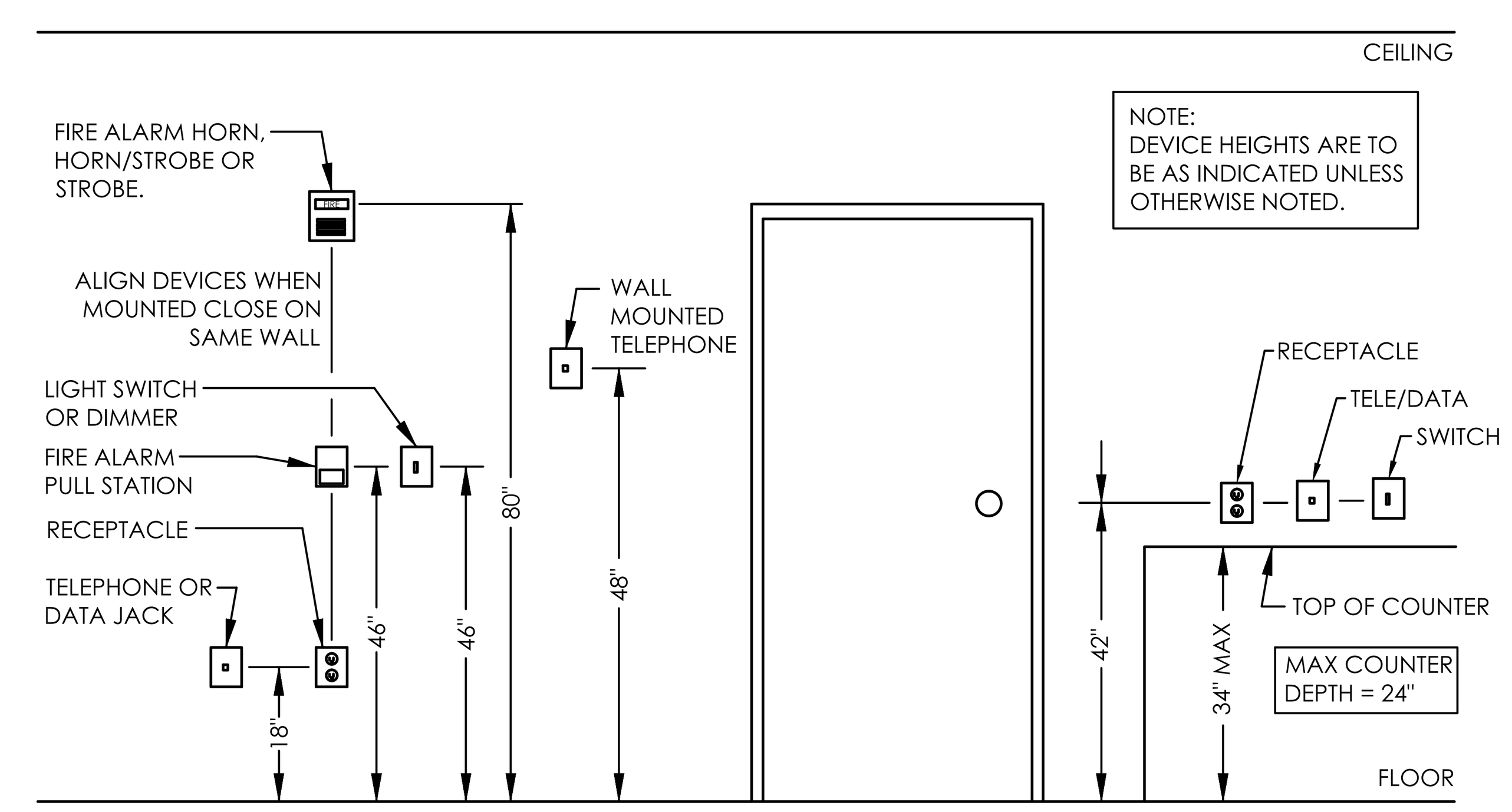
SIGNED: Nathan Birkedal

NAME: NATHAN P. BIRKEDAL, PE

TITLE: ELECTRICAL ENGINEER

ADDITIONAL PRESCRIPTIVE COMPLIANCE

NOT APPLICABLE (RENOVATION PROJECT)		C406.5 ON-SITE RENEWABLE ENERGY	
C406.2 MORE EFFICIENT MECHANICAL EQUIPMENT		C406.6 DEDICATED OUTDOOR AIR SYSTEM	
C406.3 REDUCED LIGHTING POWER DENSITY	X	C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING	
C406.4 ENHANCED DIGITAL LIGHTING CONTROLS			



NOTE:
MOUNTING LOCATIONS OF RECEPTACLES, SWITCHES AND ALL OTHER CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ANSI A117.1 AND ADA REQUIREMENTS (FHA REQ'S FOR MULTI-FAMILY AND RESIDENTIAL PROJECTS)

1 TYPICAL DEVICE MOUNTING HEIGHTS

NO SCALE

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	CIRCUIT CONDUCTORS CONCEALED IN FLOOR, WALL OR CEILING.
	ARROWHEAD INDICATES HOMERUN TO PANEL NOTED.
//	INDICATES HOT LEG OF CIRCUIT TO BE CARRIED OVER TO NEXT DEVICE. SEE PLANS FOR CONTROL SCHEME.
J	JUNCTION BOX CEILING MOUNTED.
J	JUNCTION BOX FLOOR MOUNTED.
J	JUNCTION BOX WALL MOUNTED AT HEIGHT INDICATED ON DRAWINGS.
$	SINGLE POLE SWITCH, 20A, 120/277 VOLT, 48" A.F.F. TO CENTER. "3" INDICATES 3-WAY SWITCH. "4" INDICATES 4-WAY SWITCH. "D" INDICATES DIMMER SWITCH OF TYPE TO SUIT LOAD. "M" INDICATES 120V, 20A MOTOR RATED TOGGLE SWITCH. "DP" INDICATES DOUBLE POLE
SS	INDICATES FLUORESCENT FIXTURES DUAL SWITCHED, INBOARD/OUTBOARD SWITCHED SEPARATELY.
	SINGLE RECEPTACLE, 20 AMP, 120 VOLT, 18" A.F.F. TO CENTER.
	DUPLEX RECEPTACLE, 20 AMP (15 AMP RESIDENTIAL, UON), 120 VOLT, 18" A.F.F. TO CENTER. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE. "WP" INDICATES WEATHERPROOF. "EWC" INDICATES RECEPTACLE INSIDE ENCLOSURE OF ELECTRIC WATER COOLER PROVIDE GFI BREAKER FOR CIRCUIT. "ASW" INDICATES ABOVE SHOW WINDOW, PER NEC SHOW WINDOW REQ'S.
	QUADRUPLEX RECEPTACLE, AS ABOVE, 18" A.F.F.
	DUPLEX RECEPTACLE, AS ABOVE, SPLIT WIRED, TOP HALF SWITCHED, 18" A.F.F.
	DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED.
	DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED, WITH GFI PROTECTION.
	RECESSED FLUSH FLOOR DUPLEX RECEPTACLE WITH BRASS COVERPLATE. COORDINATE EXACT FINISH WITH ARCHITECT AND OWNER.
	208V RECEPTACLE, SEE PLANS FOR NEMA CONFIGURATION.
	TELEPHONE/DATA OUTLET, 18" A.F.F. TO CENTER OR ALIGN MOUNTING HEIGHT WITH ADJACENT DEVICE, UNLESS OTHERWISE NOTED. COORDINATE EXACT DEVICE TYPE AND REQUIRED FACEPLATE W/ OWNER/TENANT.
30/3/FPN	HEAVY DUTY FUSIBLE/NON-FUSIBLE DISCONNECT SWITCH, NUMBERS INDICATE FRAME SIZE, NUMBER OF POLES AND FUSING. PROVIDE NEMA 1 ENCLOSURE INSIDE. PROVIDE NEMA 3 ENCLOSURE FOR ALL SWITCHES LOCATED OUTSIDE. "FPN" INDICATES FUSE PER EQUIPMENT NAMEPLATE "NF" INDICATES NON-FUSED. "MS" INDICATES MOTOR STARTER OF TYPE TO SUIT LOAD.
	208Y/120V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS.
	480Y/277V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS.
EF	FAN, PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED.
	RECESSED MOUNTED 2x4 FLUORESCENT TROFFER, SEE FIXTURE SCHEDULE FOR DETAILS.
	TRACK LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	SURFACE MOUNTED FLUORESCENT STRIP, SEE FIXTURE SCHEDULE FOR DETAILS.
	WALL MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	SURFACE, RECESSED OR GROUND MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
M	ELECTRIC UTILITY METER LOCATION.
###	KITCHEN EQUIPMENT TAG.
	DEMO'D LIGHT FIXTURE OR SIMILAR.
	DEMO'D RECEPTACLE OR SIMILAR.
TV	CABLE TV OUTLET, 18" A.F.F. TO CENTER, UNLESS OTHERWISE NOTED.

ELECTRICAL ABBREVIATIONS

18"	DIMENSION INDICATES HEIGHT ABOVE FINISHED FLOOR AT WHICH CENTER OF DEVICE IS TO BE MOUNTED.
AFF	ABOVE FINISHED FLOOR.
AFG	ABOVE FINISHED GRADE.
E.C.	ELECTRICAL CONTRACTOR.
FPN	FUSE PER EQUIPMENT NAMEPLATE REQUIREMENTS.
G.C.	GENERAL CONTRACTOR.
M.C.	MECHANICAL CONTRACTOR.
P.C.	PLUMBING CONTRACTOR.
WP	INDICATES DEVICE TO HAVE WEATHERPROOF COVER.
UON	UNLESS OTHERWISE NOTED.
FACP	FIRE ALARM CONTROL PANEL.
SMP	SPRINKLER MONITORING PANEL.
NL	NIGHT LIGHT, LIGHT NOT SWITCHED.

PLANWORX ARCHITECTURE
5711 SIX FORKS ROAD, SUITE 100
RALEIGH NC 27609

3/16/23

Fairway Point Garage Building

H&H Constructors, Inc.

Gallery Dr, Spring Lake, NC 28390

Issued For Permit Review

MAPLE ENGINEERING, PLLC
708 ST. MARYS ST
RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL

PROGRESS DATE:

ISSUE DATE: 03-16-23

REVISIONS NUMBER	DATE	INITIALS	DESCRIPTION

PROJECT NO: 001123

DRAWN BY: KNG

CHECKED BY: NPB

SHEET TITLE: ELECTRICAL SCHEDULES AND NOTES

SHEET NUMBER: E001

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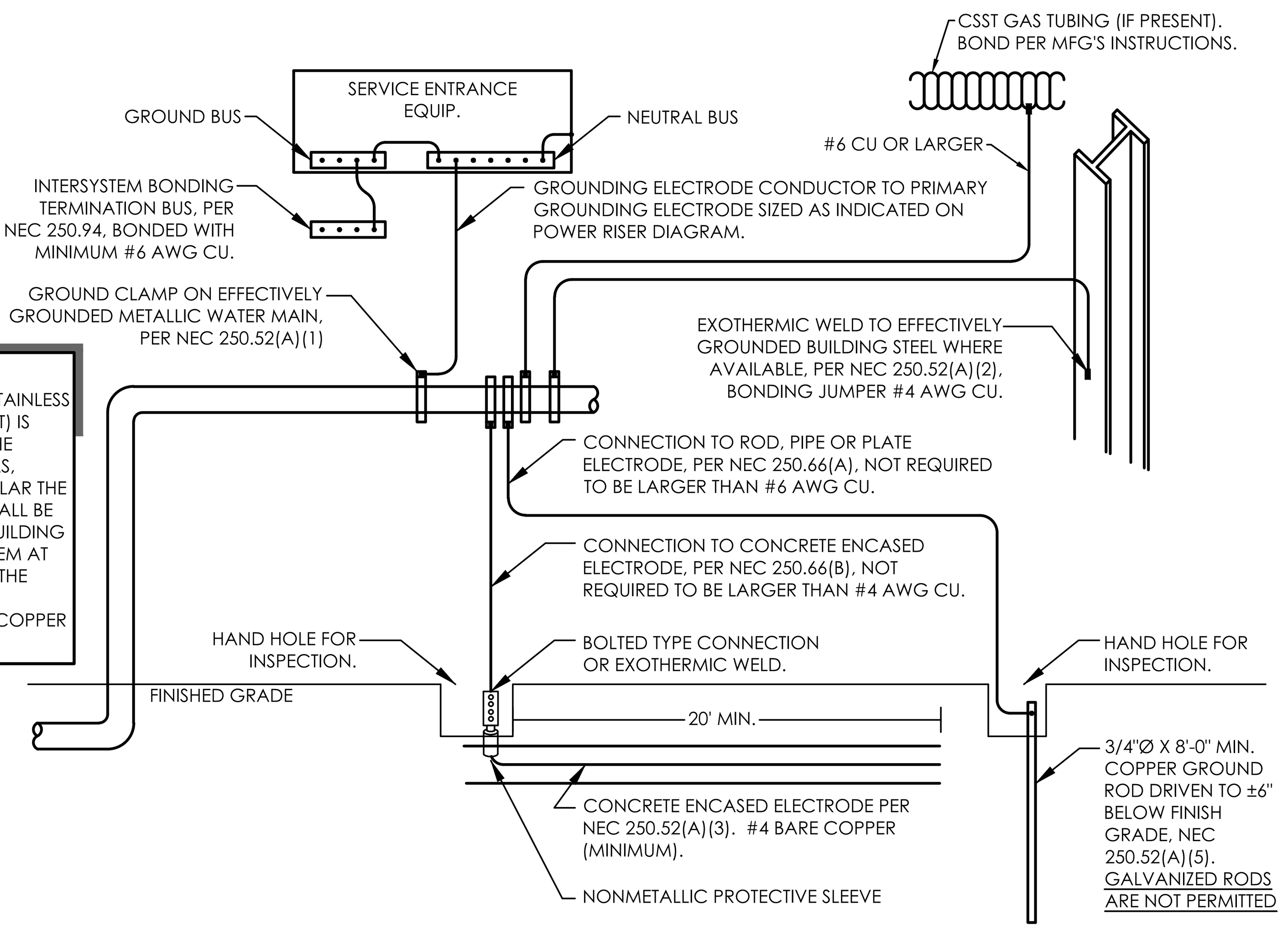
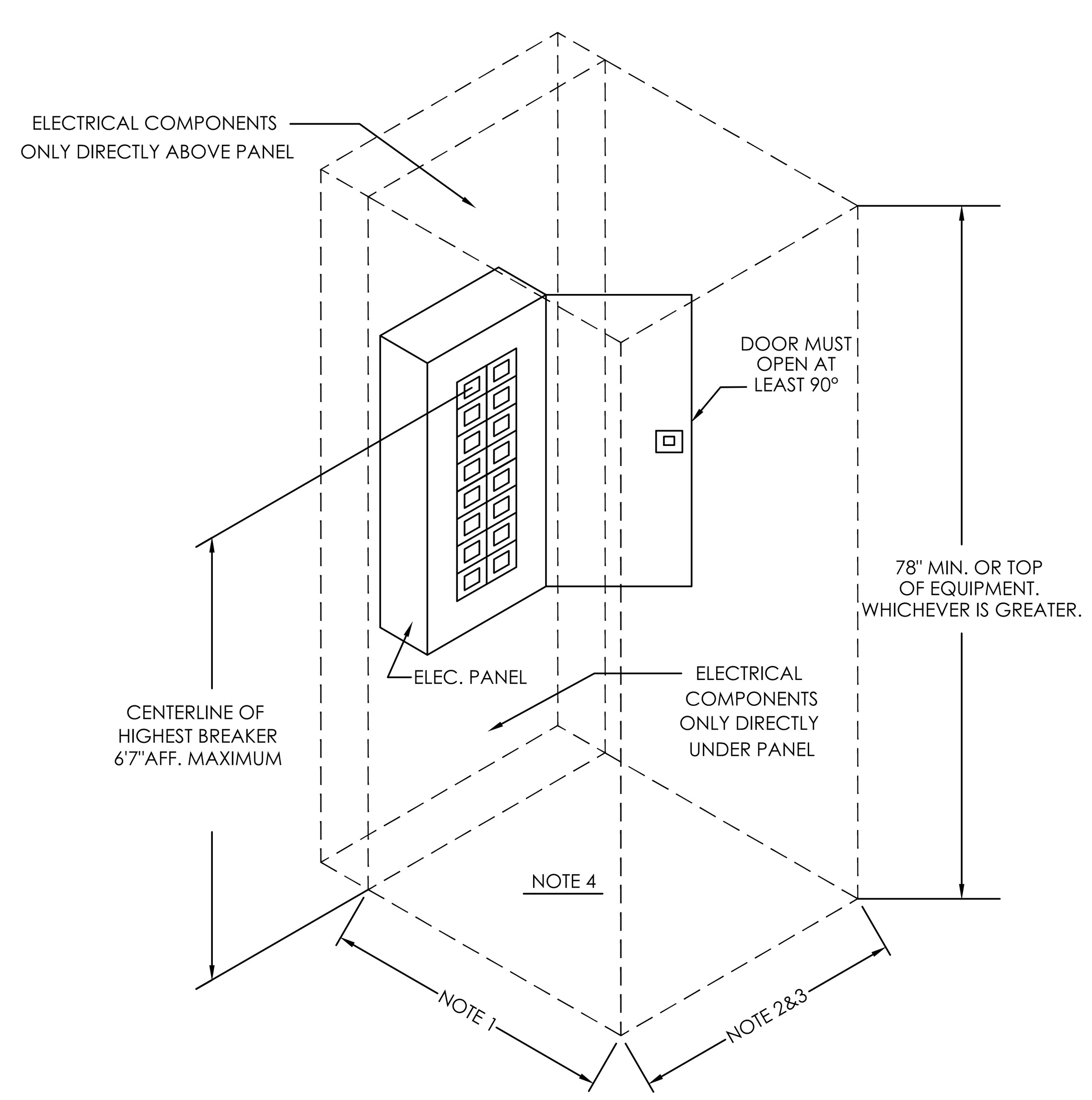
4 GROUNDING DETAIL
NO SCALE



NOTE:
IF CORRUGATED STAINLESS STEEL TUBING (CSST) IS USED TO SUPPLY THE BUILDING WITH GAS, PROPANE, OR SIMILAR THE TUBING SYSTEM SHALL BE BONDED TO THE BUILDING GROUNDING SYSTEM AT THE POINT WHICH THE PIPING ENTERS THE BUILDING. USE #6 COPPER OR LARGER.

NOTE:
GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SIZED AS INDICATED ON POWER RISER DIAGRAM. ALL METHODS OF CREATING THE GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.

3 ELECTRICAL PANEL MOUNTING DETAIL
NO SCALE



NOTES:
1. FROM FACE OF PANEL: 42" MIN FOR 480/277V AND 240/120V 3Ø HIGH LEG DELTA SYSTEMS. 36" MIN FOR 208/120V AND 240/120V SYSTEMS.
2. THE WIDTH OF THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30", WHICHEVER IS GREATER.
3. WORKING SPACE DOES NOT HAVE TO BE CENTERED ON PANEL BUT MUST EXTEND TO/PAST EACH EDGE OF PANEL.
4. OTHER AREA PANELS MAY SHARE CLEARANCE SPACE.

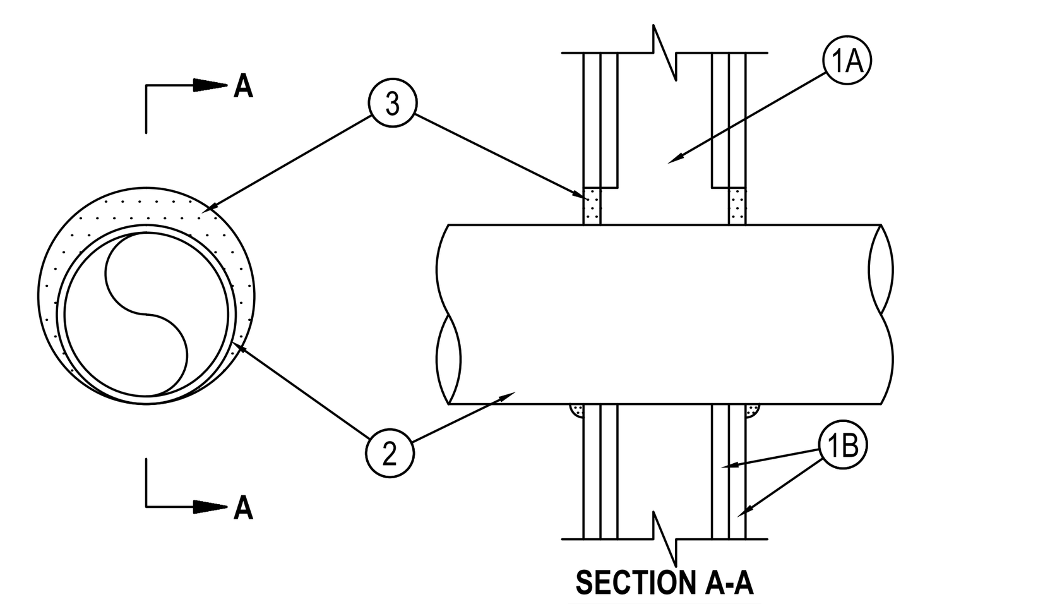
2 METALLIC PIPE (GYPSUM WALL) DETAIL
NO SCALE

System No. W-L-1054

WL 1054

c UL us
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

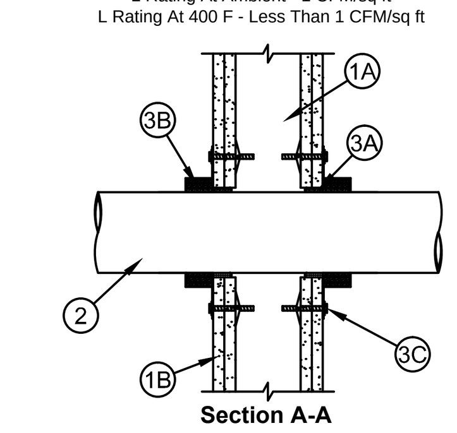
HILTI
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. October 14, 2015

1 NON-METALLIC PIPE (GYPSUM WALL) DETAIL
NO SCALE

System No. W-L-2059

F Ratings - 1 and 2 Hr (See Items 2 and 3)
T Ratings - 3/4, 1, 1-1/2 and 2 Hr (See Items 2 and 3)
L Rating At Ambient - 1 CFM/sq ft
L Rating At 400 F - Less Than 1 CFM/sq ft



1. Wall Assembly - The 1 or 2 h fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 and V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* - 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5 in. (127 mm).
2. Through-Penetrants - One nonmetallic pipe or conduit to be centered within the firestop system. The annular space shall be max 1/4 in. (6 mm). Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes or conduits may be used:
   A. Polyvinyl Chloride (PVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. When Schedule 80 PVC pipe is used, the F and T Ratings are 1 hr. When Scheduled 80 PVC pipe is used in closed (process or supply) piping systems, the F and T Ratings are equal to the assembly rating of the wall in which it is installed.
   B. Rigid Nonmetallic Conduit+ - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 or 80 PVC conduit installed in accordance with Article 347 of the National Electrical Code (NFPA No. 70). When Schedule 80 PVC conduit is used, the F and T Ratings are 1 hr.
   C. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
   D. Acrylonitrile Butadiene Styrene (ABS) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid or foamed core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   E. Fire Retardant Polypropylene (FRPP) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   F. Polyvinylidene Fluoride (PVDF) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   G. Fiberglass Reinforced Pipe (FRP) Pipe - Nom 4 in. (102 mm) diam (or smaller) glass fiber reinforced thermosetting resin pipe for use in closed (process or control) or vented (drain, waste or vent) piping systems. When FRP pipe is used, T Rating is 3/4 hr.
   H. High Density Polyethylene (HDPE) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 HDPE pipe for use in closed (process or supply) piping systems.
3. Firestop System - The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Sealant - Fill material forced into annular space to max extent possible. Caulk shall be installed flush with both surfaces of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal 100, 101, 102, 105, 120 or 129 Sealant, SpecSeal LCI Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant
   B. Fill, Void or Cavity Material - Wrap Strip - Nom 1/8 or 3/16 in. (3.2 or 4.8 mm) thick intumescent material faced on both sides with a plastic film, supplied in 2 in. (51 mm) wide strips or nom 1/4 in. (6 mm) thick intumescent material faced on both sides with a plastic film, supplied in 1-1/2 in. (38 mm) wide strips. The layers of wrap strips are individually wrapped around the through-penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be aligned.

Fire Rating of Wall Hr	Max Diam of Throught Penetrant in. (mm)	No. of Wrap Strip Layers	F Rating Hr	T Rating Hr
1	1-1/2 (38)	1	1	1
2	1-1/2 (38)	1	2	1-1/2
1	2 (51)	1	1	1
2	2 (51)	1	2	1-1/2
1	3 (76)	2	1	1
2	3 (76)	2	2	2
1	4 (102)	3	1	1
2	4 (102)	3	2	2

   Except as noted in Item 2, the F and T Rating of the firestop system is dependent upon the fire rating of wall, diam of through penetrant and the number of wrap strips as tabulated below:
   SPECIFIED TECHNOLOGIES INC - SpecSeal BLU Wrap Strip, SpecSeal BLU2 Wrap Strip or SpecSeal RED Wrap Strip
   C. Steel Collar - Collar fabricated from coils of precut 0.016 in. (0.4 mm) thick (30 MSG) galv sheet steel available from wrap strip manufacturer. Collar shall be min 1-1/2 in. (38 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs for securement to the concrete floor or wall. Retainer tabs, 3/4 in. (19 mm) wide tapering down to 1/4 in. (6 mm) wide and located opposite the anchor tabs, are folded 90 degree toward pipe surface to maintain the annular space around the pipe and to retain the wrap strips. Steel collar wrapped around wrap strips and pipe with a 1 in. (25 mm) wide overlap along its perimeter joint and secured together by means of a min 1/2 in. (13 mm) wide by 0.028 in. (0.7 mm) thick stainless steel hose clamp installed at mid-depth of the steel collar. As an alternate to the steel hose clamp, the steel collar may be secured together by means of three No. 8 by 1/4 in. (6 mm) long steel sheet metal screws when more than one layer of wrap strip is used.
   Wrap strip/collar assembly is slid along the through-penetrant until abuts the surface of the wall. Collar secured to wall by 1/8 in. (3.2 mm) diam by 1-3/4 in. (44 mm) long steel molly bolts in conjunction with 1-1/4 in. (32 mm) diam steel fender washers. The number of molly bolts used is dependent upon the nom diam of the through penetrant. Two molly bolts, symmetrically located, are required for nom 1-1/2 in. (38 mm) and 2 in. (51 mm) diam through penetrants. Three molly bolts, symmetrically located, are required for nom 2-1/2 in. (64 mm) and 3 in. (76 mm) diam through penetrants. Four molly bolts, symmetrically located, are required for nom 3-1/2 in. (89 mm) and 4 in. (102 mm) diam through penetrants. Steel collars are installed on each side of wall.
   D. Firestop Device* - (Optional, Not Shown) - As an alternate to Item 3B and 3C, galv steel collar lined with an intumescent material sized to fit the specific diam of the through-penetrant. Device shall be installed around through-penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to each surface of wall assembly by means of 1/8 in. (3 mm) diam by 1-3/4 in. (45 mm) long steel molly bolts in conjunction with 1/4 in. (6 mm) diam by 1-1/2 in. (38 mm) diam steel fender washers.
   SPECIFIED TECHNOLOGIES INC - SpecSeal Firestop Collar, SpecSeal LCC Collar or SpecSeal SSC Collar . When SpecSeal LCC Collar or SpecSeal SSC Collar are used, the max annular space shall be 1/8 in. (3 mm) for max 2-1/2 in. (64 mm) diam pipe and shall be max 1/4 in. (6 mm) for pipe larger than 2-1/2 in. (64 mm) diam.

*Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

STI
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Created or Revised: November 27, 2012
(800)992-1180 • (908)526-8000 • FAX (908)231-8415 • E-Mail:techserv@stifirestop.com • Website:www.stifirestop.com
W-L-2059

PLANWORX ARCHITECTURE
5711 SIX FORKS ROAD, SUITE 100
RALEIGH NC 27609

3/16/23

Fairway Pointe Garage Building
H+H Constructors, Inc.
135 Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

MAPLE ENGINEERING, PLLC
708 ST. MARYS ST
RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL

PROGRESS DATE:
ISSUE DATE: 03-16-23
REVISIONS: NUMBER | DATE | INITIALS | DESCRIPTION

PROJECT NO: 001123
DRAWN BY: KNG
CHECKED BY: NPB
SHEET TITLE: ELECTRICAL DETAILS
SHEET NUMBER: E002

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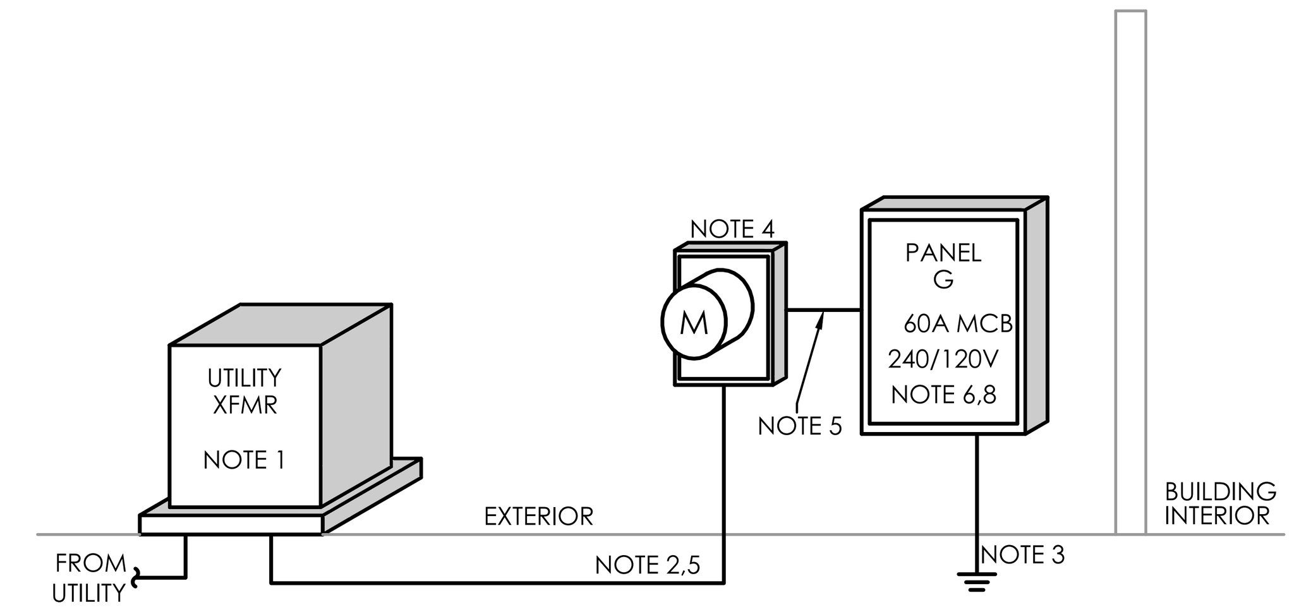
FIRE RATING LEGEND
1-HR WALL



1 ELECTRICAL POWER RISER

NO SCALE

RISER DIAGRAM NOTES:

1. PAD MOUNTED TRANSFORMER BY UTILITY.
2. SECONDARY CONDUCTORS SIZED, PROVIDED & INSTALLED BY E.C.. CONFIRM INSTALLATION W/ UTILITY BEFORE BEGINNING WORK. IF RUN LENGTH EXCEEDS 150' CONTACT ENGINEER PRIOR TO PURCHASING MATERIAL OR BEGINNING WORK.
3. #8 CU MAIN GROUNDING ELECTRODE CONDUCTOR TO GROUNDING SYSTEM (SEE DETAIL). BUILDING SHALL HAVE ONE GROUNDING ELECTRODE SYSTEM.
4. 100A METER BASE PER UTILITY REQUIREMENTS. METER BY UTILITY.
5. (3)#6 CU, 3/4" CONDUIT.
6. PROVIDE PLACARD INDICATING AVAILABLE AIC FAULT CURRENT (NEC 110.24).
7. PROVIDE PLACARD INDICATING ARC-FLASH HAZARD AT PANEL(S)/DISCONNECT(S). (NEC 110.16)
8. UTILITY TRANSFORMER SPECS UNKNOWN AT TIME OF DESIGN COMPLETION. DESIGN IS BASED ON 42,000AIC. E.C. TO VERIFY TRANSFORMER PROPERTIES WITH UTILITY PRIOR TO PURCHASING EQUIPMENT. IF TRANSFORMER AIC IS LESS LOWER RATED EQUIPMENT MAY BE USED. IF HIGHER CONTACT ENGINEER. CIRCUIT BREAKERS WITH A LESSER LABELED AIC RATING MAY BE USED IF THOSE BREAKERS ARE PAIRED WITH AN UPSTREAM BREAKER OR FUSE AS PART OF A UL SERIES RATED COMBINATION. PAIRED DEVICES MUST BE IN ACCORDANCE WITH NEC 240.86. LABEL PER NEC 110.22(C). CONFIRM W/ EQUIPMENT MFG BEFORE PURCHASE. E.C. TO PROVIDE FIELD INSPECTOR WITH MFG'S DOCUMENTATION REGARDING UL SERIES RATING OF PAIRED BREAKERS/FUSES.

PANEL G LOAD SUMMARY

LOAD TYPE		kVA CONN.	DEM. FACT.	kVA DEM.
LOADS ON 60AMP MCB				
LIGHTS (CONN. LOAD)		0.4	1.25	0.5
RECEPTACLES	1st 10 kVA	2.0	1.0	2.0
	REMAINDER	0.0	0.5	0.0
GARAGE DOOR OPENERS		6.3	1.0	6.3
	TOTALS	8.7		8.8
TOTAL AMPS @ 240 V	1 PHASE	36.7		

PANEL: G

	GARAGE EXTERIOR												1 PHASE, 3 WIRE
VOLTAGE: 240/120V	PANEL: G												SURFACE MOUNTED
AMPS: 60-MCB					LOAD PER PHASE								NEMA 3R
-DESCRIPTION-	POLE	WIRE SIZE	BRK SIZE	CKT #	A		B		CKT#	BRK SIZE	WIRE SIZE	POLE	-DESCRIPTION-
LTS: GARAGE INTERIOR	1	12	20	1	0.3	0.9			2	20	12	1	REC./OPENER GARAGE #1
PC LTS: EXTERIOR	1	12	20	3			0.1	0.9	4	20	12	1	REC./OPENER GARAGE #2
REC: EXTERIOR	1	12	20	5	0.2	0.9			6	20	12	1	REC./OPENER GARAGE #3
SPARE	1	-	20	7			0	0.9	8	20	12	1	REC./OPENER GARAGE #4
SPARE	1	-	20	9	0	0.9			10	20	12	1	REC./OPENER GARAGE #5
SPARE	1	-	20	11			0	0.9	12	20	12	1	REC./OPENER GARAGE #6
SPACE	1	-	-	13	0	0.9			14	20	12	1	REC./OPENER GARAGE #7
SPACE	1	-	-	15			0	0.9	16	20	12	1	REC./OPENER GARAGE #8
SPACE	1	-	-	17	0	0.9			18	20	12	1	REC./OPENER GARAGE #9
SPACE	1	-	-	19			0	0	20	-	-	1	SPACE
					5.0		3.7						
TOTAL CONNECTED kVA:					8.7				DEMAND kVA:				8.8
PANEL RMS SYM. AMPS:					SEE RISER				DEMAND AMPS:				36.7

1. PANEL SHALL BE SERVICE ENTRANCE RATED, EQUAL TO SQUARE D NQ.
2. PC - CIRCUIT THROUGH PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.

NOTE:
"A" LIGHTS TO INCLUDE INTEGRAL MOTION SENSOR. TYPICAL OF ALL.

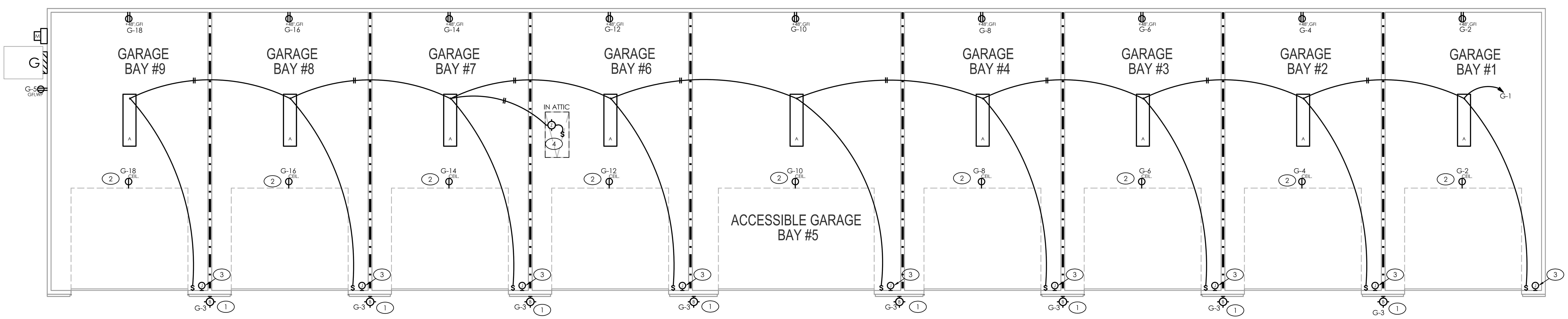
NOTE:
ALL GARAGE RECEPTACLES ARE TO BE TAMPER RESISTANT TYPE.

GENERAL NOTES - THIS SHEET

1. FINAL CONNECTION TO ALL EQUIPMENT/FURNITURE BY E.C..

TAGGED NOTES - THIS SHEET

1. LIGHTING CIRCUIT TO BE CONTROLLED VIA PHOTOCELL. SEE PANEL SCHEDULE.
2. PROVIDE POWER FOR GARAGE DOOR OPENER. COORDINATE EXACT LOCATION WITH G.C..
3. PROVIDE JUNCTION BOX AND 1/2" CONDUIT W/ PULL STRING TO GARAGE DOOR OPENER FOR CONTROLS. COORDINATE EXACT LOCATION WITH G.C. AND OWNER.
4. PROVIDE LIGHT AND SWITCH AT ATTIC ACCESS. COORDINATE EXACT LOCATION WITH G.C..



1 ELECTRICAL PLAN- GARAGE

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

PLANWORX ARCHITECTURE

5711 SIX FORKS ROAD, SUITE 100
RALEIGH NC 27609

3/16/23

Fairway Point Garage Building
H&H Constructors, Inc.
Gallery Dr, Spring Lake, NC 28390
Issued For Permit Review

MAPLE ENGINEERING, PLLC
708 ST. MARYS ST RALEIGH, NC 27605 LIC.#: P-0990
P:919-341-4247 F:919-890-3797
PLUMBING MECHANICAL ELECTRICAL

PROGRESS DATE:	03-16-23
ISSUE DATE:	
REVISIONS NUMBER	DATE / INITIALS / DESCRIPTION
PROJECT NO:	001123
DRAWN BY:	KNG
CHECKED BY:	NPB
SHEET TITLE:	ELECTRICAL GARAGE PLAN
SHEET NUMBER:	E101

3/16/2023 12:11 PM
PLX-2204-E101.DWG