Fox Design LLC

PLAN FOR:

LEGACY @ HAW RIVER APARTMENTS: V1

DeBoer & Gabriel Builders, Inc. Legacy River Trail Burlington, NC 27217

Plan Index

SHEET NUMBER	DESCRIPTION
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E-1 thru E-4	Electrical Plans
FA-1	Fire Alarm Plan

Apartments V1

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Drawn By: JTB

Checked By: GWF

Date: 4/12/23

File: D&G Legacy Haw River V1

Revisions:

Date	Remarks

Project:

Legacy @ Haw River
Version 1
Burlington, NC

DeBoer & Gabriel
Builders, Inc

6 Apt Buildings
1 Clubhouse

Scale:

N.T.S.

Sheet No:

CS-1

Proposed Apartments for:
Legacy @ Haw River Apartments V1
Legacy River Trail Burlington, NC 27217

2018 APPENDIX B

BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(Except 1 and 2 Family Dwellings and Townhouses)

Name of Project: Legacy @ Haw River Apartments
Address: Legacy River Trail Burlington, NC 27217
Proposed Use: Residential (R-2)
Owner/Authorized Agent: Jason DeBoer (336) 516-5048
Owned By: Private
Code Enforcement Jurisdiction: Alamance County Inspections

LEAD DESIGN PROFESSIONAL: _____

DESIGNER	FIRM	NAME	LICENSE#	TELEPHONE#	EMAIL
Architectural	MM Mason, AIA	Martha M. Mason	7267	(336) 684-1021	
Plumbing	Holleman Corp.	Tim Holleman	20172	(336) 337-6334	
Mechanical	Holleman Corp.	Tim Holleman	20172	(336) 337-6334	
Electrical	Holleman Corp.	Tim Holleman	20172	(336) 337-6334	
Structural	Resid. Eng. Solutions	Brooke Carpenter	23249	(336) 380-5847	
Sprinkler	By Sprinkler Contractor				
Fire Alarm	Holleman Corp.	Tim Holleman	20172	(336) 337-6334	
Civil					
Retaining Walls (>5' High)					
Other					

2018 NC BUILDING CODE ■ New Building ☐ Addition ☐ Renovation ☐ 1st Time Interior Completion

EXISTING: ☐ Prescriptive ☐ Repair ☐ Chaper 14 Alteration Level ☐ I ☐ II ☐ III
☐ Historic Property ☐ Change of Use

CONSTRUCTED: N/A CURRENT OCCUPANCY(S) (Ch.3): N/A
RENOVATED: N/A PROPOSED OCCUPANCY(S) (Ch.3): R-2

RISK CATEGORY (Table 1604.5): Current: N/A Proposed: II

BASIC BUILDING DATA

Construction Type: ☐I-A ☐II-A ☐III-A ☐IV ☐V-A
☐I-B ☐II-B ☐III-B ■V-B

Sprinklers: ☐No ☐Partial ■Yes ☐NFPA 13 ■NFPA 13R ☐NFPA 13D

Standpipes: ■No ☐Yes Class ☐I ☐II ☐III ☐Wet ☐Dry

Fire District: ■No ☐Yes (Primary) Flood Hazard Area: ■No ☐Yes

Special Inspections Req: ☐No ☐Yes

Gross Building Area:

Floor	Existing (Sq. Ft.)	New (Sq. Ft.)	Sub-Total
6th Floor			
5th Floor			
4th Floor			
3rd Floor	0	9836	9836
2nd Floor	0	9962	9962
Mezzanine			
1st Floor	0	9962	9962
Basement			
Total	0	29760	29760

ALLOWABLE AREA
Primary Occupancy:

Assembly	☐A-1	☐A-2	☐A-3	☐A-4	☐A-5		
Business	☐						
Educational	☐						
Factory	☐F-1 Moderate		☐F-2 Low				
Hazardous	☐H-1 Detonate		☐H-2 Deflagrate		☐H-3 Combust	☐H-4 Health	☐H-5 HPM
Institutional	☐I-1	☐I-2	☐I-3	☐I-4	☐4	☐5	
Condition		☐1	☐2	☐3			
Mercantile	☐						
Residential	☐R-1	■R-2	☐R-3	☐R-4			
Storage	☐S-1 Moderate		☐S-2 Low	☐High-Piled			
	☐Park. Garage		☐Open	☐Enclosed	☐Repair Garage		
Utility and Miscellaneous	☐						

Accessory Occupancies:

Assembly	☐A-1	☐A-2	☐A-3	☐A-4	☐A-5		
Business	☐						
Educational	☐						
Factory	☐F-1 Moderate		☐F-2 Low				
Hazardous	☐H-1 Detonate		☐H-2 Deflagrate		☐H-3 Combust	☐H-4 Health	☐H-5 HPM
Institutional	☐I-1	☐I-2	☐I-3	☐I-4	☐4	☐5	
Condition		☐1	☐2	☐3			
Mercantile	☐						
Residential	☐R-1	☐R-2	☐R-3	☐R-4			
Storage	☐S-1 Moderate		☐S-2 Low	☐High-Piled			
	☐Park. Garage		☐Open	☐Enclosed	☐Repair Garage		
Utility and Miscellaneous	☐						

Incidental Uses (table 509):

☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H, located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy
☐ Laundry rooms over 100 square feet
☐ Group I-3 cells equipped with padded surfaces
☐ Group I-2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I-2 storage rooms over 100 square feet
☐ Group I-2 commercial kitchens
☐ Group I-2 laundries equal to or less than 100 square feet
☐ Group I-2 rooms or spaces that contain fuel-fired heating equipment

Special Uses: 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416
417 418 419 420 421 422 423 424 425 426 427 428 429 430

Special Provisions: 510.2 510.3 510.4 510.5 510.6 510.7 510.8 510.9

Mixed Occupancy: ■No ☐Yes Separation N/A Hr. Exception _____

☐ Incidental Use Separation (509.2)
This separation is not exempt as a Non-Separated Use (see exceptions).

☐ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4)
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A} + \text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy A} + \text{Allowable Area of Occupancy B}} \leq 1.00$$

Story No.	Desc. and Use	(A) Bldg Area Per Story (Actual)	(B) Table 506.2 Area	(C) Area For Frontage Incr.	(D) Allowable Area Per Story or Unlimited
1 & 2	R-2	9962	7000	5250	12250
3	R-2	9836	7000	5250	12250

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 = 466 (F)
b. Total Building Perimeter = 466 (P)
c. Ratio (F/P) = 1 (F/P)
d. W = Minimum width of public way = 30 (W)
e. Percent of frontage increase If = 100 [F/P - 0.25) x W/30 = 75 (%)
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
Building Height in Feet	60	47	Table 504.3
Building Height in Stories	3	3	Table 504.4

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	> 10	0	1	1/A7	UL#U356		
East	> 10	0	1	1/A7	UL#U356		
West	> 10	0	1	1/A7	UL#U356		
South	> 10	0	1	1/A7	UL#U356		
Interior		0	1	3/A7	UL#U333 UL#U341		
Non-Bearing Walls & Partitions							
Exterior							
North	> 10	0	0				
East	> 10	0	0				
West	> 10	0	0				
South	> 10	0	0				
Interior walls & partitions							
Floor Construction Includ. supporting beams and joists:							
Floor Ceiling Assembly		1	1	1/A7	UL#L528		
Columns Supporting Floors		N/A	N/A				
Roof Construction Includ. supporting beams and joists:							
Roof Ceiling Assembly		1	1	1/A7	UL#P533		
Columns Supporting Roof		N/A	N/A				
Shaft Enclosures-Exit		1	1	2/A7	UL#U356		
Shaft Enclosures-Other		N/A	N/A				
Corridor Separation		1	1	2/A7	UL#U356		
Occupancy/Fire Barrier Separation		N/A	N/A				
Party/Firewall Separation		N/A	N/A				
Smoke Barrier Separation		N/A	N/A				
Smoke Partition		N/A	N/A				
Tenant/Dwelling Unit/ Sleeping Unit Sep.		1	1	3/A7	UL#U341		
Incidental Use Separation		N/A	N/A				

* 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 %
30' OR GREATER	UP,S	NO LIMIT	N/A

LIFE SAFETY SYSTEM REQUIREMENTS:

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

LIFE SAFETY PLAN REQUIREMENTS:

Life Safety Plan Sheet #: A-3

■ 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 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

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
180	51	60	9	18	42	42	60

ACCESSIBLE PARKING:
Section: 1106

Lot or Parking Area	Total # of Parking Spaces		# of Accessible Spaces Provided			Total # Accessible Spaces Provided
	Required	Provided	Regular w/ 5' Access Aisle	Van Spaces w/ 132" Access Aisle	Van Spaces w/ 8' Access Aisle	
			(N/A: See Site Plan by Others)			
Total						

PLUMBING FIXTURE REQUIREMENTS

USE	WATERCLOSETS			URINALS	LAVATORIES			SHOWERS/ TUBS	DRINKING FOUNTAIN	
	MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX		REG.	ACC.
EXISTING	0	0	0	0	0	0	0	0	0	0
NEW		1 / UNIT		0		1 / UNIT		1	N/A	N/A
REQUIRED		1 / UNIT		0		1 / UNIT		1	N/A	N/A

SPECIAL APPROVALS
Special Approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)
N/A

SEE STRUCTURAL DRAWINGS

STRUCTURAL DESIGN:

DESIGN LOADS:
Importance Factors: Snow: (Is) 0.8 (1.0) 1.1 1.2
Seismic: (Ie) (1.0) 1.25 1.5
Live Loads: Roof: 20 psf
Mezzanine: N/A
Floor: 100 psf (for Corridors), 40 psf (for living spaces)
Ground Snow Load: 15 psf
Wind Loads: Ultimate Design Wind Speed: 120 mph (ASCE-7)
Exposure Category B (C) D

SEISMIC DESIGN CATEGORY: A (B) C D

Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) I (II) III IV
Spectral Response Acceleration Ss .13 %g 13% S1 .063 %g 6.3
Site Classification (ASCE-7) A B C (D) E F
Data Source: ☐Field Test ■Presumptive ☐Historical Data
Basic structural system (check one):
■ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ■Simplified ☐Equivalent Lateral Force ☐Dynamic
Architectural, Mechanical, Components anchored? ☐Yes ■No

LATERAL DESIGN CONTROL: ☐Earthquake ■Wind

SOIL BEARING CAPACITIES:
☐ Field Test ■ Presumptive Bearing capacity 2000 psf
Pile size, type, and capacity N/A

ELECTRICAL SUMMARY:
REFER TO ELECTRICAL PLANS BY OTHERS

MECHANICAL SUMMARY:
REFER TO MECHANICAL PLANS BY OTHERS

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 ☐ Yes (the remainder of this section is not applicable)
Exempt Building: ■ No ☐ Yes Provide code or statutory reference: N/A
Climate Zone: ☐ 3A ■ 4A ☐ 5A

Method of Compliance:

☐ Energy Code - Performance
☐ Energy Code - Prescriptive
☐ ASHRAE 90.1 - Performance
☐ ASHRAE 90.1 - Prescriptive
■ Other - Performance COMcheck

COMcheck Software Version 4.1.5.1

Envelope Compliance Certificate

Project Information

Energy Code:	90.1 (2010) Standard		
Project Title:	Legacy @ Haw River Apartments		
Location:	Burlington, North Carolina		
Climate Zone:	4a		
Project Type:	New Construction		
Vertical Glazing / Wall Area:	11%		
Construction Site:	Owner/Agent:	Designer/Contractor:	
Legacy River Trail Burlington, NC 27217	Jason DeBoer DeBoer & Gabriel Builders	Martha M Mason, AIA 336-684-1021	

Building Area	Floor Area
1-Multifamily : Residential	29760

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof 1: Attic Roof with Wood Joists, [Bldg. Use 1 - Multifamily]	9836	38.0	0.0	0.027	0.027
Exterior Wall 1: Wood-Framed, 16" o.c., [Bldg. Use 1 - Multifamily]	20016	15.0	1.9	0.069	0.064
Window 1: Vinyl/Fiberglass Frame, Pwrf, Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.42, [Bldg. Use 1 - Multifamily]	1375	---	---	0.600	0.400
Door 1: Insulated Metal, Swinging, [Bldg. Use 1 - Multifamily]	600	---	---	0.350	0.700
Door 2: Glass (> 50% glazing) Nonmetal Frame, Non-Entrance Door, Pwrf, Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.42, [Bldg. Use 1 - Multifamily]	360	---	---	0.600	0.400
Door 3: Glass (> 50% glazing) Nonmetal Frame, Non-Entrance Door, Pwrf, Type: Energy code default, Double Pane with Low-E, Tinted , SHGC 0.42, [Bldg. Use 1 - Multifamily]	420	---	---	0.600	0.400
Floor 1: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 1 - Multifamily] (b)	741	---	5.0	0.580	0.540

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 0.1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 90.1 (2010) Standard requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MARTHA M MASON ARCHITECT — Martha M. Mason — 4-12-2023
Name - Title — Signature — Date

INDEX OF DRAWINGS:

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MARTHA MAITLAND MASON — REGISTERED ARCHITECT — 7267 — 4-12-2023 — NORTH CAROLINA — BURLINGTON, NC

Drawn By: JTB
Checked By: GWF
Date: 4/12/23
File: D&G Legacy Haw River V1

Revisions:		
Date	Remarks	

Project:
Legacy @ Haw River Version 1
Burlington, NC

DeBoer & Gabriel Builders, Inc

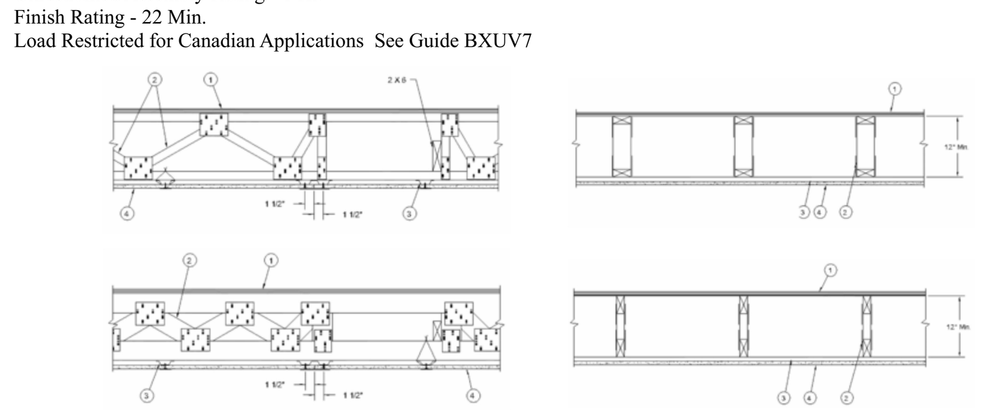
6 Apt Buildings
1 Clubhouse

Scale:
N.T.S.

Sheet No:
A-0

Design No. L528

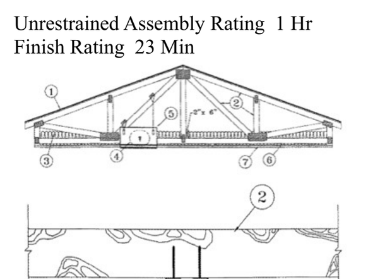
Unrestrained Assembly Rating - 1 Hr.
Finish Rating - 22 Min.
Load Restricted for Canadian Applications See Guide BXUV7



1. Flooring System The flooring system shall consist of one of the following:
System No. 1
Subflooring Min 23/32 in. thick T & G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and 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.
System No. 2
Subflooring Min 23/32 in. thick T & G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and 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.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Vapor Barrier (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.
Finish Flooring Min 3/4 in. thickness of lightweight insulating concrete with Perlite Aggregate* or Vermiculite Aggregate* , or gypsum concrete.
See Perlite Aggregate (CFFX) and Vermiculite Aggregate (CJZZ) categories for names of manufacturers.
System No. 3
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Floor Mat Materials* (Optional) Nom 6 mm thick floor mat material adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of floor-topping mixture. When floor mat material is used, min thickness of floor topping mixture is 1 in.
HACKER INDUSTRIES INC Type Hacker Sound-Mat.
Alternate Floor Mat Materials* (Optional) Floor mat material nom 10 mm thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/2 in. of floor-topping mixture.
HACKER INDUSTRIES INC Type Hacker Sound-Mat II.
Alternate Floor Mat Materials* (Optional) Floor mat material nom 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in.
HACKER INDUSTRIES INC Type Quiet Qurl 55/025
Alternate Floor Mat Materials* (Optional) Floor mat material nom 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in.
HACKER INDUSTRIES INC Type Quiet Qurl 60/040
Alternate Floor Mat Materials* (Optional) Floor mat material nom 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in.
HACKER INDUSTRIES INC Type Quiet Qurl 65/075
Metal Lath (Optional) For use with 3/8 in. or 10 mm floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.
Finish Flooring - Floor Topping Mixture* Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.
HACKER INDUSTRIES INC Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant
System No. 4
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) Commercial asphalt saturated felt, 0.030 in. thick.
Floor Mat Materials* (Optional) - Min 3/8 in. to max 3/4 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture.
UNITED STATES GYPSUM CO Levelrock Brand Sound Reduction Mat
Alternate Floor Mat Materials* (Optional) - Nom 1/4 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture.
UNITED STATES GYPSUM CO Levelrock Brand Floor Underlayment SRM-25
Alternate Floor Mat Materials* (Optional) - Nom 3/8 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture.
GRASSWORX L L C Type SC50
Alternate Floor Mat Material* (Optional) Floor mat material nominal 3/8 in. thick loose laid over the subfloor. Floor topping shall be a min 3/4 in. thick.
OWENS CORNING Type QuietZone Acoustical Floor Mat
Finish Flooring - Floor Topping Mixture* Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1200 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
UNITED STATES GYPSUM CO Type LRK
System No. 5
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier-(Optional) Commercial asphalt saturated felt, 0.030 in. thick.
Finish Flooring - Floor Topping Mixture* Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water.
ELASTIZELL CORP OF AMERICA Type FF
System No. 6
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier-(Optional) Commercial asphalt saturated felt, 0.030 in. thick.
Finish Flooring - Floor Topping Mixture* Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.2 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water.
CELLULAR CONCRETE L L C Floor Topping Mixture
System No. 7
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Finish Flooring - Floor Topping Mixture* Min 1 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 62.5 lbs of Pea Gravel, 312.5 lbs of sand with 5-1/2 gal of water.
LITE-CRETE INC Type I
System No. 8
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Floor Mat Materials* (Optional) - Nom 1/4 in. thick floor mat material loose laid over the subfloor. Maxxon Floor Primer to be applied to the surface of the mat prior to the floor topping placement. When floor mat material is used, min thickness of floor topping is 1 in. Floor topping thickness a min 3/4 in. over Acousti-Mat I floor mat.
MAXXON CORP Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP.
Alternate Floor Mat Materials* - (Optional) - Nom 0.8 in. thick floor mat material loose laid over the subfloor with Crack Suppression Mat (CSM) loose laid over the floor mat material. Floor topping thickness shall be min 1-1/2 in.
MAXXON CORP Type Acousti-Mat 3, Acousti-Mat 3 HP, Crack Suppression Mat (CSM)
Metal Lath (Alternate to Crack Suppression Mat (CSM)) - 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material. Floor topping thickness shall be min 1-1/2 in.
Alternate Floor Mat Materials* - (Optional) Nom 0.4 in. thick floor mat material loose laid over the subfloor. Maxxon Floor Primer to be applied to the surface of the mat prior to the floor topping placement. Floor topping thickness shall be min 1-1/2 in.
MAXXON CORP Type Enkasonic 9110, Enkasonic 9110 HP.
Alternate Floor Mat Materials* - (Optional) Nom 0.2 in. thick floor mat material loose laid over the subfloor. Maxxon Floor Primer may be applied to the surface of the mat prior to the floor topping placement. Floor topping thickness shall be as specified under Floor Topping Mixture.
MAXXON CORP Type Acousti-Mat LP-R
Metal Lath (Optional) For use with floor mat materials, 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd or Maxxon Corp. UL Classified Crack Suppression Mat (CSM) loose laid over the floor mat material. Floor topping thickness shall be min 1 in.
MAXXON CORP Type Crack Suppression Mat (CSM)
Finish Flooring - Floor Topping Mixture* Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Mixture shall consist of 3 to 7 gal of water to 80 lbs of floor topping mixture to 1.0 to 2.1 cu ft of sand.
MAXXON CORP Types D-C, GC, GC2000, L-R, T-F, CT
System No. 9
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Finish Flooring - Floor Topping Mixture* Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Mixture shall consist of 5 to 8 gal of water to 80 lbs of floor topping mixture to 2.1 cu ft of sand.
ULTRA QUIET FLOORS UQF-A, UQF-Super Blend, UQF-Plus 200
System No. 10
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Floor Mat Materials* (Optional) - Nom 1/4 in. thick floor mat material loose laid over the subfloor. Maxxon Floor Primer to be applied to the surface of the mat prior to the floor topping placement. When floor mat material is used, min thickness of floor topping mixture is 1 in. Floor topping thickness a min 3/4 in. over Acousti-Mat I floor mat.
MAXXON CORP Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP.
Alternate Floor Mat Materials* - (Optional) - Nom 0.8 in. thick floor mat material loose laid over the subfloor with Crack Suppression Mat (CSM) loose laid over the floor mat material. Floor topping thickness shall be min 1-1/2 in.
MAXXON CORP Type Acousti-Mat 3, Acousti-Mat 3 HP, Crack Suppression Mat (CSM)
Metal Lath (Alternate to Crack Suppression Mat (CSM) - 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material. Floor topping thickness shall be min 1-1/2 in.
Alternate Floor Mat Materials* - (Optional) Nom 0.4 in. thick floor mat material loose laid over the subfloor. Maxxon Floor Primer to be applied to the surface of the mat prior to the floor topping placement. Floor topping thickness shall be min 1-1/2 in.
MAXXON CORP Type Enkasonic 9110, Enkasonic 9110 HP.
Alternate Floor Mat Materials* - (Optional) Nom 0.2 in. thick floor mat material loose laid over the subfloor. Maxxon Floor Primer may be applied to the surface of the mat prior to the floor topping placement. Floor topping thickness shall be as specified under Floor Topping Mixture.
MAXXON CORP Type Acousti-Mat LP-R
Metal Lath (Optional) For use with floor mat materials, 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd or Maxxon Corp. UL Classified Crack Suppression Mat (CSM) loose laid over the floor mat material. Floor topping thickness shall be min 1 in.
MAXXON CORP Type Crack Suppression Mat (CSM)
Finish Flooring - Floor Topping Mixture* Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1200 psi. Mixture shall consist of 4 to 7 gal of water mixed with 80 lbs of floor topping mixture and 1.4 to 1.9 cu ft of sand.
RAPID FLOOR SYSTEMS Types RF, RFP, RFU, RFR, Ortecrete
System No. 11
Subflooring Min 1 by 6 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick plywood or min 7/16 in. thick oriented strand board (OSB) wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.
Finish Floor - Mineral and Fiber Board* Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.
HOMASOTE CO Type 440-32 Mineral and Fiber Board
System No. 12
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Floor Mat Materials* (Optional) - Min 3/8 in. to max 3/4 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture.
UNITED STATES GYPSUM CO Levelrock Brand Sound Reduction Board
Alternate Floor Mat Materials* (Optional) - Nom 1/4 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture.
UNITED STATES GYPSUM CO Levelrock Brand Floor Underlayment SRM-25
Alternate Floor Mat Materials* (Optional) - Nom 3/8 in. thick floor mat material loose laid over the subfloor. Floor topping thickness shall be as specified under Floor Topping Mixture.
GRASSWORX L L C Type SC50
Finish Flooring - Floor Topping Mixture* Min 1/2 in. thickness of floor topping mixture having a min compressive strength of 3000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
UNITED STATES GYPSUM CO Type HSLRK
System No. 13
Subflooring Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Finish Flooring - Floor Topping Mixture* Min 3/4 in. thickness of floor topping having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
ALLIED CUSTOM GYPSUM PLASTERWORKS L L C Accu-Crete, AccuRadiant, AccuLevel G40 and AccuLevel SD30.
Alternate Floor Mat Material* (Optional) Floor mat material nominal 2 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.
ALLIED CUSTOM GYPSUM PLASTERWORKS L L C Type AccuQuiet P80, Type AccuQuiet C40, AccuQuiet D13, Type AccuQuiet RSM 20, Type AccuQuiet RSM 32, Type AccuQuiet RSM 48, Type AccuQuiet RSM 64, Type AccuQuiet RSM 120, and Type AccuQuiet D-18.
System No. 14
Subflooring Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.
Vapor Barrier (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.
Vapor Barrier (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.
Finish Flooring* Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.
Floor Mat Materials* (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.
KEENE BUILDING PRODUCTS CO INC Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N
Alternate Floor Mat Materials* (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.
KEENE BUILDING PRODUCTS CO INC Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N
Alternate Floor Mat Materials* (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.
KEENE BUILDING PRODUCTS CO INC Type Quiet Qurl 65/075, Quiet Qurl 65/075 N
Alternate Floor Mat Materials* (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.
KEENE BUILDING PRODUCTS CO INC Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N
Alternate Floor Mat Materials* (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.
KEENE BUILDING PRODUCTS CO INC Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT
System No. 15
Subflooring Min 23/32 in. thick T&G wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panels to be perpendicular to the trusses with end joints staggered 4 ft. Panels secured to trusses with construction adhesive and 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.
Gypsum Board* One layer of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists. Gypsum board secured with 1 in. long No. 6 Type W bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches from the joints of the subfloor.
GEORGIA-PACIFIC GYPSUM L L C Type DS
Floor Mat Materials* (As an alternate to the single layer gypsum board) - Floor mat material loose laid over the subfloor.
MAXXON CORP Type Acousti-Mat I, Acousti-Mat II, Acousti-Mat II HP, Acousti-Mat 3, Acousti-Mat 3 HP, Enkasonic 9110, Enkasonic 9110 HP, Acousti-Mat LP-R.
Gypsum Board* (For use when floor mat is used) Two layers of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to joists on top of the floor mat material. Gypsum board secured to each other with 1 in. long No. 6 Type G bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. The joints of the gypsum board are to be staggered a minimum of 12 inches in between layers and from the joints of the subfloor.
GEORGIA-PACIFIC GYPSUM L L C Type DS
2. Trusses Parallel chord trusses, spaced a max 24 in. OC, fabricated from nom 2 by 4 in. lumber with lumber oriented vertically or horizontally. Min truss depth is 12 in. Truss members secured together with min No. 20 MSG galv steel truss 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 approx 7/8 in. centers with four rows of teeth per in. of plate width.
3. Furring Channels Furring channels, 7/8 in. deep by 2-9/16 in. or 2-11/16 in. or 2-23/32 in. wide at the base and 1-7/16 in. wide at the face, formed from No. 25 ga galv steel, spaced 24 in. OC perpendicular to trusses. Channels secured to trusses with double strand of No. 18 SWG galv steel wire spaced 48 in. OC. 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. Two furring channels used at end joints of gypsum board (Item 4), each extending a min of 6 in. beyond both side edges of the board.
3A. Resilient Channels (Not Shown) - As an alternate to Item 3, resilient channel formed from No. 26 MSG galv steel, spaced 16 in. OC perpendicular to trusses. Channels secured to each truss with 1-1/4 in. long No. 6 Type S bugle head steel screw. Channels overlapped at splices 4 in. Two resilient channels used at end joints of gypsum board (Item 4), each extending a min of 6 in. beyond both side edges of the board.
3B. Steel Framing Members* (Optional) - Used as an alternate method to attach furring channels to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to the bottom chord of alternating trusses 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 the bottom chord of alternating trusses 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. Adjoining channels are overlapped as described in Item 3. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two min 7/16 in. long No. 6 self-tapping framing screws, 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 4. When Fiber, Sprayed (Item 6) is used, furring channel spacing reduced to 16 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board shall be installed as described in Item 4.
PAC INTERNATIONAL INC Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).
3C. Steel Framing Members* (Optional, Not Shown) - Used as an alternate method to attach furring channels to trusses. Clips spaced 48 in. OC., and secured to the bottom chord to alternating trusses 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. 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. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 4. Two layers of gypsum board required as described in Item 4. Not evaluated for use with Item 6. When Item 3C is used and Batts and Blankets* are added per Section III Item 18 Blanket Insulation in the General Information of this Directory (BXUV), clips spaced 48 in. OC, furring channels spaced 16 in. OC max, 3-1/2 in. max. Batts and Blankets* secured to plywood subfloor with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC, and two layers of gypsum board required as described in Item 4A. When the Batts and Blankets* are draped over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses, the furring channel spacing shall be reduced to 12 in. OC, and two layers of gypsum board required as described in Item 4A.
KINETICS NOISE CONTROL INC Type Isomax.
3D. Steel Framing Members* (Optional, Not Shown) - Used as an alternate method to attach min. 1/2 in. deep resilient channels (Item 3A) to trusses (Item 2). Resilient channels are friction fitted into clips, and then clips are secured to the bottom chord of each truss with a 1-3/4 in. long No. 6 Type S bugle head steel screw through the center hole of the clip and the resilient channel flange. Adjoining resilient channels are overlapped 4 in. under trusses. The clip flange is opened slightly to accommodate the two overlapped channels. Additional clips required to hold resilient channel that supports the gypsum board butt joints, as described in Item 4.
KEENE BUILDING PRODUCTS CO INC Type RC Assurance.
3E. Steel Framing Members* (Optional, Not Shown) - Used as an alternate method to attach furring channels to trusses. Clips spaced 48 in. OC. and secured to the bottom chord to alternating trusses with one No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. 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. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 4. Not evaluated for use with Item 6.
PLITEQ INC Type Genie Clip
3F. Resilient Channels Resilient channels, formed from No. 25 MSG galv steel and shaped as shown, spaced 12 in. OC perpendicular to joist. Channels overlapped 4 in. at splices and secured to each joist with 1-1/4 in. Type S screws. Min end clearance of channels to wall to be 1/2 in. Additional resilient channels positioned so as to coincide with end joints of gypsum board (Item 4B).
4. Gypsum Board* One layer of nom 5/8 in. thick, 4 ft wide gypsum board, installed with long dimension perpendicular to furring or resilient channels. Gypsum board secured with 1 in. long No. 6 Type S bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. End joints secured to both resilient channels as shown in the end joint detail. When Steel Framing Members (Item 3B) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimension perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long No. 6 Type S bugle head screws spaced 12 in. OC in the field of the board. Gypsum board butt joints shall be staggered 2 ft within the assembly, and shall occur between the 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 6 in. on each end. The two furring channels at each butt joint shall be spaced approximately 3-1/2 in. OC, and be attached to the bottom chord of the truss with one RSIC-1 clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. When both Steel Framing Members (Item 3B) and Fiber, Sprayed (Item 6) are used, furring channel spacing reduced to 16 in. OC and two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimension perpendicular to furring channels. Base layer secured to furring channels with nom 1 in. long No. 6 Type S bugle head screws spaced 12 in. OC in the field of the board. Gypsum board butt joints shall be staggered 2 ft within the assembly, and shall occur between the 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 6 in. on each end. The two furring channels at each butt joint shall be spaced approximately 3-1/2 in. OC, and be attached to the bottom chord of the truss with one RSIC-1 clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer secured to furring channels using 1-5/8 in. long No. 6 Type S screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min. of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min. 18 in. from butted side joints of base layer. When Steel Framing Members (Item 3C) are used, two layers of nom 5/8 in. thick, 4 ft wide are installed with long dimensions perpendicular to furring channels. Base layer attached to the furring channels using 1 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Butted end joints shall be staggered min 2 ft. within the assembly, and occur midway between the continuous furring channels. 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 6 in. on each end. The two furring channels shall be spaced approximately 4 in. OC, and be attached to underside of the truss with one Isomax clip at each end of the channel. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Outer layer attached to the furring channels using 1-5/8 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field. The end of the outer layer boards at the butt joint shall be attached to the base layer boards with 1-5/8 in. long Type G screws spaced 8 in. OC and 1-1/2 in. from the end joint. Butted end joints to be offset a min of 8 in. from base layer end joints. Butted side joints of outer layer to be offset min 18 in. from butted side joints of base layer. When Steel Framing Members (Item 3E) 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 No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 16 in. within the assembly. . 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 6 in. on each end. These additional furring channels shall be attached to underside of the truss with Genie clips as described in Item 3E. Screw spacing along the gypsum board butt joint shall be 6 in. OC. When Fiber, Sprayed (Item 6) is used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels. Base layer gypsum board secured with 1 in. long No. 6 Type S bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. End joints secured to both resilient channels as shown in the end joint detail. Outer layer gypsum board secured with 1-5/8 in. long No. 6 Type S bugle head steel screws spaced 12 in. OC and located a min of 1-1/2 in. from side and end joints. Outer layer shall be finished as described in Item 5.
AMERICAN GYPSUM CO Type AG-C
CERTAINTEED GYPSUM INC Types FRPC, Type C
CERTAINTEED GYPSUM CANADA INC Type C
CGC INC Types C, IP-X2, IPC-AR
GEORGIA-PACIFIC GYPSUM L L C Types 5, DAPC
LAFARGE NORTH AMERICA INC Types LGFC-C, LGFC-C/A
NATIONAL GYPSUM CO Types FSK-C, FSW-C, FSW-G
PABCO BUILDING PRODUCTS L L C, DBA
PABCO GYPSUM Type C
TEMPLE-INLAND Type TG-C
UNITED STATES GYPSUM CO Types C, IP-X2, IPC-AR
USG MEXICO S A DE C V Types C, IP-X2, IPC-AR
4A. Gypsum Board For use when Item 3C is used and Batts and Blankets* are secured to the plywood subfloor, to the trusses or draped over the furring channel/gypsum panel ceiling membrane as described in Item 3C. For method of gypsum board installation, see Item 4.
CGC INC Types C, IP-X2, IPC-AR
UNITED STATES GYPSUM CO Types C, IP-X2, IPC-AR
USG MEXICO S A DE C V Types C, IP-X2, IPC-AR
4B. Gypsum Board* For use when Batts and Blankets* (Item 7A) and Resilient Channels (Item 3F) are used. Nom 5/8 in. thick, 4 ft wide gypsum board installed with long dimension perpendicular to resilient channels. Nom 1 in. long No. Type S bugle head screws are driven through channel spaced 8 in. OC. End joints of gypsum board similarly fastened to additional resilient channels positioned at end joint locations.
AMERICAN GYPSUM CO Type AG-C.
5. Finishing System (Not Shown) - Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape 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.
6. Fiber, Sprayed* (Not Shown, Optional) Spray-applied cellulose insulation material. The fiber is applied with water within the concealed space, over the resilient channel/gypsum board ceiling membrane, in accordance with the application instructions supplied with the product, and may substantially fill the concealed space. Nominal dry density of 3.0 lb/ft3 . Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3 . Alternate application method: The fiber is applied without water or adhesive at a nominal dry density of 3.0 lb/ft3 , in accordance with the application instructions supplied with the product. When Item 6 (Fiber, Sprayed) is used, Furring Channels (Item 3) or Resilient Channels (Item 3A) spacing shall be reduced to 12 in. OC. When Item 6 (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 4. Not evaluated for use with Item 3C.
U S GREENFIBER L L C Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)
7. Batts and Blankets* (Not Shown) For use with Item 3E Nom 3 in. thick mineral wool insulation held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 18 in. OC.
7A. Batts and Blankets* For Use With Items 3F and 4B - Glass fiber insulation draped over the resilient channel/gypsum panel ceiling membrane. Max. 3-1/2 in. thickness of 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.
*Bearing the UL Classification Mark

Design No. P533

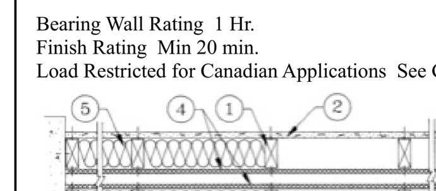
Unrestrained Assembly Rating 1 Hr
Finish Rating 23 Min



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 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 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. 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 Glass fiber insulation fitted in the concealed space, draped over the resilient channels and gypsum wallboard ceiling membrane or fastened to underside of roofing system . 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
3A. Loose Fill Material* As an alternate to Item 3, any loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a min density of 0.5 pcf.
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* Maximum nominal area, 324 sq in. Maximum square size, 18 in. by 18 in. Rectangular sizes not to exceed 324 sq in. with a maximum width of 18 in. Maximum damper height is 14 in. Installed in accordance with the manufacturers installation instructions provided with the damper. Maximum damper openings not to exceed 324 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS Model RD-521.
POTTORFF Model CFD-521.
6. Furring Channels Resilient channels, min 3/8 in. deep by min 2 in. wide at the base and min 1-1/4 in. wide at the face, formed from 0.020 in. thick galv steel, spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at wallboard butt joints (spaced 6 in. OC) as shown in the above illustration.
7. Gypsum Board* Nom 5/8 in. thick, 48 in. wide, installed with long dimension perpendicular to resilient channels with 1-1/8 in. long Type S screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. At end joints, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When insulation, Item 3 or 3A, is draped over the resilient channel/gypsum wallboard ceiling membrane, screws shall be installed at 8 in. OC.
NATIONAL GYPSUM CO Types FSW-G, FSW-C, FSK-G, FSK-C.
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 wallboard.
*Bearing the UL Classification Mark

Design No. U341

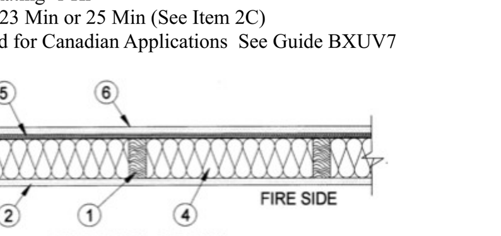
Bearing Wall Rating 1 Hr.
Finish Rating Min 20 min.
Load Restricted for Canadian Applications See Guide BXUV7



HORIZONTAL SECTION
1. Wood Studs Nom 2 by 4 in., spaced 24 in. OC max. Cross braced at mid-height and effectively firestopped at top and bottom of wall. No min. air space between stud rows except to accommodate attachment of sheathing, where required. See items 4 and 5.
2. Gypsum Board* 5/8 in. thick 4 ft wide. Wallboard or lath applied horizontally or vertically and nailed to studs and bearing plates 7 in. OC with 6d cement coated nails, 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam head. As an alternate, No. 6 bugle head drywall screws, 1-7/8 in. long, may be substituted for the 6d cement coated nails.
When Steel Framing Members* (Item 6) are used, wallboard attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.
When used in widths other than 48 in., gypsum board to be installed horizontally.
See Gypsum Board* (CKNX) category for names of Classified companies.
2A. Wall and Partition Facings and Accessories* (As an alternate to Item 2, not shown) - Nominal 5/8 in. thick, 4 ft wide panels, applied vertically to studs and bearing plates on one side of the assembly with 1-5/8 in. long Type S screws spaced 12 in. OC at perimeter of panels and 8 in. OC in the field. Horizontal joints of vertically applied panels need not be backed by studs. Panel joints covered with paper tape and two layers of joint compound. Screwheads covered with two layers of joint compound. Batts and Blankets placed in stud cavity as described in Item 5C. Not evaluated for use with Steel Framing Members, Furring Channels or Fiber, Sprayed.
QUIET SOLUTION INC Type QuietRock QR-530 (finish rating 23 min).
2B. Gypsum Board* (As an alternate to Item 2, not shown) - Any 5/8 in. thick gypsum panels supplied by the Classified Companies listed below shown Gypsum Board* (CKNX) category. Applied horizontally or vertically and attached to studs and bearing plates 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 other than 48 in., gypsum board to be installed horizontally.
CANADIAN GYPSUM COMPANY
UNITED STATES GYPSUM CO
USG MEXICO S A DE C V
2C. Gypsum Board* (As an alternate to Item 2, not shown) - 5/8 in. thick gypsum panels applied horizontally or vertically and attached to studs and bearing plates 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 other than 48 in., gypsum board to be installed horizontally.
AMERICAN GYPSUM CO Types AGX-1, AG-C
CERTAINTEED GYPSUM INC ProRoc Type C or ProRoc Type X
CERTAINTEED GYPSUM CANADA INC ProRoc Type C or ProRoc Type X
3. Joints and Nailheads Wallboard joints of outer layer covered with tape and joint compound. Nail heads of outer layer covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard.
4. Sheathing (Optional) Septum may be sheathed with min 7/16 in. thick wood structural panels min grade "C-D" or "Sheathing" or min 1/2 in. thick Mineral and Fiber Boards*. See Mineral and Fiber Boards (CERZ) category for names of Classified companies.
5. Batts and Blankets* 3-1/2 in. max thickness glass or mineral fiber batt insulation. Optional when sheathing (Item 4) is used on both halves of wall.
See Batts and Blankets (BZJZ) category for list of Classified companies.
5A. Fiber, Sprayed* 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. Nominal dry density of 3.0 lb/ft3 . Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3 .
U S GREENFIBER L L C Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)
5B. Fiber, Sprayed* As an alternate to Batts and Blankets (Item 5) and Item 5A when Sheathing (Item 4) is used on both halves of wall - 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 Wall and Partition Facings and Accessories, Item 2A. Use of Sheathing, Item 4, does not nullify requirement of Item 5C for use with Item 2A) 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.
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. 2-3/8 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. Wallboard attached to furring channels as described in Item 2.
B. Steel Framing Members* Used to attach furring channels (Item a) to studs (Item 1) . Clips spaced 48 in. OC., and 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.
PAC INTERNATIONAL INC Type RSIC-1.
7. 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-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.
QUIET SOLUTION INC Type QuietRock QR-510.
*Bearing the UL Classification Mark

Design No. U356

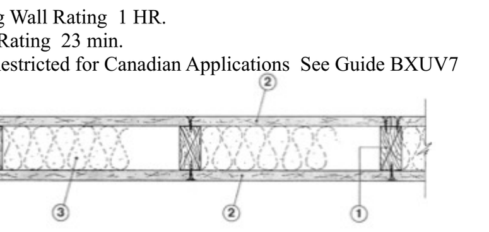
(Exposed to Fire on Interior Face Only)
Bearing Wall Rating 1 Hr
Finish Rating 23 Min or 25 Min (See Item 2C)
Load Restricted for Canadian Applications See Guide BXUV7



1. Wood Studs Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5) . When Mineral and Fiber Boards* (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.
2. Gypsum Board* Any Classified 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.
When Item 7, Steel Framing Members* , is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.
When Item 7A, 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.
See Gypsum Board (CKNX) Category for names of Classified Companies.
2A. Gypsum Board* (As an alternate to Item 2, not shown) - Any 5/8 in. thick 4 ft wide gypsum panels supplied by the Classified Companies listed below shown Gypsum Board* (CKNX) category. Applied vertically and attached to studs and bearing plates 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.
CANADIAN GYPSUM COMPANY
UNITED STATES GYPSUM CO
USG MEXICO S A DE C V
2B. Gypsum Board* (As an alternate to Item 2, not shown) - 5/8 in. thick 4 ft wide gypsum panels applied vertically and attached to studs and bearing plates 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.
AMERICAN GYPSUM CO Types AGX-1, AG-C
CERTAINTEED GYPSUM INC ProRoc Type C or ProRoc Type X
CERTAINTEED GYPSUM CANADA INC ProRoc Type C or ProRoc Type X
TEMPLE-INLAND FOREST PRODUCTS CORP Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X,Soffit-Type X
2C. Gypsum Board* (As an alternate to Item 2, not shown) For Use with Item 5A only - 5/8 in. thick 4 ft wide gypsum panels applied horizontally and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screws 1 in.and 4 in. from edges of board. Finish Rating is 25 min.
TEMPLE-INLAND FOREST PRODUCTS CORP Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X,Soffit-Type X
3. Joints and Nailheads (Not Shown) Wallboard joints covered with tape and joint compound. Nail heads covered with joint compound.
4. Batts and Blankets* Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).
See Batts and Blankets (BKNV) Category in the Building Materials Directory and Batts and Blankets (BZJZ) Category in the Fire Resistance Directory for names of Classified Companies.
4A. Fiber, Sprayed* As an alternate to Batts and Blankets (Item 4) 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. Nominal dry density of 3.0 lb/ft3 . Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3 .
U S GREENFIBER L L C Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)
5. Wood Structural Panel Sheathing Min 7/16 in. thick, 4 ft wide wood structural panels, min grade "C-D" or "Sheathing" . Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated box nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.
5A. Mineral and Fiber Boards* As an alternate to Item 5 - Min 1/2 in. thick, 4 ft wide sheathing, installed vertically to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 1-1/2 in. long galvanized roofing nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs. As an option a weather resistive barrier may be applied over the Mineral and Fiber Boards.
TEMPLE-INLAND FOREST PRODUCTS CORP Types FiberBrace or QuietBrace
6. Exterior Facings Installed in accordance with the manufacturer's installation instructions. One of the following exterior facings is to be applied over the sheathing:
A. Vinyl Siding Molded Plastic* Contoured rigid vinyl siding having a flame spread value of 20 or less.
See Molded Plastic (BTAT) category in the Building Materials Directory for names of manufacturers.
B. Particle Board Siding Hardboard exterior sidings including patterned panel or lap siding.
C. Wood Structural Panel or Lap Siding APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.
D. Cementitious Stucco Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.
E. Brick Veneer Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie: ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.
F. Exterior Insulation and Finish System(EIFS) Nom 1 in. Foamed Plastic* insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer's instructions. See Foamed Plastic (BRYX and CCVW) categories for names of Classified companies.
G. Siding Aluminum or steel siding attached over sheathing to studs.
H. Fiber-Cement Siding Fiber-cement exterior sidings including smooth and patterned panel or lap siding.
7. 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 2.
b. Steel Framing Members* Used to attach furring channels (Item 7a) 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 grommet. Furring channels are friction fitted into clips.
PAC INTERNATIONAL INC Type RSIC-1.
7A. 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 are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Two layers of gypsum board attached to furring channels as described in Item 2.
b. Steel Framing Members* Used to attach furring channels (Item 7Aa) to interior side of studs. 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.
*Bearing the UL Classification Mark

Design No. U333

Bearing Wall Rating 1 HR.
Finish Rating 23 min.
Load Restricted for Canadian Applications See Guide BXUV7



1. Wood Studs Nom 2 by 4 in., spaced 16 in. OC effectively cross braced.
2. Gypsum Board* 5/8 in. thick, 4 ft wide, applied either vertically or horizontally, screw attached to studs and plates with 1-1/4 in. long Type W steel screws, spaced 12 in. OC.
AMERICAN GYPSUM CO Types AG-C.
CERTAINTEED GYPSUM INC ProRoc Type C.
CERTAINTEED GYPSUM CANADA INC ProRoc Type C.
CANADIAN GYPSUM COMPANY Types C, IP-X2, IPC-AR.
G-P GYPSUM CORP, SUB OF
GEORGIA-PACIFIC CORP Type 5.
LAFARGE NORTH AMERICA INC Types LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO Types FSK-C, FSW-C, FSW-G.
PABCO BUILDING PRODUCTS L L C, DBA
PABCO GYPSUM Type C or PG-C.
TEMPLE-INLAND FOREST PRODUCTS CORP Type TG-C.
UNITED STATES GYPSUM CO Types C, IP-X2, IPC-AR.
USG MEXICO S A DE C V Types C, IP-X2, IPC-AR.
3. Batts and Blankets* (Optional) Mineral wool insulation, partially or completely filling stud cavity.
THERMAFIBER INC Type SAFB.
3A. Fiber, Sprayed* As an alternate to Batts and Blankets (Item 3) 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. Nominal dry density of 3.0 lb/ft3 . Alternate application method: The fiber is applied with U.S. Greenfiber LLC Type AD100 hot melt adhesive at a nominal ratio of one part adhesive to 6.6 parts fiber to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 2.5 lb/ft3 .
U S GREENFIBER L L C Cocoon2 Stabilized or Cocoon-FRM (Fire Rated Material)
3B. Fiber, Sprayed* As an alternate to Batts and Blankets (Item 3) and Item 3A - 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
4. Joints and Nailheads Wallboard joints covered with paper tape and joint compound. Screw heads covered with joint compound.
*Bearing the UL Classification Mark

Apartments V1

Fox Design LLC
P.O. Box 628 Elon, NC 27244 (336)449-4940
www.foxdesignllc.com grant@foxdesignllc.com

MARTHA MAITLAND MASON
REGISTERED ARCHITECT
7267
4.12.23
NORTH CAROLINA
BURLINGTON N.C.

Drawn By: JTB
Checked By: GWF
Date: 4/12/23
File: D&G Legacy Haw River V1

Revisions:
Date	Remarks

Project:
Legacy @ Haw River
Version 1
Burlington, NC

DeBoer & Gabriel Builders, Inc

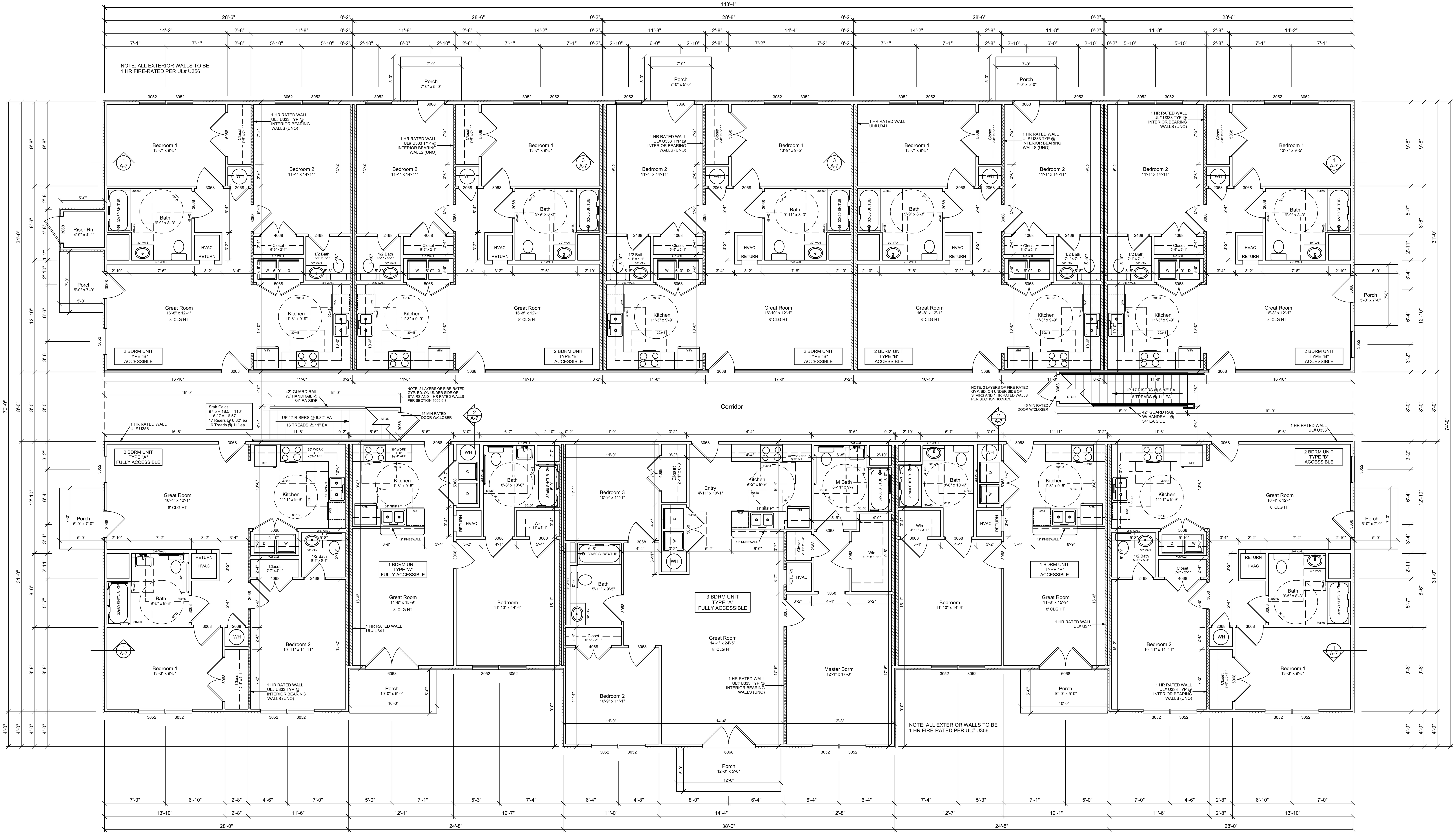
6 Apt Buildings
1 Clubhouse

Scale:
N.T.S.

Sheet No:
A-0.1

GENERAL NOTES:

1. CONTRACTOR TO COMPLY W/ ALL APPLICABLE BLDG. CODES AND REGULATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS AND APPROVALS INCLUDING ALL FEES ASSOCIATED WITH PERMITS AND APPROVALS.
3. CONTRACTOR SHALL PROVIDE ALL SUPERVISION, LABOR, MATERIAL, EQUIPMENT, MACHINERY AND ANY AND ALL OTHER ITEMS NECESSARY TO COMPLETE THE WORK.
4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO START OF ANY WORK.
5. CONTRACTOR AND/OR OWNER RESPONSIBLE FOR DETERMINING SPECIFICATIONS FOR MATERIALS, PRODUCTS AND SYSTEMS TO BE USED IN THIS PROJECT.
6. INTERIOR NON-RATED WALLS TO BE 2x4 WOOD STUDS @ 16" O.C. W/ 5/8" GYP BD EACH SIDE UNLESS NOTED OTHERWISE. ALL WALLS TO BE FIRE-STOPPED PER APPLICABLE BUILDING CODE REQUIREMENTS.
7. 1st FLOOR INT. FIRE-RATED WALLS TO BE 2x4 WOOD STUDS @ 12" O.C. W/ 5/8" FIRE-RATED GYP BD EACH SIDE UNLESS NOTED OTHERWISE. REFER TO UL ASSEMBLY DESIGNS. ALL WALLS TO BE FIRE-STOPPED PER APPLICABLE BUILDING CODE REQUIREMENTS.
8. PROVIDE GYP. BD. CEILING AT ALL AREAS. GYP. BOARD TO BE ATTACHED TO BOTTOM CHORD OF PRE-ENGINEERED WOOD ROOF TRUSS WITH RESILIENT CHANNELS UNLESS NOTED OTHERWISE.
9. PROVIDE 20"Wx30"D 1 HR FIRE-RATED ATTIC ACCESS DOOR AS INDICATED ON DRAWINGS. CONTRACTOR TO COORDINATE LOCATION IN FIELD.
10. INTERIOR FINISHES TO BE DETERMINED BY OWNER. CONTRACTOR TO COORDINATE.
11. ALL EXTERIOR DOORS TO BE EMBOSSED HOLLOW METAL DOORS WITH INSULATED CORE IN WOOD FRAMES. GLASS IN EXTERIOR DOORS TO BE 5/8" INSULATED SAFETY GLAZING.
12. ALL EXTERIOR APARTMENT UNIT ENTRY DOORS TO BE 6 PANEL EMBOSSED HOLLOW METAL DOORS WITH INSULATED CORES IN WOOD FRAMES. DOORS AND FRAMES TO BE 1 HR FIRE-RATED.
13. ALL INTERIOR DOORS TO BE 6 PANEL HOLLOW CORE WOOD DOORS IN SIZES AS INDICATED ON DRAWINGS.
14. ALL DOOR HARDWARE TO BE H/C COMPLIANT. ALL LATCHSETS AND LOCKSETS TO HAVE LEVER TYPE HANDLES.
15. PROVIDE WEATHERSTRIPPING AND ALUM. THRESHOLDS AT ALL EXTERIOR DOORS.
16. ALL HVAC CLOSETS TO HAVE LOUVERED DOORS.
17. ALL STAIR AND BALCONY RAILINGS TO BE 42" IN HEIGHT. BALUSTERS FOR ALL RAILINGS TO BE SPACED SO AS NOT TO ALLOW PASSAGE OF 4" DIAMETER SPHERE.
18. ALL STAIR TREADS TO HAVE 1" NOSING PROJECTION. UNDERSIDE OF NOSING PROJECTION TO BE ANGLED AT 30° FROM VERTICAL PER HANDICAP CODE REQUIREMENTS.
19. CONTRACTOR TO VERIFY AND COORDINATE LOCATION OF ALL PAD MOUNTED MECHANICAL EQUIPMENT.
20. ALL KITCHEN AND BATHROOM CABINETS AND FIXTURES AT TYPE "A" HC UNIT TO MEET ALL APPLICABLE REQUIREMENTS FOR ACCESSIBILITY.
21. OWNER TO DETERMINE STYLE, FINISH AND COLOR OF ALL KITCHEN AND BATHROOM CABINETRY.
22. PROVIDE DRAFTSTOP IN ATTIC SO THAT NO ATTIC AREA IS GREATER THAN 3,000 SF. DRAFTSTOP TO BE ONE LAYER OF GYP. BOARD ATTACHED TO ONE SIDE OF ROOF TRUSS. PROVIDE ACCESS PANEL IN DRAFTSTOP.
23. PROVIDE DRAFTSTOP IN TRUSSED FLOOR ASSEMBLY SO THAT NO FLOOR AREA IS GREATER THAN 1,000 SF. DRAFTSTOP TO BE ONE LAYER OF GYP. BOARD ATTACHED TO ONE SIDE OF FLOOR TRUSS. COORDINATE WITH FLOOR TRUSS MANUFACTURER FOR ANY SPECIAL REQUIREMENTS PERTAINING TO DRAFTSTOPPING.
24. REFER TO STRUCTURAL, PLUMBING, MECHANICAL and ELECTRICAL DRAWINGS BY OTHERS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
25. REFER TO SITE PLAN BY OTHERS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
26. ALL BEDROOM WINDOWS TO MEET EMERGENCY ESCAPE AND RESCUE REQUIREMENTS.



First Floor Plan

1 A-1

Scale: 3/16"=1'

Unit Count (for 6 buildings)

TYPE OF UNIT	QUAN THIS BLDG	QUAN THIS PROJ. (6 BLDG)	TOTAL REQ. (5%)
1 BDRM TYPE "A"	1	6	1.8
1 BDRM TYPE "B"	1	6	N/A
1 BDRM STANDARD	4	24	N/A
2 BDRM TYPE "A"	1	6	6.3
2 BDRM TYPE "B"	6	36	N/A
2 BDRM STANDARD	14	84	N/A
3 BDRM TYPE "A"	1	6	0.9
3 BDRM TYPE "B"	0	0	N/A
3 BDRM STANDARD	2	12	N/A

THE REQUIRED 5% TYPE "A" UNITS IS MET.

Wall Types

TYPE	UL #	GRAPHIC	WALL STUDS
EXTERIOR WALL	U356	▨	2x4 #2 SPF @ 12" OC
EXT. CORRIDOR WALL	U356	▭	2x4 #2 SPF @ 12" OC
INTERIOR WALL	NONE	▭	2x4 #2 SPF @ 16" OC
INT. LOAD BEARING WALL	U333	▩	2x4 #2 SPF @ 12" OC
TENANT SEPARATION WALL	U341	▨	2x4 #2 SPF @ 12" OC

Square Footage

UNDER ROOF 1st FLOOR = 9962 SF
UNDER ROOF 2nd FLOOR = 9962 SF
UNDER ROOF 3rd FLOOR = 9836 SF

UNDER ROOF BLDG TOTAL = 29760 SF

HEATED AREA PER FLOOR = 8792 SF
TOTAL HEATED PER BLDG = 26376 SF

Apartments V1

Fox Design LLC
P.O. Box 628 Elon, NC 27244 (336)449-4940
www.foxdesignllc.com grant@foxdesignllc.com

MARTHA MAITLAND MASON REGISTERED ARCHITECT 7267 NORTH CAROLINA BURLINGTON N.C.
4.12.23

Drawn By: JTB

Checked By: GWF

Date: 4/12/23

File: D&G Legacy Haw River V1

Revisions:

Date	Remarks

Project:

Legacy @ Haw River
Version 1
Burlington, NC

DeBoer & Gabriel
Builders, Inc

6 Apt Buildings
1 Clubhouse

Scale:

3/16"=1'

Sheet No:

A-1

Fox Design LLC
P.O. Box 638 Elon, NC 27244 (336)449-4940
www.foxdesignllc.com grant@foxdesignllc.com

NOTE: ALL EXTERIOR WALLS TO BE 1 HR FIRE-RATED PER UL# U356

NOTE: ALL EXTERIOR WALLS TO BE 1 HR FIRE-RATED PER UL# U356

Corridor

Wall Types			
TYPE	UL #	GRAPHIC	WALL STUDS
EXTERIOR WALL	U356		2x4 #2 SPF @ 16" OC
EXT. CORRIDOR WALL	U356		2x4 #2 SPF @ 16" OC
INTERIOR WALL	NONE		2x4 #2 SPF @ 16" OC
INT. LOAD BEARING WALL	U333		2x4 #2 SPF @ 16" OC
TENANT SEPARATION WALL	U341		2x4 #2 SPF @ 16" OC

1 A-2 Second Floor Plan

Scale: 3/16"=1'

Apartments V1

Drawn By: JTB

Checked By: GWF

Date: 4/12/23

File: D&G Legacy Haw River V1

Revisions:

Date	Remarks

Project:

Legacy @ Haw River
Version 1
Burlington, NC

DeBoer & Gabriel
Builders, Inc

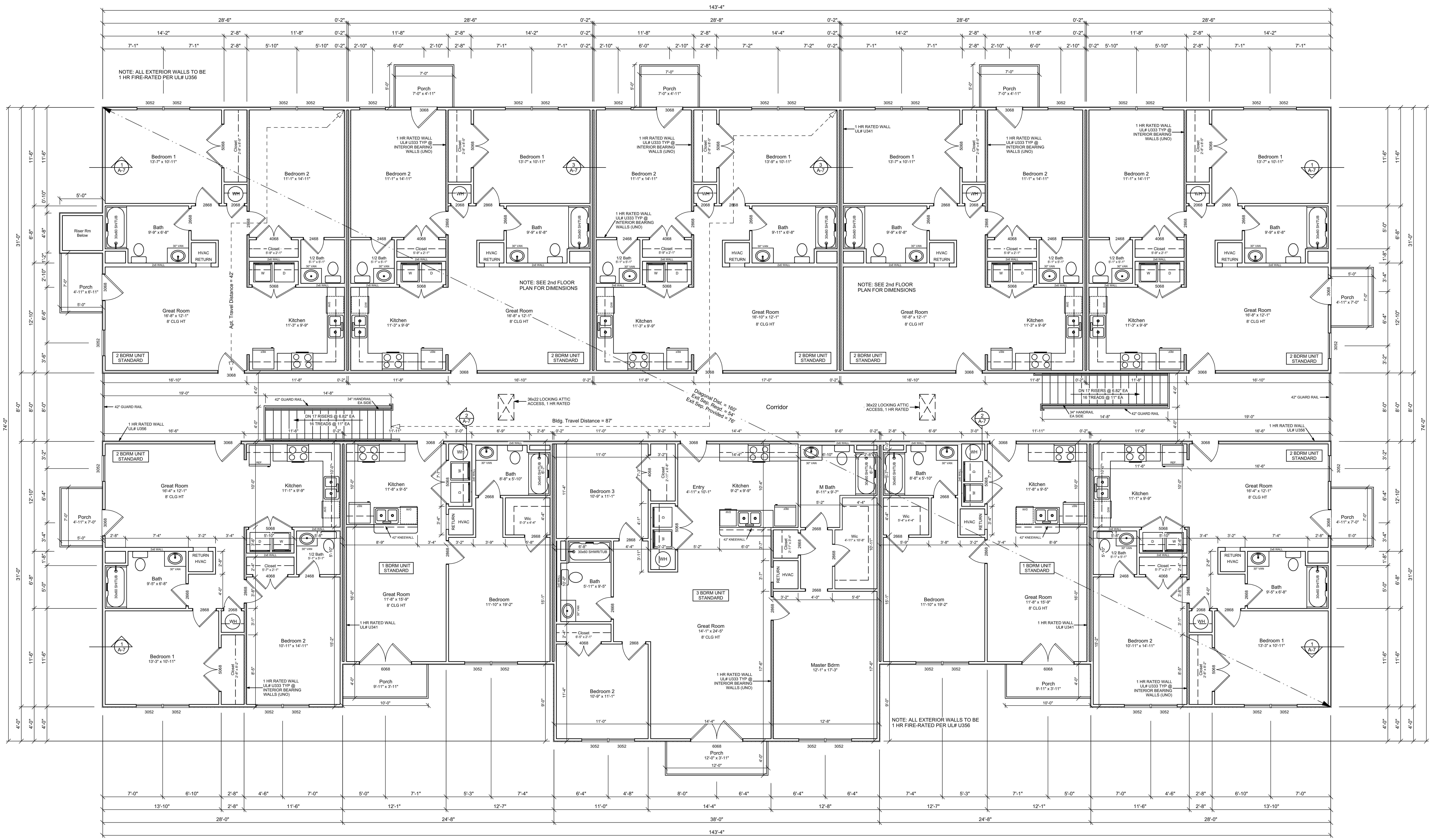
6 Apt Buildings
1 Clubhouse

Scale:

3/16"=1'

Sheet No:

A-2



Wall Types			
TYPE	UL #	GRAPHIC	WALL STUDS
EXTERIOR WALL	U356	▨	2x4 #2 SPF @ 16" OC
EXT. CORRIDOR WALL	U356	▭	2x4 #2 SPF @ 16" OC
INTERIOR WALL	NONE	▭	2x4 #2 SPF @ 16" OC
INT. LOAD BEARING WALL	U333	▨	2x4 #2 SPF @ 16" OC
TENANT SEPARATION WALL	U341	▨	2x4 #2 SPF @ 16" OC

1 A-3

Third Floor Plan

Scale: 3/16"=1'

Fox Design LLC
P.O. Box 628 Elon, NC 27244 (336)449-4940
www.foxdesignllc.com grant@foxdesignllc.com

MARTHA MAITLAND MASON REGISTERED ARCHITECT 7267 NORTH CAROLINA BURLINGTON N.C.
4.12.23

Drawn By: JTB

Checked By: GWF

Date: 4/12/23

File: D&G Legacy Haw River V1

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1 Clubhouse

Scale:

3/16"=1'

Sheet No:

A-3

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2 / A-4 Rear Elevation

Scale: 3/16"=1'

1 / A-4 Front Elevation

Scale: 3/16"=1'

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6 Apt Buildings
1 Clubhouse

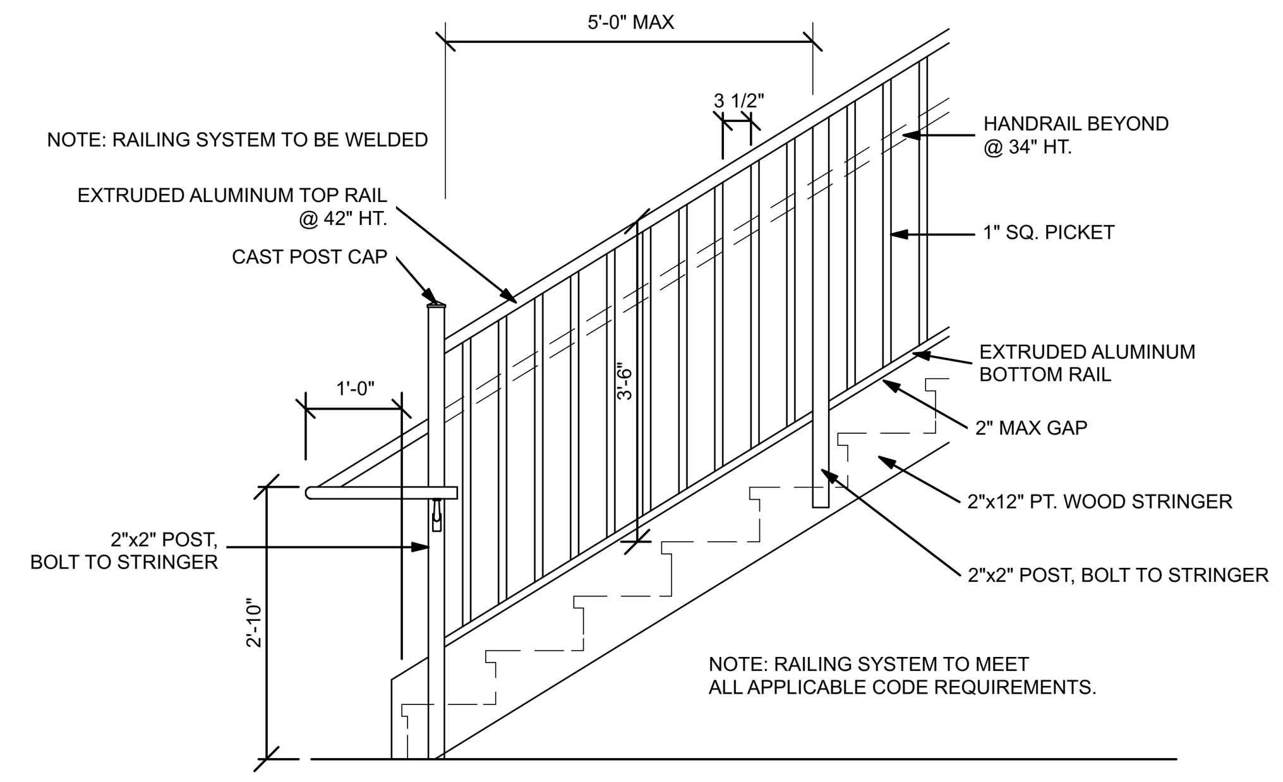
Scale:

3/16"=1'

Sheet No:

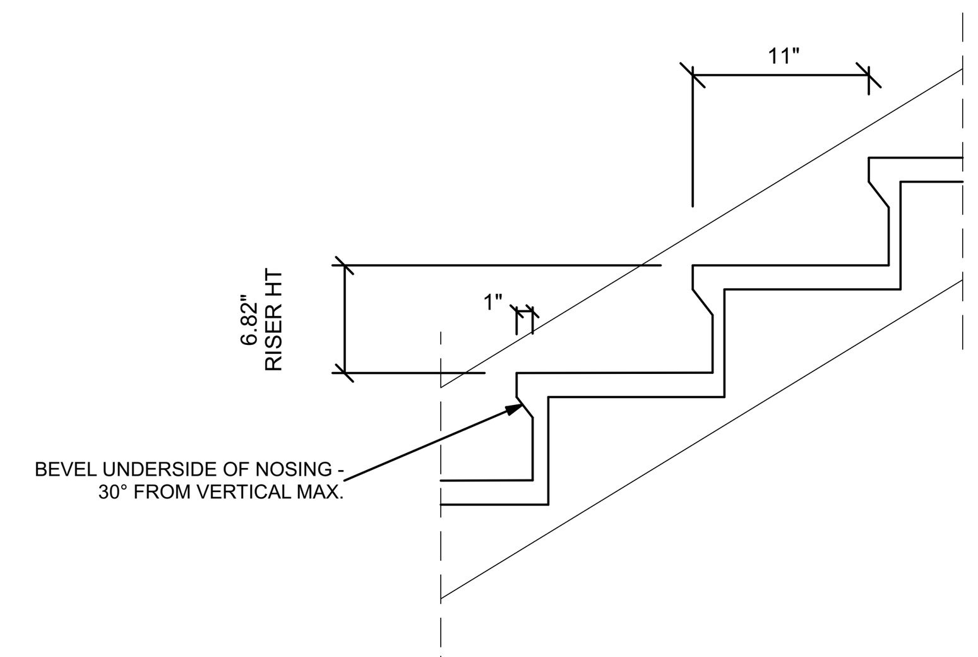
A-4

Apartments V1



Detail @ Stair Railing

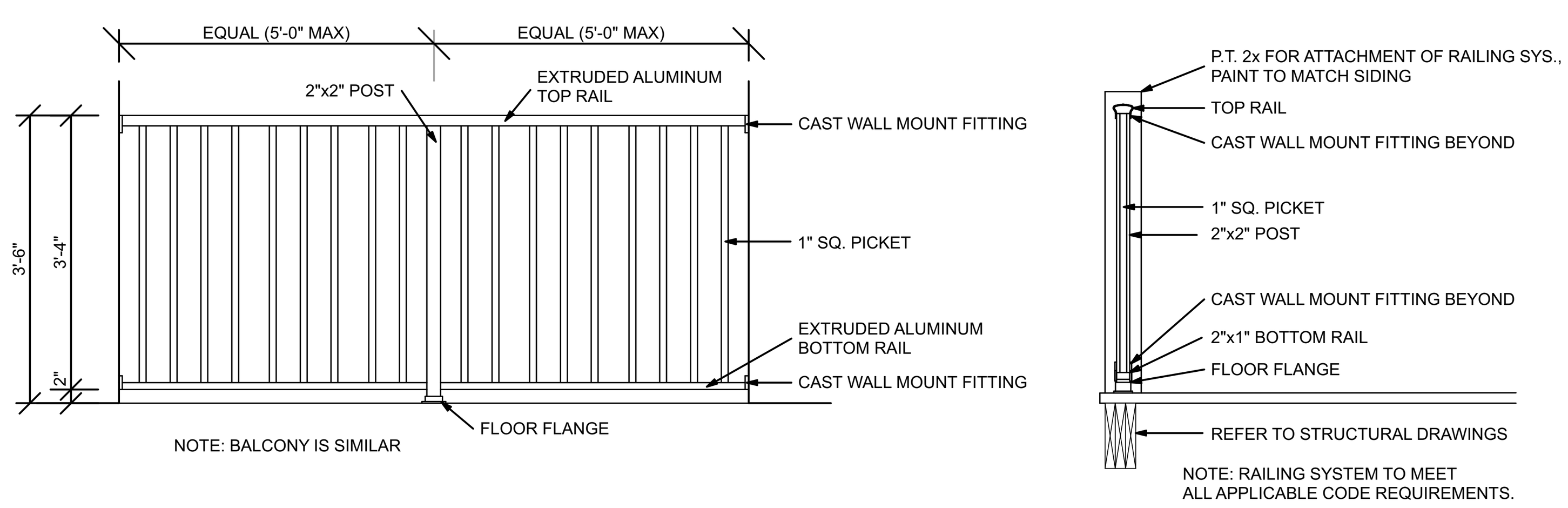
Scale: 1/2"=1'



Detail @ Stair Tread

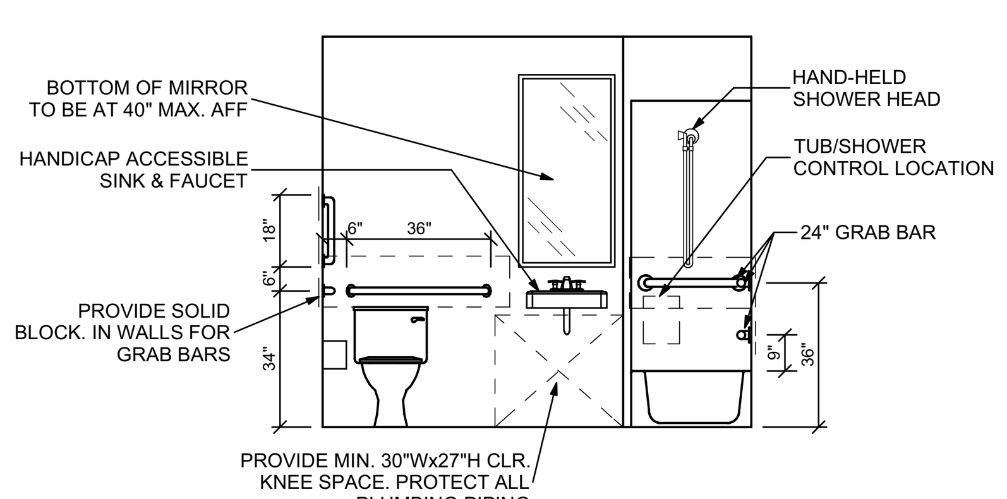
Scale: 1"=1'

NOTE: ALL RAILINGS (STAIR, LANDING, BALCONY) TO BE EXTRUDED ALUMINUM. FASTENERS PER MANUFACTURER.

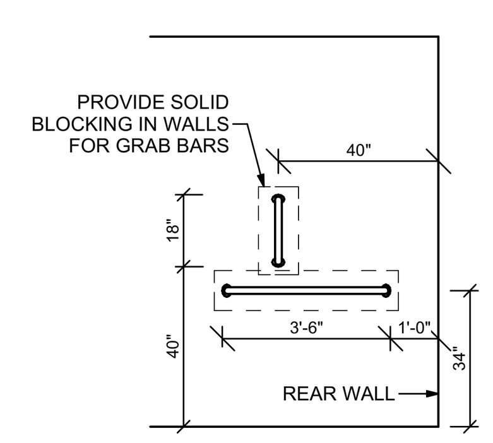


Detail @ Landing Railing

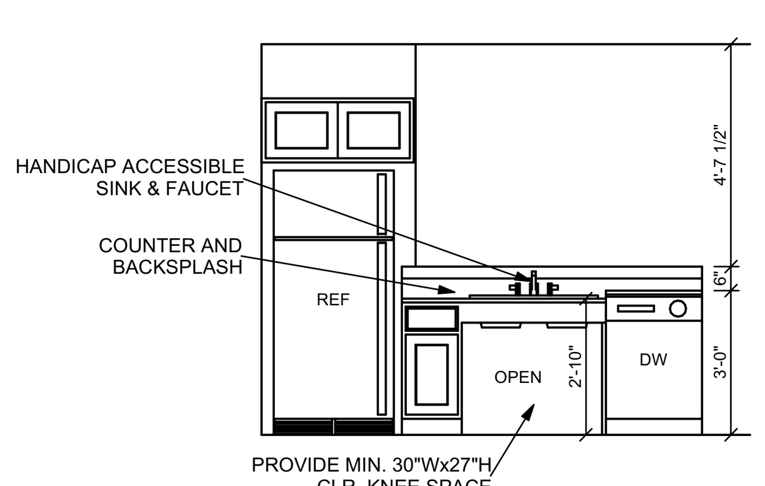
Scale: 1/2"=1'



ELEV C: BATH (FRONT VIEW)

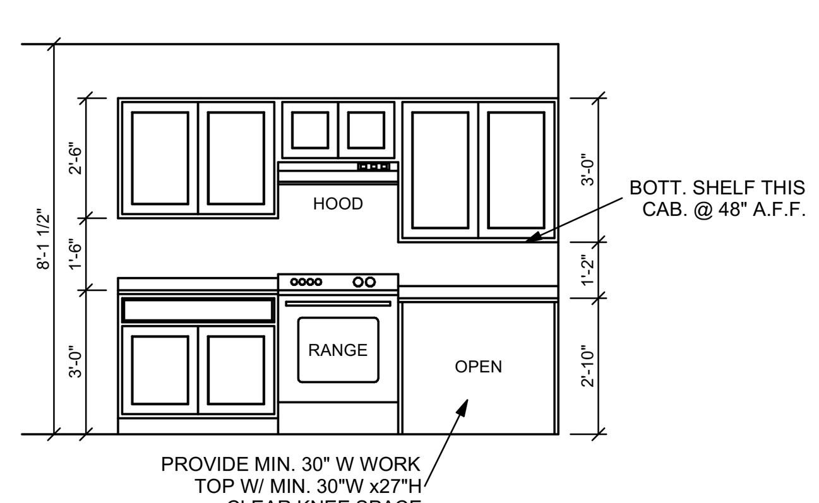


ELEV D: BATH (SIDE VIEW)



ELEV A: KITCHEN

ALL PLUMBING PIPING BELOW SINK TO BE PROTECTED AND SATISFY ALL HANDICAP ACCESSIBILITY REQUIREMENTS



ELEV B: KITCHEN

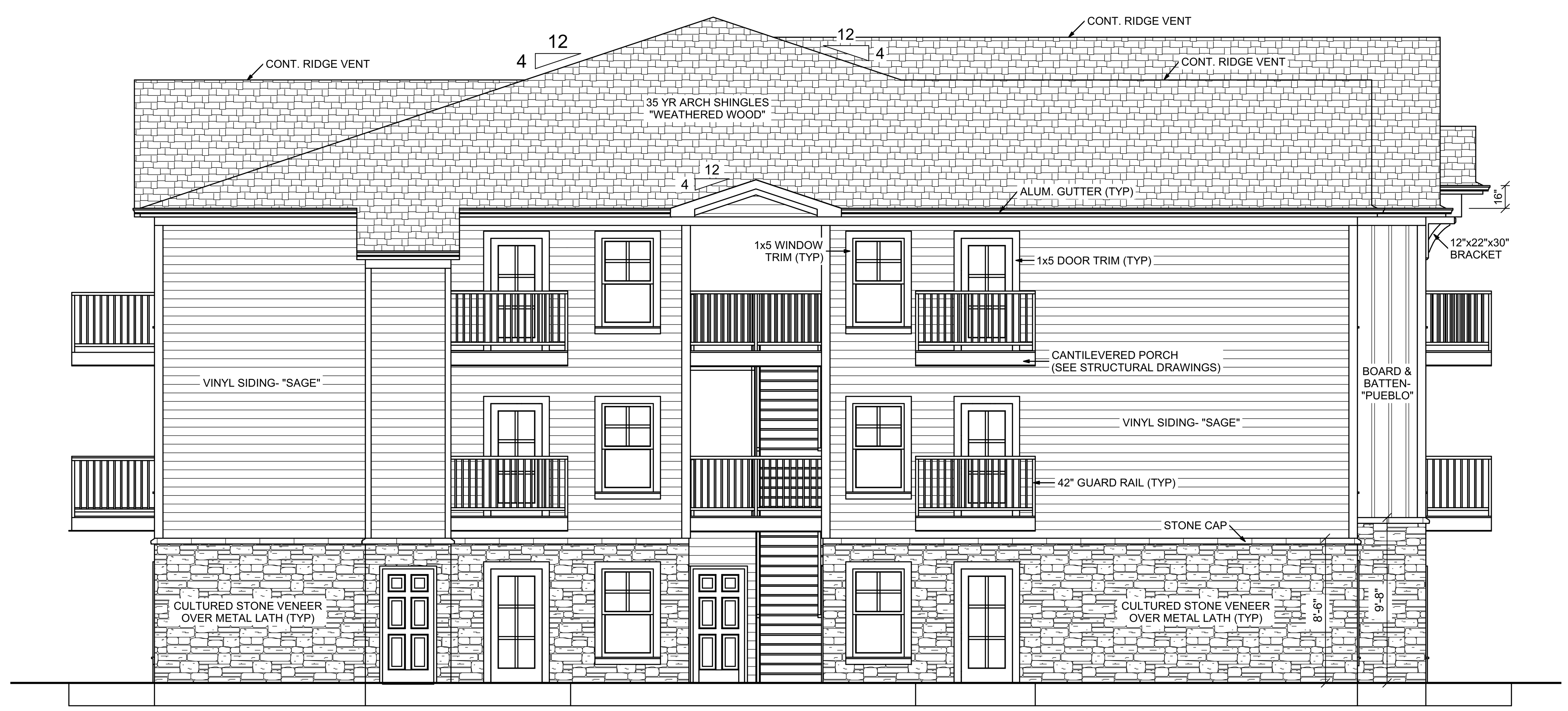
ALL APPLIANCES TO BE HANDICAP COMPLIANT. ALL APPLIANCE CONTROLS TO SATISFY ALL HANDICAP ACCESSIBILITY REQUIREMENTS

3 A-5 Kitchen / Bath Elevs @ 3 Bdrm Type A Unit

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

2 A-5 Right Side Elevation

Scale: 3/16"=1'



1 A-5 Left Side Elevation

Scale: 3/16"=1'

Apartments V1

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MARTHA MAITLAND MASON
REGISTERED ARCHITECT
7267
4.12.23
NORTH CAROLINA
BURLINGTON N.C.
[illegible]

Drawn By: JTB

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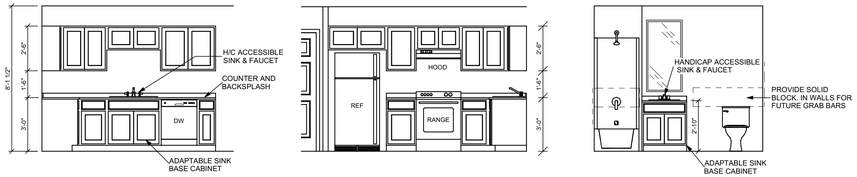
1 Clubhouse

Scale:

AS NOTED

Sheet No:

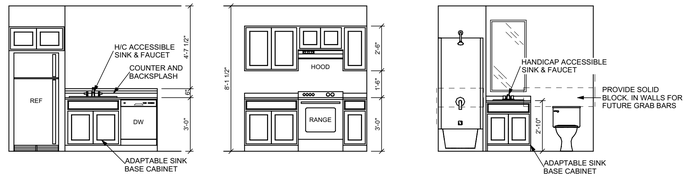
A-5



ELEV A: KITCHEN ELEV B: KITCHEN ELEV C: BATH

4 A-6 Kitchen / Bath Elevs @ 2 Bdrm Type B Unit

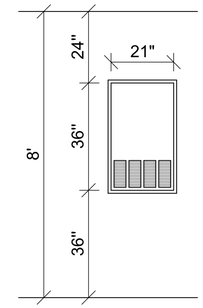
Scale: 1/4"=1'-0"



ELEV A: KITCHEN ELEV B: KITCHEN ELEV C: BATH

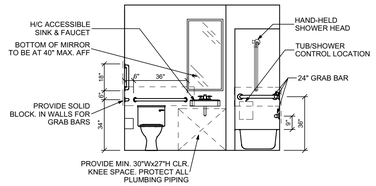
5 A-6 Kitchen / Bath Elevs @ 1 Bdrm Type B Unit

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

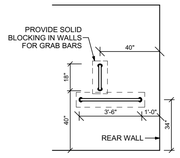


6 A-6 HVAC Return Detail

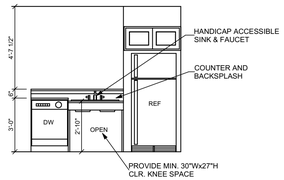
Scale: 1/2"=1'-0"



ELEV C: BATH (FRONT VIEW)

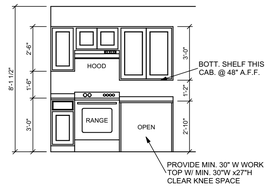


ELEV D: BATH (SIDE VIEW)



ELEV A: KITCHEN

ALL PLUMBING PIPING BELOW SINK TO BE PROTECTED AND SATISFY ALL HANDICAP ACCESSIBILITY REQUIREMENTS

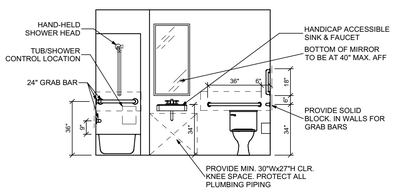


ELEV B: KITCHEN

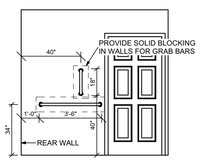
ALL APPLIANCES TO BE HANDICAP ACCESSIBLE. ALL APPLIANCE CONTROLS TO SATISFY ALL HANDICAP ACCESSIBILITY REQUIREMENTS

3 A-6 Kitchen / Bath Elevs @ 1 Bdrm Type A Unit

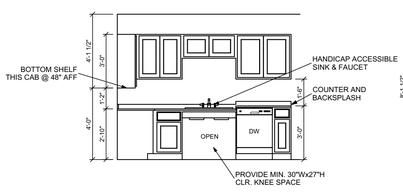
Scale: 1/4"=1'-0"



ELEV C: BATH (FRONT VIEW)

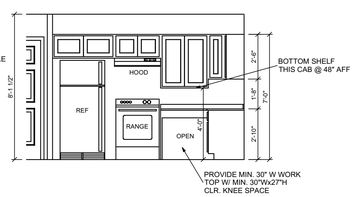


ELEV D: BATH (SIDE VIEW)



ELEV A: KITCHEN

ALL PLUMBING PIPING BELOW SINK TO BE PROTECTED AND SATISFY ALL HANDICAP ACCESSIBILITY REQUIREMENTS



ELEV B: KITCHEN

ALL APPLIANCES TO BE HANDICAP ACCESSIBLE. ALL APPLIANCE CONTROLS TO SATISFY ALL HANDICAP ACCESSIBILITY REQUIREMENTS

2 A-6 Kitchen / Bath Elevs @ 2 Bdrm Type A Unit

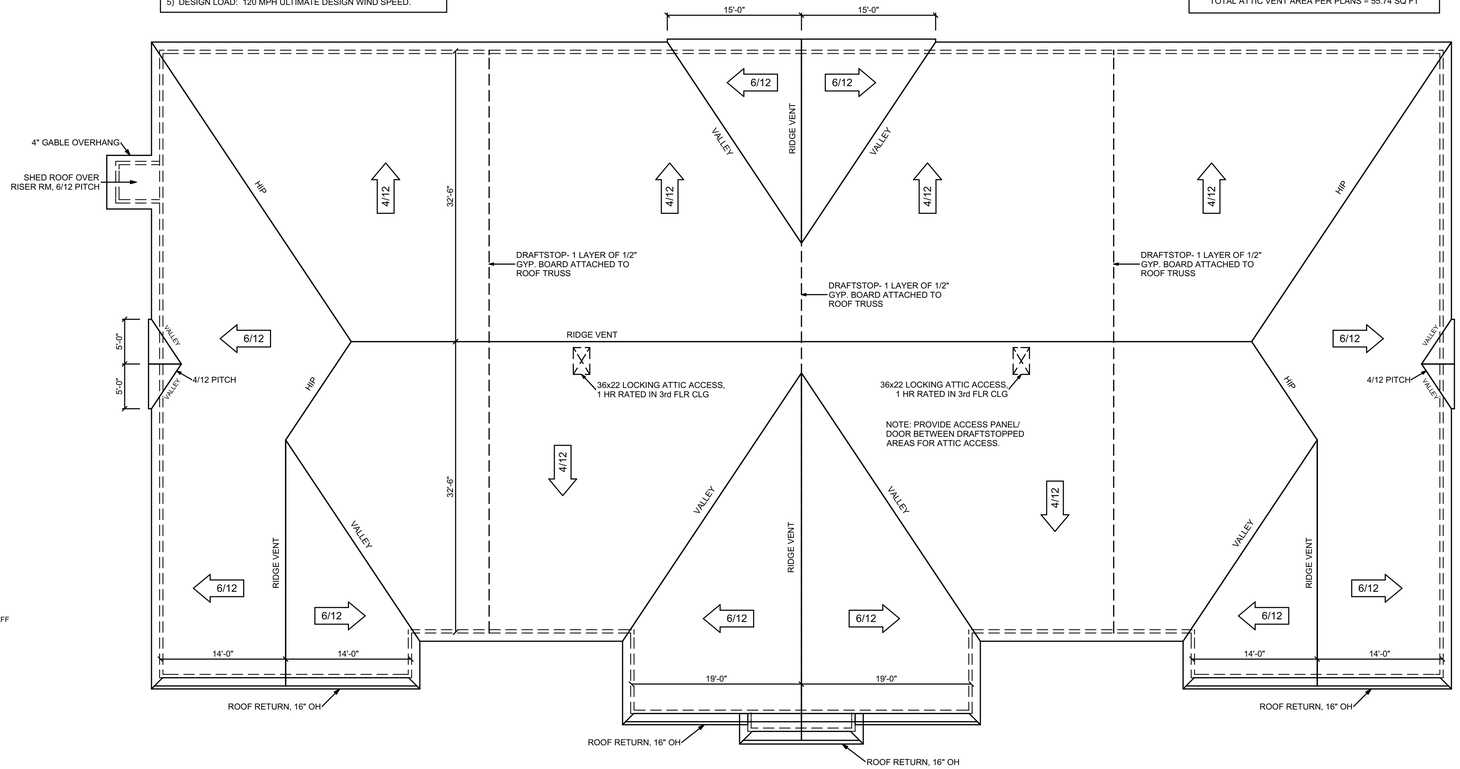
Scale: 1/4"=1'-0"

General Roof Notes:

1) ALL OVERHANGS TO BE 12" UNO.
2) PROVIDE DRAFTSTOP IN ATTIC SO THAT ATTIC IS DIVIDED INTO AREAS NO GREATER THAN 3000 SF. DRAFTSTOP TO BE 1 LAYER OF 1/2" GYP. BOARD ATTACHED TO ROOF TRUSS.
3) ALL TRUSSES TO BE DESIGNED AND ENGINEERED BY THE MANUFACTURER.
4) PROVIDE ACCESS PANEL/DOOR BETWEEN DRAFTSTOPPED AREAS FOR ATTIC ACCESS.
5) DESIGN LOAD: 120 MPH ULTIMATE DESIGN WIND SPEED.

Attic Vent Calculations

ATTIC AREA = 9826 SQ FT / 300 = 32.75 SQ FT VENTILATION REQD
TYPICAL VENTILATION VALUES
RIDGE VENT = .12 SQ FT/FT x 195 FT = 23.4 SQ FT
SOFFIT VENT = .07 SQ FT/FT x 462 FT = 32.34 SQ FT
TOTAL ATTIC VENT AREA PER PLANS = 55.74 SQ FT



1 A-6 Roof Plan

Scale: 1/8"=1'

Apartments V1

Fox Design LLC
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Scale:

AS NOTED

Sheet No:

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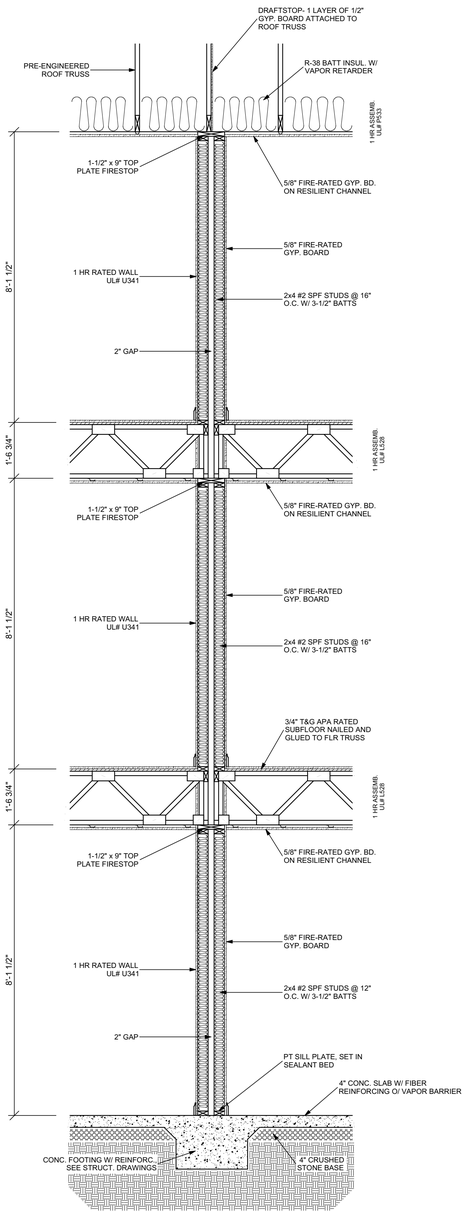
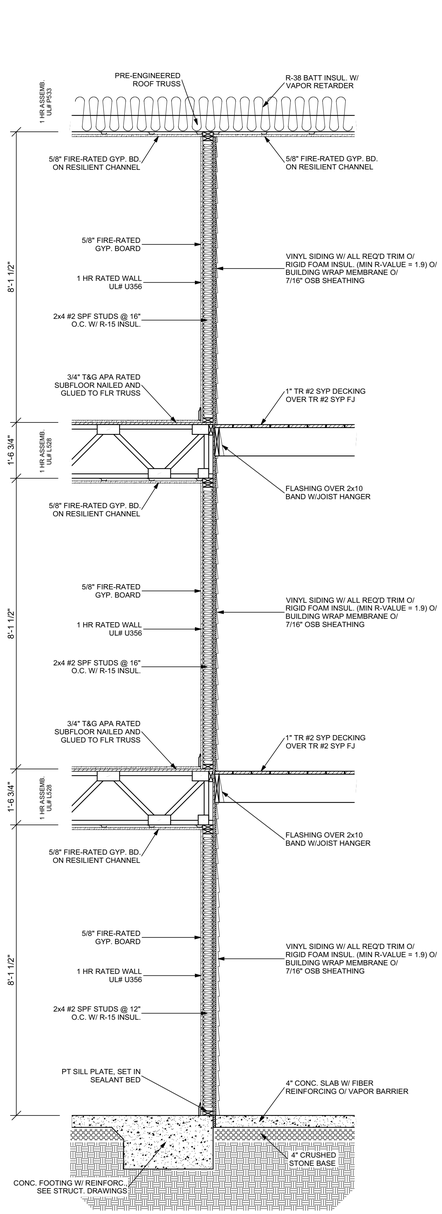


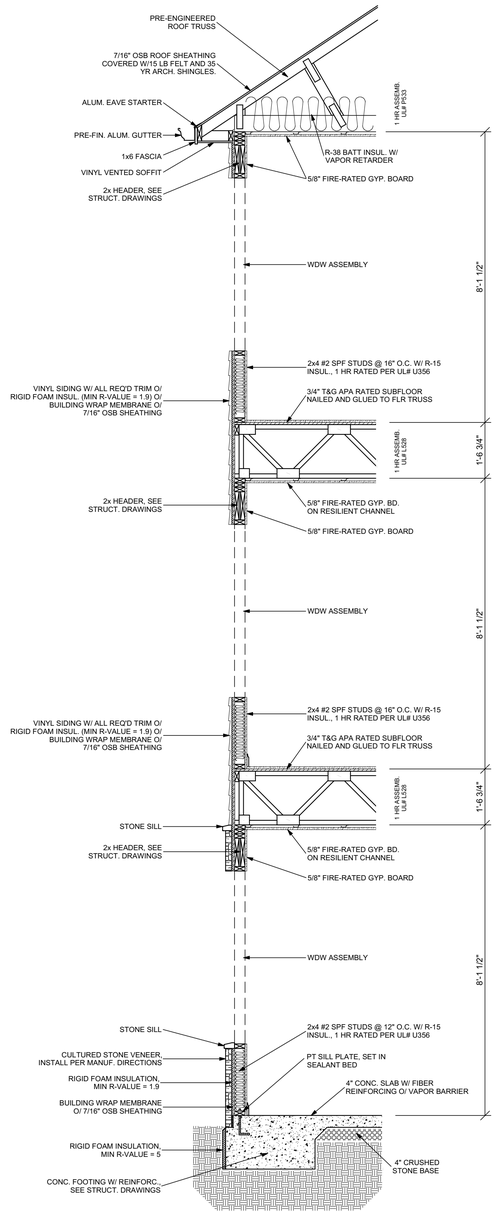
3 A-7 Tenant Separation Wall Section

Scale: 1/2"=1'-0"



2 A-7 Wall Section @ Corridor

Scale: 1/2"=1'-0"



1 A-7 Wall Section @ Exterior Wall

Scale: 1/2"=1'-0"

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Sheet No:

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Apartments V1

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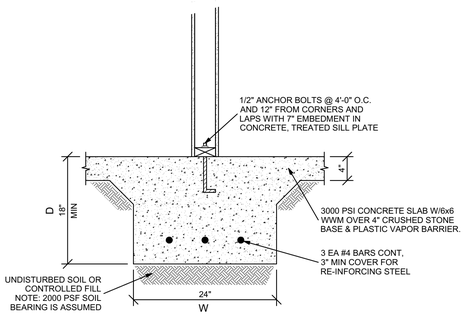
Brooke T. Carpenter, PE
Residential Engineering Solutions
PO Box 651 Elon, NC 27244
m) 336-380-5847
email) bcarp89@aol.com
NC Lic. # 23249
Engineers seal is for structural only.

NORTH CAROLINA PROFESSIONAL SEAL 23249 ENGINEER BROOKE T CARPENTER

Structural Notes:

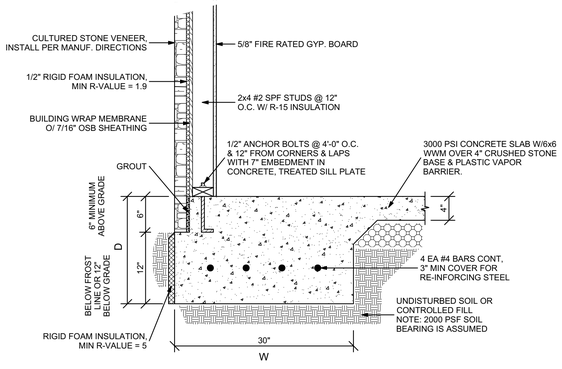
1) PERIMETER WALL FOOTINGS TO BE 30"x18" CONT CONC MIN W/ 4 EA #4 BARS. INTERIOR FTGS TO BE 24"x18" CONC W/ 3 EA #4 BARS.
2) 2000 PSF SOIL BEARING ASSUMED. 3000 PSI CONC ASSUMED.
3) PROVIDE 1/2" ANCHOR BOLTS AT 48" OC (7" MIN EMBEDMENT) AND 12" FROM CORNERS AND LAPS.
4) AT EACH EXTERIOR CORNER, A SIMPSON PA51 OR EQUIV STEEL TIE-DOWN IS REQUIRED.
5) 1st FLOOR LOAD-BEARING WALLS TO BE FRAMED WITH 2x4 #2 SPF STUDS @ 12" OC. 2nd & 3rd FLOOR WALLS TO BE @ 16" OC.
6) 2nd & 3rd FLOOR CORRIDOR FRAMING TO BE 2x10 #2 TREATED SYP FJ @ 16" OC. TRIPLE FRAME AROUND STAIR OPENINGS.
7) DIMENSIONS ARE TO THE OUTSIDE OF THE WALL FRAMING. STONE LEDGE IS 2" BEYOND EDGE OF FRAMING.



Slab Detail B

(INTERIOR WALLS)

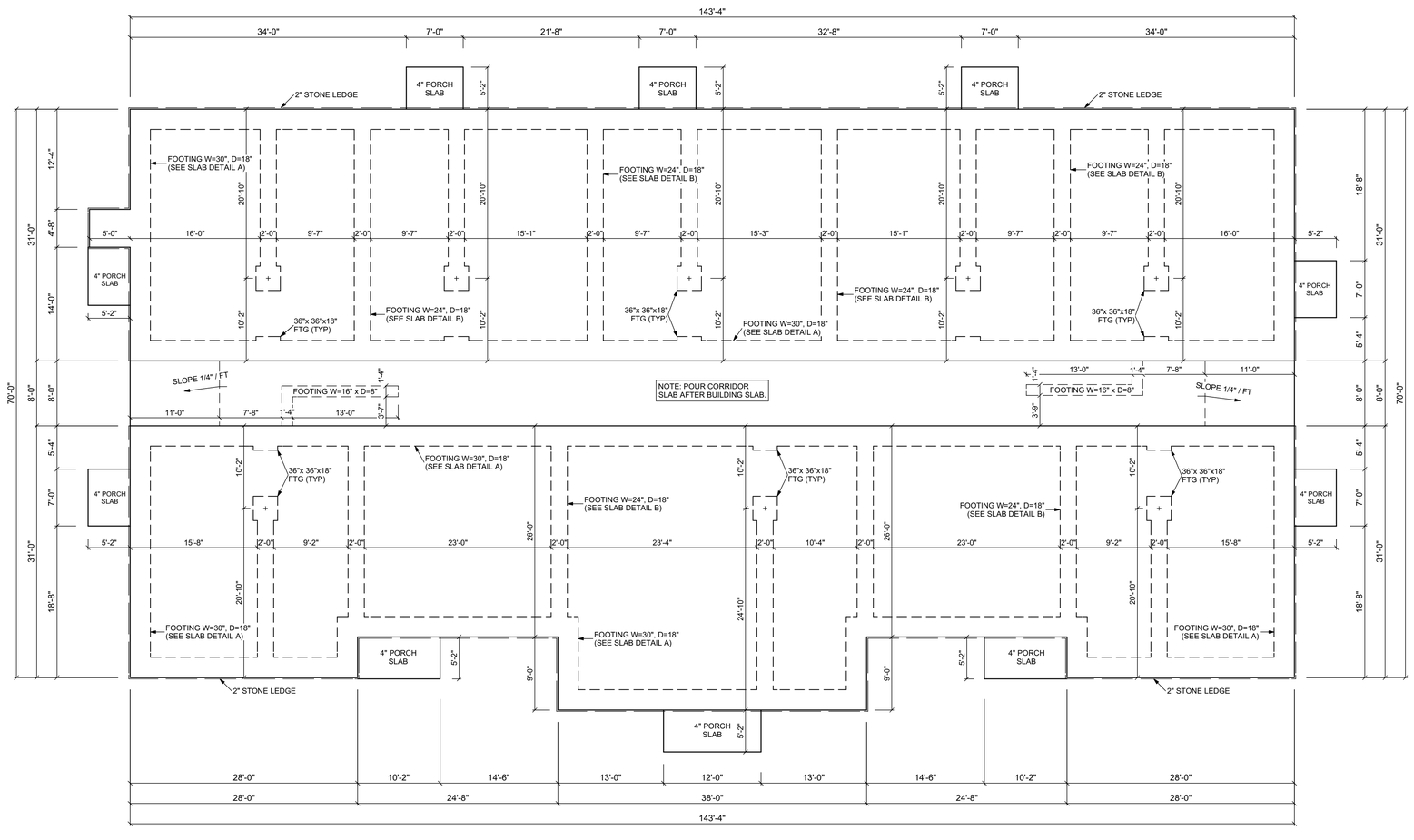
Scale: 1" = 1'



Slab Detail A

(EXTERIOR WALLS)

Scale: 1" = 1'



1 / S-1 Slab / Fnd Plan

Scale: 1/8"=1'

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Checked By: GWF
Date: 4/12/23
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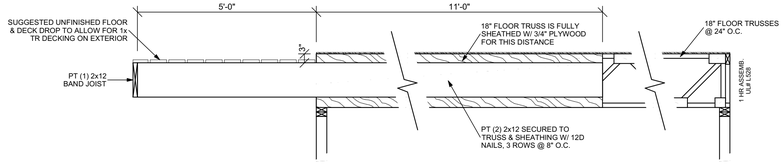
AS NOTED

Sheet No:

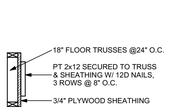
S-1

Apartments V1

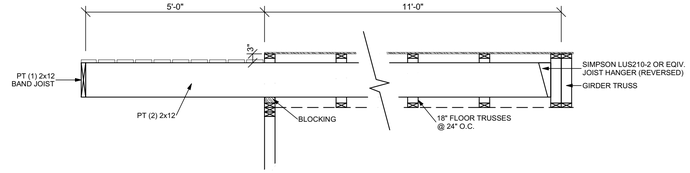


2 S-2 Cantilever Detail #1

Scale: 1/2"=1'-0"



NOTE: CONTRACTOR WILL HAVE TO COORDINATE W/ FRAMERS NOT TO SHEATH IN THIS LOCATION UNTIL AFTER CONSTRUCTION OF CANTILEVERS.

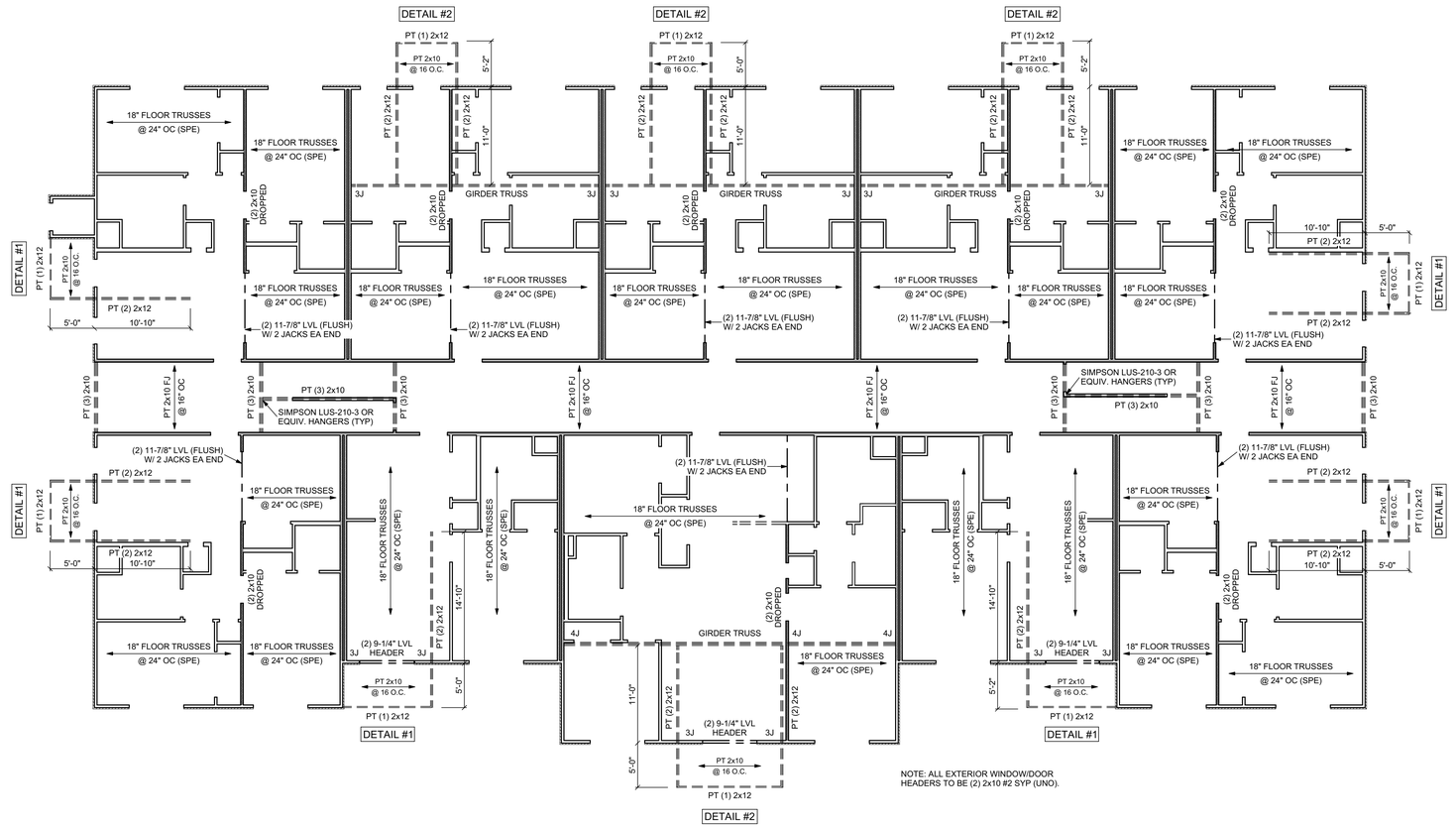


3 S-2 Cantilever Detail #2

Scale: 1/2"=1'-0"

Structural Notes:

1) ALL FLOOR TRUSSES TO BE 18" HT, ENGINEER PER MANUFACTURER.
2) ALL LOAD BEARING WINDOW/DOOR HEADERS TO BE (2) 2x10 #2 SYP UNO.
3) 2nd & 3rd FLOOR WALLS TO BE FRAMED WITH 2x4 #2 SPF STUDS @ 16" OC.
4) 2nd & 3rd FLOOR CORRIDOR FRAMING TO BE 2x10 #2 TREATED SYP FJ @ 16" OC. TRIPLE FRAME AROUND STAIR OPENINGS.
5) LVL BEAMS SUPPLIED TO BE OF 1.9 E-VALUE OR GREATER.
6) ALL DIMENSIONAL BEAMS AND FLOOR JOISTS TO BE #2 SYP UNO.
7) ALL JACK STUD SUPPORTS TO BE DUPLICATED ON ALL FRAMING LEVELS BELOW UNTIL LOAD IS TRANSFERRED TO THE FOUNDATION SLAB.
8) BOLT DECK BAND AND CORRIDOR BAND USING 5/8" HD GALV. THRU BOLTS @ 24" OC.
9) ATTACH DECK AND CORRIDOR FJ'S USING SIMPSON LUS-210 JOIST HANGERS OR EQUIV.
10) PROVIDE 7/16" OSB STRUCTURAL SHEATHING ON ALL EXTERIOR WALLS.



1 S-2 2nd & 3rd Floor Structural Plan

Scale: 1/8"=1'

Apartments V1

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23249 BROOKE T. CARPENTER

Drawn By: JTB
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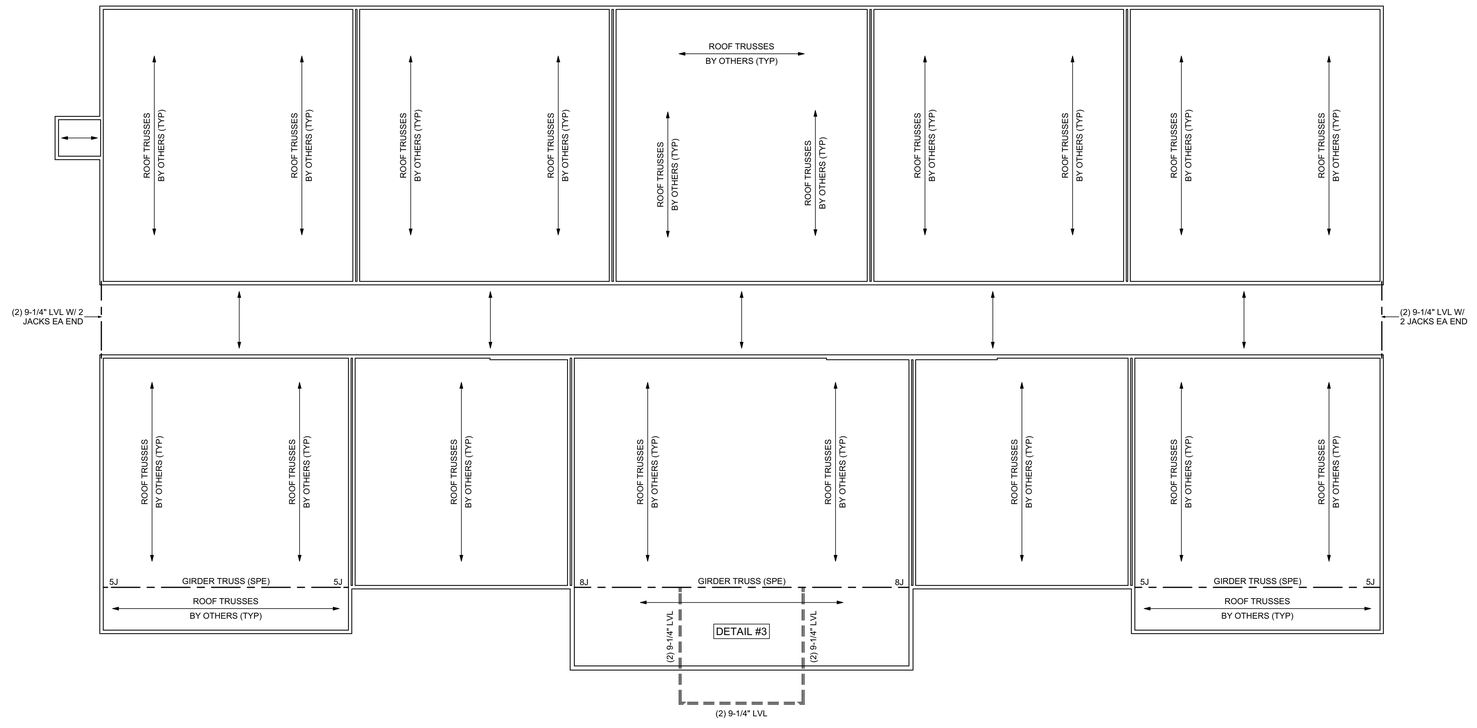
1 Clubhouse

Scale:
AS NOTED

Sheet No:
S-2

Structural Notes:

1) LVL BEAMS SUPPLIED TO BE OF 1.9 E-VALUE OR GREATER.
2) ALL JACK STUD SUPPORTS TO BE DUPLICATED ON ALL FRAMING LEVELS BELOW UNTIL LOAD IS TRANSFERRED TO THE FOUNDATION SLAB.
3) ROOF TRUSSES TO BE SECURED AT EXTERIOR WALLS BY SIMPSON H1 OR EQUIVALENT HURRICANE TIES AT EACH TRUSS TO BEARING WALL CONNECTION.



1 S-3 Ceiling Structural Plan

Scale: 1/8"=1'

Apartments V1

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6 Apt Buildings
1 Clubhouse

Scale:
1/8"=1'

Sheet No:
S-3

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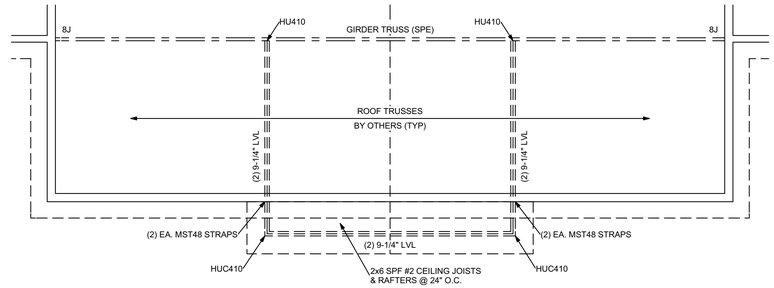
NC Lic. # 23249
Engineers seal is for structural only.

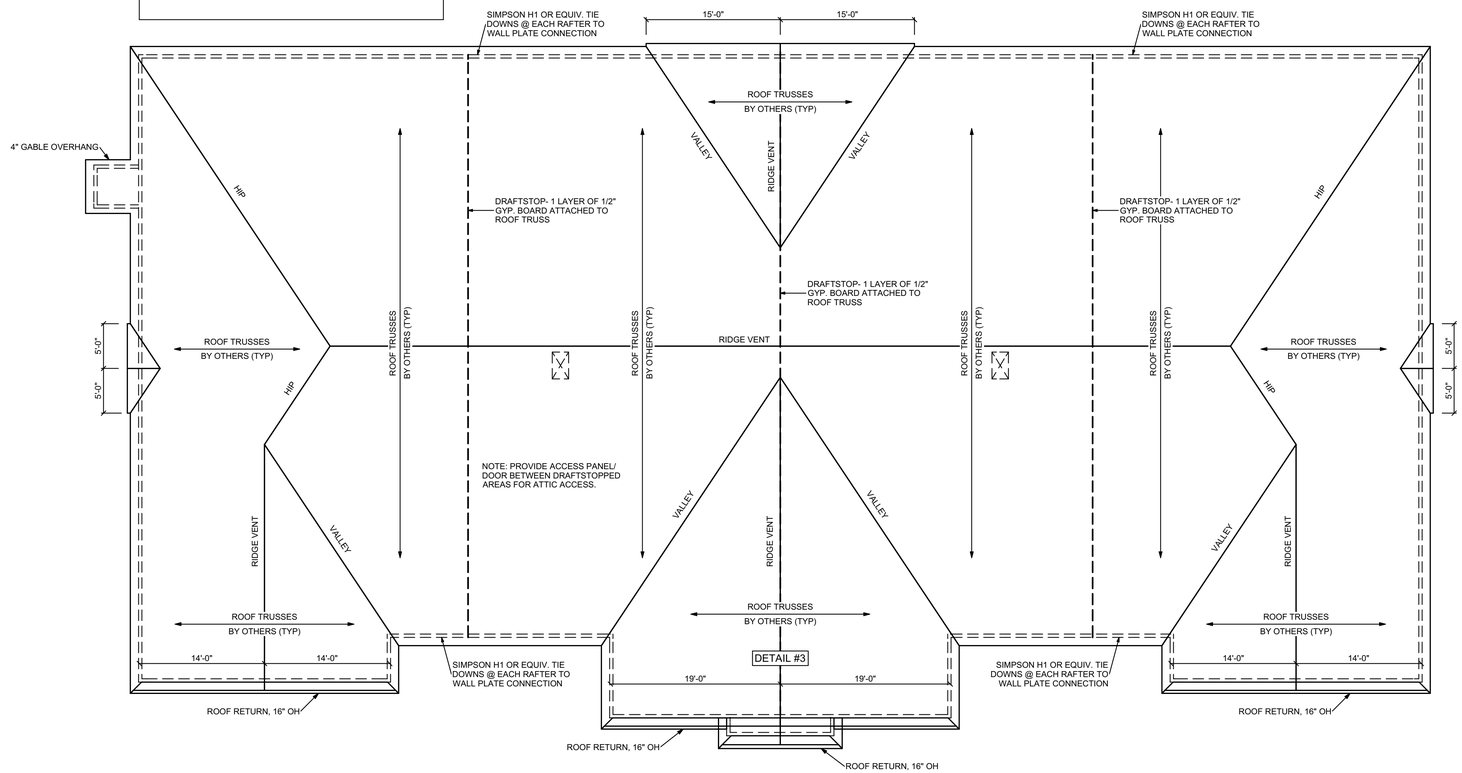


2 / S-4 Girder Truss Detail #3

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

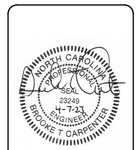
Structural Roof Notes:

1) ALL OVERHANGS TO BE 12" UNO.
2) PROVIDE DRAFTSTOP IN ATTIC SO THAT ATTIC IS DIVIDED INTO AREAS NO GREATER THAN 3000 SF. DRAFTSTOP TO BE 1 LAYER OF 1/2" GYP. BOARD ATTACHED TO ROOF TRUSS.
3) ALL TRUSSES TO BE DESIGNED AND ENGINEERED BY THE MANUFACTURER.
4) SECURE GIRDER TRUSSES TO WALL W/ CONNECTORS SPECIFIED BY ROOF TRUSS DESIGNER.
5) USE SIMPSON H1 OR EQUIV. TIE DOWNS @ EACH RAFTER TO WALL PLATE CONNECTION.
6) PROVIDE ACCESS PANEL/DOOR BETWEEN DRAFTSTOPPED AREAS FOR ATTIC ACCESS.
7) DESIGN LOAD: 120 ULTIMATE DESIGN WIND SPEED.



1 / S-4 Roof Framing Plan

Scale: 1/8"=1'



Drawn By: JTB
Checked By: GWF
Date: 4/12/23
File: D&G Legacy Haw River V1

Revisions:

Date	Remarks

Project:
Legacy @ Haw River
Version 1
Burlington, NC

DeBoer & Gabriel
Builders, Inc

6 Apt Buildings
1 Clubhouse

Scale:
AS NOTED

Sheet No:
S-4

Apartments V1