INDEX OF DRAWINGS

baxter fourplexes

PHASE II
BUILDING F

Owner / Contractor:
Cook Inlet Housing Authority
3510 Spenard Rd., Suite 100
Anchorage, AK 99503

Structural Engineer:
LDR Engineering Services, Inc.
L.D. "Randy" Randolph
(907) 227-0028

Designer:
FRamE
Clark Yerrington
(907) 351-4805

APPLICABLE CODES
2018 IRC and 2018 IBC with Municipal amendments.

GENERAL NOTES

1. Notify Designer of any errors or discrepancies in the documents.
2. Keep the job site clean and safe. Install temporary railings at level changes.
3. Provide a portable toilet for use during construction.
4. Consult Subcontractors to identify additional work items not specifically described herein.
5. At walls greater than 10'-0" height, provide fire blocking at 10'-0" maximum spacing.

COOK INLET HOUSING AUTHORITY
BAXTER MULTIPLEXES, PHASE II
Tract B, Valetskaya Addition No. 1
NHN Erna Court
ANCHORAGE, ALASKA

DR. BY: CLARK
DATE: 23 JAN 26

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DOOR SCHEDULE
3-BR END UNIT [F1]

	width	height	type	material	finish	hardware	glazing	notes
100	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1
101	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1
102	3'-0"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1, 5
103	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	safety	1, 6
104	2'-8"	6'-8"	one pnl.	wood	clear	latchset	none	---
105	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
106	2'-8"	6'-8"	one pnl.	wood	clear	trolley trk. / pull	none	---
107	4'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
108	[NOT USED]							
109	[NOT USED]							
201	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
202	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
203	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
204	2'-4"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
205	2'-4"	6'-8"	one pnl.	wood	clear	latchset	none	---
206	2'-4"	6'-8"	one pnl.	wood	clear	latchset	none	---
207	5'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	---
208	5'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	---
209	[NOT USED]							

2-BR UNIT [F2]

110	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1
111	3'-0"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1, 5
112	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	safety	1, 6
114	2'-4"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
115	2'-8"	6'-8"	one pnl.	wood	clear	trolley trk. / pull	none	---
116	2'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
117	[NOT USED]							
210	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
211	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
212	2'-4"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
214	2'-4"	6'-8"	one pnl.	wood	clear	latchset	none	---
215	3'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
216	1'-6"	6'-8"	one pnl.	wood	clear	latchset	none	---
217	5'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	---
218	[NOT USED]							
219	[NOT USED]							

3-BR UNIT [F3]

118	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1
119	3'-0"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1, 5
120	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	safety	1, 6
121	2'-4"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
122	2'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
123	3'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
124	2'-8"	6'-8"	one pnl.	wood	clear	trolley trk. / pull	none	---
125	6'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	---
126	[NOT USED]							
127	[NOT USED]							
220	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
221	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
222	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
223	2'-4"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
224	4'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
225	6'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	
226	6'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	

DOOR SCHEDULE
2-BR ACCESSIBLE UNIT [F4]

128	2'-8"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1
129	3'-0"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1, 5
130	3'-0"	6'-8"	exterior	fiberglass	paint	lockset / dbolt	none	1
131	3'-0"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
132	2'-8"	6'-8"	one pnl.	wood	clear	privacy lock	none	---
133	3'-0"	6'-8"	one pnl.	wood	clear	privacy lock	none	2
134	4'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
135	2'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
136	5'-0"	6'-8"	one pnl.	wood	clear	latchset	none	---
137	5'-0"	6'-8"	one pnl.	wood	clear	track and pulls	none	---
138	3'-0"	6'-8"	one pnl.	wood	clear	trolley trk. / pull	none	---
139	[NOT USED]							
140	[NOT USED]							

WINDOW SCHEDULE
BUILDING F

	width	height	head ht.	operation	frame	glazing	notes
A	3'-0"	5'-0"	normal	single-hung	vinyl	clear safety	1
B	3'-0"	5'-0"	normal	single-hung	vinyl	clear	1
C	5'-0"	4'-0"	normal	fixed	vinyl	clear	1
D	3'-0"	4'-0"	normal	single-hung	vinyl	clear	1
E	2'-0"	4'-0"	normal	fixed	vinyl	clear safety	1, 3
F	3'-0"	5'-0"	normal	fixed	vinyl	clear safety	1
G	6'-0"	4'-0"	normal	horiz slider	vinyl	clear	1, 2
H	4'-0"	2'-0"	normal	fixed	vinyl	clear safety	1, 3
J	6'-0"	4'-0"	normal	horiz slider	vinyl	clear	1, 2
K	5'-0"	4'-0"	normal	fixed	vinyl	clear	1
L	3'-0"	4'-0"	normal	single-hung	vinyl	clear	1
M	3'-0"	4'-0"	normal	single-hung	vinyl	clear	1
N	3'-0"	4'-0"	normal	single-hung	vinyl	clear	1
P	3'-0"	5'-0"	normal	single-hung	vinyl	clear safety	1
R	3'-0"	5'-0"	normal	single-hung	vinyl	clear	1
S	3'-0"	5'-0"	normal	single-hung	vinyl	clear	1
T	3'-0"	5'-0"	normal	single-hung	vinyl	clear safety	1
U	4'-0"	4'-0"	normal	horiz slider	vinyl	clear	1, 2
V	5'-0"	4'-0"	normal	fixed	vinyl	clear	1
W	5'-0"	4'-0"	normal	fixed	vinyl	clear	1
X	4'-0"	4'-0"	normal	horiz slider	vinyl	clear	1, 2
Y	5'-0"	4'-0"	normal	horiz. slider	vinyl	clear	1, 2
Z	5'-0"	2'-0"	normal	fixed	vinyl	clear	1
AA	5'-0"	4'-0"	normal	horiz slider	vinyl	clear	1, 2
BB	3'-0"	4'-0"	normal	fixed	vinyl	clear	1
CC	5'-0"	4'-0"	normal	fixed	vinyl	clear	1
DD	5'-0"	4'-0"	normal	horiz. slider	vinyl	clear	1, 2
EE	3'-0"	4'-0"	normal	single-hung	vinyl	clear	1, 3
FF	5'-0"	4'-0"	normal	horiz. slider	vinyl	clear	1, 2
GG	5'-0"	4'-0"	normal	fixed	vinyl	clear	1
HH	6'-0"	4'-0"	normal	horiz. slider	vinyl	clear	1, 2
JJ	6'-0"	4'-0"	normal	horiz. slider	vinyl	clear	1, 2

ROOM FINISH SCHEDULE NOTES
1. Walls and ceilings shall be painted gypsum board, typical.
2. Substitute cementitious tile backer board for gypsum board at kitchen / laundry backsplash walls and tub / showers where ceramic wall tile occurs [if applicable].

WINDOW SCHEDULE GENERAL NOTES
1. Sizes in Window Schedule are rough openings. Confirm frame size required with manufacturer, to allow for required insulation and shim space.
2. "Normal" head height is aligned with adjacent tops of doors, + / - 6'-10" rough opening height (confirm).

WINDOW SCHEDULE NOTES
1. Vinyl frame windows shall be high quality residential grade with insulated double glazing, low E and argon. Frame color white. Provide screens at operating windows.
2. Meet all applicable requirements for sleeping room egress, including min. 5.7 square feet net clear opening area; 24 inch min. net clear height; 20 inch min. net clear width (R310.2.1); max. 44 inch sill height (R310.2.2) and operating hardware complying with R310.1.1.
3. Translucent or patterned glass for privacy.

DOOR SCHEDULE NOTES
1. Weatherstripping and threshold.
2. Polished nickel hardware finish at bathroom side for bathroom use.
3. Door bottom gasket; brush seal at head and jambs; furnished will all necessary hardware and accessories including track, spring or other counterbalance mechanism, opener, sensors, wall button, remotes, key lock. Thermacore, model 495 with flush wood grain panel finish, manufactured by Overhead Door, color as selected -- or approved substitution.
4. 20-minute rated door / frame with weatherstripping, smoke / vapor seal, threshold and closer.
5. Entry door in wood frame with integral full-height safety glass side lite as shown on Floor Plans. Confirm rough opening required. Flush panel door and plain rectangular side lite.
6. Full safety glass lite.

FRAME RESIDENTIAL DESIGN
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AREA SUMMARY

UNIT F1 -- 3-BR 2-BA		
FIRST FLOOR -- LIV. AREA	564	SQ. FT.
SECOND FLR. -- LIV. AREA	666	
SUBTOTAL, LIVING AREA	1,230	
FLEX	31	
UNIT TOTAL	1,261	
UNIT F2 -- 2-BR 1.5-BA		
FIRST FLOOR -- LIV. AREA	444	SQ. FT.
SECOND FLR. -- LIV. AREA	487	
SUBTOTAL, LIVING AREA	931	
FLEX	46	
UNIT TOTAL	977	
UNIT F3 -- 3-BR 2-BA		
FIRST FLOOR -- LIV. AREA	595	SQ. FT.
SECOND FLR. -- LIV. AREA	637	
SUBTOTAL, LIVING AREA	1,232	
FLEX	49	
UNIT TOTAL	1,281	
UNIT F4 -- 2-BR 1-BA		
FIRST FLOOR -- LIV. AREA	934	SQ. FT.
FLEX	42	
UNIT TOTAL	976	
BUILDING GRAND TOTAL	4,495	SQ. FT.

STAIR COUNTED AT FIRST FLOOR ONLY, TYP.
PORCHES EXCLUDED, TYP.

COOK INLET HOUSING AUTHORITY
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EXCAVATION AND FILL
Slope finish grade away from buildings 6 inches minimum for a distance of 10'-0".
Place any large rocks unearthed during excavation near the driveway.

SITE UTILITIES
Connect water service line to water main.
Connect drain lines to sanitary sewer main.
Provide natural gas service entrance and meter.
Provide 200 amp electrical service entrance and meter.
Provide service entrance for Cable TV / Internet.

SITE WORK AND LANDSCAPING
Preserve existing natural vegetation to the extent possible.
Provide house numbers and unit numbers as shown on Elevations.

HEATING
Design of the heating and ventilation systems shall be by Contractor.
Permits shall be acquired and paid for by the Contractor.
Inspections shall be scheduled by the Contractor and / or Subcontractor.
Provide natural gas fired furnace for each living unit, with minimum output of 50 BTUh per square foot of area served.
Locate mechanical equipment in Shared Mechanical Room.

ELECTRICAL
Design of the electrical systems shall be by Contractor.
Permits shall be acquired and paid for by the Contractor.
Inspections shall be scheduled by the Contractor and / or Subcontractor.
Rough in all boxes and conduct a walk-through review of the locations of all power outlets, switches, light fixtures and any other electrical items with Owner prior to wiring.
Provide concealed Cable TV / Internet wiring and wall boxes from service entrance to locations indicated on Floor Plan.
Switched outlets shall be half switched.
Confirm power requirements for all Owner-furnished items.
Provide smoke detectors in each bedroom and on each floor level at high point of ceiling. Provide carbon monoxide detector on each level. Detectors shall be hardwired in a series, so if one sounds they all do, with battery backup.
Provide hardwired doorbell at main entry doors; locate chimes in hallway close to bottom of stairs.

SIDING
Install all siding over air infiltration retarder.
Provide a sample of each type of siding to be used prior to installation or ordering of materials.
Provide siding types as shown on Elevations.
Provide all necessary trim, flashing, terminations and accessories, whether shown / noted or not.

EXTERIOR TRIM
Provide 2x8 cedar fascia, or fiber cement plank same dimension.
Provide window trim, corner trim and other trim as shown / noted.

INSULATION
Provide foundation insulation as shown / noted in Sections and details.
Provide minimum R-20 insulation at foundation walls.
Provide minimum R-21 insulation, batt or blown-in cellulose at exterior walls.
Provide minimum R-38 insulation, foam in place at rim joist.
Provide minimum R-49 insulation, batt or blown-in cellulose at roofs, with minimum 2" vent space above.
Provide mimimum R-38 insulation, foam in place at floor cantilevers.
Provide bird screen and insect screen at vent openings.
Vent area shall be equivalent to 1 / 150th of roof area, 50% at each side at end walls.
Provide 6-mil vapor retarder at warm side of all wall and roof insulation.

ATTIC VENTILATION
See Insulation section.

ROOFING
Provide asphalt composition shingles over ice and water shield (self-adhering modified bitumen membrane).
Provide continuous embedded edge metal flashing at roof edges.
Provide gutter and downspout / s according to best standard local practice.
Locate downspout outlets 5'-0" beyond exterior wall.

DRYWALL AND PAINT
Provide 1 / 2" gypsum board at walls.
Provide 5 / 8" gypsum board at ceilings.
Provide samples of wall texture and paint / stain color samples, prior to commencement of work or ordering of materials.
Provide exterior grade primer and paint at any siding types not supplied prefinished; and exterior soffit and fascia.
Provide exterior-grade stain at exposed truss tails and underside of sheathing.
Provide primer and two coats of water based latex enamel at interior.

INTERIOR TRIM
Typical base trim and door trim shall be rectangular MDF or 4" rubber base as selected. Prime and paint MDF with two coats semi-gloss, color to match adjacent walls.
Window trim shall be min. 3 / 4" rectangular clear hem-fir, poplar or MDF sill with gypsum board returns at jambs and head. Gypsum board returns four sides OK for high windows.

CRAWL SPACE VENTILATION
Crawl spaces shall be mechanically ventilated.
Provide constant velocity fan with 1 CFM per square foot of crawl space footprint.
Transfer grilles, floor openings located opposite of fan / discharge to pull air across crawl space.
Design and installation by Contractor.
Comply with IRC 408.3, 2.1.

BUILDING CODE SUMMARY
International Residential Code, 2018 edition

Use -- two family dwelling R101.2

Allowable number of stories -- 3
Actual number of stories -- 2

Exterior walls are not required to be fire rated, min. 5'-0" fire separation at property line. Table R302.1 (1)

Smoke alarms are required. R314

Address identifying signage is required. R319

Minimum stairway width, 36". R311.7.1
Stairway maximum riser height, 7-3 / 4"; minimum tread depth, 10". R311.7.5.1, R311.7.5.2
Handrails -- one side of stair runs only. Handrails are not required at stair flights with three or fewer risers. R311.7.8
Handrail height -- 34" above nosings, except at transitions as allowed by R311.7.8.1, exception 2.
Guard height -- minimum 34" above stair nosings. R312.1.2, exception 1
Guard height -- minimum 36" at deck railing and any other locations not along stair runs. R312.1.1

ZONING CODE SUMMARY
Title 21, Anchorage Municipal Code

Zoning district: R-3
Property area: 47,418 sq. ft.
Lot coverage, allowed: 40% [multifamily]; 60% [townhouse] Table 21.06-1
Lot coverage, proposed: 49.3%
Height, allowed: 35 ft. Table 21.06-1
Height, proposed: 23 ft.

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F4-109 LIVING/ DINING
F4-108 KITCHEN
F4-107 BEDROOM TWO
F4-106 FLEX/ LAUNDRY
F4-105 BATH
F4-104 HALL
F4-103 BEDROOM ONE
F4-102 ENTRY
F4-101 STORAGE
F3-106 LIVING/ DINING
F3-105 KITCHEN
F3-104 HALL
F3-103 BATH ONE
F3-102 ENTRY
F3-101 STORAGE
F2-106 LIVING/ DINING
F2-105 KITCHEN
F2-104 1/2 BATH
F2-103 HALL
F2-102 ENTRY
F2-101 STORAGE
F1-107 LIVING/ DINING
F1-106 KITCHEN
F1-105 BATH ONE
F1-104 LAUNDRY
F1-103 HALL
F1-102 ENTRY
F1-101 STORAGE
F-100 SHARED MECH.

BUILDING F
Overall
First Floor Plan

NORTH

COOK INLET HOUSING AUTHORITY
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F3-205 BEDROOM ONE
F3-204 BATH TWO
F3-201 HALL
F3-203 BEDROOM THREE
F3-202 BEDROOM TWO
F2-204 BEDROOM TWO
F2-203 BATH TWO
F2-201 HALL
F2-202 BEDROOM ONE
F1-206 WALK-IN CLOSET
F1-205 BEDROOM ONE
F1-204 BEDROOM TWO
F1-201 HALL
F1-203 BEDROOM THREE
F1-202 BATH TWO
f3
f2
f1
ROOF BELOW
WALL BELOW
DN.
CONFIRM
EQ.
ROOF OVERHANG, TYP.

BUILDING F
Overall
Second Floor Plan

NORTH

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F4-108 KITCHEN
F4-104 HALL
F4-106 FLEX/ LAUNDRY
F4-102 ENTRY
F3-106 LIVING/ DINING
F3-105 KITCHEN
F3-104 HALL
F3-103 BATH ONE
F3-102 ENTRY
F3-101 STORAGE
F2-106 LIVING/ DINING
F2-105 KITCHEN
F2-104 1/2 BATH
F2-103 HALL
F2-102 ENTRY
F2-101 STORAGE
F-100 SHARED MECH.
F1-107 LIVING/ DINING
F1-106 KITCHEN
F1-104 LAUNDRY
F1-105 BATH ONE
F1-104 HALL
F1-102 ENTRY
F1-101 STORAGE
COVERED CONCRETE STOOP
SINK
DISHWASHER
30-IN. RANGE
TALL CABT.
REFRIGERATOR
12"-D. FIXED SHELVES
8"-D. FIXED SHELVES
PANTRY/ FLEX UNDER-STAIR
STAIRS UP
BUILT-IN BENCH
COAT CLOSET
CLOSET
STACK W/D
COAT CLOS.
11'-5"
CONCRETE PORCH
FLOOR ABOVE
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BUILDING F
Enlarged Partial First Floor Plan

NORTH

COOK INLET HOUSING AUTHORITY
BAXTER MULTIPLEXES, PHASE II
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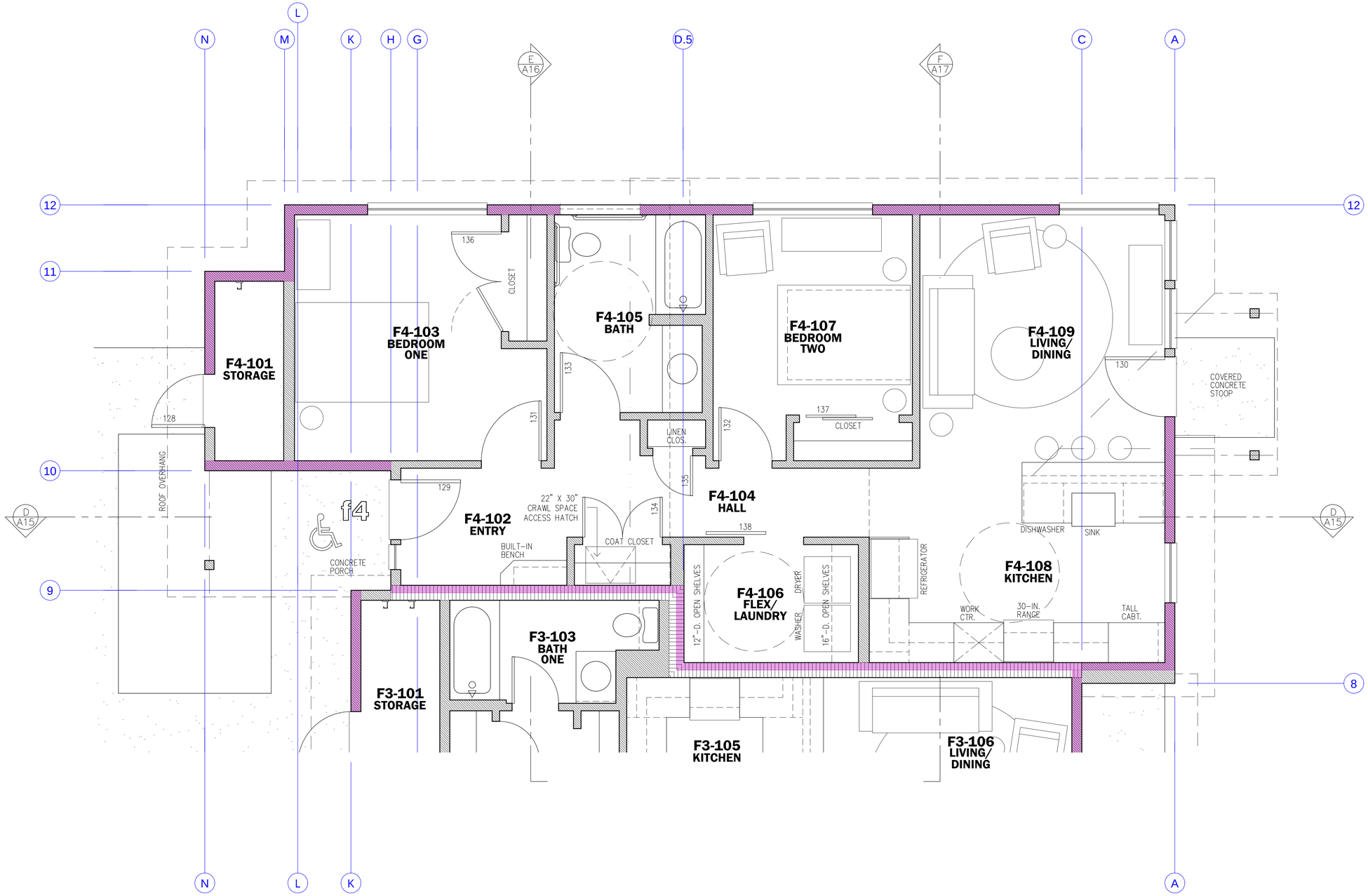

BUILDING F
Enlarged Partial
First Floor Plan

NORTH

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F3-205 BEDROOM ONE
F2-204 BEDROOM TWO
F1-205 BEDROOM ONE
F3-204 BATH TWO
F3-201 HALL
F2-203 BATH TWO
F2-201 HALL
F1-201 HALL
F1-204 BEDROOM TWO
F3-203 BEDROOM THREE
F3-202 BEDROOM TWO
F2-202 BEDROOM ONE
F1-202 BATH TWO
F1-203 BEDROOM THREE
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f2
f1
ROOF BELOW
CLOSET
LINEN CLOSET
HALL CLOS./ LINEN CLOSET
STAIRS DOWN
GUARDRAIL
24"-D. FIXED SHELVES
12"-D. FX SHELVES
STACK W/D
12"-/24"-D. FIXED SHELVES
WALL BELOW
ROOF OVERHANG, TYP.
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C A14
B A13
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F A41
E A16
BUILDING F
Enlarged
Second Floor Plan
NORTH
COOK INLET HOUSING AUTHORITY
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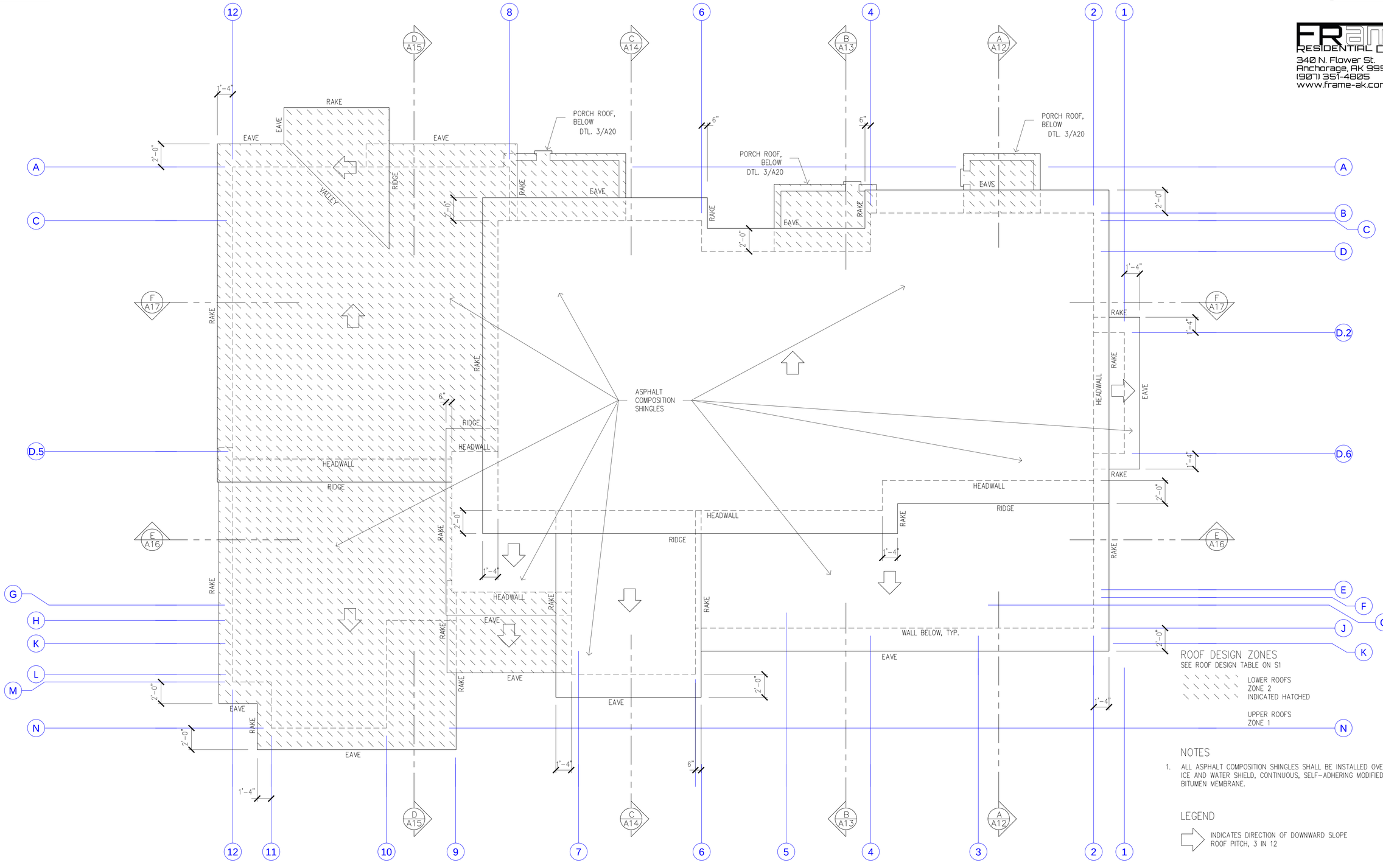

ROOF DESIGN ZONES

SEE ROOF DESIGN TABLE ON S1

LOWER ROOFS
ZONE 2
INDICATED HATCHED

UPPER ROOFS
ZONE 1

NOTES

1. ALL ASPHALT COMPOSITION SHINGLES SHALL BE INSTALLED OVER ICE AND WATER SHIELD, CONTINUOUS, SELF-ADHERING MODIFIED BITUMEN MEMBRANE.

LEGEND

INDICATES DIRECTION OF DOWNWARD SLOPE
ROOF PITCH, 3 IN 12

BUILDING F
Roof Plan

NORTH

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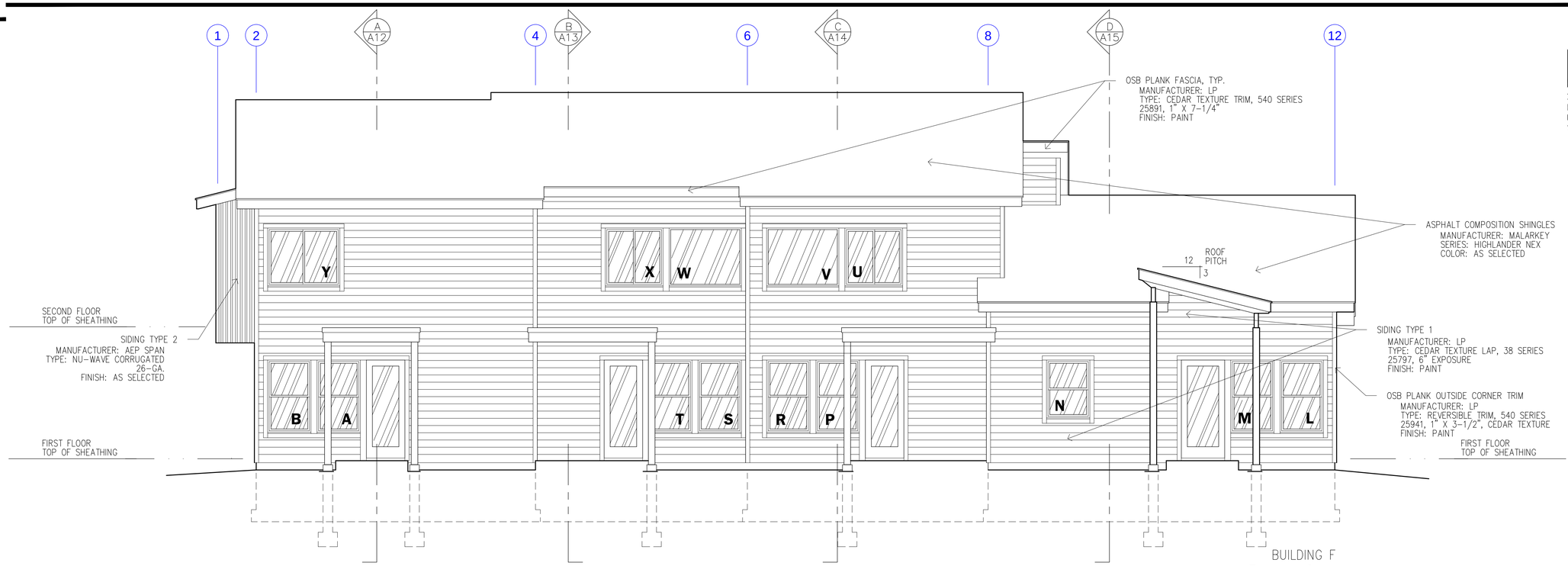
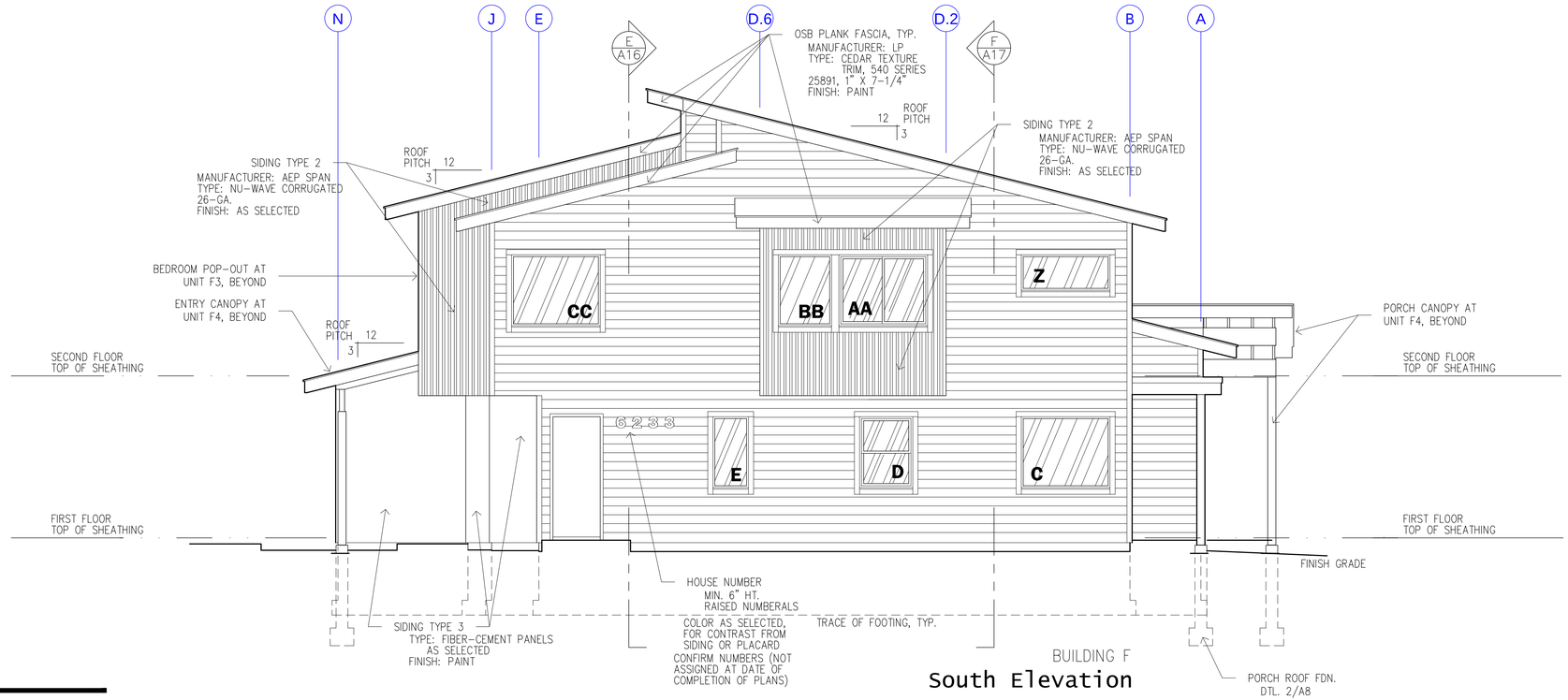


BUILDING F

East Elevation



BUILDING F

South Elevation

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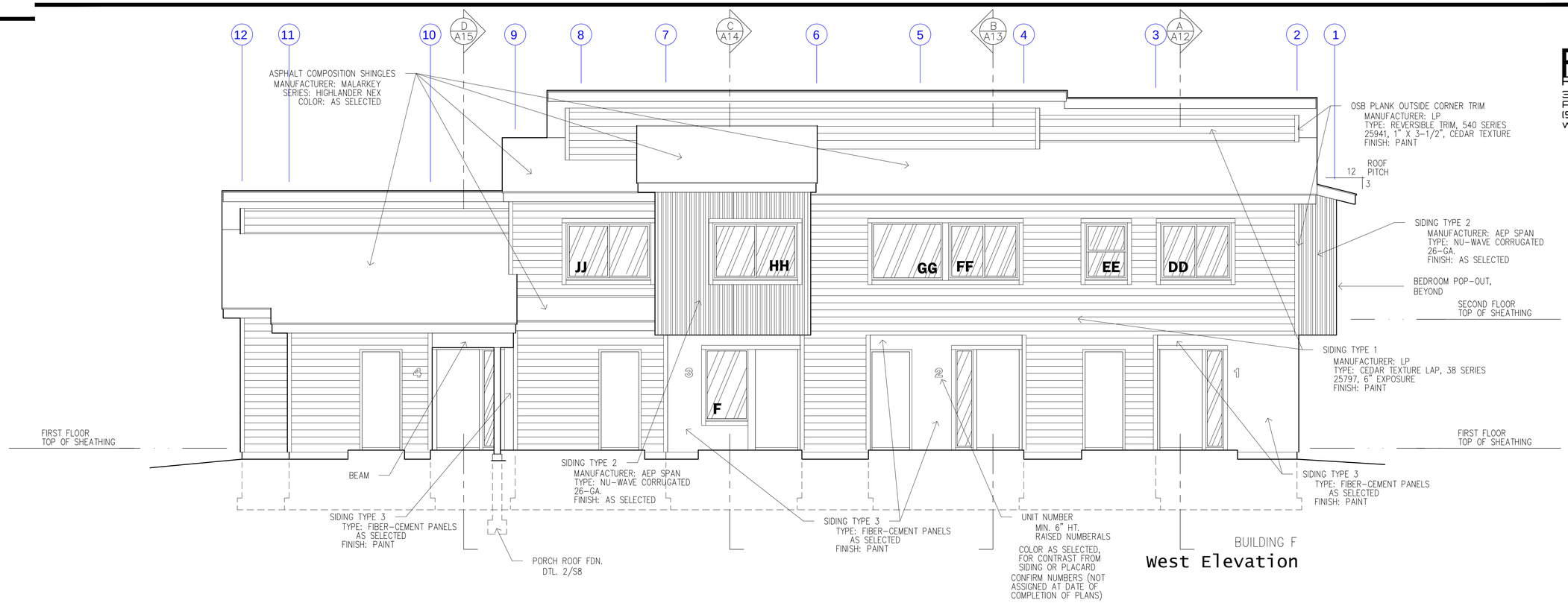
A10



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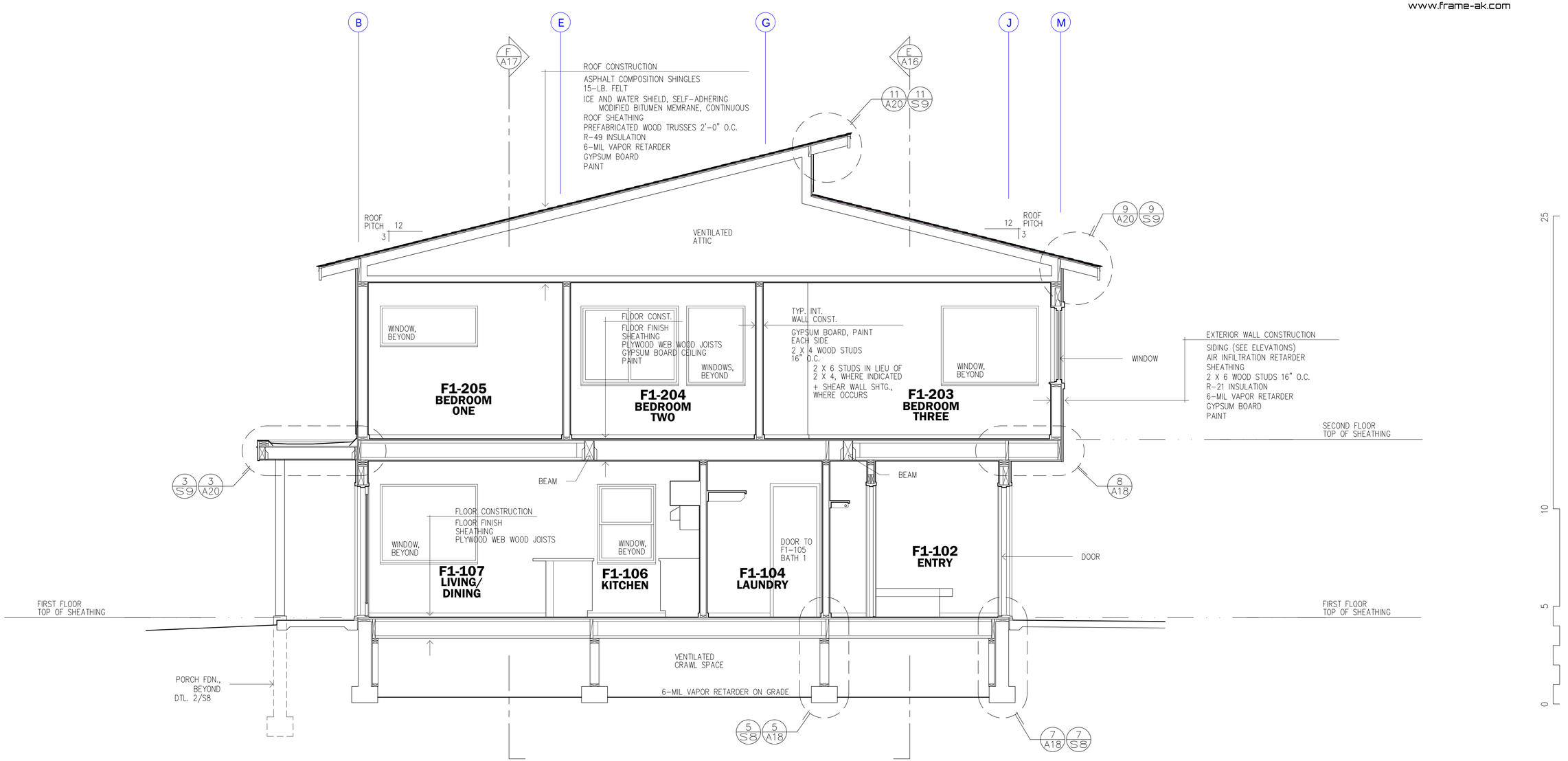

BUILDING F

Building Section A--A

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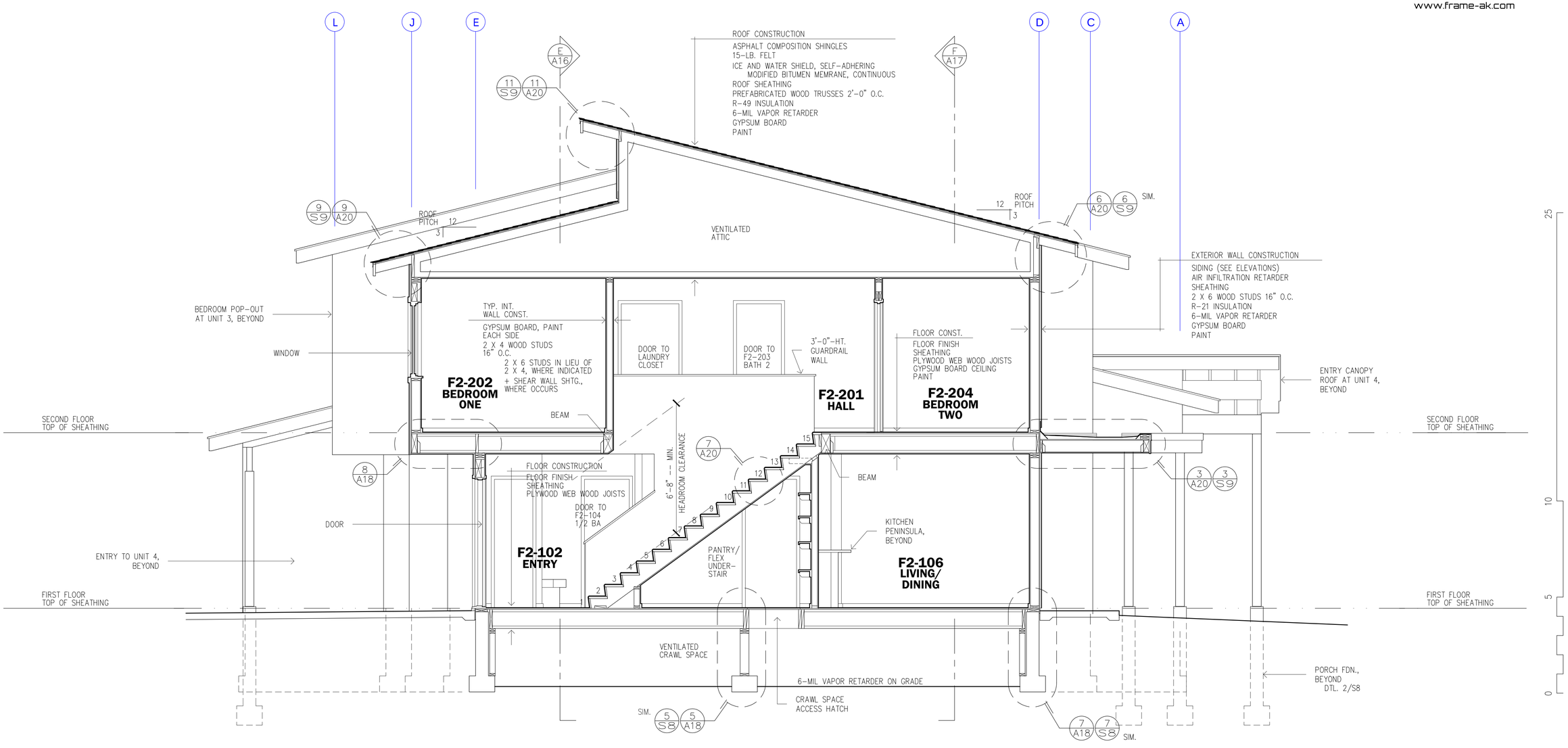

BUILDING F

Building Section B--B

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FRAME
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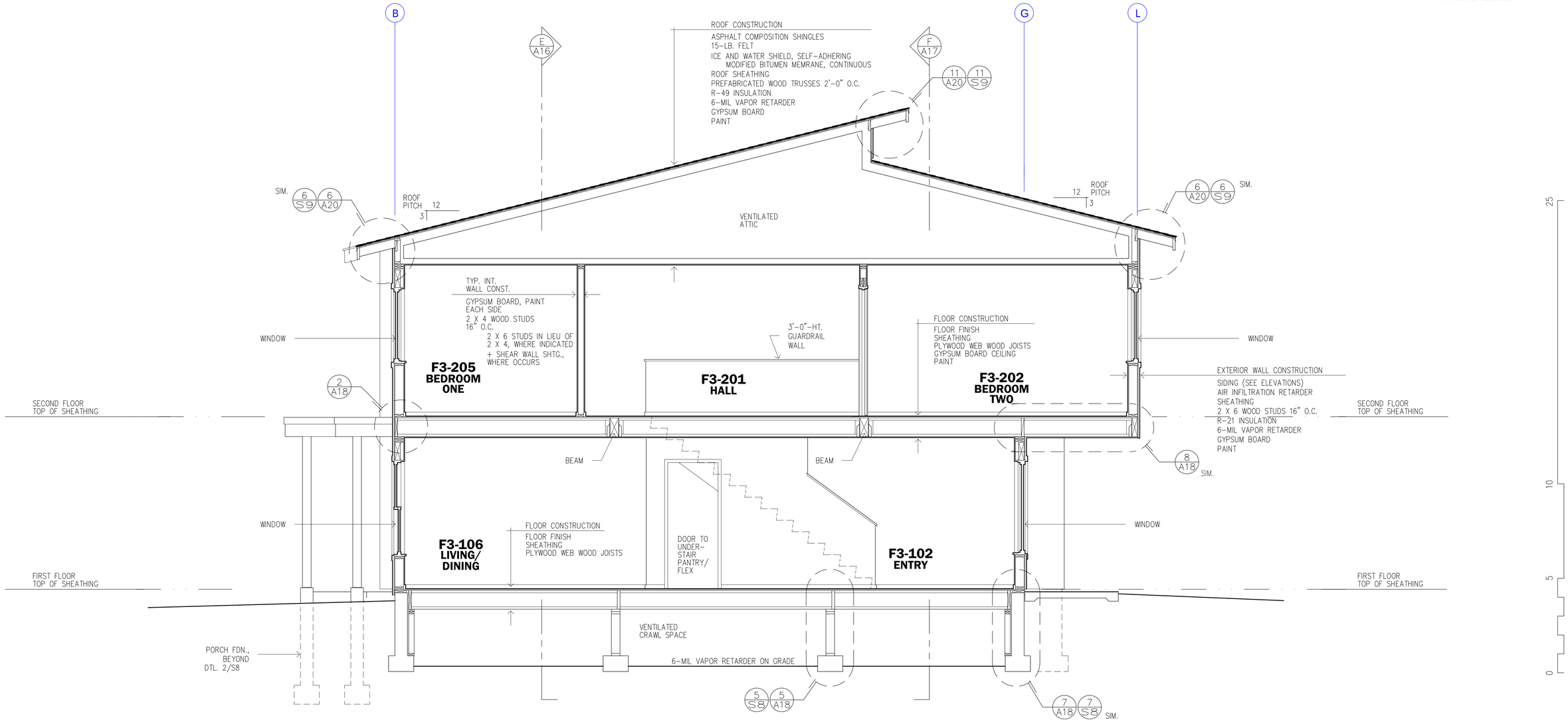

BUILDING F

Building Section C--C

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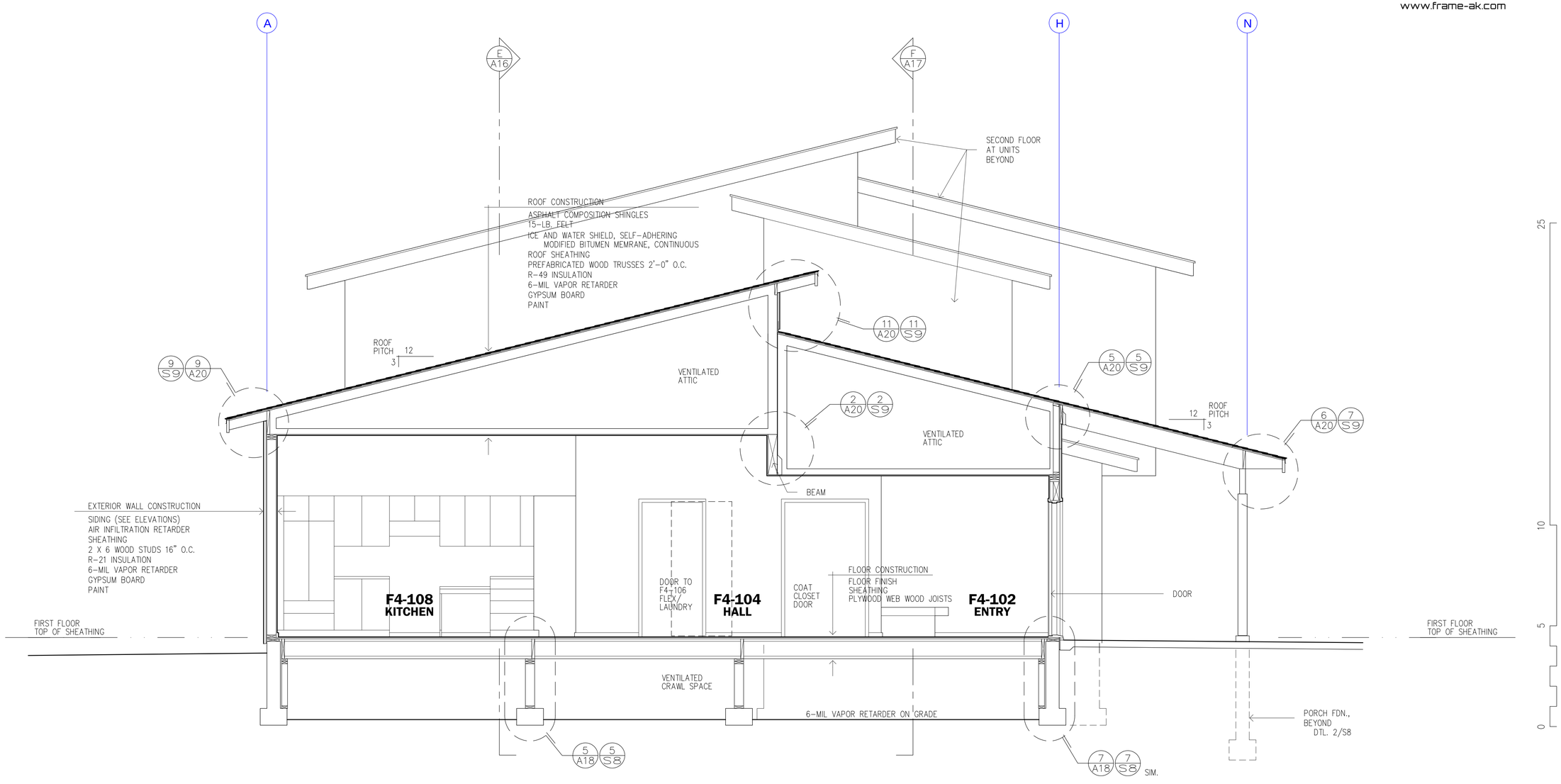

BUILDING F

Building Section D--D

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FRAME
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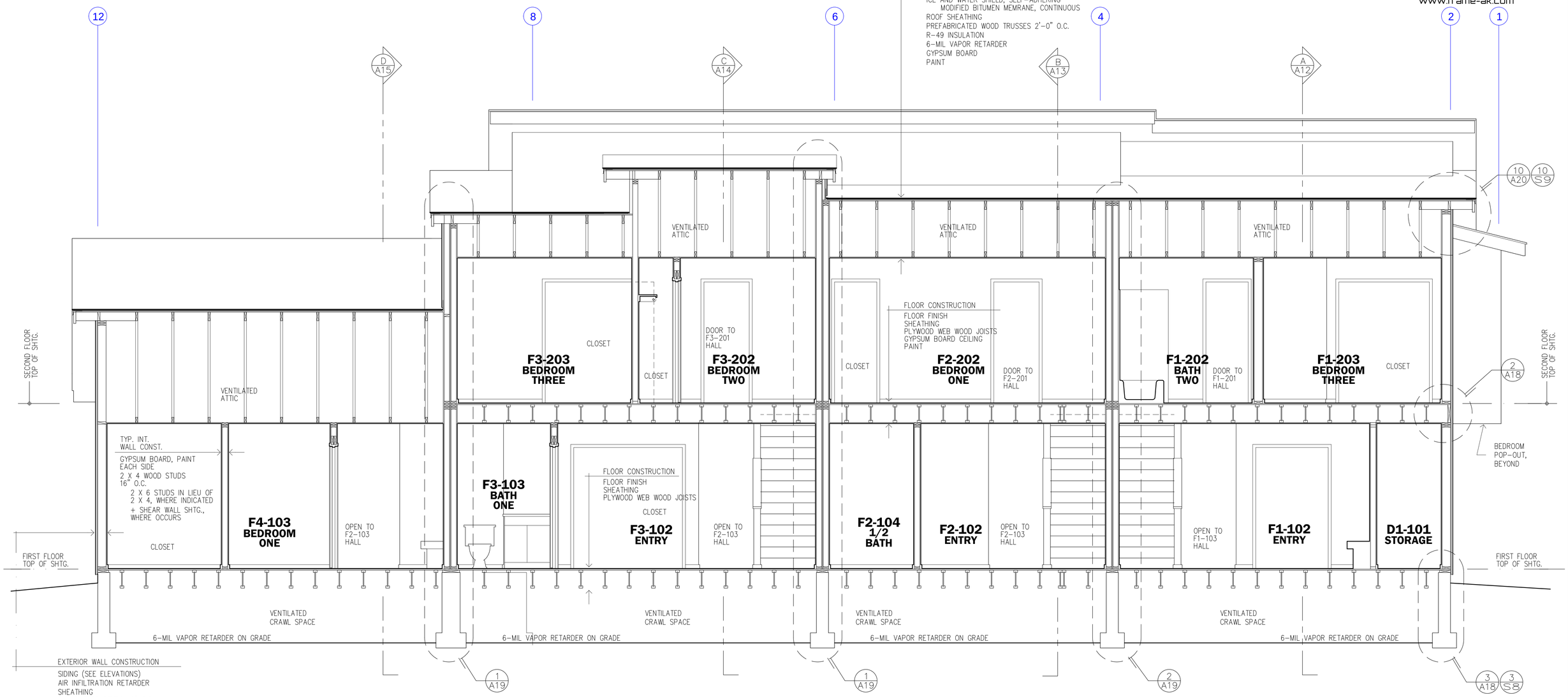

BUILDING F

Building Section E--E

0 5 10 25

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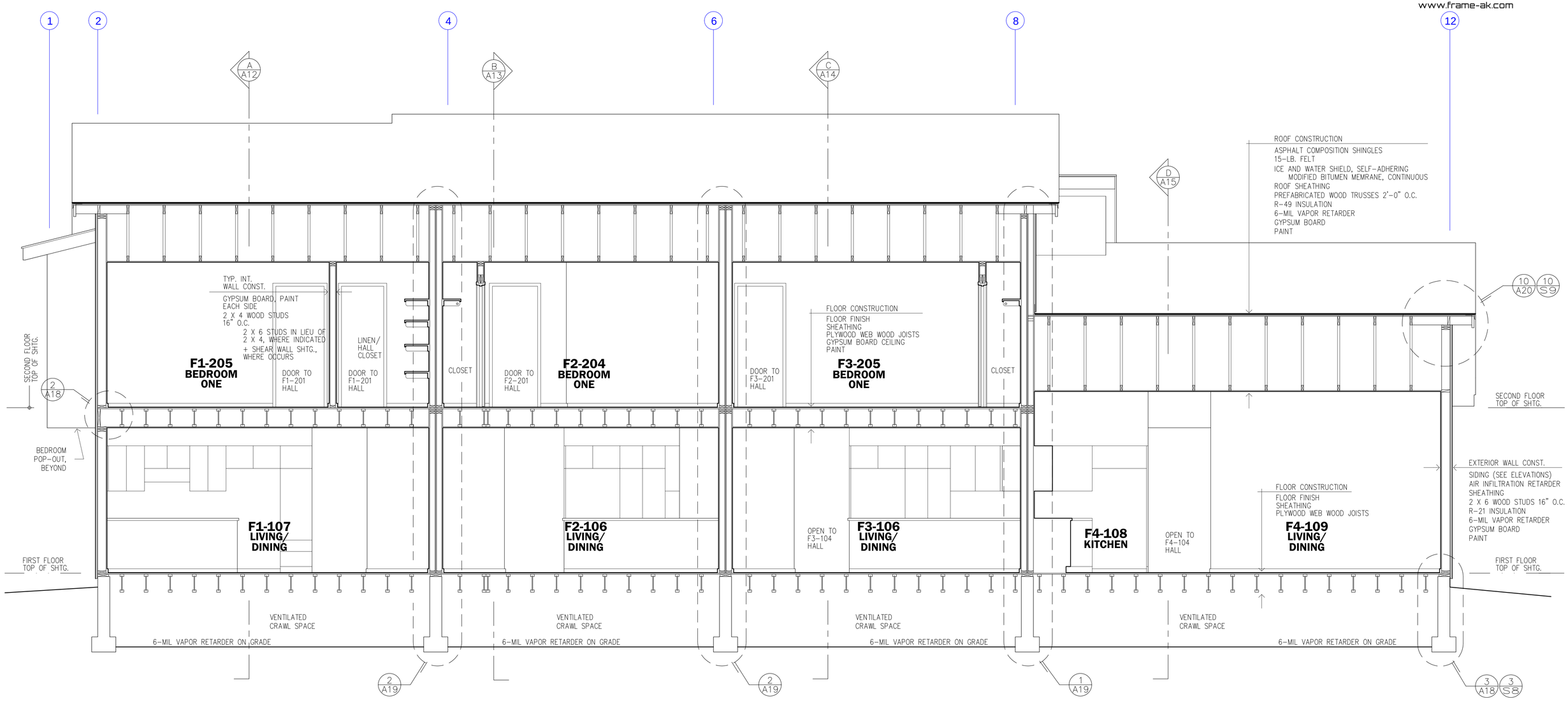

BUILDING F

Building Section F--F

0 5 10 25

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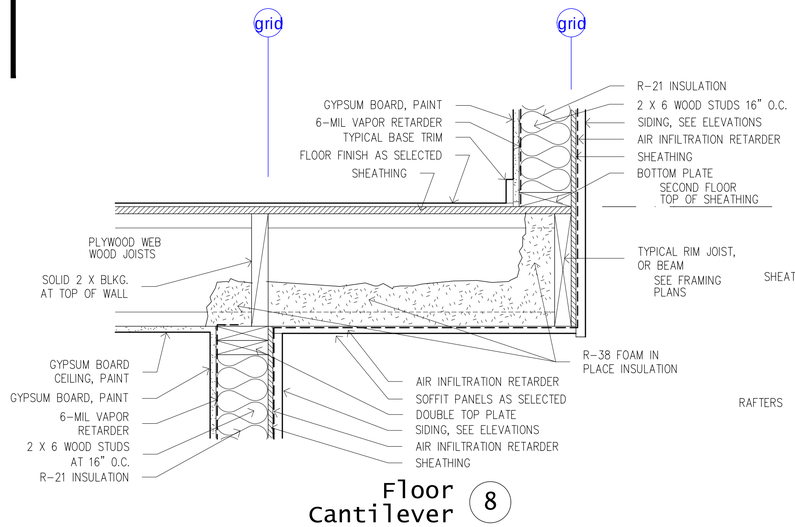
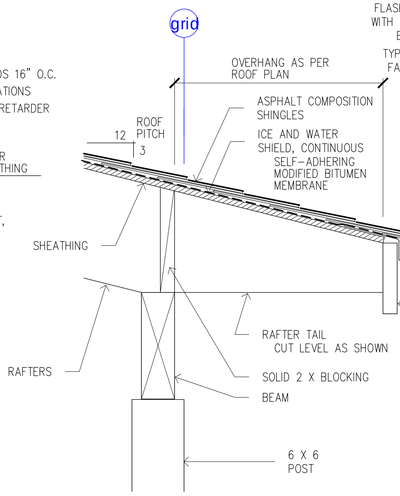
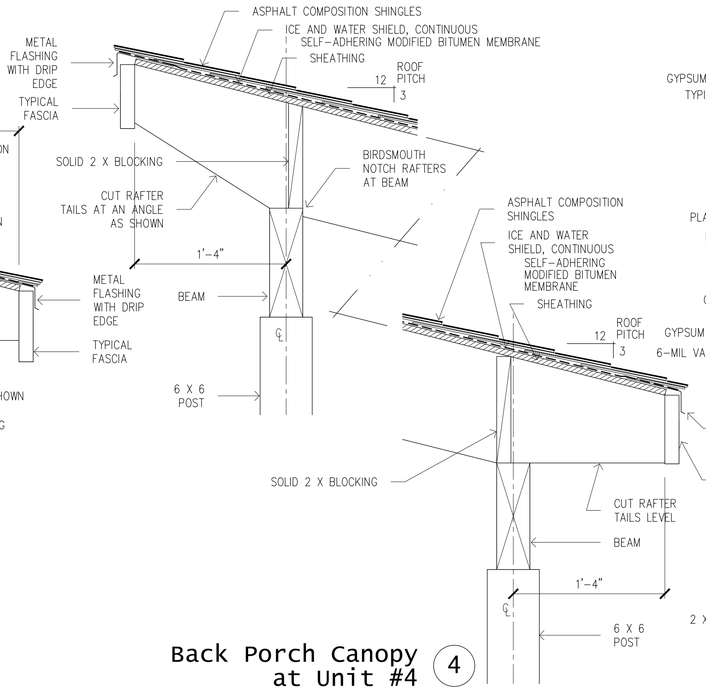
A17



Floor Cantilever 8

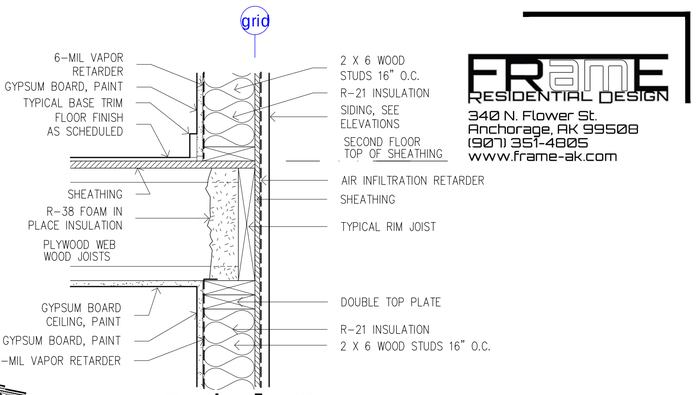


Eave at Unit #4 Entry Canopy 6

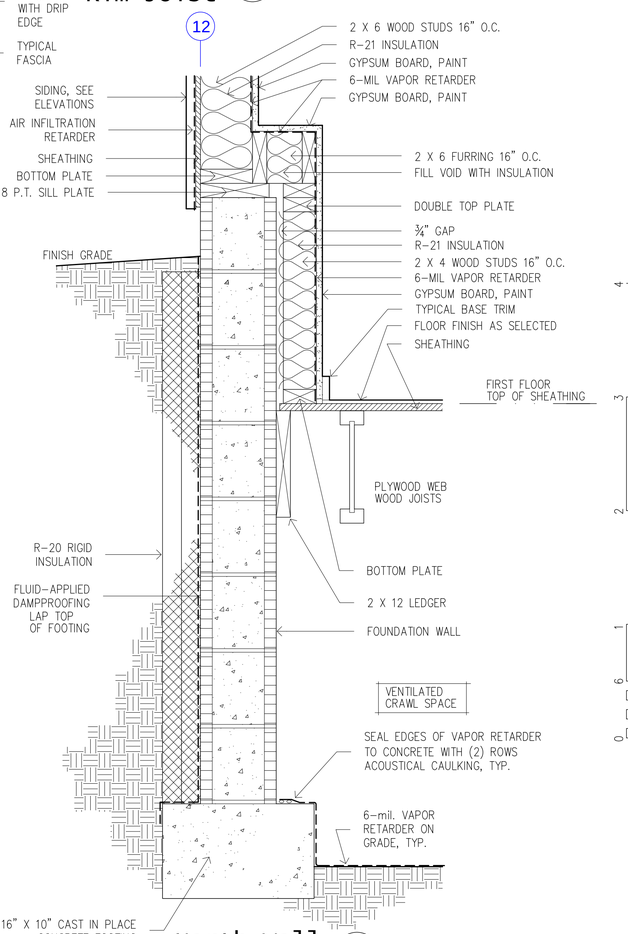


Back Porch Canopy at Unit #4 4

SEE DTL. 4/S9 FOR ADDITIONAL INFORMATION

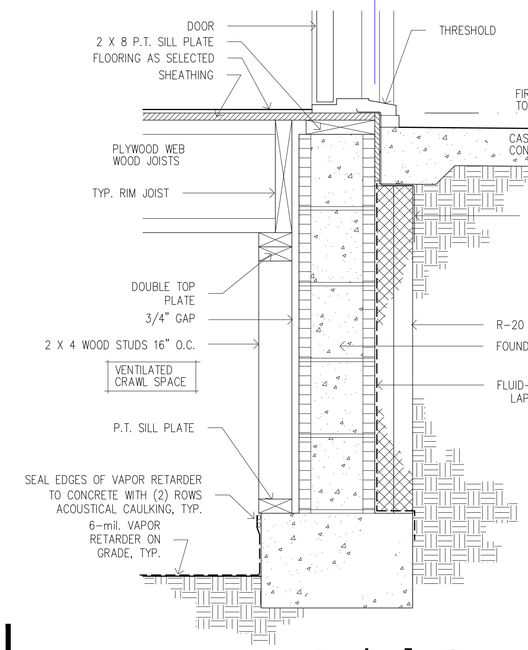


Typical Rim Joist 2



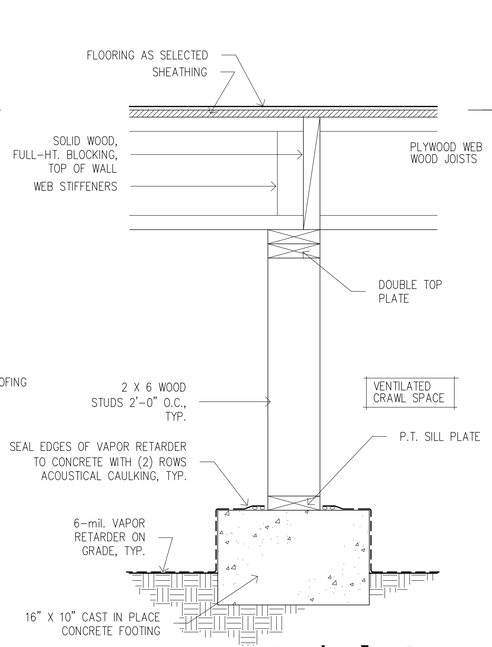
North Wall Foundation 1

SEE DTL. 1/S8 FOR ADDITIONAL INFORMATION



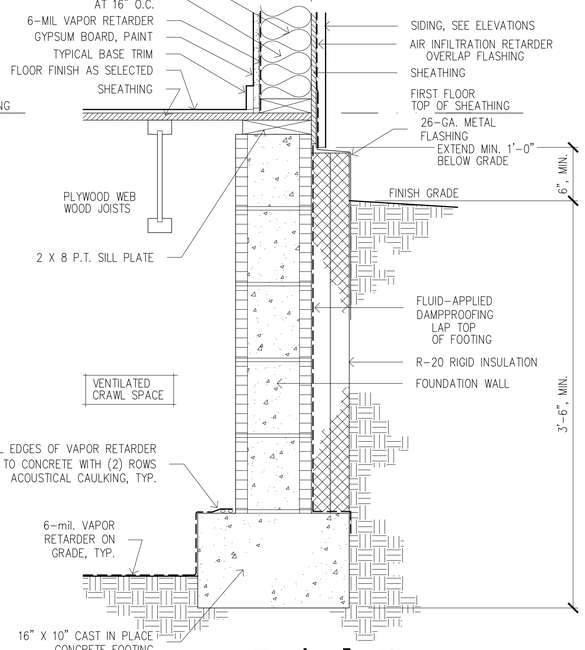
Typical Foundation Wall 7

SEE DTL. 7/S8 FOR ADDITIONAL INFORMATION



Typical Pony Wall 5

SEE DTL. 5/S8 FOR ADDITIONAL INFORMATION



Typical Foundation Wall 3

SEE DTL. 3/S8 FOR ADDITIONAL INFORMATION

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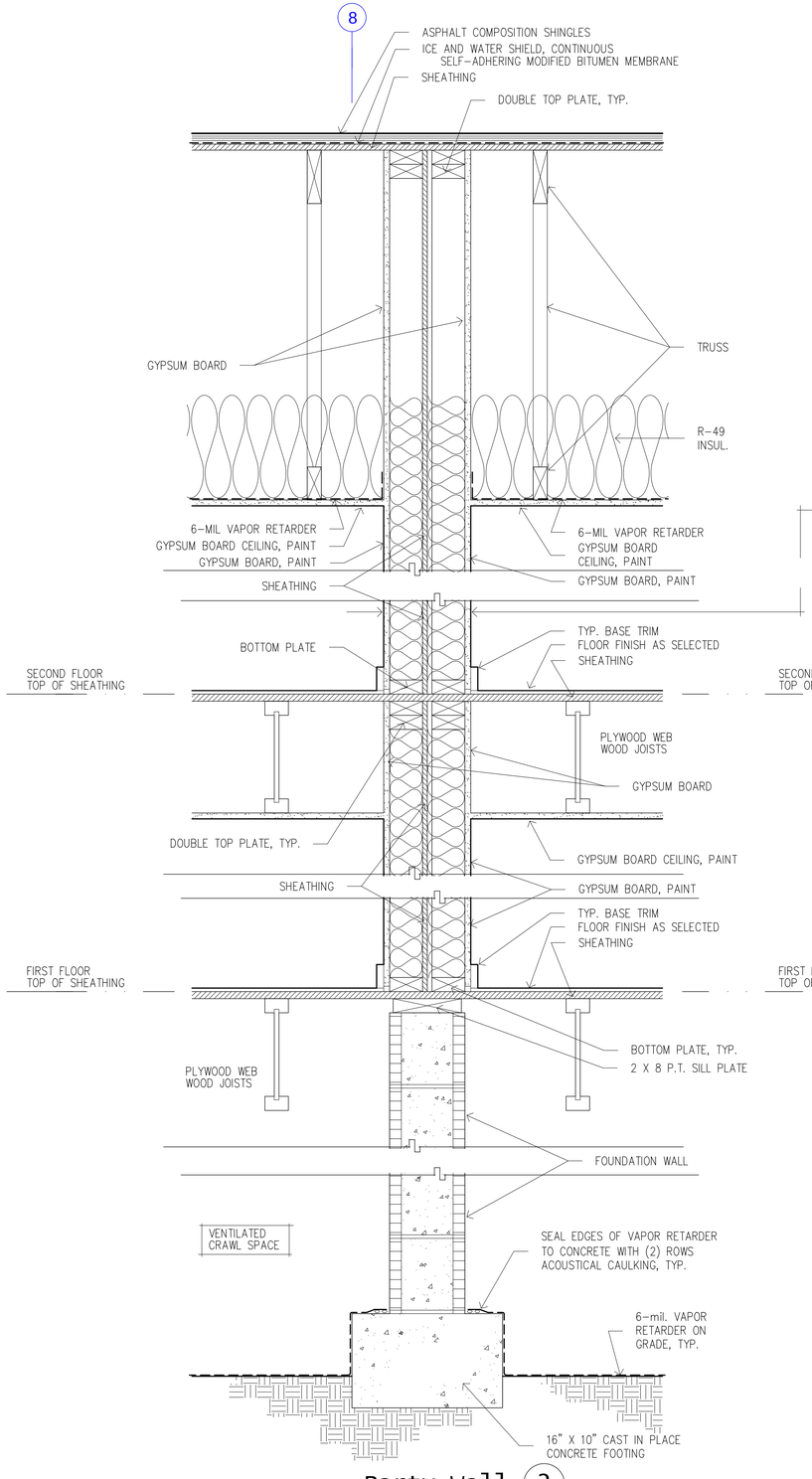
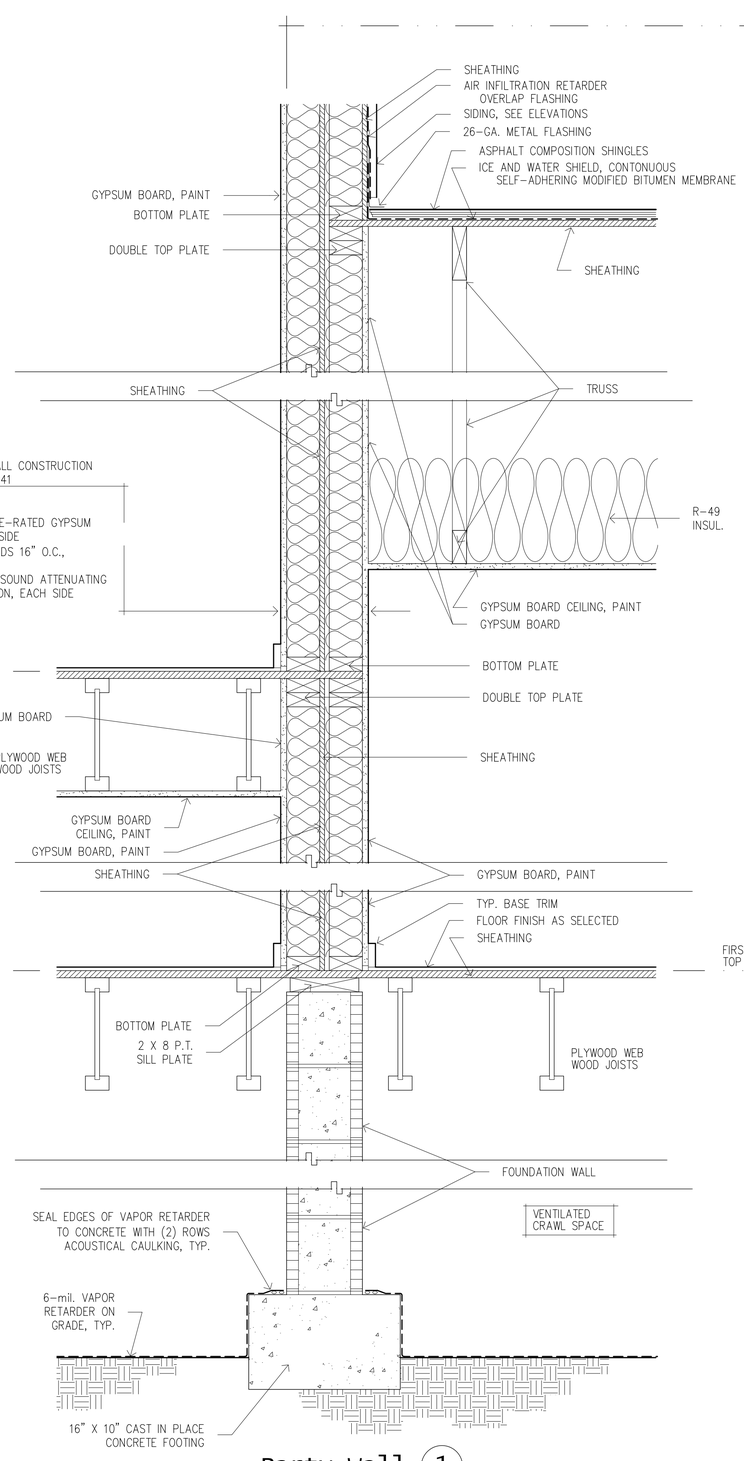
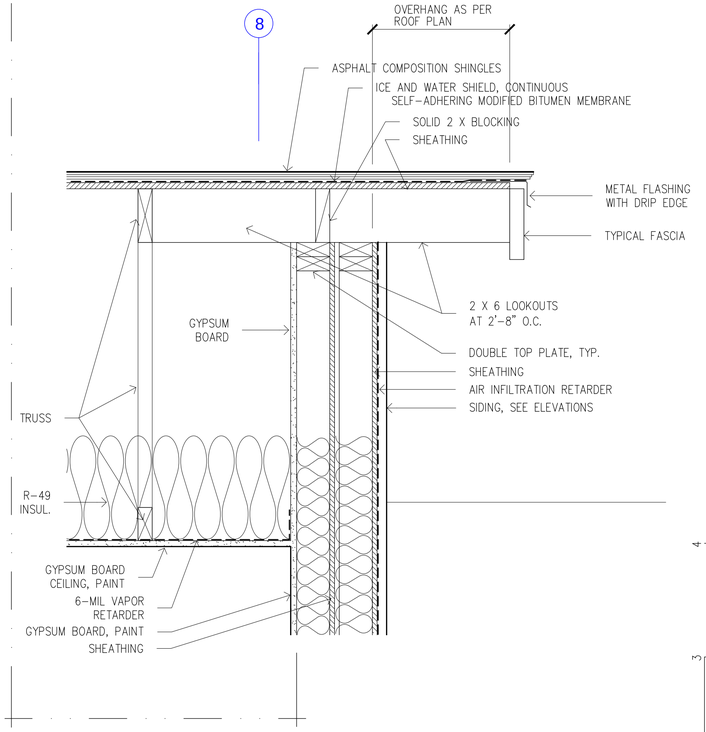


Party Wall (2)

INTERIOR PARTY WALL CONSTRUCTION
UL DESIGN NO. U 341
1-HOUR RATED
MIN. STC 54
5/8" TYPE X FIRE-RATED GYPSUM BOARD, EACH SIDE
2 X 4 WOOD STUDS 16" O.C., EACH SIDE
FULL THICKNESS SOUND ATTENUATING BATT INSULATION, EACH SIDE



Party Wall (1)



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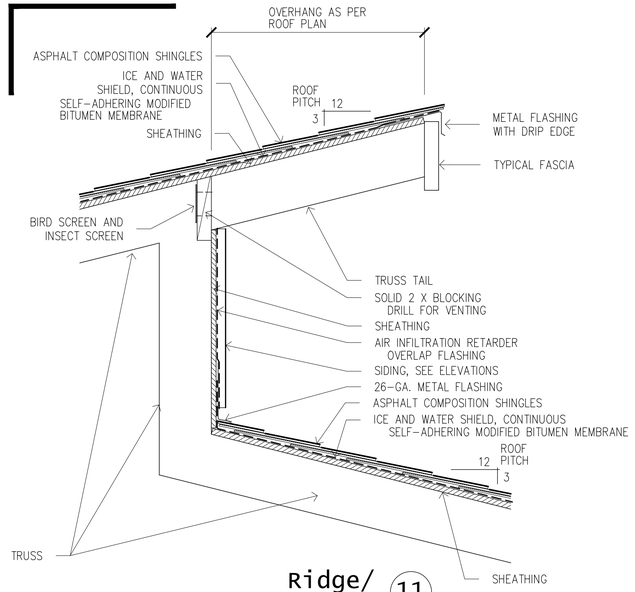
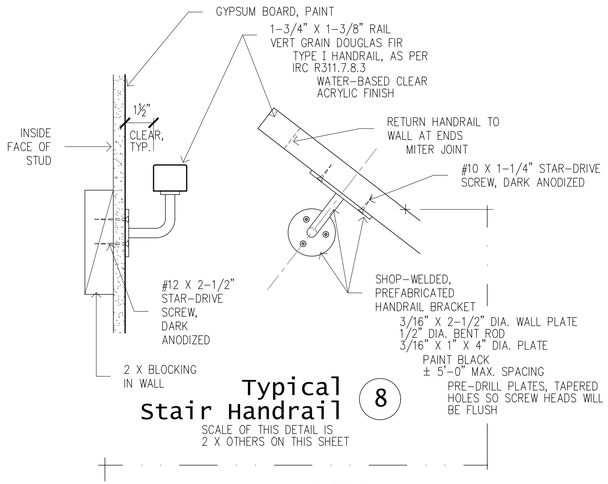


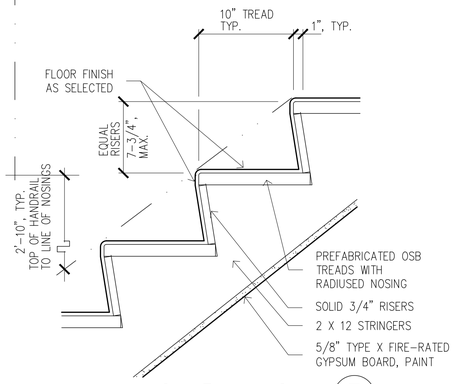
Ridge/ Headwall 11

SEE DTL. 11/S9 FOR ADDITIONAL INFORMATION

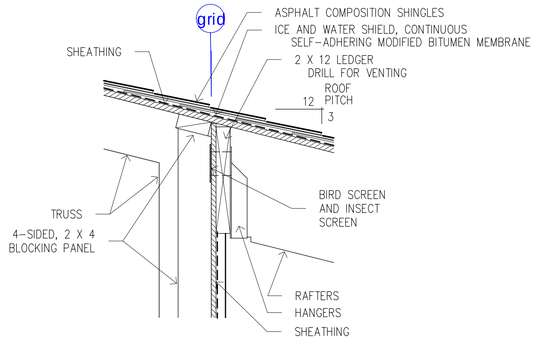


Typical Stair Handrail 8

SCALE OF THIS DETAIL IS 2 X OTHERS ON THIS SHEET

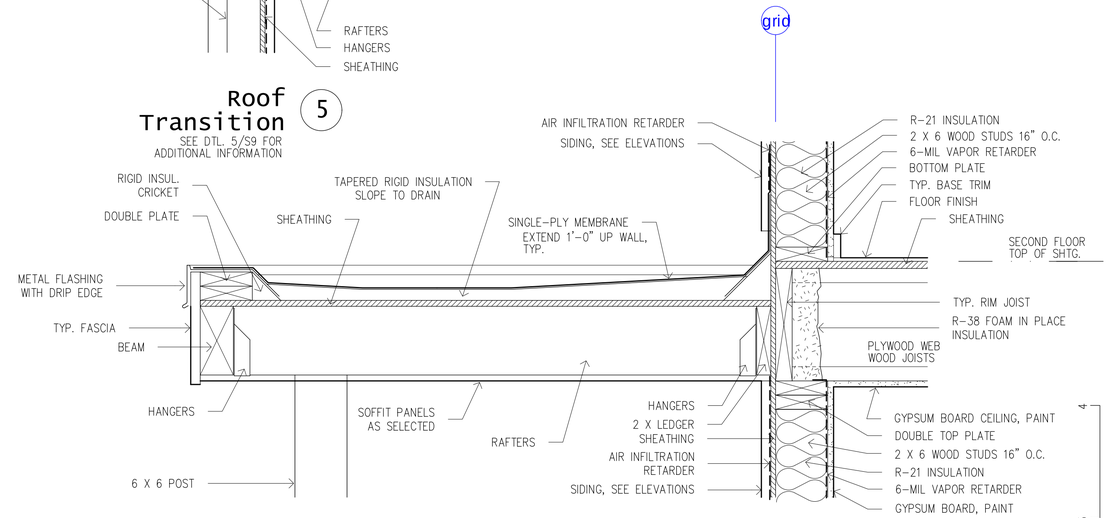


Typical Stairs 7



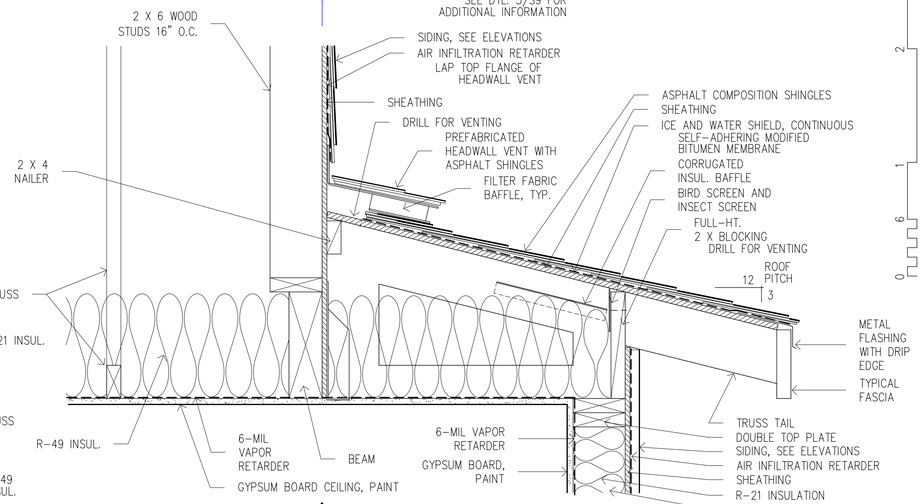
Roof Transition 5

SEE DTL. 5/S9 FOR ADDITIONAL INFORMATION



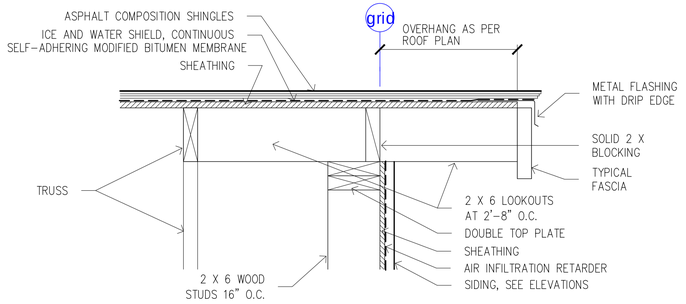
Back Porch Canopy Roof 3

SEE DTL. 3/S9 FOR ADDITIONAL INFORMATION



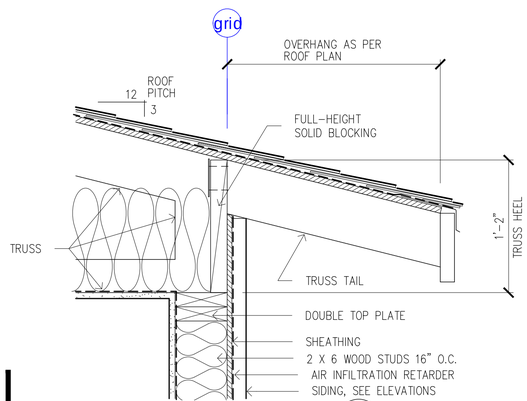
Eyebrow Truss at Bedroom Pop-Out 1

SEE DTL. 1/S9 FOR ADDITIONAL INFORMATION



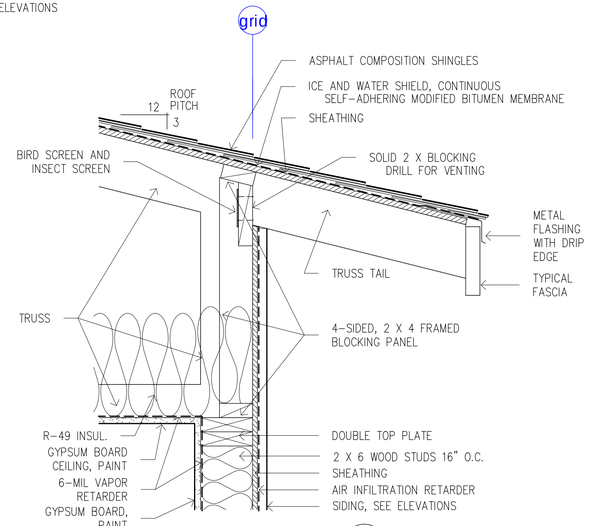
Typical Rake 10

SEE DTL. 10/S9 FOR ADDITIONAL INFORMATION



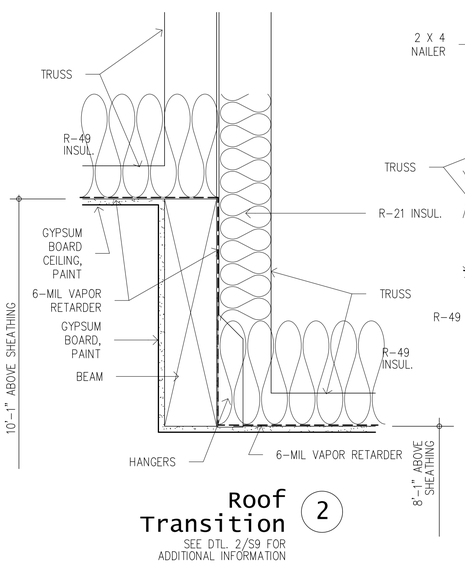
Eave 9

SEE DTL. 9/S9 FOR ADDITIONAL INFORMATION



Eave 6

SEE DTL. 6/S9 FOR ADDITIONAL INFORMATION



Roof Transition 2

SEE DTL. 2/S9 FOR ADDITIONAL INFORMATION

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DR. BY: CLARK
DATE: 23 JAN 26

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Design Criteria

IBC 2018

WIND

Basic Speed (3 sec gust)	145 mph (east side of Baxter Rd.)
Exposure	B
Pressures	ASCE 7-16
Risk Category	III
Int pressure Coeff	.18 (+/-)
Wind Load Analysis	MWFRS (ANY HT)

SEISMIC

Base shear =	.019 * W_s ASD	S_{DS} = 1.200
Risk Category	II	S_{D1} = 0.700
Design Category	D	S_S = 1.500
Site Class	D assuned	S_1 = 0.682
R =	6.5	I_S = 1.0
		Fa = 1.2
Seismic Load Analysis	Equivalent lateral force	

SNOW

Roof Snow, P_f	40 psf	ASCE 7-16
Ground Snow, P_g	50 psf	ASCE 7-16
Exposure Factor, C_e	1.0	
Thermal Factor, C_t	1.1	
Importance Factor, I_s	1.0	

LOADS

Snow	40 psf
Snow Seismic	8 psf
Roof Dead	15 psf
Roof Live	20 psf
Floor Dead	12 psf
Floor Live	40 psf
Exterior Walls	10 psf
Interior Walls	8 psf
CMU Foundation	85 psf
Concrete Foundation	100 psf

SOILS

Soil bearing strength assumed to be 1,500 psf, with 1/3 increase for seismic or wind loads, unless noted otherwise.

LATERAL LOAD RESISTING SYSTEM

Light frame walls with wood shear panels.

SOILS

1. Allowable bearing strength assumed to be 1,500 psf, with 33% increase for seismic or wind loads unless noted otherwise.
2. Fill to be compacted to 95% Modified Proctor density.

CONCRETE

1. Portland cement concrete to have minimum 28 day compressive strength, F'c = 3,000 psi. 5 sack (minimum) design mix. Maximum aggregate size, 3/4".
2. Concrete reinforcement to be ASTM A615, grade 60, deformed bars.

WOOD

1. Framing lumber shall be Doug Fir. Bottom plates at concrete shall be Doug Fir, pressure treated. Exterior walls shall be 2x6 studs at 16" o.c. Interior walls shall be 2x4 studs at 16" o.c., or 2x6 at 16" o.c. at plumbing walls and other locations as shown on Floor Plans.
2. Truss lumber shall be Doug Fir.
3. Blocking not required roof/floor diaphragms unless noted otherwise; boundary nail roofs at 3" o.c., panel edges at 4" o.c. and field at 8" o.c. Boundary nail floors at 4" o.c., panel edges at 4" o.c. and field at 12" o.c.
4. Shear wall/roof diaphragm/floor diaphragm stapling/nailing specified refers to panel edge and boundaries; field fasten at 12" o.c., floors and walls. Field fasten roofs at 8" o.c., unless noted otherwise.
5. Multiple stud splices -- use two rows 16d com at 6" o.c., min.
6. Multiple LVL -- splice with two rows 16d sinkers at 6" o.c., 2" from top and 2" from bottom.
7. 3" members required at abutting panel joints and staples/nails shall be staggered where nail spacing is 2" o.c. and where 10d nails penetrating more than 1-1/2" are placed at 3" or less o.c. 3" bottom plates are required where unit shear loads exceed 600 plf.
8. Glulam members -- single span, rated 24F-V4, DF/DF; multiple span, rated 24F-V8, DF/DF.
9. APA rated sheathing required for shear walls, floors and roof diaphragms. Wall sheathing may be installed horizontally or vertically. If installed horizontally, block all panel edges.
10. Where T1-11 siding is used for shear sheathing, minimum thickness shall be 19/32". All nailing must be through full thickness. Block all joints if full-height siding is not used.
11. Fastener and diaphragm values per IBC 2018, 2015 NDS SDPWS.
12. Plywood may be substituted for OSB, same thickness, same APA rating.
13. Use APA rated sheathing as follows, unless noted otherwise:
    Shear walls and roofs, non-drift areas 24/16.
    Roofs, valleys and upper drift areas 32/16.
    Roofs, below upper roofs and where wall causing drift is 6 ft or higher 40/20.
14. 8d nails can substitute for 14-ga. staples, unless noted otherwise.
15. Anchor bolts per schedule; all else IBC minimum 5/8" x 12" at 4'-0" o.c.
16. Hold downs and anchor bolts shown are Simpson, or as approved by MOA.
17. Hold down values per Simpson Hem-Fir tables.
18. GWB per IBC minimum; not used for shear.
19. Hangers, straps, saddles and other hardware are as manufactured by Simpson Strong-Tie. Values are corrected for Hem-Fir as required.
20. For typical wood fastening not otherwise specified, comply with provisions of IBC table 2304.10.1.
21. All wood in contact with concrete or earth or less than 6" clearance to finish grade shall be pressure-treated. Posts elevated 1" or greater above concrete on standoff base not required to be pressure treated.

STEEL

1. Plate, channel, angle -- ASTM A36; wide flange -- ASTM A992, Gr. 50
2. Anchor bolts and machine bolts -- ASTM A307, ASTM A1554
3. HSS [round, square, rectangular sections] -- ASTM A500, Gr. B, F 1 = 50ksi
4. Pipe -- ASTM A53, Gr. B, F_y = 35 ksi

CMU

1. Masonry units to be ASTM C90, normal weight, fully grouted and reinforced per #3 below.
2. All masonry shall be solid grout, Type M or S Mortar and mechanically consolidated.
3. Reinforcing to be as shown on drawings. Minimum reinforcement shall be #5 at 32" OC; #5 at 48" OC, and #5 in top course. Vertical reinforcement to have standard hook. Reinforcement to be ASTM A615, grade 60, deformed bars. "Wet" setting reinforcement is prohibited.
4. f'm = 2500 psi

Shear Wall Design Values

(Doug Fir, 2015 NDS SDPWS)

Wall	V_{all}[6]	Sheathing	Studs	Members with abutting panels	Nails		
					Boundary nail	Field nail	Btm. plate attach.
N1	393	7/16" OSB, one side	2x at 16" o.c.	(1) 2x	.131 x 2-1/2" at 4" o.c.	.131 x 2-1/2" at 12" o.c.	.148 x 3" at 4" o.c.
N2	505	7/16" OSB, one side	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 4"	.131 x 2-1/2" at 3" o.c.	.131 x 2-1/2" at 12" o.c.	.148 x 3" at 3" o.c.
N3	655	7/16" OSB, one side	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 4"	.131 x 2-1/2" at 2" o.c.	.131 x 2-1/2" at 12" o.c.	.148 x 3" at 2" o.c.
N4	786	7/16" OSB, two sides	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 4"	.131 x 2-1/2" at 4" o.c.	.131 x 2-1/2" at 12" o.c.	.148 x 3" at 2" o.c.
N5	1010	7/16" OSB, two sides	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 4"	.131 x 2-1/2" at 3" o.c.	.131 x 2-1/2" at 12" o.c.	.161 x 3" at 2" o.c.
N6	1311	7/16" OSB, two sides	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 4"	.131 x 2-1/2" at 2" o.c.	.131 x 2-1/2" at 12" o.c.	Dbl. rim, two rows .148 x 3" at 2-1/2"
N7	1457	15/16" OSB, two sides	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 3"	.131 at 2" o.c.	.131 at 12" o.c.	Dbl. rim, two rows .161 x 3" at 2"
N8	1949	19/32" OSB, two sides	2x at 16" o.c.	3x or (2) 2x stitch with (2) 16d at 3"	.131 x 2-1/2" at 2" o.c.	.131 x 2-1/2" at 12" o.c.	Dbl. rim, two rows SDS1/4 x 3 at 4"

1. 3 x (2--2x) members are required at abutting panel edges where spacing is 2" o.c. and where 10d nails penetrating more than 1-1/2" into receiving member are spaced at 3" o.c. or less. Framing members in walls with shears > 350 plf with abutting panels receiving edge nailing shall be 3x (2--2x). 2x sill plates may be used for wall shears > 350 plf and < 600 plf if anchor bolt spacing is one-half that required by the design.
2. Offset stagger nails from side to side for double sheathing. Provide two rows nails, staggered where 2" o.c. nailing occurs. Block all sheathing edges. Install sheathing horizontally or substitute 15/32" sheathing for 7/16" sheathing.
3. Bottom plate attachment assumes solid members below.
4. Where bottom plates rest directly on concrete or masonry, anchor bolt schedule supercedes bottom plate fastening schedule. 5" x 5" x 1/4" washers are required at all sill anchor bolts. 3x (2--2x) sill plates are required where shears > 700 plf. Stitch plates with (2) 16d at 3" o.c., staggered. Where bottom plates of two-sided shear wall rest directly on concrete or masonry, use 3x sill plate, per Municipality of Anchorage amendments.
5. Values are DF framing per SDPWS-15, Table 4.3A, adjusted per 4.3.3, ASD, seismic, where $V_{all} = [V_{nom} / 2] * [1-(.5-G)]$.
6. Multiple stud splices -- use two rows 16d com at 6" o.c., min.

Hold Downs

Call-out	Strap or hold down	Chord	Anchor bolt	Embed. concrete	Embed. concrete	Allowable load (lbs.)
1	(1) MST37	(2) 2x -- DF				5,080
2	(1) MST48	(2) 2x -- DF				5,310
3	(1) MST60	(2) 2x -- DF				6,730
4	(1) MST72	(2) 2x -- DF				6,730
5	(2) MST48	(4) 2x -- DF				6,620
6	HDU2	(2) 2x -- DF	5/8"	7" into footing u.n.o.	7" into footing u.n.o.	3,075
7	HDU4	(2) 2x -- DF	5/8"	7" into footing u.n.o.	7" into footing u.n.o.	4,565
8	HDU5	(3) 2x -- DF	5/8"	7" into footing u.n.o.	7" into footing u.n.o.	5,645
9	HDU8	(2) 2x -- DF	7/8"	7" into footing u.n.o.	7" into footing u.n.o.	6,765
10	HDU8	(3) 2x -- DF	7/8"	7" into footing u.n.o.	7" into footing u.n.o.	6,970
11	HDU11	(4) 2x -- DF	1"	7" into footing u.n.o.	7" into footing u.n.o.	9,335
12	HDU11	(1) 6x8 -- DF	1"	See dtls.	See dtls.	11,175
13	HDU14	(4) 2x -- DF	1"	See dtls.	See dtls.	10,770
14	HD12	(3) 2x -- DF	1-1/8"	See dtls.	See dtls.	12,655
15	HD12	(1) 6x6 -- DF	1-1/8"	See dtls.	See dtls.	15,510
16	FSC	2x -- DF				1,892
17	MSTC48B3	2x -- DF				4,072
18	MSTC66B3	2x -- DF				4,072

Anchor Bolts

Call-out	Anchor bolt	at	Spacing
1	5/8" x 12"	at	48" o.c.
2	5/8" x 12"	at	36" o.c.
3	5/8" x 12"	at	32" o.c.
4	5/8" x 12"	at	24" o.c.
5	5/8" x 12"	at	16" o.c.
6	5/8" x 12"	at	12" o.c.

Roof Design

See Sht. A9 for roof zone locations

Zone	Design Loads	Sheathing Index	Sheathing Nailing
1	TCLL -- 40 psf TCDL -- 15 psf BCDL -- 5 psf	APA 24/16	BN -- 8d at 3" o.c. EN -- 8d at 3" o.c. FN -- 8d at 8" o.c.
2	TCLL -- 65 psf TCDL -- 15 psf BCDL -- 5 psf	APA 32/16	BN -- 8d at 3" o.c. EN -- 8d at 3" o.c. FN -- 8d at 8" o.c.
3	TCLL -- 85 psf TCDL -- 15 psf BCDL -- 5 psf	APA 40/20	BN -- 8d at 3" o.c. EN -- 8d at 3" o.c. FN -- 8d at 8" o.c.
4	TCLL -- 105 psf TCDL -- 15 psf BCDL -- 5 psf	APA 40/20	BN -- 8d at 3" o.c. EN -- 8d at 3" o.c. FN -- 8d at 8" o.c.

BN = boundary nailing
EN = edge nailing
FN = field nailing

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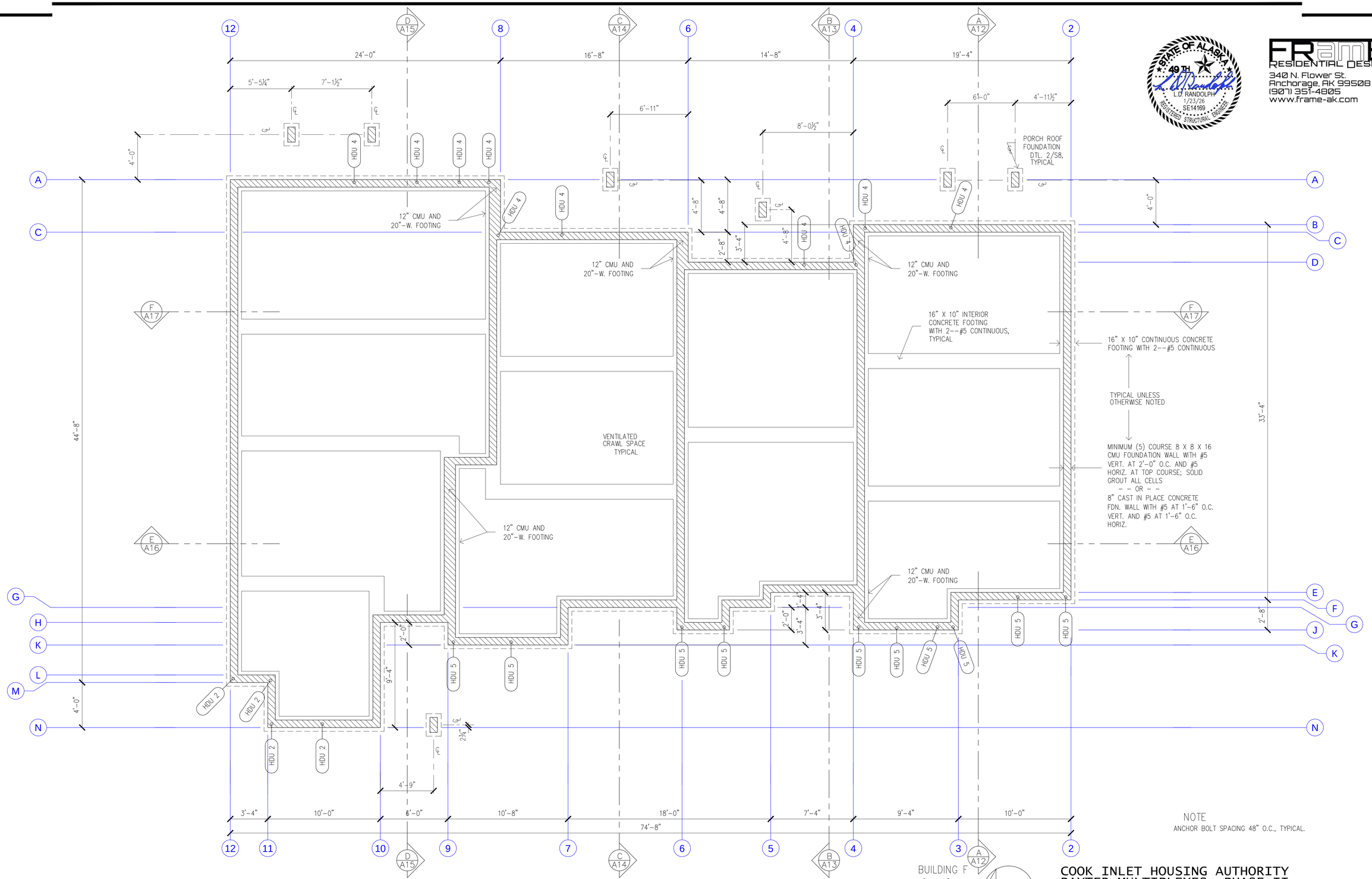
Tract B, Valetskaya Addition No. 1
NHN Erna Court
ANCHORAGE, ALASKA

DR. BY: CLARK
DATE: 23 JAN 26

S1



NOTE
ANCHOR BOLT SPACING 48" O.C., TYPICAL.

BUILDING F
Foundation Plan

NORTH

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ANCHORAGE, ALASKA

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F4-109 LIVING/ DINING
F4-108 KITCHEN
F4-107 BEDROOM TWO
F4-106 FLEX/ LAUNDRY
F4-104 HALL
F4-105 BATH
F4-103 BEDROOM ONE
F4-102 ENTRY
F4-101 STORAGE
F3-106 LIVING/ DINING
F3-105 KITCHEN
F3-104 HALL
F3-103 BATH ONE
F3-102 ENTRY
F3-101 STORAGE
F2-106 LIVING/ DINING
F2-105 KITCHEN
F2-104 1/2 BATH
F2-103 HALL
F2-102 ENTRY
F2-101 STORAGE
F1-107 LIVING/ DINING
F1-106 KITCHEN
F1-104 LAUNDRY
F1-105 BATH ONE
F1-103 HALL
F1-102 ENTRY
F1-101 STORAGE
F-100 SHARED MECH.

(2) 2 X D.F. CHORD HDU 4
(3) 2 X D.F. CHORD HDU 5
(2) 2 X D.F. CHORD HDU 2
N1
N2
UP
FLOOR ABOVE

BUILDING F
First Floor
Shear Wall Plan

NORTH

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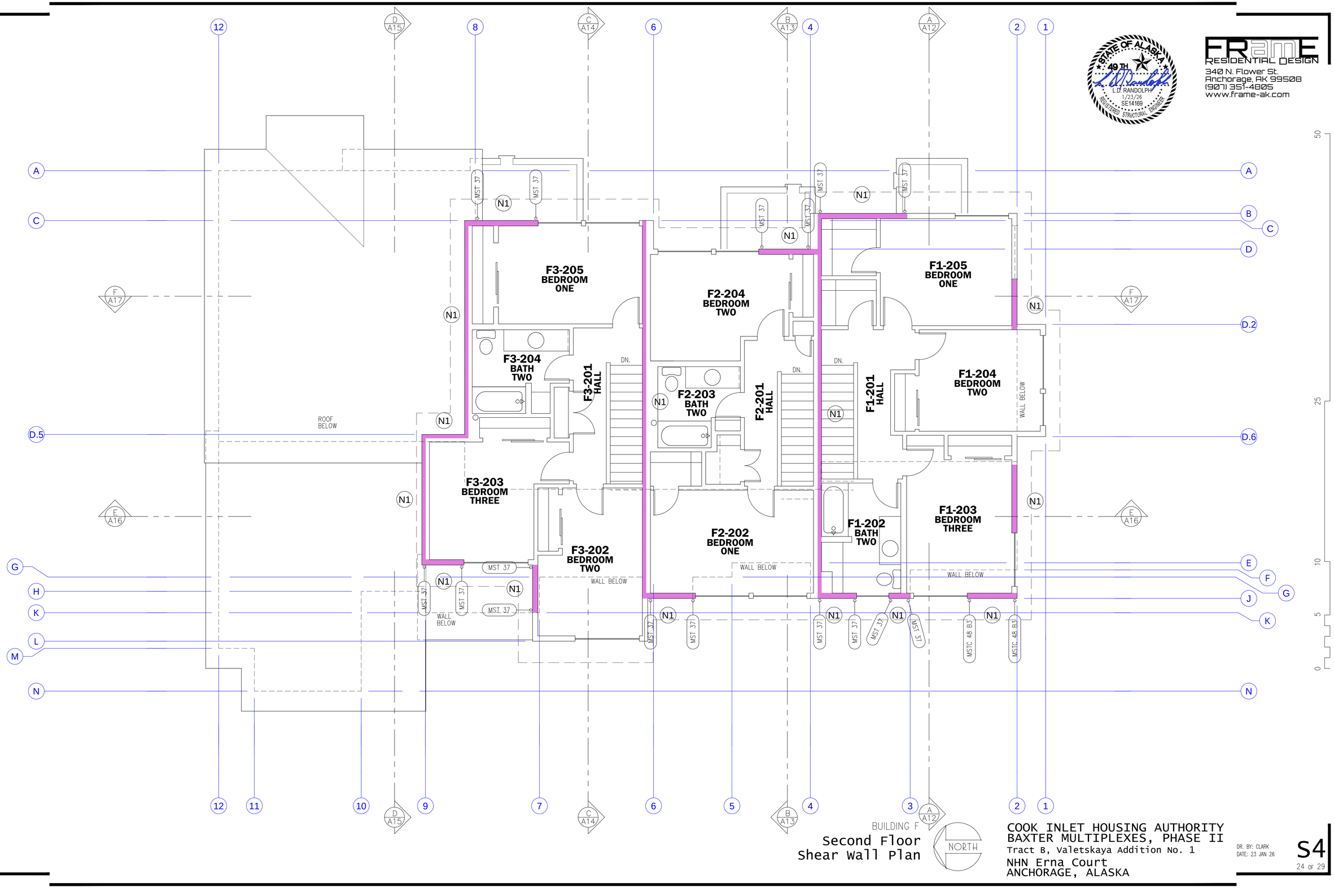
S3
23 OF 29



BUILDING F

Second Floor Shear Wall Plan

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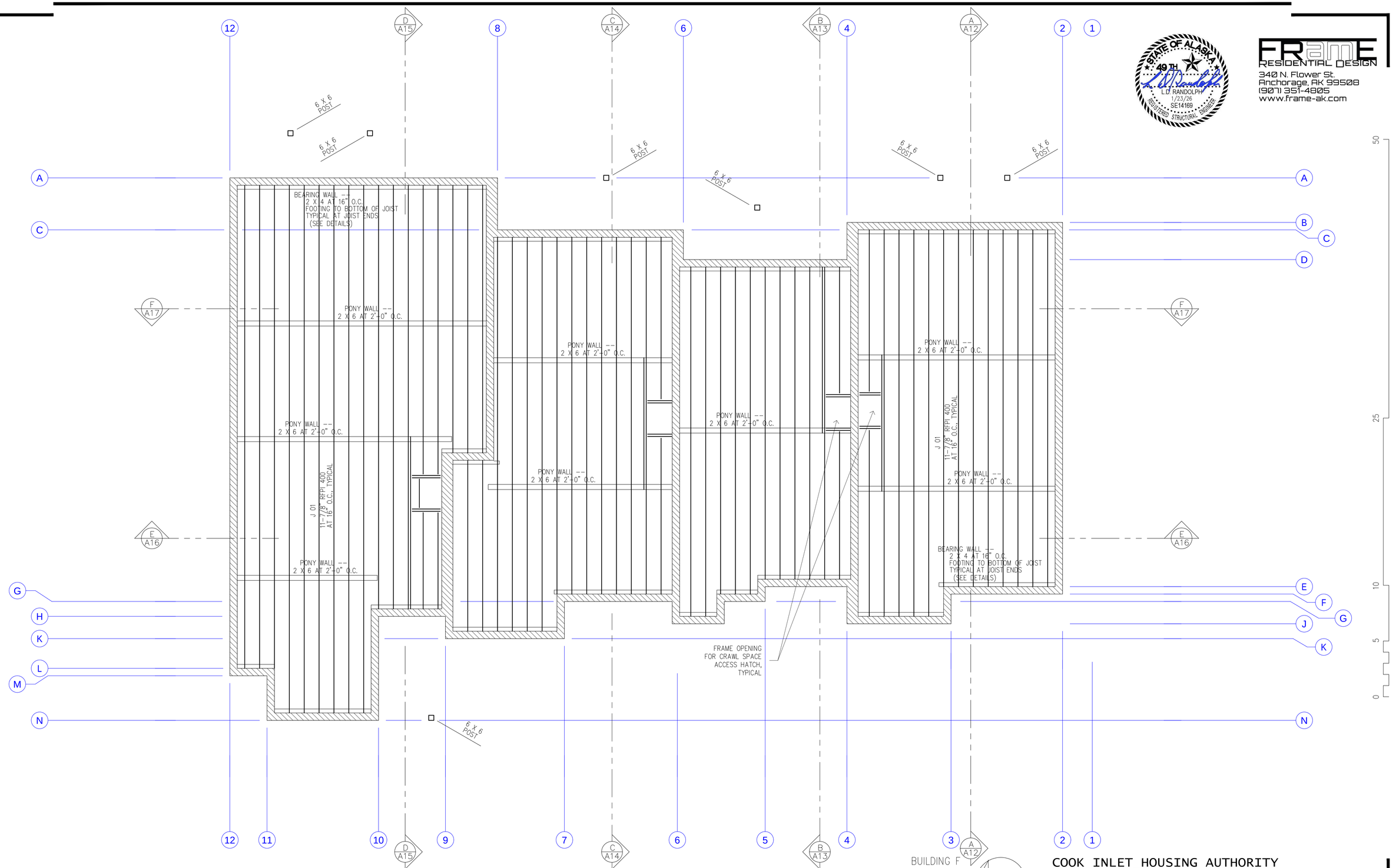

BUILDING F

First Floor
Framing Plan

NORTH

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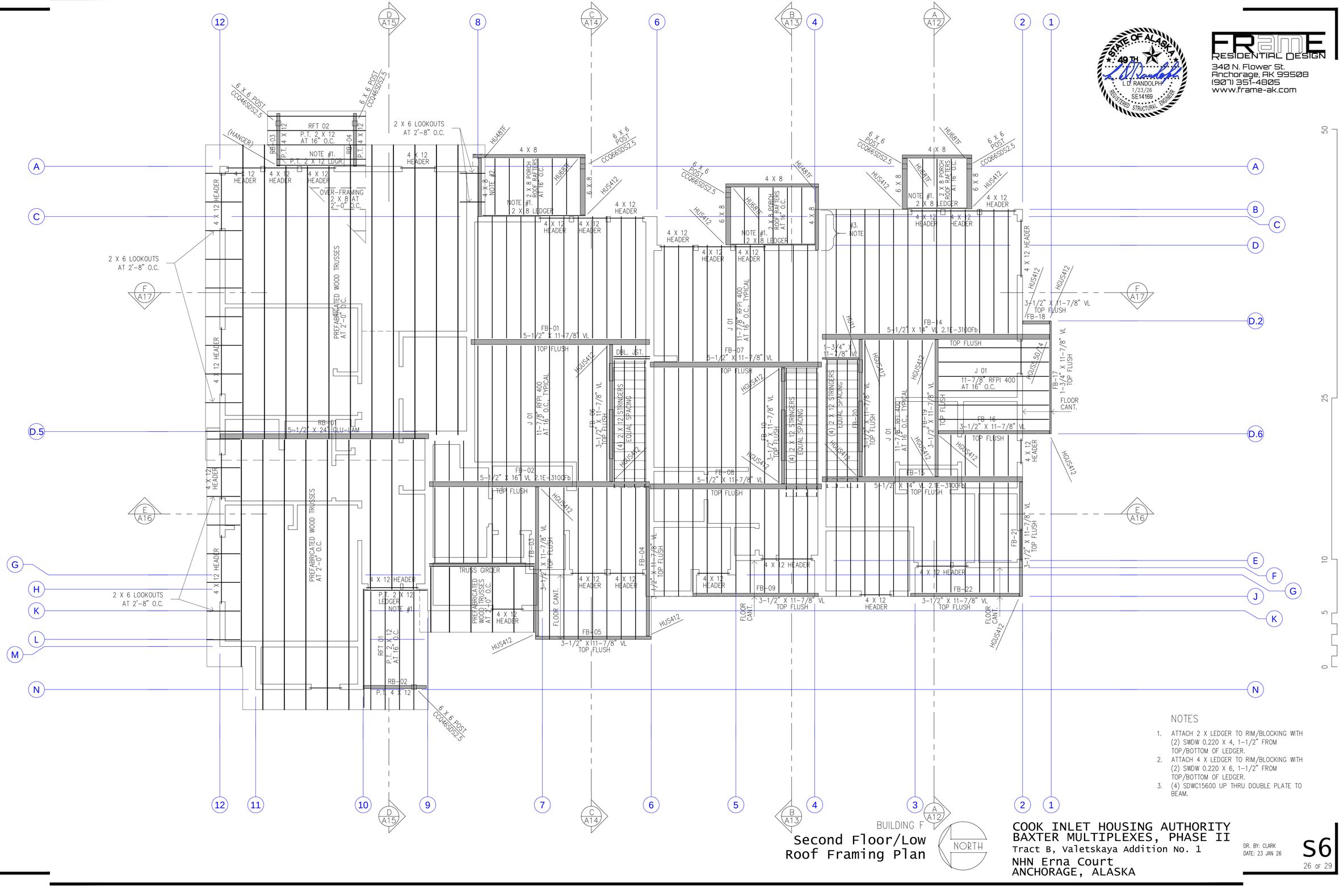
S5
25 OF 29



NOTES

1. ATTACH 2 X LEDGER TO RIM/BLOCKING WITH (2) SWDW 0.220 X 4, 1-1/2" FROM TOP/BOTTOM OF LEDGER.
2. ATTACH 4 X LEDGER TO RIM/BLOCKING WITH (2) SWDW 0.220 X 6, 1-1/2" FROM TOP/BOTTOM OF LEDGER.
3. (4) SDWC15600 UP THRU DOUBLE PLATE TO BEAM.

BUILDING F

Second Floor/Low Roof Framing Plan

NORTH

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26 OF 29

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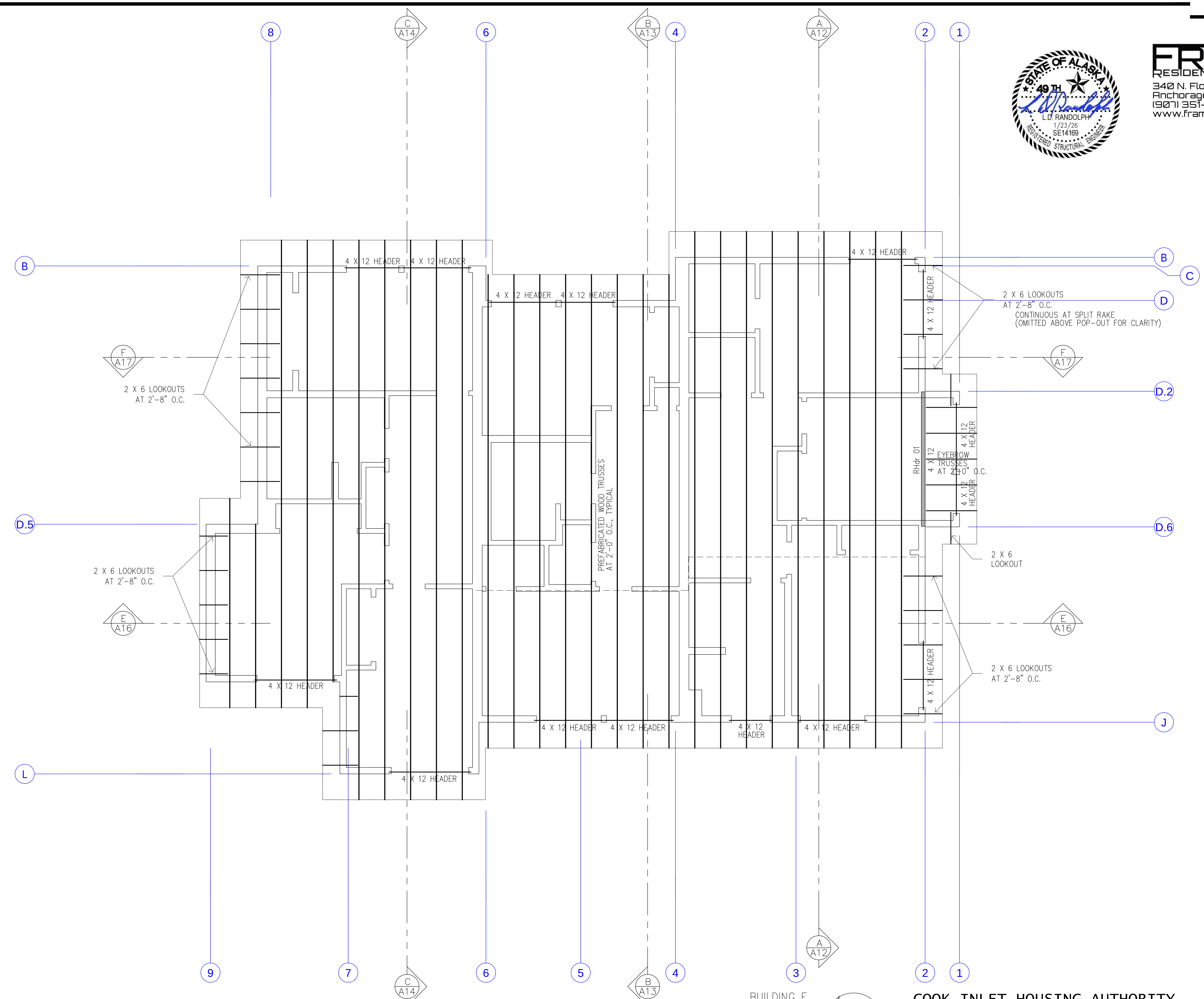

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BUILDING F

High Roof Framing Plan

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S7

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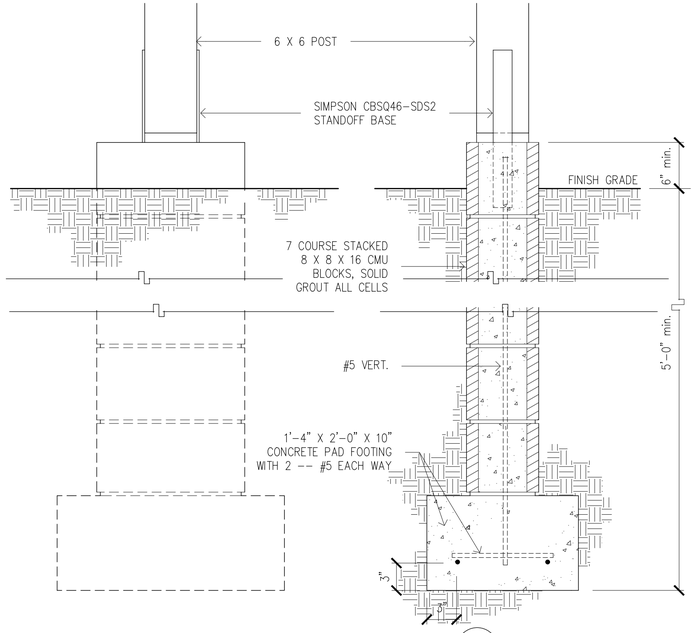
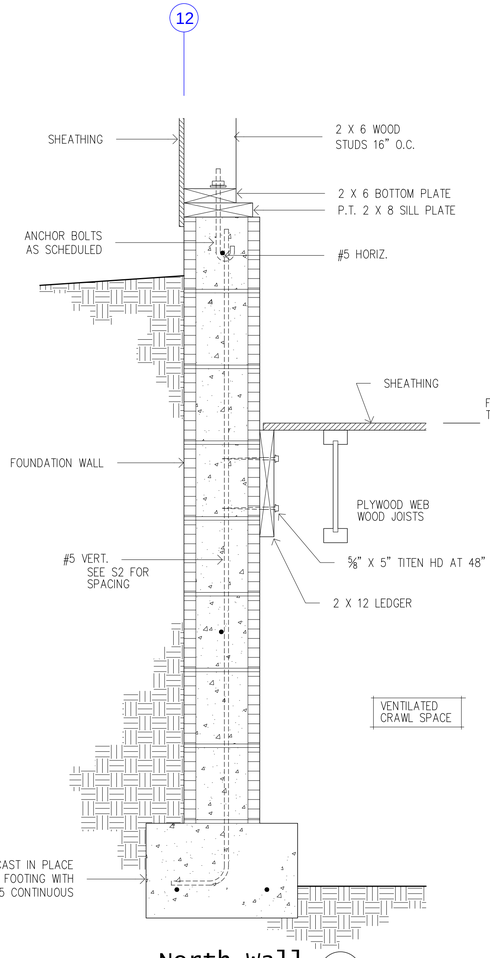
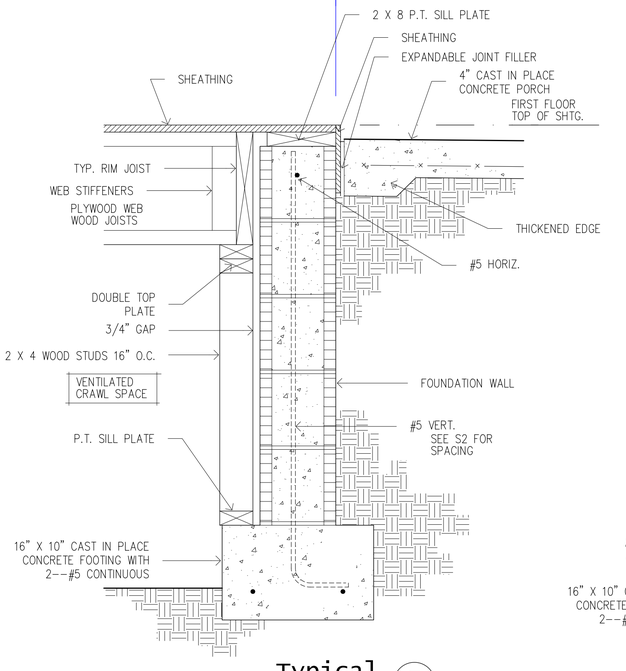


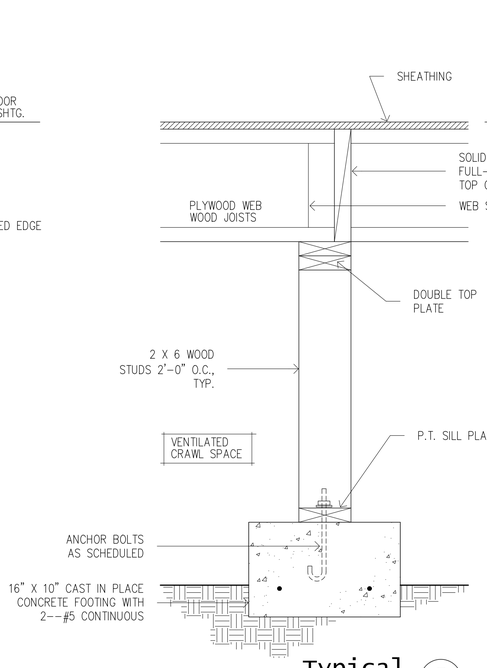
Porch Foundation (2)



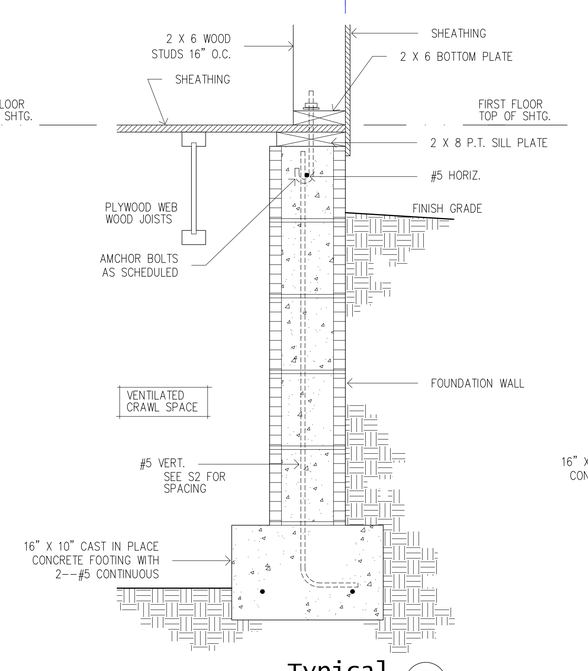
North Wall Foundation (1)
SEE DTL. 1/A18 FOR ADDITIONAL INFORMATION



Typical Foundation Wall (7)
SEE DTL. 7/A18 FOR ADDITIONAL INFORMATION



Typical Pony Wall (5)
SEE DTL. 5/A18 FOR ADDITIONAL INFORMATION



Typical Foundation Wall (3)
SEE DTL. 3/A18 FOR ADDITIONAL INFORMATION

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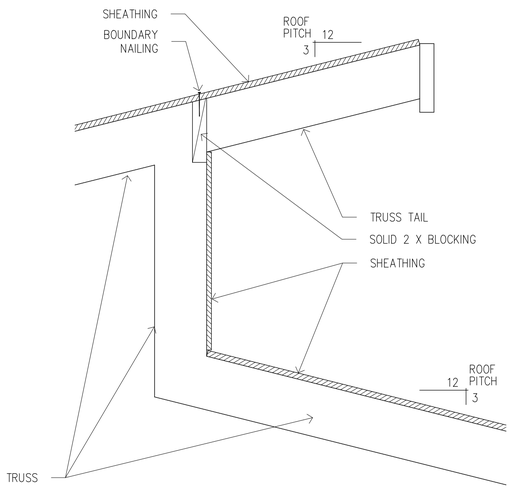
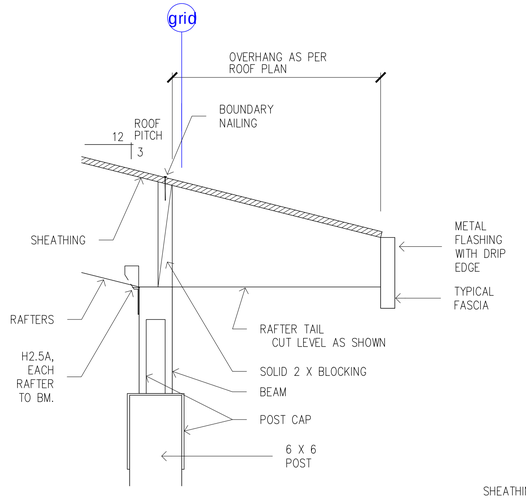
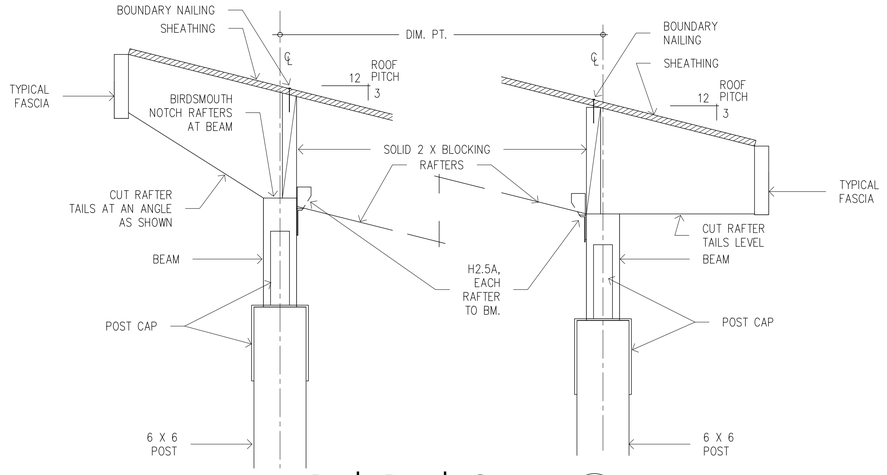


Ridge/ Headwall 11

SEE DTL. 11/A20 FOR ADDITIONAL INFORMATION

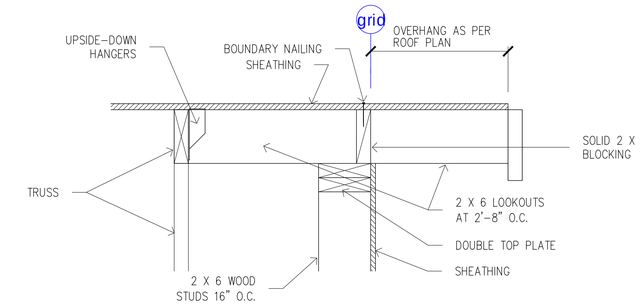


Eave at Unit #4 Entry Canopy 7



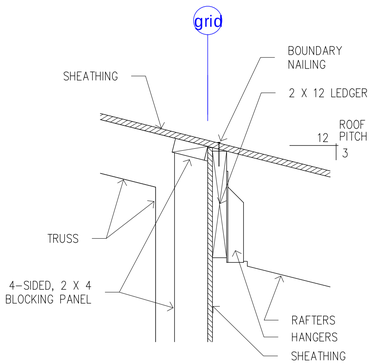
Back Porch Canopy at Unit #4 4

SEE DTL. 4/A18 FOR ADDITIONAL INFORMATION



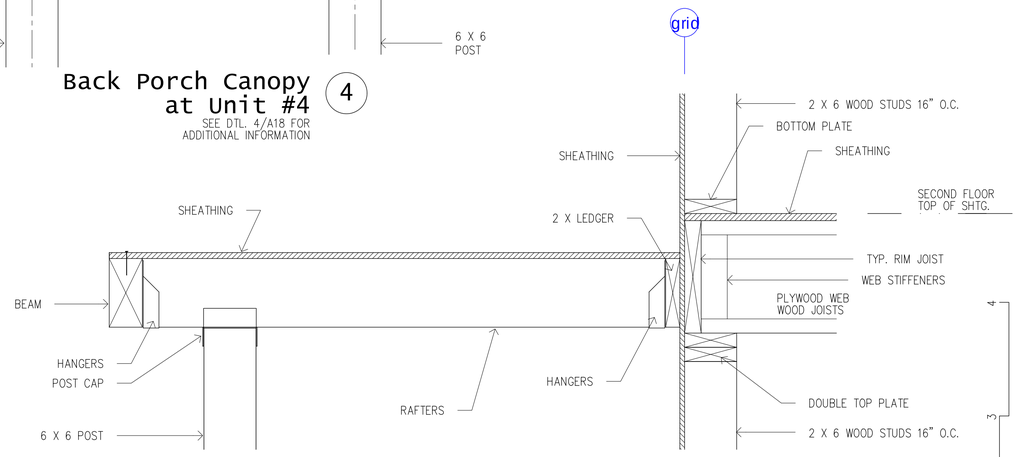
Typical Rake 10

SEE DTL. 10/A20 FOR ADDITIONAL INFORMATION



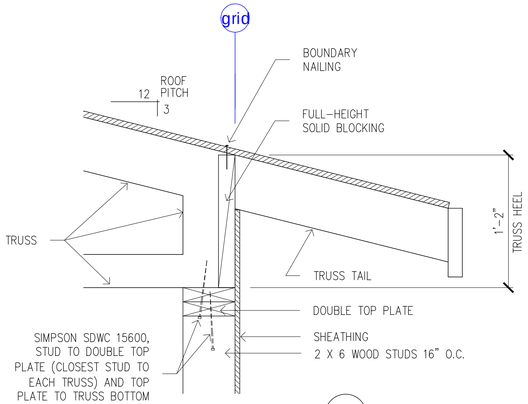
Roof Transition 5

SEE DTL. 5/A20 FOR ADDITIONAL INFORMATION



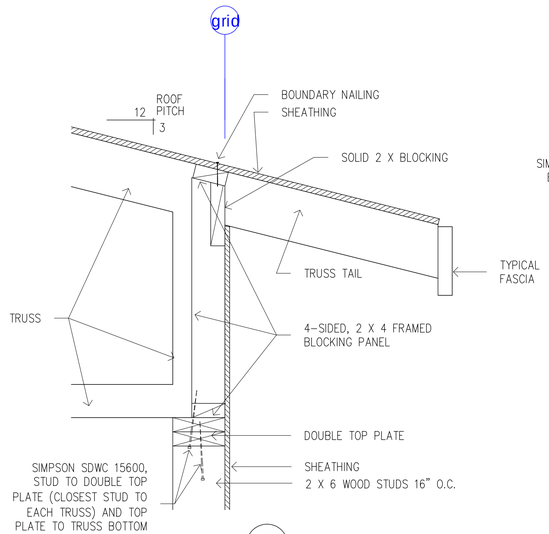
Back Porch Canopy Roof 3

SEE DTL. 3/A20 FOR ADDITIONAL INFORMATION



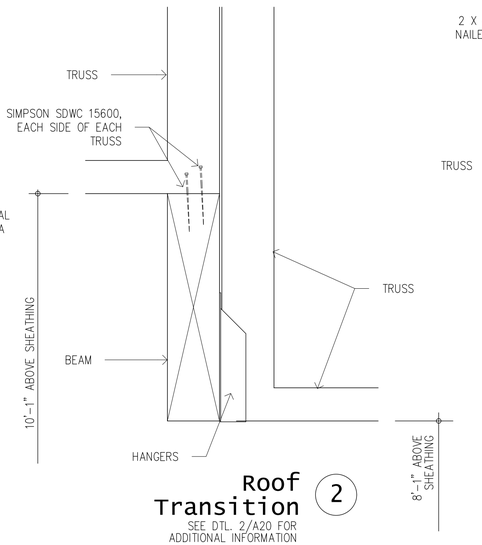
Eave 9

SEE DTL. 9/A20 FOR ADDITIONAL INFORMATION



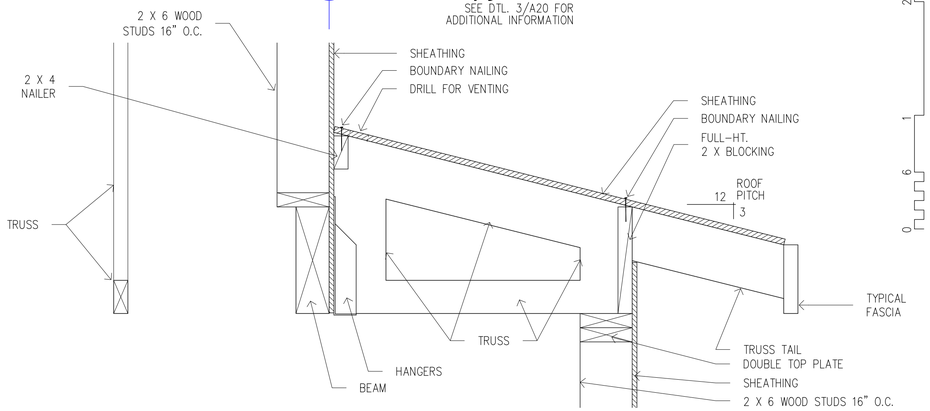
Eave 6

SEE DTL. 6/A20 FOR ADDITIONAL INFORMATION



Roof Transition 2

SEE DTL. 2/A20 FOR ADDITIONAL INFORMATION



Eyebrow Truss at Bedroom Pop-Out 1

SEE DTL. 1/A20 FOR ADDITIONAL INFORMATION

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NHN Erna Court
ANCHORAGE, ALASKA

DR. BY: CLARK
DATE: 23 JAN 26

S9

LDR Engineering Services, Inc.

3705 Arctic, No. 2543
Anchorage, Alaska 99503
Phone 337-3571 Fax 333-6425

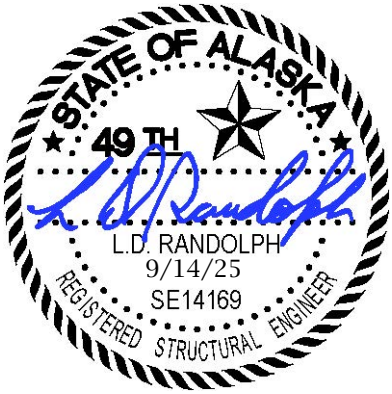
LDR ENGINEERING

STRUCTURAL ANALYSIS

for

FRaMe Residential Design

Baxter Multiplexes



Building F

LDR ENGINEERING, INC.
Phone 337-3571 Fax 333-6425
3705 Arctic, #2543 Anchorage, Alaska 99503

Project CIHA-BAXTER RD BLDGS D/E/F

Sheet 2 of

By LDR Date 9/8/25

DESIGN CRITERIA, IBC 2018

WIND

Basic Speed (3 sec gust)	129	mph	East Side of Baxter Road
Exposure	B		
Pressures	ASCE 7-16		
Risk Category	II		
Int pressue Coeff	.18(±)		
Wind Load Analysis	MWFRS (Any Ht)		

SEISMIC

Base Shear =	0.19	* W_s	ASD	S_{DS} =	1.200
Risk Category	II			S_{D1} =	0.700
Design Category	D			S_S =	1.500
Site Class	D	Assumed		S_1 =	0.682
R =	6.5			I_s =	1.0
				F_a =	1.2
Seismic Load Analysis	Equivalent lateral force				

SNOW

Roof Snow,P_f	40	psf	ASCE 7-16
Ground Snow, P_g	50	psf	ASCE 7-16
Exposure Factor, C_e	1.0		
Thermal Factor C_t	1.1		
Importance Factor I_s	1.0		

LOADS

Snow	40	psf
Snow Seismic	8	psf
Roof Dead	15	psf
Roof Live	20	psf
Floor Dead	12	psf
Floor Live	40	psf
Exterior Walls	10	psf
Interior Walls	8	psf
CMU Foundation	85	psf
Concrete Foundation	100	psf

SOILS

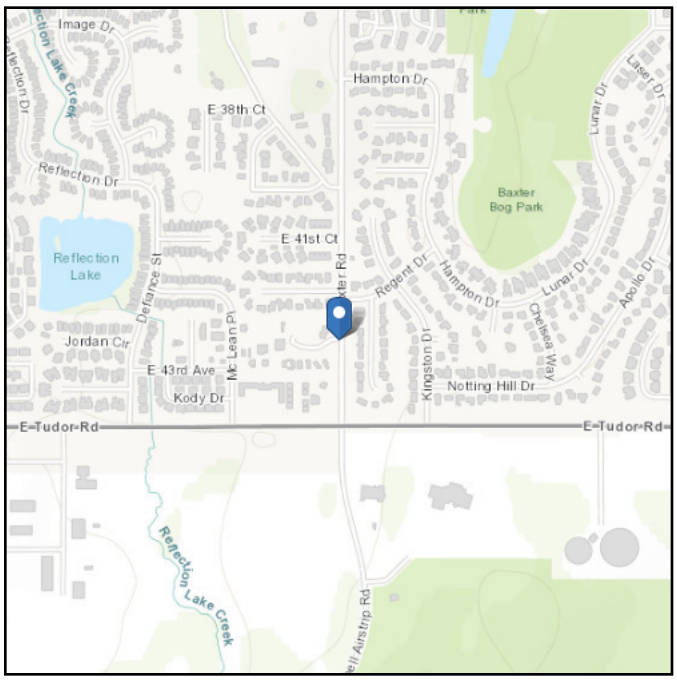
Soil bearing strength 1500 psf with 1/3 increase for seismic or wind loads, unless noted otherwise.

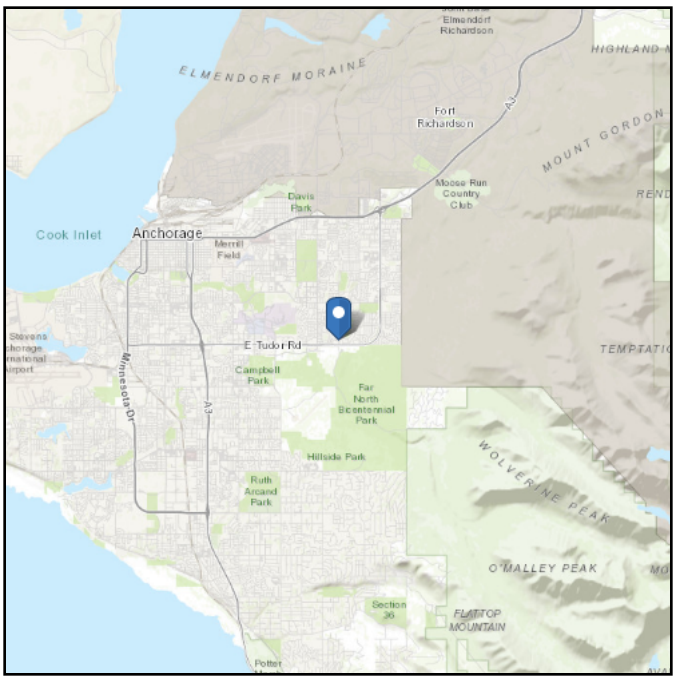
LATERAL LOAD RESISTING SYSTEM Light Frame walls with wood shear panels

ASCE Hazards Report

Address:
4230 Baxter Rd
Anchorage, Alaska
99504

Standard:	ASCE/SEI 7-16	**Latitude:**	61.182242
Risk Category:	II	**Longitude:**	-149.763519
Soil Class:	D - Stiff Soil	**Elevation:**	253.54333622690353 ft (NAVD 88)





Wind

Results:

Wind Speed	129 Vmph
10-year MRI	90 Vmph
25-year MRI	99 Vmph
50-year MRI	105 Vmph
100-year MRI	110 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Thu Aug 28 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	1.5	S_{D1} :	N/A
S_1 :	0.682	T_L :	16
F_a :	1	PGA :	0.5
F_v :	N/A	PGA_M :	0.55
S_{MS} :	1.5	F_{PGA} :	1.1
S_{M1} :	N/A	I_e :	1
S_{DS} :	1	C_v :	1.4

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Thu Aug 28 2025

Date Source: USGS Seismic Design Maps

Snow

Results:

Ground Snow Load, p_g:	50 lb/ft^2
Mapped Elevation:	253.5 ft
Data Source:	ASCE/SEI 7-16, Table 7.2-8
Date Accessed:	Thu Aug 28 2025

Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

Snow load values are mapped to a 0.5 mile resolution. This resolution can create a mismatch between the mapped elevation and the site-specific elevation in topographically complex areas. Engineers should consult the local authority having jurisdiction in locations where the reported ‘elevation’ and ‘mapped elevation’ differ significantly from each other.

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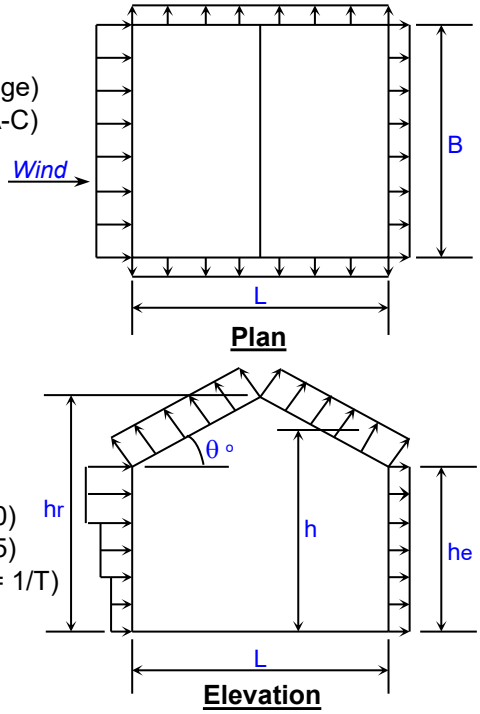
Project: CIHA-BAXTER RD BLDGS D/E/F
Sheet: _____ Of: _____
By: LDR Date: 9/8/25

MWFRS (Any Ht)

Input Data:

Wind Direction =	Normal	(Normal or Parallel to building ridge)
Wind Speed, V =	145	mph (Wind Map, Figure 26.5-1A-C)
Bldg. Classification =	II	(Table 1.4-1 Risk Cat.)
Exposure Category =	B	(Sect. 26.7)
Ridge Height, hr =	25.50	ft. (hr >= he)
Eave Height, he =	19.50	ft. (he <= hr)
Building Width =	48.00	ft. (Normal to Building Ridge)
Building Length =	75.00	ft. (Parallel to Building Ridge)
Roof Type =	Gable	(Gable or Monoslope)
Topo. Factor, Kzt =	1.00	(Sect. 26.8 & Table 26.8-1)
Direct. Factor, Kd =	0.85	(Table 26.6-1)
Enclosed? (Y/N)	Y	(Sect. 6.2 & Figure 6-5)
Hurricane Region?	N	
Damping Ratio, β =	0.050	(Suggested Range = 0.010-0.070)
Period Coef., Ct =	0.0350	(Suggested Range = 0.020-0.035)
		(Assume: T = Ct*h^(3/4) , and f = 1/T)



Resulting Parameters and Coefficients:

Roof Angle, θ =	14.04	deg.	
Mean Roof Ht., h =	22.50	ft. (h = (hr+he)/2, for roof angle >10 deg.)	L = 48 ft.
Windward Wall Cp =	0.80	(Fig. 27.4-1)	B = 75 ft.
Leeward Wall Cp =	-0.50	(Fig. 27.4-1)	
Side Walls Cp =	-0.70	(Fig. 27.4-1)	
Windward Roof Cp =	-0.72	(Fig. 27.4-1) (Condition #1)	
Windward Roof Cp =	-0.16	(Fig. 27.4-1) (Condition #2)	
Leeward Roof Cp =	-0.50	(Fig. 27.4-1)	
		(Fig. 27.4-1)	
+GCpi Coef. =	0.18	(Table 26.11- (positive internal pressure)	
-GCpi Coef. =	-0.18	(Table 26.11- (negative internal pressure)	

If z <= 15 then: Kz = 2.01*(15/zg)^(2/α) , If z > 15 then: Kz = 2.01*(z/zg)^(2/α) (Table 27.3-1)

α =	7.00	zg =	1200 (Table 26.9-1)
Kh =	0.65	(Kh = Kz evaluated at z = h)	

Velocity Pressure: qz = 0.00256*Kz*Kzt*Kd*V^2*I (Eq. 27.3-1)

qh =	29.74 psf	qh = 0.00256*Kh*Kzt*Kd*V^2 (qz evaluated at z = h)	
Ratio h/L =	0.469	freq., f = 2.762 hz.	(f >= 1, Rigid structure)
Gust Factor, G =	0.850	(Sect. 26.9)	

Design Net External Wind Pressures (Sect. 27.4):
p = qz*G*Cp - qi*(+/-GCpi) for windward wall (psf), where: qi =qh (Eq. 27.4-1)
p = qh*G*Cp - qi*(+/-GCpi) for leeward wall, sidewalls, and roof (psf), where: qi = qh (Eq. 27.4-1)

Normal to Ridge Wind Load Tabulation for MWFRS - Buildings of Any Height						
Surface	z (ft.)	Kz	qz (psf)	Cp	p = Net Design Press. (psf) (w/ +GCpi)	p = Net Design Press. (psf) (w/ -GCpi)
Windward Wall	0	0.57	26.08	0.80	12.38	23.09
	15.00	0.57	26.08	0.80	12.38	23.09
	20.00	0.62	28.37	0.80	13.94	24.64
	25.00	0.67	30.65	0.80	15.49	26.20
For z = hr:	25.50	0.67	30.65	0.80	15.49	26.20
For z = he:	19.50	0.62	28.37	0.80	13.94	24.64
For z = h:	22.50	0.65	29.74	0.80	14.87	25.58
Leeward Wall	All	-	-	-0.50	-17.99	-7.29
Side Walls	All	-	-	-0.70	-23.05	-12.34
Roof (windward) cond. 1	-	-	-	-0.72	-23.55	-12.85
Roof (windward) cond. 2	-	-	-	-0.16	-9.40	1.31
	-	-	-			
Roof (leeward)	-	-	-	-0.50	-17.99	-7.29
	-	-	-			

Notes: 1. (+) and (-) signs signify wind pressures acting toward & away from respective surfaces.
2. Per Code Section 27.1.5, the minimum wind load for MWFRS shall not be less than 16 psf.

WALLS

WINDWARD	25.58	.6*P =	**15.3**
LEEWARD	-7.29	.6*P =	**-4.4**
	32.9	TOTAL	**19.7**

ROOF

WINDWARD	-12.85	.6*P =	**-7.7**
LEEWARD	-7.29	.6*P =	**-4.4**
	-5.6	TOTAL	**-3.3**

Determination of Gust Effect Factor, G:

Is Building Flexible? No f >=1 Hz.

1: Simplified Method for Rigid Building

G = 0.850

Parameters Used in Both Item #2 and Item #3 Calculations (from Table 26.9-1):

α^ =	0.143	
b^ =	0.84	
α(bar) =	0.250	
b(bar) =	0.45	
c =	0.30	
l =	320	ft.
ε(bar) =	0.333	
z(min) =	30	ft.

Calculated Parameters Used in Both Rigid and/or Flexible Building Calculations:

z(bar) =	30.00	= 0.6*h , but not < z(min) , ft. Table 26.9-1
Iz(bar) =	0.305	= c*(33/z(bar))^(1/6) , Eq. 26.9-7
Lz(bar) =	310.00	= l*(z(bar)/33)^(ε(bar)) , Eq. 26.9-9
gq =	3.4	(3.4, per Sect. 26.9.4)
gv =	3.4	(3.4, per Sect. 26.9.4)
gr =	4.425	= (2*(LN(3600*f)))^(1/2)+0.577/(2*LN(3600*f))^(1/2) , Eq. 26.9-11
Q =	0.876	= (1/(1+0.63*((B+h)/Lz(bar))^0.63))^(1/2) , Eq. 26.9-8

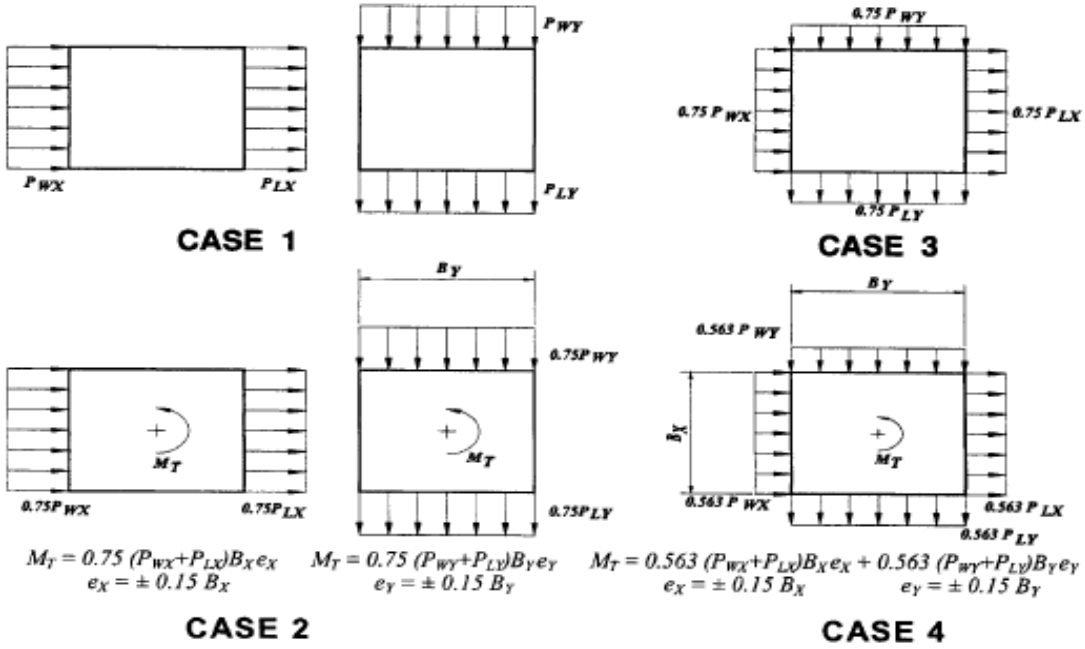
2: Calculation of G for Rigid Building

G = 0.852 = 0.925*((1+1.7*gq*Iz(bar)*Q)/(1+1.7*gv*Iz(bar))) , Eq. 26.9-6

3: Calculation of Gf for Flexible Building

β =	0.050	Damping Ratio
Ct =	0.035	Period Coefficient
T =	0.362	= Ct*h^(3/4) , sec. (Approximate fundamental period)
f =	2.762	= 1/T , Hz. (Natural Frequency)
V(fps) =	N.A.	= V(mph)*(88/60) , ft./sec.
V(bar,zbar) =	N.A.	= b(bar)*(z(bar)/33)^(α(bar))*V*(88/60) , ft./sec. , Eq. 26.9-16
N1 =	N.A.	= f*Lz(bar)/(V(bar,zbar)) , Eq. 26.9-14
Rn =	N.A.	= 7.47*N1/(1+10.3*N1)^(5/3) , Eq. 26.9-13
ηh =	N.A.	= 4.6*f*h/(V(bar,zbar))
Rh =	N.A.	= (1/ηh)-1/(2*ηh^2)*(1-e^(-2*ηh)) for ηh>0, or = 1 for ηh=0 ,Eq. 26.9-15a, b
ηb =	N.A.	= 4.6*f*B/(V(bar,zbar))
RB =	N.A.	= (1/ηb)-1/(2*ηb^2)*(1-e^(-2*ηb)) for ηb>0, or = 1 for ηb=0,Eq. 26.9-15a, b
ηd =	N.A.	= 15.4*f*L/(V(bar,zbar))
RL =	N.A.	= (1/ηd)-1/(2*ηd^2)*(1-e^(-2*ηd)) for ηd>0, or = 1 for ηd=0 ,Eq. 26.9-15a, b
R =	N.A.	= ((1/β)*Rn*Rh*RB*(0.53+0.47*RL))^(1/2) , Eq. 26.9-12
Gf =	N.A.	= 0.925*(1+1.7*Iz(bar)*(gq^2*Q^2+gr^2*R^2)^(1/2))/(1+1.7*gv*Iz(bar)) ,
Use: G =	0.850	Eq. 26.9-10

Figure 6-9 - Design Wind Load Cases of MWFRS for Buildings of All Heights



Case 1: Full design wind pressure acting on the projected area perpendicular to each principal axis of the structure, considered separately along each principal axis.

Case 2: Three quarters of the design wind pressure acting on the projected area perpendicular to each principal axis of the structure in conjunction with a torsional moment as shown, considered separately for each principal axis.

Case 3: Wind pressure as defined in Case 1, but considered to act simultaneously at 75% of the specified value.

Case 4: Wind pressure as defined in Case 2, but considered to act simultaneously at 75% of the specified value.

Notes: 1. Design wind pressures for windward (Pw) and leeward (PL) faces shall be determined in accordance with the provisions of Section 27.4.1 and 27.4.2 as applicable for buildings of all heights.

2. Above diagrams show plan views of building.

3. Notation:

P_{wx}, P_{wy} = Windward face pressure acting in the X, Y principal axis, respectively.

P_{Lx}, P_{Ly} = Leeward face pressure acting in the X, Y principal axis, respectively.

e (e_x, e_y) = Eccentricity for the X, Y principal axis of the structure, respectively.

M_T = Torsional moment per unit height acting about a vertical axis of the building.

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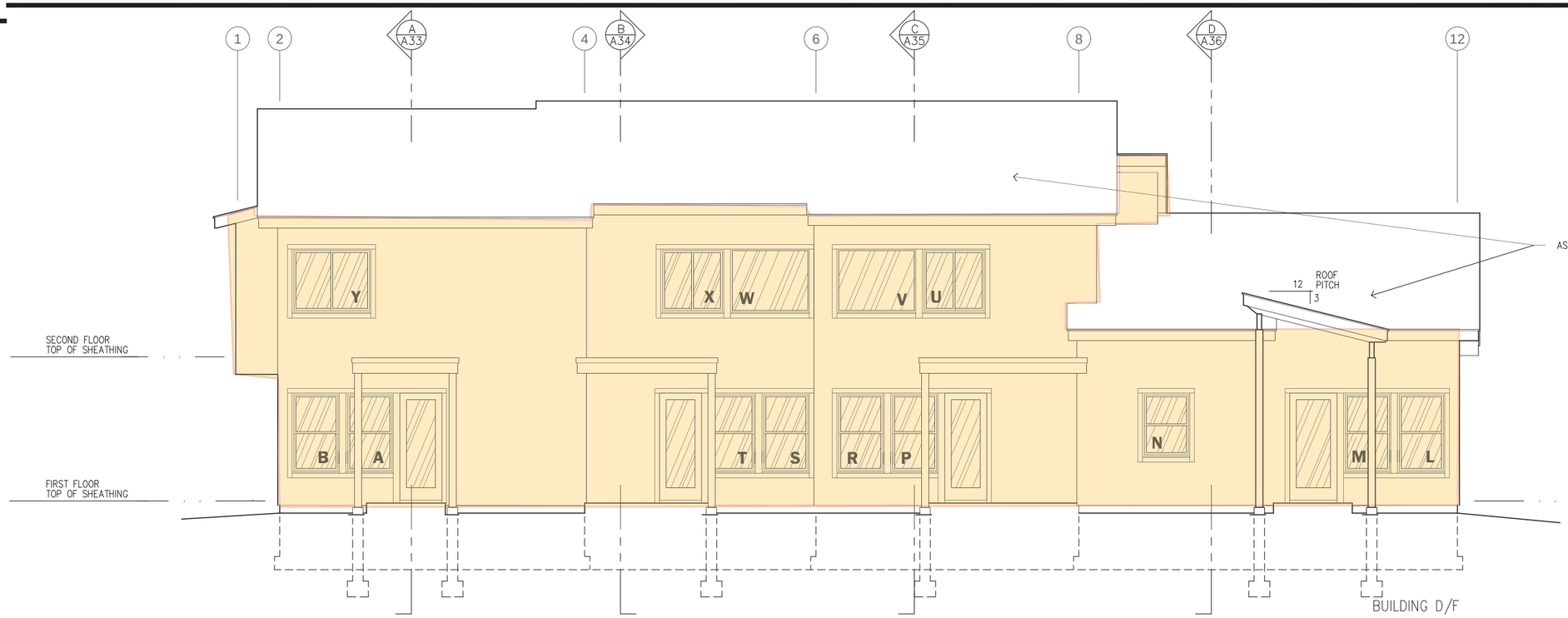
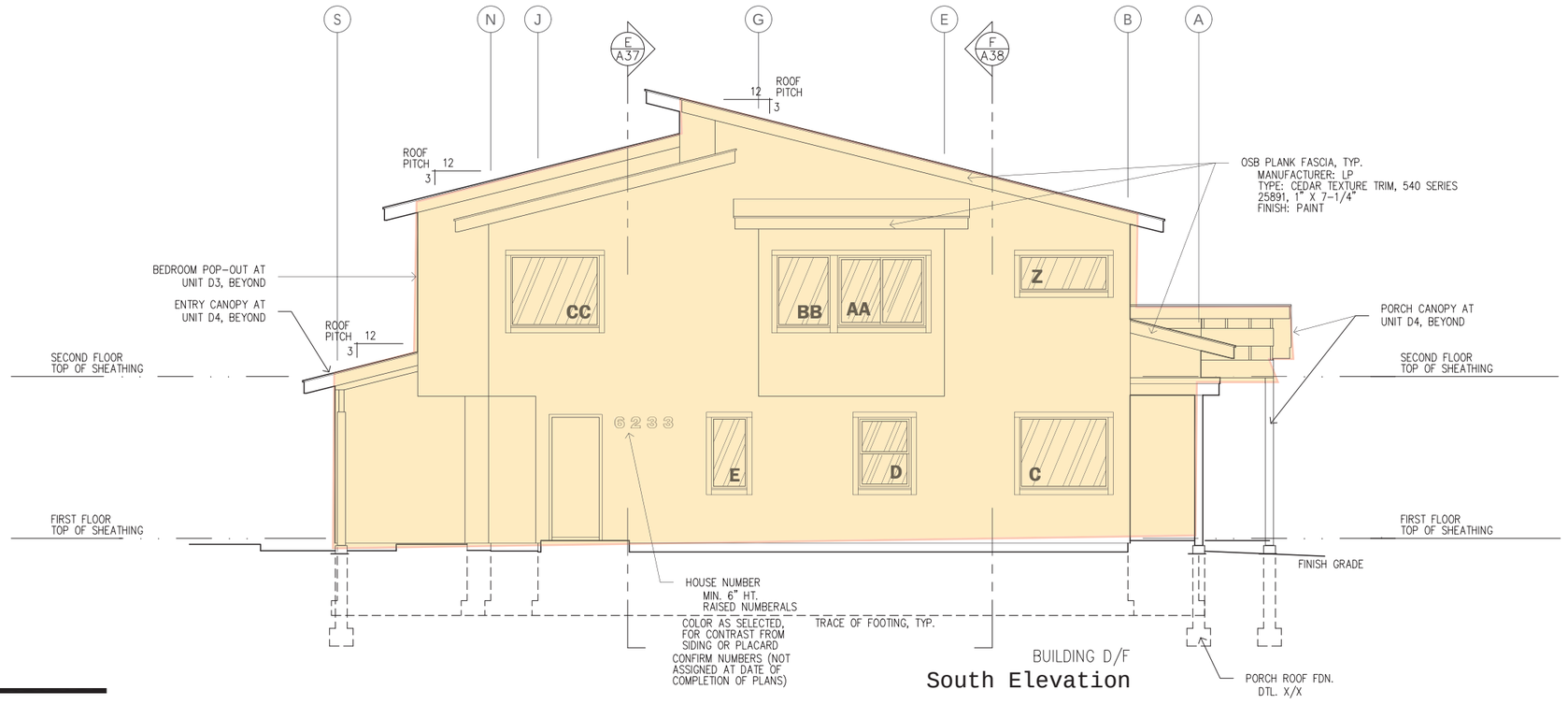


BUILDING D/F

East Elevation

1,260*4.4=5,544



BUILDING D/F

South Elevation

990*19.7=19,503

D/F

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Tract B, Valetskaya Addition No. 1
NHN Erna Court
ANCHORAGE, ALASKA

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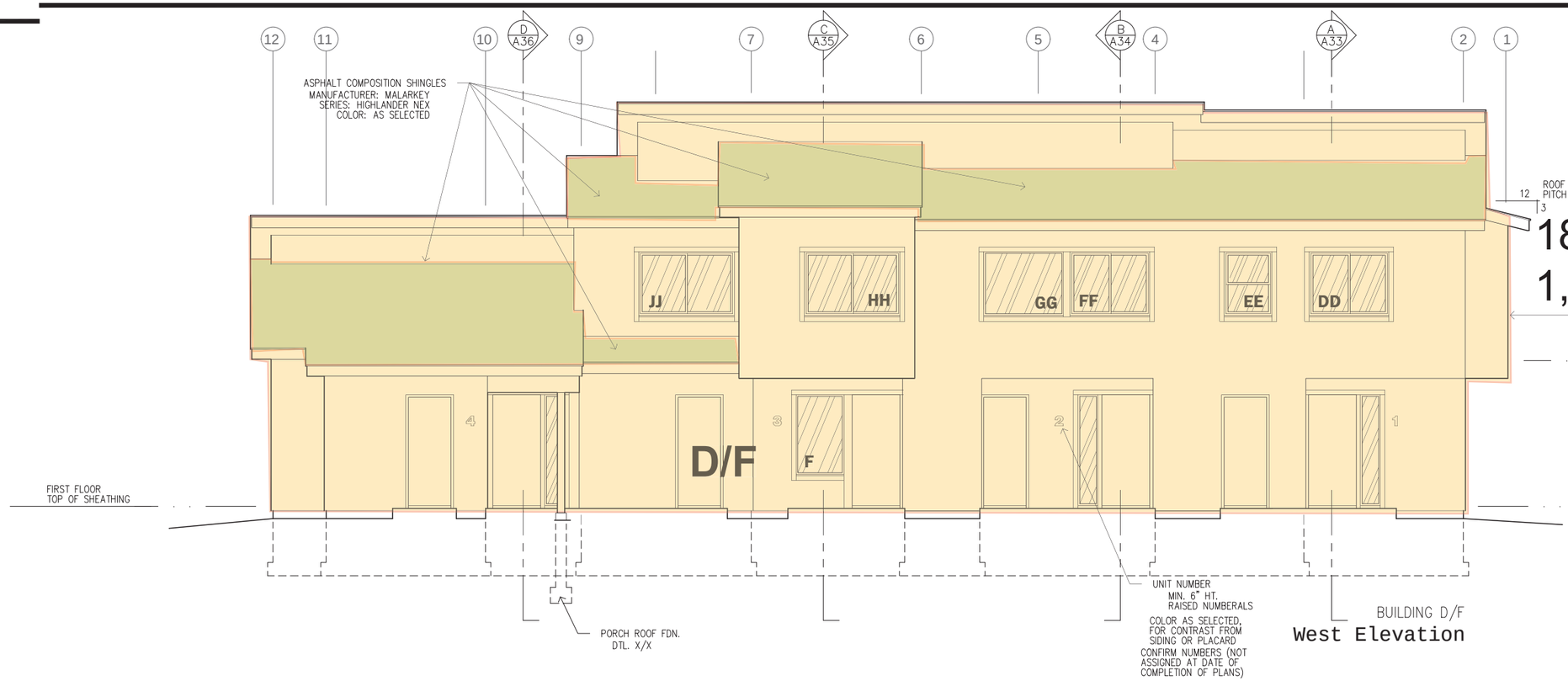
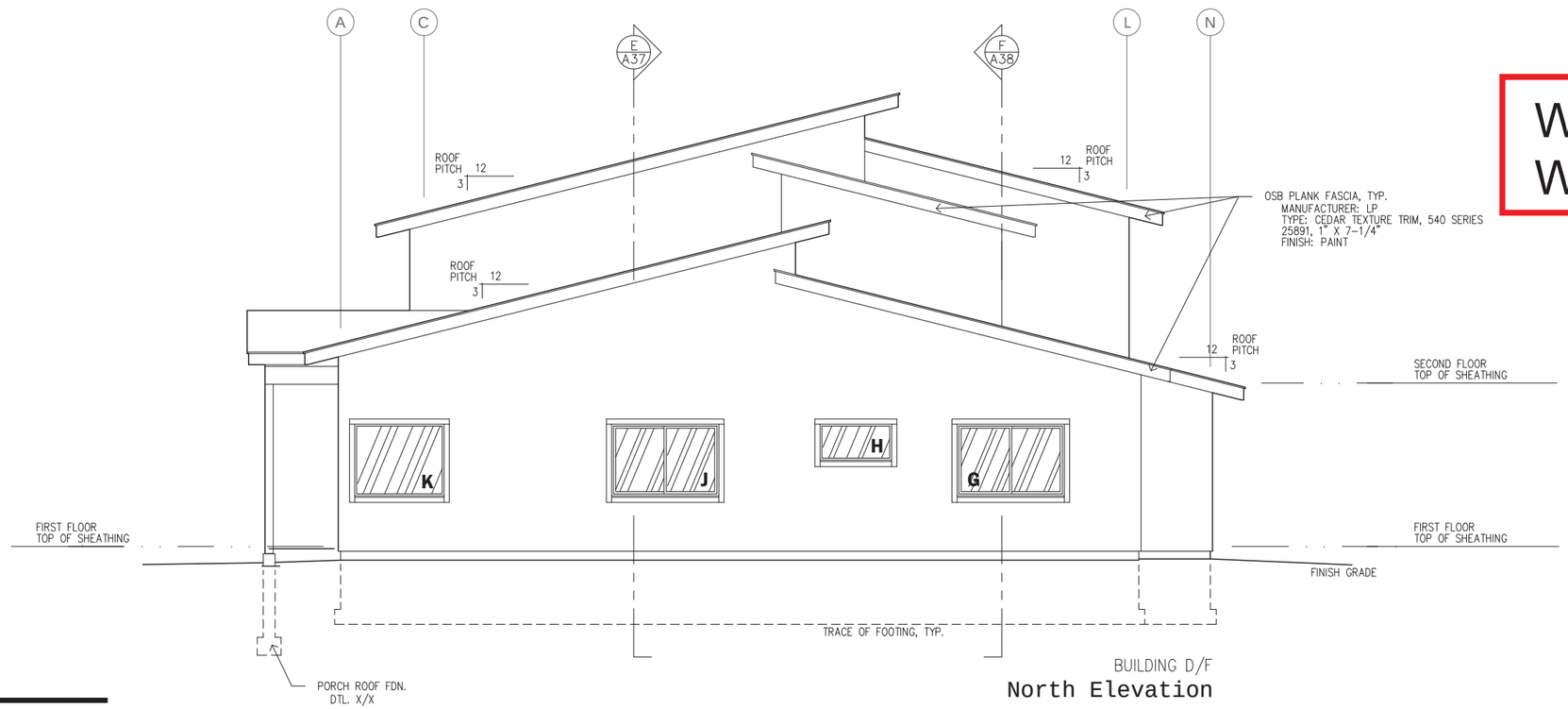


BUILDING D/F
West Elevation



BUILDING D/F
North Elevation

1820-204-144=1,472

1,472*15.3=22,522

WIND FORCES E/W= 28,065

WIND FORCES N/S= 19,503

50
25
10
5
0

D/F

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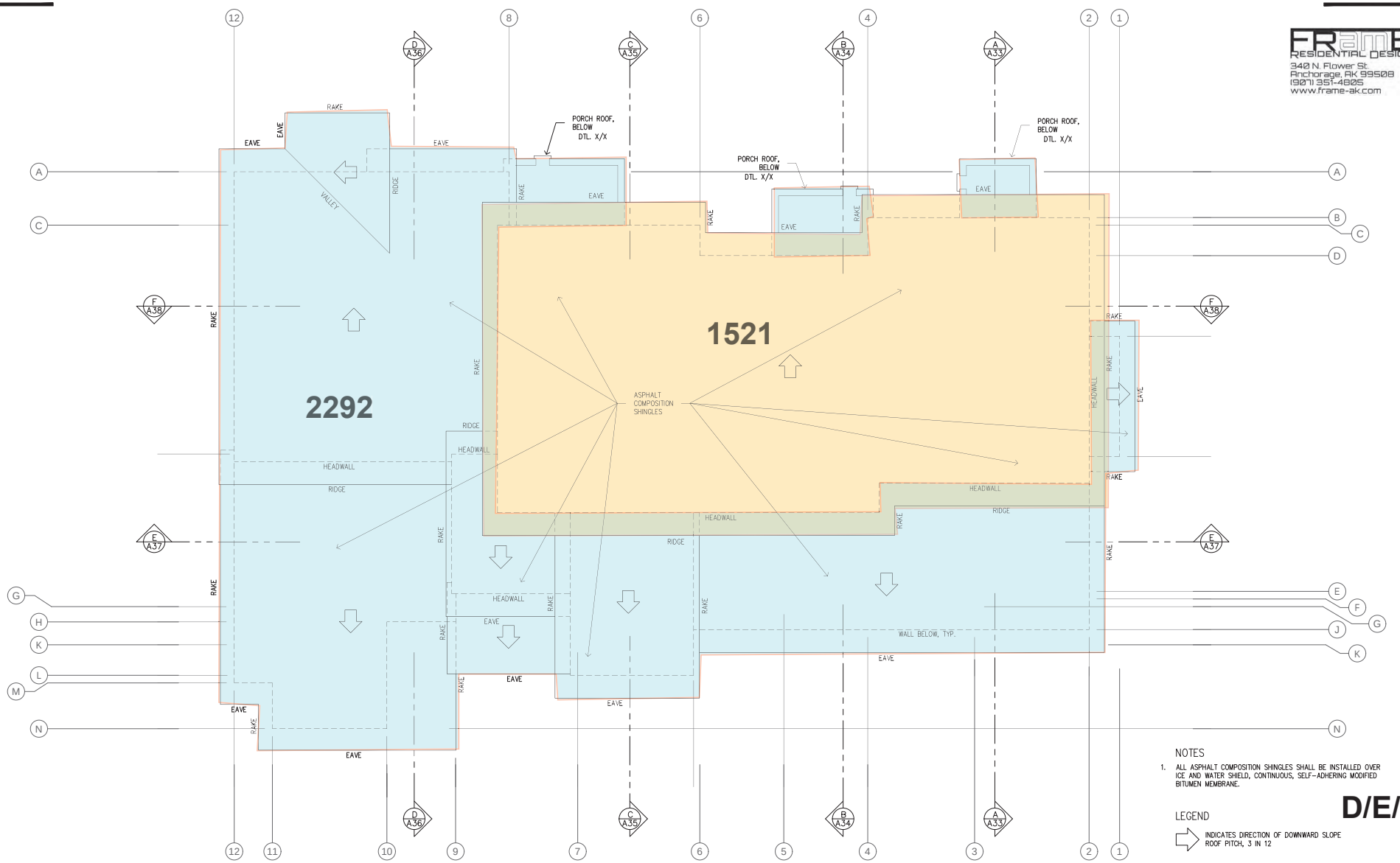

NOTES

1. ALL ASPHALT COMPOSITION SHINGLES SHALL BE INSTALLED OVER ICE AND WATER SHIELD, CONTINUOUS, SELF-ADHERING MODIFIED BITUMEN MEMBRANE.

LEGEND

INDICATES DIRECTION OF DOWNWARD SLOPE ROOF PITCH, 3 IN 12

D/E/F

BUILDING D/F
Roof Plan

NORTH

COOK INLET HOUSING AUTHORITY
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ANCHORAGE, ALASKA

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DATE: 05 SEP 25

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Project CIHA-BAXTER RD BLDGS D/E/F

Sheet _____ Of _____

By LDR Date 9/8/25

SEISMIC LOADING

STORY LOADS:

ROOF LEVEL H_{avg} =

	L	H	Area	Unit Wt	Weight
Roof	1,521	1	1521	15 psf =	22,815
Snow	1,521	1	1521	8 psf =	12,168
1/2 exterior walls below	180	4	720	10 psf =	7,200
1/2 interior walls below	290	4	1160	8 psf =	9,280
				W_R =	51,463

SECOND LEVEL

	L	H	Area	Unit Wt	Weight
1/2 exterior walls above	180	4	720	10 psf =	7,200
1/2 interior walls above	290	4	1160	8 psf =	9,280
Roof	2,292	1	2292	15 psf =	34,380
Snow	2,292	1	2292	8 psf =	18,336
Floor	1,910	1	1910	12 psf =	22,920
Deck		1		10 psf =	
Deck Snow		1		8 psf =	
1/2 exterior walls below	264	4	1056	10 psf =	10,560
1/2 interior walls below	415	4	1660	8 psf =	13,280
				W_2 =	115,956

FIRST LEVEL H_{avg} =

	L	H	Area	Unit Wt	Weight
1/2 exterior walls above	264	4	1056	10 psf =	10,560
1/2 interior walls above	415	4	1660	8 psf =	13,280
Floor	3,000	1	3000	12 psf =	36,000
Floor		1		55 psf =	
1/2 exterior walls below		1	0	10 psf =	0
1/2 interior walls below				8 psf =	
				W_1 =	59,840
			Σ	= W_s =	227,259

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Sheet ____ Of ____
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SEISMIC FORCES 2018 IBC (Simplified Method)

BASE SHEAR (ASCE 12.14.8.1)

Number of Stories	2		ρ =	1.3	Default		
Plan irregularity	no		PI_{Adj} =	1.00			
BASE SHEAR = V =	$[FS_{DS}/R]\rho W$ =		42,207	Lbs		V = 0.19	W_s
						Factored x .7	
Where: W_s =	227,259	Lbs	F =	1.1		V = 0.27	W_s
R =	6.5		F_a =	1.2		Strength Level	
I_s =	1.0		F_v =	1.5			
S_{DS} = $2/3[S_{MS}]$ =	1.206		S_{D1} = $2/3[S_{M1}]$ =	0.7			
S_{MS} = F_aS_s =	1.8		S_{M1} = F_vS_1 =	1.0			
S_s =	1.500		S_1 =	0.682	Zip Code	99504	

VERTICAL DISTRIBUTION (ASCE12.14.8.2) Fx = $(w_x/W)V$

SEISMIC FORCES TO DIAPHRAGMS

LEVEL	W_s	H_{avg}	FORCE	
Roof	51,463	0	9,558	Lbs
2nd	115,956	0	21,536	Lbs
1st	59,840	0	11,114	Lbs
W_s=	227,259	Lbs	42,208	Lbs

DIAPHRAGM FORCES

	DIAPHRAGM	LENGTH	FORCE	SHEAR	
North/South					
	Roof	36.0	7,006	195	plf
	2nd	49.0	21,536	440	plf
	1st	49.0	11,114	227	plf
East/West					
	Roof	56.0	9,558	171	plf
	2nd	76.0	21,536	283	plf
	1st	76.0	11,114	146	plf

Load Combinations
Wind .6D + W
E'quake $(.6-.14S_{DS})D+.7\rho Q_E$

Wind Base Shear	North/South	19,503	<	42,207	seismic controls
Wind Base Shear	East/West	28,065	<	42,207	seismic controls

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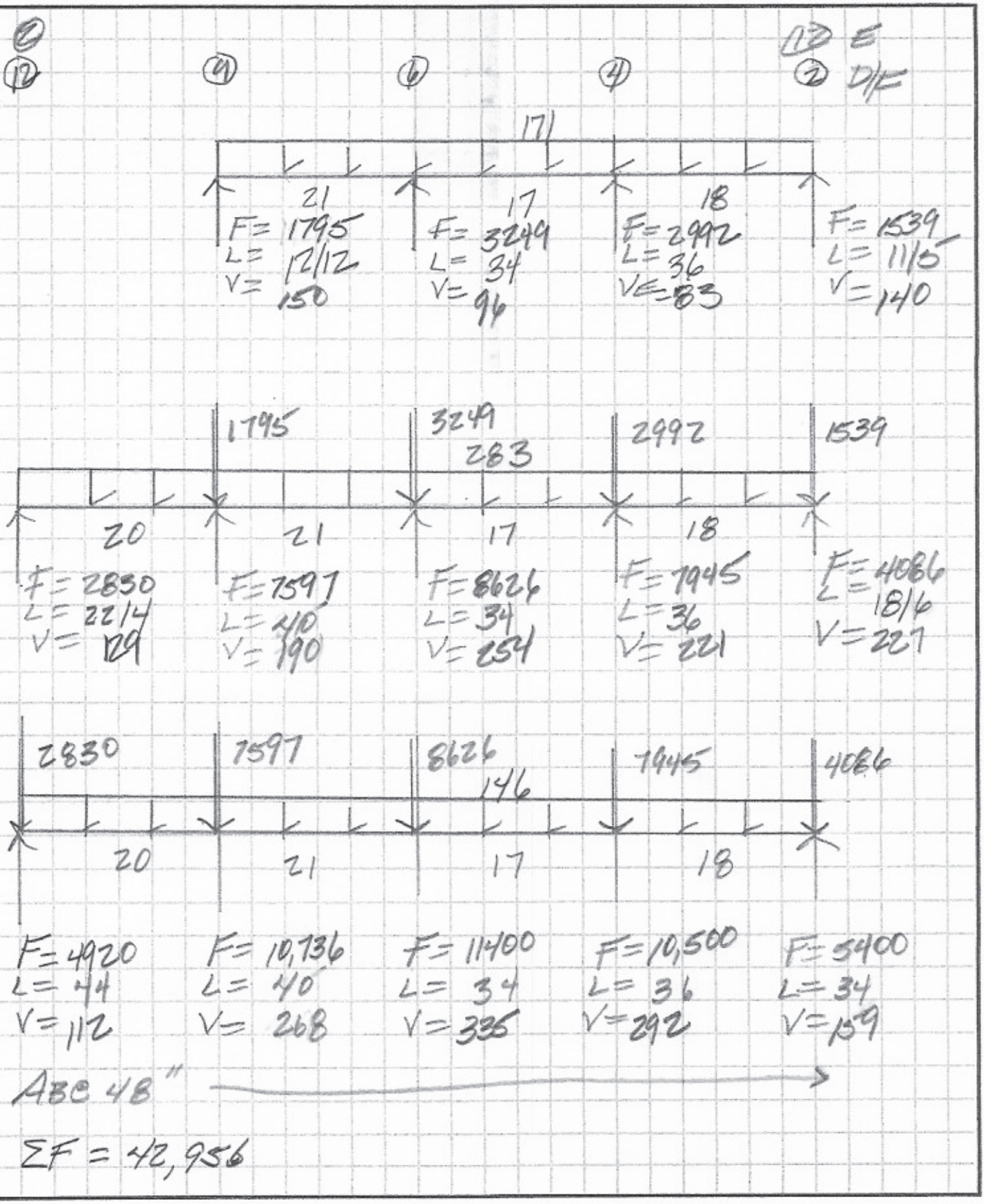
JOB CIHA-BAXTER - D/E/F

SUBJECT

BY DATE 9/8/25

SHEET# OF SCALE



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Project CIHA-BAXTER RD BLDGS D/E/F

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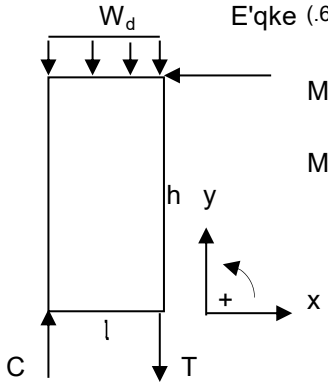
OVERTURNING FORCES

Load Combinations

			Adj
Wind	.6D + W	$W_{adj} = .6\ W_d$ =	0.60
E'qke	$(.6-.14S_{DS})D+.7\rho Q_E$	$W_{adj} = (.6-.14S_{DS})W_d$ =	0.43
		ρ =	1.3



$M_{OT} = vLh$

$M_R = (Adj)W_dL^2/2$

Default = W

Wall	Level	shear (v)	Ht (ft)	L (ft)	W_d	Adj	M_{OT}	M_R	T or C
2	2	140	8	5	80	E	5,600	430	1,034
4	2	83	8	36	80	E	23,904	22,291	45
6	2	96	8	34	80	E	26,112	19,883	183
9	2	150	8	12	80	E	14,400	2,477	994
C/D	2	199	8	5	350	E	7,960	1,881	1,216
E/J	2	298	8	4	350	E	9,536	1,204	2,083
2	1	227	8	6	190	E	10,896	1,471	1,571
4	1	221	8	36	190	E	63,648	52,942	297
6	1	254	8	34	190	E	69,088	47,223	643
9	1	190	8	15	190	E	22,800	9,191	907
12	1	129	8	4	190	E	4,128	654	869
A	1	421	8	3.5	80	E	11,788	211	3,308
C/D	1	346	8	6	530	E	16,608	4,102	2,084
E/J/K	1	402	8	4	530	E	12,864	1,823	2,760
L	1	421	8	3.5	80	E	11,788	211	3,308
N	1	369	8	5	80	E	14,760	430	2,866

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Project CIHA-BAXTER RD BLDGS D/E/F

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HOLDOWNS

WALL	LEVEL	T	STRAP or HOLDOWN	CHORD	A. BOLT	Embed, Concrete	Embed, Masonry	T_{all}
2	2	1,034	N/A					
4	2	45	N/A					
6	2	183	N/A					
9	2	994	N/A					
C/D	2	1,216	(1) - MST 37	(2) - 2x-DF				5,080
E/J	2	2,083	(1) - MST 37	(2) - 2x-DF				5,080
2	1	1,571	HDU2	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	3,075
4	1	297	N/A					
6	1	643	N/A					
9	1	907	N/A					
12	1	869	N/A					
A	1	3,308	HDU4	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	4,565
C/D	1	2,084	HDU2	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	3,075
E/J/K	1	2,760	HDU2	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	3,075
L	1	3,308	HDU4	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	4,565
N	1	2,866	HDU2	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	3,075
COMBINED								
2	1	2,605	HDU2	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	3,075
C/D		3,300	HDU4	(2) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	4,565
E/J/K		4843	HDU5	(3) - 2x-DF	$^5/_8$"	7" into ft'g,	7" into ft'g,	5,645

EMBEDMENT DEPTHS SHOWN ARE FOR ANCHOR BOLTS IN UNINSPECTED CONCRETE MASONRY; FULL GROUTING OF ALL CELLS IN ENTIRE STEM WALL IS REQUIRED. CONCRETE EMBEDMENT DEPTHS ASSUME f'_c= 3000 PSI CONCRETE; f'_m=2500 psi.

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Project CIHA-BAXTER RD BLDGS D/E/F

Sheet _____ Of _____

By LDR Date 9/8/25

SHEAR WALL SCHEDULE (IBC 2018)

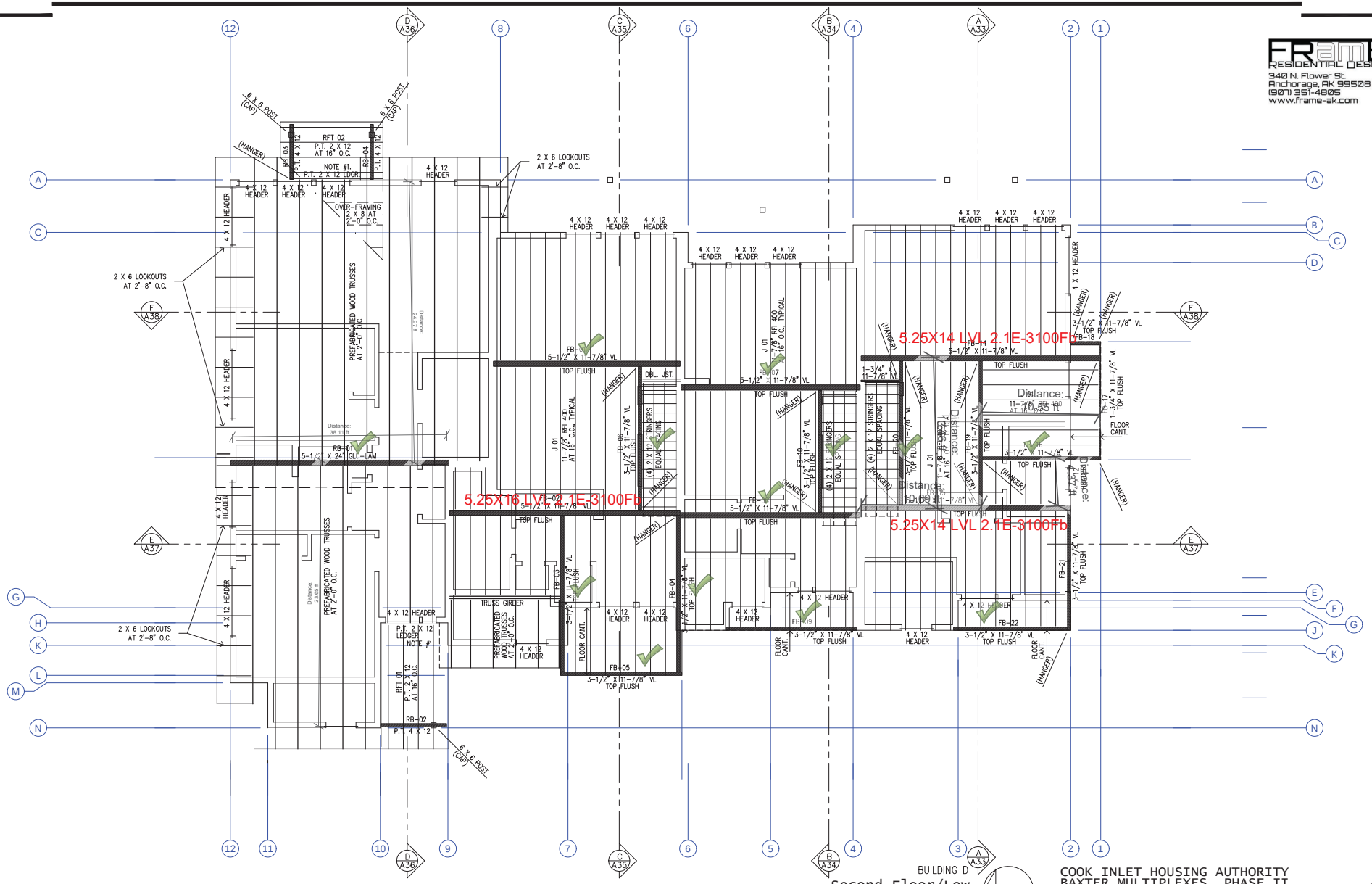
Doug-Fir framing lumber, per NDS SDPWS-15, wind or seismic;. All values ≤ SDPWS-15, Table 4.3A, adjusted per 4.3.3, ASD, seismic, where $v_a=[v_{nom}/2]*[1-(.5-G)]$

WALL	LEVEL	V	I	SW #	V_{all}	OSB	Fastener	BN	EN	FN
2	2	140	5	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
4	2	83	36	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
6	2	96	34	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
9	2	150	12	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
C/D	2	199	5	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
E/J	2	298	4	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
2	1	227	6	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
4	1	221	36	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
6	1	254	34	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
9	1	190	15	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
12	1	129	4	**N1**	393	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	4"	4"	12"
A	1	421	3.5	**N2**	505	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	3"	3"	12"
C/D	1	346	6	**N2**	505	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	3"	3"	12"
E/J/K	1	402	4	**N2**	505	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	3"	3"	12"
L	1	421	3.5	**N2**	505	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	3"	3"	12"
N	1	369	5	**N2**	505	(1)-$^{7}/_{16}$"	.131 x 2$^{1}/_{2}$"	3"	3"	12"

* INDICATES SHEATHING ON TWO SIDES

NOTES:

NAILING SHOWN ABOVE INDICATES PANEL EDGE AND BOUNDARY NAILING; FIELD NAIL AT 12"OC. BLOCK ALL JOINTS AT ABUTTING SHT'G PANELS . SHEATHING/SIDING MAY BE INSTALLED HORIZONTALLY OR VERTICALLY. OFFSET PANEL JOINTS FROM SIDE TO SIDE OF WALL. OFFSET STAGGER NAIL PATTERN FROM SIDE TO SIDE OF WALL ON PLATES AND BOUNDARY MEMBERS. 15/32" CDX MAY SUBSTITUTE FOR 7/16" OSB. FRAMING MEMBERS TO BE 3x [or 2 - 2x] NOMINAL WHERE NAILING AT ABUTTING PANELS JOINTS IS 2" OC AND WHERE 10d NAILS PENETRATE MORE THAN 1 1/2" INTO FRAMING MEMBER.



FRAME RESIDENTIAL DESIGN
340 N. Flower St.
Anchorage, AK 99508
(907) 351-4805
www.frame-ak.com

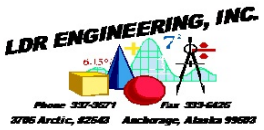
BUILDING D
Second Floor/Low Roof Framing Plan
BUILDING F -- SIMILAR
BUILDING E -- SIMILAR/OPPOSITE HAND

NORTH

COOK INLET HOUSING AUTHORITY
BAXTER MULTIPLEXES, PHASE II
Tract B, Valetskaya Addition No. 1
NHN Erna Court
ANCHORAGE, ALASKA

DR. BY: CLARK
DATE: 05 SEP 25

S10
59 OF 77

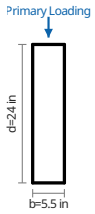


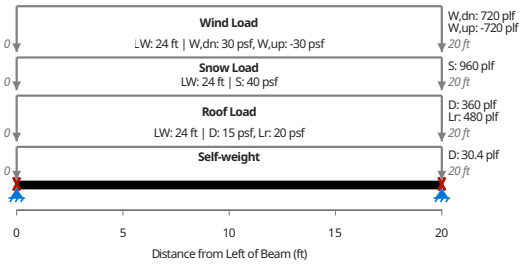
Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject: Member Schedule**

	Calculation	Member	Quantity	Comments
73%	**RB-01**	5-1/2x24 24F-V4 DF	20 ft	
82%	**FB-02**	5-1/4x16 PW LVL 2.0E-3100Fb	20 ft	
65%	**FB-08**	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb	15 ft	
79%	**FB-15**	5-1/4x14 Versa-Lam LVL 2.1E-3100Fb	18 ft	
9%	**FB-20**	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb	13.5 ft	
22%	**FB-19**	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb	13.5 ft	
94%	**FB-01**	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb	16 ft	

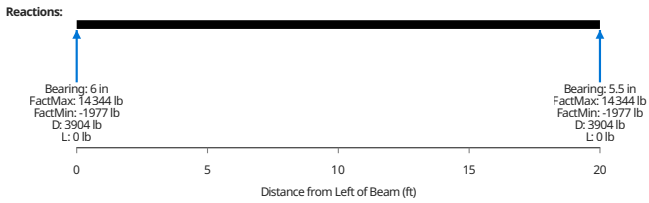
Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** RB-01 PASS
References: NDS 2018 (ASD)		

Summary





	Member	5-1/2x24 24F-V4 DF
60%	Moment Utilization	$M/M' =$ 67 520 lb*ft / 113 106 lb*ft
50%	Shear Utilization	$V/V' =$ 13 504 lb / 26 818 lb
73%	Bearing Utilization	$R/R' =$ 14 344 lb / 19 662 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 4.01 in
30%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.303 in (L/792)
21%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.213 in (L/1126)
	Governing Long-Term Deflection	$\delta_{LT} = -0.213$ in



Key Properties

	Beam Plan Length	$L_X =$ 20 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads

Design Conditions

International Building Code (IBC) 2018

Member Properties

	Cross-Sectional Area	$A =$ 132 in^2
	Strong Axis Moment of Inertia	$I_{xx} =$ 6336 in^4
	Section Modulus	$S =$ 528 in^3
	Base Allowable Bending Stress	$F_b =$ 2400 psi
	Base Allowable Shear Stress	$F_v =$ 265 psi
	Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$ 650 psi
	True Modulus of Elasticity	$E_{true} =$ 1.90×10^6 psi
	Apparent Modulus of Elasticity	$E_{app} =$ 1.80×10^6 psi
	Modulus of Elasticity for Deflections	$E =$ 1.80×10^6 psi

Elastic Modulus (NDS 2018 2.3)

	Adjusted Modulus of Elasticity	$E' =$ 1.80×10^6 psi

Section Bending (NDS 2018 2.3)

	Volume Factor	$C_V =$ 0.931

Positive Bending (NDS 2018 2.3)

	Governing Duration Factor - Positive Bending	$C^+_{D,b} =$ 1.15
	Governing Beam Stability Factor - Positive Bending	$C^+_L =$ 1
	Adjusted Bending Strength - Positive Bending	$F'^+_b =$ 2571 psi

Negative Bending (NDS 2018 2.3)

	Governing Duration Factor - Negative Bending	$C^-_{D,b} =$ 1.6
	Governing Beam Stability Factor - Negative Bending	$C^-_L =$ 0.817
	Adjusted Bending Strength - Negative Bending	$F'^-_b =$ 2417 psi

Shear Design (NDS 2018 3.4)

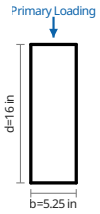
	Governing Duration Factor	$C_D =$ 1.15
	Adjusted Shear Strength	$F'_v =$ 305 psi

Bearing (NDS 2018 3.10)		Comments
Base Bearing Strength	$F'_{c\perp}/C_b = \quad 650\,\text{psi}$	

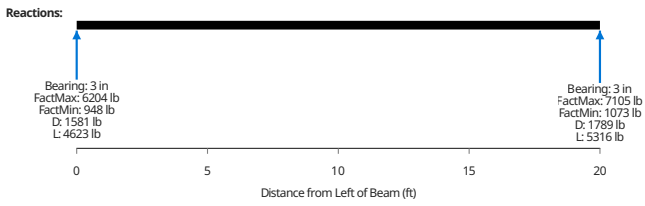
LDR ENGINEERING, INC.
Phone: 337-3671 Fax: 333-6626
3705 Arctic, #2543 Anchorage, Alaska 99503

Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** FB-02 PASS
References: NDS 2018 (ASD)		

Summary



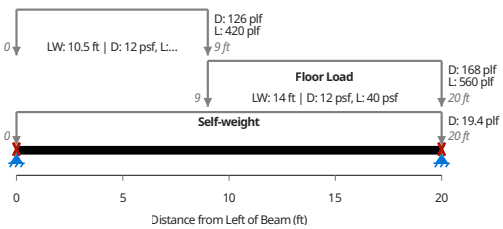
	Member	5-1/4x16 PW LVL 2.0E-3100Fb
62%	Moment Utilization	$M/M' =$ 33 773 lb*ft* / *54 631 lb*ft
45%	Shear Utilization	$V/V' =$ 7105 lb / 15 960 lb
53%	Bearing Utilization	$R/R' =$ 7105 lb / 13 387 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 1.59 in
82%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.544 in (L/441)
63%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.629 in (L/381)
	Governing Long-Term Deflection	$\delta_{LT} = -0.629$ in



Key Properties

	Beam Plan Length	$L_X =$ 20 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads



Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$ 84 in^2
Strong Axis Moment of Inertia	$I_{xx} =$ 1792 in^4
Section Modulus	$S =$ 224 in^3
Base Allowable Bending Stress	$F_b =$ 3100 psi
Base Allowable Shear Stress	$F_v =$ 285 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$ 850 psi
True Modulus of Elasticity	$E_{true} =$ 2.00×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$ NaN psi
Modulus of Elasticity for Deflections	$E =$ 2.00×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$ 2.00×10^6 psi
Adjusted Shear Modulus	$G' =$ 125 000 psi

Section Bending (NDS 2018 2.3)

Volume Factor	$C_V =$ 0.944

Positive Bending (NDS 2018 2.3)

Governing Duration Factor - Positive Bending	$C^+_{D,b} =$ 1
Governing Beam Stability Factor - Positive Bending	$C^+_L =$ 1
Adjusted Bending Strength - Positive Bending	$F'^+_b =$ 2927 psi

Negative Bending (NDS 2018 2.3)

Governing Duration Factor - Negative Bending	$C^-_{D,b} =$ 0.9
Governing Beam Stability Factor - Negative Bending	$C^-_L =$ 0.942
Adjusted Bending Strength - Negative Bending	$F'^-_b =$ 2628 psi

Shear Design (NDS 2018 3.4)

Governing Duration Factor	$C_D =$ 1
Adjusted Shear Strength	$F'_v =$ 285 psi

Bearing (NDS 2018 3.10)

Base Bearing Strength	$F'_{c\perp}/C_b =$ 850 psi

Comments

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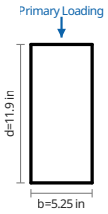
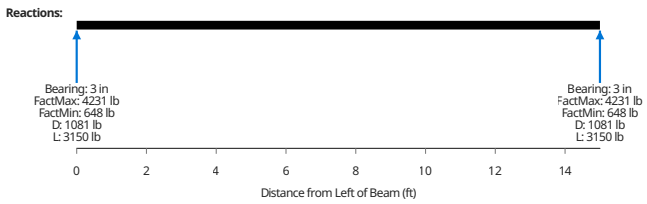
3705 Arctic, #2543 Anchorage, Alaska 99503

Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** FB-08 PASS
References: NDS 2018 (ASD)		

Summary



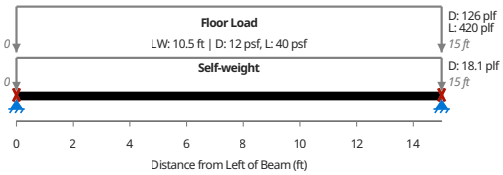
	Member	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb
50%	Moment Utilization	$M/M' =$ 15 865 lb*ft* / *31 913 lb*ft
36%	Shear Utilization	$V/V' =$ 4231 lb / 11 845 lb
36%	Bearing Utilization	$R/R' =$ 4231 lb / 11 812 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 1.07 in
65%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.326 in (L/551)
51%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.382 in (L/471)
	Governing Long-Term Deflection	$\delta_{LT} = -0.382$ in



Key Properties

	Beam Plan Length	$L_X =$ 15 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads



Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$	62.3 in^2
Strong Axis Moment of Inertia	$I_{xx} =$	733 in^4
Section Modulus	$S =$	123 in^3
Base Allowable Bending Stress	$F_b =$	3100 psi
Base Allowable Shear Stress	$F_v =$	285 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$	750 psi
True Modulus of Elasticity	$E_{true} =$	2.10×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$	2.00×10^6 psi
Modulus of Elasticity for Deflections	$E =$	2.00×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$	2.00×10^6 psi

Section Bending (NDS 2018 2.3)

Volume Factor	$C_V =$	1

Positive Bending (NDS 2018 2.3)

Governing Duration Factor - Positive Bending	$C^+_{D,b} =$	1
Governing Beam Stability Factor - Positive Bending	$C^+_L =$	1
Adjusted Bending Strength - Positive Bending	$F'^+_b =$	3104 psi

Negative Bending (NDS 2018 2.3)

Governing Duration Factor - Negative Bending	$C^-_{D,b} =$	0.9
Governing Beam Stability Factor - Negative Bending	$C^-_L =$	0.979
Adjusted Bending Strength - Negative Bending	$F'^-_b =$	2734 psi

Shear Design (NDS 2018 3.4)

Governing Duration Factor	$C_D =$	1
Adjusted Shear Strength	$F'_v =$	285 psi

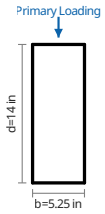
Bearing (NDS 2018 3.10)

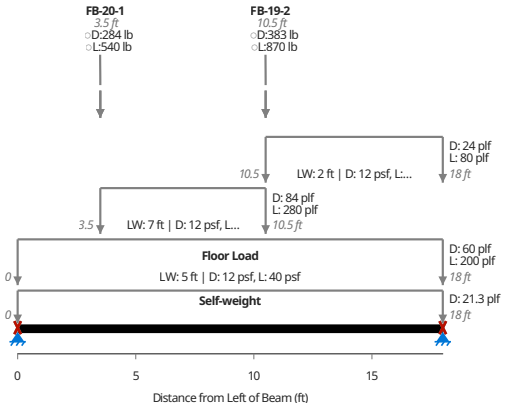
Base Bearing Strength	$F'_{c\perp}/C_b =$	750 psi

Comments

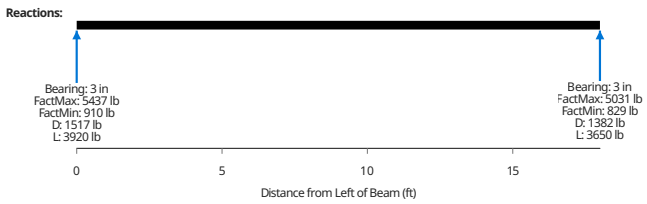
Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** FB-15 PASS
References: NDS 2018 (ASD)		

Summary





	Member		5-1/4x14 Versa-Lam LVL 2.1E-3100Fb
63%	Moment Utilization	$M/M' =$	27 510 lb*ft* / 43 552 lb*ft*
39%	Shear Utilization	$V/V' =$	5437 lb / 13 965 lb
46%	Bearing Utilization	$R/R' =$	5437 lb / 11 812 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$	1.38 in
79%	Governing Live / Short-Term Deflection	$\delta_{ST} =$	-0.475 in (L/455)
63%	Governing Long-Term Deflection	$\delta_{LT} =$	-0.564 in (L/383)
	Governing Long-Term Deflection	$\delta_{LT} =$	-0.564 in



Key Properties

Beam Plan Length	$L_X =$	18 ft
Continuous Bracing for Lateral Torsional Buckling		Top Braced

Loads

Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$	73.5 in^2
Strong Axis Moment of Inertia	$I_{xx} =$	1200 in^4
Section Modulus	$S =$	171 in^3
Base Allowable Bending Stress	$F_b =$	3100 psi
Base Allowable Shear Stress	$F_v =$	285 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$	750 psi
True Modulus of Elasticity	$E_{true} =$	2.10×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$	2.00×10^6 psi
Modulus of Elasticity for Deflections	$E =$	2.00×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$	2.00×10^6 psi

Section Bending (NDS 2018 2.3)

Volume Factor	$C_V =$	0.983

Positive Bending (NDS 2018 2.3)

Governing Duration Factor - Positive Bending	$C^+_{D,b} =$	1
Governing Beam Stability Factor - Positive Bending	$C^+_L =$	1
Adjusted Bending Strength - Positive Bending	$F'^+_b =$	3047 psi

Negative Bending (NDS 2018 2.3)

Governing Duration Factor - Negative Bending	$C^-_{D,b} =$	0.9
Governing Beam Stability Factor - Negative Bending	$C^-_L =$	0.966
Adjusted Bending Strength - Negative Bending	$F'^-_b =$	2695 psi

Shear Design (NDS 2018 3.4)

Governing Duration Factor	$C_D = 1$
Adjusted Shear Strength	$F'_v = 285 \text{ psi}$

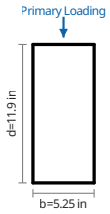
Bearing (NDS 2018 3.10)

Base Bearing Strength	$F'_{c\perp}/C_b = 750 \text{ psi}$

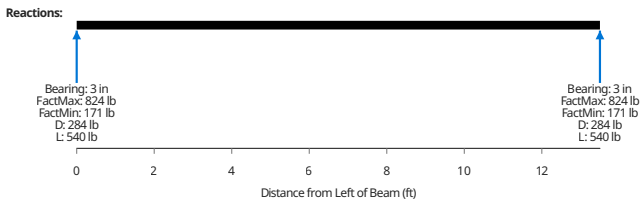
Comments

Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** FB-20 PASS
References: NDS 2018 (ASD)		

Summary



	Member	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb
9%	Moment Utilization	$M/M' =$ 2782 lb*ft / 31 913 lb*ft
7%	Shear Utilization	$V/V' =$ 824 lb / 11 845 lb
7%	Bearing Utilization	$R/R' =$ 824 lb / 11 812 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 0.209 in
9%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.0408 in (L/3971)
8%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.0515 in (L/3143)
	Governing Long-Term Deflection	$\delta_{LT} =$ −0.0515 in



Key Properties

	Beam Plan Length	$L_X =$ 13.5 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads

Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$	62.3 in^2
Strong Axis Moment of Inertia	$I_{xx} =$	733 in^4
Section Modulus	$S =$	123 in^3
Base Allowable Bending Stress	$F_b =$	3100 psi
Base Allowable Shear Stress	$F_v =$	285 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$	750 psi
True Modulus of Elasticity	$E_{true} =$	2.10×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$	2.00×10^6 psi
Modulus of Elasticity for Deflections	$E =$	2.00×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$	2.00×10^6 psi

Section Bending (NDS 2018 2.3)

Volume Factor	$C_V =$	1

Positive Bending (NDS 2018 2.3)

Governing Duration Factor - Positive Bending	$C^+_{D,b} =$	1
Governing Beam Stability Factor - Positive Bending	$C^+_L =$	1
Adjusted Bending Strength - Positive Bending	$F'^+_b =$	3104 psi

Negative Bending (NDS 2018 2.3)

Governing Duration Factor - Negative Bending	$C^-_{D,b} =$	0.9
Governing Beam Stability Factor - Negative Bending	$C^-_L =$	0.981
Adjusted Bending Strength - Negative Bending	$F'^-_b =$	2741 psi

Shear Design (NDS 2018 3.4)

Governing Duration Factor	$C_D =$	1
Adjusted Shear Strength	$F'_v =$	285 psi

Bearing (NDS 2018 3.10)

Base Bearing Strength	$F'_{c\perp}/C_b =$	750 psi

Comments

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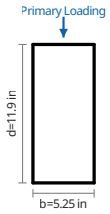
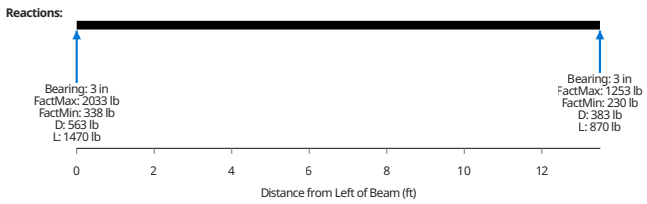
3705 Arctic, #2543 Anchorage, Alaska 99503

Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject: FB-19** PASS
References: NDS 2018 (ASD)		

Summary



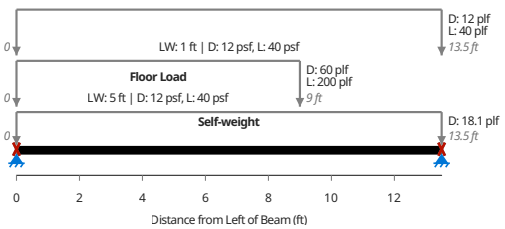
	Member	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb
20%	Moment Utilization	$M/M' =$ 6261 lb*ft / 31 913 lb*ft
17%	Shear Utilization	$V/V' =$ 2033 lb / 11 845 lb
17%	Bearing Utilization	$R/R' =$ 2033 lb / 11 812 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 0.516 in
22%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.0973 in (L/1665)
17%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.117 in (L/1390)
	Governing Long-Term Deflection	$\delta_{LT} =$ −0.117 in



Key Properties

	Beam Plan Length	$L_X =$ 13.5 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads



Design Conditions

International Building Code (IBC) 2018

Member Properties

	Cross-Sectional Area	$A =$ 62.3 in^2
	Strong Axis Moment of Inertia	$I_{xx} =$ 733 in^4
	Section Modulus	$S =$ 123 in^3
	Base Allowable Bending Stress	$F_b =$ 3100 psi
	Base Allowable Shear Stress	$F_v =$ 285 psi
	Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$ 750 psi
	True Modulus of Elasticity	$E_{true} =$ 2.10 × 10^6 psi
	Apparent Modulus of Elasticity	$E_{app} =$ 2.00 × 10^6 psi
	Modulus of Elasticity for Deflections	$E =$ 2.00 × 10^6 psi

Elastic Modulus (NDS 2018 2.3)

	Adjusted Modulus of Elasticity	$E' =$ 2.00 × 10^6 psi

Section Bending (NDS 2018 2.3)

	Volume Factor	$C_V =$ 1

Positive Bending (NDS 2018 2.3)

	Governing Duration Factor - Positive Bending	$C^+_{D,b} =$ 1
	Governing Beam Stability Factor - Positive Bending	$C^+_L =$ 1
	Adjusted Bending Strength - Positive Bending	$F'^+_b =$ 3104 psi

Negative Bending (NDS 2018 2.3)

	Governing Duration Factor - Negative Bending	$C^-_{D,b} =$ 0.9
	Governing Beam Stability Factor - Negative Bending	$C^-_L =$ 0.982
	Adjusted Bending Strength - Negative Bending	$F'^-_b =$ 2742 psi

Shear Design (NDS 2018 3.4)

	Governing Duration Factor	$C_D =$ 1
	Adjusted Shear Strength	$F'_v =$ 285 psi

Bearing (NDS 2018 3.10)

	Base Bearing Strength	$F'_{c\perp}/C_b =$ 750 psi

Comments

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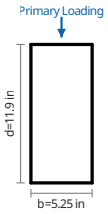
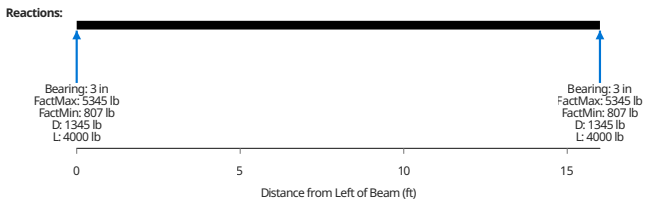
3705 Arctic, #2543 Anchorage, Alaska 99503

Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** FB-01 PASS
References: NDS 2018 (ASD)		

Summary



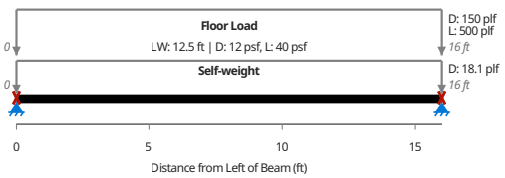
	Member	5-1/4x11-7/8 Versa-Lam LVL 2.1E-3100Fb
67%	Moment Utilization	$M/M' =$ 21 379 lb*ft* / *31 913 lb*ft
45%	Shear Utilization	$V/V' =$ 5345 lb / 11 845 lb
45%	Bearing Utilization	$R/R' =$ 5345 lb / 11 812 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 1.36 in
94%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.503 in (L/382)
73%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.588 in (L/327)
	Governing Long-Term Deflection	$\delta_{LT} = -0.588$ in



Key Properties

	Beam Plan Length	$L_X =$ 16 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads



Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$	62.3 in^2
Strong Axis Moment of Inertia	$I_{xx} =$	733 in^4
Section Modulus	$S =$	123 in^3
Base Allowable Bending Stress	$F_b =$	3100 psi
Base Allowable Shear Stress	$F_v =$	285 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$	750 psi
True Modulus of Elasticity	$E_{true} =$	2.10×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$	2.00×10^6 psi
Modulus of Elasticity for Deflections	$E =$	2.00×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$	2.00×10^6 psi

Section Bending (NDS 2018 2.3)

Volume Factor	$C_V =$	1

Positive Bending (NDS 2018 2.3)

Governing Duration Factor - Positive Bending	$C^+_{D,b} =$	1
Governing Beam Stability Factor - Positive Bending	$C^+_L =$	1
Adjusted Bending Strength - Positive Bending	$F'^+_b =$	3104 psi

Negative Bending (NDS 2018 2.3)

Governing Duration Factor - Negative Bending	$C^-_{D,b} =$	0.9
Governing Beam Stability Factor - Negative Bending	$C^-_L =$	0.977
Adjusted Bending Strength - Negative Bending	$F'^-_b =$	2729 psi

Shear Design (NDS 2018 3.4)

Governing Duration Factor	$C_D =$	1
Adjusted Shear Strength	$F'_v =$	285 psi

Bearing (NDS 2018 3.10)

Base Bearing Strength	$F'_{c\perp}/C_b =$	750 psi

Comments

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Project CIHA-BAXTER RD BLDGS D/E/F
Sheet _____ Of _____
By LDR Date 9/8/25

Soils:

1. Allowable bearing strength assumed to be 1500 psf, with 33% increase for seismic or wind loads

Concrete:

1. Portland cement concrete to have minimum 28 day compressive strength, f'_c = 3000 psi. 5 sack (minimum) design mix with type II or type II Portland cement. Maximum aggregate size 3/4".

2. Concrete reinforcement to be ASTM A615, grade 60, deformed bars. Min rebar lap splices 40 bar diameters.

CMU:

1. Masonry units to be ASTM C90, normal weight, fully grouted and reinforced per #3 below.
2. All masonry shall be solid grout, Type M or S Mortar and mechanically consolidated.
3. Reinforcing to be as shown on drawings. Minimum reinforcement shall be #5 at 32" OC; #5 at 48" OC, and #5 in top course. Vertical reinforcement to have standard hook. Reinforcement to be ASTM A615, grade 60, deformed bars. "Wet" setting reinforcement is prohibited. Lap splices 25 bar diameter, min.
4. f'_m = 2500 psi

Wood:

1. Framing lumber DF ,#2 or btr; Bottom Plates at concrete trt'd #2 DF
2. Truss lumber Doug-Fir, size and grade selected by designer.
3. Blocking not required roof / floor diaphragms UNO; boundary nail roofs at 3” OC, panel edges at 4" OC, and field at 8" OC. Boundary nail floors at 4"OC, panel edges at 4" OC, and field at 12" OC.
4. Shear wall/roof diaphragm/floor diaphragm nailing specified refers to panel edge and boundaries; field fasten at 12” O.C., floors and walls. Field fasten roofs at 8" OC, UNO.
5. Multiple stud splices- use two rows 16d com @ 6” OC, min.
6. Multiple LVL - splice w/ 2 rows 16d com @ 6” OC, 2” from top and 2” from bottom.
7. 3” members required at abutting panel joints and nails shall be staggered where nail spacing is 2” OC and where 10d nails penetrating more than 1 1/2" are placed at 3" or less OC. 3" bottom plates are required where unit shear loads exceed 600 plf.
8. Glulam members: single span- rated 24F-V4, DF/DF; multiple span - rated 24F-V4, DF/DF UNO.
9. APA rated sheathing required for shear walls, floor and roof diaphragms. Wall sheathing may be installed horizontally or vertically. Block all panel edges.
10. Where T-111 siding is used for shear sheathing, minimum thickness shall be19/32". All nailing must be through full thickness. Block all joints if full height siding is not used.
11. Fastener & diaphragm values per NDS SDPWS 15, DF #2.
12. Plywood may be substituted for OSB, same APA rating.
13. Use APA rated sheathing as follows, unless noted otherwise:
    - Shear walls and roofs - non drift areas 24/16.
    - Roofs - valleys and upper drift areas 32/16.
    - Roofs, below upper roofs and where wall causing drifts is 6’ or higher 40/20.
14. See schedule for nail diameter and length
15. Anchor bolts per schedule; all else IBC minimum 5/8” by 12” at 4’-0” O.C. 7" embedment, min.
16. Holdowns & anchor bolts shown are Simpson or as approved by MOA.
17. Holdown values per Simpson DF tables.
18. GWB per IBC minimum; not used for shear.
19. Hangers, straps, saddles, and other hardware are as manufactured by Simpson Strongtie, DF #2 loading.

Steel:

1. Plate, channel, angle - ASTM A36; Wide Flange - ASTM A992, Gr 50
2. Anchor bolts and machine bolts - ASTM A307, ASTM A1554
3. HSS - [round, square, rectangular sections] ASTM A500 grade B F_t = 46ksi
4. Pipe - ASTM A53 grade B F_y = 35 ksi

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Project CIHA-BAXTER RD BLDGS D/E/F

Sheet _____ Of _____

By LDR Date 9/8/25

ROOF DESIGN

Zone	Design Loads	Sheathing Index	Sheathing Nailing
	TCLL - 40 psf		BN - 8d @ 3" oc
1	TCDL - 15 psf	APA 24/16	EN - 8d @ 3" oc
	BCDL - 5 psf		FN - 8d @ 8" oc
	TCLL - 65 psf		BN - 8d @ 3" oc
2	TCDL - 15 psf	APA 32/16	EN - 8d @ 3" oc
	BCDL - 5 psf		FN - 8d @ 8" oc
	TCLL - 85 psf		BN - 8d @ 3" oc
3	TCDL - 15 psf	APA 40/20	EN - 8d @ 3" oc
	BCDL - 5 psf		FN - 8d @ 8" oc
	TCLL -105 psf		BN - 8d @ 3" oc
4	TCDL - 15 psf	APA 40/20	EN - 8d @ 3" oc
	BCDL - 5 psf		FN - 8d @ 8" oc

BN = Boundary Nail

EN = Edge Nail

FN = Field Nail

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Project CIHA-BAXTER RD BLDGS D/E/F

Sheet _____ Of _____

By LDR Date 9/8/25

HOLDOWNS-#2 DF VALUES

CALL-OUT	STRAP or HOLDOWN	CHORD	ANCHOR BOLT	EMBED, MASONRY	EMBED, CONCRET	ALLOWABLE LOAD (Lbs)
1	(1) - MST 37	(2) - 2x				2,828
2	(1) - MST48	(2) - 2x				4,073
3	(1) - MST 60	(2) - 2x				5,200
4	(1) - MST 72	(2) - 2x				5,800
5	(2) - MST 48	(4) - 2x				8,146
6	HDU2	(2) - 2x	$^5/_8$"	7" into ft'g, UNO	7" into ft'g, UNO	3,075
7	HDU4	(2) - 2x	$^5/_8$"	7" into ft'g, UNO	7" into ft'g, UNO	4,565
8	HDU5	(3) - 2x	$^5/_8$"	7" into ft'g, UNO	7" into ft'g, UNO	5,645
9	HDU8	(2) - 2x	$^7/_8$"	7" into ft'g, UNO	7" into ft'g, UNO	6,765
10	HDU8	(3) - 2x	$^7/_8$"	7" into ft'g, UNO	7" into ft'g, UNO	6,970
11	HDU11	(4) - 2x	1"	See Dtl's	See Dtl's	9,335
12	HDU11	(5) - 2x	1"	See Dtl's	See Dtl's	11,175
13	HDU14	(4) - 2x	1"	See Dtl's	See Dtl's	10,770
14	HD12	(3) - 2x	$1^1/_8$"	See Dtl's	See Dtl's	12,665
15	HD12	(4) - 2x	$1^1/_8$"	See Dtl's	See Dtl's	15,510
16	FSC	2x				1,892
17	MSTC48B3	2x				4,072
18	MSTC66B3	2x				4,602

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Project CIHA-BAXTER RD BLDGS D/E/F

Sheet _____ Of _____

By LDR Date 9/8/25

ANCHOR BOLTS

	Anchor Bolt	@	Spacing
1	5/8" x 12"	@	48" oc
2	5/8" x 12"	@	36" oc
3	5/8" x 12"	@	32" oc
4	5/8" x 12"	@	24"oc
5	5/8" x 12"	@	16" oc
6	5/8" x 12"	@	12" oc
7	3/4" x 12"	@	12" oc

CANOPY FRAMING MEMBERS - ADDED POST STRUCTURAL DESIGN COMPLETION

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Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject: Member Schedule**

	Calculation	Member	Quantity	Comments
68%	**RB-05**	4x8 D.Fir-L No. 2	9 ft	
74%	**RB-06**	4x8 D.Fir-L No. 2	6 ft	

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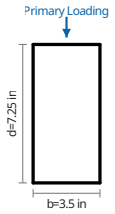
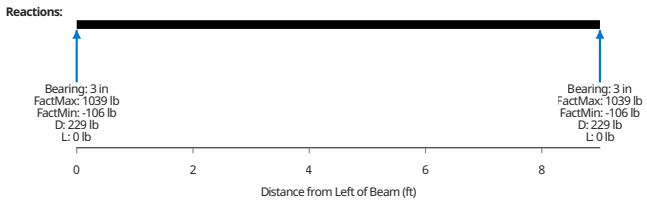
Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** RB-05 PASS
References: NDS 2018 (ASD)		

Summary



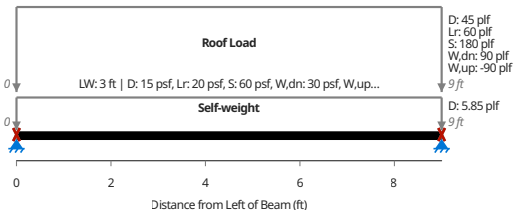
	Member	4x8 D.Fir-L No. 2
68%	Moment Utilization	$M/M' =$ 2337 lb*ft* / *3438 lb*ft
30%	Shear Utilization	$V/V' =$ 1039 lb / 3502 lb
16%	Bearing Utilization	$R/R' =$ 1039 lb / 6562 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$ 0.475 in
33%	Governing Live / Short-Term Deflection	$\delta_{ST} =$ -0.149 in (L/723)
12%	Governing Long-Term Deflection	$\delta_{LT} =$ -0.0709 in (L/1523)
	Governing Long-Term Deflection	$\delta_{LT} =$ −0.0709 in



Key Properties

	Beam Plan Length	$L_X =$ 9 ft
	Continuous Bracing for Lateral Torsional Buckling	Top Braced

Loads



Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$	25.4 in^2
Strong Axis Moment of Inertia	$I_{xx} =$	111 in^4
Section Modulus	$S =$	30.7 in^3
Base Allowable Bending Stress	$F_b =$	900 psi
Base Allowable Shear Stress	$F_v =$	180 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$	625 psi
True Modulus of Elasticity	$E_{true} =$	1.60×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$	1.60×10^6 psi
Modulus of Elasticity for Deflections	$E =$	1.60×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$	1.60×10^6 psi

Section Bending (NDS 2018 2.3)

Size Factor	$C_{F,b} =$	1.3
Incising Factor	$C_{i,b} =$	1

Positive Bending (NDS 2018 2.3)

Adjusted Bending Strength - Positive Bending	$F_b'^{+} =$	1345 psi

Negative Bending (NDS 2018 2.3)

Adjusted Bending Strength - Negative Bending	$F_b'^{-} =$	1830 psi

Shear Design (NDS 2018 3.4)

Adjusted Shear Strength	$F_v' =$	207 psi

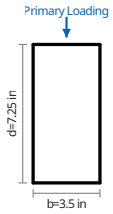
Bearing (NDS 2018 3.10)

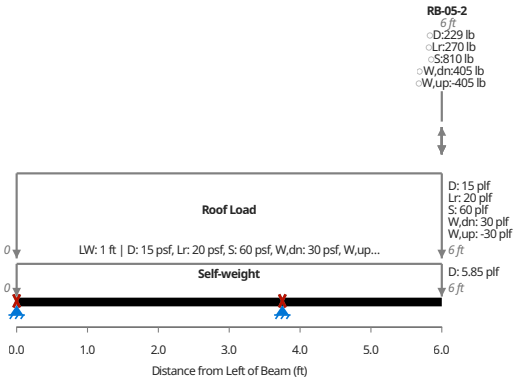
Base Bearing Strength	$F_{c\perp}'/C_b =$	625 psi

Comments

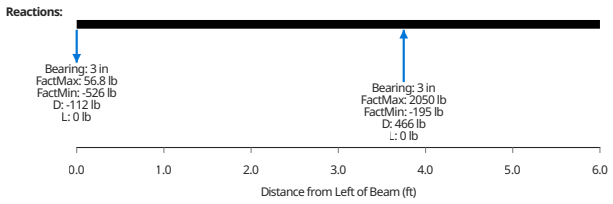
Client:	**Author:** LD Randolph	**Date:** Sep 8, 2025
Project: CIHA-BAXTER ROAD D/E/F		**Job #:**
Address: Baxter Road, Anchorage, AK, USA		**Subject:** RB-06 PASS
References: NDS 2018 (ASD)		

Summary





	Member		4x8 D.Fir-L No. 2
74%	Moment Utilization	$M/M' =$	-2542 lb*ft* / *3423 lb*ft
35%	Shear Utilization	$V/V' =$	1221 lb / 3502 lb
28%	Bearing Utilization	$R/R' =$	2050 lb / 7383 lb
	Minimum Bearing Length (End Supports)	$\ell_{b,min,end} =$	0.241 in
	Minimum Bearing Length (Int Supports)	$\ell_{b,min,int} =$	0.833 in
37%	Governing Live / Short-Term Deflection	$\delta_{ST} =$	-0.0828 in (L/326)
13%	Governing Long-Term Deflection	$\delta_{LT} =$	-0.0394 in (L/685)
	Governing Long-Term Deflection	$\delta_{LT} =$	-0.0394 in



Key Properties

Beam Plan Length	$L_X =$	6 ft
Continuous Bracing for Lateral Torsional Buckling		Top Braced

Top and bottom flange bracing corresponds to positive and negative bending respectively, but cantilever spans typically require a brace on the top flange despite being in negative bending.

Loads

Design Conditions

International Building Code (IBC) 2018

Member Properties

Cross-Sectional Area	$A =$	25.4 in^2
Strong Axis Moment of Inertia	$I_{xx} =$	111 in^4
Section Modulus	$S =$	30.7 in^3
Base Allowable Bending Stress	$F_b =$	900 psi
Base Allowable Shear Stress	$F_v =$	180 psi
Base Perpendicular Compression Allowable Stress	$F_{c\perp} =$	625 psi
True Modulus of Elasticity	$E_{true} =$	1.60×10^6 psi
Apparent Modulus of Elasticity	$E_{app} =$	1.60×10^6 psi
Modulus of Elasticity for Deflections	$E =$	1.60×10^6 psi

Elastic Modulus (NDS 2018 2.3)

Adjusted Modulus of Elasticity	$E' =$	1.60×10^6 psi

Section Bending (NDS 2018 2.3)

Size Factor	$C_{F,b} =$	1.3
Incising Factor	$C_{i,b} =$	1

Positive Bending (NDS 2018 2.3)

Adjusted Bending Strength - Positive Bending	$F_b'^{+} =$	1872 psi

Negative Bending (NDS 2018 2.3)

Adjusted Bending Strength - Negative Bending	$F_b'^{-} =$	1340 psi

Shear Design (NDS 2018 3.4)

Adjusted Shear Strength	$F_v' =$	207 psi

Bearing (NDS 2018 3.10)

Base Bearing Strength	$F_{c\perp}'/C_b =$	625 psi

Comments