Building Services, Growth & Infrastructure Department

Review & Examination Stamp:

CITY OF GREATER SUDBURY BUILDING SERVICES

THESE DRAWINGS /PLANS /SKETCHES HAVE BEEN REVIEWED FOR THE PURPOSE OF OBTAINING A BUILDING PERMIT

DATE 12/18/2024

PERMIT BP-NEW-2024-01821

SIGNED K. Deredin

Building Permit Status:

	Issued Partial
	Issued Conditional
✔	Issued Full

CAUTION		PRIOR TO OCCUPANCY			
	GEODETIC ELEVATION SURVEY (NDCA FLOODPROOFING OR GROUND WATER CONCERNS)		REQUIRE REGISTRATION OF SUBDIVISION		SEE CBO PRIOR TO ISSUING
	GEOTECHNICAL SOILS REVIEW		REQUIRE REGISTRATION OF SECONDARY DWELLING UNIT		SEE CBO PRIOR TO ANY INSPECTIONS
	REQUIRE DEV. ENG. LOT GRADING APPROVAL		REQUIRE S.P.C.A. CERTIFICATION APPROVALS	COMMITTED PROFESSIONALS:	
	STRUCTURAL ENGINEER'S REPORT OR REVIEW		REQUIRE DEV. ENG. CERTIFICATION APPROVALS		STRUCTURAL ENGINEER
	ONTARIO FIRE MARSHALL'S OFFICE ORDERS		REQUIRE NDCA FLOODPROOFING APPROVAL		MECHANICAL ENGINEER
	APPLICABLE ORDER TO COMPLY		REQUIRE FIRE FLOW VERIFICATION APPROVAL		ELECTRICAL ENGINEER
	PROPERTY SOILS CAUTION		REQUIRE BASE BUILDING OCCUPANCY APPROVAL	✔	OTHER HVAC
	PROPERTY SOILS GAS CAUTION	OTHER BUILDING/SIGN PERMIT RECORDS:		PRESCRIBED PARKING REQUIREMENTS:	
	PROPERTY FROST DEPTH CAUTION				
	NOISE/VIBRATION CAUTION	OTHER APPLICABLE NOTES:			
	APPLICABLE RECORD OF SITE CONDITION/DSS ABATEMENT PLAN				
	APPLICABLE MINOR VARIANCE / ZONING ISSUE				
	APPLICABLE SITE PLAN CONTROL AGREEMENT				
	APPLICABLE REMOVAL OF BUILDING AGREEMENT				
	REQUIRE CONSTRUCTION FIRE SAFETY PLAN				

SCOPE OF WORK:

- Modular Home being erected in temporary (work) location at 21 Lasalle Boulevard (Collège Boréal).
- As per the Planning Act, due to public use of property (College), zoning requirements are not applicable.
- Demolition permit application to be submitted and issued with the City of Greater Sudbury prior to relocation of modular home to permanent location.
- Once a permanent location has been established, a new building permit application is required to be submitted to the City of Greater Sudbury or the receiving Municipality.

GENERAL NOTES
SCOPE OF WORK

AS SHOWN ON DRAWINGS AND SPECIFIED HEREIN

MINIMUM STANDARDS OF WORK

ALL WORK OF ALL TRADES UNDER THIS CONTRACT WILL COMPLY WITH ALL APPLICABLE STANDARDS AND REGULATIONS OF THE LOCAL REGIONAL MUNICIPALITY THE PROVINCE OF ONTARIO, THE HYDRO ELECTRIC POWER COMMISSION OF ONTARIO, AND OTHER AUTHORITIES HAVING JURISDICTION.

EXCEPT WHERE A MORE RIGID STANDARD OF WORK IS REQUIRED BY THESE CONSTRUCTION DOCUMENTS, THE MINIMUM ACCEPTABLE STANDARD OF WORK SHALL BE DEEMED TO BE PART 9 OF THE BUILDING CODE OF ONTARIO, LATEST CURRENT LEGAL EDITION.
FOR ASPECT OF WORKMANSHIP NOT REGULATED BY THE ONTARIO BUILDING CODE THE MINIMUM ACCEPTABLE STANDARD OF WORK SHALL BE DEEMED TO BE THE APPLICABLE CSA. STANDARD.

PERMITS AND INSPECTIONS

A. THE CONTRACTOR WILL OBTAIN AND PAY FOR ALL REQUIRED BUILDING PERMITS AND INSPECTIONS.

B. THE MECHANICAL SUBCONTRACTOR WILL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS FOR WORK OF HIS TRADE.

C. THE ELECTRICAL SUBCONTRACTOR WILL OBTAIN AND PAY FOR ALL REQUIRED HYDRO PERMITS AND INSPECTIONS.

SUBSTITUTION

A. USE OF MATERIAL OTHER THAN THOSE SPECIFIED WILL BE STRICTLY LIMITED TO MATERIALS WHICH HAVE BEEN APPROVED IN WRITING BY THE OWNER OR OWNER'S AGENT.

B. WHEN THE PRODUCT OF A SPECIFIC MANUFACTURE IS SPECIFIED IT WILL BE INCUMBENT UPON THE CONTRACTOR TO SUPPLY AND INSTALL SUCH ITEMS OR PRODUCTS AS SPECIFIED UNLESS PRIOR WRITTEN APPROVAL HAS BEEN OBTAINED FOR AN ALTERNATE.

C. THE OWNER'S OR OWNER'S AGENTS APPROVAL WILL ONLY BE GIVEN ON THE BASIS OF EQUIVALENCE OF MATERIAL, UNAVAILABILITY OF THE MATERIAL SPECIFIED, OR UPON AN ACCEPTED COST SAVING TO THE OWNER.

CONSTRUCTION NOTES

FOR TEMPORARY INSTALLATION ERECT THE DWELLING ON DECK BLOCKS.

FOR PERMANENT INSTALLATION ERECT DWELLING ON HELICAL PILES.

FOR TRANSPORTATION OF MODULE 2 AND 3, BRACE WALL P2 WITH 2" X 4" DIAGONAL BRACE ON BOTH SIDE OF WALL.

INSURANCE

CONTRACTOR SHALL CARRY COMPREHENSIVE LIABILITY INSURANCE.

GENERAL NOTES:

* BUILDING CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE PROCEEDING. DIMENSIONS ALWAYS TAKE PRECEDENCE OVER SCALE MEASUREMENTS.
* ALL LINTELS AND BEAMS TO HAVE MINIMUM 3" BEARING ON EACH END.
* ALL LUMBER TO BE NO.2 GRADE SPRUCE, PINE OR FIR. UNLESS NOTED OTHERWISE.
* FLUSH FRAMED WOOD MEMBERS SHALL BE ANCHORED WITH 2000 LB. JOIST HANGERS UNLESS OTHERWISE NOTED.
* FLASH OVER ALL EXTERIOR OPENING AND ANY CHANGES IN MATERIALS ON EXTERIOR WALLS.
* CAULK OVER AND AROUND ALL EXTERIOR OPENINGS.
* GENERAL CONTRACTOR TO VISIT SITE PRIOR TO SUBMITTING PRICES.
* ALL WINDOWS AND GLAZING TO BE DOUBLE INSULATED GLAZING AND MEET SB-12 REQUIREMENTS.
* ALL CLOSETS TO HAVE ONE SHELF AND ROD EXCEPT WALK-IN CLOSET TO HAVE TWO ROD AND SHELF AND LINEN TO HAVE A MINIMUM OF 4 SHELVES. VERIFY WITH OWNER BEFORE PROCEEDING WITH WORK.
* MINIMUM HEADROOM FOR STAIRS TO BE 6'-6".
* MINIMUM GLAZING OPENING FOR BEDROOM -5% OF FLOOR AREA.
* MINIMUM GLAZING OPENING FOR LIVING -10% OF FLOOR AREA.
* PROVIDE SMOKE AND CARBON MONOXIDE DETECTOR C/W HORN AND STROBE LIGHT AS PER ONTARIO BUILDING CODE.
* ALL LIGHTING FIXTURES, MODEL AND TYPE TO BE DECIDED BY OWNER UNLESS NOTED OTHERWISE.
* ALL ELECTRICAL WORK TO BE AS PER THE ONTARIO ELECTRICAL CODE LATEST EDITION.
* ALL PLUMBING WORK SHALL CONFORM TO THE ONTARIO PLUMBING CODE, ONTARIO BUILDING CODE, CSA STANDARDS AND THE SUDBURY HEALTH UNIT AND HEPC.
* DOMESTIC WATER PIPING SHALL BE TYPE M COPPER OR EQUIVALENT.
* ALL SOIL WASTER, DRAIN, VENT, WATER AND ALL OTHER PIPING SHALL BE TESTED.
* PROVIDE 1/4" PER FOOT SLOPE FOR SANITARY DRAINS UP TO 3" DIA. AND 1/8" PER FOOT SLOPE OVER 3" IN DIAMETER. (UNLESS NOTED OTHERWISE).

ENERGY EFFICIENCY REQUIREMENTS
COMPLIANCE PACKAGE FOR ZONE 2 (3.1.1.3(3)) **3.1.1.3.C, PACKAGE C2 (AS PER EEDS FORM PREPARED BY S. ELLIS.**

COMPONENT	MIN. VALUE FOR C1
CEILING WITH ATTIC SPACE - MINIMUM R VALUE.	~~R60~~ **R50** N/A
CEILING WITHOUT ATTIC SPACE - MINIMUM R VALUE.	R31
EXPOSED FLOOR - MINIMUM R VALUE	~~R31+10 CI~~ **R35**
WALLS ABOVE GRADE - MINIMUM R VALUE	~~R24+10CI~~ **22 +7.5ci**
BASEMENT WALLS - MINIMUM R VALUE	~~R20+12CI~~ **20ci** N/A
BELOW GRADE SLAB - ENTIRE SURFACE > 600mm BELOW GRADE - MINIMUM R VALUE	~~R10~~ N/A
EDGE OF BELOW GRADE SLAB - ENTIRE SURFACE ≤ 600mm BELOW GRADE - MINIMUM R VALUE	R10 N/A
HEATED SLAB OR SLAB < 600mm BELOW GRADE - MINIMUM R VALUE	~~R10~~ N/A
WINDOW AND SLIDING GLASS DOORS - MAXIMUM U VALUE	~~0.21~~ **0.28**
SKYLIGHT - MAXIMUM U VALUE	0.49 / N/A **/ ER: 25**
SPACE HEATING EQUIPMENT - MINIMUM AFUE	- **ASHP: 7.1 HSPF**
HRV MINIMUM EFFICIENCY	~~81%~~ **70%**
DOMESTIC WATER HEATER - MINIMUM EF	-

DESCRIPTION	AREA
LOT AREA	- SQ. FT.
LOT COVERAGE IN PERCENTAGE	- %
FOUNDATION FLOOR	N/A
MAIN FLOOR	420 SQ.FT.
DECK (WITHOUT ROOF)	120 SQ.FT

KEY SITE PLAN - COLLEGE BOREAL
SCALE: NTS

DEMOLITION PERMIT APPLICATION TO BE SUBMITTED AND ISSUED WITH THE CITY OF GREATER SUDBURY PRIOR TO RELOCATION TO PERMANENT LOCATION.

ONCE A PERMANENT LOCATION HAS BEEN ESTABLISHED, A NEW BUILDING PERMIT APPLICATION IS REQUIRED TO BE SUBMITTED TO THE CITY OF GREATER SUDBURY OR THE RECEIVING MUNICIPALITY.

PARTIAL ENLARGE SITE PLAN
SCALE: NTS

NOTE:
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CITY OF GREATER SUDBURY BUILDING SERVICES
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DATE 12/18/2024
PERMIT BP-NEW-2024-01821
SIGNED K. Deredin

CONCEPT DESIGN BY ELLIS EMBLIN

REVISIONS
1. ISSUED FOR CONSTRUCTION - 24-05-06
2. ISSUED FOR CITY COMMENTS - 24-10-15

GENERAL NOTES:
1. ANY CHANGES DONE TO THE DESIGN DURING CONSTRUCTION WITHOUT THE DESIGNER'S WRITTEN CONSENT AND APPROVAL VOIDS THE DESIGNER'S INSURANCE COVERAGE.
2. DO NOT SCALE DRAWINGS.

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THIS DESIGN, AND HAS THE QUALIFICATIONS AND MEETS THE REQUIREMENTS SET OUT IN THE ONTARIO BUILDING CODE TO BE A DESIGNER.

QUALIFICATION INFORMATION
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.5.1.OF THE BUILDING CODE
Robert André - 24-05-06 34279
NAME BCIN

REGISTRATION INFORMATION
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.4.1.OF THE BUILDING CODE
ACCREDITED HOME DESIGN & DRAFTING 35333
FIRM NAME BCIN

THE SIGNATURE BELOW MUST APPEAR IN RED IN ORDER TO VALIDATE THAT THE DESIGNER HAS REVIEWED AND TAKES RESPONSIBILITY FOR THESE DRAWINGS
Robert André - 24-05-06
ROBERT L ANDRÉ
FIRM BCIN No. 35333

ACCREDITED HOME DESIGN AND DRAFTING
320 Denis Crescent
Azilda, Ontario
P0M 1B0
(705) 590-2097

NORTH

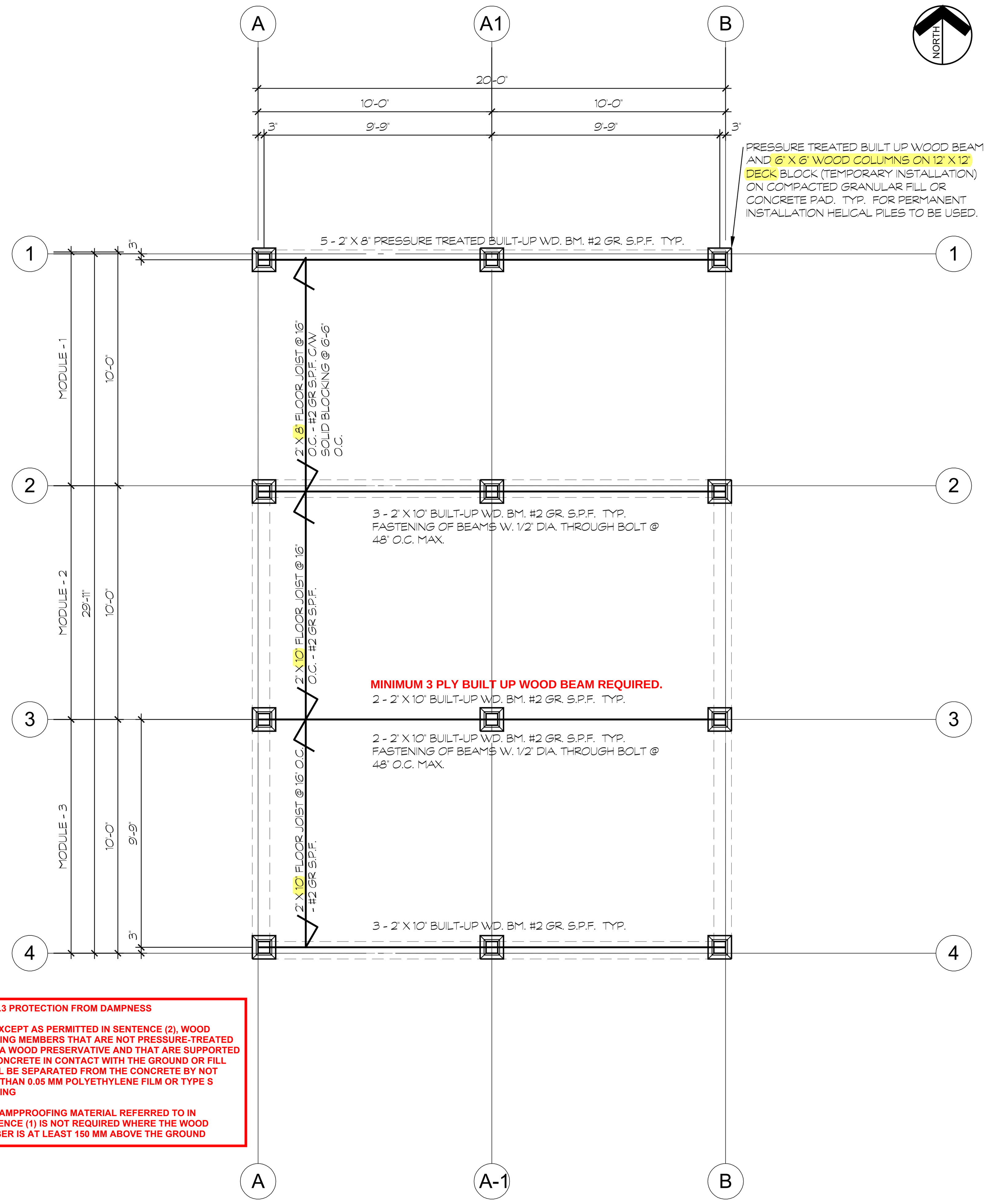
DRAWING NAME
SITE PLAN AND NOTES

CONTRACTORS AND SUBTRADE SHALL VERIFY ALL DIMENSIONS & REPORT ANY INCONSISTENCIES, DISCREPANCIES, OMISSIONS OR CONFLICTS TO THE DESIGNER/OWNER BEFORE PROCEEDING WITH THE WORK.

PROJECT NAME
MINI MAISON
COLLEGE BOREAL

DRAWN BY:	RA
SCALE:	AS SHOWN
DATE:	24-05-06
SAVE AS:	PLAN
JOB NO:	2024-04

DRAWING NUMBER
A-1

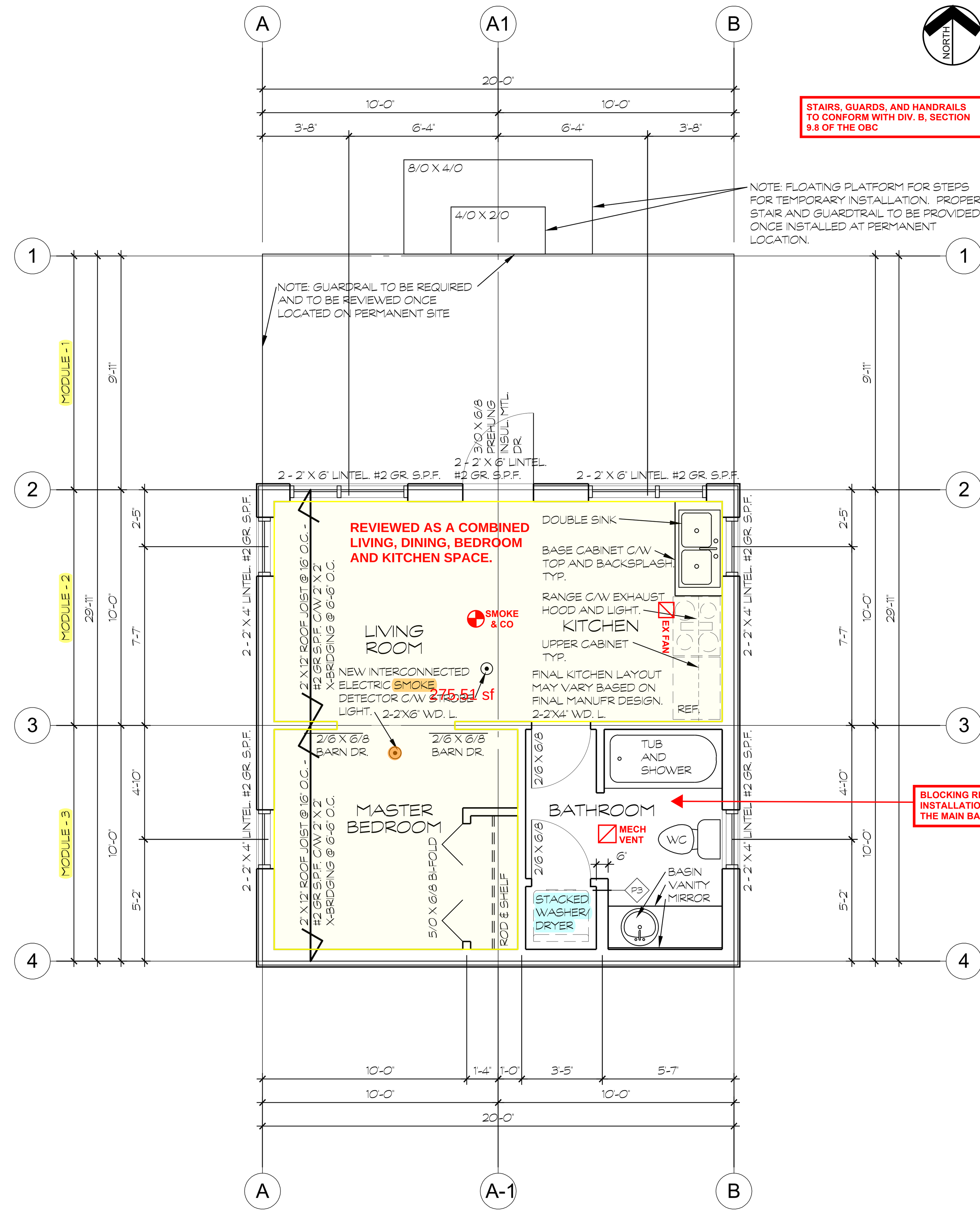


9.23.2.3 PROTECTION FROM DAMPNESS

(1) EXCEPT AS PERMITTED IN SENTENCE (2), WOOD FRAMING MEMBERS THAT ARE NOT PRESSURE-TREATED WITH A WOOD PRESERVATIVE AND THAT ARE SUPPORTED ON CONCRETE IN CONTACT WITH THE GROUND OR FILL SHALL BE SEPARATED FROM THE CONCRETE BY NOT LESS THAN 0.05 MM POLYETHYLENE FILM OR TYPE S ROOFING

(2) DAMPPROOFING MATERIAL REFERRED TO IN SENTENCE (1) IS NOT REQUIRED WHERE THE WOOD MEMBER IS AT LEAST 150 MM ABOVE THE GROUND

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



STAIRS, GUARDS, AND HANDRAILS TO CONFORM WITH DIV. B, SECTION 9.8 OF THE OBC

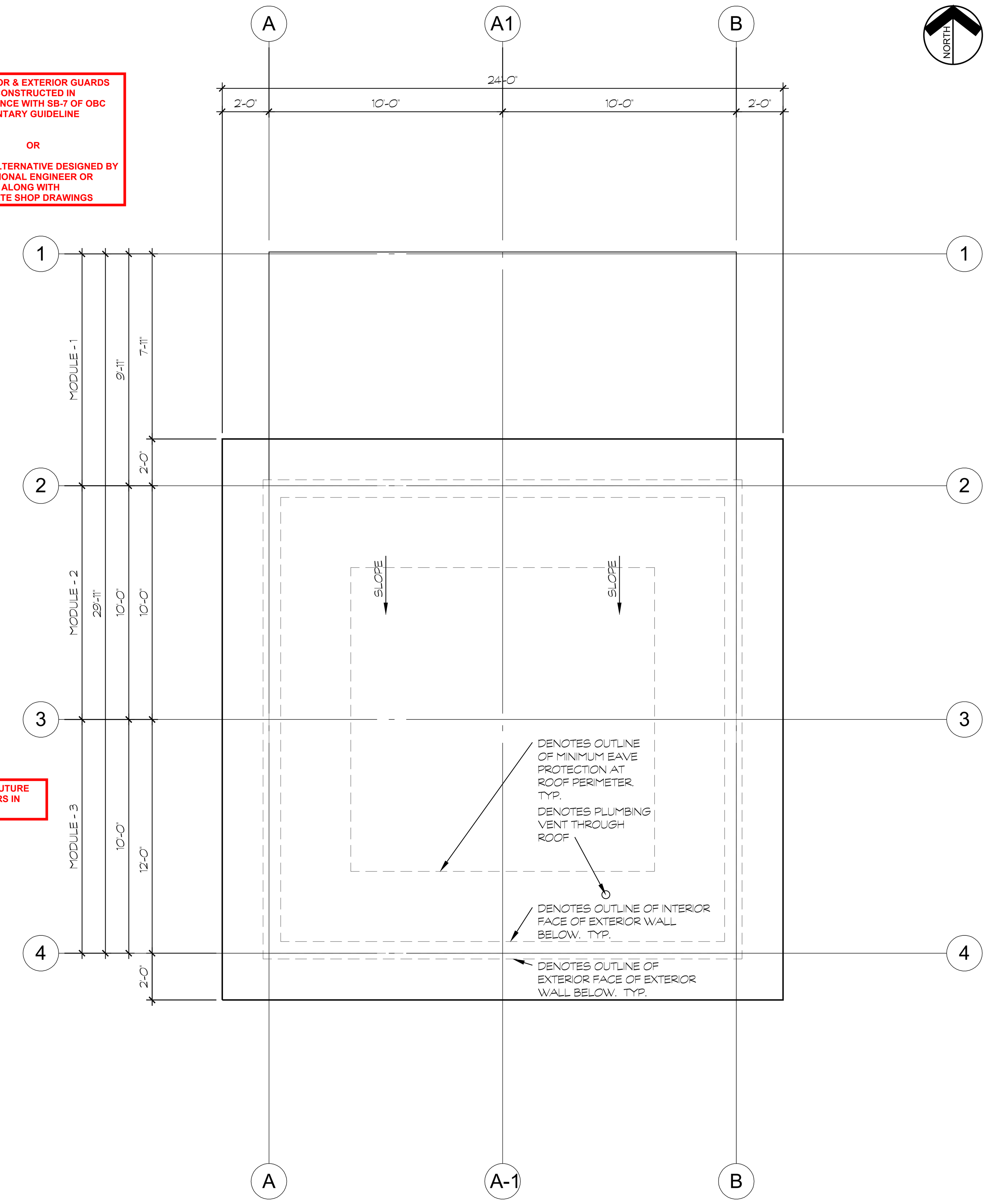
ALL INTERIOR & EXTERIOR GUARDS SHALL BE CONSTRUCTED IN CONFORMANCE WITH SB-7 OF OBC SUPPLEMENTARY GUIDELINE DETAILS

OR

PROVIDE ALTERNATIVE DESIGNED BY A PROFESSIONAL ENGINEER OR ARCHITECT ALONG WITH APPROPRIATE SHOP DRAWINGS

BLOCKING REQUIRED FOR FUTURE INSTALLATION OF GRAB BARS IN THE MAIN BATHROOM

GROUND FLOOR PLAN
SCALE: 1/4" = 1'-0"

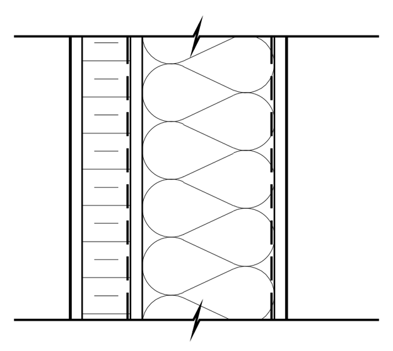


ROOF PLAN
SCALE: 1/4" = 1'-0"

CONSTRUCTION ASSEMBLIES

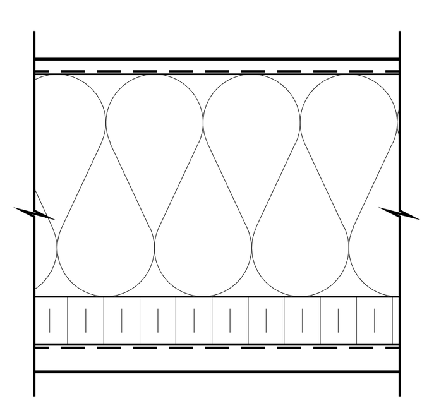
DESCRIPTION

W1



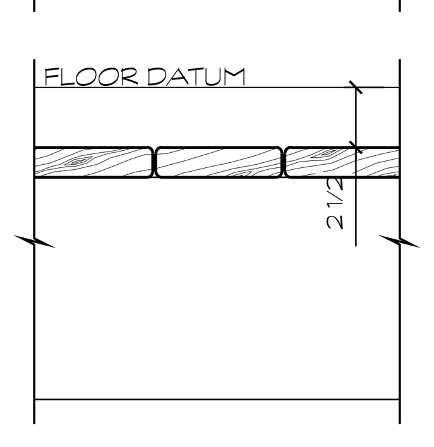
- EXTERNAL FINISH - REFER TO ELEVATIONS, C/W ALL TRIMS AND FLASHING. SEALANT AS REQUIRED.
- 2" THICK RIGID FOAM INSULATION.
- AIR BARRIER.
- 1/2" EXTERIOR GYPSUM SHEATHING.
- 2" X 6" WALL STUD (#2 GR. S.P.F.) @ 16" O.C. R24 BATT INSULATION.
- 6 MIL POLY V.B.
- 1/2" GYPSUM SHEATHING.
- WALL FINISH.

F1



- FLOOR FINISH.
- 5/8" T.&G. PLYWOOD OR OSB SUBFLOOR SHEATHING.
- 6 MIL POLY V.B.
- 2" X 10" FLOOR JOIST (#2 GR S.P.F.) @ 16" O.C. C/W 2" X 2" x-BRIDGING & R31 BATT INSULATION - FILL VOID SOLID.
- 2" THICK RIGID FOAM INSULATION.
- AIR BARRIER.
- PRESSURE TREATED 1/2" PLYWOOD SOFFIT.

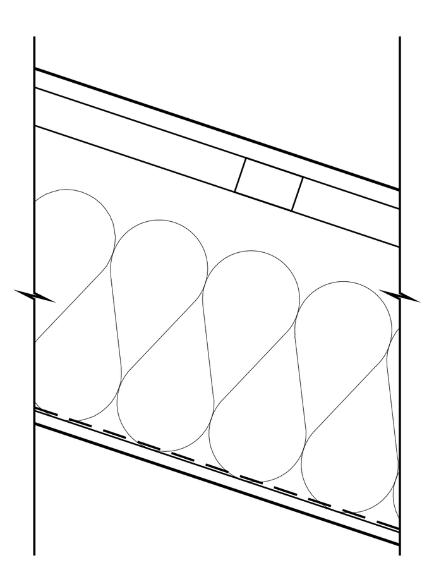
F2



- 5.25" PRESSURE TREATED DECK BOARD W. 1/8" GAP.
- 2" X 8" PRESSURE TREATED FLOOR JOIST (#2 GR S.P.F.) @ 16" O.C. C/W SOLID BLOCKING.

ALL WOOD FOR DECK TO BE PRESSURE TREATED WOOD AND FASTENED/NAILED WITH COMPATIBLE SCREWS OR NAILS.

R1



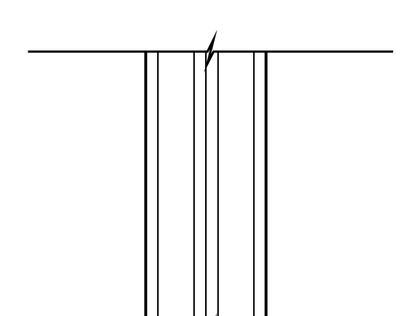
- 25 YEARS ROOF SHINGLES.
- ICE AND WATER SHIELD OR EAVE PROTECTION AS PER O.B.C.
- 1/2" T & G PLYWOOD OR OSB ROOF SHEATHING.
- 2" X 4" STRAPPING @ 16" O.C.
- 2" X 12" ROOF JOIST (#2 GR S.P.F.) @ 16" O.C. C/W 2" X 2" x-BRIDGING & R31 BATT INSULATION.
- 6 MIL POLY V.B.
- 1/2" GYPSUM SHEATHING.
- WALL FINISH.

P1

ALL INTERIOR PARTITIONS NOT SHOWN IN LEGEND OR LABELED

- WALL FINISH.
- 1/2" GYPSUM SHEATHING.
- 2" X 4" WALL STUD (#2 GR. S.P.F.) @ 16" O.C.
- 1/2" GYPSUM SHEATHING.
- WALL FINISH.

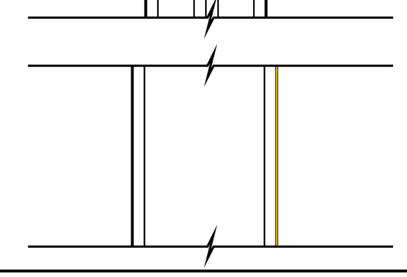
P2



- WALL FINISH.
- 1/2" GYPSUM SHEATHING.
- 2" X 4" WALL STUD (#2 GR. S.P.F.) ON THE FLAT @ 16" O.C. C/W 1/2" PLYWOOD SHEATHING
- 2" X 4" WALL STUD (#2 GR. S.P.F.) ON THE FLAT @ 16" O.C.INSULATION & 1/2" PLYWOOD SHEATHING.
- 1/2" GYPSUM SHEATHING.
- WALL FINISH.

NOTE: FOR TRANSPORTATION BRACE WALL WITH 2" X 4" ON BOTH SIDE OF WALL FLATS.

P3



- WALL FINISH.
- 1/2" GYPSUM SHEATHING.
- 2" X 6" WALL STUD (#2 GR. S.P.F.) @ 16" O.C. FOR PLUMBING WALL.
- 1/2" GYPSUM SHEATHING.
- WALL FINISH.

MINIMUM THERMAL RESISTANCE	**C2**
ELECTRIC SPACE HEATING	
CEILING W/ ATTIC SPACE	**R 50**
CEILING W/O ATTIC SPACE	**R 31**
EXPOSED FLOOR	**R 35**
WALLS ABOVE GRADE	**R 22 + 7.5ci**
BASEMENT WALLS	**R 20ci**
SLAB ≥ BELOW GRADE	**-**
SLAB ≤ BELOW GRADE	**R 10**

MINIMAL THERMAL RESISTANCES TO BE MET IN ACCORDANCE WITH **COMPLIANCE PACKAGE C2.** OTHERWISE, THERMAL REQUIREMENTS TO BE MET IN ACCORDANCE WITH SB-12, 3.1.3. FOR OTHER ACCEPTABLE COMPLIANCE METHODS

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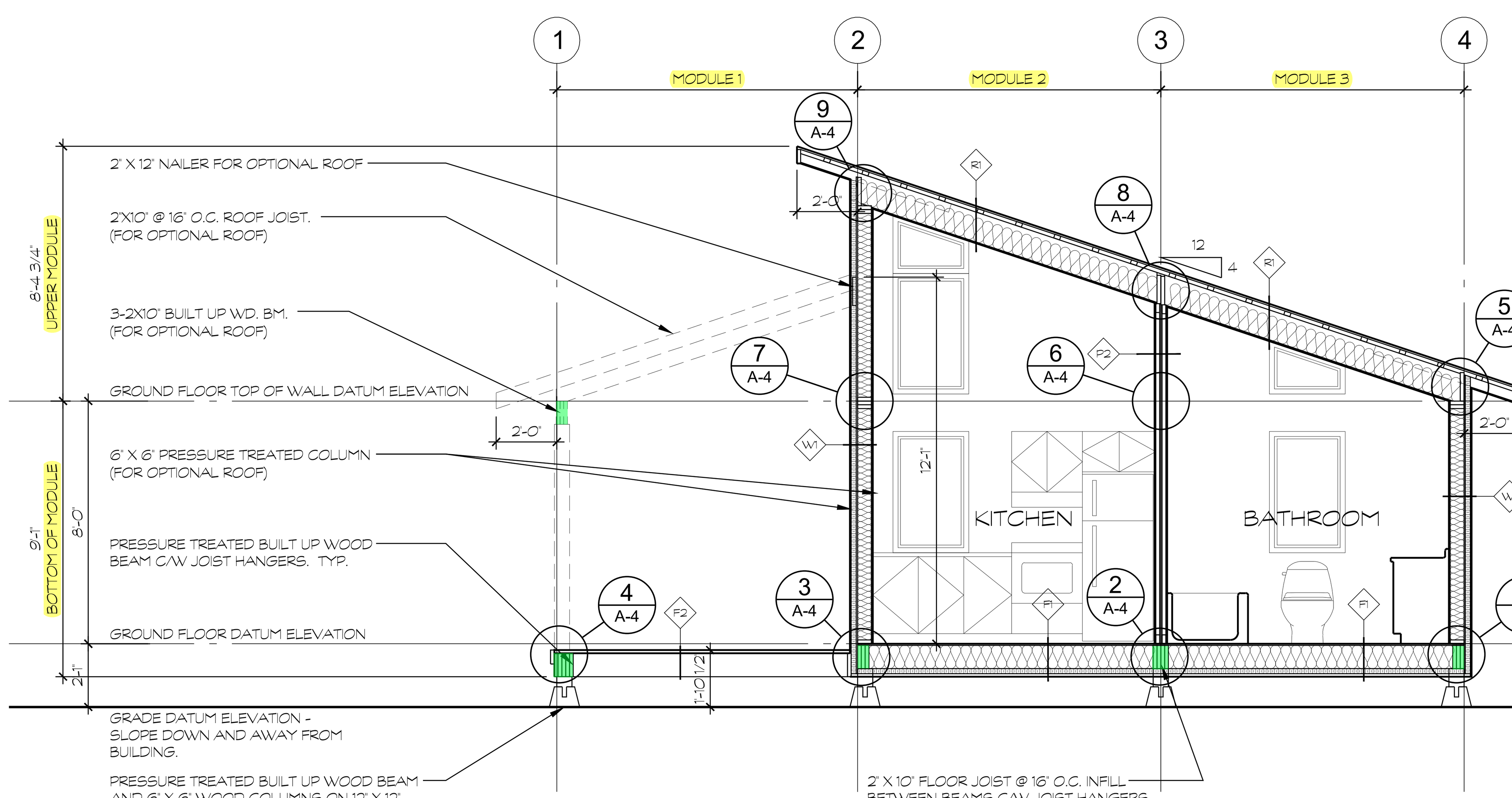

BUILDING SECTION
SCALE: 1/4" = 1'-0"

CONCEPT DESIGN BY ELLIS EMBLIN

REVISIONS
1. ISSUED FOR CONSTRUCTION - 24-05-06
2. ISSUED FOR CITY COMMENTS - 24-10-15

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Robert André - 24-05-06 — 34279
NAME — BCIN

REGISTRATION INFORMATION
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.4.1.OF THE BUILDING CODE
ACCREDITED HOME DESIGN & DRAFTING — 35333
FIRM NAME — BCIN

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Robert André - 24-05-06

ROBERT L ANDRÉ
FIRM BCIN No. 35333

ACCREDITED HOME DESIGN AND DRAFTING
320 Denis Crescent
Azilda, Ontario
P0M 1B0
(705) 590-2097

DRAWING NAME
PLANS

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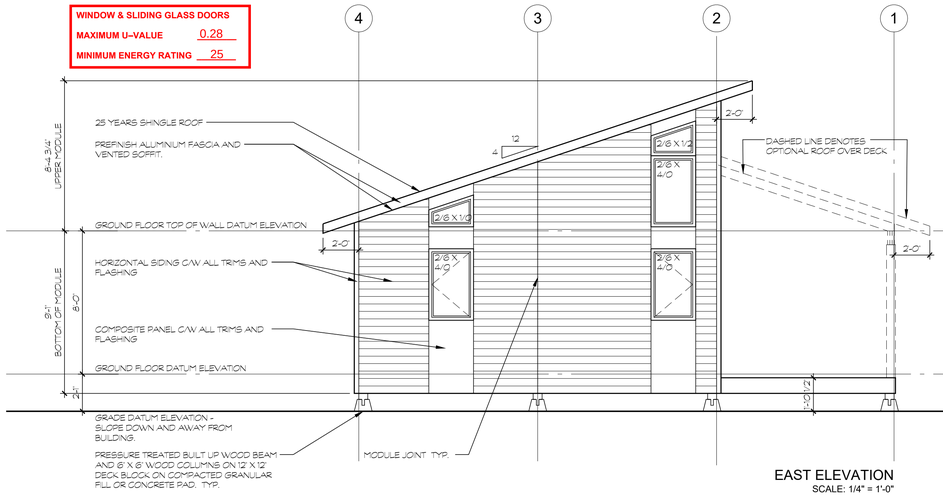
MINI MAISON
COLLEGE BOREAL

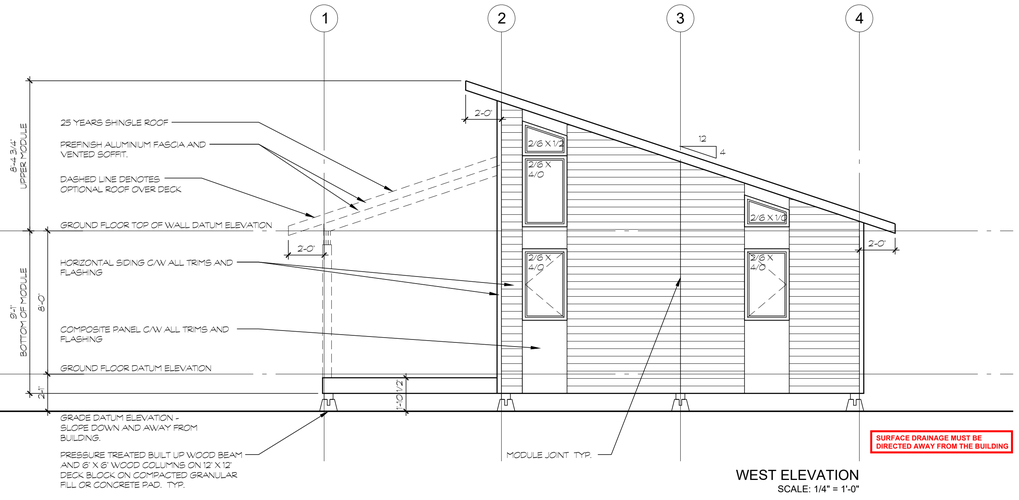
DRAWN BY:	RA
SCALE:	AS SHOWN
DATE:	24-05-06
SAVE AS:	PLAN
JOB NO:	2024-04

DRAWING NUMBER
A-2

WINDOW & SLIDING GLASS DOORS
MAXIMUM U-VALUE 0.28
MINIMUM ENERGY RATING 25



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

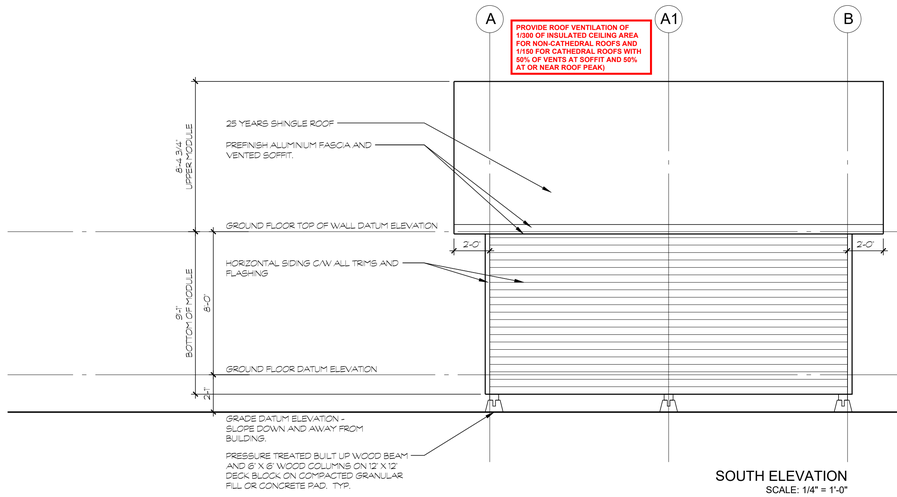


SURFACE DRAINAGE MUST BE DIRECTED AWAY FROM THE BUILDING

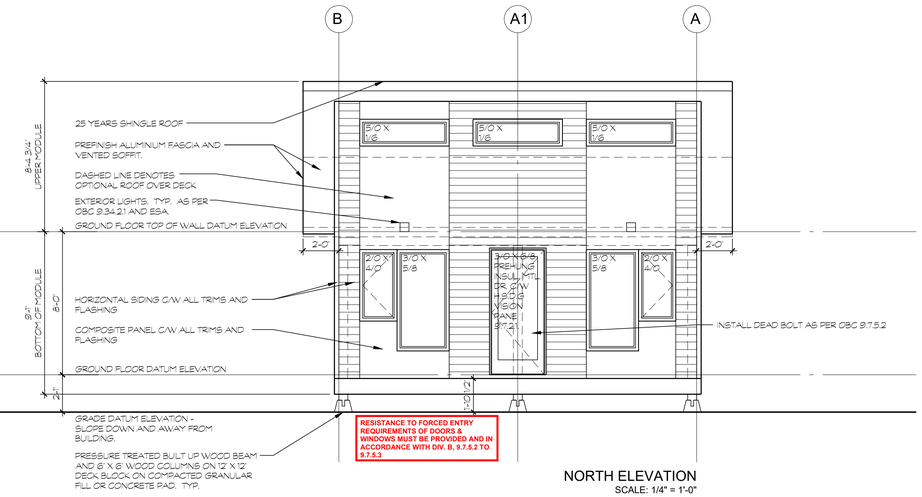
WEST ELEVATION
SCALE: 1/4" = 1'-0"

ONCE PERMANENT LOCATION IS ESTABLISHED, ALL BUILDING SERVICES WITHIN UNCONDITIONED SPACE TO BE INSULATED AND ACCOUNT FOR DIFFERENTIAL MOVEMENT.

SKIRTING SHALL BE SEPARATED FROM PIERS AND SOIL BY ATLEAST 50MM, OBC 9.23.2.5. (2)



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



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

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Robert André - 24-05-06
NAME — BCIN 34279

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REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.4.1.OF THE BUILDING CODE
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FIRM NAME

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ROBERT L ANDRÉ
FIRM BCIN No. 35333

ACCREDITED HOME DESIGN AND DRAFTING
320 Denis Crescent
Azilda, Ontario
P0M 1B0
(705) 590-2097

DRAWING NAME: ELEVATIONS

PROJECT NAME: **MINI MAISON COLLEGE BOREAL**

DRAWN BY:	RA
SCALE:	AS SHOWN
DATE:	24-05-06
SAVE AS:	PLAN
JOB NO:	2024-04

DRAWING NUMBER: **A-3**

NOTE:
IT IS THE CONTRACTOR'S/OWNER'S RESPONSIBILITY TO ENSURE THAT ALL CONSTRUCTIONS CONFORMS TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE. NOTATIONS MADE ON THESE DRAWINGS ARE FOR YOUR INFORMATION AND ASSISTANCE ONLY AND DO NOT NECESSARILY COMMENT ON ALL AREAS OF CONSTRUCTION

CITY OF GREATER SUDBURY BUILDING SERVICES

THESE DRAWINGS /PLANS /SKETCHES HAVE BEEN REVIEWED FOR THE PURPOSE OF OBTAINING A BUILDING PERMIT

DATE 12/18/2024
PERMIT BP-NEW-2024-01821
SIGNED K. Deredin

MINIMUM THERMAL RESISTANCE RATING OF NOT LESS THAN R 20 DIRECTLY ABOVE ACCESS HATCHED AND NEAR EAVES AT INNER SURFACES OF EXTERIOR WALLS

WINDOW & SLIDING GLASS DOORS

MAXIMUM U–VALUE 0.28

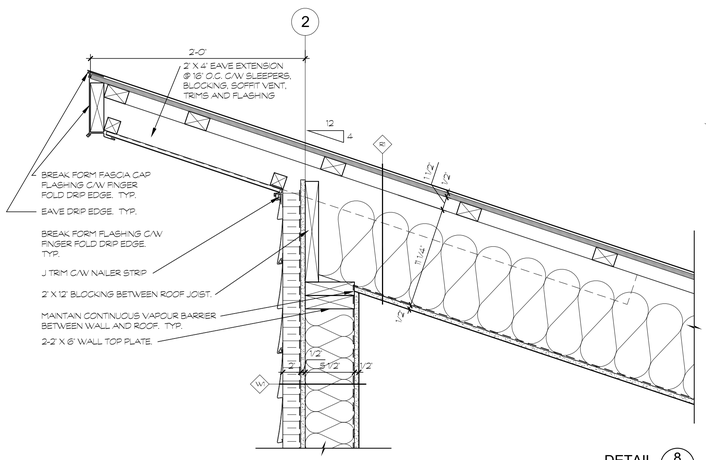
MINIMUM ENERGY RATING 25

MINIMUM THERMAL RESISTANCE C2

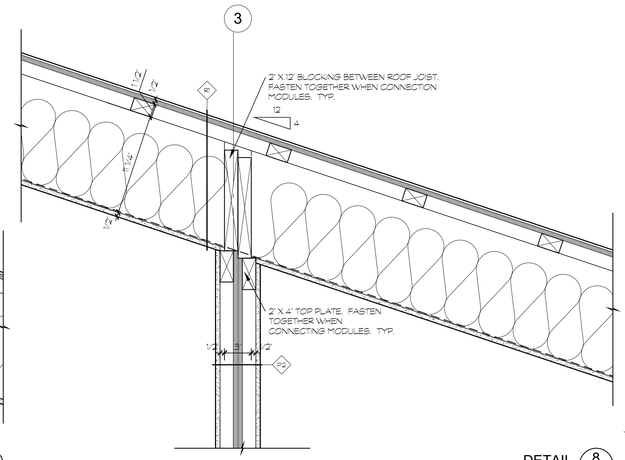
ELECTRIC SPACE HEATING

CEILING W/ ATTIC SPACE	R 50
CEILING W/O ATTIC SPACE	R 31
EXPOSED FLOOR	R 35
WALLS ABOVE GRADE	R 22 + 7.5ci
BASEMENT WALLS	R 20ci
SLAB > BELOW GRADE	-
SLAB < BELOW GRADE	R 10

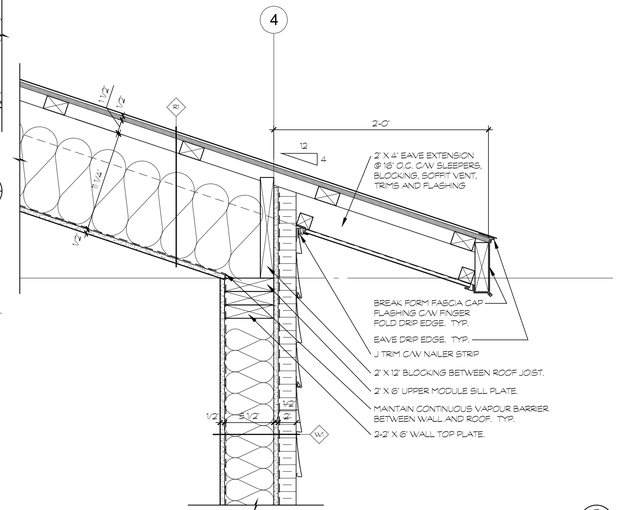
INSPECTION REQUIRED OF AIR BARRIER SYSTEM THAT WILL PROVIDE A CONTINUOUS BARRIER TO AIR LEAKAGE AT THERMALLY INSULATED ASSEMBLIES IN ACCORDANCE WITH DIV. B, SECTION 9.25.3



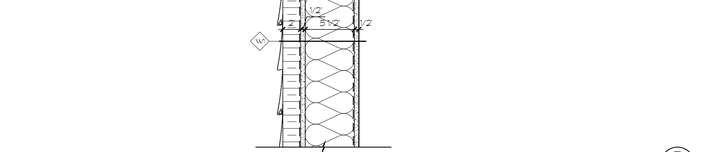
DETAIL 8 A-2
SCALE: 1 1/2" = 1'-0"



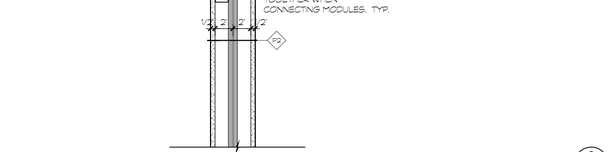
DETAIL 8 A-2
SCALE: 1 1/2" = 1'-0"



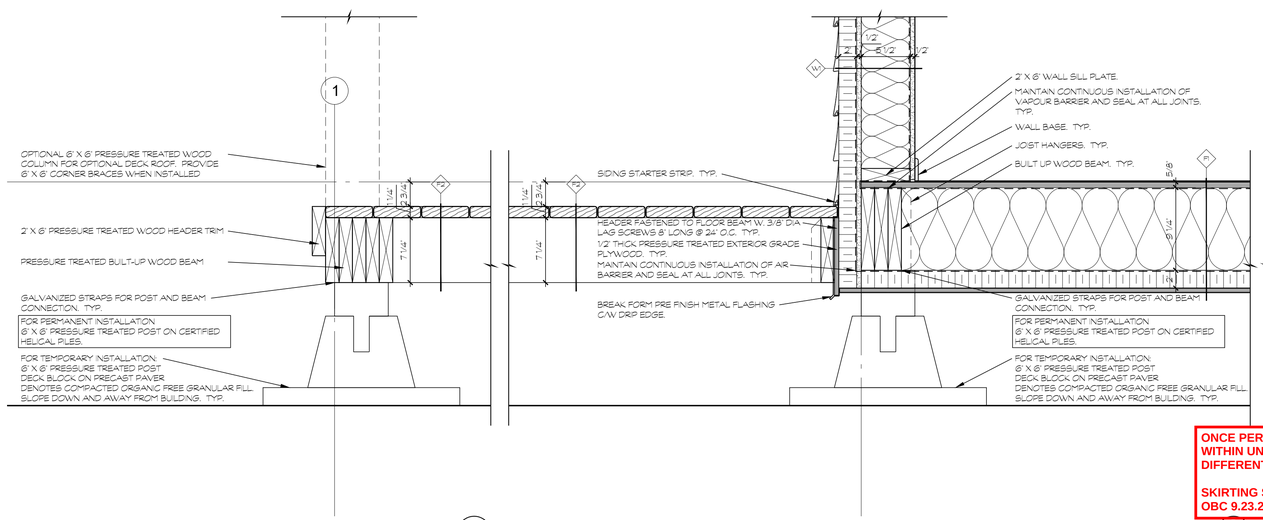
DETAIL 5 A-2
SCALE: 1 1/2" = 1'-0"



DETAIL 7 A-2
SCALE: 1 1/2" = 1'-0"



DETAIL 6 A-2
SCALE: 1 1/2" = 1'-0"



DETAIL 4 A-2
SCALE: 1 1/2" = 1'-0"

DETAIL 3 A-2
SCALE: 1 1/2" = 1'-0"

DETAIL 2 A-2
SCALE: 1 1/2" = 1'-0"

DETAIL 1 A-2
SCALE: 1 1/2" = 1'-0"

ONCE PERMANENT LOCATION IS ESTABLISHED, ALL BUILDING SERVICES WITHIN UNCONDITIONED SPACE TO BE INSULATED AND ACCOUNT FOR DIFFERENTIAL MOVEMENT.

SKIRTING SHALL BE SEPARATED FROM PIERS AND SOIL BY ATLEAST 50MM, OBC 9.23.2.5. (2)

CONCEPT DESIGN BY ELLIS EMBLIN

REVISIONS
1. ISSUED FOR CONSTRUCTION - 24-05-06
2. ISSUED FOR CITY COMMENTS - 24-10-15

GENERAL NOTES:
1. ANY CHANGES DONE TO THE DESIGN DURING CONSTRUCTION WITHOUT THE DESIGNER'S WRITTEN CONSENT AND APPROVAL VOIDS THE DESIGNER'S INSURANCE COVERAGE.
2. DO NOT SCALE DRAWINGS.

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THIS DESIGN, AND HAS THE QUALIFICATIONS AND MEETS THE REQUIREMENTS SET OUT IN THE ONTARIO BUILDING CODE TO BE A DESIGNER.

QUALIFICATION INFORMATION
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.5.1.OF THE BUILDING CODE
Robert André - 24-05-06
34279 BCIN
NAME
REGISTRATION INFORMATION
REQUIRED UNLESS DESIGN IS EXEMPT UNDER 2.17.4.1.OF THE BUILDING CODE
ACCREDITED HOME DESIGN & DRAFTING 35333
FIRM NAME BCIN

THE SIGNATURE BELOW MUST APPEAR IN RED IN ORDER TO VALIDATE THAT THE DESIGNER HAS REVIEWED AND TAKES RESPONSIBILITY FOR THESE DRAWINGS

Robert André - 24-05-06
ROBERT L ANDRÉ
FIRM BCIN No. 35333

ACCREDITED HOME DESIGN AND DRAFTING
320 Denis Crescent
Azilda, Ontario
P0M 1B0
(705) 590-2097

DRAWING NAME
DETAILS

CONTRACTORS AND SUBTRADE SHALL VERIFY ALL DIMENSIONS & REPORT ANY INCONSISTENCIES, DISCREPANCIES, OMISSIONS OR CONFLICTS TO THE DESIGNER/OWNER BEFORE PROCEEDING WITH THE WORK.

PROJECT NAME
MINI MAISON
COLLEGE BOREAL

DRAWN BY:	RA
SCALE:	AS SHOWN
DATE:	24-05-06
SAVE AS:	PLAN
JOB NO:	2024-04

DRAWING NUMBER
A-4

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number

A. Project Information

Building number, street name		Unit number	Lot/Con
Projet Mini Maison, Collège Boréal			
Municipality	**Postal code**	**Reg. Plan number / other description**	
Sudbury			

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: C2 (Zone2) Table: 3.1.1.3 C

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
■ ~~Zone 1~~ (< 5000 degree days) WORK	■ ≥ 92% AFUE	□ Gas □ Propane □ Solid Fuel
□ Zone 2 (≥ 5000 degree days) LOCATION: SUDBURY	□ ≥ 84% < 92% AFUE	□ Oil ■ Electric □ Earth Energy

Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = _____ m^2 **or** 1051.96 ft^2	W, S & G % = 13%	□ Log/Post&Beam □ ICF Above Grade □ ICF Basement
		■ Slab-on-ground □ Walkout Basement
		□ Air Conditioning □ Combo Unit
Area of W, S & G = _____ m^2 **or** 136.31 ft^2	Utilize window averaging: □Yes □No	■ Air Sourced Heat Pump (ASHP)
		□ Ground Sourced Heat Pump (GSHP)

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions

□ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))

□ Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))

□ Airtightness substitution(s)		
Airtightness test required (Refer to Design Guide Attached)	□ Table 3.1.1.4.B Required:	Permitted Substitution:
	□ Table 3.1.1.4.C Required:	Permitted Substitution:
	Required:	Permitted Substitution:

Building Component	Minimum RSI / R values or Maximum U-Value(1)		Building Component	Efficiency Ratings	
Thermal Insulation	Nominal	Effective	**Windows & Doors** Provide U-Value(1) or ER rating		
Ceiling with Attic Space	R50	49.23	Windows/Sliding Glass Doors	1.6 U-factor (0.28) / ER: 25	
Ceiling without Attic Space	R31	27.65	Skylights/Glazed Roofs	NA	
Exposed Floor	R35	32.02	**Mechanicals**		
Walls Above Grade	R22+7.5ci	23.90	Heating Equip.(AFUE)	CC ASHP: 7.1 HSPF	
Basement Walls	NA		HRV Efficiency (SRE% at 0° C)	70%	
Slab (all >600mm below grade)	-----	-----	DHW Heater (EF)	-----	
Slab (edge only ≤600mm below grade)	-----	-----	DWHR (CSA B55.1 (min. 42% efficiency))	NA	# Showers 0
Slab (all ≤600mm below grade, or heated)	R10	11.13	Combined Heating System		

(1) U value to be provided in either W/(m^2•K) or Btu/(h•ft^2•F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.

Name	BCIN	Signature
Scott Ellis	45964	S Ellis

FIRE HOUSE
HVAC DESIGNS INC.

City of Greater Sudbury
200 Brady St
Sudbury, ON P3A 5P3

September 16, 2024

Re: Projet Mini Maison
Collège Boréal
Sudbury, ON

Description: Heat loss, heat gain and ventilation requirements have been completed for the above-mentioned address to the CSA F280-12 Standard, referenced SB-12 Compliance Package, O.B.C. and with information provided by the designer as per drawing dated May 2024.

Location: Sudbury (Sudbury), Ontario based on >5000 Degree Days (Zone 2)
Design: CAN/CSA F280-12 & SB-12 Compliance Package C2 (Table 3.1.1.3.C Zone 2)

As per the attached a HLHG calculation was performed on the above-mentioned address. A total equipment loads are 13,130 BTUH heat loss with 1.1 tons of cooling as per calculations. Recommend a cold climate ASHP Mits MUZ-FH18NAH2 with single MSZ-FH18NA wall-mounted style indoor unit as per design. Recommended baseboards are as noted on the drawing. An ERV/HRV is required, set and balanced to 30cfm to meet the PVC requirements. Bathroom fan installed at 50cfm to supplement for the TVC requirements. All equipment to be installed as per manufactures specifications and all applicable codes and standards.

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code

QUALIFCATION INFORMATION

Name: _____Scott Ellis_____ BCIN # __45964_____ Date: ___September 16, 2024___

Signature: _____S Ellis_____

CITY OF GREATER SUDBURY BUILDING SERVICES
THESE DRAWINGS /PLANS /SKETCHES HAVE BEEN REVIEWED FOR THE PURPOSE OF OBTAINING A BUILDING PERMIT
DATE 12/18/2024
PERMIT BP-NEW-2024-01821
SIGNED K. Deredin

(705) 241•7189
info@fhhdesigns.ca
30 New York Ave
Wasaga Beach, ON L9Z 3A8

RESET

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

for design and performance of residential ventilation systems to OBC 2012 - 9.32

1. Location

Municipality: Sudbury

Civic Address: Projet Mini Maison, Collège Boréal

2. Builder

Name:

Address:

City: Postal Code:

Ph: Fax:

3. Designer

Name: Scott Ellis

Address: 30 New York Ave

City: Wasaga Beach Postal Code: L9Z-3A8

Ph: 705-241-7189 Fax:

Designer BCIN: 45964 HRAI #: 13396

Firm BCIN: 126211

E-mail: info@fhhdesigns.ca

4. Heating Systems

☐ Forced Air ☑ Non-Forced Air

☐ Gas ☐ Propane ☐ Other

☐ Oil ☑ Electricity

5. House Style

☑ One Dwelling Unit ☐ House with Two Dwelling Units

Ventilation System: ☐ Shared ☑ Dedicated

6. Combustion Appliances

☐ a) Direct Vent ☐ b) Induced Draft

☐ c) Natural Draft ☐ d) Solid Fuel Appliances

☑ e) No Combustion Appliances

7. Type of House

☐ Type 1: a) or b) type appliances only

☐ Type 2: a) or b) type appliances with a d) type appliance

☐ Type 3: any type c) appliance = part 6 design

☑ Type 4: electric space heat (same as Type 1)

8. System Design Option

☐ Exhaust only forced air system (coupled to forced air)

☐ HRV/ERV with extended exhaust or simplified (coupled to forced air)

☑ HRV/ERV full ducting (not coupled to forced air)

9. Total Ventilation Capacity (TVC)

Bsmt & Master Bedroom	1	@ 20 CFM (10 L/s)	20	CFM
Other Bedrooms		@ 10 CFM (5 L/s)		CFM
Bathrooms & Kitchen	2	@ 10 CFM (5 L/s)	20	CFM
Other Habitable Rooms	1	@ 10 CFM (5 L/s)	10	CFM
		Total Ventilation Capacity (TVC)	50	CFM

10. TVC System

☑ HRV/ERV ☐ Central Exhaust ☑ Multiple Fans

11. Principal Ventilation Capacity (PVC)

Master Bedroom	1	@ 30 CFM (15 L/s)	30	CFM
Other Bedrooms		@ 15 CFM (7.5 L/s)		CFM
		Total Principal Ventilation Capacity (PVC)	30	CFM

12. Principal Ventilation Fan

Location: Primary

Manufacturer: Panasonic Whisper Comfort

Model: FV-06VE1 ☑ HVI Rated

Rated Airflow: Low: 30 CFM High: 30 CFM

Sones: ESP: " w.c.

70 % Sensible Efficiency @ 0 C° 60 CFM

% Sensible Efficiency @ -25 C° CFM

(If HRV/ERV was used, the system must also comply with SB-12)

13. Supplemental Exhaust Fan Capacity (SEF)

Required Total Ventilation Capacity	50	CFM
Less Rated Principal Ventilation Capacity	30	CFM
Required Supplemental Ventilation Capacity	20	CFM

14. Additional Equipment

Location: Kitchen Sones: N/A

Manufacturer: Varies ☑ HVI Rated

Model: Varies ☐ TVC

Rated Airflow: 100 min CFM ESP: 0.2 " w.c.

Location: Bathroom Sones: 1.0

Manufacturer: Panasonic ☑ HVI Rated

Model: FV0511 ☑ TVC

Rated Airflow: 50 CFM ESP: 0.4 " w.c.

Location: Sones: 1.0

Manufacturer: ☑ HVI Rated

Model: ☐ TVC

Rated Airflow: CFM ESP: 0.4 " w.c.

CITY OF GREATER SUDBURY BUILDING SERVICES
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PERMIT BP-NEW-2024-01821
SIGNED K. Deredin

Location: Sones: 1.0

Manufacturer: ☑ HVI Rated

Model: ☐ TVC

Rated Airflow: CFM ESP: 0.4 " w.c.

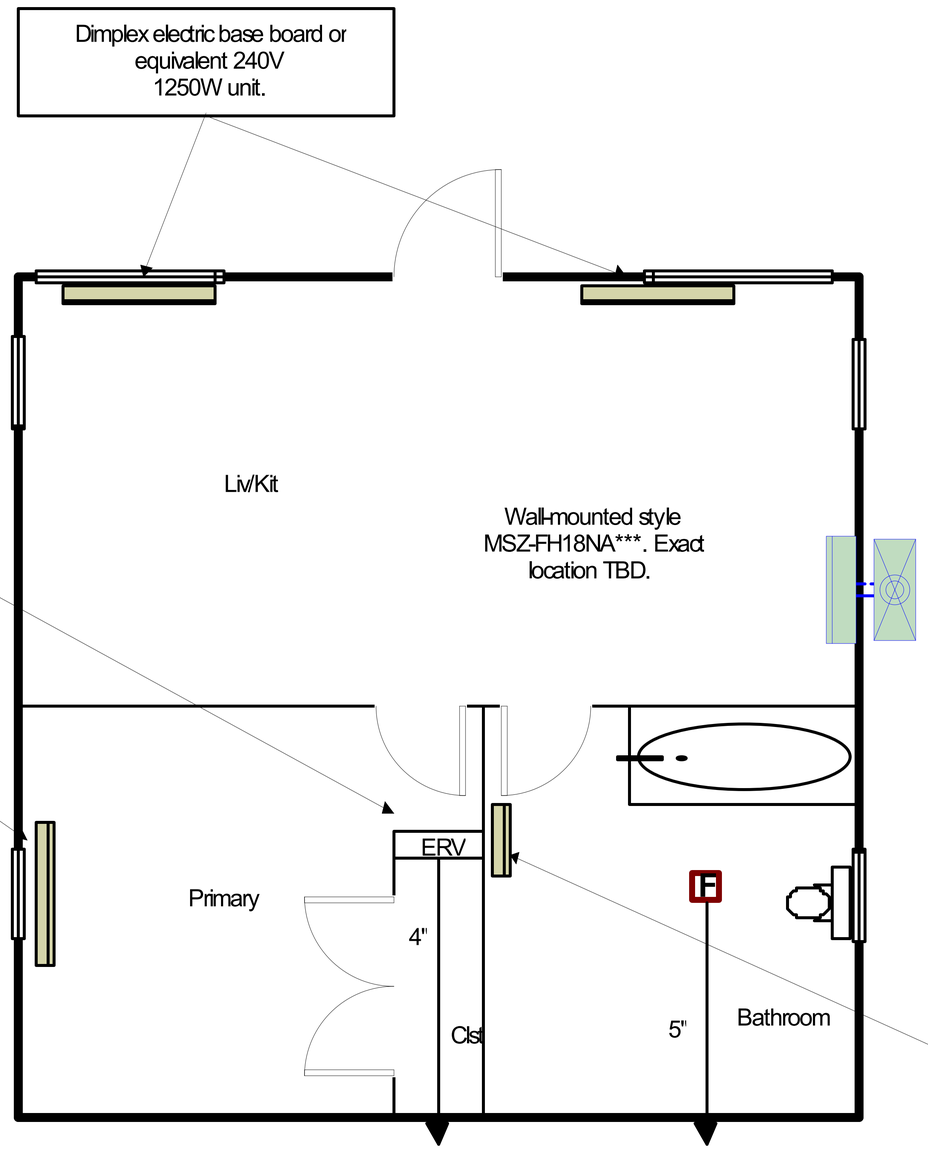
15. Designer Consent

I SCOTT ELLIS certify this ventilation system is designed to be in accordance with OBC-2012 9.32

Date: 09-16-2024 Signature: S Ellis

Conversion note: 1 L/s = 2 CFM (For hard conversion, use 1 L/s = 2.118 CFM)

Main Floor



Dimplex electric base board or equivalent 240V 1250W unit.

Ductless ERV Panosonic Whisper Comfort 60; FV-06VE1 set to 30cfm to meet PVC requirements. Installation to comply with OBC 9.32.3.11,12,13

Dimplex electric base board or equivalent 240V 1000W unit.

Wall-mounted style MSZ-FH18NA***. Exact location TBD.

Range hoods and Exhaust fans are to be discharged directly to the outdoors as per OBC 9.32.3.10

Outdoor unit Cold Climate Mits ASHP MUZ-FH18NAH2 rated at 20,300 BTU/h @8°C and 20,900 BTU/h @-15°C. HVAC contractor to determine exact location within manufacturer specs and with the client.

LETTER OF GENERAL CONFORMANCE REQUIRED FROM HVAC DESIGNER

Dimplex electric base board or equivalent 240V 750W unit.

CITY OF GREATER SUDBURY BUILDING SERVICES

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DATE 12/18/2024

PERMIT BP-NEW-2024-01821

SIGNED K. Deredin

The undersigned has reviewed and taken responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

QUALIFICATION INFORMATION (Required unless the design is exempt under OBC Div C-3.2.4.1 or 3.2.5.1.)

NAME: Scott Ellis SIGNATURE: S Ellis BCIN 45964

REGISTRATION INFORMATION (Required unless the design is exempt under OBC Div C-3.2.4.1 or 3.2.5.1.)

FIRM NAME: Firehouse HVAC Designs Inc. BCIN 126211

Job #: 24-1986
Performed by Scott Ellis BCIN 45964 for:
Mini Maison
Boreal College
Sudbury, ON

Firehouse HVAC Designs Inc.

30 New York Ave
Wasaga Beach, ON L4Z 3A8
Phone: 705-241-7189 License: Firm BCIN 126211
info@fhhdesigns.ca

Scale: 1/2" = 1'0"

Right-Suite® Universal 2024
24.0.01 R SU 59656
2024-Sep-15 21:17:26
...signs\24-1986 Boreal College.rup

Load Short Form
Main ASHP
Firehouse HVAC Designs Inc.

Job: 24-1986
Date: Sep 11, 2024
By: Scott Ellis BCIN 45964

Cert.#: 13396(RHLG, RASD)
30 New York Ave, Wasaga Beach, ON L4Z 3A8 Phone: 705-241-7189 Email: info@fhhdesigns.ca License: Firm BCIN 126211

Project Information

For: Mini Maison
Boreal College, Sudbury, ON

CITY OF GREATER SUDBURY BUILDING SERVICES
THESE DRAWINGS /PLANS /SKETCHES HAVE BEEN REVIEWED FOR THE PURPOSE OF OBTAINING A BUILDING PERMIT
DATE 12/18/2024
PERMIT BP-NEW-2024-01821
SIGNED K. Deredin

Design Information

	Htg	Clg
Outside db (°F)	-18	84
Inside db (°F)	72	75
Design TD (°F)	90	9
Daily range	-	M
Inside humidity (%)	30	50
Moisture difference (gr/lb)	33	19

Infiltration

Method	F280-12
Expos. categ	No local shielding
Const. categ	Present (1961-) (ACH=3.57)
Number of stories	1.0

HEATING EQUIPMENT

Make	Mitsubishi Electric or Equivalent
Trade	Mitsubishi Electric
Model	MUZ-FH18NAH2
AHRI ref	
Efficiency	10.3 HSPF2
Heating input	
Heating output	20200 Btuh @ 47°F
Temperature rise	0 °F
Actual air flow	0 cfm
Air flow factor	0 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	

Capacity balance point = -3 °F

Backup: Elec baseboard
Input = 15034 Btuh, Output = 15034 Btuh, 100 EFF

COOLING EQUIPMENT

Make	Mitsubishi Electric or Equivalent
Trade	Mitsubishi Electric
Cond	MUZ-FH18NAH2
Coil	MSZ-FH18NA**
AHRI ref	
Efficiency	12.5 EER2, 21 SEER2
Sensible cooling	12040 Btuh
Latent cooling	5160 Btuh
Total cooling	17200 Btuh
Actual air flow	0 cfm
Air flow factor	0 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0

ROOM NAME		Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MSI1	p	552	13130	9216	0	0
Main ASHP	d	552	13130	9216	0	0
Other equip loads			1904	194		
Equip. @ 1.00 RSM				9410		
Latent cooling				2823		
TOTALS		552	15034	12233	0	0

This software has been verified by HVAC Designers of Canada in accordance with section 8 of CSA F280-12 revised Mar 2023.

Loads for Multiple Orientations
Main ASHP
Firehouse HVAC Designs Inc.

Job: 24-1986
Date: Sep 11, 2024
By: Scott Ellis BCIN 45964

Cert.#: 13396(RHLG, RASD)
30 New York Ave, Wasaga Beach, ON L4Z 3A8 Phone: 705-241-7189 Email: info@fhhdesigns.ca License: Firm BCIN 126211

Project Information

For: Mini Maison
Boreal College, Sudbury, ON

Design Conditions

Location:
Sudbury, ON, CA
Elevation: 1142 ft
Latitude: 47°N

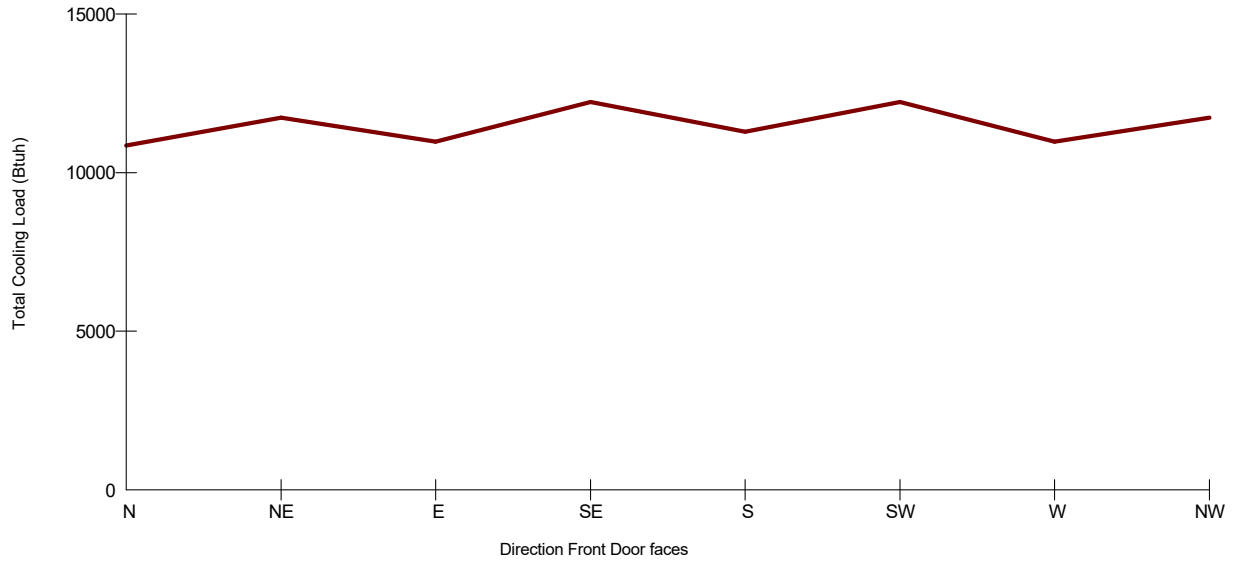
Outdoor:	Heating	Cooling
Dry bulb (°F)	-18	84
Daily range (°F)	-	18 (M)
Wet bulb (°F)	-	69
Wind speed (mph)	10.6	8.1

Indoor:	Heating	Cooling
Indoor temperature (°F)	72	75
Design TD (°F)	90	9
Relative humidity (%)	30	50
Moisture difference (gr/lb)	33.3	19.0

Infiltration:

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	8350	9028	8446	9410	8683	9410	8446	9028
Latent Load (Btuh)	2505	2709	2534	2823	2605	2823	2534	2709
Total Load (Btuh)	10855	11737	10980	12233	11288	12233	10980	11737
Heating AVF (cfm)	0	0	0	0	0	0	0	0
Cooling AVF (cfm)	0	0	0	0	0	0	0	0

Building Orientation Cooling Load



Current Orientation: Front Door faces Southwest
Highest Cooling Load: Front Door faces Southeast

This software has been verified by HVAC Designers of Canada in accordance with section 8 of CSA F280-12 revised Mar 2023.

Building Analysis
Main ASHP
Firehouse HVAC Designs Inc.

Job: 24-1986
Date: Sep 11, 2024
By: Scott Ellis BCIN 45964

Cert.#: 13396(RHLG, RASD)
30 New York Ave, Wasaga Beach, ON L4Z 3A8 Phone: 705-241-7189 Email: info@fhhdesigns.ca License: Firm BCIN 126211

Project Information

For: Mini Maison
Boreal College, Sudbury, ON

Design Conditions

Location:
Sudbury, ON, CA
Elevation: 1142 ft
Latitude: 47°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	-18	84
Daily range (°F)	-	18 (M)
Wet bulb (°F)	-	69
Wind speed (mph)	10.6	8.1

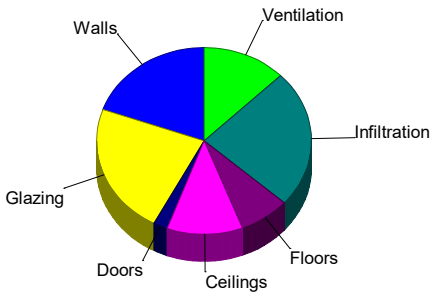
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	75
Design TD (°F)	90	9
Relative humidity (%)	30	50
Moisture difference (gr/lb)	33.3	19.0

Infiltration:

Method	F280-12
Expos. categ	No local shielding
Const. categ	Present (1961-) (ACH=3.57)
Number of stories	1.0

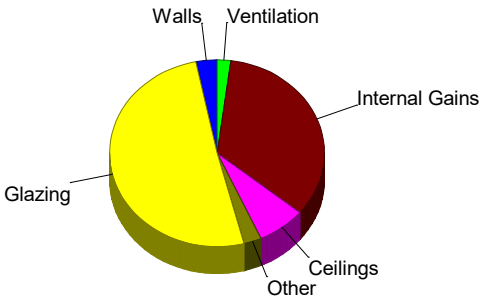
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.3	2934	19.5
Glazing	25.3	3418	22.7
Doors	15.9	325	2.2
Ceilings	3.0	1719	11.4
Floors	2.1	1145	7.6
Infiltration	23.1	3590	23.9
Ducts		0	0
Hydronic		0	0
Humidification		0	0
Ventilation		1904	12.7
Adjustments		0	
Total		**15034**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.3	301	3.2
Glazing	35.4	4782	50.8
Doors	1.8	37	0.4
Ceilings	1.2	688	7.3
Floors	0.2	117	1.2
Infiltration	0.7	101	1.1
Ducts		0	0
Ventilation		194	2.1
Internal gains		3190	33.9
Blower		0	0
Adjustments		0	
Total		**9410**	**100.0**



Latent Cooling Load = 2823 Btuh
Overall U-value = 0.049 Btuh/ft²-°F, Window / Floor Area = 24.4 %

Data entries checked.

Project Summary
Main ASHP
Firehouse HVAC Designs Inc.

Job: 24-1986
Date: Sep 11, 2024
By: Scott Ellis BCIN 45964

Cert.#: 13396(RHLG, RASD)
30 New York Ave, Wasaga Beach, ON L4Z 3A8 Phone: 705-241-7189 Email: info@fhhdesigns.ca License: Firm BCIN 126211

Project Information

For: Mini Maison
Boreal College, Sudbury, ON

Notes: Designed to CSA F280-12 & SB-12 requirements and information supplied by the customer and designer.

Design Information

Weather: Sudbury, ON, CA

Winter Design Conditions

Outside db	-18	°F
Inside db	72	°F
Design TD	90	°F
Ventilation Method	F280-12	

Summer Design Conditions

Outside db	84	°F
Inside db	75	°F
Design TD	9	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	19	gr/lb

Heating Summary

Structure	13130	Btuh
Ducts	0	Btuh
Central vent (SER=70% 65 cfm)	1904	Btuh
Energy recovery		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	15034	Btuh

Sensible Cooling Equipment Load Sizing

Structure	9216	Btuh
Ducts	0	Btuh
Central vent (SER=70% 65 cfm)	194	Btuh
Energy recovery		
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	9410	Btuh

Infiltration

Method	F280-12
Expos. categ	No local shielding
Const. categ	Present (1961-) (ACH=3.57)
Number of stories	1.0

	Heating	Cooling
Area (ft²)	552	552
Volume (ft³)	6166	6166
Air changes/hour	0.36	0.10
Equiv. AVF (cfm)	37	10

Latent Cooling Equipment Load Sizing

Structure	1730	Btuh
Ducts	0	Btuh
Central vent (LER=60% 65 cfm)	1093	Btuh
Energy recovery		
Equipment latent load	2823	Btuh
Equipment Total Load (Sen+Lat)	12233	Btuh
Req. total capacity at 0.70 SHR	1.1	ton

Heating Equipment Summary

Make	Mitsubishi Electric or Equivalent
Trade	Mitsubishi Electric
Model	MUZ-FH18NAH2
AHRI ref	

Efficiency	10.3 HSPF2	
Heating input		
Heating output	20200	Btuh @ 47°F
Temperature rise	0	°F
Actual air flow	0	cfm
Air flow factor	0	cfm/Btuh
Static pressure	0	in H2O

Space thermostat
Capacity balance point = -3 °F

Backup: Elec baseboard
Input = 15034 Btuh, Output = 15034 Btuh, 100 EFF

Cooling Equipment Summary

Make	Mitsubishi Electric or Equivalent
Trade	Mitsubishi Electric
Cond	MUZ-FH18NAH2
Coil	MSZ-FH18NA**
AHRI ref	
Efficiency	12.5 EER2, 21 SEER2

Sensible cooling	12040	Btuh
Latent cooling	5160	Btuh
Total cooling	17200	Btuh
Actual air flow	0	cfm
Air flow factor	0	cfm/Btuh
Static pressure	0	in H2O
Load sensible heat ratio	0	

This software has been verified by HVAC Designers of Canada in accordance with section 8 of CSA F280-12 revised Mar 2023.

F280 Infiltration Report
Main ASHP
Firehouse HVAC Designs Inc.

Job: 24-1986
Date: Sep 11, 2024
By: Scott Ellis BCIN 45964

Cert.#: 13396(RHLG, RASD)
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Project Information

For: Mini Maison
Boreal College, Sudbury, ON

Design Conditions

House type	Detached
Site	Suburban, forest
Wall shielding	No local shielding
Storeys	1.0 (w/o basement)
Highest ceiling height (ft)	18.0
Foundation	Full

Air Leakage

Air tightness	Present (1961-) (ACH=3.57)

Flues

Shielding	Heavy shielding			
	#1	#2	#3	#4
Diameter (in)	0	0	0	0

Summary

Heating

Infiltation area	552	ft²
Infiltration volume	6166	ft³
Unadjusted air change rate	0.358	ach
Unadjusted AVF	37	cfm
Vent adjustment	0	cfm
Net AVF	37	cfm
Net air change rate	0	ach

Cooling

Infiltration area	552	ft²
Infiltration volume	6166	ft³
Unadjusted air change rate	0.099	ach
Unadjusted AVF	10	cfm
Vent adjustment	0	cfm
Net AVF	10	cfm
Net air change rate	0	ach

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Room Name	Level Factor	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MSI1	0	3590	101	37	10
Main ASHP	0	3590	101	37	10

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Duct Free Summary Report

For: Mini Maison
Boreal College, Sudbury, ON

Mfr	SysType	Name	UnitType	Model	ClgNomCap (Btuh)	ClgActCap (Btuh)	ClgLoad (Btuh)	HtgNomCap (Btuh)	HtgActCap (Btuh)	HtgLoad (Btuh)	LiqLine (ft)	SuctLine	VerSep	SuctLine TEL (ft)
MITS	H	Main ASHP	OS	MUZ-FS18N...	17200	17200	11981	19000	19000	13130	1/4"	1/2"	6.0	9.9
		MSI1	IW	MSZ-FS18NA	17200	17200	11981	19000	19000	13130	1/4"	1/2"	6.0	9.9

Duct Free Details Report

For: Mini Maison
Boreal College, Sudbury, ON

	Main ASHP				
	Main	MSI1			
Manufacturer	MITS	MITS			
System Type	H	H			
Unit Type		IW			
Model	MUZ-FS18NAH	MSZ-FS18NA			
Cooling					
Nominal Capacity	17200	17200			
Capacity Loss	0	0			
Actual Capacity	17200	17200			
Load	11981	11981			
Heating					
Nominal Capacity	19000	19000			
Capacity Loss	0	0			
Actual Capacity	19000	19000			
Load	13130	13130			
Suction Line					
Size	1/2"	1/2"			
Horizontal length	1.5	1.5			
Vertical length	6.0	6.0			
Equiv fitting length	2.4	2.4			
Total effective length	9.9	9.9			
Liquid Line					
Size	1/4"	1/4"			
Vertical Separation	6.0	6.0			
Limits					
Max TEL	100	100			
Max Vert Separation	50	50			
Dimentions					
Width	33.0	36.0			
Height	35.0	12.0			
Depth	13.0	9.0			
Weight	118.0	29.0			