Important Note About House Plans

House Plans are fully integrated sets of construction drawings created by BSC for specific locations and climates. The sets include floor plans, detailed framing plans and wall framing elevations, exterior elevations and sections, advanced framing and enclosure details, as well as mechanical and electrical plans.

Through our multi-disciplinary team approach, interior, framing and mechanical layouts are designed and coordinated well before the start of construction. Duct layouts are not only shown on the mechanical plan but on the framing plan as well. This level of coordination limits changes made in the field and helps to ensure assemblies and systems are installed as designed.

Please Note

Please note that House Plans are posted as examples of high performance housing designs and are not to be used for construction. If you wish to use these plans as a basis for a house design, you should keep the following in mind:

- Most state and local governments require that a set of drawings be stamped by an architect licensed to practice locally
- Foundation plans need to be developed for the specific site and climate
- While these drawings were developed to be compliant with the then-current IRC code, you will need to meet your local building code requirements
- Finally, since materials and products specified in the drawings may not be available in all locations, you will need to carefully research any substitutions to verify compatibility and performance.

VERY COLD CLIMATE

THREE BEDROOM

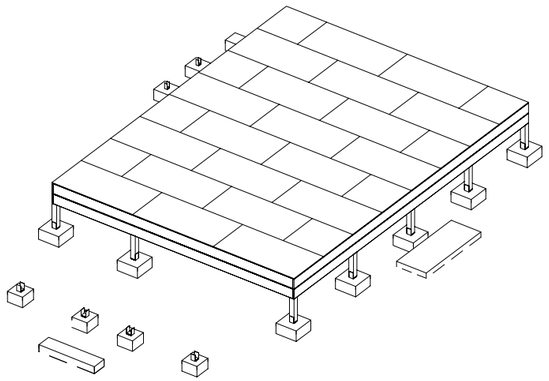
SQUARE FOOTAGES

FIRST FLOOR	770 SQ FT
SECOND FLOOR	420 SQ FT

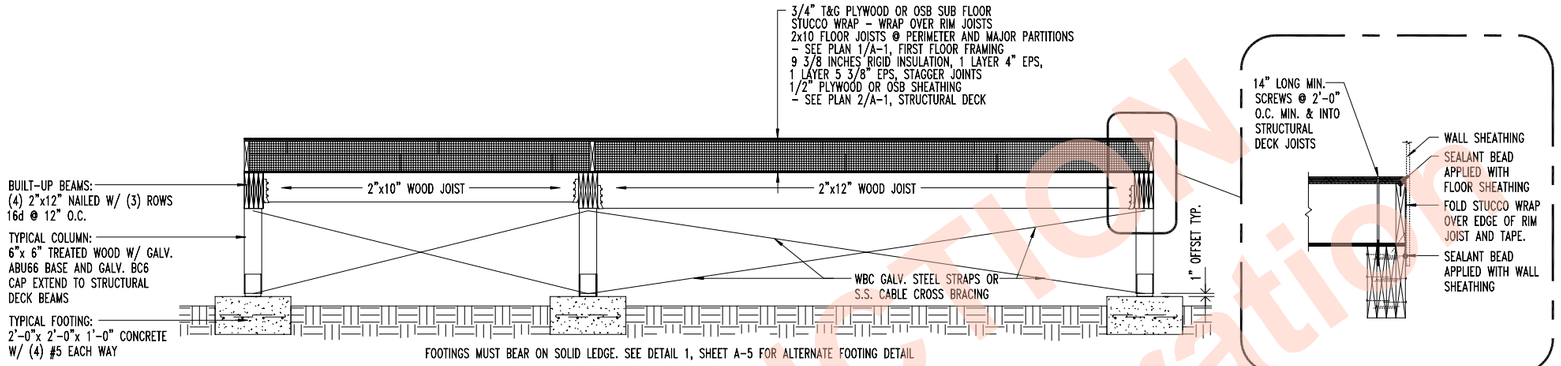
LIST OF DRAWINGS

DATE: 14 MARCH 2006

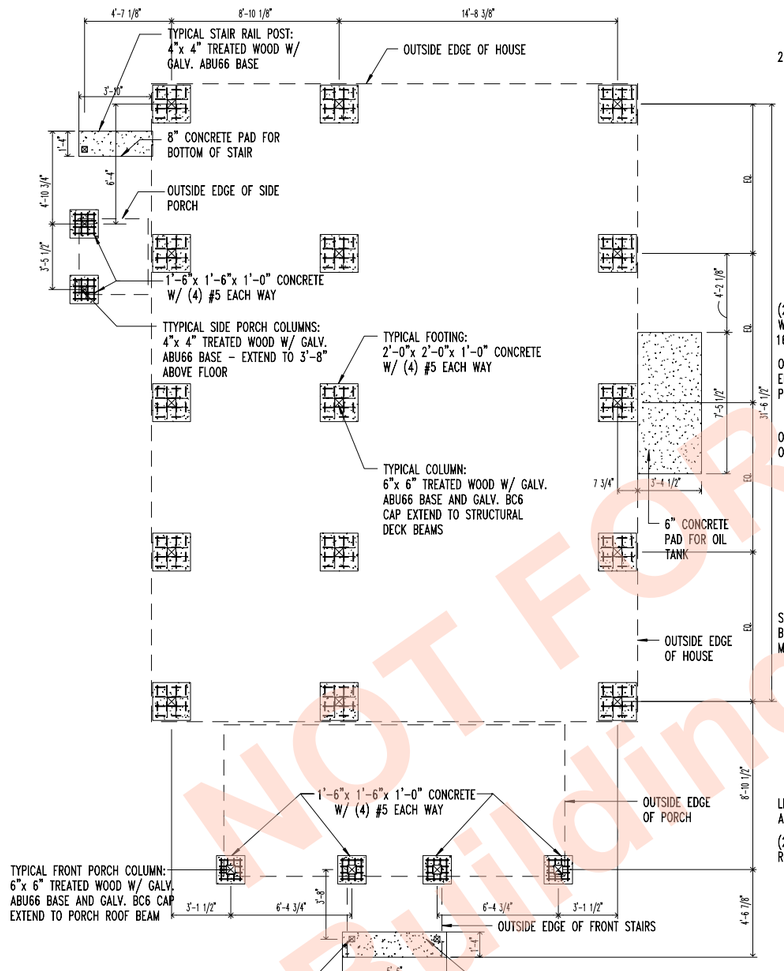
BUILDING SCIENCE CORPORATION
70 MAIN STREET WESTFORD, MASSACHUSETTS 01886
P: 978-589-5100 F: 978-589-5103



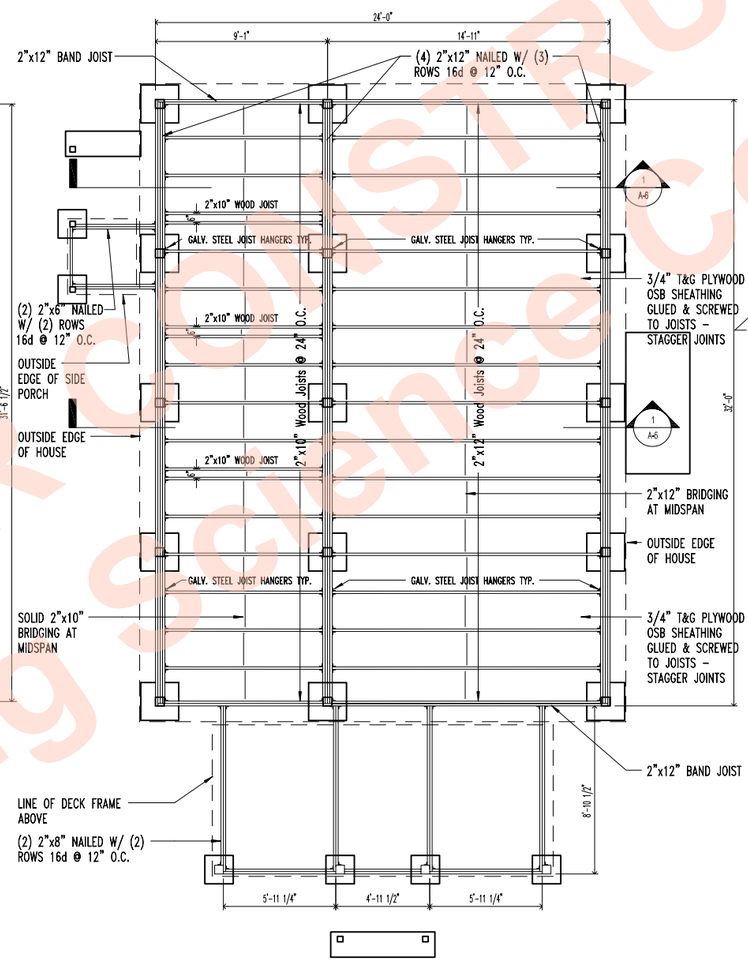
5 | ISOMETRIC OF FLOOR DECK
N.T.S



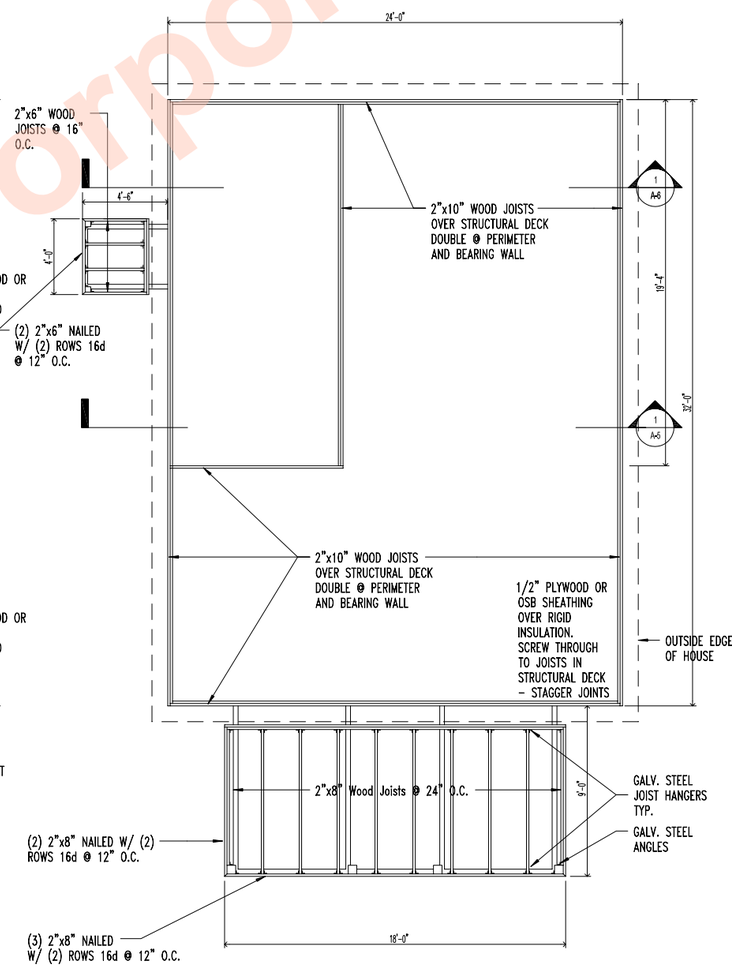
4 | CROSS SECTION AND PIER ELEVATION
SCALE 1/4" = 1'-0"



3 | FOUNDATION PLAN
SCALE 1/8" = 1'-0"



2 | STRUCTURAL DECK FRAMING PLAN
SCALE 1/8" = 1'-0"



1 | FIRST FLOOR FRAMING PLAN
SCALE 1/8" = 1'-0"

ARCHITECT:
BUILDING SCIENCE CORPORATION
70 MAIN STREET WESTFORD, MASSACHUSETTS 01886 PH: 978-589-5100

THREE BEDROOM HOUSE
VERY COLD CLIMATE

FOUNDATION
CRAWLSPACE
FLOOR FRAMING

SCALE AS NOTED

A-1

FILE: VERY COLD HOUSE.DWG

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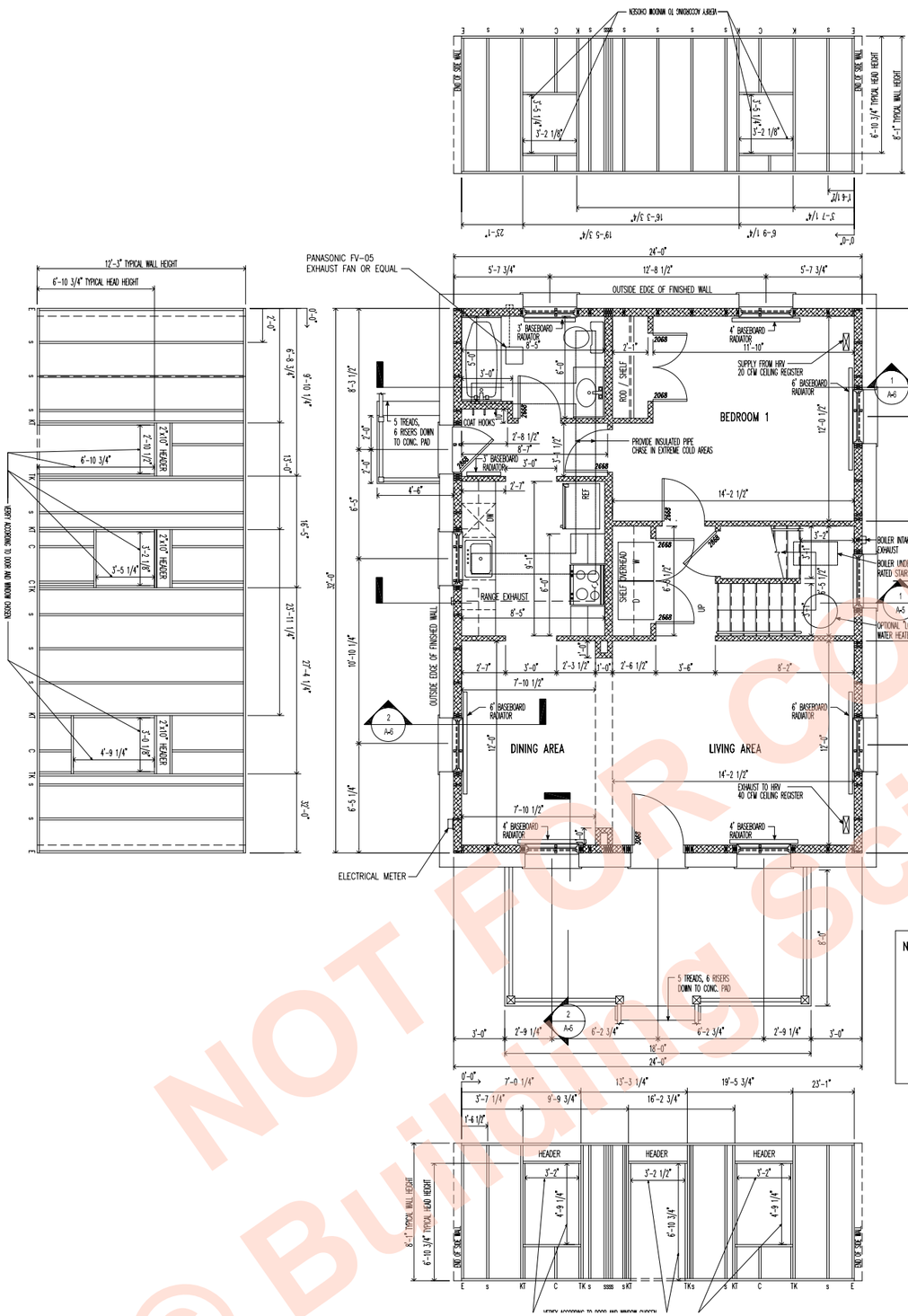
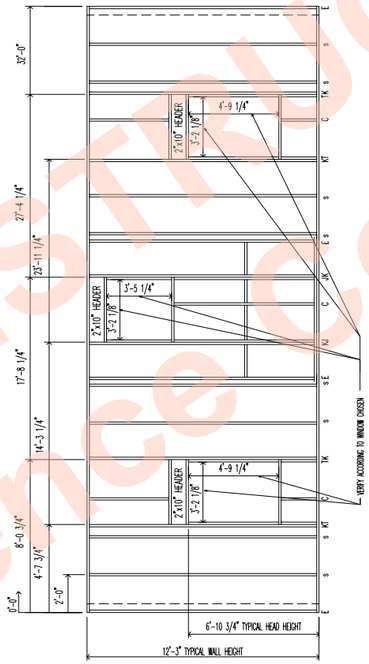
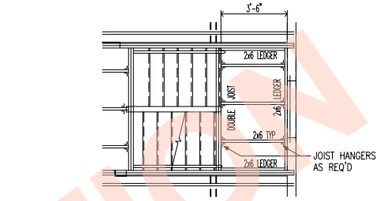
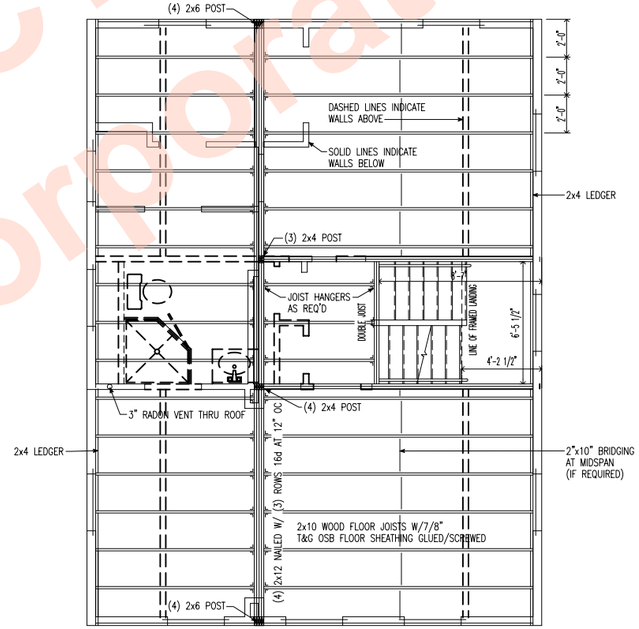


3 | FIRST FLOOR PLAN // WALL FRAMING ELEVATIONS
SCALE 1/8" = 1'-0"





2 | FRAMING AT STAIR LANDING
SCALE 1/8" = 1'-0"



1 | SECOND FLOOR FRAMING PLAN
SCALE 1/8" = 1'-0"

NOTES: 1. PLAN IS DIMENSIONED TO WALL FRAMING AS EXTERIOR INSULATION THICKNESS MAY VARY ACCORDING TO TYPE OF INSULATION CHOOSEN TO MEET SPECIFIED R-VALUE.
2. SEE SHEET A-7 FOR WINDOW INSTALLATION SEQUENCE AND FRAME EXTENSION DETAILS.

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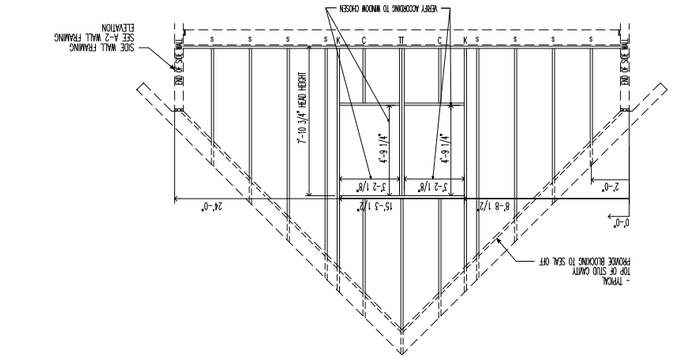
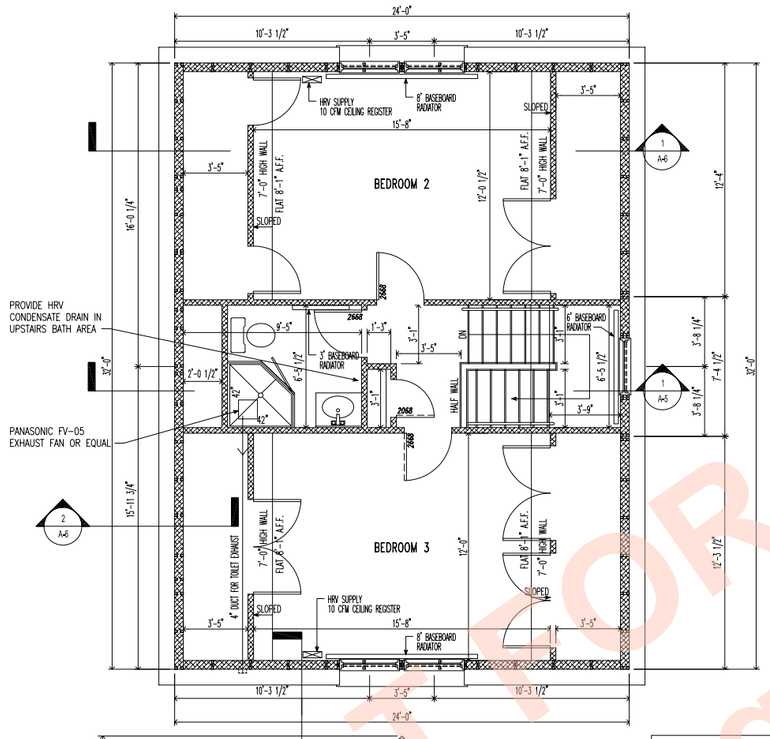
THREE BEDROOM HOUSE
VERY COLD CLIMATE

FIRST FLOOR PLAN and SECOND FLOOR FRAMING
SCALE AS NOTED

A-2

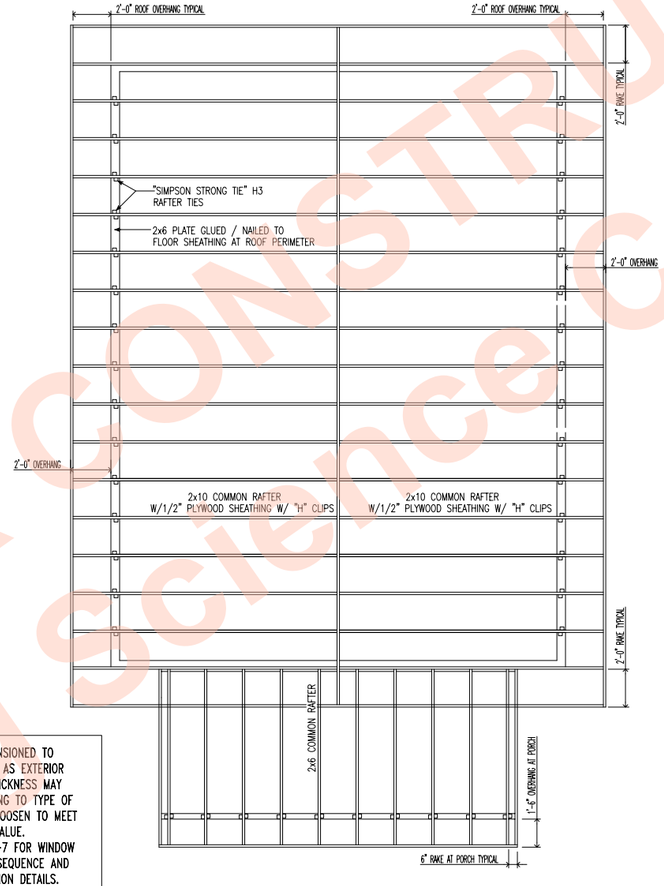
FILE: VERY COLD HOUSE.DWG



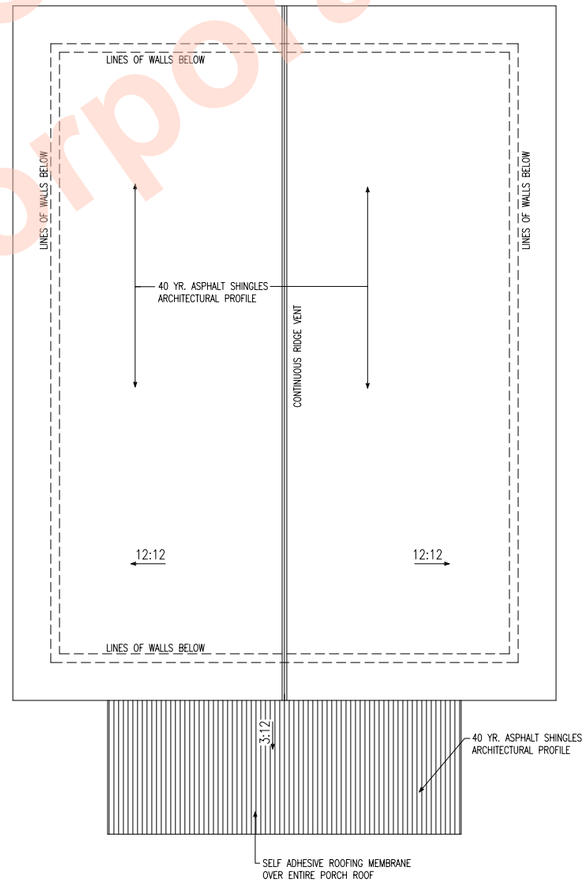


3 | SECOND FLOOR PLAN AND WALL FRAMING ELEVATIONS
SCALE 1/8" = 1'-0"

NOTES:
1. PLAN IS DIMENSIONED TO WALL FRAMING AS EXTERIOR INSULATION THICKNESS MAY VARY ACCORDING TO TYPE OF INSULATION CHOOSEN TO MEET SPECIFIED R-VALUE.
2. SEE SHEET A-7 FOR WINDOW INSTALLATION SEQUENCE AND FRAME EXTENSION DETAILS.



2 | ROOF FRAMING PLAN
SCALE 1/8" = 1'-0"



1 | ROOF PLAN
SCALE 1/8" = 1'-0"

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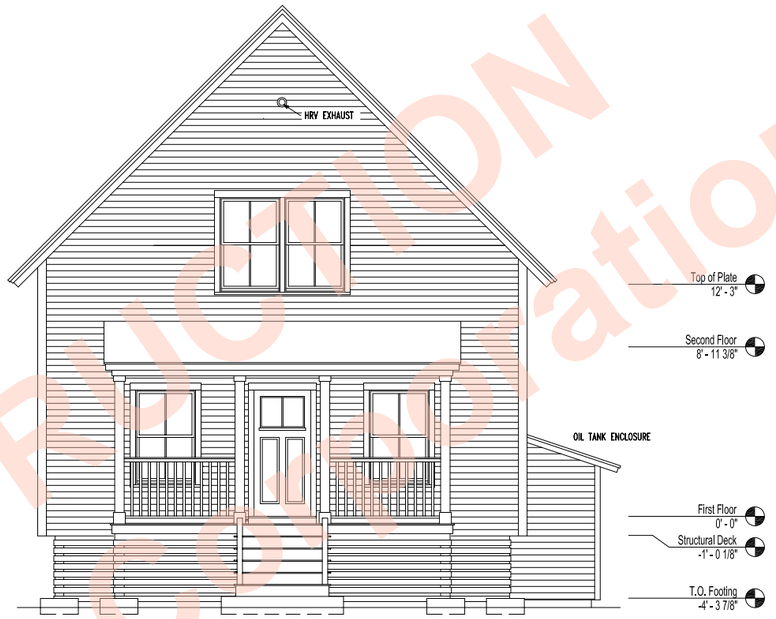
THREE BEDROOM HOUSE
VERY COLD CLIMATE

SECOND FLOOR PLANS and ROOF PLANS
SCALE AS NOTED

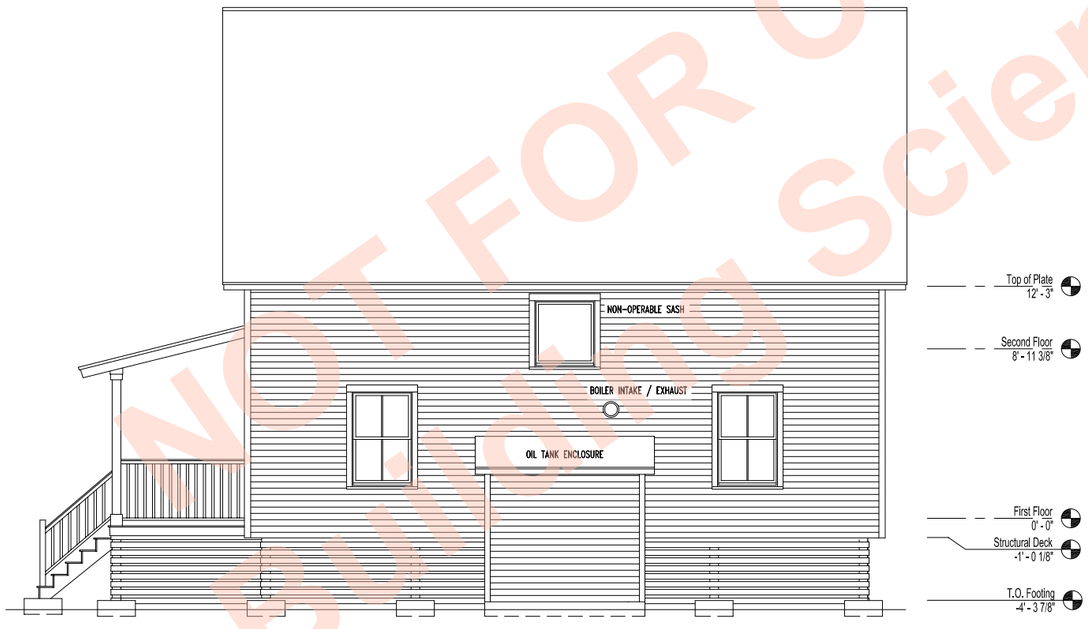
A-3

FILE: VERY COLD HOUSE.DWG

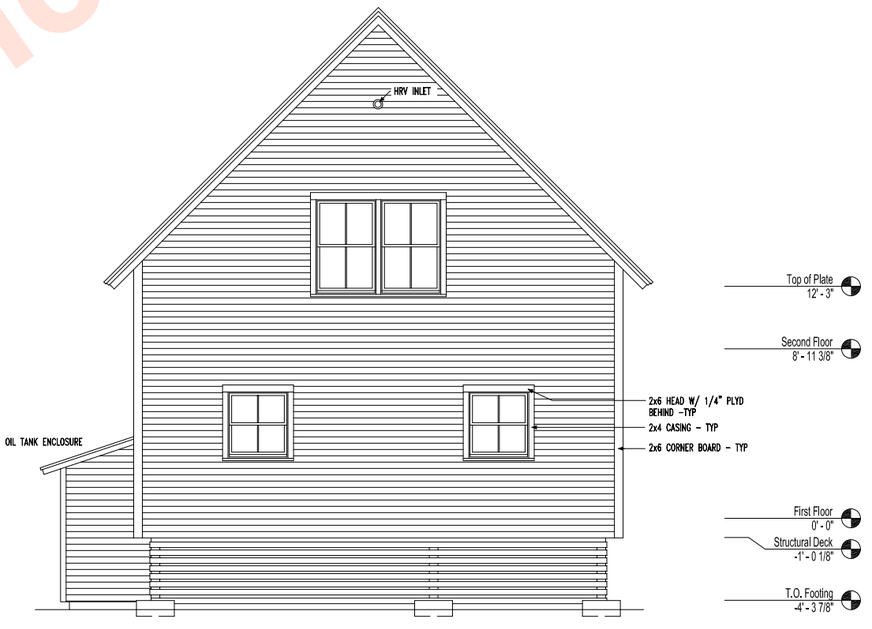
4 | LEFT SIDE ELEVATION
SCALE 1/8" = 1'-0"



2 | FRONT ELEVATION
SCALE 1/8" = 1'-0"



3 | RIGHT SIDE ELEVATION
SCALE 1/8" = 1'-0"



1 | REAR ELEVATION
SCALE 1/8" = 1'-0"

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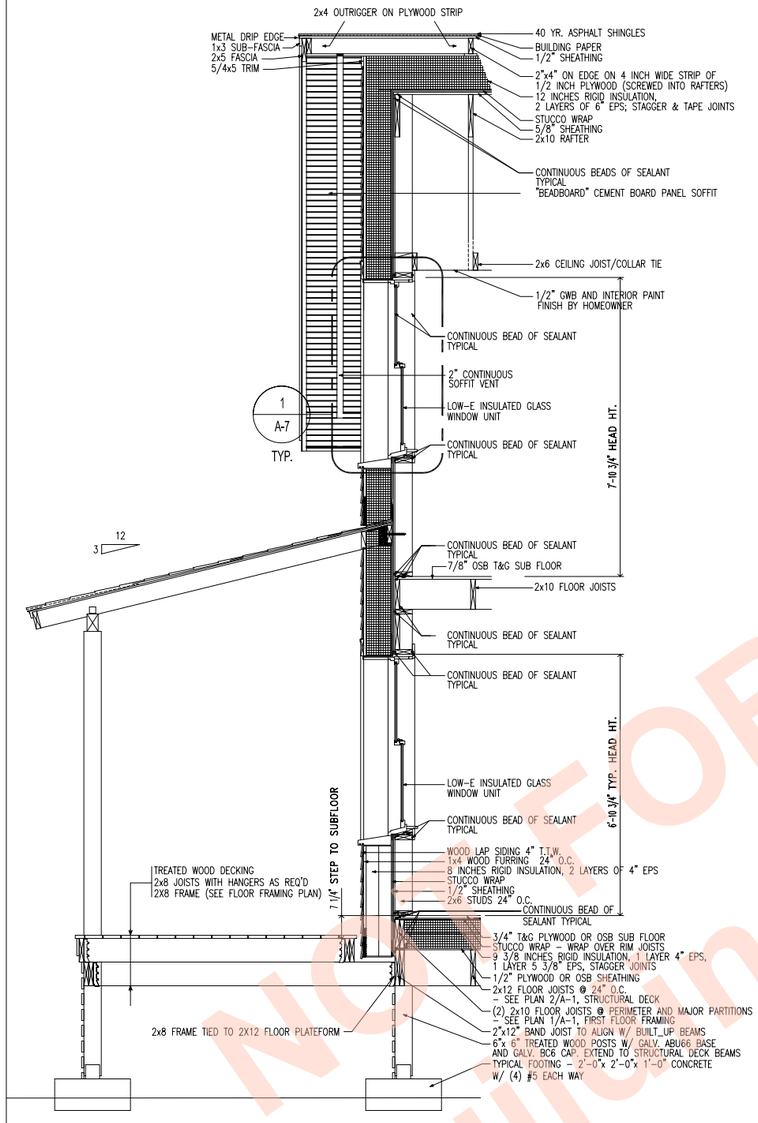
THREE BEDROOM HOUSE
VERY COLD CLIMATE

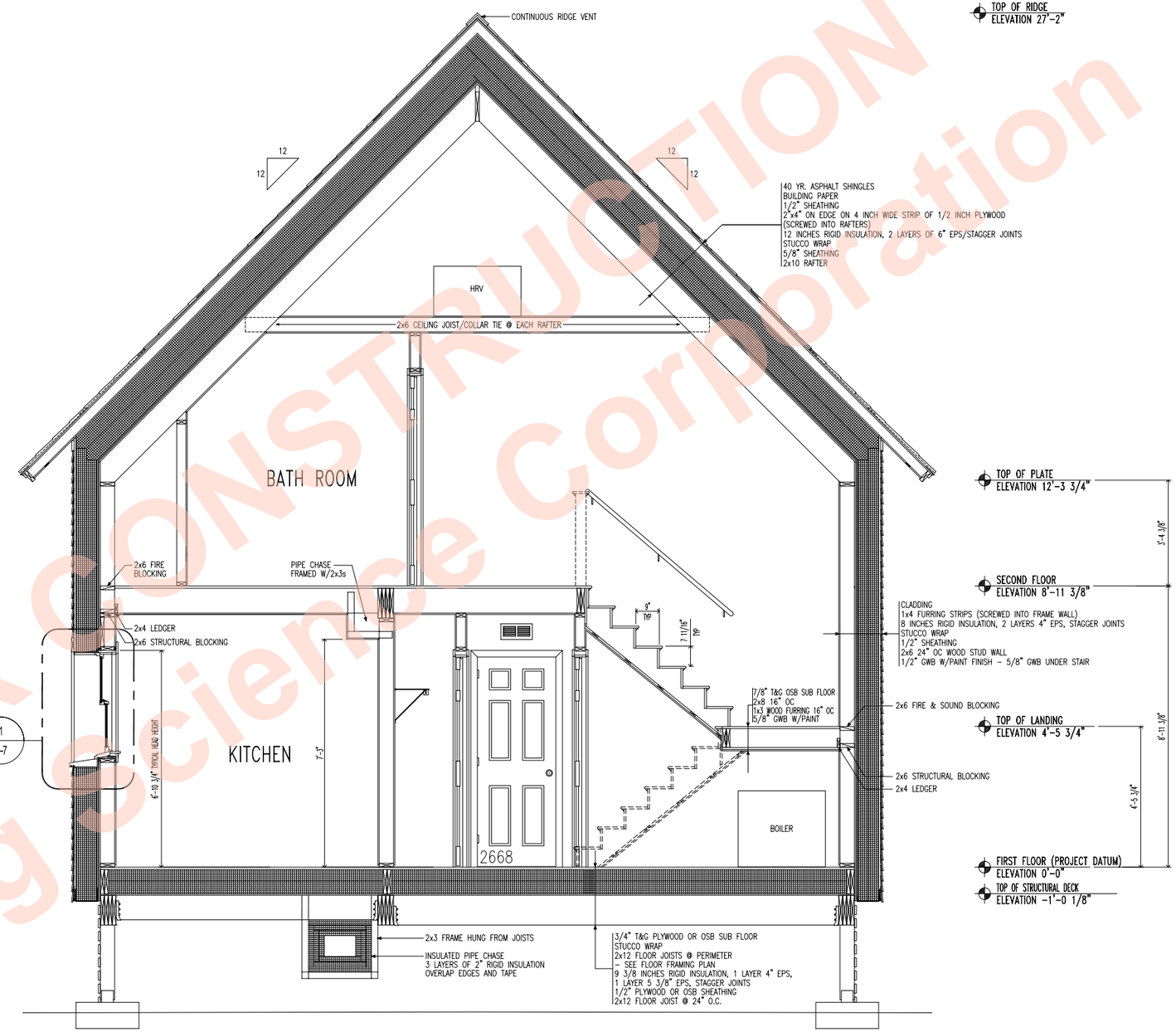
BUILDING ELEVATIONS
SCALE AS NOTED

A-4

FILE: VERY COLD HOUSE.DWG



2 | WALL SECTION A
SCALE 1/4" = 1'-0"



1 | BUILDING SECTION AA
SCALE 1/4" = 1'-0"

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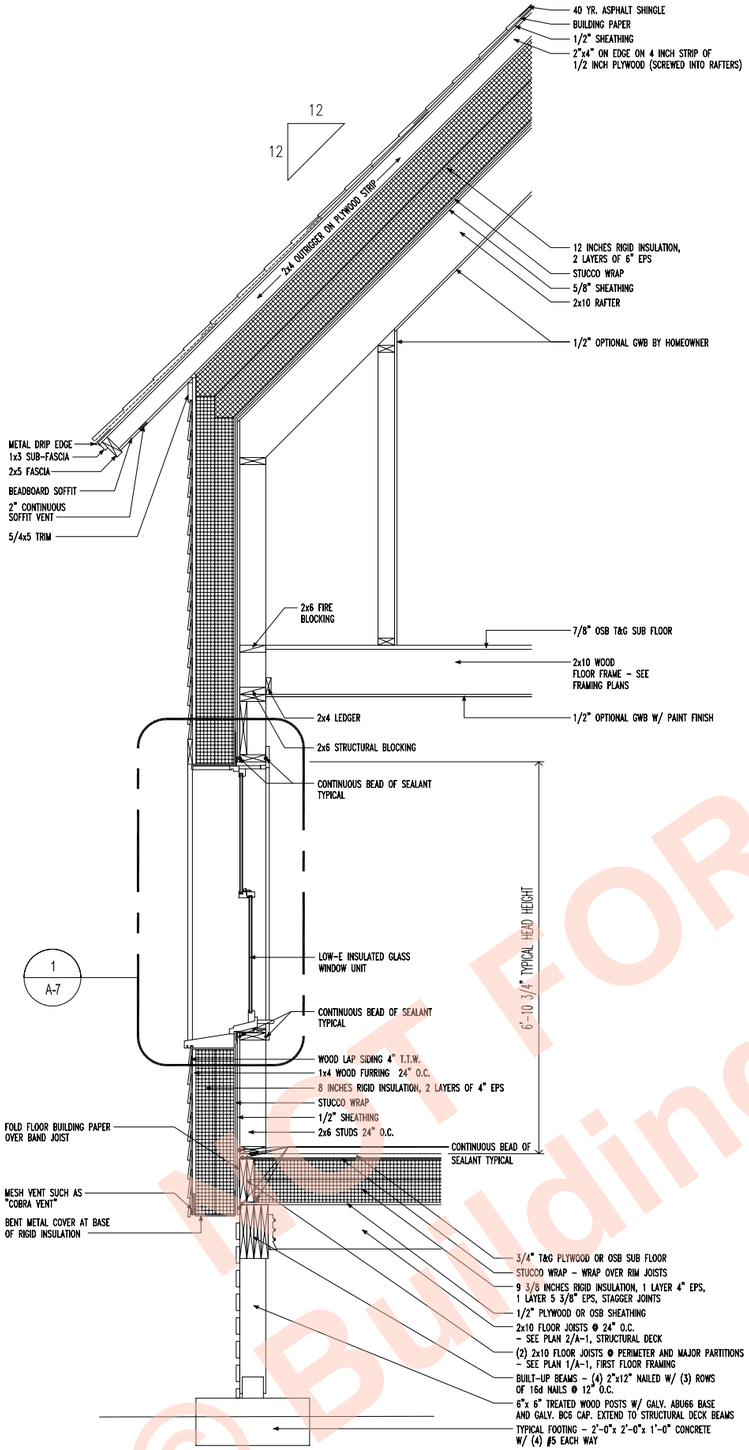
PROJECT:
THREE BEDROOM HOUSE
VERY COLD CLIMATE

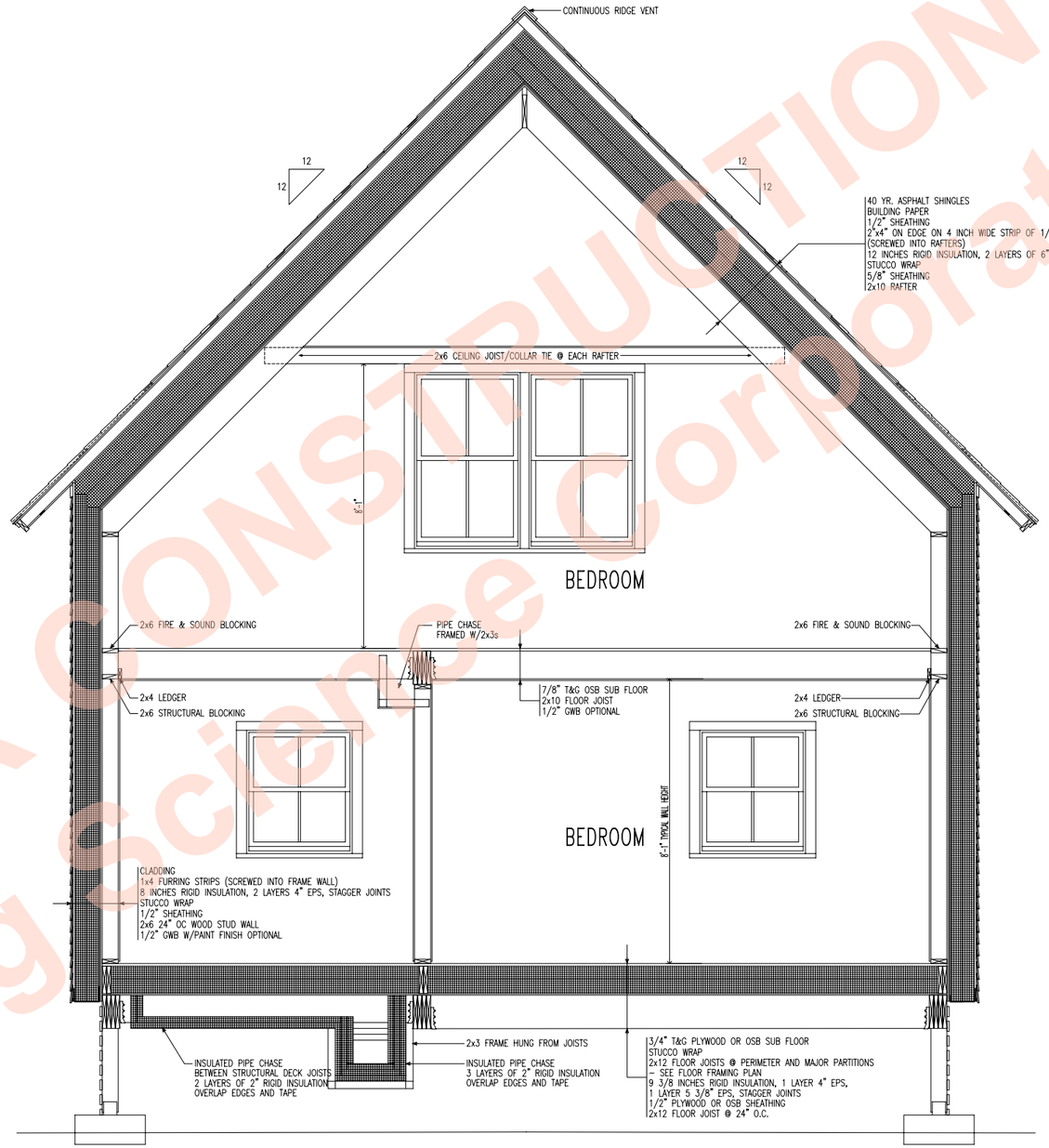
BUILDING SECTION
AA and WALL
SECTION A
SCALE AS NOTED

A-5

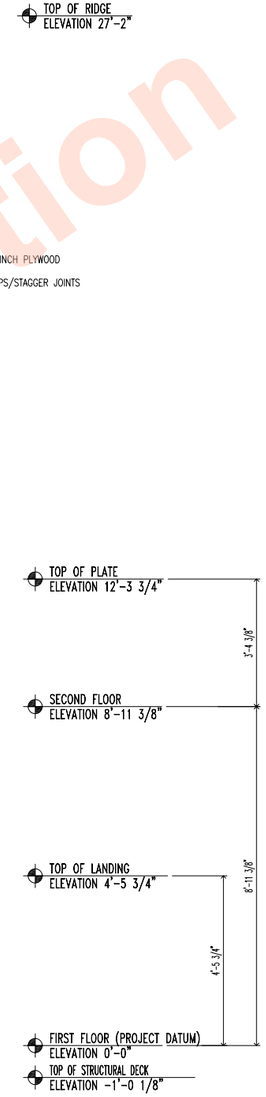
FILE: VERY COLD HOUSE.DWG



2 | WALL SECTION B
SCALE 3/8" = 1'-0"



1 | BUILDING SECTION BB
SCALE 1/4" = 1' - 0"



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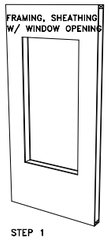
THREE BEDROOM HOUSE
VERY COLD CLIMATE

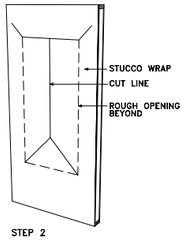
BUILDING SECTION
BB and WALL
SECTION B
SCALE AS NOTED

A-6

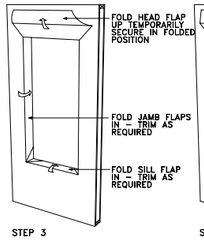
FILE: VERY COLD HOUSE.DWG



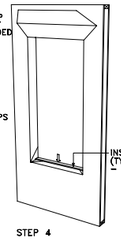
STEP 1



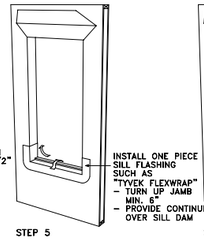
STEP 2



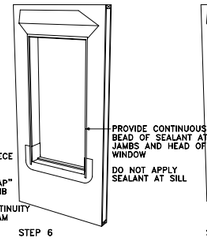
STEP 3



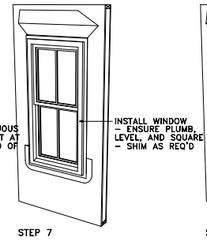
STEP 4



STEP 5



STEP 6



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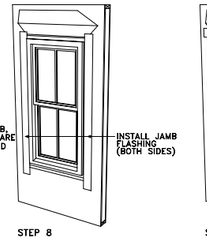

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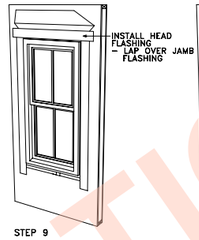

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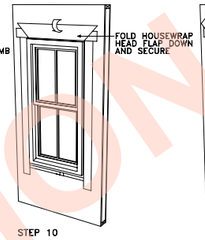

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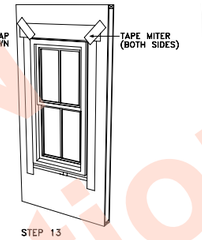

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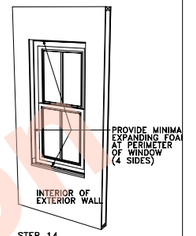
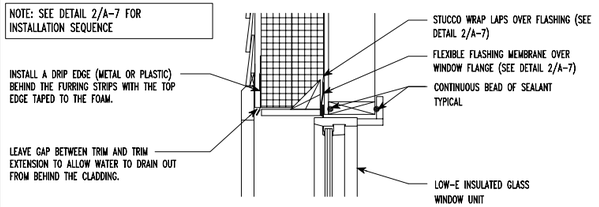
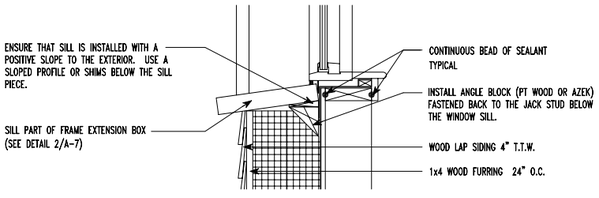


STEP 14

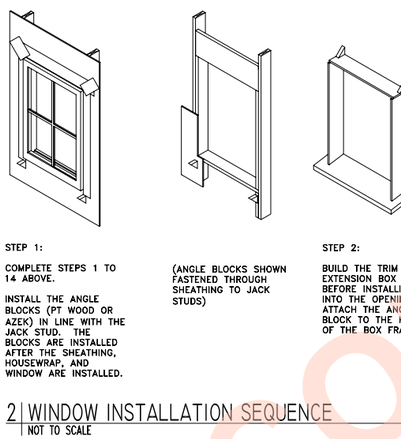
NOTE: SEE DETAIL 2/A-7 FOR INSTALLATION SEQUENCE





1 | WINDOW FRAME EXTENSION SECTION

SCALE: 3/4" = 1'



STEP 1:

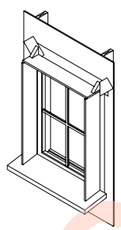
COMPLETE STEPS 1 TO 14 ABOVE.

INSTALL THE ANGLE BLOCKS (PT WOOD OR AZEK) IN LINE WITH THE JACK STUD. THE BLOCKS ARE INSTALLED AFTER THE SHEATHING, HOUSEWRAP, AND WINDOW ARE INSTALLED.

(ANGLE BLOCKS SHOWN FASTENED THROUGH SHEATHING TO JACK STUDS)

STEP 2:

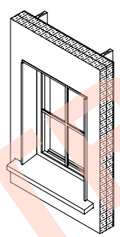
BUILD THE TRIM EXTENSION BOX FIRST BEFORE INSTALLING INTO THE OPENING. ATTACH THE ANGLE BLOCK TO THE HEAD OF THE BOX FRAME.



STEP 3:

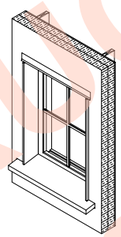
SIT THE TRIM BOX ON THE SILL BLOCKS AND TILT INTO PLACE. FASTEN THE HEAD BLOCKS TO THE WALL. FASTEN THE SILL TO THE SILL BLOCKS FROM UNDERNEATH

ENSURE THAT SILL IS INSTALLED WITH A POSITIVE SLOPE TO THE EXTERIOR. USE A SLOPED PROFILE OR SHIMS BELOW THE SILL PIECE.



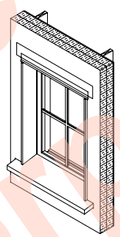
STEP 4:

INSTALL TWO LAYERS OF RIGID INSULATION OVERLAPING AND TAPING SEAMS



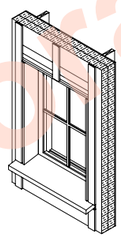
STEP 5:

INSTALL HEAD FLASHING WITH DRIP EDGE



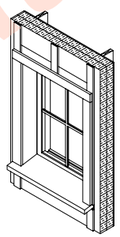
STEP 6:

TAPE OVER HEAD FLASHING TO RIGID INSULATION



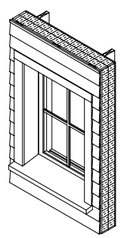
STEP 7:

INSTALL FURRING



STEP 8:

INSTALL EXTENSION BOX TRIM

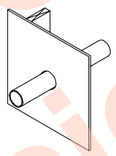


STEP 8:

INSTALL CLADDING

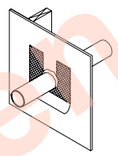
2 | WINDOW INSTALLATION SEQUENCE

NOT TO SCALE



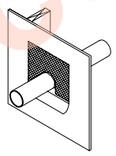
STEP 1:

DRYER PIPE PENETRATION THROUGH WOOD SHEATHING



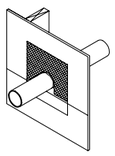
STEP 2:

INSTALL SELF ADHERED MEMBRANE, LEAVING THE BOTTOM 2 INCHES UNADHERED. SEAL AROUND THE PIPE PENETRATION WITH CHEMICALLY COMPATIBLE SEALANT



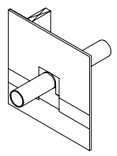
STEP 3:

INSTALL SECOND PIECE OF SELF ADHERED MEMBRANE.



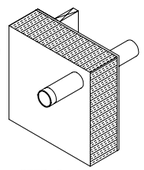
STEP 4:

INSTALL HOUSEWRAP SHINGLE LAPPED UNDER BOTTOM FLAP OF SELF ADHERED MEMBRANE.



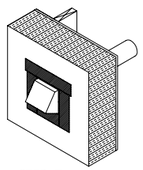
STEP 5:

INSTALL NEXT LAYER OF HOUSEWRAP SHINGLE LAPPED OVER MEMBRANE COLLAR.



STEP 6:

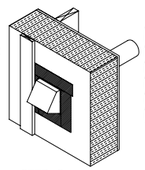
INSTALL RIGID INSULATION



STEP 7:

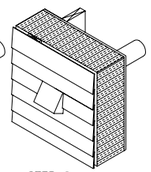
INSTALL FLANGED VENT HOOD

TAPE ALL FOUR SIDES OF THE FLANGED VENT HOOD TO THE RIGID INSULATION



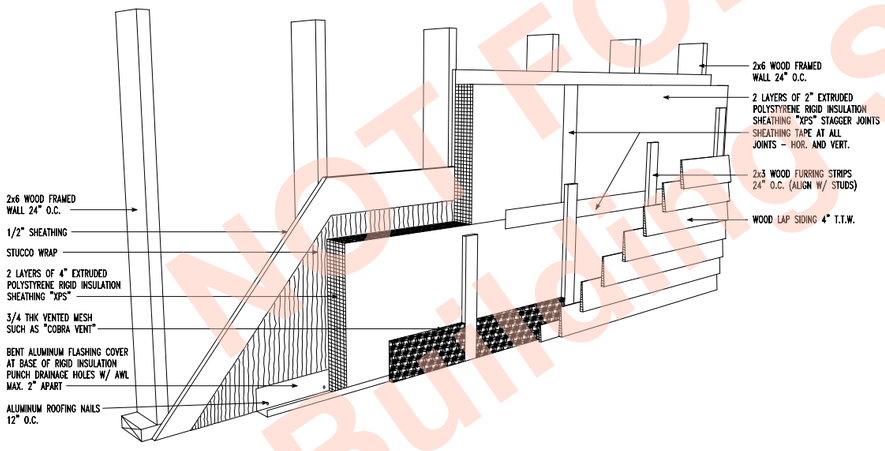
STEP 8:

INSTALL FURRING



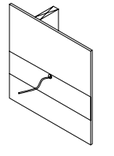
STEP 9:

INSTALL CLADDING



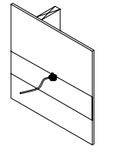
2 | ILLUSTRATIVE WALL SECTION AT WOOD LAP SIDING

NOT TO SCALE



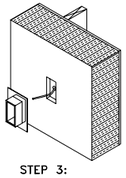
STEP1:

WIRING FOR EXTERIOR ELECTRICAL OUTLET THROUGH WOOD SHATHING AND HOUSEWRAP



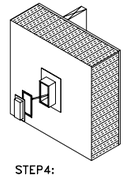
STEP 2:

SEAL AROUND THE PENETRATION



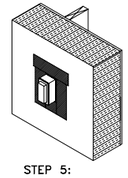
STEP 3:

INSTALL THE RIGID INSULATION



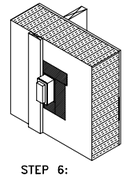
STEP4:

INSTALL THE FLANGED ELETRICAL BOX WITH THE FLANGES FLUSH WITH THE EXTERIOR FACE OF THE RIGID INSULATION



STEP 5:

TAPE ALL FOUR SIDES OF THE FLANGED ELECTRICAL BOX



STEP 6:

INSTALL FURRING STRIPS

STEP 7:

INSTALL CLADDING

3 | PENETRATION FLASHING DETAILS

NOT TO SCALE

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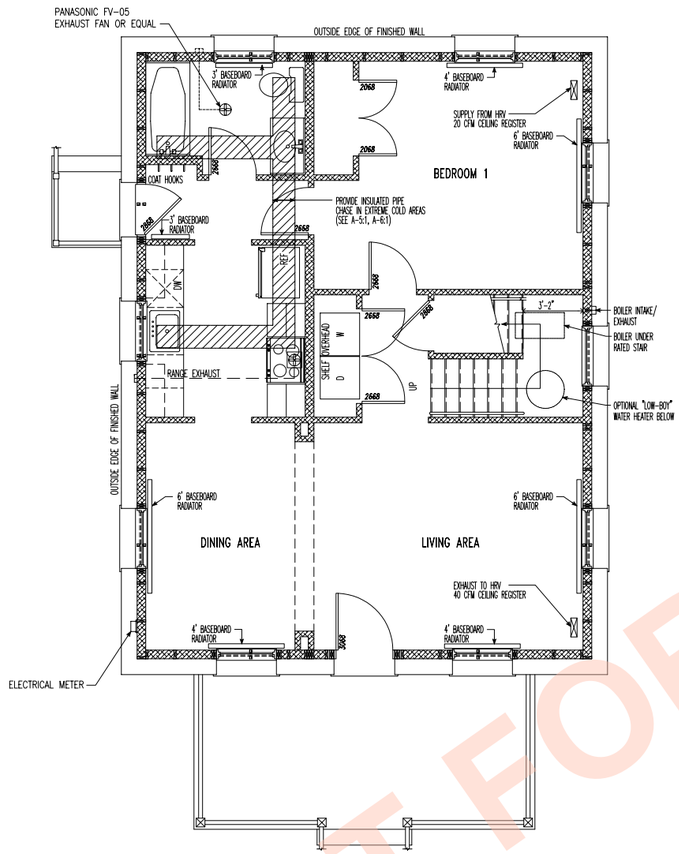
PROJECT:
THREE BEDROOM HOUSE
VERY COLD CLIMATE

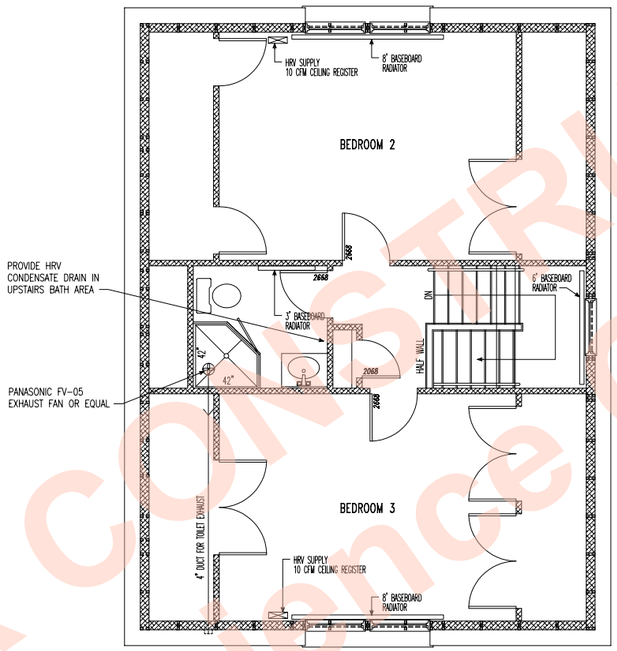
DETAILS
SCALE AS NOTED

A-7

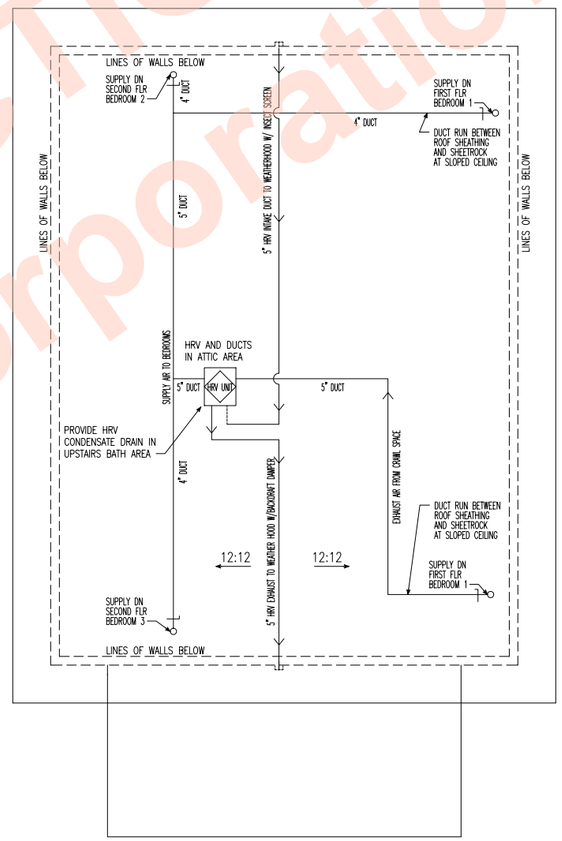
FILE: VERY COLD HOUSE.DWG



3 | FIRST FLOOR MECHANICAL PLAN
SCALE 1/8" = 1'-0"



2 | SECOND FLOOR MECHANICAL PLAN
SCALE 1/8" = 1'-0"



1 | ATTIC MECHANICAL PLAN
SCALE 1/8" = 1'-0"

EQUIPMENT INFORMATION		
DESIGN HEATING LOAD		15.0 kBtu/h
OIL BOILER	SIM. TOYOTOMI OM180	148.0 kBtu
(OR GAS COMBO SYSTEM)	SIM. BAXICOMBI	
BASEBOARD RADIATOR	SIM. SLANTFIN BASELINE 2000	500 Btu/ft
HRV	SIM. LIFEBREATH 95MAX	

LEGEND	
⊠	SUPPLY REGISTER (4 X 10)
⊕	TOILET EXHAUST FAN, PANSONIC FV-05VFL1
⊕	KITCHEN EXHAUST FAN
T	THERMOSTAT
⎯	MANUAL DAMPER

NOTES:

1. ALL DUCTS TO BE SEALED WITH MASTIC AND LOCATED IN CONDITIONED SPACE.
2. ALL REGISTERS TO BE ADJUSTABLE DIRECTIONAL MOUNTED WITH DAMPER.
3. DOORS TO BE UNDERCUT 1" BETWEEN TOP OF FINISH FLOOR AND UNDERSIDE OF DOOR
4. A FILTER WITH A MERV 12 RATING SHALL BE INSTALLED AT THE AIR HANDLER.
5. 6" DIAMETER INSULATED OUTSIDE AIR DUCT FROM EXTERIOR SHALL BE INSTALLED WITH A MANUAL DAMPER TO SET FLOW.

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ARCHITECT
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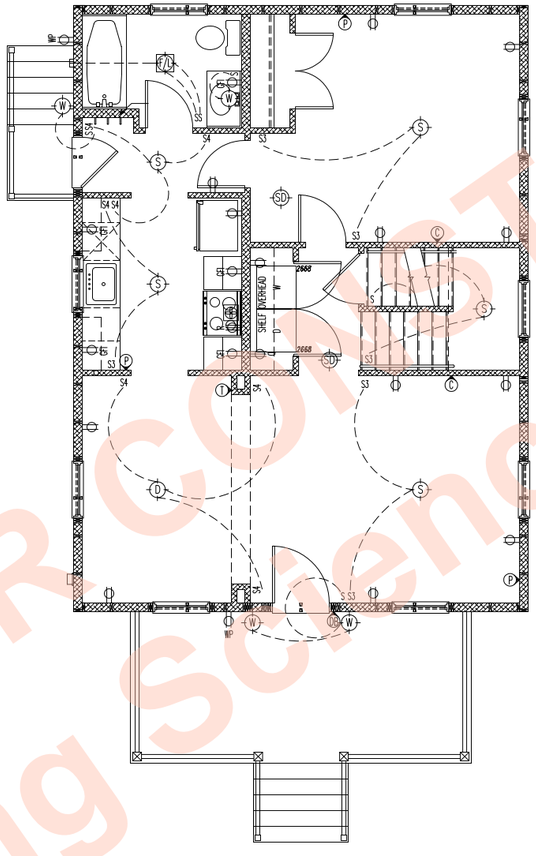
THREE BEDROOM HOUSE
VERY COLD CLIMATE

MECHANICAL FLOOR PLANS
SCALE AS NOTED

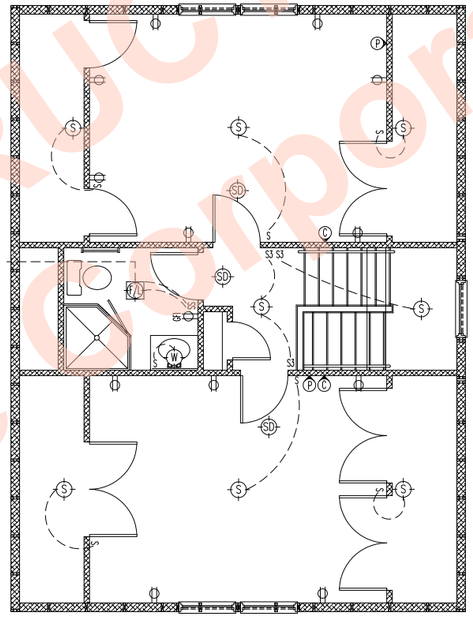
M-1

FILE: VERY COLD HOUSE.DWG

NOTES: 1. PROVIDE 20A 120v CIRCUIT FOR MECHANICAL EQUIPMENT UNDER STAIR WITH BRANCH TO HRV IN ATTIC



2 | FIRST FLOOR ELECTRICAL PLAN
SCALE 1/8" = 1'-0"



1 | SECOND FLOOR ELECTRICAL PLAN
SCALE 1/8" = 1'-0"

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
S	SURFACE MOUNTED LIGHT FIXTURE
W	WALL MOUNTED LIGHT FIXTURE
D	DROPPED LIGHT FIXTURE
R	RECESSED LIGHT FIXTURE
RO	RECESSED LIGHT FIXTURE (AIRTIGHT)
RW	RECESSED LIGHT FIXTURE (WATERPROOF)
P	POLE LAMP (EXTERIOR-SITE)
F	FLOOD W/MOTION SENSOR
SD	SMOKE DETECTOR / CO MONITOR (INTERCONNECTED W/ BATTERY BACKUP)
F	EXHAUST FAN
F/L	EXHAUST FAN / LIGHT COMBINATION
(24)	FLUORESCENT STRIP LIGHT (SINGLE) (LENGTH IN INCHES)
(24)	FLUORESCENT STRIP LIGHT (DOUBLE) (LENGTH IN INCHES)
(24)	TRACK LIGHT (LENGTH IN INCHES)
C	CABLE TV/PHONE OUTLET
DB	DOOR BELL
T	THERMOSTAT
	110 VAC DUPLEX OUTLET
	110 VAC DUPLEX OUTLET (TOP SWITCHED)
GFI	110 VAC DUPLEX OUTLET (GROUND FAULT INTERUPTOR)
WP	110 VAC DUPLEX OUTLET (WATERPROOF)
R	RANGE OUTLET
D	DRYER OUTLET
S	SINGLE POLE SWITCH
S3	THREE-WAY SWITCH
S4	FOUR-WAY SWITCH
SD	SWITCH WITH DIMMER
SD3	THREE-WAY SWITCH WITH DIMMER
SD4	FOUR-WAY SWITCH WITH DIMMER
ST	SWITCH WITH TIMER
F	CEILING FAN
F/L	CEILING FAN/LIGHT COMBINATION

NOTE: ALL SYMBOLS MAY NOT BE USED IN PLAN

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THREE BEDROOM HOUSE
VERY COLD CLIMATE

ELECTRICAL FLOOR PLANS
SCALE AS NOTED

E-1

FILE: VERY COLD HOUSE.DWG