Provincial Agricultural Land Commission - Applicant Submission

Application ID: 59216
Application Status: Under LG Review
Applicant: Jonker Holsteins Ltd.
Local Government: Fraser Valley Regional District
Local Government Date of Receipt: 05/27/2019
ALC Date of Receipt: This application has not been submitted to ALC yet.
Proposal Type: Non-Adhering Residential Use - Additional Residence for Farm Use
Proposal: We propose to build a second residence on the legal property (Lot 9, NWP32600, Section 31, Township, Part SE 1/4) in order for our son and family to live on the farm property and be close to main farm. My son is actively working full-time at our dairy farm on a daily basis.

Mailing Address:
41379 Nicomen Island Trunk Road
Deroche, BC
V0M 1G0
Canada
Primary Phone:
Mobile Phone:

Parcel Information

Parcel(s) Under Application

1. **Ownership Type:** Fee Simple
   Parcel Identifier: 001-325-035
   Legal Description: Lot 9, Plan NWP32600, Part SE1/4, Section 31, Township 23, New Westminster Land District
   Parcel Area: 40.5 ha
   Civic Address: 41379 Nicomen Island Trunk Road, Deroche, BC V0M 1G0
   Date of Purchase: 04/01/1967
   Farm Classification: Yes
   Owners
   1. **Name:** Jonker Holsteins Ltd.
      Address:
      41379 Nicomen Island Trunk Road
      Deroche , BC
      V0M 1G0
      Canada
      Phone:
      Email:

Ownership or Interest in Other Lands Within This Community

1. **Ownership Type:** Fee Simple
   Parcel Identifier: 006-746-055
   Owner with Parcel Interest: Jonker Holsteins Ltd.
   Parcel Area: 8.5 ha
   Land Use Type: Agricultural/Farm
   Interest Type: Full Ownership

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2. **Ownership Type:** Fee Simple
   Parcel Identifier: 013-580-736
   Owner with Parcel Interest: Jonker Holsteins Ltd.
   Parcel Area: 13.6 ha
   Land Use Type: Agricultural/Farm
   Interest Type: Full Ownership

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3. **Ownership Type:** Fee Simple
   Parcel Identifier: 013-581-031
   Owner with Parcel Interest: Jonker Holsteins Ltd.
   Parcel Area: 1.4 ha
   Land Use Type: Agricultural/Farm
   Interest Type: Full Ownership

Current Use of Parcels Under Application

1. Quantify and describe in detail all agriculture that currently takes place on the parcel(s).
5 acres of dairy barns and 95 acres of hay.

2. Quantify and describe in detail all agricultural improvements made to the parcel(s).
100 acres irrigation, partially fenced

3. Quantify and describe all non-agricultural uses that currently take place on the parcel(s).
There is non-agricultural activity taking place

Adjacent Land Uses

North

Land Use Type: Agricultural/Farm
Specify Activity: Dairy Farm

East

Land Use Type: Agricultural/Farm
Specify Activity: Blueberry Farm

South

Land Use Type: Agricultural/Farm
Specify Activity: Dairy Farm

West

Land Use Type: Agricultural/Farm
Specify Activity: Blueberry/Dairy Farm

Proposal

1. What is the purpose of the proposal?
We propose to build a second residence on the legal property (Lot 9, NWP32600, Section 31, Township, Part SE 1/4) in order for our son and family to live on the farm property and be close to main farm. My son is actively working full-time at our dairy farm on a daily basis.

2. Describe the necessity for an additional residence for farm use and how it will support agriculture in the short or long term.
No - our son needs to live close to main barns on our dairy farm as the animals require 24 hour care.

3. Describe the size, type and number, as well as occupancy of all residential structures currently located on the property.
2,471 square feet - main family home

4. What is the total floor area of the proposed additional residence in square metres?
373 m^2

5. Describe the rationale for the proposed location of the additional residence.
For our son and family to live on the property to work on the dairy farm

6. What is the total area of infrastructure necessary to support the additional residence?
2,000 square feet of gravel driveway to access the home

7. Do you need to import any fill to construct the additional residence or infrastructure?
Yes

Proposal dimensions

Total fill placement area (to one decimal place) *0.5 ha*
Maximum depth of material to be placed as fill *1.5 m*
Volume of material to be placed as fill *917 m^3*
Estimated duration of the project. *1 Years*

Describe the type and amount of fill proposed to be placed.
Structural fill for foundation and to meet flood construction level for residence construction

Briefly describe the origin and quality of fill.
Deroche gravel

Applicant Attachments

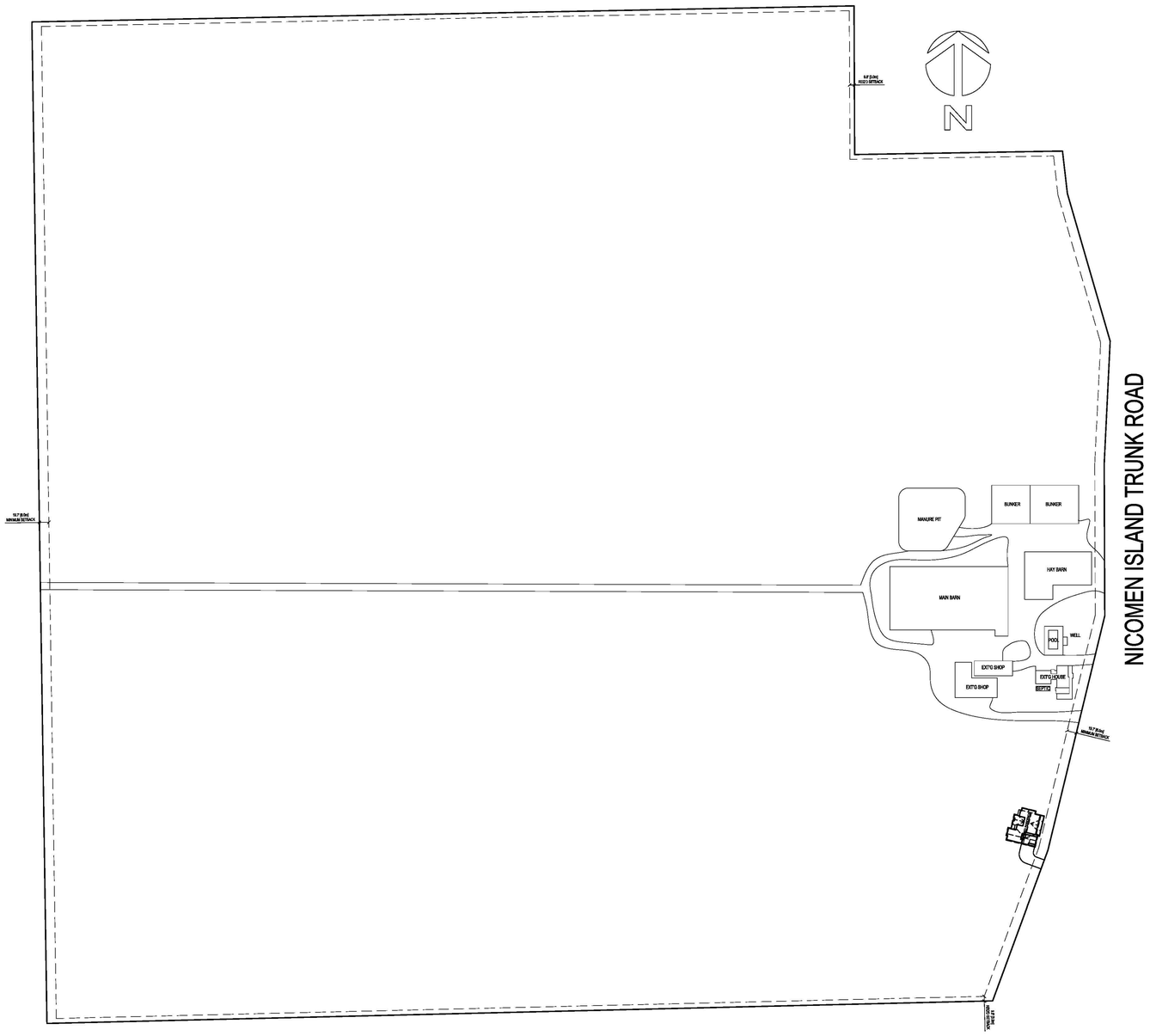
- Proposal Sketch - 59216
- Certificate of Title - 001-325-035

ALC Attachments

None.

Decisions

None.



SITE PLAN

SCALE: 1/128"=1'-0"

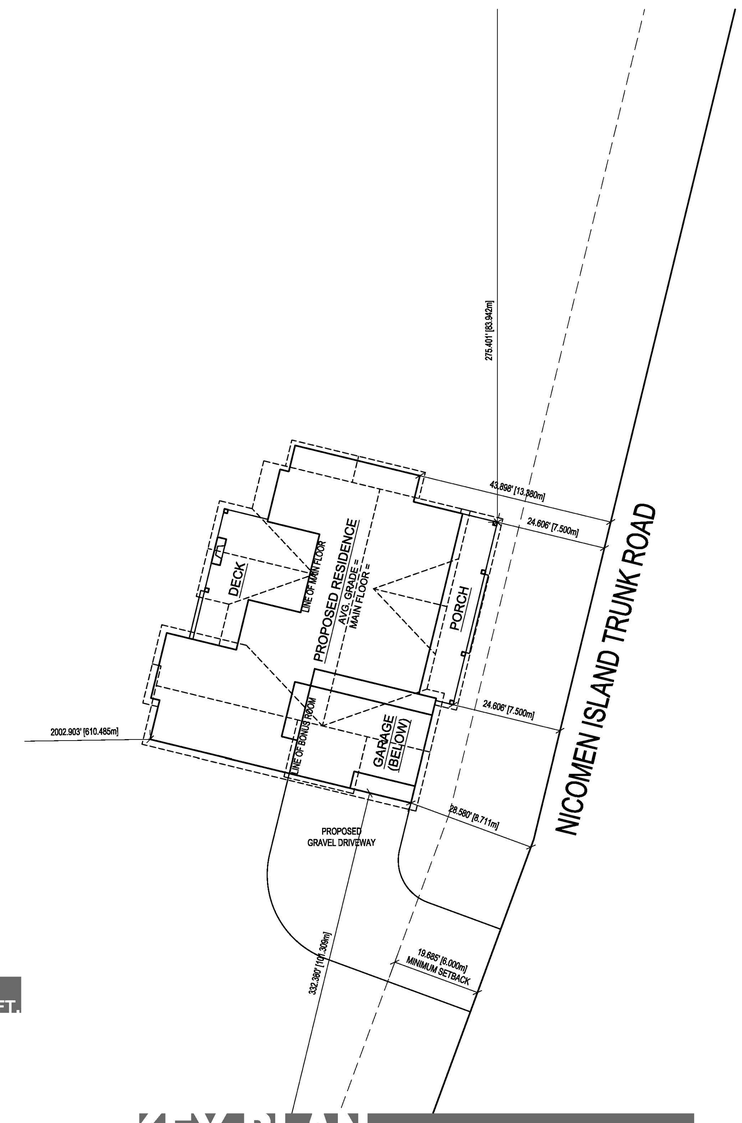
4,348,112.91 SQ.FT.

ZONING ANALYSIS REVIEW

LEGAL DESCRIPTION:	LOT 9, PLAN 32600	
ZONING BYLAW:	A-2	
CIVIC ADDRESS:	41379 NICOMEN ISLAND DEROCHE, B.C	
SETBACKS:	REQ'D	PROPOSED (GARAGE)
FRONT:	6.0M	7.50M
REAR:	6.0M	610.49M
SIDE (interior)	3.0M	101.31M
FLANKING (local road)	6.0m	N/A
FLANKING (arterial)	N/A	N/A
LOT COVERAGE:	40% MAX.	1.69%
BUILDING AREA:	EXISTING BUILDINGS/PROPOSED DWELLING 69,269 sq.ft./4,019 sq.ft.	
LOT AREA:	4,348,113 sq. ft.	
BUILDING HEIGHTS:	11.0M EAVE @ 9.0M	8.477M

PROPOSED FINISHED GRADE

EXISTING GRADE



KEY PLAN

SCALE: 1/16"=1'-0"

NOTE:
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SHEET TITLE:
SITE PLAN
ZONING ANALYSIS
PLANTING DETAIL

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PROJECT: RN-19-72
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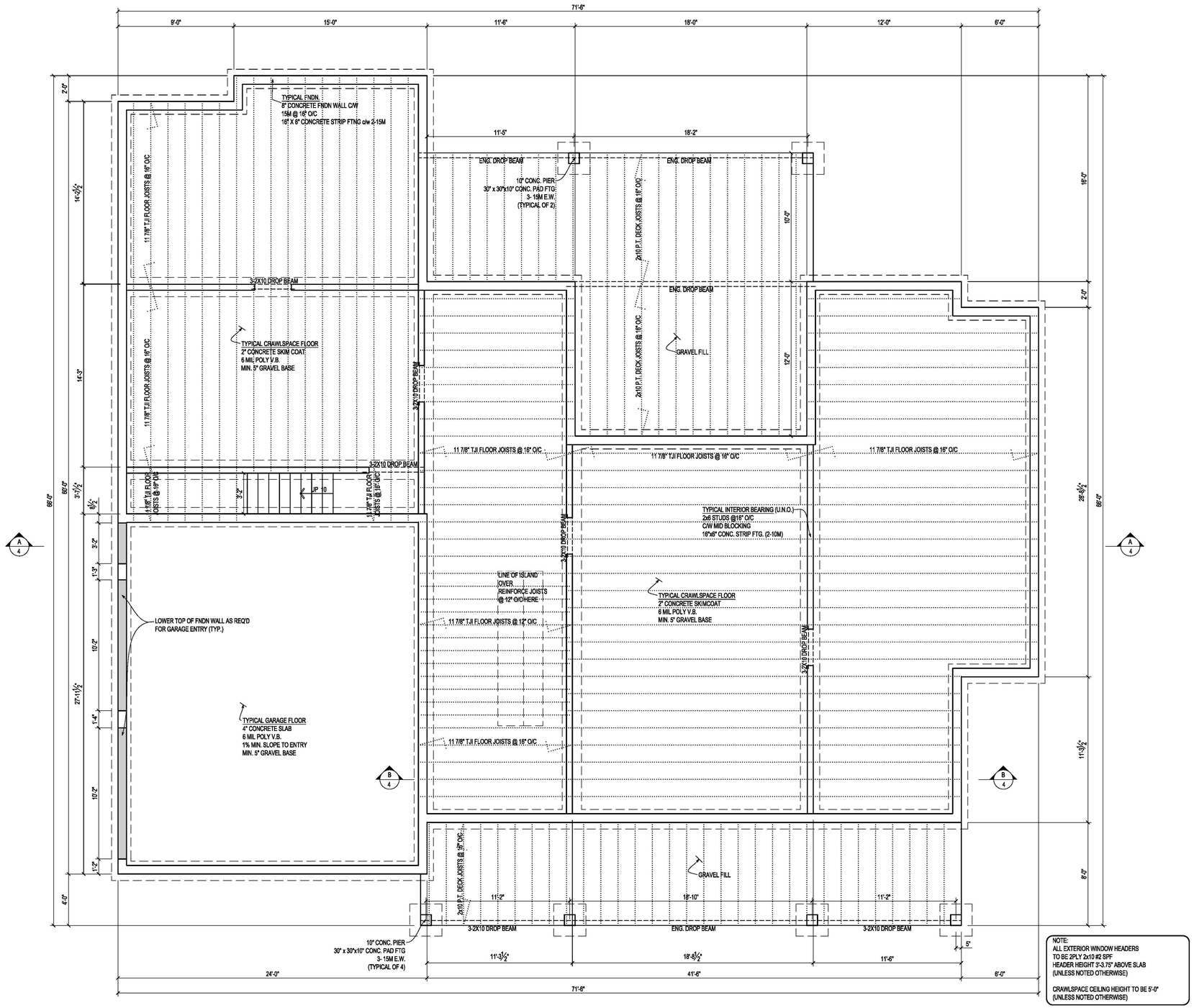

NOTE:
ALL EXTERIOR WINDOW HEADERS
TO BE 2PLY 2x10 #2 SPF
HEADER HEIGHT 3'-3.75" ABOVE SLAB
(UNLESS NOTED OTHERWISE)

CRAWLSPACE CEILING HEIGHT TO BE 5'-0"
(UNLESS NOTED OTHERWISE)

FOUNDATION PLAN

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

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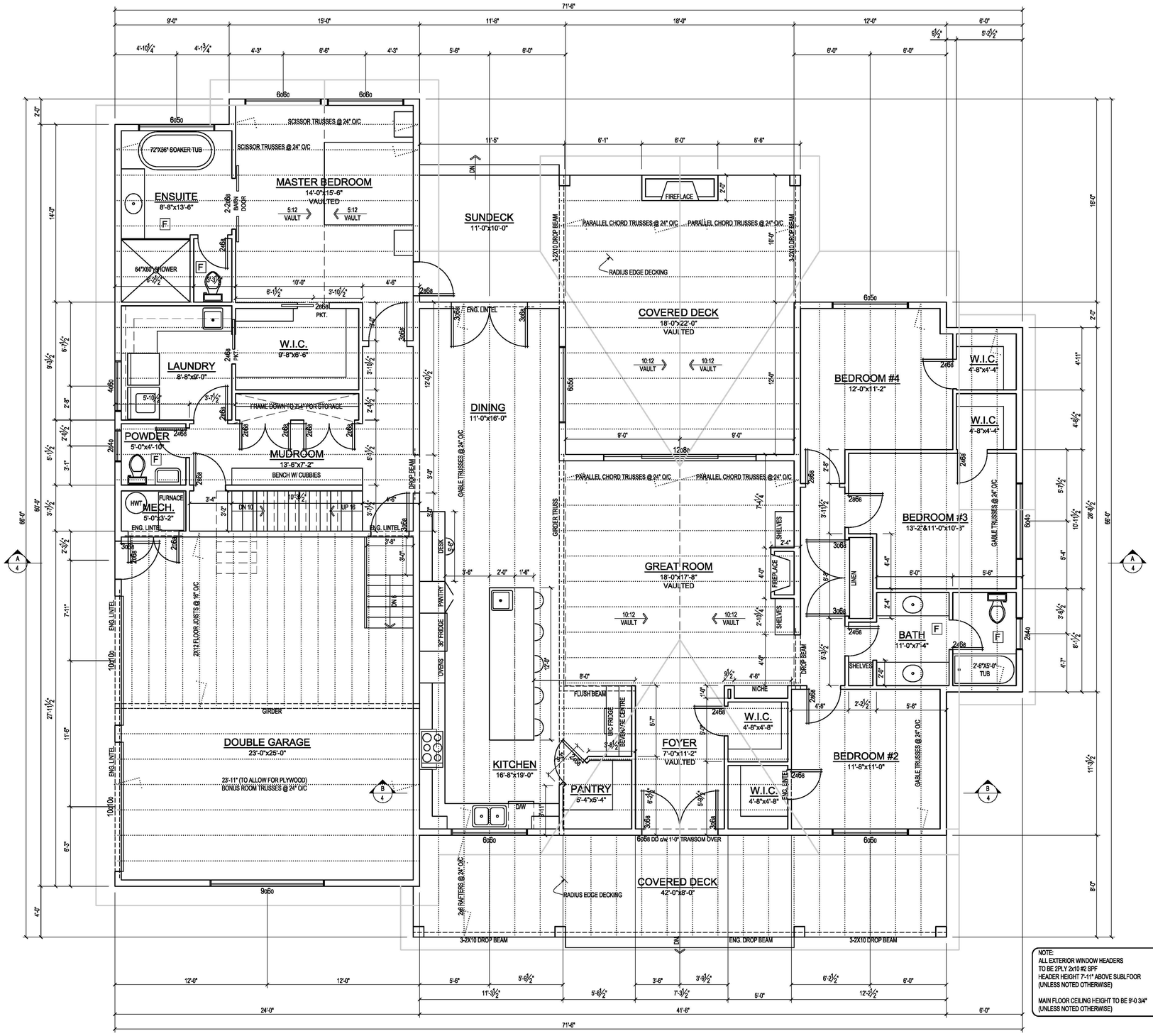

NOTE:
ALL EXTERIOR WINDOW HEADERS
TO BE 2PLY 2x10 #2 SPF
HEADER HEIGHT 7'-11" ABOVE SUBLFOOR
(UNLESS NOTED OTHERWISE)

MAIN FLOOR CEILING HEIGHT TO BE 9'-0 3/4"
(UNLESS NOTED OTHERWISE)

MAIN FLOOR PLAN

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

2509 SQ.FT. w/ 850 SQ.FT. DECKS
660 SQ.FT. GARAGE

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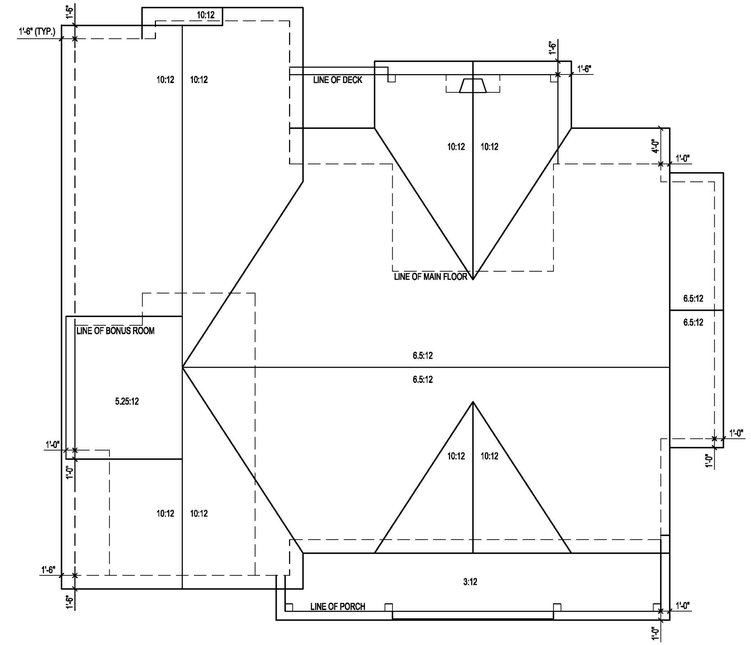
TYPICAL ROOF SLOPE 6.5/12 U.N.O.



ROOF PLAN

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

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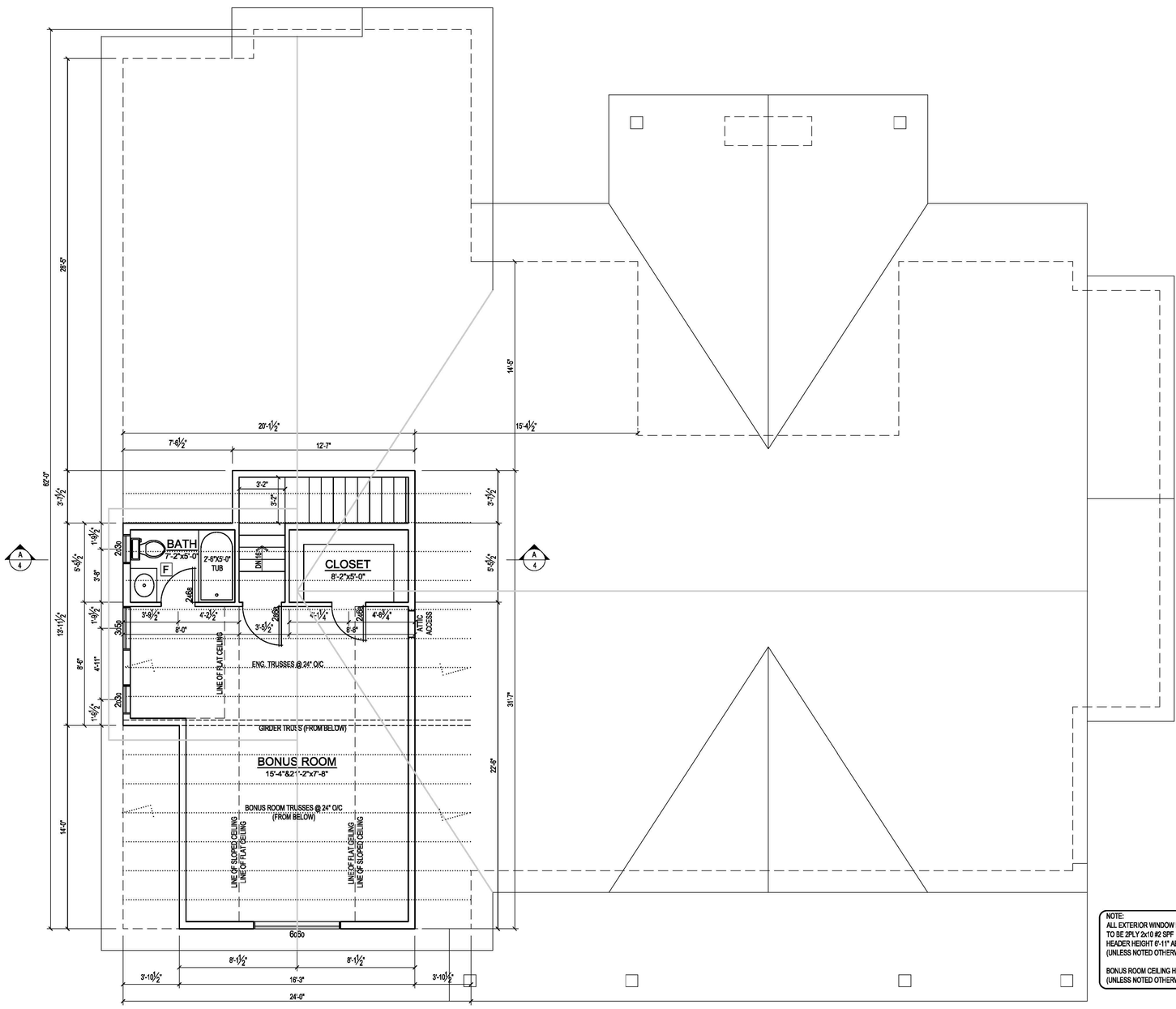

NOTE:
ALL EXTERIOR WINDOW HEADERS
TO BE 2PLY 2x10 #2 SPF
HEADER HEIGHT 6'-11" ABOVE SUBLFOOR
(UNLESS NOTED OTHERWISE)

BONUS ROOM CEILING HEIGHT TO BE 8'-0 3/4"
(UNLESS NOTED OTHERWISE)

BONUS ROOM PLAN

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

498 SQ.FT.

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ROOF PLAN

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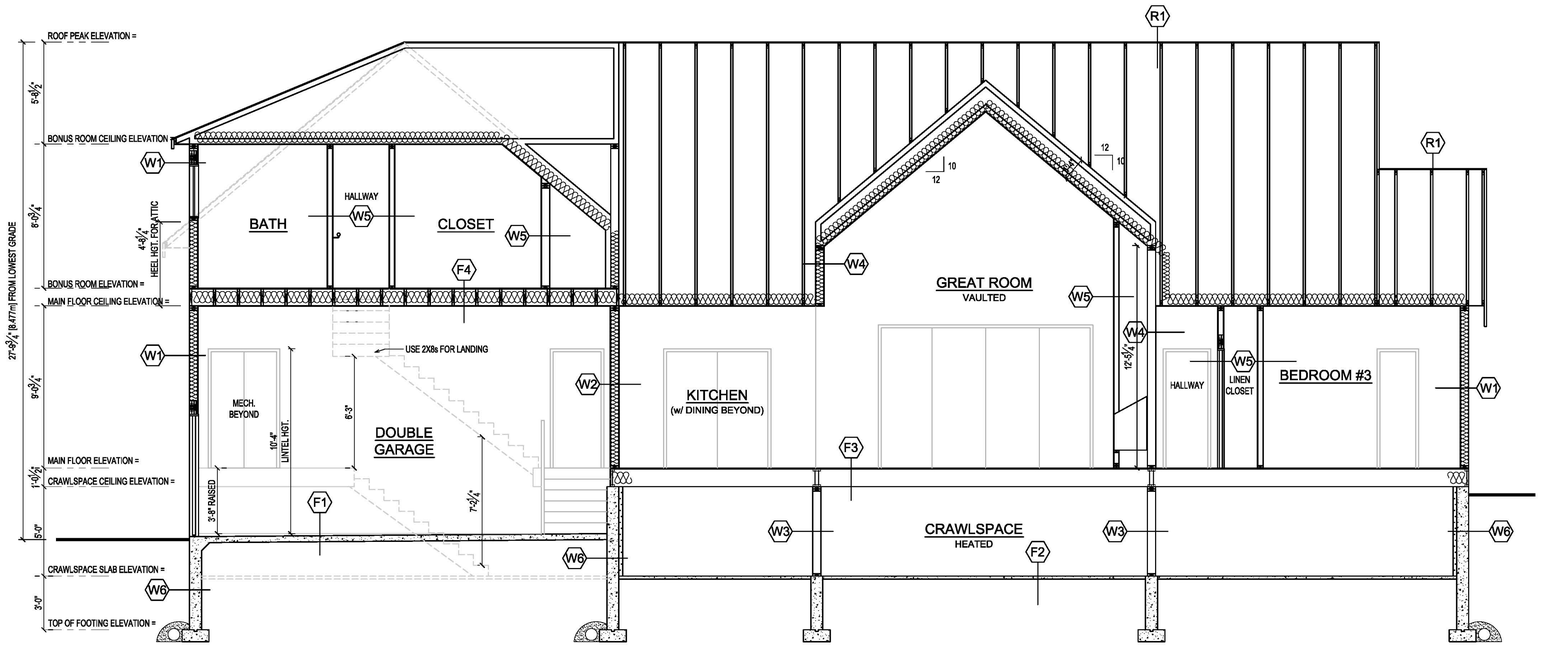
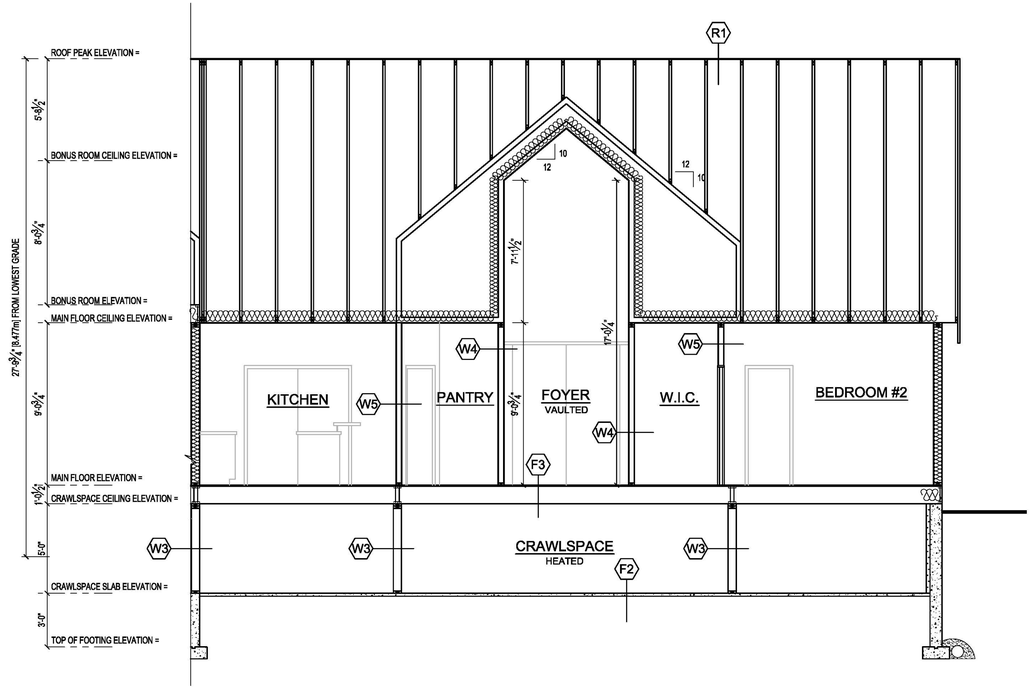


SECTION 'A'

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



SECTION 'B'

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

SPECIFICATIONS

WALL ASSEMBLIES

W1 EXTERIOR WALL
EXTERIOR FINISH (SEE ELEVATIONS)
RAINSCREEN
15LB. BUILDING PAPER
1/2" PLYWOOD SHEATHING
2x6 STUDS @ 16" O.C.
R-20 BATT INSULATION
6 MIL POLY V.B.
1/2" PAINTED GYPROC

W2 INTERIOR WALL - GARAGE
HARDIPLANK SIDING
RAINSCREEN
15LB. BUILDING PAPER
2X6 STUDS @ 16" O/C
R-20 BATT INSULATION
6 MIL POLY VAPOUR BARRIER
5/8" PAINTED GYPROC

W3 BEARING WALL- CRAWLSPACE
2X6 STUDS @ 16" O/C
2X6 BLOCKING @ MID HEIGHT

W4 BEARING WALL
1/2" GYPSUM BOARD - PAINTED
2x4 OR 2x6 STUDS @ 16" O.C.
2x4 OR 2x6 BLOCKING @ MID HEIGHT
1/2" GYPSUM BOARD - PAINTED

W5 PARTITION WALL
1/2" GYPSUM BOARD - PAINTED
2x4 OR 2x6 STUDS @ 16" O.C.
1/2" GYPSUM BOARD - PAINTED

W6 FOUNDATION WALL
DRAINAGE COMPOSITE (BELOW FINISHED GRADE)
ASPHALT WATERPROOFING
8" CONCRETE WALL c/w 15M REINF. @ 24" O.C. EW c/w
18"x8" CONCRETE STRIP FOOTING
ASPHALT WATERPROOFING
R-10 RIGID INSULATION (WHERE REQUIRED)

ROOF ASSEMBLIES

R1 TRUSS ROOF
REINFORCED FIBERGLASS ASPHALT ROOF SHINGLES
15 LBS UNDERLAYMENT
1/2" PLYWOOD SHEATHING c/w 'H' CLIPS
ENGINEERED WOOD TRUSSES @ 24" O.C.
ATTIC SPACE VENTED 1:300
14" GLASS FIBRE INSULATION
6 MIL POLY VAPOUR BARRIER
5/8" GYPSUM BOARD - PAINTED

R2 RAFTER ROOF
METAL ROOFING
15 LBS UNDERLAYMENT
2X4 STRAPPING
2X6 RAFTERS @ 24" O.C.
6 MIL POLY VAPOUR BARRIER
SOFFIT
*NOTE: MIN. 2% SLOPE REQUIRED

FLOOR ASSEMBLIES

F1 GARAGE FLOOR SLAB
4" CONCRETE SLAB
4" SLOPE TO ENTRY
6 MIL. POLY V.B.
MIN 5" GRAVEL BASE

F2 CONCRETE SKIM COAT
2" CONCRETE SKIM COAT
6 MIL POLY VAPOUR BARRIER
MIN. 5" GRAVEL BASE

F3 WOOD FLOOR
FINISHED FLOOR ON UNDERLAYMENT
5/8" T&G PLYWOOD SUBFLOOR (GLUED & SCREWED)
11 7/8" TJI FLOOR JOISTS @ 16" O.C.

F4 WOOD FLOOR - OVER UNHEATED
FINISHED FLOOR ON UNDERLAYMENT
5/8" T&G PLYWOOD SUBFLOOR (GLUED & SCREWED)
2X12 FLOOR JOISTS @ 16" O/C
R32 BATTS INSULATION
6MIL POLY VAPOUR BARRIER
5/8" PAINTED GYPROC

F5 DECK WOOD FLOOR
5/4" WOOD DECKING
2X10 P.T. DECK JOISTS @ 16" O/C

NOTE:
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SECTION 'B'
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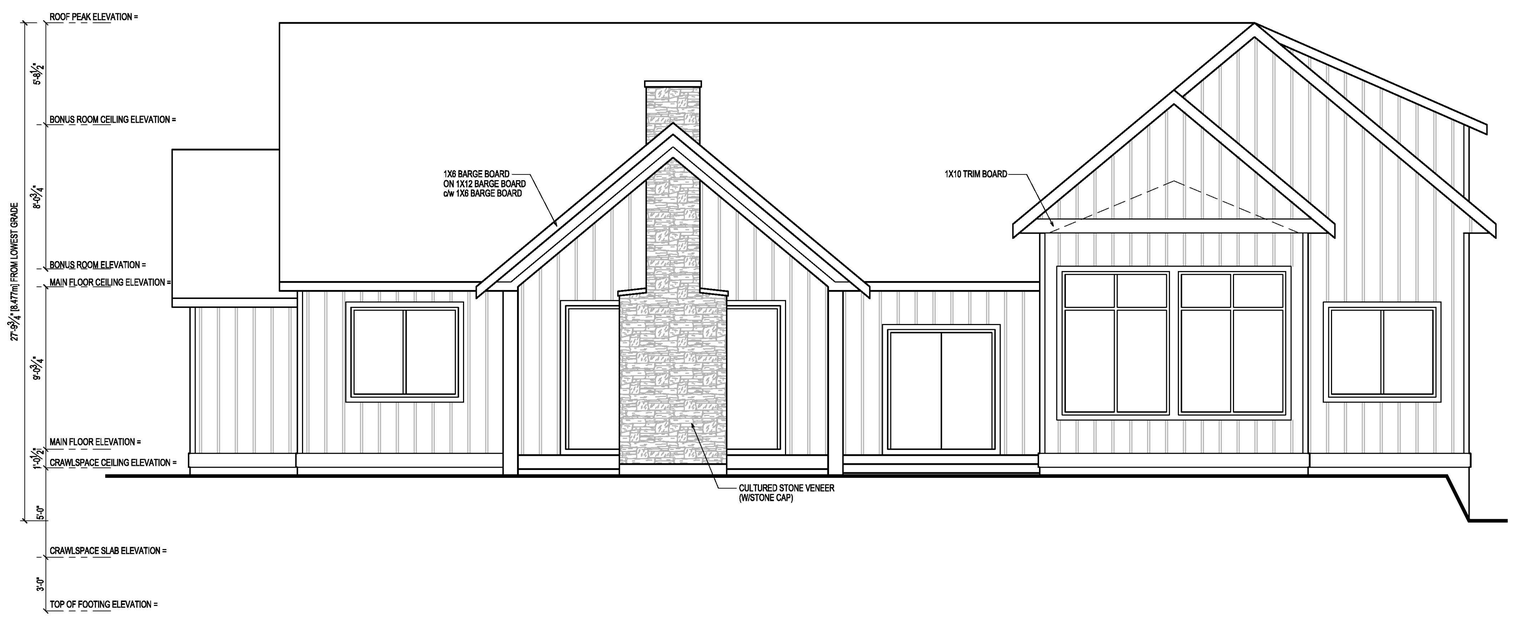
FRONT ELEVATION

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



REAR ELEVATION

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

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FRONT ELEVATION
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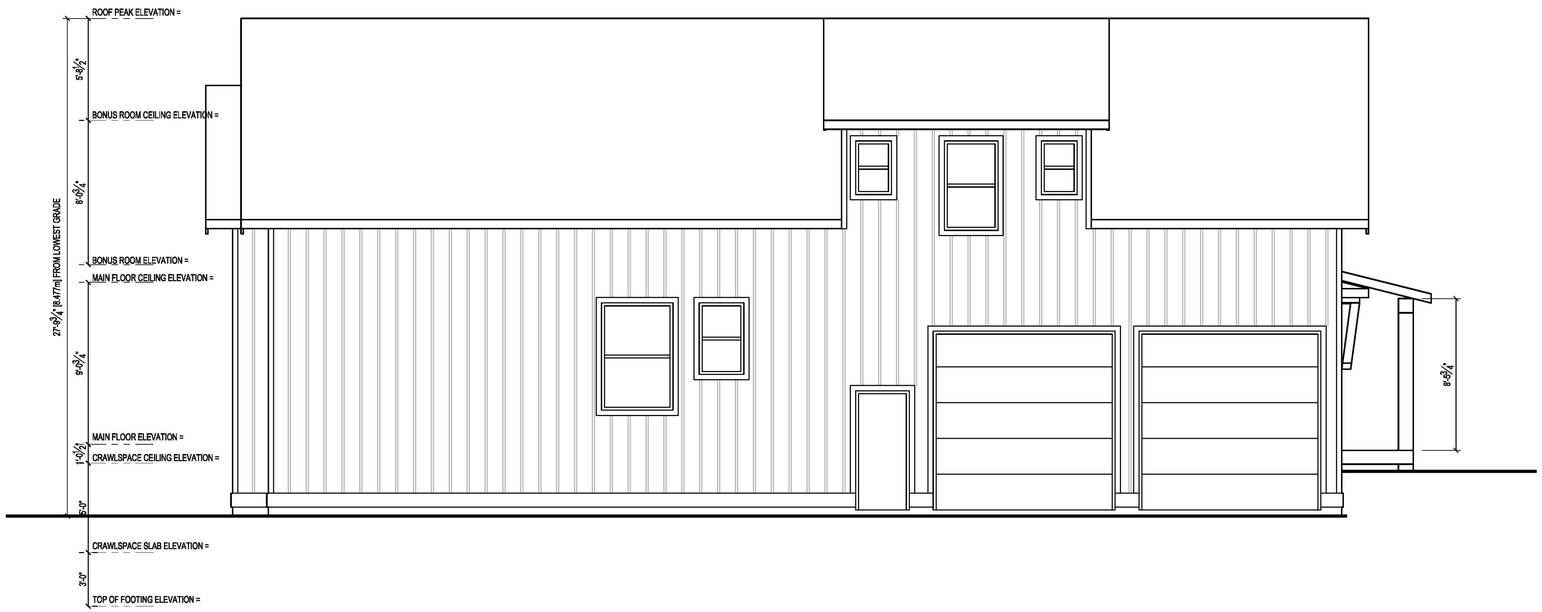
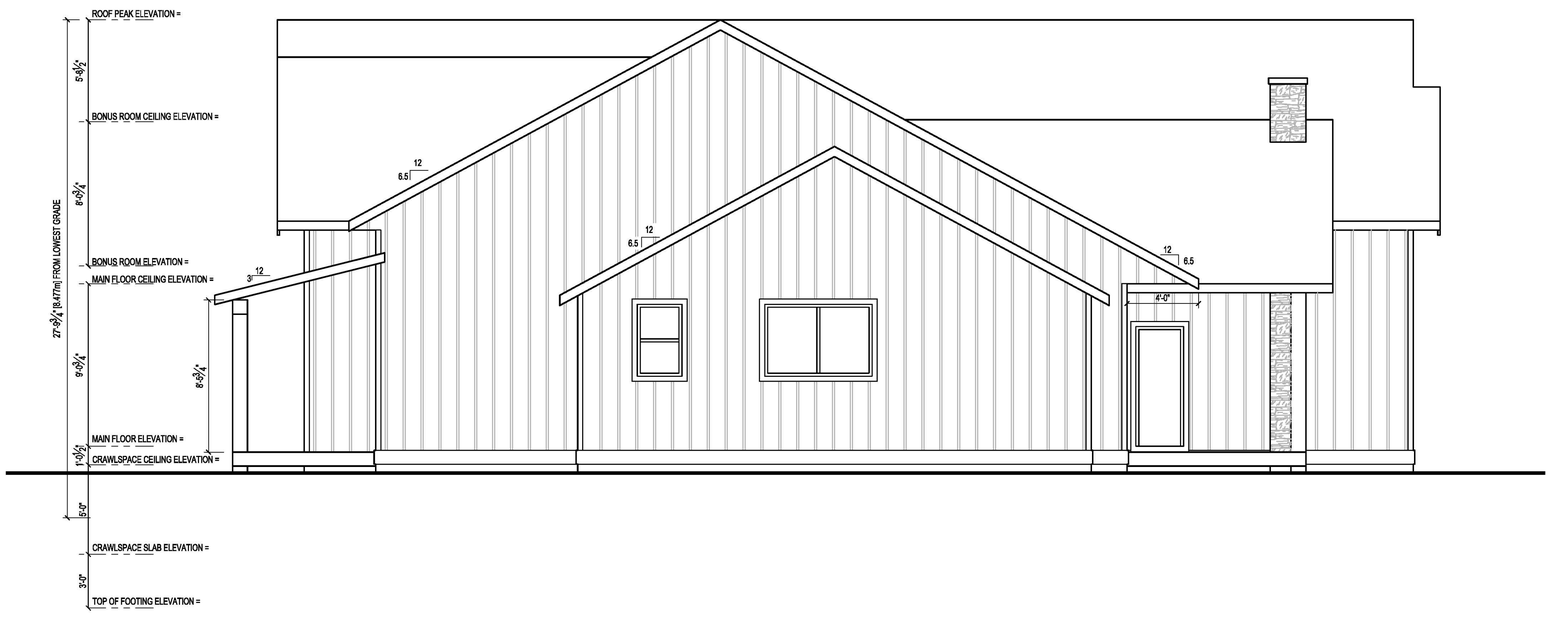


RIGHT ELEVATION

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



LEFT ELEVATION

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

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RIGHT ELEVATION
LEFT ELEVATION

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FLOORS OVER UNHEATED SPACES (HARDWOOD FLOORING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 12" O/C	RSI 4.93 (R-28)	RSI 4.06 (R-23.0)
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.14 (R-23.5)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. FLOORING MATERIAL:- HARDWOOD 3. 5/8" PLYWOOD SUBFLOOR 4. 3/4" AIR BARRIER 5. POLYETHYLENE 6. 5/8" GYPSUM CEILING BOARD 7. EXTERIOR AIR FILM	 0.12 0.12 0.14 0.18 - 0.10 0.03	RSI 0.59 (R-3.9)
TOTAL EFFECTIVE INSULATION VALUE (12" O/C FRAMING)		RSI 4.75 (R-27.0)
TOTAL EFFECTIVE INSULATION VALUE (16" O/C FRAMING)		RSI 4.83 (R-27.4)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

FLOORS OVER UNHEATED SPACES (CARPET FLOORING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 12" O/C	RSI 4.93 (R-28)	RSI 4.06 (R-23.0)
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.14 (R-23.5)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. FLOORING MATERIAL:- CARPET & RUBBER PAD 3. 5/8" PLYWOOD SUBFLOOR 4. 3/4" AIR BARRIER 5. POLYETHYLENE 6. 5/8" GYPSUM CEILING BOARD 7. EXTERIOR AIR FILM	 0.12 0.22 0.14 0.18 - 0.10 0.03	RSI 0.79 (R-4.5)
TOTAL EFFECTIVE INSULATION VALUE (12" O/C FRAMING)		RSI 4.85 (R-27.5)
TOTAL EFFECTIVE INSULATION VALUE (16" O/C FRAMING)		RSI 4.93 (R-28.0)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

FLOORS OVER UNHEATED SPACES (CERAMIC TILE FLOORING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 12" O/C	RSI 4.93 (R-28)	RSI 4.06 (R-23.0)
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.14 (R-23.5)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. FLOORING MATERIAL:- CERAMIC TILE 3. 1/4" PLYWOOD SUBFLOOR 4. 5/8" PLYWOOD SUBFLOOR 5. 3/4" AIR BARRIER 6. POLYETHYLENE 7. 5/8" GYPSUM CEILING BOARD 8. EXTERIOR AIR FILM	 0.12 0.005 0.05 0.14 0.18 - 0.10 0.03	RSI 0.625 (R-3.55)
TOTAL EFFECTIVE INSULATION VALUE (12" O/C FRAMING)		RSI 4.685 (R-26.55)
TOTAL EFFECTIVE INSULATION VALUE (16" O/C FRAMING)		RSI 4.765 (R-27.05)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

ABOVE GRADE WALL ASSEMBLY (6.35MM FIBRE-CEMENT BOARD SIDING)		
DESCRIPTION	NOMINAL	EFFECTIVE
3" XPS INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 2.64 (R-15)	RSI 2.52 (R-14.3)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. 6.35MM FIBRE-CEMENT BOARD SIDING 3. 1/2" AIR SPACE FOR RAIN SCREEN 4. SHEATHING MEMBRANE 5. 1/2" PLYWOOD SHEATHING 6. 2 1/2" AIR CAVITY 7. POLYETHYLENE 8. 1/2" GYPSUM WALL BOARD 9. INTERIOR AIR FILM	 0.03 0.023 0.16 - 0.11 0.16 - 0.08 0.12	RSI 0.683 (R-3.88)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.203 (R-18.18)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 2.78 (R-15.8)

SPECIFIC REQUIREMENTS

- EFFECTIVE INSULATION OF CEILINGS, WALLS, AND FLOORS MEET THE REQUIREMENTS OF TABLE 9.36.2.6.A AND TABLE 9.36.2.6.B FOR THE CORRECT CLIMATE ZONE
- THE THERMAL CHARACTERISTICS OF WINDOWS, DOOR AND SKYLIGHTS MEET THE REQUIREMENTS OF TABLE 9.36.2.7.A, B AND C FOR CORRECT CLIMATE ZONE
- EFFECTIVE INSULATION OF FOUNDATIONS MEET THE REQUIREMENTS OF TABLE 9.36.2.8.A OR B FOR THE CORRECT CLIMATE ZONE
- DUCTS LOCATED OUTSIDE THE THERMAL ENCLOSURE ARE SEALED AND INSULATED TO THE EXTERIOR WALL INSULATION REQUIREMENTS
- DAMPERS ARE INSTALLED AT AIR INLETS AND EXHAUSTS WHERE REQUIRED
- PIPING FOR HEATING OR COOLING SYSTEMS IS LOCATED WITHIN THE THERMAL ENCLOSURE OR ARE FULLY INSULATED
- HVAC EQUIPMENT IS LOCATED WITHIN THERMAL ENCLOSURE OR DESIGNATED TO BE INSTALLED OUTSIDE OF THERMAL ENCLOSURE
- TEMPERATURE CONTROLS ARE INSTALLED ON HEATING AND COOLING EQUIPMENT
- INDOOR POOLS ARE COVERED OR HAVEAN HRV/DEHUMIDIFIER
- HVAC & SWH EQUIPMENT MEET MINIMUM PERFORMANCE REQUIREMENTS DETERMINED IN TABLES 9.36.3.10 AND 9.36.4.2
- SERVICE WATER HEATING PIPES ARE INSULATED AT THE INLET AND OUTLET OF STORAGE TANKS
- SERVICE WATER HEATERS HAVE TEMPERATURE CONTROLS
- THE AIR BARRIER DETAILS, AND LOCATIONS HAVE BEEN IDENTIFIED

TEMPERATURE CONTROLS AS PER SECTION 9.36.3.6

- TEMPERATURE CONTROLS ARE GENERALLY REQUIRED FOR HEATING AND COOLING EQUIPMENT. THE ACCURACYOF THE CONTROL MUST BE BETTER THAN PLUS OR MINUS 0.5 DEGREES CELCIUS

ENERGY EFFECIENCY REQUIREMENTS

- THIS HOME IS DESIGNED TO COMPLY WITH ENERGY EFFECIENCY REQUIREMENTS AND VALUES USING THE PRESCRIPTIVE METHOD FOR CLIMATE 4-LOWER MAINLAND AND SOUTHERN VANCOUVER ISLAND WITH NO H.R.V. (BCBC 2012 LATEST EDITION)

AS PER SECTION 9.36.2.10.-NOTES PERTAINING TO LEAKAGE PATHS IN PROBLEMATIC AREAS

FOUNDATION TO SILL PLATE AND RIM JOISTS

ALL JOINTS AT THE TRANSITION BETWEEN THE FOUNDATION WALL AND THE ABOVE GRADE WALL MUST BE MADE AIR TIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS, OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL

INTERIOR WALL INTERFACE

INTERIOR WALLS THAT MEET EXTERIOR WALLS OR CEILINGS WITH AN INTERIOR PLANE OF AIR TIGHTNESS MUST BE MADE AIRTIGHT BY EITHER SEALING ALL JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS, COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL, OR MAINTAINING THE CONTINUITY OF THE AIR BARRIER SYSTEM THROUGH THE INTERIOR WALL

RIM JOIST

ALL JOINTS AT THE RIM JOIST ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS, OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL

CANTILEVERED FLOOR

CANTILEVERED FLOORS AND FLOORS OVER UNHEATED SPACES /EXTERIOR SPACE MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERAL

WINDOW HEAD

THE INTERFACE BETWEEN WINDOW HEADJAMB AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER IN THE WALL AND WINDOW. THE REQUIREMENT ALSO APPLIES TO DOORS AND SKYLIGHTS

WINDOW SILL

THE INTERFACE BETWEEN WINDOW SILL AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND WINDOW. THE REQUIREMENT ALSO APPLIES TO DOORS AND SKYLIGHTS

MECHANICAL FLUES AND CHIMNEYS

STEEL-LINED CHIMNEYS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY BLOCKING THE WOO BETWEEN REQUIRED CLEARANCES FOR METAL CHIMNEYS AND SURROUNDING CONSTRUCTION WITH SHEET METAL AND SEALANT CAPABLE OF WITHSTANDING HIGH

PLUMBING STACKS

PLUMBING VENT STACK PIPES THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY EITHER SEALING THE AIR BARRIER MATERIAL TO THE VENT STACK PIPE WITH A COMPATIBLE MATERIAL OR SHEATHING TAP, OR INSTALLING A RUBBER GASKET OR PREFABRICATED ROOF FLASHING AT THE PENETRATION OF THE PLANE OF AIRTIGHTNESS AND SEALING IT TO THE TOP PLATE

SKYLIGHTS

THE INTERFACE BETWEEN THE SKYLIGHT AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL THE JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND THE SKYLIGHT

WALL TO CEILING

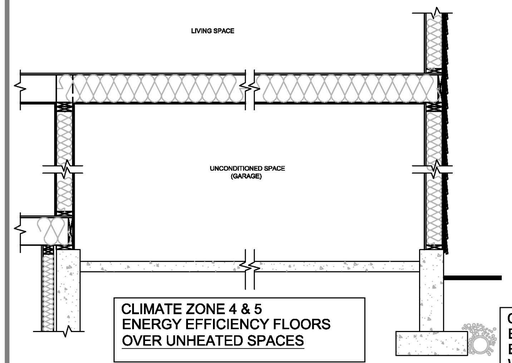
ALL JOINTS AT THE TRANSITION BETWEEN THE ABOVE GRADE WALL AND CEILING MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL

WALL VENTED DUCTS

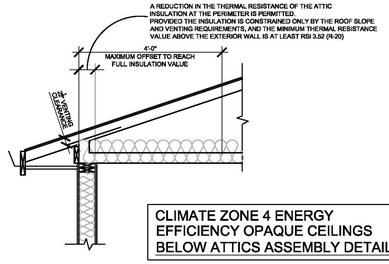
DUCT PENETRATIONS THROUGH THE BUILDING ENVELOPE MUST HAVE AN AIRTIGHT SEAL

ELECTRICAL PENETRATIONIN WALLS

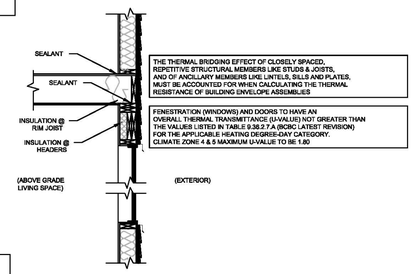
ELECTRICAL PENETRATIONS IN WALLS, INCLUDING ELECTRICAL OUTLETS, WIRING, SWITCHES, AND RECESSED FIXTURES THROUGH THE PLANE OF AIRTIGHTNESS MUST BE AIRTIGHT, OPTIONS INCLUDE USING A COMPONENT THAT IS DESIGNED TO BE AIRTIGHT AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL, OR BY COVERING THE COMPONENT WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL



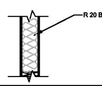
CLIMATE ZONE 4 & 5 ENERGY EFFICIENCY FLOORS OVER UNHEATED SPACES



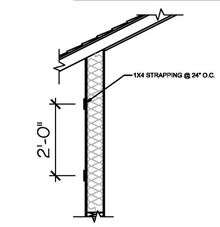
CLIMATE ZONE 4 ENERGY EFFICIENCY OPAQUE CEILINGS BELOW ATTICS ASSEMBLY DETAIL



CLIMATE ZONE 4 ENERGY EFFICIENCY OPAQUE ABOVE GRADE WALL ASSEMBLY DETAIL



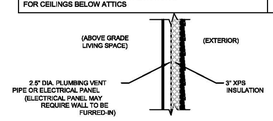
WALLS ADJOINING ENCLOSED UN-CONDITIONED SPACE		
DESCRIPTION	NOMINAL	EFFECTIVE
R 20 BATT INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 3.51 (R-20)	RSI 2.36 (R-13.4)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. VINYL CLADDING HOLLOW BACKED 3. SHEATHING MEMBRANE 4. 1/2" PLYWOOD SHEATHING 5. 2 1/2" AIR CAVITY 6. POLYETHYLENE 7. 1/2" GYPSUM WALL BOARD 8. INTERIOR AIR FILM	 0.03 0.11 - 0.11 0.16 - 0.08 0.12	RSI 0.31 (R-1.76)
TOTAL EFFECTIVE INSULATION VALUE		RSI 2.67 (R-15.17)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 2.62 (R-14.9)



CLIMATE ZONE 4 ENERGY EFFICIENCY PLUMBING VENT/ ELECTRICAL PANEL WALL ASSEMBLY DETAIL

BONUS ROOM WALLS ATTIC TRUSS WEB WALLS @ 24" O.C.		
DESCRIPTION	NOMINAL	EFFECTIVE
R 20 BATT INSULATION IN 2X6 WOOD FRAMING @ 24" O/C	RSI 3.51 (R-20)	RSI 2.68 (R-15.2)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. 12.7MM GYPSUM BOARD INT. FINISH 3. 0 MILL POLY (SEAL PLASTIC - NEGLIGABLE) 4. 11MM ORIENTED STRAND BOARD 5. ARI CAVITY 6. 20MM OR 40MM AIR CAVITIES 7. EXTERIOR AIR FILM	 0.12 0.08 0.00 0.00 0.00 0.00 0.00	RSI 0.20 (R-1.14)
TOTAL EFFECTIVE INSULATION VALUE		RSI 2.88 (R-16.37)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 2.78 (R-15.80)

CEILING BELOW ATTICS		
DESCRIPTION	NOMINAL	EFFECTIVE
356MM (14") GLASS FIBRE LOOSE FILL INSULATION FOR ATTICS 2x4 BOTTOM CHORD @ 24" O/C	RSI 7.04 (R-40)	RSI 6.67 (R-37.9)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. POLYETHYLENE 3. 5/8" GYPSUM CEILING BOARD 4. INTERIOR AIR FILM	 0.03 - 0.10 0.11	RSI 0.24 (R-1.36)
TOTAL EFFECTIVE INSULATION VALUE		RSI 6.91 (R-39.2)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR CEILINGS BELOW ATTICS		RSI 6.91 (R-39.2)



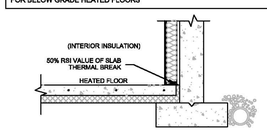
ABOVE GRADE WALL ASSEMBLY (6.35MM FIBRE-CEMENT BOARD SIDING)		
DESCRIPTION	NOMINAL	EFFECTIVE
3" XPS INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 2.64 (R-15)	RSI 2.52 (R-14.3)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. 6.35MM FIBRE-CEMENT BOARD SIDING 3. 1/2" AIR SPACE FOR RAIN SCREEN 4. SHEATHING MEMBRANE 5. 1/2" PLYWOOD SHEATHING 6. 2 1/2" AIR CAVITY 7. POLYETHYLENE 8. 1/2" GYPSUM WALL BOARD 9. INTERIOR AIR FILM	 0.03 0.023 0.16 - 0.11 0.16 - 0.08 0.12	RSI 0.683 (R-3.88)
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.203 (R-18.18)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 2.78 (R-15.8)

BELOW GRADE WALL ASSEMBLY		
DESCRIPTION	NOMINAL	EFFECTIVE
2" XPS INSULATION OVER 8" POURED-IN-PLACE CONCRETE WALL	RSI 1.76 (R-10)	RSI 1.82 (R-10.3)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. DAMPPROOFING 2. 1/2" GYPSUM WALL BOARD 3. INTERIOR AIR FILM	 0.21 0.08 0.12	RSI 0.41 (R-2.23)
TOTAL EFFECTIVE INSULATION VALUE		RSI 2.23 (R-12.53)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE WALLS		RSI 1.99 (R-11.3)

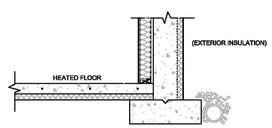
BELOW GRADE WALL ASSEMBLY		
DESCRIPTION	NOMINAL	EFFECTIVE
8" POURED-IN-PLACE CONRETE WALL R-14 BATT INSULATION IN 2x4 WOOD FRAMING @ 24" O/C	RSI 2.46 (R-14)	RSI 1.91 (R-10.85)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. DAMPPROOFING 2. 1" AIR SPACE 3. POLYETHYLENE 4. 1/2" GYPSUM WALL BOARD 5. INTERIOR AIR FILM	 0.21 0.16 - 0.08 0.12	RSI 0.57 (R-3.23)
TOTAL EFFECTIVE INSULATION VALUE		RSI 2.48 (R-14.08)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE WALLS		RSI 1.99 (R-11.3)

CEILINGS BELOW CATHEDRAL & FLAT ROOFS		
DESCRIPTION	NOMINAL	EFFECTIVE
R-28 BATT INSULATION IN 2X12 WOOD FRAMING @ 24" O/C	RSI 4.93 (R-28)	RSI 4.47 (R-25.4)
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.14 (R-23.5)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. EXTERIOR AIR FILM 2. POLYETHYLENE 3. 5/8" GYPSUM CEILING BOARD 4. INTERIOR AIR FILM	 0.03 - 0.10 0.11	RSI 0.24 (R-1.36)
TOTAL EFFECTIVE INSULATION VALUE		RSI 4.71 (R-26.78)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

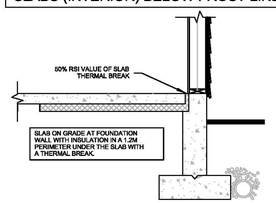
HVAC PERFORMANCE REQUIREMENTS		
EQUIPMENT TYPE	SIZE	PERFORMANCE REQUIREMENT
SPACE HEATING EQUIPMENT		
GAS FIRED FURNACE	LESS THAN 220,000 BTU/Hr (66 kW)	ANNUAL FUEL EFFICIENCY (AFUE) MUST BE GEATER OR EQUAL TO 92%
GAS FIRED BOILER	LESS THAN OR EQUAL TO 300,000 BTU/Hr (88 kW)	ANNUAL FUEL EFFICIENCY (AFUE) MUST BE GEATER OR EQUAL TO 90%
AIR COOLED UNITARY AIR CONDITIONER AND HEAT PUMP SPLIT SYSTEM	LESS THAN OR EQUAL TO 65,000 BTU/Hr (19 kW)	SEASONAL ENERGY EFFICIENCY RATING (SEER) OF 14.5 OR ENERGY EFFECIENCY RATING (EER) OF 11.5
GAS FIRED TANKLESS	LESS THAN 220,000 BTU/Hr (66 kW)	ENERGY FACTOR (EF) MUST BE GREATER THAN OR EQUAL TO 0.8
SERVICE WATER HEATING EQUIPMENT		
ELECTRIC STORAGE	13-71 GAL (50 TO 270L)	STANBY LOSS LESS THAN OR EQUAL TO: 25+ 0.20V (TOP INLET) 40+ 0.20V (BOTTOM INLET) WHERE V=THE TANK VOLUME (IN LITRES)
GAS FIRED STORAGE	LESS THAN 75,000 BTU/Hr (22 kW)	ENERGY FACTOR (EF) MUST BE GREATER THAN OR EQUAL TO 0.67-0.0005V WHERE V=THE TANK VOLUME (IN LITRES)
GAS FIRED TANKLESS	LESS THAN OR EQUAL TO 250,000 BTU/Hr (73.2 kW)	ENERGY FACTOR MUST BE GREATER THAN OR EQUAL TO 0.8

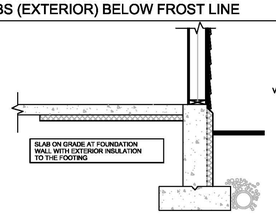


INSULATION PLACEMENT FOR HEATED SLABS (INTERIOR) BELOW FROST LINE



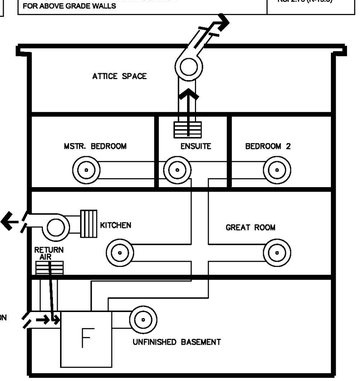
INSULATION PLACEMENT FOR HEATED SLABS (EXTERIOR) BELOW FROST LINE





INSULATION OF UNHEATED AND HEATED SLABS ABOVE THE FROST LINE

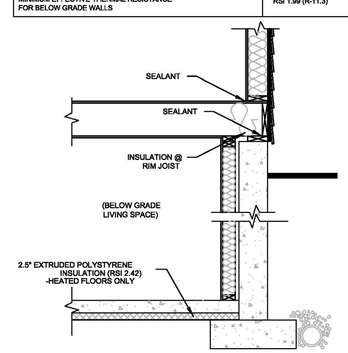
BELOW GRADE HEATED FLOOR		
DESCRIPTION	NOMINAL	EFFECTIVE
3.5" POURED IN-PLACE CONCRETE SLAB 2.5" EXTRUDED POLYSTYRENE INSULATION	RSI 2.36 (R-13.4)	RSI 2.42 (R-13.74)
OTHER BUILDING ENCLUSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION: 1. INTERIOR AIR FILM 2. 3.5" CONCRETE SLAB	 0.16 -	RSI 0.16 (R-0.90)
TOTAL EFFECTIVE INSULATION VALUE		RSI 2.58 (R-14.64)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE HEATED FLOORS		RSI 2.32 (R-13.2)



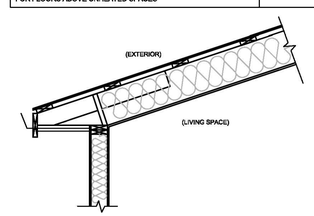
FRESH AIR DUCT INSULATED & VAPOUR BARRIERED FOR FULL LENGTH 4" DIAMETER RIGID DUCT OR 5" FLEX DUCT. DUCT LENGTH TO FURNACE CABINET: MIN. 10 FT. – MAX 15FT.

FURNACE TO RUN CONTINUOUSLY TO DISTRIBUTE SUPPLY AIR

9.32.3.4 (2) SUPPLY WITH FORCED WARM AIR HEATING



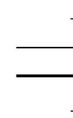
CLIMATE ZONE 4 ENERGY EFFICIENCY OPAQUE BELOW GRADE WALL ASSEMBLY DETAIL



CLIMATE ZONE 4 & 5 ENERGY EFFICIENCY CEILINGS BELOW CATHEDRAL & FLAT ROOFS DETAIL

TABLE 9.32.3.5.
PRINCIPAL VENTILATION SYSTEM EXHAUST FAN MINIMUM AIR-FLOW RATE FORMING PART OF CLAUSE 9.32.3.5.(1)

FLOOR AREA, m2	MINIMUM AIR-FLOW RATE, L/s				
	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	> 7
< 140	14	21	28	35	42
140-280	21	28	35	42	49
281-420	28	35	42	49	56
421-560	35	42	49	56	64
561-700	42	49	56	64	71
> 700	49	56	64	71	78



POCKET BEAM INSULATION R. VALUE	
1" XPS = .035 X 25.4MM	RSI 0.89
5" FRAMING = .0085 X 127/MM	RSI 1.08
TOTAL R VALUE REQ. = 60% OF 2.78 =1.67	RSI 1.97

PROJECT TITLE:
41379 NICOMEN ISLAND
DEROCHE, B.C.

REV.	DATE	DESCRIPTION

4TH DIMENSION DESIGN + DRAFTING
33082 1ST AVE. MISSION, BC, V2V 1G2
P.604.557.9465 C.604.832.8611
www.4ddrafting.com info@4ddrafting.com

CLIENT:
JONKER RESIDENCE

SHEET TITLE:
NOTES AND DETAILS

DATE: 4/23/2019
PROJECT: RN-19-72
DESIGNED/CHECKED: JM
DRAWN: KJ

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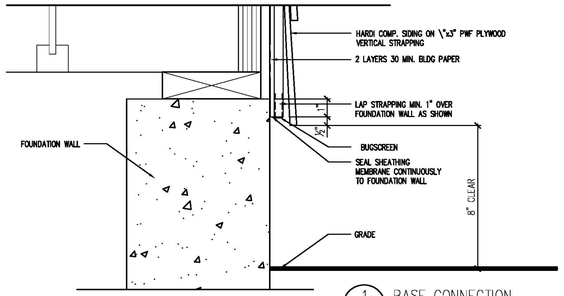
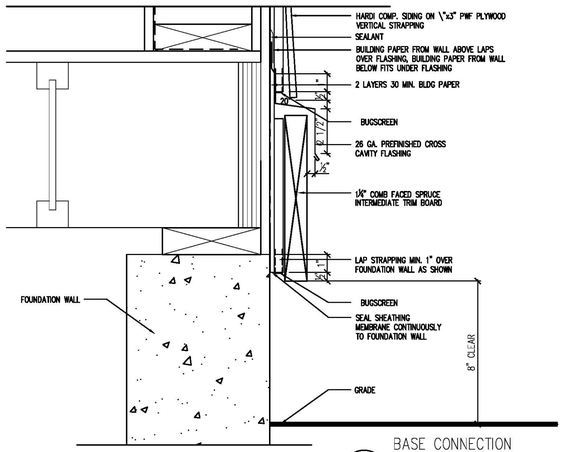
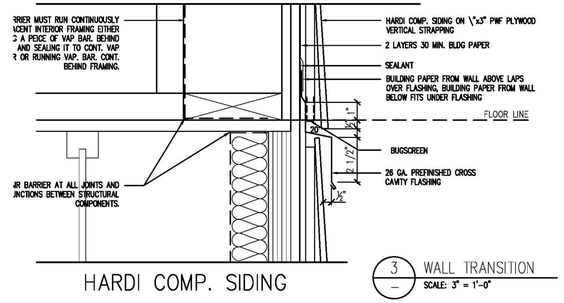


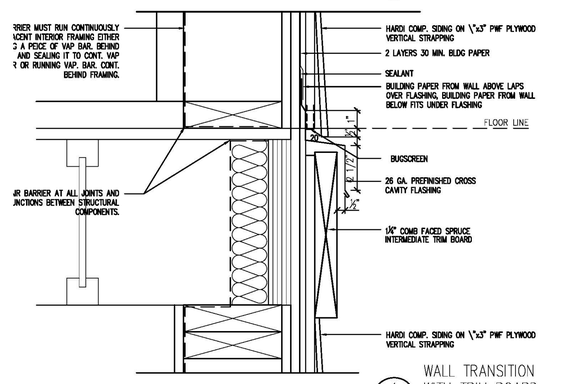
1 BASE CONNECTION
SCALE: 3" = 1'-0"



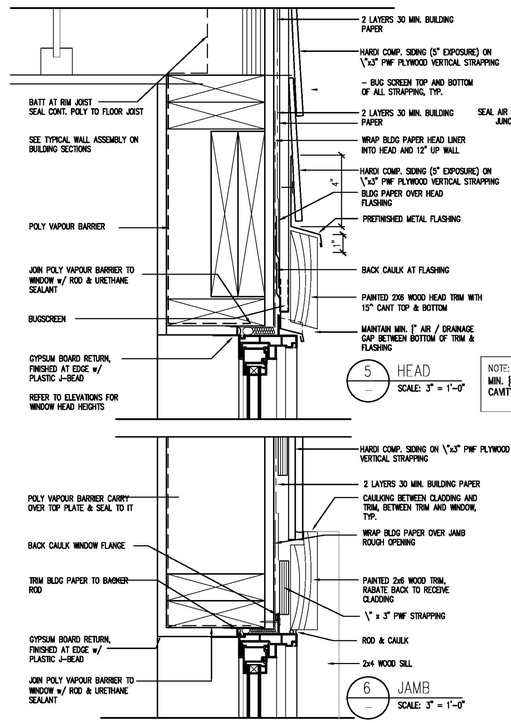
2 BASE CONNECTION WITH TRIM BOARD
SCALE: 3" = 1'-0"



3 WALL TRANSITION
SCALE: 3" = 1'-0"



4 WALL TRANSITION WITH TRIM BOARD
SCALE: 3" = 1'-0"



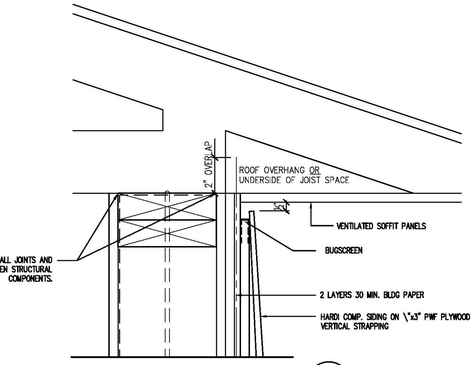
5 HEAD
SCALE: 3" = 1'-0"

NOTE:
MIN. ¾" RAINSCREEN CAVITY AS PER BCBC

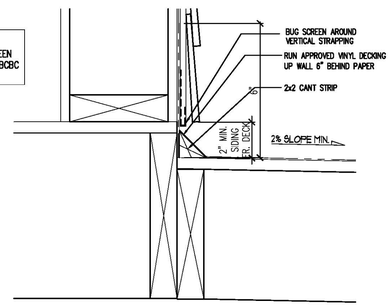
6 JAMB
SCALE: 3" = 1'-0"

7 SILL
SCALE: 3" = 1'-0"

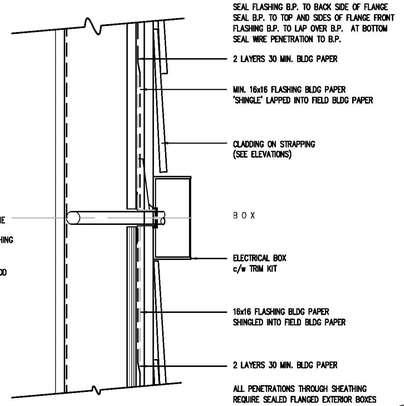
8 SLAB ON GRADE
SCALE: 3" = 1'-0"



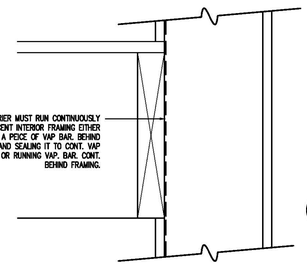
9 SOFFIT DETAIL
SCALE: 3" = 1'-0"



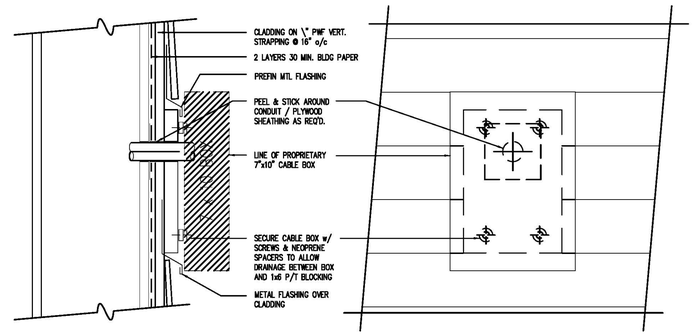
11 VINYL DECKS
SCALE: 3" = 1'-0"



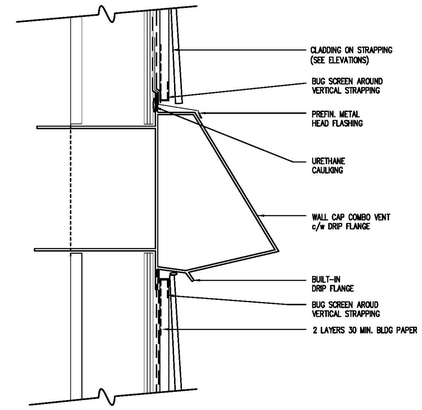
13 ELECTRICAL BOX DTL.
SCALE : 3" = 1'-0"



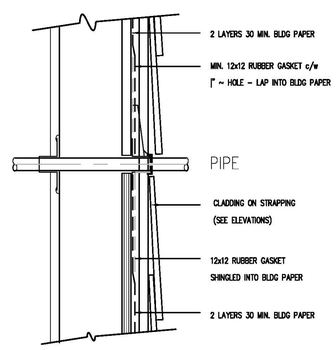
15 STAIR LEDGER
SCALE: 3" = 1'-0"



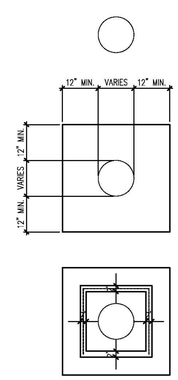
10 TYP. CABLE BOX.
SCALE : 3" = 1'-0"



12 TYP. THRU-WALL VENT DETAIL
SCALE : 3" = 1'-0"



14 PIPE / HOSE BIB DTL.
SCALE : 3" = 1'-0"



1. : SHEET METAL CONTRACTOR TO LAYOUT CORRECT SIZE OF HOLE FOR DIAMETER OF DUCT .

2. : FRAMER TO CUT ROUND HOLE TO MATCH SIZE OF DUCT REQUIRED .

3. : INSTALL BLDG PAPER FLASHING EXTENDING MIN. 12" BEYOND ALL SIDES OF HOLE IN WALL .

4. : APPLY URETHANE CAULK TO BACK OF THE 2" FLANGE – TOP AND SIDES ONLY – DO NOT CAULK THE BOTTOM .

5. : FASTEN METAL VENT HOOD PLUMB AND SQUARE WITH MIN. OF 3 SCREWS

6. : SIDING CONTRACTOR TO SHINGLE FLASHING BLDG PAPER INTO FIELD BLDG PAPER

7. : PROVIDE ONLY ECCO WALL CAP MODEL 51204 , 51205 OR 51206 , OR APPROVED EQUAL PROVIDE SAMPLE PRIOR TO INSTALLATION .

14 PIPE / HOSE BIB DTL.
SCALE : 3" = 1'-0"

AIRTIGHTNESS NOTES:

MECHANICAL FLUES AND CHIMNEYS:
STEEL-LINED CHIMNEYS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY BLOCKING THE VOID BETWEEN REQUIRED CLEARANCES FOR METAL CHIMNEYS AND SURROUNDING CONSTRUCTION WITH SHEET METAL AND SEALANT CAPABLE OF WITHSTANDING HIGH TEMPERATURES.

PLUMBING STACKS:
PLUMBING VENT STACKS PIPES THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY EITHER SEALING THE AIR BARRIER MATERIAL OR SHEATHING TAPE, OR INSTALLING A RUBBER GASKET OR PREFABRICATED ROOF FLASHING AT THE PENETRATION OF THE PLAN OF AIRTIGHTNESS AND SEALING IT TO THE TOP PLATE.

SKYLIGHTS:
THE INTERFACE BETWEEN THE SKYLIGHT AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND SKYLIGHT.

ATTIC HATCHES:
AIR LEAKAGE OCCURS THROUGH THE JOINT BETWEEN THE HATCH AND THE CEILING. THE HATCH IS MOST OFTEN ON A LEDGE MADE FROM WOOD TRIM OR THE EDGE OF THE CEILING. AIR SEALING CAN BE ACHIEVED BY ENSURING THE HATCH IS SIZED PROPERLY SO THAT IS HAS ENOUGH CONTACT WITH THE OPENNING LEDGE AND PROVIDING A CLOSED CELL FOAM GASKET.

POT LIGHTS:
RECESSED POT LIGHT HOUSINGS ARE ONE OF THE MOST COMMON AIR LEAKAGE POINTS THROUGH THE CEILING PLANE INTO THE ATTIC. AIR LEAKAGE OCCURS BETWEEN THE HOUSING AND AIR BARRIER THROUGH THE FIXTURE.

WALL VENTED DUCTS:
DUCT PENETRATIONS THROUGH THE BUILDING ENVELOPE MUST HAVE AN AIRTIGHT SEAL.

ELECTRICAL PENETRATIONS IN WALLS:
ELECTRICAL PENETRATIONS IN WALL, INCLUDING OUTLETS, WIRING, SWITCHES, RECESSED LIGHT FIXTURES THROUGH THE PLAN OF AIRTIGHTNESS MUST BE AIRTIGHT. OPTIONS INCLUDE USING A COMPONENT THAT IS DESIGNED TO BE AIRTIGHT AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL, OR BY COVERING THE COMPONENT WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL.

NOTE:
USE ONLY APPROVED SEALANTS AT SELF ADHERED MEMBRANE

ALL PRESSURE TREATED PLYWOOD WALL SHEATHING TO BE FASTENED WITH GALVANIZED NAILS.

ALL BORATE TREATED WOOD STRAPPING, CEDAR SHINGLES, AND HARDIPLANK TO BE FASTENED WITH HOT DIP GALVANIZED NAILS.

REV.	DATE	DESCRIPTION

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CLIENT:
JONKER RESIDENCE

SHEET TITLE:
RAINSCREEN, AIRTIGHTNESS & FLASHING DETAILS

PAGE No:
9
OF 9

DATE: 4/23/2019
PROJECT: RN-19-72
DESIGNED/CHECKED: JM
DRAWN: KJ

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