PROJECT:
INTEGRATED TRUSS
ONE BEDROOM
GALENA MODEL

PROJECT PARTICIPANTS:

COLD CLIMATE HOUSING RESEARCH CENTER
CCHRC

PROJECT LOCATION
GALENA, ALASKA
**DECK FRAMED INDEPENDENTLY AND NOT ATTACHED TO HOUSE**

1. **TRUSS PROFILE LAYOUT**

2. **STRUCTURAL AXON**

3. **TRUSS PROFILE A**

4. **TRUSS PROFILE B**

5. **TRUSS PROFILE C**

*THICKNESS OF WALL AND FLOOR CHORDS MAY VARY AS PER MANUFACTURER | VERIFY ALL DIMENSIONS WITH TRUSS MANUFACTURER PROFILE*
IN PROGRESS
### Window Schedule

<table>
<thead>
<tr>
<th>ID</th>
<th>Type</th>
<th>Rough Opening Width</th>
<th>Rough Opening Height</th>
<th>Frame Type</th>
<th>Hinge Type</th>
<th>Front View</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Vinyl, Triple Glazed, Argon Filled</td>
<td>21.5&quot;</td>
<td>48&quot;</td>
<td>Fixed</td>
<td>Fixed</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Vinyl, Triple Glazed, Argon Filled</td>
<td>21.5&quot;</td>
<td>48&quot;</td>
<td>Casement</td>
<td>LHOS</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Vinyl, Triple Glazed, Argon Filled</td>
<td>30&quot;</td>
<td>48&quot;</td>
<td>Egress</td>
<td>LHOS</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Door Schedule

<table>
<thead>
<tr>
<th>ID</th>
<th>Elevation</th>
<th>Type</th>
<th>Width</th>
<th>Height</th>
<th>Frame Type</th>
<th>Hinge Type</th>
<th>Hinge Swing</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Single Panel with Light</td>
<td>Insulated Metal Door</td>
<td>3'</td>
<td>6'-8&quot;</td>
<td>Insulated Metal</td>
<td>Commercial Grade Ball Bearing</td>
<td>RHIS</td>
<td>1</td>
</tr>
<tr>
<td>02</td>
<td>Single Panel</td>
<td>Solid Core Door</td>
<td>3'</td>
<td>6'-8&quot;</td>
<td>Wood</td>
<td>Standard Interior</td>
<td>RHOS</td>
<td>1</td>
</tr>
<tr>
<td>03</td>
<td>Single Panel</td>
<td>Solid Core Door</td>
<td>3'</td>
<td>6'-8&quot;</td>
<td>Wood</td>
<td>Standard Interior</td>
<td>RHIS</td>
<td>3</td>
</tr>
</tbody>
</table>

### Door Window Plan

- **Type A & B**: Left Hand Opening (LH01) and Right Hand Opening (RH01) inside, Left Hand Opening (LH02) and Right Hand Opening (RH02) outside.
- **Type C**: Left Hand Opening (LH01) and Right Hand Opening (RH01) inside, Left Hand Opening (LH02) and Right Hand Opening (RH02) outside.

### Window Rough Opening

- **Truss**: 21 1/2" x 21 1/2".
- **2x4 Blocking**: 30" x 48".
- **Truss to Truss**: 37".
- **Inside**: Left Hand Opening (LH01) and Right Hand Opening (RH01) inside, Left Hand Opening (LH02) and Right Hand Opening (RH02) outside.
- **Outside**: Left Hand Opening (LH02) and Right Hand Opening (RH02) outside, Left Hand Opening (LH01) and Right Hand Opening (RH01) inside.

### Scale

- **Door Window Plan**: 1" = 1'-0".
- **Window Rough Opening**: 1/4" = 1'-0".

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**Design Documents**

- **Not for Construction**

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**Notes**

- **Scale**: 1/4" = 1'-0"
INTEGRATED TRUSS

ONE BEDROOM
GALENA MODEL

DESIGNED BY:

DRAWN BY:

CD
CCHRC
A2.0

NOT FOR CONSTRUCTION

NOTES:

DRAFT SET

1'-8"
8'-8"
9'-8"
10'-2 3/4"

WOODSTOVE
CHIMNEY

42" DECK
RAILING

ADJUSTABLE
PILING
BRACKET

13'-6" METAL PANEL SIDING

VERIFY PILE
BRACING WITH
STRUCTURAL
ENGINEER

IF NO KIT IS AVAILABLE,
INSTALL 4" MAKEUP
AIR DUCT,
WITH COLD-TRAP,
THROUGH FLOOR
PLENUM BELOW
HEAT SHIELD

STAIRS CAN DROP TO
"NORTH" OR "SOUTH"
SIDE - AS REQUIRED
BY SITE ACCESS

NUMBER OF RISERS IS
DETERMINED ON SITE

275 GALLON GREER
HEAT OIL TANK

WOODSTOVE
CHIMNEY
BOILER EXHAUST
VENT
PLUMBING
STACK
DRYER EXHAUST
VENT
HRV EXHAUST
HOOD VENT
RANGE HOOD
EXHAUST
EXHAUST FAN W/
HUMIDISTAT
CONTROL

ADJUSTABLE
PILING
BRACKET

275 GAL GREER TANK
48" TANK STAND

HRV INTAKE
OUTDOOR AIR INTAKE
WATER FILL
WATER OVERFLOW

[VERIFY LOCATION]

METAL CORNER TRIM (TYP)
[W/ FOAM CLOSURE
STRIP]

METAL CORNER TRIM (TYP)
[FOAM CLOSURE
STRIP]

STAIRS CAN DROP TO
"NORTH" OR "SOUTH"
SIDE - AS REQUIRED
BY SITE ACCESS

NUMBER OF RISERS IS
DETERMINED ON SITE

2
A3.5
PILING HEIGHT VARIES BY SITE

6'-10"
4'-7 1/2"
2'-8"
4'-1/4"
4'-9 1/4"

11'-5 1/2"
1'-8"
13'-1 1/2"
10'-2" SIDEWALL HEIGHT

6'-10"
4'-7 1/2"
2'-8"
4'-1/4"
4'-9 1/4"

11'-5 1/2"
1'-8"
13'-1 1/2"
10'-2" SIDEWALL HEIGHT

METAL CORNER TRIM (TYP)
[FOAM CLOSURE
STRIP]
1. **WINDOW BOX DETAIL**

   - 2x4 WINDOW BLOCKING
   - 3/4" AZEK PLANK WINDOW TRIM
   - PREASSEMBLED PVC JAMB EXTENSION WITH CASING, PROVIDED BY WINDOW MANUFACTURER

2. **WINDOW SILL DETAIL ON GABLE END WALL**

   - 1/2" PLYWOOD WINDOW BOX (FASTENED TO TRUSS AND BLOCKING WITH SCREWS)
   - WINDOW BLOCKING

3. **WINDOW PLAN DETAIL ON TRUSS END WALL**

   - METAL SIDING
   - J-CHANNEL TRIM
   - PREASSEMBLED PVC JAMB EXTENSION WITH CASING, PROVIDED BY WINDOW MANUFACTURER
   - SITE-BUILT AZEK WINDOW JAMB EXTENSION
   - RECEIVING CHANNEL BUILT INTO WINDOW UNIT
   - BACKER ROD AND ELASTOMERIC CAULK
   - METAL STRAP TO ATTACH WINDOW TO WINDOW BOX

   **NOTES:**

   - 1/4" GAP BETWEEN WINDOW AND JAMB SEALED WITH MIN EXPANDING FOAM
   - METAL STRAP TO ATTACH WINDOW TO WINDOW BOX
   - BACKER ROD WITH ELASTOMERIC CAULK
   - CEDAR SHIM OVERLAID WITH SELF-ADHERING FLASHING MEMBRANE FOR DRAINAGE
   - TYVEK HOME WRAP
   - SELF-ADHERING FLASHING MEMBRANE
   - EXT
   - INT

   **SCALE:**

   - 3" = 1'-0"
   - 6" = 1'-0"
SIMPSON L90Z BRACKETS USED TO ATTACH STAIR STRINGER TO 2x12 TREATED RIM JOISTS

3/8" x 5" GALVANIZED LAG BOLT TO ATTACH CORNER 4x4 POSTS TO RIM JOISTS

2x8 JOISTS 24" O.C. (TYP) WITH SIMPSON LU9-26 JOIST HANGERS

(2) 2x12 RIM JOISTS AT PERIMETER OF DECK

2x2 BALLUSTERS, 4" APART (TYP)

(2) 2x12 RIM JOISTS AT PERIMETER OF DECK

2x12 ATTACHED TO STAIR STRINGER WITH L BRACKET

SIMPSON L90Z L-BRACKETS TO ATTACH STAIR STRINGER TO 2x12

2x6 TOP CAP
2x4 TOP RAIL
4x4 POST (TYP)

2x2 BALUSTERS, 4" APART
2x4 BOTTOM RAIL
2x6 BROWN TREATED DECKING (DRY-DECK OR EQUIV.)

(3½" x 5½" GALV. LAG BOLTS TO ATTACH CORNER 4x4s TO RIM JOISTS

6" CARRIAGE BOLTS OFFSET TO ATTACH 4x4s TO RIM JOIST

10" MIN TREAD DEPTH

MAX RISER

STAIRS CAN DROP TO "NORTH" OR "SOUTH" SIDE - AS REQUIRED BY SITE ACCESS

NUMBER OF RISERS IS DETERMINED ON SITE

NUMBER OF STAIRS TBD ON SITE

2x12 STRINGER, LENGTH TBD BY NUMBER OF STAIRS

2x12 TREATED

2x6 ATTACHED TO STAIR STRINGER WITH L BRACKET

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2x12 STRINGER, LENGTH TBD BY NUMBER OF STAIRS

2x12 TREATED
**GENERAL NOTES:**

01. Exhaust and intake hoods should be at least 18' above ground or above snow-drift height.
02. Locate supply air registers approximately 12' from floor unless otherwise noted.
03. Return air grilles in kitchen and bathroom shall be located in ceilings. Return air grille in mechanical room may tee off return air ducting.
04. Ventilation requirements:
   a. Close all exterior doors and windows.
   b. Balance HRV per manufacturer’s instructions.
   c. With intake duct fan OFF and HRV ON at HIGHEST airflow setting (Speed Range 1 - see manufacturer’s installation guide) and at MAXIMUM speed:
      i. Ensure supply airflow is at least 100 CFM (regardless of whether the HRV is in "ventilate" or "recirculate" modes)
      ii. Adjust return air grilles in bathroom and kitchen to 240 CFM each.
      iii. Adjust return air grille in mechanical room to 218 CFM
      iv. Adjust supply air diffusers/louvers to 218 CFM
   d. Re-balance HRV per manufacturer’s instructions.
   e. Ensure HRV fan speed is on Speed Range 1. (see manufacturer’s installation guide)
05. Put attic access (at least 30’ x 22”) in mechanical room to access inline fan.
06. Install grille in mechanical room ceiling to allow airflow between attic and mechanical room.
07. All ducting in attic shall be insulated with minimum R-4 insulation
08. Kitchen makeup air: Drop down in wall and bring in behind refrigerator. Reverse P-trap for cold air trap.
09. Locate HRV boost switch in bathroom.
10. Locate HRV main controller in central living area.
11. Flex Duct Installation
   a. All flex duct shall be installed fully extended: DO NOT install in the compressed state or use excess lengths (using more than necessary to get from A to B, and leaving the excess curling around).
   b. Avoid bedding ducts across sharp corners or incidental contact with metal fixtures pipes or conduits. Radius at centerline shall be no less than one duct diameter.
   c. Requires support at no more than five foot intervals.
12. Install cold air trap in:
   a. Kitchen make up air duct.
   b. Range hood exhaust duct.
   c. Mechanical room outside make up air.
13. All exhaust hoods shall have a back draft damper (unless specified otherwise).

**MECHANICAL KEY**

- **CONCENTRIC VENT**
- **EXHAUST**
- **INTAKE**
- **DUCK IN-CEILING**
- **FAN**
- **VENT**
- **6" OVAL DUCT**
- **MAKE UP**
GENERAL NOTES
1. SUPPLY AIR (SA) DUCTS TO BE INSULATED
2. SA DIFFUSERS TO TERMINATE WITHIN 12" OF FLOOR
3. HRV TO BE BALANCED PER MANUFACTURERS INSTRUCTIONS
4. SA DAMPERS USED TO ENSURE SAME AIRFLOW TO EACH ROOM
5. ADDITIONAL TEMPERATURE SENSOR AT SA DUCT DIFFUSER FARthest FROM HRV

[Diagram of mechanical systems with labels and notes]
THREE BEDROOM PANEL LAYOUT

01 BEDROOM 1 02 KITCHEN
03 BEDROOM 2 & 3 04 KITCHEN
05 LVG RM 06 BOILER
07 HBH EXT 08 HRV & PUMP
09 WASHER 10 DHW
11 DRYER 12 DHW
13 DRYER 14 RANGE
15 FREEZER & ENTRY 16 RANGE

KEY
- RECEPTACLE
- GFI RECEPTACLE
- 50A SERVICE
- SWITCH
- 3-WAY SWITCH
- SMOKE DETECTOR
- OUTDOOR LIGHT
- SCONE LIGHT
- T8 FIXTURE
- SURFACE MOUNT LIGHT
- R RECESSED CAN LIGHT

NOTES:
- DRAFT SET
- SD
- VERIFY
- SD

SCALE: 3/8" = 1'-0"
NOTES:

1. USE 6 MIL POLY TO MAKE COMPLETE ENVELOPE THAT RUNS THE LENGTH OF THE ENTIRE PLUMBING WALL AND THE WIDTH BETWEEN FLOOR TRUSSES FOR LEAK PROTECTION

2. URETHANE MAY BE APPLIED FROM BELOW AGAINST UNDERLAYMENT. ALLOW PIPES TO BE OPEN TO CONDITIONED SPACE BY CREATING A CHASE

NOTES:

HATCH IS CREATED BY SCREWING DOWN THIS PORTION OF SUBFLOOR TO BE EASILY REMOVED IF REQ'D

PLUMBING MAIN WASTE LINE ACCESS HATCH, HATCH ACCESS THE ENTIRE WIDTH BETWEEN FLOOR TRUSSES

3 1/2" MAIN WASTE PIPE

6MIL POLY

SUBFLOOR SCREWED TO FLOOR TRUSSES FOR EASY REMOVAL

PLUMBING WALL - 2X6 STUD w/ 1/2" AC PLYWOOD FACINGS

3" CLEAN OUT IN WALL FOR SERVICING MAIN SEWER DRAIN

NOTE:

SUBFLOOR SCREWED TO FLOOR TRUSSES FOR EASY REMOVAL

3 1/2" MAIN WASTE PIPE

6MIL POLY

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