Mechanical Permit Application

City of Portland, Oregon - Bureau of Development Services

1900 SW 4th Avenue, Portland, Oregon 97201 • 503-823-7363 • TTY 503-823-6868 • www.portlandoregon.gov/bds

This permit application expires if a permit is not obtained within 180 days after it has been accepted as complete.

Type of work

- ☐ New construction
- ☒ Addition/alteration/replacement
- ☐ Demolition
- ☐ Other:

Category of construction

- ☐ 1 & 2 family dwelling
- ☐ Commercial/industrial
- ☐ Accessory building
- ☒ Multifamily
- ☐ Master builder
- ☐ Other:

Job site information and location

Job no.: 18-C069S | Job address: 3001 SE 136th Ave

City/State/ZIP: Portland OR 97236

Suite/bldg./apt. no.: | Project name: Townhouse Terrace

Cross street/directions to job site:

Subdivision: | Lot no. | Tax map/parcel no.

Description of work (example: upstairs bath fan/dryer exhaust)

Radon Mitigation

Provide RS permit no.

☑ Property owner ☐ Tenant

Name: Home Forward | E-mail:

Address: 135 SE Ash St

City/State/ZIP: Portland, OR 97204

Phone: 503-943-0645 | FAX:

Owner installation: This installation is being made on property that I own, which is not intended for sale, lease, rent, or exchange.

Owner signature: Date:

☑ Contractor ☐ Subcontractor

Business name: **Cascade Radon** | E-mail:

Address: **12839 NE Airport Way Bldg. 9**

City/State/ZIP: **Portland, OR 97230**

Phone: **503.421.4813** | FAX: **503.281.6170**

Lic. no. | CCB lic. no. **180537**

Authorized signature: Tamara Linde

Print name: Tamara C Linde Date: 8/31/2020

☑ Applicant ☐ Contact Person

Business name: Cascade Radon

Contact name: **Tamara Linde**

Address: 12839 NE Airport Way Bldg. 9

City/State/ZIP: Portland, OR 97230

Phone: 503.421.4813 | FAX: 503.281.6170

E-mail: Tamara@cascaderadon.com

RS Permit/No Fees Due ☐

- Residential Combo permit subcontractor submittals only can be faxed to 503-823-7693 or e-mailed to BDSSublabels@portlandoregon.gov.
- Residential FIR permit subcontractor submittals can be faxed to 503-823-7425.

Commercial Fee Schedule - Use Checklist

Mechanical permit fees* are based on the value of the work performed. Indicate the value (rounded to the nearest dollar of all mechanical materials, equipment, labor, overhead and profit.

Value: $ 3,000

Residential Equipment / Systems Fees

For special information use checklist

Description	Qty.	Fee	Total
Heating / cooling			
Air conditioner (site plan required)		$26	
Furnace / burner including duct work / vent / liner		$55	
Heat pump (site plan required)		$51	
Air handling unit		$26	
Hydronic hot water system		$32	
Residential boiler (radiator or hydronic) includes piping		$32	
Unit heaters (fuel type, not electric) in-wall, in-duct, suspended, etc.		$26	
Vent for appliance other than furnace		$22	
Alteration of existing HVAC system		$32	
Other fuel appliances			
Decorative gas fireplace		$26	
Flue vent for water heater or gas fireplace		$22	
Wood / pellet stove		$57	
Gas or wood fireplace / insert		$57	
Chimney / liner / flue / vent		$22	
Other:		$32	
Environmental exhaust and ventilation			
Range hood / other kitchen equipment		$14	
Clothes dryer exhaust		$14	
Single-duct exhaust (bathrooms, toilet compartments, utility rooms)		$14	
Exhaust system apart from Heating or AC		$22	
Other:		$32	
Gas fuel piping			
$15 for the first four, $2.70 for each additional. Please indicate number of fuel gas piping outlets below:			
Furnace, etc.			
Gas heat pump			
Wall / suspended / unit heater			
Water heater / boiler			
Fireplace			
Range			
Barbecue			
Clothes dryer			
Other:			
Other appliances			
Including oil tanks, gas and diesel generators, gas and electric kilns, gas appliances / equipment not included above		$32	
Mechanical permit fees			
		Subtotal	
		Minimum permit fee ($95)	
		Commercial plan review (60% of permit fee)	
		State surcharge (12% of permit fee)	
		TOTAL PERMIT FEE	

Cascade Radon, Inc.

Plan Review Cover Sheet

City Of Portland
REVIEWED FOR CODE COMPLIANCE
Date: 09/24/20
Permit #: 20-187681-000-00-MT

Job# 18-C069S

Work Description:
Retrofit of existing apartment buildings with radon mitigation systems for 13 apartment units.

Job address: 3001 SE 136th Avenue
Portland, OR 97236
Townhouse Terrace Apartments
Units 3005, 3009, 3011, 3017, 3023, 3027, 3103, 3105, 3115, 3121, 3123, 3127, 3133

Owners: Name: Home Forward
Address: 135 SE Ash Street
Portland, Oregon 97204
Contact: Robert Dell
Telephone : 503-943-0645
Email: Robert.dell@homeforward.org

Design and Contractor:
Cascade Radon, Inc.
12839 NE Airport Way
Portland, OR 97230
503-421-4813
office@cascaderadon.com

CCB# 180537
Metro License# 10252

Description: Multifamily Occupancy

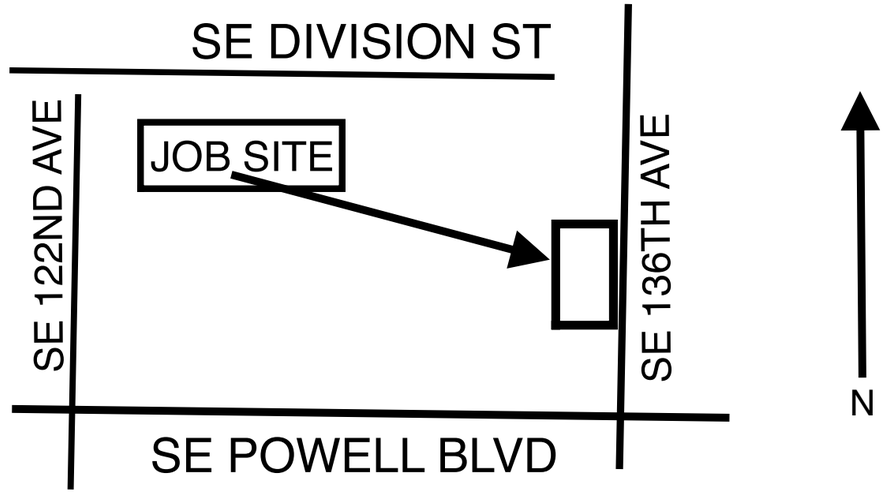
Building footprint: No changes proposed

Open Yard Area: No changes proposed

Estimated Cost of Work:
$3,000 x 13 units = $39,000

20-187681-MT

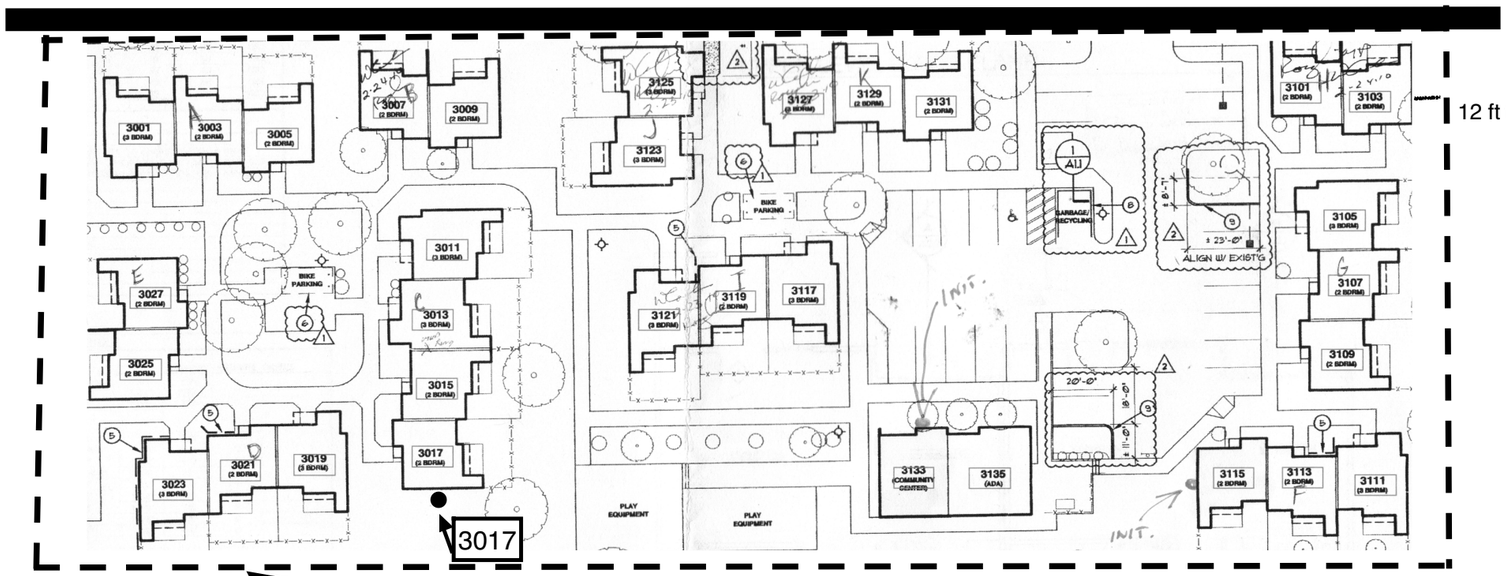
VICINITY MAP - NTS



SITE PLAN

Radon Mitigation Systems
Townhouse Terrace
3001 SE 136th Ave
Portland, Oregon 97236

SE 136th Ave



12 ft to property line

N

SCALE

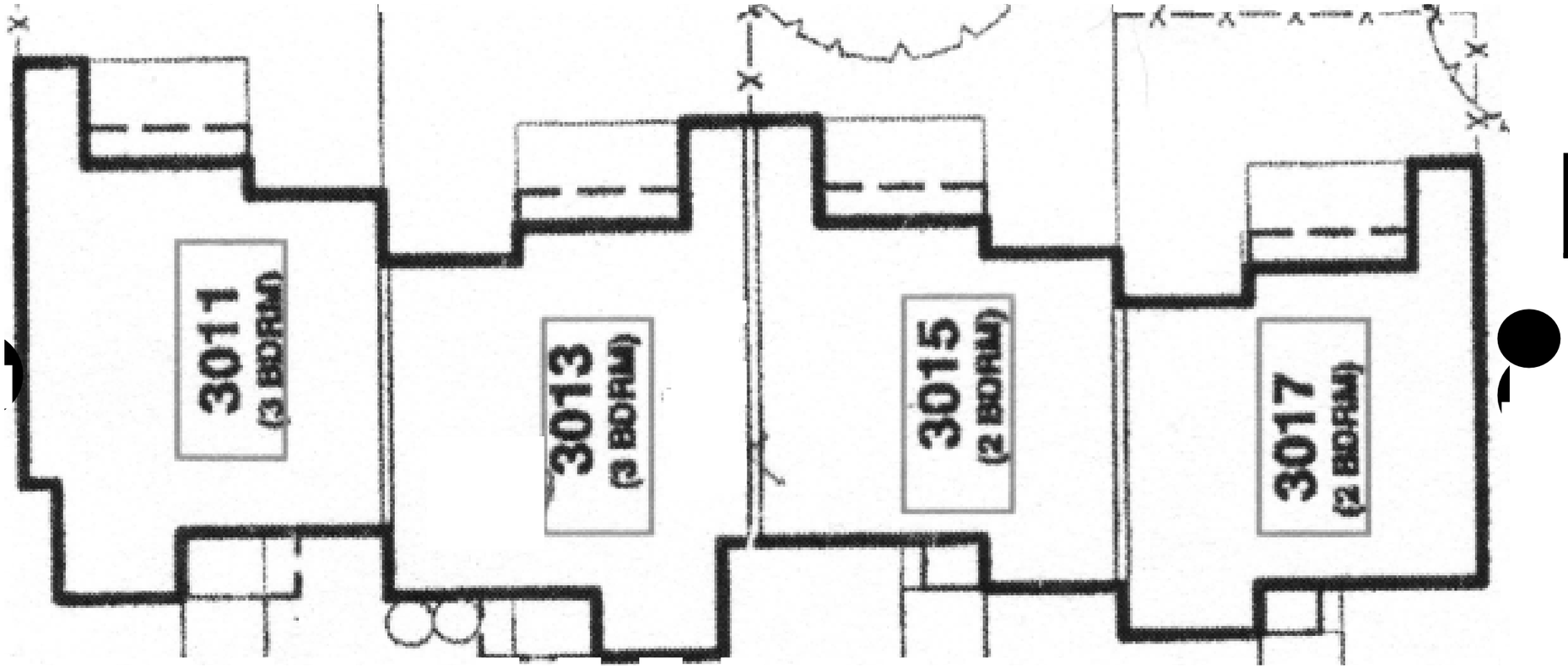
50 FT

Property Line

● — Radon Mitigation Systems

Radon Mitigation Systems
Townhouse Terrace
3001 SE 136th Ave
Portland, Oregon 97236

Units 3011 and 3017



Radon Fan Location

N

Scale

20 ft

Individual Unit Size = 750 sq ft
System Potential Reach = 2,000 sq ft

Radon Mitigation Systems
Townhouse Terrace
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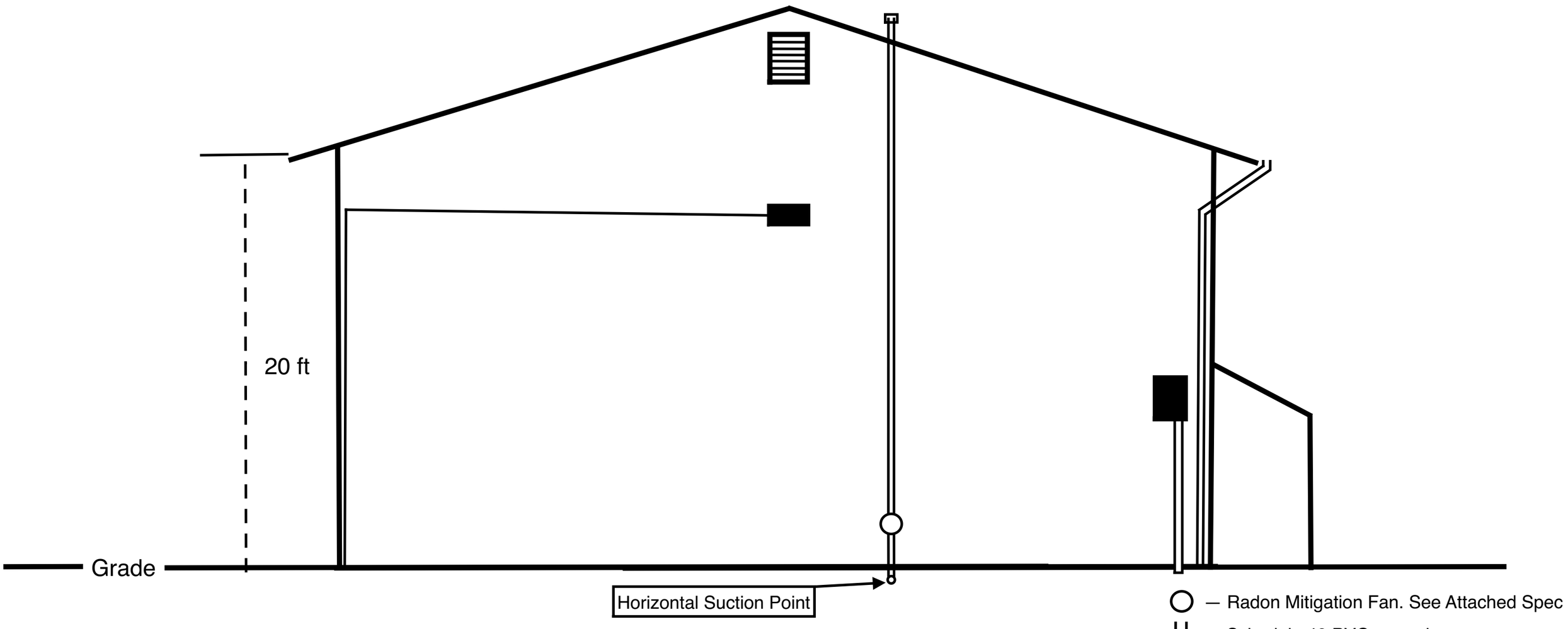
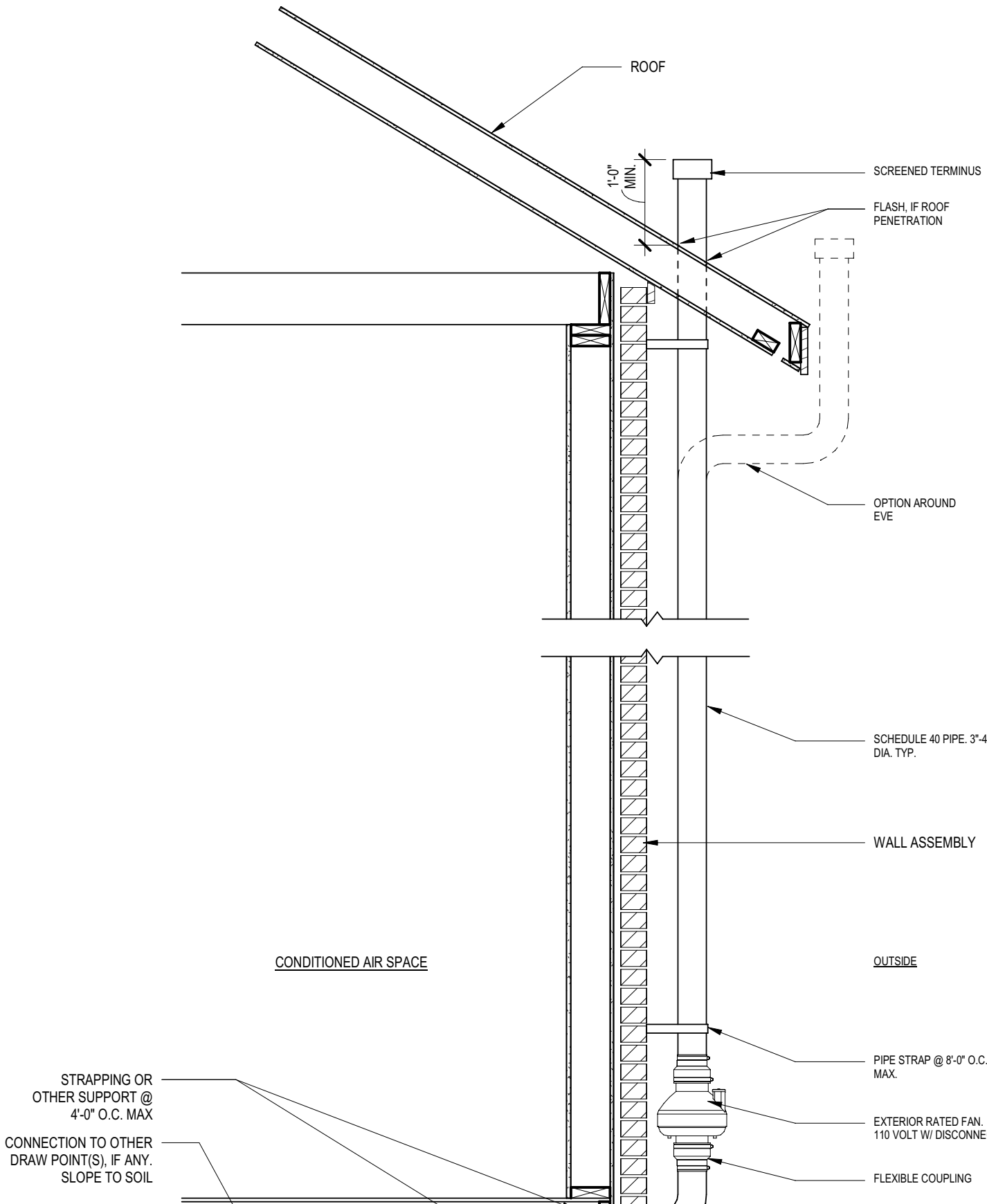
Unit 3017





ACTIVE SUB-SOIL DEPRESSURIZATION SYSTEM / CRAWL SPACE

Active Crawl-Space Depressurization

General Installation Notes:

1. System(s) to be Active Crawl-Space Depressurization.
2. All work to comply with EPA protocols and Indoor Air Quality code requirements.
3. Exhaust fan(s) to be located so as to be accessible for installation, maintenance, and future replacement, and in a vertical run of vent pipe.
4. More than one system may be needed for the building.
5. Continuously running electric, inline duct exhaust fan(s) to be used. Exhaust fan specs: 21-150 W, 60 hz, 115 V, 1.5 amps, 60 cycle.
6. Plastic vent piping shall be 3 inch (min.) Schedule 40 ABS or PVC.
7. Exterior vent piping to be primed and/or painted to match existing building.
8. Vent termination to be 12 inches above the roof/eave line.
9. All vent pipe joints/connections to be sealed and air tight.
10. Vent pipes shall not have low points so as to allow any condensate within pipes to flow back to the sub-soil suction point(s).
11. Electrical fan disconnect shall be located within sight of exhaust fan unit. Electrical power to be drawn from existing building circuitry.
12. Provide proper flashing at all roof penetrations.
13. When possible and applicable, a manometer (air pressure gauge) shall be installed on or near the vent piping, and shall be a visible and/or audible mechanism that is simple to read or interpret.
14. All penetrations through existing concrete slab flooring or concrete perimeter footings shall be sealed and water-tight.
15. All fans and vent piping to be adequately secured: minimally every 8-feet for vertical runs, and every 4-feet for horizontal runs.
16. System shall be clearly labeled “Radon Reduction System” or the like. System shall also be labeled as to:
    a. Date activated.
    b. Installers name.
    c. Information on how to contact installer.

Firestop Collar (CP 643N)

Product description

- A ready-to-use firestop collar, made of a galvanized steel housing and intumescent inserts for firestopping combustible pipes

Product features

- Ready-to-use collar
- No construction required
- Fast installation time
- Adjustable mounting tabs
- Low profile for tight installations

Areas of application

- Firestopping combustible pipes up to 6" diameter in penetrations through fire walls and floors
- Suitable for the following pipe materials:
- PVC, CPVC, ABS, PVDF, PP and FRPP

For use with

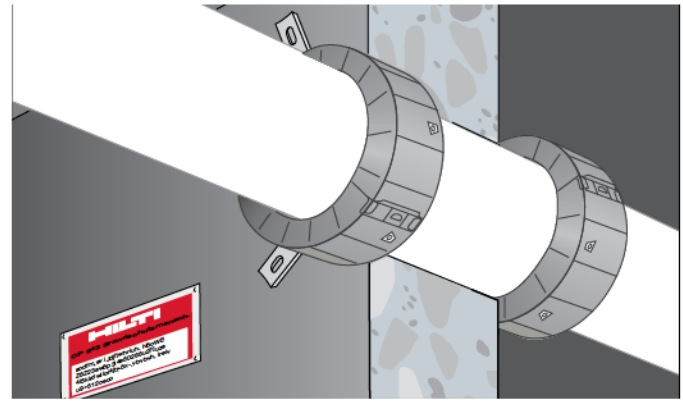
- Concrete, masonry, wood floor and gypsum wall assemblies
- Wall and floor assemblies rated up to 4 hours

Types of installation

- Wall: two collars, one on each side
- Floor: one collar on underside (bottom)

Example

- Waste water pipes
- Fresh water pipes



Technical Data	CP 643N		
Description	Pipe outside dia (in.)	Collar outside dia. (in.)	Collar Height (in.)	No. of hooks and fasteners
CP 643-50/1.5"N	1.4–2.0	2.8	0.9	2
CP 643-63/2"N	2.0–2.5	3.4	1.3	2
CP 643-90/3"N	2.6–3.6	4.9	1.7	3
CP 643-110/4"N	3.6–4.5	6.0	1.9	3
CP 643-160/6"N	6.6	9.8	1.9	4
Temperature resistance		-40°F to 140°F (–40°C to 60°C)		
Intumescent activation		Approx. 392°F (200°C)		
Expansion ratio (unrestricted)		Up to 1:10		

Tested in accordance with
• UL 1479 • ASTM E 814 • ASTM G21

FIRESTOP DEVICE
FOR USE IN THROUGH-PENETRATION
FIRESTOP SYSTEMS
SEE UL FIRE RESISTANCE DIRECTORY
5N76

FM APPROVED

FBC SYSTEM COMPATIBLE
Visit fbcsystemcompatible.com.
FBC™ is a trademark of the Lubrizol Corporation.

Installation instructions for CP 643N

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines — always refer to the applicable drawing in the UL Fire Resistance Directory or Hilti Firestop Systems Guide for complete installation information

Opening

1. Clean the plastic pipes. Expansion of the intumescent material during a fire acts to close the plastic pipe. Very dirty pipes (ie: with remains of mortar) may lead to a delay in this closing action. Soiled plastic pipes should, therefore, be cleaned in the area where the CP 643N Firestop Collar is to be installed.

Application of firestop system

2. Seal the opening if required. Gaps may be closed with FS-ONE. The approved methods vary and are given in the specific UL system.
3. Close the CP 643N Firestop Collar. Place the CP 643N Firestop Collar around the plastic pipe and lock the closure by applying firm pressure until it latches.
4. Attach fastening hooks. The fastening hooks can be attached to various points on the metal housing. This allows the fastening points to be made to suit the space available in each case. The hooks must be positioned as symmetrically as possible. The required number of fastening hooks is indicated on the packaging.
5. Fastening the CP 643N Firestop Collar. Only when fastened properly can CP 643N offer protection against fire.

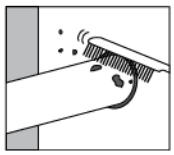
a. Mark the fastening points.
b. Drill holes with a Hilti rotary hammer drill (i.e. TE 4-A18) or, depending on base material, fasten using Hilti powder-actuated tool.
c. To secure the CP 643N Firestop Collar, use Hilti anchors/fasteners.
d. For maintenance reasons, a penetration can be permanently marked with an identification plate and fastened in a visible position next to the seal.

Not for use

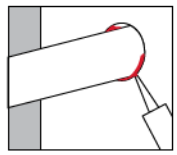
- With metal pipes
- In highly corrosive surroundings
- With unapproved anchors/fasteners

Storage

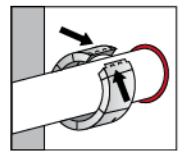
- Store only in the original packaging in a location protected from moisture



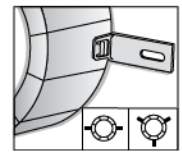
1. Clean plastic pipe.



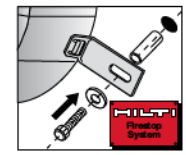
2. Close remaining gap to provide smoke and gas resistant seal.



3. Close collar.



4. Attach fastening hooks.



5. Fasten collar and identification plate (if required).

Hilti Firestop
Saving lives through innovation and education

Hilti. Outperform. Outlast.

Installation and Operation Manual
Manuel d'installation et d'opération

Item #: 142001
Rev Date: 2019-07-19

Rn2EC / Rn4EC

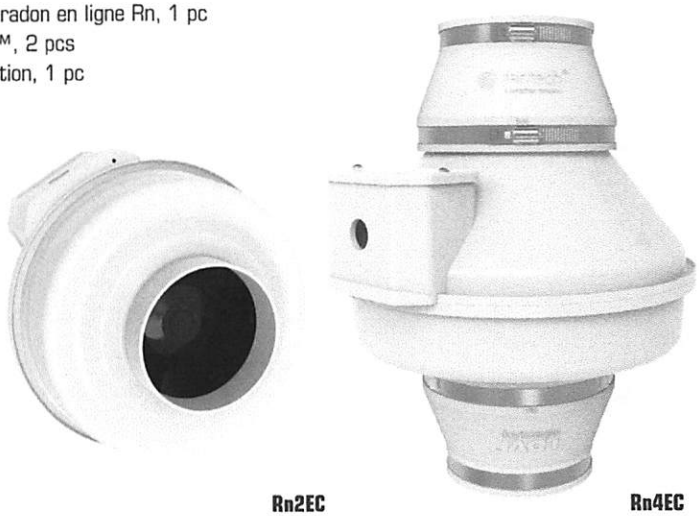
Inline EC Radon Fan • Ventilateur pour radon en ligne EC

PARTS IN THE BOX (Rn2EC)
Inline Radon Fan Rn, 1 pc
Operation and Installation Manual, 1 pc

PARTS IN THE BOX (Rn4EC)
Inline Radon Fan Rn, 1 pc
LDVI™ Couplings, 2 pcs
Operation and Installation Manual, 1 pc

PIÈCES DANS LA BOÎTE (Rn2EC)
Ventilateur pour radon en ligne Rn, 1 pc
Manuel d'installation, 1 pc

PIÈCES DANS LA BOÎTE (Rn4EC)
Ventilateur pour radon en ligne Rn, 1 pc
Couplages LDVI™, 2 pcs
Manuel d'installation, 1 pc



Rn2EC **Rn4EC**

REGISTER* THIS PRODUCT TO INCREASE YOUR PRODUCT WARRANTY BY AN EXTRA YEAR

registration.fantech.app

* in USA only

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Support technique et service à la clientèle
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