

Development Services

From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201

More Contact Info (<http://www.portlandoregon.gov/bds/article/519984>)



APPEAL SUMMARY

Status: Decision Rendered - Reconsideration of ID 23352

Appeal ID: 23416

Project Address: 1724 SE Tenino St

Hearing Date: 1/29/20

Appellant Name: Sam DeLiso

Case No.: B-021

Appellant Phone: 520.312.2447

Appeal Type: Building

Plans Examiner/Inspector: Thomas Ng

Project Type: commercial

Stories: 8 **Occupancy:** RHd - High Density Residential
Construction Type: Type II - non-combustible construction

Building/Business Name: Sellwood Center (Home Forward)

Fire Sprinklers: Yes - Every room & directly above proposed fan location

Appeal Involves: Addition to an existing structure

LUR or Permit Application No.:

Plan Submitted Option: pdf [File 1] [File 2] [File 3] [File 4]

Proposed use: Radon Mitigation System

APPEAL INFORMATION SHEET

Appeal item 1

Code Section

OSSC 1812.3.7.5 - Termination

Requires

OSSC 1812.3.7.5 - Termination: SSESsDs shall extend through the roof and terminate at least 6 inches (304.8 mm) above the roof and at least 10 feet (3048 mm) from any operable openings or air intake.

Code Modification or Alternate Requested

Termination of the vent pipe to exhaust at a minimum of 10 feet from ground level and a minimum of 10 feet or more from any operable windows or balconies, but below the roof line 8 stories overhead instead of extending to above the roof line by at least 6 inches per OSSC 1812.3.7.5

Proposed Design

The radon system's exhaust-point will exhaust sub-soil radon gas to the outdoor air at a distance equal to or greater than 10 horizontal feet from any balcony or operable window and 10 feet or greater distance above grade level, below roof line.

Reason for alternative

Sellwood Center is an 8-story multifamily high-rise building. Following OSSC 1812.3.7.5 would require routing ventilation pipe to above roofline, which would impact the following:

Significantly increased cost of project for client.

Would require installation of scaffolding on the building.

Would reduce the aesthetic value of the building by exposing ventilation pipe up the entire side of four corners of the building.

Would reduce radon mitigation system performance, requiring potentially multiple fans per vent stack to create enough suction in vent pipe to mitigate the radon issue in the building.

Increase energy usage by fan units to compensate for very long pipe runs.

Increase maintenance costs.

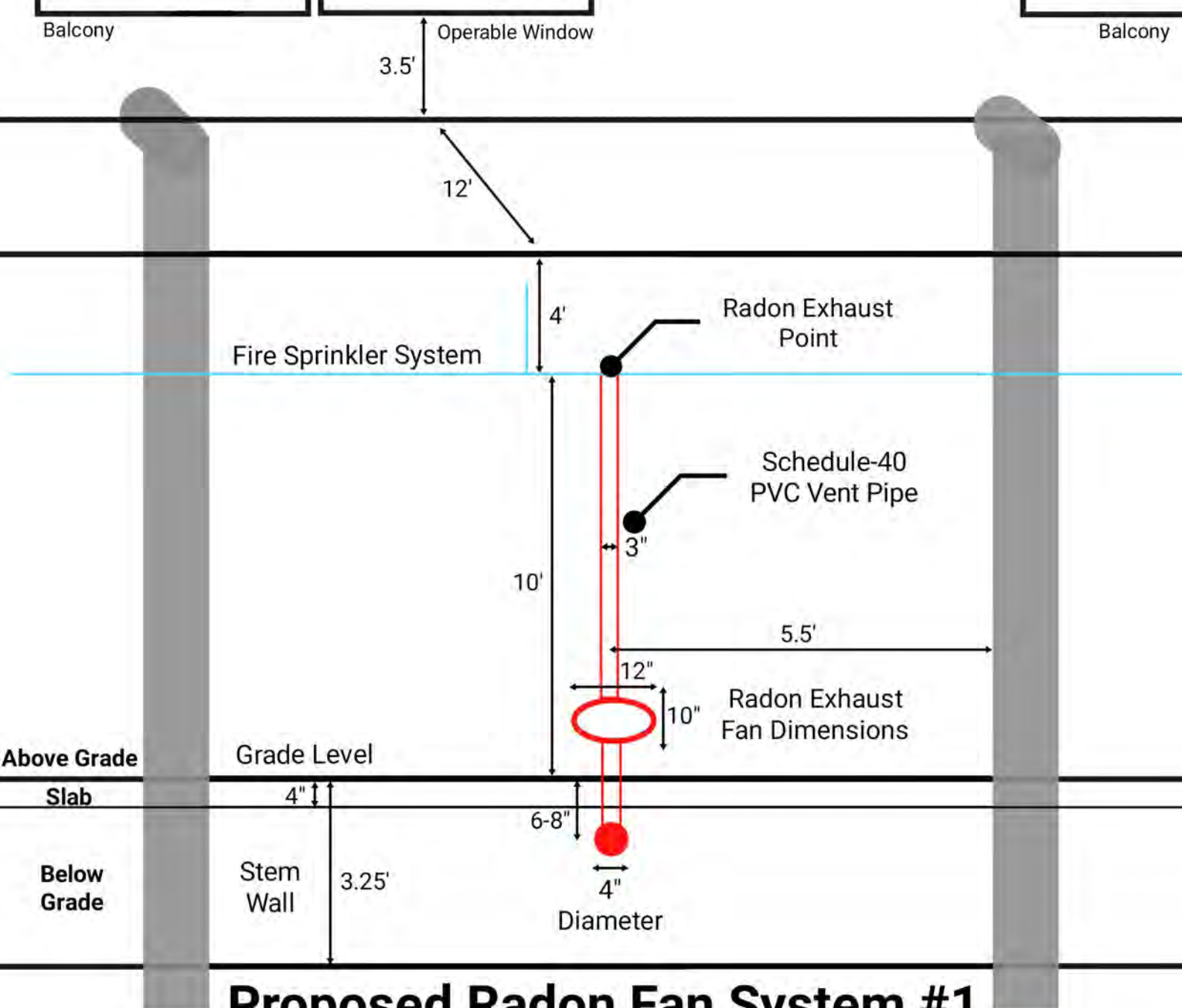
The alternative solution asks to terminate sub-soil radon gas 10 feet above grade and 10 feet of horizontal distance from all operable windows and balconies. Proposed design meets health and life safety requirements of code as radon gas diffuses to a non-harmful concentration within 10 feet of the termination point, removing the risk of radon re-entering living spaces or pedestrians being exposed. Gas will be expelled at a 90' angle away from building, removing risk of water vapor accumulation or irradiation of building materials.

APPEAL DECISION

Radon vent pipe termination: Granted as proposed.

The Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health, safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.



Proposed Radon Fan System #1

1724 SE Tenino St, Portland, OR 97202
Sellwood, Block 88, Lot 11-16, R-669090

Operable
Window

Balcony

Balcony

1'
5'
3'

12'

Proposed Radon Fan System #1

1724 SE Tenino St,
Portland, OR 97202
Sellwood, Block 88, Lot
11-16, R-669090

10'

4'

Exhaust
Point

3" Sch-40
PVC

Radon
Exhaust Fan

5.5'

Below-Grade Sub-Slab
Depressurization Suction
Point with Radon Exhaust
Fan and 10' Vent Stack

~25' to sidewalk

WORKS | JOB
DONE
RIGHT.

SELLWOOD CENTER

PROJECT ADDRESS
1724 SE TENINO ST
PORTLAND, OR 97202

LEGAL DESCRIPTION
SELLWOOD, BLOCK 88, LOT 11-16
R-669090
R-752714951 (IMPS)

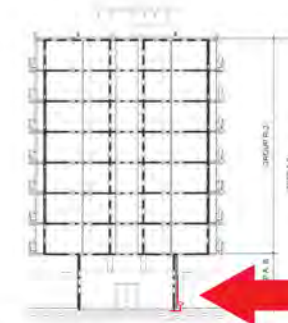
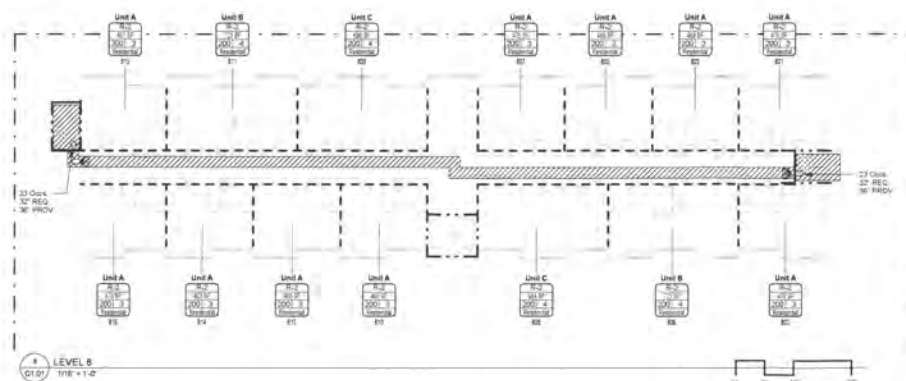
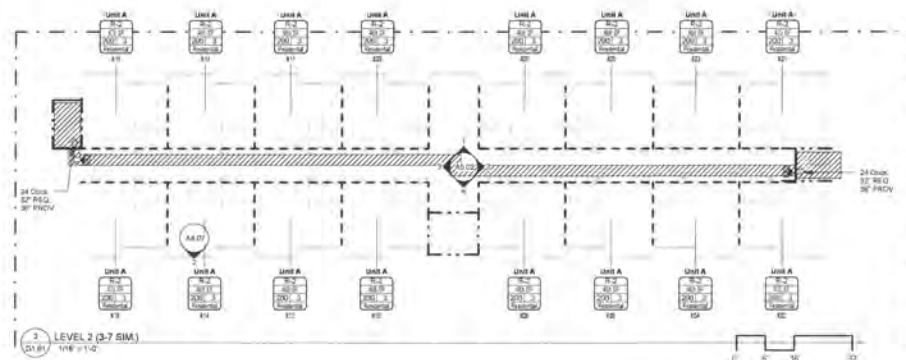
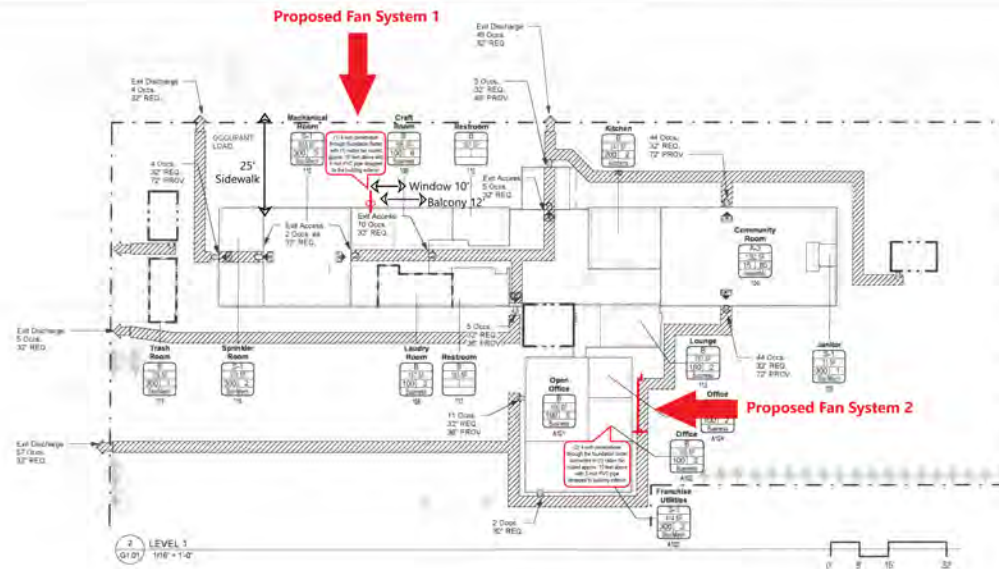
BUILDING AREA : 72,741 SQ FT
TOTAL LAND AREA : 32,500 SQ FT

Sellwood Center Radon Mitigation Project



A. 3" Sub-Grade Schedule-40 PVC radon vent pipe will penetrate through sub-grade foundation wall from exterior of the building in 3 locations to ventilate sub-soil gas from below the building. Sub-grade 3" vent pipe will connect sub-grade suction point(s) to above-grade 3" vent pipe, to be routed to one of two exterior mounted above-grade radon exhaust fans.

B. Radon Fans to be mounted on exterior of the building with 3" Schedule-40 PVC vent pipe to be routed vertically 10' above grade and 10' diagonally from operable windows and balconies. Radon gas will be exhausted to diffuse into outdoor air at these locations.



Approximate Location for Visualization Purposes

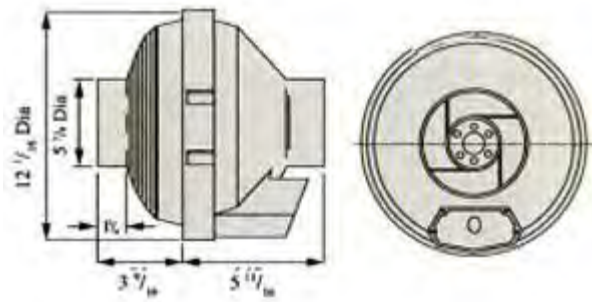
Environmental Works

Radon System Primary Components and Information

1. Festa Radon Fan (Legend)
2. Fernco Flexible Coupler (PVC pipe to Fan connection)
3. Charlotte Sch-40 DWV Cellular Core PVC Pipe
4. Charlotte Sch-40 DWV PVC Fittings
5. Oatey PVC Cement/Glue
6. Minerallac 2-Hole Strap (mounting pipe)
7. Radon Fan Cover (Optional) & Exterior Installation Examples



Festa AMG Legend



Moderate Suction/Very High Flow
 Very Large Footprint
 Porous-Semi Porous Subslab

Volts	Watts	Max. Amps	CFM at STATIC PRESSURE in. w.g.										
115V 60Hz	125	1.32	0"	0.5"	0.75"	1.0"	1.25"	1.5"	1.75"	2.0"	2.2"	2.4"	2.6"
Weight: 8 lbs 3 oz. Fan Speed: 3100 rpm			353	280	245	210	180	149	110	70	43	1	

Performance shown is for installation type

D - Ducted inlet, Ducted outlet. Speed
 (rpm) shown is nominal. Performance is
 based on actual speed of test.

Performance ratings do not include the
 effects of appurtenances in the airstream.

The performance figures shown have
 been corrected to standard air density.



Plastic Pipe and Fittings Drainage Systems
Suggested Short Form Specifications

ABS Schedule 40 Cellular Core (Foam Core) Pipe and DWV Fitting System:

Pipe and fittings shall be manufactured from ABS compound with a cell class of 42222 for pipe and 32222 for fittings as per ASTM D 3965 and conform with National Sanitation Foundation (NSF) standard 14. Pipe shall be iron pipe size (IPS) conforming to ASTM F 628. Fittings shall conform to ASTM D 2661.

All pipe and fittings to be produced by a single manufacturer and to be installed in accordance with manufacturer's recommendations and local code requirements. **WARNING!** Never test with or transport/store compressed air or gas in ABS pipe or fittings. Solvent cement shall conform to ASTM D 2235. The system to be manufactured by Charlotte Pipe and Foundry Co. and is intended for non-pressure drainage applications where the temperature will not exceed 140°F.

PVC Schedule 40 Cellular Core (Foam Core) Pipe and DWV Fitting System:

Pipe and fittings shall be manufactured from PVC compound with a cell class of 11432 per ASTM D 4396 for pipe and 12454 per ASTM D 1784 for fittings and conform with National Sanitation Foundation (NSF) standard 14. Pipe shall be iron pipe size (IPS) conforming to ASTM F 891. Injection molded fittings shall conform to ASTM D 2665. Fabricated fittings shall conform to ASTM F 1866.

All pipe and fittings to be produced by a single manufacturer and to be installed in accordance with manufacturer's recommendations and local code requirements. **WARNING!** Never test with or transport/store compressed air or gas in PVC pipe or fittings. Solvent cements shall conform to ASTM D 2564. Primer shall conform to ASTM F 656. The system to be manufactured by Charlotte Pipe and Foundry Co. and is intended for non-pressure drainage applications where the temperature will not exceed 140°F.

PVC Schedule 40 Solid Wall Pipe and DWV Fitting System:

Pipe and fittings shall be manufactured from PVC compound with a cell class of 12454 per ASTM D 1784 and conform with National Sanitation Foundation (NSF) standard 14. Pipe shall be iron pipe size (IPS) conforming to ASTM D 1785 and ASTM D 2665. Injection molded fittings shall conform to ASTM D 2665. Fabricated fittings shall conform to ASTM F 1866.

All pipe and fittings to be produced by a single manufacturer and to be installed in accordance with manufacturer's recommendations and local code requirements. **WARNING!** Never test with or transport/store compressed air or gas in PVC pipe or fittings. Solvent cements shall conform to ASTM D 2564. Primer shall conform to ASTM F 656. The system to be manufactured by Charlotte Pipe and Foundry Co. and is intended for non-pressure drainage applications where the temperature will not exceed 140°F.

SPEC-SF-PPFDS (2-10-12)

SUBMITTAL FOR CHARLOTTE PIPE®

PVC CELLULAR (FOAM CORE) PIPE AND PVC DWV FITTING SYSTEM

Date: _____

Job Name: _____ Location: _____

Engineer: _____ Contractor: _____

► Scope:

This specification covers PVC cellular (foam core) pipe and PVC DWV fittings used in sanitary drain, waste and vent (DWV), sewer, and storm drainage applications. This system is intended for use in non-pressure applications where the operating temperature will not exceed 140° F.

► Specification:

Pipe shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a cell class of 11432 as identified in ASTM D 4396. Fittings shall be manufactured from virgin rigid PVC (polyvinyl chloride) vinyl compounds with a cell class of 12454 as identified in ASTM D 1784.

PVC cellular core pipe shall be Iron Pipe Size (IPS) conforming to ASTM F 891. Injection molded PVC DWV fittings shall conform to ASTM D 2665. Fabricated PVC DWV fittings shall conform to ASTM F 1866. All systems shall utilize a separate waste and vent system. All pipe and fittings shall be manufactured in the United States. Pipe and fittings shall conform to NSF International Standard 14.

► Installation:

Installation shall comply with the latest installation instructions published by Charlotte Pipe and Foundry and shall conform to all applicable plumbing, fire, and building code requirements. Buried pipe shall be installed in accordance with ASTM D 2321 and ASTM F 1668. Solvent cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent cement conforming to ASTM D 2564. The system shall be protected from chemical agents, fire-stopping materials, thread sealant, plasticized-vinyl products or other aggressive chemical agents not compatible with PVC compounds. The system shall be hydrostatically tested after installation.

WARNING! Never test with or transport/store compressed air or gas in PVC pipe or fittings. Doing so can result in explosive failures and cause severe injury or death.

► Referenced Standards:

ASTM D 4396: Compounds for Cellular Core
 ASTM F 891: Co-extruded PVC Pipe with Cellular Core
 ASTM D 2665: PVC Drain, Waste and Vent Fittings
 ASTM D 2564: Solvent Cements for PVC Pipe and Fittings
 ASTM D 2321: Underground Installation of Thermoplastic Pipe (non-pressure applications)
 ASTM F 1668: Procedures for Buried Plastic Pipe
 ASTM F 1866: Fabricated PVC DWV Fittings
 NSF Standard 14: Plastic Piping Components and Related Materials

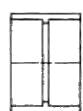


PVC Foam Core Pipe

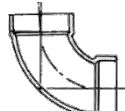
PVC Schedule 40 DWV Pipe (For Non-Pressure Applications)



PVC SCHEDULE 40 FOAM CORE (WHITE) PLAIN END				ASTM F 891		
PART NO.	NOM. SIZE	UPC # 611942-	QTY. PER SKID	AVG. OD (IN.)	MIN. WALL (IN.)	WT. PER 100 FT. (LBS.)
PVC 4112	1½" x 10'	04178	1650	1.900	0.145	32.3
PVC 4112	1½" x 20'	04177	3300	1.900	0.145	32.3
PVC 4200	2" x 10'	04174	1110	2.375	0.154	43.9
PVC 4200	2" x 20'	04173	1980	2.375	0.154	43.9
PVC 4300	3" x 10'	03934	1040	3.500	0.216	89.7
PVC 4300	3" x 20'	03935	920	3.500	0.216	89.7
PVC 4400	4" x 10'	03936	600	4.500	0.237	123.8
PVC 4400	4" x 20'	03937	1200	4.500	0.237	123.8
PVC 4600	6" x 10'	03938	280	6.625	0.280	235.0
PVC 4600	6" x 20'	03939	560	6.625	0.280	235.0
PVC 4800	8" x 20'	03941	360	8.625	0.322	371.0
PVC 4910	10" x 20'	03942	220	10.750	0.365	566.3
PVC 4912	12" x 20'	03943	120	12.750	0.406	700.0



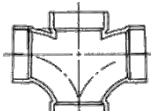
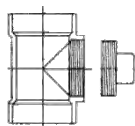
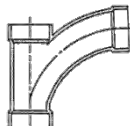
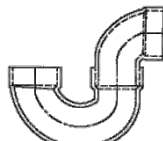
Coupling



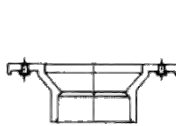
Quarter Bend



Eighth Bend


 Double
Sanitary Tee

 Cleanout Tee
w/Plug

 Combination Wye
& Eighth Bend


P-Trap



Closet Flange

Not all fitting patterns shown

Charlotte Pipe and Foundry Company • P.O. Box 35430 Charlotte, NC 28235 • (800) 438-6091 • www.charlottepipe.com

Charlotte Pipe and Charlotte Pipe and Foundry Company are registered trademarks of Charlotte Pipe and Foundry Company.



Rain-R-Shine® Medium Blue PVC Cement

Technical Specification

Description

- Medium-bodied blue cement for use on all schedules and classes of PVC pipe and fittings up to 6" diameter with interference fit.
- Lo-V.O.C. Solvent Cement meets California South Coast Air Quality Management District (SCAQMD) 1168/316A or BAAQMD Method 40 and various environmental requirements.
- Very fast-setting "Hot" cement formulated for wet conditions and/or quick pressurization and fast installation.
- Recommended for pool, irrigation, potable water, pressure pipe, conduit and DWV.
- Recommended application temperature 40°F to 110°F / 4°C to 43°C.
- No primer needed on non-pressure DWV, where local codes permit.
- Meets ASTM D2564.



Listings



NSF Standard 61 for PW,
DWV and Sewer Waste



IAPMO Listed

Maximum VOC per SCAQMD 1168/316A or BAAQMD Method 40: 510 g/L

INGREDIENTS (CAS Number)

Acetone (67-64-1), Amorphous Silica (112945-52-5), Cyclohexanone (108-94-4), Methyl Ethyl Ketone (78-93-3), PVC Resin (9002-86-2), Tetrahydrofuran (109-99-9)

MSDS Number: 1104E

<u>Product Number</u>	<u>Size</u>	<u>Qty</u>	<u>Wgt</u>	<u>Product Number</u>	<u>Size</u>	<u>Qty</u>	<u>Wgt</u>
30890	4 oz.	24	8 lbs.	308903	4 oz.	48	9 lbs.
30891	8 oz.	24	15 lbs.	308913	8 oz.	36	16 lbs.
30893	16 oz.	24	28 lbs.	908933	16 oz.	10	28 lbs.
30894	32 oz.	12	28 lbs.	308943	32 oz.	6	28 lbs.
30895	Gallon	6	50 lbs.				

Oatey Co.
4700 West 160 th St.
Cleveland, OH 44135

Phone: 1-800-321-9532
Phone: 1-800-321-9535
Visit www.oatey.com for Update





Technical Specification

Rain-R-Shine[®] Medium Blue PVC Cement

CHEMICAL PROPERTIES

Appearance	Blue Liquid
Viscosity	Min. 500 cps @73° F ± 2° F
Density	7.83 ± 0.2 lbs/gallon
Shelf Life	3 years from manufacture date

PHYSICAL PROPERTIES

Lap Shear Strength	(min. ASTM Standards)
2 hours	250 psi
16 hours	500 psi
72 hours	900 psi
Set Up Time	
30° F to 50° F	4 – 5 minutes
50° F to 70° F	3 – 4 minutes
70° F to 90° F	1 – 2 minutes

Precautions

Read all information carefully before using this product.

DANGER!: CAUSES SERIOUS EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE DROWSINESS OR DIZZINESS. MAY CAUSE RESPIRATORY IRRITATION. REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING. Long term overexposure to solvents may cause damage to the brain, nervous system, reproductive system, respiratory system, mucous membranes, liver and kidneys. Contains a chemical classified by the US EPA as a suspected possible carcinogen. KEEP OUT OF REACH OF CHILDREN.

PRECAUTIONS: Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Use explosion-proof electrical/ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear a NIOSH-approved respirator for organic solvents. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Vapors may accumulate in low places and may ignite explosively. Keep container tightly closed and cool. Wear protective gloves and eye protection. Wash thoroughly after handling. Do not eat or drink while using this product.

EMERGENCY/FIRST AID: CALL 1-877-740-5015 FOR INSTRUCTIONS.

IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth. This product may be aspirated into the lungs and cause chemical pneumonitis, a potentially fatal condition. If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention. If ON SKIN: Rinse skin with water/shower. Take off immediately all contaminated clothing. If INHALED: Remove person to fresh air and keep comfortable for breathing. Call POISON CENTER/doctor if you feel unwell. If medical advice is needed, have product container or label at hand. FIRE: Use dry chemical, foam, or carbon dioxide extinguisher. Water spray may be applied to reduce potential vapors or for cooling. Burning liquid extinguished with water will float and may re-ignite on surface of water. SPILLS: Remove all sources of ignition and ventilate area. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with absorbent material. Put absorbent material in covered, labeled metal containers. Dispose of contents/ container in accordance with local regulations. Store in a well-ventilated space. Store locked up.

Oatey Co.
4700 West 160 th St.
Cleveland, OH 44135

Phone: 1-800-321-9532
Phone: 1-800-321-9535
Visit www.oatey.com for Update





Rain-R-Shine[®] Medium Blue PVC Cement

Technical Specification

Directions for Use

Store and use at temperatures between 40°F and 110°F. At temperatures outside of this range, special care must be taken to prepare good joints and prevent exposure to solvents. Stir or shake before using; if jelly-like, don't use. Do not thin.

1. Cut pipe ends square, chamfer and clean pipe ends.
2. Check dry fit of pipe and fitting. Pipe should easily go 1/3 of the way into the fitting. If pipe bottoms, it should be snug.
3. Use a suitable applicator at least 1/2 the size of the pipe diameter. For larger size pipe systems use a natural bristle brush or roller.
4. Clean pipe and fitting with a listed primer.
5. Apply liberal coat of cement to pipe to the depth of the socket, leave no uncoated surface.
6. Apply a thin coat of cement to inside of fitting, avoid puddling of cement. Puddling can cause weakening and premature failure of pipe or fitting. Apply a second coat of cement to the pipe.
7. Assemble parts QUICKLY. Cement must be fluid. If cement surface has dried, recoat both parts.
8. Push pipe FULLY into fitting using a ¼ turning motion until pipe bottoms.
9. Hold pipe and fitting together for 30 seconds to prevent pipe push-out - longer at low temperatures. Wipe off excess.
10. Allow 15 minutes for good handling strength and 2 hours cure time at temperatures above 60°F before pressure testing up to 180 psi. Longer cure times may be required at temperatures below 60°F or with pipe above 3".

DO NOT TEST WITH AIR.

Revision Date: 3/15/2013

Oatey Co.
4700 West 160 th St.
Cleveland, OH 44135

Phone: 1-800-321-9532
Phone: 1-800-321-9535
Visit www.oatey.com for Update

Page 3 of 3



HD295**2 HOLE STRAP HEAVY DUTY**

UPC: 784610702959

Country of Origin:

USA

UNSPSC: 31162310

Commodity: Mounting straps



2-Hole straps are used to secure conduit, cable, tubing, pipe, etc. to mounting surface.

Product Attributes

Brand Name Minerallac Company

Sub Brand Minerallac Traditional

Type 2-Hole Strap

Application Electrical Conduit

Special Features Heavy-duty gauge material. Designed for use on loads too heavy to be s

Standard UL# 9N38

Material Steel

Finish Zinc Plated

Mounting Holes 2

Mounting Component, Wood, Steel, Concrete

Mounting Holes O.C. 5/8" IN

Mounting Hole Width N/A

Number Of Holes 2

Size 4.10" x 8.75" x 1.25"

Color Silver

Width 8.750"

Length 1.250"

Height 4.10"

Load Capacity N/A

Breaking Strength N/A

Working Load Limit N/A

Trade Size 3-1/2"

Thickness 0.187"

Cable Size Fits 3-1/2" EMT and Rigid/IMC .

Construction Stamped

Fastening Hole N/A

Item Status: Active

Standard Qty: 10

Minerallac Company

Tel: 800-927-3293

Fax: 800-824-8942

www.minerallac.com

Radon Fan Cover (Optional)

Radon Fan Cover



Radon Fan Cover Installation Example



Exterior Mounted Radon Fan Example



December 4, 2019

Multifamily Radon Mitigation Contract – Home Forward (Sellwood Center)

1724 SE Tenino Street
Portland, OR 97202

Environmental Works is a licensed, bonded, and insured general contractor (CCB# 185781; WA# ENVIRWN906CS) and is certified by AARST-NRPP (American Association of Radon Scientists and Technologists- National Radon Proficiency Program #107077 RMT) as a radon measurement and mitigation trained contractor. The following scope of work is to install active radon mitigation system(s) to reduce average long term radon levels to below the EPA action level of 4.0 pCi/L.

Scope of Services (Sub-Slab Systems Installation):

1. EW is proposing to install 2 radon fans with 3 points of suction along the exterior foundation walls of the structure.
2. One suction point will penetrate the foundation footer near the RSC Manager Office on the north facing side of the building with the Radon Fan mounted on the exterior and vent pipe routing approximately 10' above ground level (pending Variance Approval from city)
3. A second suction point will penetrate the foundation footer near the Lunch Room on the south facing side of the building connected to a third suction point near the Manager Office & Lunch Room on the east facing side of foundation wall with the Radon Fan mounted on the exterior and vent pipe routing up to above the roofline.
4. EW to provide electrical wiring to radon exhaust fan(s).
5. System includes system labeling, a u-tube manometer for monitoring proper system function, and screened vent end.
6. The system cost includes post mitigation testing as outlined below.
7. The system cost excludes screening, fencing, landscaping, painting, or any additional costs/permits above what is necessary for our system to effectively operate.

Sub-Slab Depressurization:

1. Large cracks in the slab will be sealed if necessary, with a polyurethane caulk (if accessible without removing finishes, unless otherwise noted)
2. One 5" hole will be core drilled in the concrete floor. Approximately 8-10 gallons of substrate will be removed to form a suction pit.
3. A 3/8" hole/s will be drilled at outer perimeter of slab to perform soil gas pressure extension testing. Suction will be applied to suction pit, and pressure gradient measured at test hole/s using a micro-manometer to determine proper system sizing and design. Test holes will be sealed upon completion.
4. If pressure extension is not achieved with one suction point, Environmental Works may install a larger fan or an additional suction point at our discretion (with Client approval). Suction points will be tied to one main suction "stack" and radon fan when possible.
5. 3" schedule 40 PVC vent piping will be sealed to suction pit with hydraulic cement and routed to either an exterior or attic mounted radon fan as described in the "Scope of Work"
6. The pipe will have a radon system label on each floor per code.
7. **Radon Fan:** A continuous AMG® (Energy Star™ rated when possible) radon exhaust fan will be mounted in the attic space. AMG® fans are **MADE IN THE U.S.A.** with the industries best customer service and warranty. Fan will be wired by builder/client's electrician, to a code compliant switch or disconnect depending on jurisdictional codes.

System Design and Permitting:

1. EW must acquire a Variance Permit from the City of Portland to build the system as planned without routing the vent pipe to above the roof line. A Contract Change Order will be written if this permit is not approved.
2. EW must acquire a Mechanical Permit and Land Use Survey from Multnomah County.
3. EW will require consultation with third-parties from Structural-Civil Engineers (WDY, Inc.)
4. EW will require consultation with third-parties for Subsurface Clearance Survey – Rebar Location services (GeoPotential).
5. EW will wire & install electrical components necessary to power the radon fans.
6. The aforementioned services and pricing below are based on initial estimates and are subject to change pending the actual services rendered.

Post Mitigation Radon Testing:

1. EW will test each area which tested above 4.0 pCi/L of radon in the previous test report with 3 CRM tests and/or AC test kits if requested (AC kits & testing protocol pricing not included).
2. Environmental Works will make system changes at our discretion until a long term Alpha Track test is provided by Client. Long term testing may be provided by Environmental Works under a written change order or completed independently by a certified radon professional. Future testing is not covered in this scope of work.

Lifetime System Performance Guarantee:

1. Environmental Works guarantees that its “Active” system will maintain average long term radon levels below 4.0 pCi/L for a Lifetime*, based upon long term radon testing (91 days to 1 year) and subject to the Terms and Conditions of this agreement.
2. For “Active Systems” the Client must perform a long term Alpha-Track test by a certified radon professional, and provide Environmental Works with the results. **Client may also have Eworks provide long term testing under a written change order.** If average radon concentrations exceed 4.0 pCi/L, Environmental Works will make system modifications as described above to reduce radon levels to below the EPA action level, as previously noted in the scope of work. Additional active fan systems are not included in this contract.
3. Environmental Works will replace defective mechanical or electrical components of the system up to 10 years after system installation, and beginning at the time of system activation. (Radon fans covered under manufacturer's 5 year warranty).
4. **AMG® Radon Fans** hold a full manufacturers replacement warranty of 5 years, and Environmental Works will replace the fan at no additional charge during the guarantee period of 5 years. AMG® fans are **MADE IN THE U.S.A.** with the industries best customer service and warranty.
5. ***All guarantees and warranties are transferrable to future owners of the same property.***



Project Cost:

Sub-Slab System	\$5,175
Structural-Civil Engineer Services	\$1,200
Electrical Install	\$1,025
Mechanical & Land Use Permits	\$835
Variance Permit	\$454
Subsurface Mapping Survey	\$450
*Each Additional Suction Point (if needed)	\$1,175
*Each Additional System (fan + suction point)	\$2,800

Total Cost: \$ 9,139



Multifamily Radon Mitigation Contract – Home Forward (Sellwood Center)
1724 SE Tenino Street
Portland, OR 97202

If the above referenced property is not owned by the Client, the client represents and warrants that all necessary permissions for Environmental Works to enter onto the site to perform the scope of work detailed in this contract and agreements have been obtained from the property owner. Client shall defend and indemnify Environmental Works against any claims arising out of lack of authority.

By signing below, Client has read and agrees to the Terms and Conditions of this agreement and is hereby signing the provided Oregon CCB notices: Consumer Protection Notice (ORS 701.330(1)), Notice of Procedure (ORS 701.330(2)), Information Notice to Owner About Construction Liens (ORS 87.093) and for Washington Residents: the Model Disclosure Statement Notice to Customer. Environmental Works is authorized to furnish material and labor outlined in the above scope of work and payment will be made as described below. The prices and terms of this proposal may be withdrawn by Environmental Works if not accepted within thirty (30) days of the date of this proposal.

Owner/Client Signature

Date

Printed Name

Billing Address

Phone

City, State, Zip Code

Email

Terms and Conditions

This agreement ("Agreement") is effective on the date set forth on the reverse hereof, by and between Environmental Works LLC, 2634 SE Steele St., Portland, OR 97202, 503-719-6715, Oregon Construction Contractors Board #185781; WA #ENVIRWN906CS; Federal ID #26-2907944 and as well as with its subsidiaries, if any; (all of whom are hereinafter "Contractor"), and when it does business under any assumed business name, and the party named on the reverse hereof (hereinafter "Customer" or "Client"). These parties agree as follows.

1. Payment is due in full at the time services are completed. A late charge of 1.5% monthly (18% APR) will be applied to all past due accounts. This is a fixed cost bid based upon the scope of work described herein. Any additional labor above and beyond that specified in the contract (change orders) will be agreed upon in writing. Change orders may be fixed bid or will be billed at \$65/hour per worker. Materials will be billed at cost plus 15% (to source and deliver to jobsite). Change orders requiring a subcontractor will be billed at the subcontractors rate, plus 20% for general contracting, scheduling, and managing subcontractors. Any applicable state sales tax will be invoiced in addition to contract



Multifamily Radon Mitigation Contract – Home Forward (Sellwood Center)
1724 SE Tenino Street
Portland, OR 97202

- estimate. In the event that a lien is filed, the Client will be responsible for all lien filing fees, all lawyer/legal fees, a \$500.00 lien processing fee, and any additional fees incurred.
2. This system does not address radon levels generated from out-gassing of well water or building materials. These rare circumstances may require further mitigation, not covered under this agreement. This agreement and system guarantee assumes that radon concentrations are less than 100 pCi/L.
 3. Construction plans, engineering, floor and/or wall covering finishes and repairs, landscaping repairs, finish painting, and removal of previous debris or personal items in construction area are not covered under this agreement and must be completed by others unless otherwise noted.
 4. Radon Fans are 120V continuous inline duct fans, designed for interior and exterior applications. Fans are very quiet but will produce some noise, similar to other standard HVAC systems. Unless otherwise noted, no additional sound reduction methods are included in this contract.
 5. Client will provide to Environmental Works all previous radon test results.
 6. Client agrees to keep all testing equipment safe from theft, harm, and tampering. And agrees to be responsible for the security of test equipment. If equipment is damaged, lost or stolen, agrees to pay for repair or replacement in full
 7. Client agrees to make work area accessible to Environmental Works staff
 8. Client is responsible for future performance testing, and will contact Environmental Works upon system failure, damage, or alteration.
 9. Environmental Works LLC is held harmless for the responsibility of notification regarding radon levels and mitigation systems in respect to any future Owner.
 10. Client agrees to release, indemnify, and hold harmless Environmental Works and its employees for any health related effects or injury due to the presence of radon in the home.
 11. Environmental Works may discontinue system installation if payment is not received according to payment terms and schedule, until payments are made current.
 12. Any alterations or additions performed on the home after said mitigation is completed may void the guarantee and warranty if the changes compromise system performance or add new area to the home. Environmental Works must complete any needed system modifications to maintain system guarantee.
 13. The following conditions may affect or compromise system performance, and may not be covered under the system guarantee and warranty:
 - a. Whole Home fans operating without proper fresh air return
 - b. Sub-surface ground water and/or flooding. Client is responsible for sub-surface water removal systems (sub-slab drainage, sump pits and pumps, drain tile, etc.) when necessary. Client must turn radon system off during periods of high groundwater or when sump system is running frequently, to prevent system failure.
 - c. Damage to system components by others or clogging of exhaust or suction vent pipe.
 - d. Any post mitigation changes to foundation or slab due to settling or movement.
 - e. Loss of electrical power.
 14. Environmental Works may make penetrations through siding on exterior systems, and will not be held responsible for potential void of siding warranties.
 15. Environmental Works is not responsible for any changes to the HVAC system "make-up" air for combustion appliances. Client is responsible for any changes to HVAC system due to inadequate "make-up" air.
 16. **INDEMNITY.** To the fullest extent permitted by law, the Client, Owner and Prime Contractor ("Client") shall defend, indemnify and hold harmless Environmental Works LLC, its agents, representatives or employees, from all claims for bodily injury and property damage, other than to the Client's work itself, including reasonable attorneys' fees, costs, and expenses, that may arise from the performance of Client's work, but only to the extent caused by the fault of the Client, or others retained by the Client, or its agents, representatives or subcontractors.
 17. **LIMITATION OF LIABILITY.** Other than the remedy set forth in this paragraph, Customer agrees that no damages, direct, consequential, incidental, or other damages or remedies of any kind arising by reason or of related to this Agreement or the Work whether arising out of contract,




Multifamily Radon Mitigation Contract – Home Forward (Sellwood Center)
1724 SE Tenino Street
Portland, OR 97202

warranty, later or non-delivery, negligence, strict liability, or tort shall now or any time in the future be recoverable from Contractor or any of its agents. Customer's rights, now existing or arising at any time in the future, to recover such damages is hereby full, finally, irrevocably and unconditionally waived, released and discharged. Notice of nonconforming Work shall be made within 48 hours of performance or furnishing. Customer's sole and exclusive remedy shall be replacement of the nonconforming Work, or refund of Customer's payment related to the defective Work at Contractor's sole option.

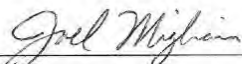


Oregon Residents (CCB Notices):

	<h2>Consumer Protection Notice</h2> <h3>Actions to Take When Hiring a Contractor</h3> <p>(ORS 701.330 (1))</p>
<p>Oregon law requires contractors to provide the homeowner with this notice at the time of contract, for work on a residential structure. This notice explains licensing standards, bond and insurance requirements, and steps that consumers can take to help their construction project run smoothly.</p>	
<p>TAKE ACTION TO HELP MAKE YOUR PROJECT SUCCESSFUL</p>	
<ol style="list-style-type: none">1. Make sure your contractor is properly licensed before you sign a contract. Visit www.oregon.gov/ccb, and click on the link, Check on a Contractor's License, or call our offices at 503-378-4621. To be licensed in Oregon, contractors must take training and pass a test on business practices and law. Licensing is not a guarantee of the contractor's work.<ul style="list-style-type: none">• A license also requires the contractor to have a surety bond and liability insurance - Depending on the license endorsement or category, the CCB surety bond provides from \$5,000 to \$20,000 coverage if the contractor is ordered to pay damages in contract disputes. Insurance coverage provides from \$100,000 to \$500,000 in general liability for property damage and bodily injury caused by the contractor.• If your contractor is not licensed - the CCB bond and dispute resolution services will not be available to you.2. What you should know about bids, contracts, and change orders: GET IT IN WRITING! Always get bids, the contract, and any changes to the contract in writing. Make sure the contractor name, CCB number, and contact information are included on any written documents related to your project.<ul style="list-style-type: none">• Bids - <i>Do not automatically accept the lowest bid</i> - A low bid may make it necessary for the contractor to use lower quality materials and to cut corners in workmanship.• Contracts and Change Orders - <i>Always get it in writing</i>. Your contractor is required to provide a written contract if the contract price is more than \$2000. The CCB recommends that all contracts be in writing.• Make sure the contractor's name, CCB number, and contact information is included in the contract.• For your protection - <i>Contracts should be as detailed as possible</i>. Some items to include are materials and costs, permits, estimated start and completion dates, debris removal, and arbitration clauses.• Read and understand your contract before signing it - Don't be pressured into signing your contract without taking the time needed to go through it. Make sure it includes enough details to avoid misunderstandings and to protect you and your property.3. Additional contract information you should know:<ul style="list-style-type: none">• A Payment Schedule - should be included in the contract. Stick to the schedule and never pay in full for a project before the work is complete.• Special Note on Liens - Subcontractors and material suppliers that work on your project are often paid by the general contractor. If a general contractor fails to pay, the subcontractor may file a lien on your property. For information on construction liens, visit the CCB's Consumer Help Page at www.oregon.gov/ccb, or contact an attorney.• Warranty on new residential construction - Contractors must make an offer of a warranty when constructing a new residential structure. Consumers may accept or refuse the warranty.4. If you should have a problem with your contractor - You can file a complaint with the CCB against a licensed contractor within one year of the substantial completion of work on your project. Contact the CCB office at 503-378-4621 for help.	

CONTRACTOR: CCB#: 185781

PROPERTY OWNER:



Signature

Date

Signature

Date



	Notice of Procedure Regarding Residential Construction Arbitrations and Lawsuits (ORS 701.330 (2))
<p>Oregon law contains important requirements that homeowners must follow before starting an arbitration or court action against any contractor, subcontractor, or supplier (materials or equipment) for construction defects.</p> <p>Before you start an arbitration or court action, you must do the following:</p> <ol style="list-style-type: none">1. Deliver a written notice of any conditions that you believe are defective to the contractor, subcontractor, or supplier that you believe is responsible for the alleged defect.2. Allow the contractor, subcontractor, supplier, or its agent, to visually inspect the possible defects and also allow the contractor, subcontractor, or supplier to do reasonable testing.3. Provide the contractor, subcontractor, supplier, or its agent, the opportunity to make an offer to repair or pay for the defects. You are not obligated to accept any offer made. <p>There are strict procedures and deadlines that must be followed under Oregon law. Failure to follow those procedures or meet those deadlines will affect your right to start an arbitration or court action.</p> <p>You should contact an attorney for information on the procedures and deadlines required under Oregon law.</p>	
Your contractor is supplying this notice to you as required by Oregon law.	

CONTRACTOR: CCB# 185781

HOMEOWNER:


ENVIRONMENTAL WORKS, LLC
Print Contractor Name (as it appears on contract)

Print Homeowner Name (as it appears on contract)

Joel Myhr
Signature of Authorized Representative Date

Signature Date





Information Notice To Owner About Construction Liens

(ORS 87.093)

This is not a lien. Your contractor is required by law to provide this notice to inform you about construction lien laws. This notice explains the construction lien law, and gives steps you can take to protect your property from a valid lien. As an owner, you should read this information notice carefully. This information notice is required to be given if you contract for residential construction or remodeling, if you are buying a new home, or at any time the contract price exceeds \$1,000.

- Under Oregon law, your contractor and others who provide labor, materials, equipment, or services to your project may be able to claim payment from your property if they have not been paid. That claim is called a Construction Lien.
- If your contractor does not pay subcontractors, employees, rental equipment dealers, materials suppliers, or does not make other legally required payments, those who are owed money may place a lien against your property for payment. **It is in your best interest to verify that all bills related to your contract are paid, even if you have paid your contractor in full.**
- If you occupy or will occupy your home, persons who supply materials, labor, equipment, or services ordered by your contractor are permitted by law to file a lien against your property only if they have sent you a timely Notice of Right to Lien (which is different from this Information Notice), before or during construction. If you enter into a contract to buy a newly-built, partially-built, or newly-remodeled home, a lien may be claimed even though you have not received a Notice of Right to a Lien. If you do not occupy the building, a Notice of Right to Lien is not required prior to filing a lien.

This notice is not intended to be a complete analysis of the law. You should consult an attorney for more information.

Common Questions and Answers About Construction Liens

Can someone record a construction lien even if I pay my contractor? Yes. Anyone who has not been paid for labor, material, equipment, or services on your project and has provided you with a valid Notice of Right to Lien has the right to record a construction lien.

What is a Notice of Right to Lien? A Notice of a Right to Lien is sent to you by persons who have provided labor, materials, or equipment to your construction project. It protects their construction lien rights against your property.

What should I do when I receive a Notice of Right to Lien? Don't ignore it. Find out what arrangements your contractor has made to pay the sender of the Notice of Right to Lien.

When do construction liens need to be recorded? In Oregon, construction liens generally need to be recorded within 75 days from the date the project was substantially completed, or 75 days from the date that the lien claimant stopped providing labor, material, equipment, or services, whichever happened first. To enforce a lien, the lien holder must file a lawsuit in a proper court within 120 days of the date the lien was filed.

Note to Contractor: This notice must be delivered personally, or mailed by registered mail, certified mail, or by first-class mail with a certificate of mailing. Ask the signing parties to provide you with an original or copy to retain in your files. You should retain proof of delivery of this notice for at least two years.

(over)

Steps That Consumers Can Take to Protect Themselves

- **Contact the Construction Contractors Board (CCB) and confirm that your contractor is licensed.** The law requires all construction contractors to be licensed with the CCB. Check a contractor's license online at the CCB consumer website: www.hirelicensedcontractor.com, or call 503-378-4621.
- **Review the Consumer Protection Notice (ORS 701.330(1)),** which your contractor must provide to you at the time of contract on a residential structure.
- **Consider using the services of an escrow agent** to protect your interests. Consult your attorney to find out whether your escrow agent will protect you against liens when making payments.
- **Contact a title company about obtaining a title policy** that will protect you from construction lien claims.
- **Find out what precautions, if any, will be taken** by your contractor, lending institution, and architect to protect your project from construction liens.
- **Ask the contractor to get lien waivers or lien releases** from every subcontractor, materials provider, equipment provider, and anyone else the contractor is responsible for paying. Do this before you give your contractor a progress payment.
- **Have a written contract with your contractor.** A written contract is required for projects greater than \$2,000. An original contractor that fails to provide a written contract as required by law, may not place a construction lien against the owner's property.
- **If you receive a Notice of Right to Lien, ask for a statement of the reasonable value of the materials, labor, equipment, or services** provided to your project from everyone who sends you a Notice of Right to Lien. If the information is not provided in a timely manner, the sender of the Notice of Right to Lien may still be able to file a construction lien, but will not be entitled to attorney fees.
- **When you pay your contractor, write checks made jointly payable to the contractor, subcontractors, materials, equipment, or services providers.** The checks name both the contractor and the subcontractor, materials or equipment provider. The checks can only be cashed if both the contractor and the subcontractor, materials or equipment provider endorses it. This ensures that the subcontractor and other providers will be paid by your contractor, and can eliminate the risk of a lien on your property.
- **Should you have a dispute with your contractor,** you may be able to file a complaint with the CCB and be reimbursed in whole or in part from the contractor's bond. For more details about help available through the agency, write to the CCB at PO Box 14140, Salem, OR 97309-5052 or call 503-378-4621.
- **Consult an attorney.** If you do not have an attorney, consider contacting the Oregon State Bar Referral Service at 503-684-3763 or 1-800-452-7636.

Signing this Information Notice verifies only that you have received it. Your signature does not give your contractor or those who provide material, labor, equipment, or services, any additional rights to place a lien on your property.

Job Site Address: _____

CONTRACTOR: CCB# 185781

PROPERTY OWNER: _____

ENVIRONMENTAL WORKS, LLC
Print Name (as it appears on contract)

Print Name (as it appears on contract)

Joel Meyer
Signature Date: _____

Signature Date: _____

