

Owner's Guide for Ductless Installation at Lincoln School

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Important Contacts:

- LSC Ductless inspector contact info: Zach Erdmann at Premium Efficiency 541-343-0699, zach@premiumefficiency.com website: www.premiumefficiency.com
- Access to building and contractor approval status (insert BMC contact)
- Scheduling for initial walk through for contractor approval: Brian Bailey, bb17660@yahoo.com

Currently Approved Contractors:

- Alpine Heating & Air Conditioning; Tara Husbands, Install coordinator, 541-688-0426 Eugene, alpineheatingandair@yahoo.com, website: <https://alpineheating.org/>,
- Associated Heating & Air Conditioning; Amanda Gast, (541)683-2590, Amanda@associatedheating.com, website: <https://associatedheating.com/>

Important Related Documents:

- **Ductless Installation Guide.** Document intended as a guide for HVAC contractors on how to install a ductless system at Lincoln School, make use of dedicated infrastructure for condensate, vertical chases, reserved locations for compressors, etc.
- **Easement Agreement** – HVAC Installation. A waiver form for owners to sign and notarize in order to obtain easement rights for routing tubing, making necessary holes and being responsible for any damage done to the building.

1 Audience and Purpose of this document

The intended audience of this document is the unit owners of Lincoln School that are contemplating installing a ductless HVAC to provide efficient heating and cooling of their unit. There are particular, specific requirements that an LSCOA approved contractor must perform to preserve integrity of the building and utilize the dedicated infrastructure we have provided specifically for ductless systems.

A companion document, Ductless Installation Guide, is intended for HVAC contractors.

2 Approved Contractors

Only contractors approved by the LSCOA will be permitted to install a split-system at Lincoln School. BMC can provide you a list of approved contractors. Alternatively, you may ask a desired contractor to become approved. Have them read the Ductless Installation Guide for more information.

Given the particular challenges of installing a ductless system at Lincoln School, only bids from contractors that have received approval should be considered valid.

3 Procedure overview

Once you have obtained bids from an approved contractor(s), you will need to make a purchase decision and likely sign a contractual commitment to that contractor.

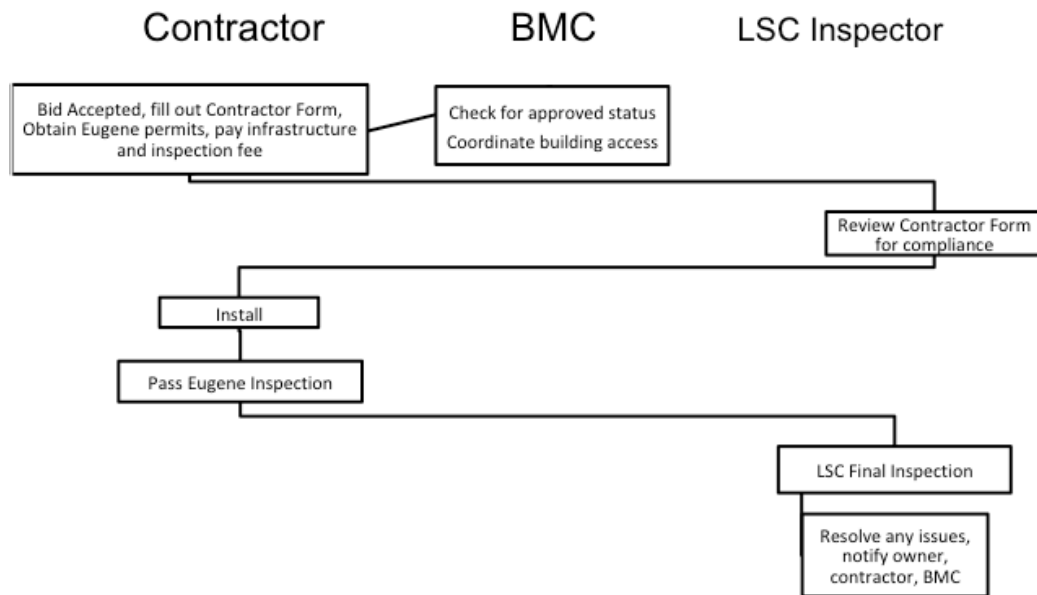
1. **Obtain Bids** - Obtain bid(s) from LSC approved contractors (or provide contractor with the Ductless Installation Guide which contains information on how the contractor can become approved). Each contractor should make a site visit to determine the particulars for your condo.
2. **Make your decision** - Make a purchase decision, including the contractual commitment between you and the chosen contractor.
3. **Sign the waiver form** - Contact the LSC property manager (BMI) with a signed and notarized "Easement Agreement - HVAC Installation". This waiver basically gives you the right to make the necessary holes in the walls for routing the tubing and mounting the compressor on the roof, but also makes you responsible for any damage your equipment causes. It also makes you responsible for your contractor following the rules and guidelines in the Ductless Installation Guide.
4. **Installation Scheduling** - Your contractor must arrange access to your condo, as well as arranging access to other parts of the building through the property manager (BMI).
5. **Post Installation Inspection and Maintenance checklist.** There are several items that are important for ensuring your installation will not create headaches for you and others. A list is provided later in this document

Once you have chosen a contractor and entered into an agreement, the contractor is able to move forward. Below is what an overview of the contractor's duties:

1. Contractor provides a filled out 'Contractor Form' to LSC's property manager along with payment for Infrastructure fee.
2. Contractor provides same Contractor Form to LSC's Ductless Inspector along with payment for LSCOA inspection. Any issues discovered by the inspector's review of this form must be resolved.
3. Contractor obtains necessary mechanical and electrical permits from city of Eugene.
4. Contractor installs, with building access coordinated with LSC property manager, then passes final inspection from City of Eugene, then coordinates with LSC Ductless inspector for post-install inspection

5. LSC Ductless inspector does walkthrough inspection with contractor. Contractor to provide proof of passed city and mechanical inspections, LSC Ductless inspector and Contractor coordinate remedies if any needed.
6. LSC Ductless inspector provides final approval Notifies owner, contractor, board & BMC of “final pass”.

Installation Procedure Overview



3.1 Bidding requirements

For transparency, all bids received by a prospective unit owner should include:

- A line item for the Lincoln School infrastructure fee. This fee is a pass through and is paid by the contractor on the owner’s behalf to LSCOA through the property manager (BMI).
- A line item for the additional inspection and fee required by LSCOA. This fee is a pass through and is paid by the contractor on the owner’s behalf to the inspection company.

See the Fees section below for additional explanation.

3.2 Rebates and Tax Incentives

There is a confusing array of incentives out there for ductless systems from the state of Oregon, your utility provider (EWEB in our case) as well as manufacturers. Your contractor is your best guide and paperwork advocate for pursuing these, and they usually require a qualified contractor’s involvement. It’s the contractor’s business to know, and they’re happy to ensure you get as much as possible. But don’t get your hopes up too much. As of this writing, the Oregon Dept. of Energy tax credits went away and EWEB doesn’t consider condominiums with shared walls to qualify for their rebate. That leaves

manufacturer rebates, but always ask your contractor because funding and requirements for these breaks are always changing.

4 Fees

You should see in the contractor bids, some extra fees specifically associated with Lincoln School. These are an Infrastructure Fee and LSC Inspection Fee.

4.1 Infrastructure

The first is intended to repay the owner's association for a portion of the infrastructure and engineering costs that were incurred as part of making your installation feasible at Lincoln School. At the time of this writing, it is set to: \$200 This fee should be paid as a pass-through by the Contractor to BMC, *but is ultimately the responsibility of the owner.*

4.2 Inspection

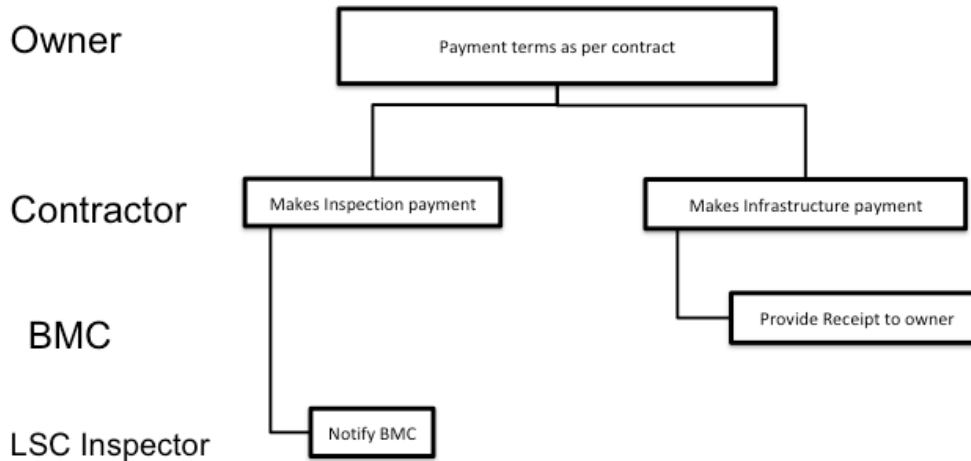
The second is a fee associated with pre and post technical inspection of the installation to ensure the contractor installation meets these guidelines and will do no harm to the Lincoln School building. This fee should be paid indirectly as a pass through from the contractor to the board-designated inspection firm. At the time of this writing, the fees set by the designated Inspector are as follows:

- Pre and Post inspection fees, including report with photos is: \$175.
- If a problem/non-compliance is found with contractor's install and can be verified (e.g. photo) easily without a visit, there will be no extra charge.
- If a site visit to re-inspect is necessary, a fee of \$125/hr. will be charged.

All inspection fees are ultimately the responsibility of the owner. In the case of re-inspection, we suggest the owner attempt recouping fees associated with non-compliance to this guide from the contractor.

If the non-compliance issues are not addressed in a timely fashion, the Board maintains the right to have the problem remedied. Costs associated with bringing the installation into compliance will be passed to the owner.

LSC Infrastructure and Inspection Fees



5 Building Access

You will be responsible for providing the contractor access to your unit, while the LSC property manager (BMC) will be responsible for providing the contractor access to other parts of the building, including the roof.

6 Useful checklists

6.1 Post Installation

So your unit is installed and up and running....Yay! Comfortable temperatures with very little noise lie ahead! Here are a few items to check up on to ensure all went well:

1. **Inspection Report** To ensure all was done correctly, every installation receives an inspection by an LSC endorsed inspector. You have paid for this inspection and it's worth a brief read to ensure your contractor did what was expected. Your contractor, or the LSC Inspector named in the Ductless Installation Guide should provide you with this inspection report.
2. **Fees paid?** There are two fees, one for infrastructure reimbursing the LSCOA for creating the necessary infrastructure to support ductless installations. The other is to pay the inspector mentioned above. Both fees are to be paid through your contractor, but if they didn't you are liable. Did they pay the fees?
3. **Easement Waiver form?** Does the LSC property manager (BMC) have your signed and notarized "Easement Access - HVAC installation"

6.2 Maintenance

So maybe you don't like reading the manuals that came with your new installation, but here are two simple things to keep an eye on that will save you loads of headaches later:

1. **Check for Drips:** If you see drips of water on the wall anywhere near your inside unit, ***call your contractor immediately***. Far and away, the most important item to keep an eye on is making sure the water droplets that are normally created by your indoor unit during cooling operation isn't being dripped down the wall, on the outside or inside the wall. Left unchecked, over time this can create a bit of a disaster, including mold, drywall damage to your apartment and potentially others.... And you would be responsible! So keep an eye for drops underneath or paint lifting, or softness in the drywall.
2. **Clean the filter:** It's a simple thing, but is amazingly helpful in eliminating a variety of problems. Usually once every three months, you can remove the filter, run it under the faucet to clean and replace. Very simple. Suggestion: If you're having a problem, check that the filter is clean before making a service call.

7 Wonkish: The challenges at LSC

There are a few areas of challenge making ductless installations more difficult at Lincoln School than a typical single family home. These can lead to additional costs that your approved contractor will be aware of if they have read the Ductless Installation Guide and done a site inspection. They are:

- Units with a lot of single pane glass are remarkably inefficient and lose a LOT of energy. This increases the size/capacity of the unit required to heat/cool your unit.
- If your unit is on the first floor, the distance between your indoor evaporator unit and the outside compressor on the roof is longer than typical systems allow. There are systems that support a longer distance but they cost more. Same goes for the electrical connections, the longer the distance, the more the cost.
- If you are on the second floor, the issue is the water condensate that your interior unit generates during cooling. Water flows downhill, but for the 2nd floor, one must use a small pump to push the water into the attic where there is a shared condensate drain installed that eventually goes down to the crawlspace. There is a small additional cost for the pump, but the issue is often maintenance. The small pumps or the tubing can become clogged leading to water dripping down the wall and requiring a visit from a technician to clear it out.
- The compressor units must all be mounted on the roof to keep them out of sight, but roof access is quite limited in terms of space. More often than not, this requires a crane or lift to get the compressor unit onto the roof.
- In order to deal with condensate from the indoor units it was necessary to build a shared condensate drain infrastructure in both the attic for the 2nd story units and the crawlspace for the 1st floor units.
- For some of the 1st floor units it was necessary to create or improve a chase (vertical path) from the crawlspace to the roof. This was part of the

infrastructure cost so that no unit would be left out of the possibility of installing a ductless system.

- 1st floor installations require technicians to spend a good deal of time running tubing and electrical through the crawlspace and the vertical chases. The 2nd floor installations require a good deal of routing work in the attic space.