

HVAC Committee First Information Meeting January 14 2025

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- The HVAC committee was organized after the 2024 annual meeting to help the community to address and improve some of the problems residents are experiencing with heat pumps
- Our goals are to:
 1. Work with vendors and Barkan to establish a standard maintenance procedure which is focused on preventing problems with flooding and extending the life of our heat pumps
 2. Establish a process for top-down maintenance for each heat pump stack
 3. Work with vendors to establish the lowest cost-effective service
 4. Understand and strengthen the interface of common infrastructure maintenance and individual owner maintenance
 5. Explore options to address sediment/sludge issues
- We commissioned a survey of owners and renters and will be presenting the results in tonight's meeting
- As an early step we have researched two potential causes of flooding and the problems experienced in Forbes and Park Mill during spring changeover from heating to cooling
- The primary purpose of this evening's meeting is to share our findings with you and explain how you can avoid costly replacement costs and, at the same time, avoid causing flooding problems for yourselves and for your neighbors

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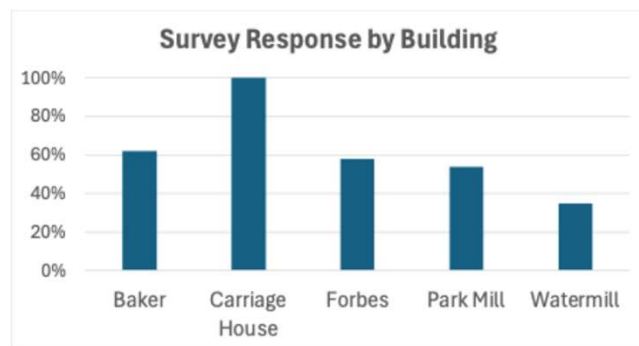
Survey Results

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Survey Response

103 owners and 2 renters responded representing approximately 60% of the community

Building	Response Rate
Baker	62%
Carriage House	100%
Forbes	58%
Park Mill	54%
Watermill	35%

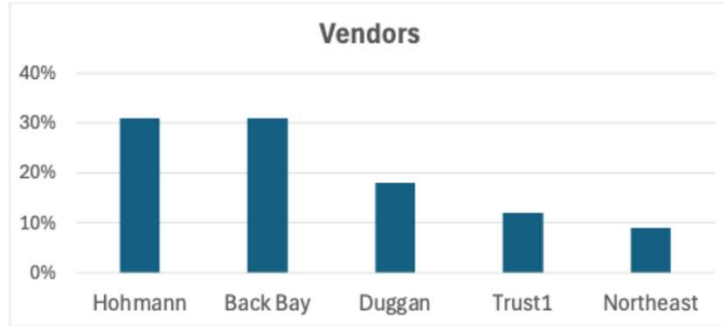


While this is a good response, it only reflects the views of 60% of the owners

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Vendors

Vendors	
Hohmann	31%
Back Bay	31%
Duggan	18%
Trust1	12%
Northeast	9%

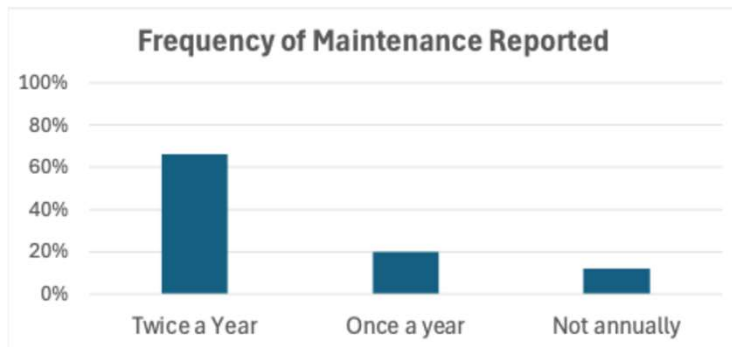


- A. Hohmann and Back Bay Mechanical have offered group discounts and have shown a willingness to work with the community
- Only 13% of respondents were somewhat dissatisfied or dissatisfied with their service

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Frequency of Maintenance Reported

Twice a Year	66%
Once a year	20%
Not annually	12%



Those performing maintenance once a year choose springtime

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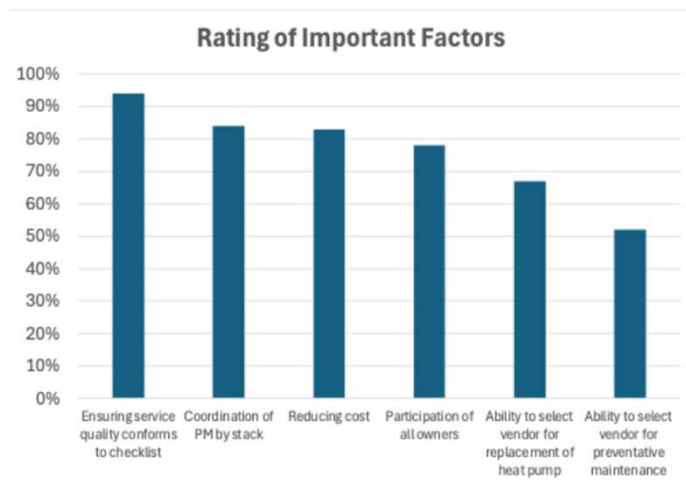
Disruptive and Costly Problems

- 26 residents representing 25% of respondents reported experiencing a significant event that caused damage, costly repairs, and/or disruption in pump operation.
- Common issues include:
 - Flooding from above
 - Debris in drain causing water from below to back up
 - Sediment or sludge blocking and clogging pipes
 - Overflow of drip pan despite recent preventative maintenance
 - Air in pipes
- Many owners, *particularly in Forbes*, reported multiple instances

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Rating of Important Factors

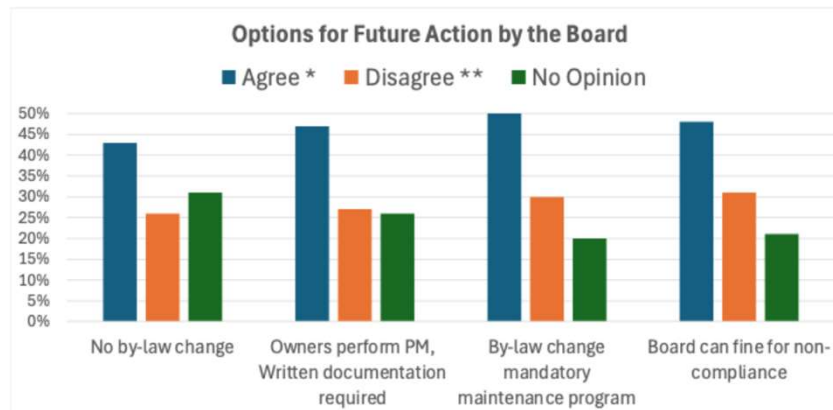
Important Factor	Community Rating
Ensuring service quality conforms to checklist	94%
Coordination of PM by stack	84%
Reducing cost	83%
Participation of all owners	78%
Ability to select vendor for replacement of heat pump	67%
Ability to select vendor for preventative maintenance	52%



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Options for Future Action by the Board

	Agree *	Disagree **	No Opinion
No by-law change, Board focuses on education	43%	26%	31%
Owners perform PM, Written documentation of service required by Board	47%	27%	26%
By-law change to comprehensive mandatory maintenance program	50%	30%	20%
Board can fine for non-compliance	48%	31%	21%



* Strongly agree or somewhat agree

** Strongly disagree or somewhat disagree

These figures reflect 60% of the community

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Thank You!

- Thank you to the 60% of owners who responded to the survey
- Thank you to the 35 individuals who volunteered to coordinate heat pump maintenance top down by stack
- Thank you to Michael McNeil for developing an RFP, soliciting bids and arranging a cost reduction with A. Hohmann

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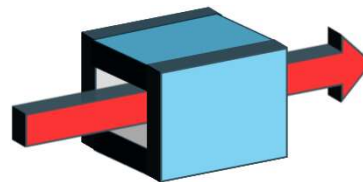
Negligence by Failing to Properly Maintain Heat Pumps May Harm You and Your Neighbors

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How Poor Heat Pump Maintenance May Result in Flooding



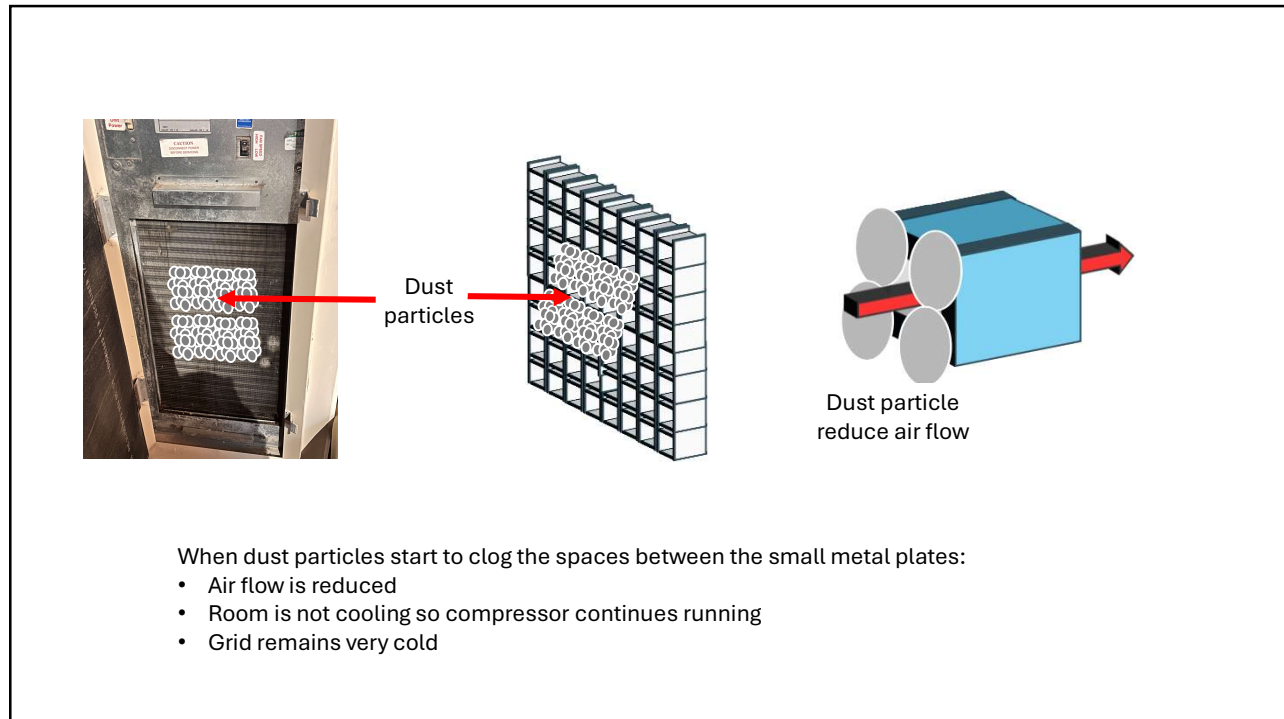
The Heat Exchanger in heat pump consists of a grid of small metal plates that resemble a car radiator



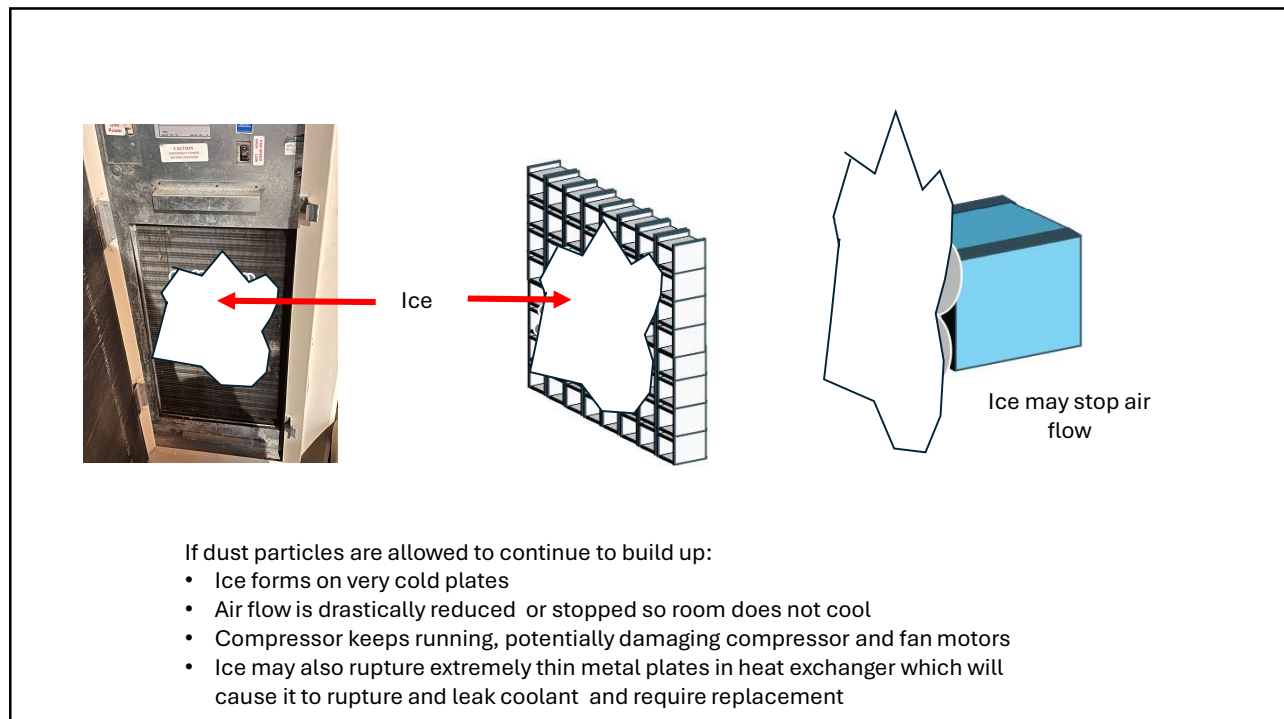
Hot air from a room is blown by a fan through this grid

The grid, which is cooled by the heat pump, cools the air which returns to the room

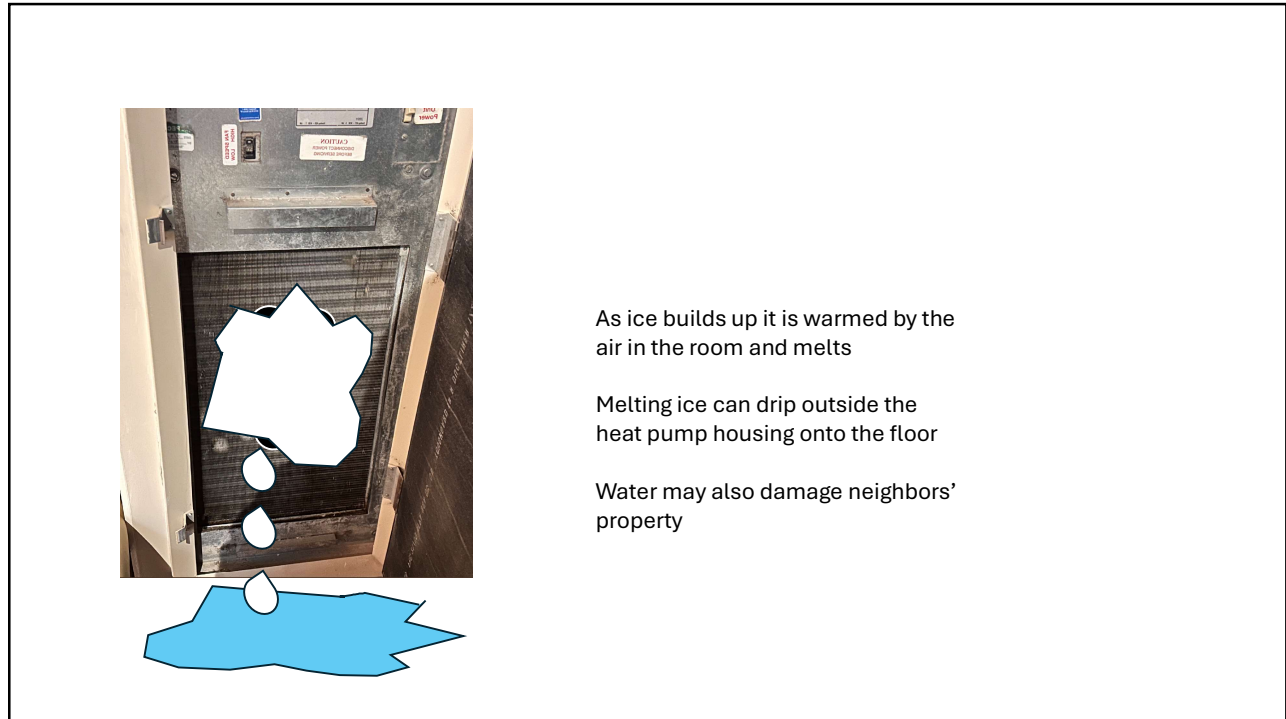
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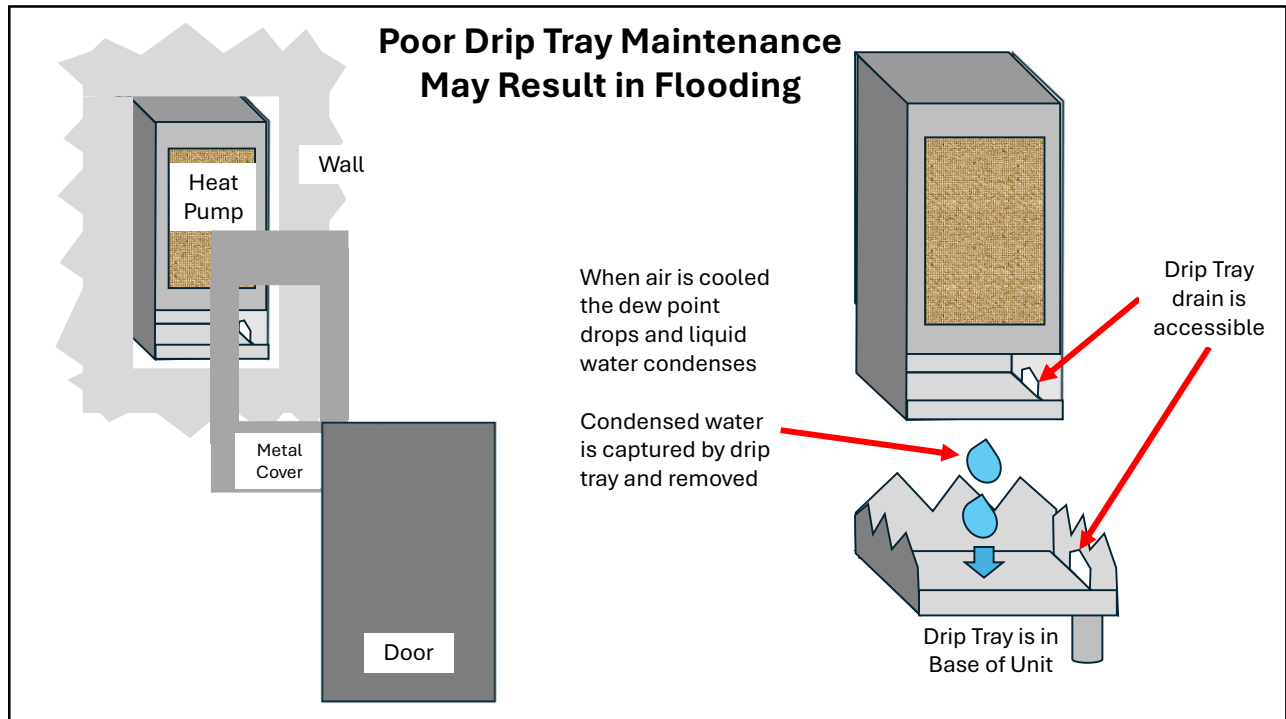
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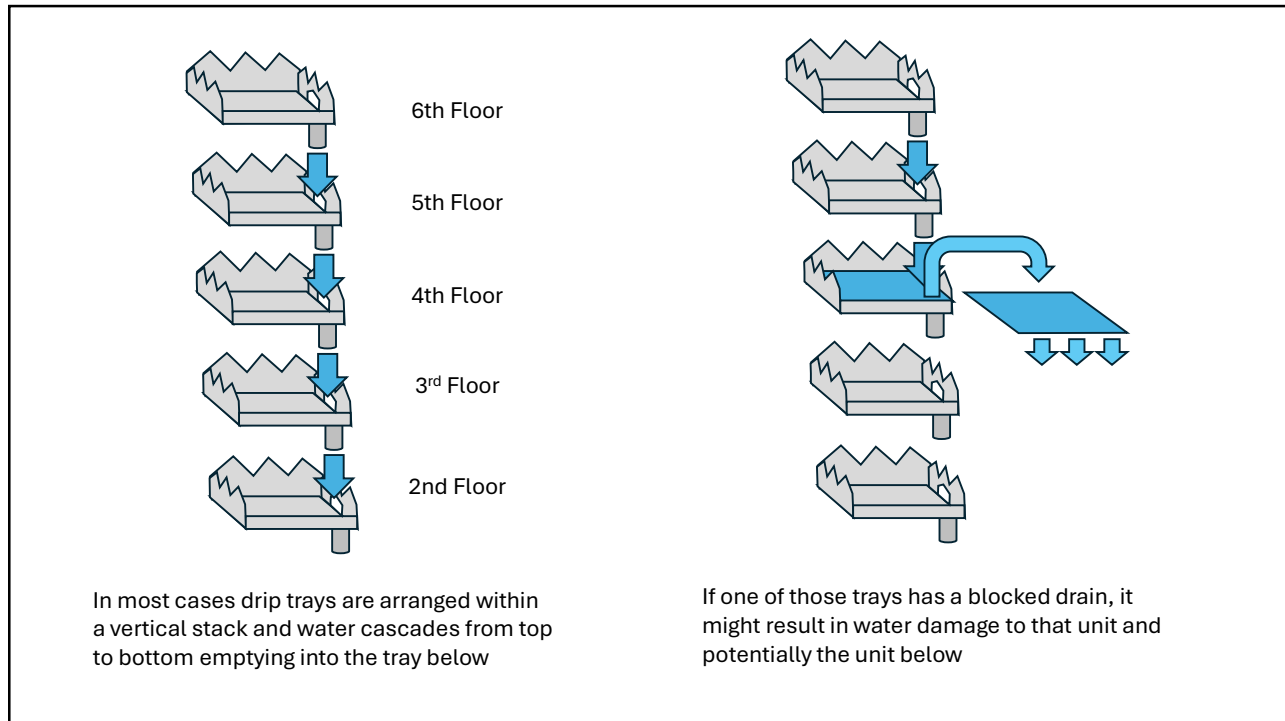
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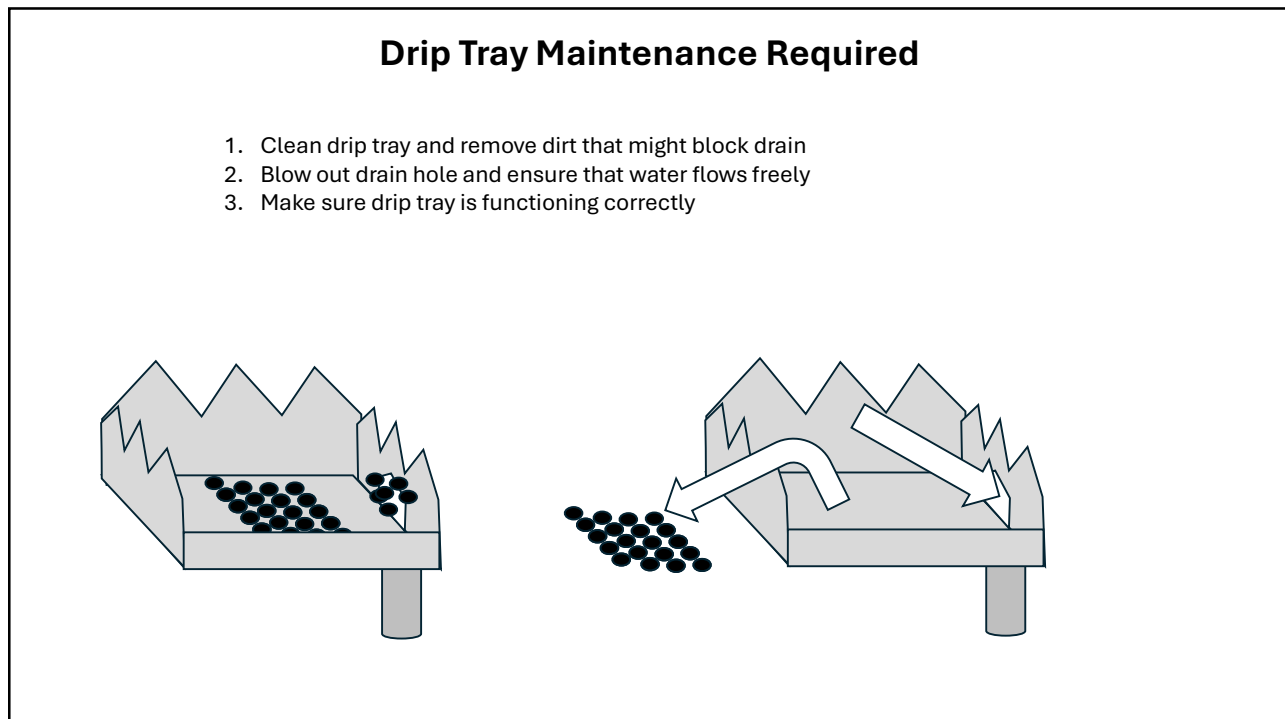
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Differences in the Heating and Cooling Systems and How They May Affect Residents

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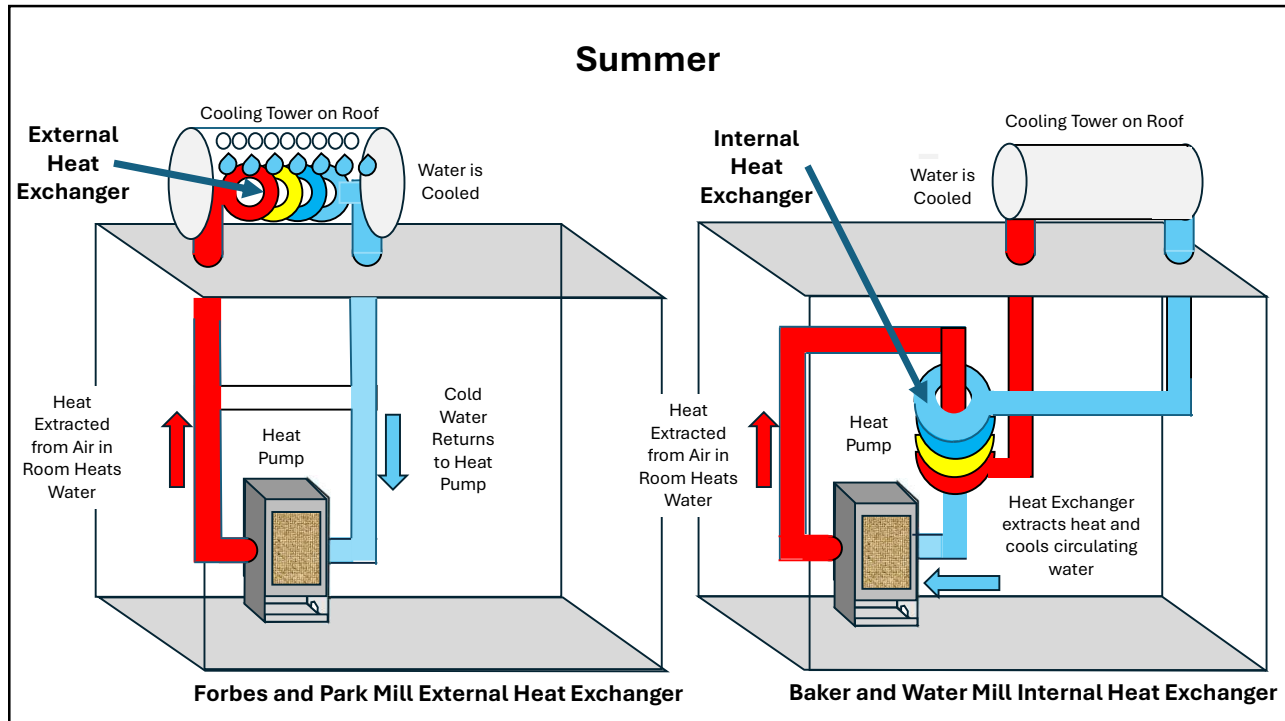
Forbes and Park Mill

- An external heat exchanger system circulates cooling water from individual heat pumps to the cooling tower on the roof and back in Summer
- This requires water in this circuit to be exposed to low temperatures in the winter
- In the past glycol was introduced as an antifreeze but, with the lack of a controlled process water was introduced which corroded the steel pipes (*Yazid measured a ph of 2.5 which is quite acidic*)
- In order to prevent freezing we use valves in the heat pump water circuit to redirect the flow through the building interior
- The exterior pipes are drained in the fall and refilled in the spring

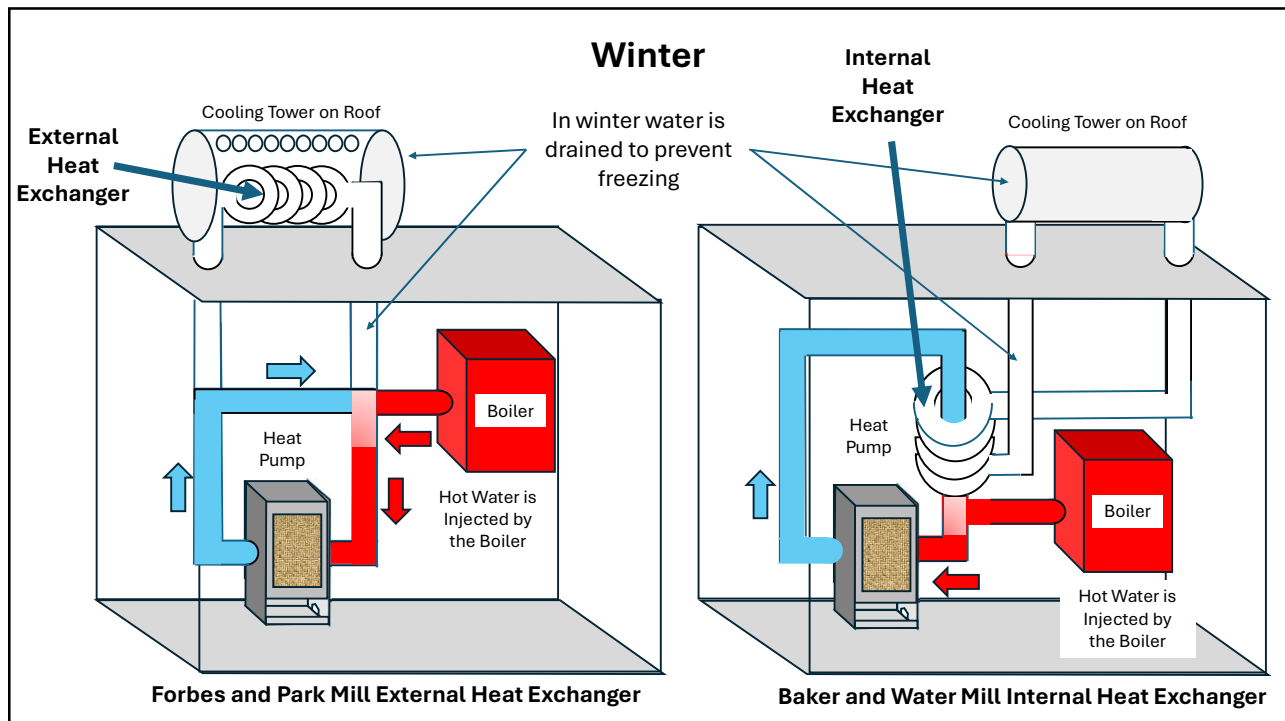
Baker and Water Mill

- An internal heat exchanger system separates the heat pump water circuit from the cooling water circuit
- The cooling water circuit is drained in the Winter and refilled in the Spring without having any effect on heat pumps

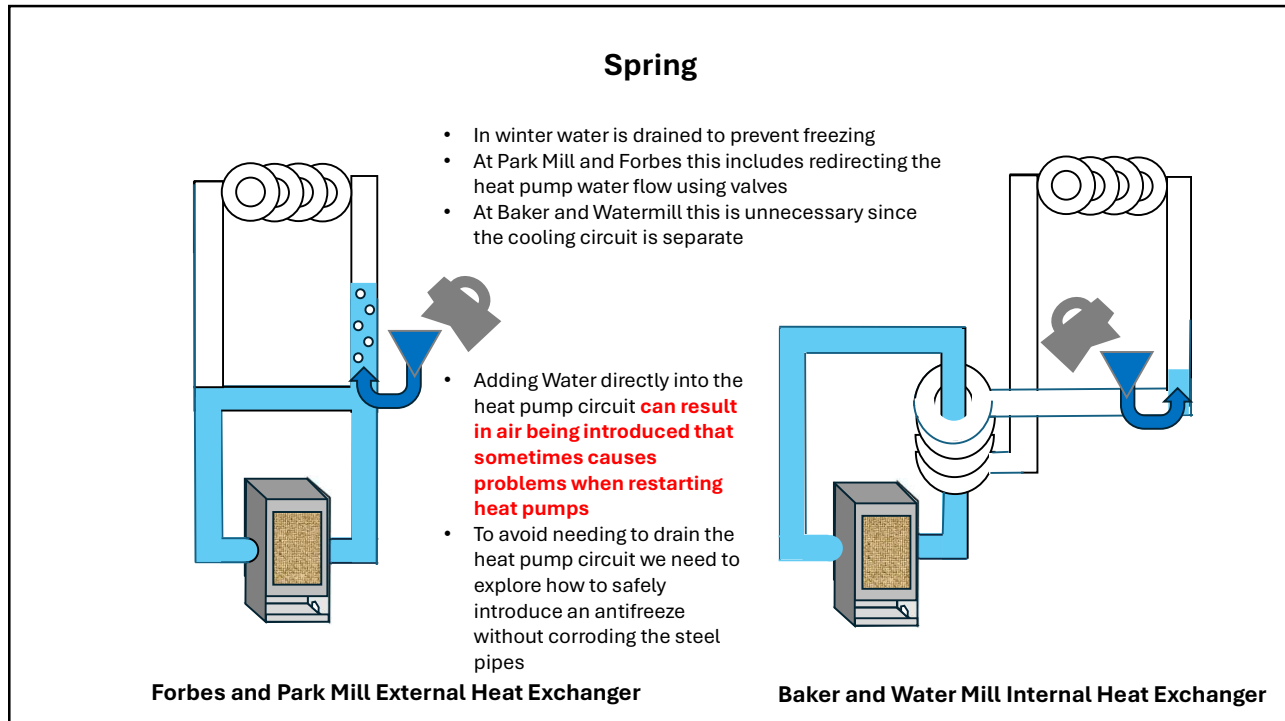
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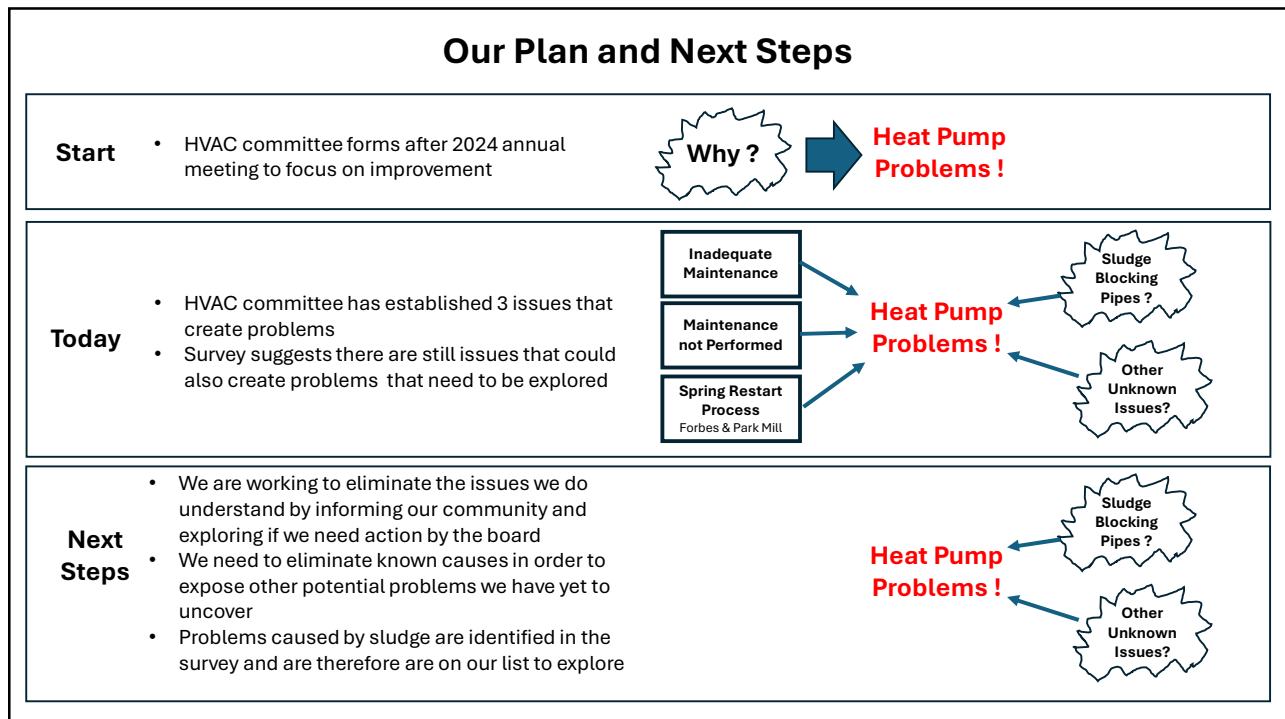
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What You Can do to Help

- We wish to expand team activity as quickly as possible to include the 35 residents who have kindly volunteered to help
- One activity is to recruit “stack captains” who would be employed in coordinating preventative maintenance by stack starting from the top floor and then sequentially down floor by floor
- We need people to act as ambassadors and communicate the importance of:
 - Maintaining heat pumps properly
 - Asking all our residents to report any problems to Meghan with as much detail as possible to help us understand the issues
- As our understanding of this problem develops no doubt other necessary activities will emerge

To volunteer to be a Stack Captain or Building Ambassador, please provide Mary Carbonara your contact information at this meeting or email her @ mcarbonara123@gmail.com.

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Next Steps for the Committee

- Develop an incident report with management
- Revise the Heat Pump Checklist after further discussions with vendors and management
- Conduct stack captain volunteer meeting(s)
- Negotiate with vendors for discounts on spring PMs
- Work with the Facilities Director and explore options that can strengthen the common infrastructure and address the sediment/sludge issues
- Continue to gather data on incidents to assess the effectiveness of these actions

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