July 25, 2020

City of Portsmouth
Portsmouth, NH 03801

Attn: Board of Adjustment

We would like to add air conditioning to our house. At present, the two window units we own can only cool part of the house but especially not the third floor. Our office is located on that third floor and since the Coronavirus outbreak has seen near daily use due to work from home.

We plan to install a set of ductless Mitsubishi mini-split units throughout our home, which require the installation of an outdoor heat pump unit. The only feasible location for this heat pump is on the North side of our house.

Our information is that in our neighborhood such an installation requires 10 feet setback from the property line. Because the side yard on the North side is only 9 feet wide and the installation of the heat pump will result in just over 7 feet of setback, we herewith are applying for relief from the city's Zoning Ordinance in order to allow for this installation.

We believe this request complies with the requirements of the Zoning Ordinance as provided in Article 2 (Section 10.233.20):

10.233.21 The variance will not be contrary to the public interest and *10.233.22 The spirit of the Ordinance will be observed.*

The heat pump unit will not alter the character of the neighborhood, nor will it threaten public health, safety or welfare. The heat pump unit will be completely out of sight, behind a corner of our house and behind a fence, which both will reduce any noise coming from the unit. On the other side of the fence and property line our neighbors' driveway is located, which creates over 20 feet of effective distance between the heat pump and their home.

10.233.23 Substantial justice will be done.

Installation of efficient whole-house air conditioning, instead of only two window units, will allow us to better enjoy our property during the hot times of the year, especially of the third floor, on which our office and guest room are located. Conversely, use of this air conditioning system will not harm the general public.

10.233.24 The values of the surrounding properties will not be diminished.

We discussed this project with our neighbors abutting the North sideyard and they did not object to the project. Because otherwise the heat pump unit is completely out of sight and noise blocked in most directions, the values of surrounding properties will not be diminished in any way. There is no foot traffic in the area where the pump will be installed.

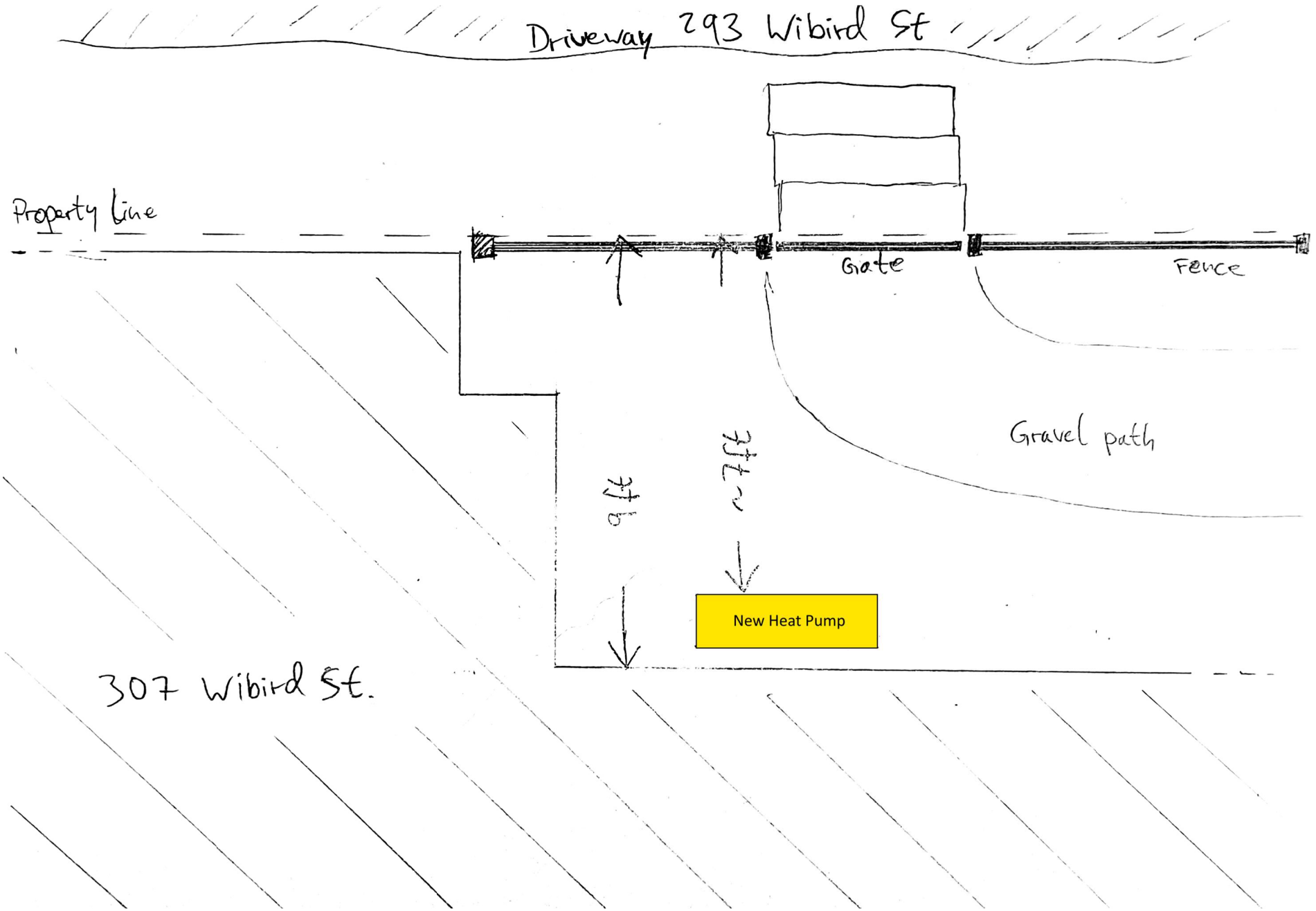
10.233.25 Literal enforcement of the provisions of the Ordinance would result in an unnecessary hardship.

The chosen location for installation is the only feasible location on our property. The East-facing side of our home is entirely occupied by a patio, the South-facing sideyard consists mostly of a driveway and is exposed to direct sun (reduced heat pump efficiency), snow and falling ice, and the West side faces the street. Because of the historically narrow lot size in our neighborhood, a literal enforcement of the 10 foot setback would create an unnecessary hardship for us.

Attached you will find technical information about the exterior heat pump unit, as well as pictures and a sketch of the proposed installation location with dimensions. Thank you for your consideration. Please let us know if you need additional information.

April & Christoph Wienands
307 Wibird St
Portsmouth, NH 03801


Wibird St
Wibird St
Wibird St
Wibird St
293 Wibird St
N. Sideyard
Proposed
Installation
location
Patio
307 Wibird St
Driveway
315 Wibird St
N
W
E
S


Driveway 293 Wibird St
Property Line
Gate
Fence
Gravel path
4ft
2ft-4in
New Heat Pump
307 Wibird St.

Sideyard on North side

View onto North side of property from street

Driveway of 293 Wibird St on the left

Installation of heat pump behind fence on far end of building

Mitsubishi MXZ-4C36NA spec sheet

MXZ H2i Outdoor Units | Heat Pump

Model Name			MXZ-2C20NAHZ	MXZ-3C24NAHZ	MXZ-3C30NAHZ	MXZ-4C36NAHZ
Cooling * Non-Ducted/ Ducted	Rated Capacity	Btu/h	18,000 / 20,000	22,000 / 23,600	28,400 / 27,400	36,000 / 36,000
	Capacity Range	Btu/h	6,000- 20,000	6,000- 23,600	6,000- 28,400	6,000- 36,000
	Rated Total Input	W	1,334 / 1,819	1,630 / 2,360	2,272 / 2,661	2,570 / 3,180
Heating at 47F* (Non-Ducted/ Ducted)	Rated Capacity	Btu/h	22,000 / 22,000	25,000 / 24,600	28,600 / 27,600	45,000 / 45,000
	Capacity Range	Btu/h	7,400- 25,500	7,200- 30,600	7,200- 36,000	7,200- 45,000
	Rated Total Input	W	1,612 / 1,748	1,725 / 1,871	2,096 / 2,187	3,340 / 4,250
Heating at 17F* (Non-Ducted/ Ducted)	Rated Capacity	Btu/h	13,700 / 13,700	14,000 / 14,000	18,000 / 16,500	34,000 / 36,000
	Maximum Capacity	Btu/h	22,000 / 22,000	25,000 / 24,600	28,600 / 27,600	45,000 / 45,000
	Rated Total Input	W	1,450 / 1,588	1,622 / 1,635	1,991 / 1,993	3,500 / 4,590
Heating at 5F*	Maximum Capacity	Btu/h	22,000	25,000	28,600	45,000
Efficiency	SEER (Non-Ducted/Ducted)		17.0 / 15.0	19.0 / 15.5	18.0 / 16.0	19.1 / 15.8
	EER (Non-Ducted/Ducted)		13.5 / 11.0	13.5 / 10.0	12.5 / 10.3	14.0 / 11.3
	HSPF (Non-Ducted/Ducted)		9.8 / 9.5	10.0 / 9.0	11.0 / 9.8	11.3 / 10.1
Electrical Requirements	Power Supply	V, Ph, Hz	208 / 230V,1-Phase, 60 Hz			
	Recommended Fuse/Breaker Size	A	40	40	40	50
	MCA	A	29	30	30	42
Voltage	Indoor - Outdoor S1-S2	V	AC 208 / 230			
	Indoor - Outdoor S2-S3	V	DC ± 24			
Compressor			DC INVERTER - driven Twin Rotary			
Fan Motor (ECM)		FLA	1.9	1.9	1.9	0.4 + 0.4
Sound Pressure Level	Cooling	dB(A)	54	54	54	49
	Heating		58	58	58	53
External Dimensions (H x W x D)		In / mm	41-9/32 x 37-13/32 x 13			52-11/16 x 41-11/32 x 13(+1)
Net Weight		Lbs / kg	187 / 85	189 / 86	189 / 86	276 / 125
External Finish			Munsell No. 3Y 7.8/11			
Refrigerant Pipe Size O.D.	Liquid (High Pressure)	In / mm	1/4 / 6.35			3/8 / 9.52
	Gas (Low Pressure)		A,B: 3/8 / 9.52	A: 1/2 / 12.7; B,C: 3/8 / 9.52		5/8 / 15.88
Max. Piping Length for Each Indoor Unit		Ft / m	164 / 50	230 / 70		492 / 150
Max. Refrigerant line Length			82 / 25	82 / 25		262 / 80
Max. Refrigerant Pipe Height Difference	If IDU is Above ODU	Ft / m	49 / 15	49 / 15		164 / 50
	If IDU is Below ODU	Ft / m	49 / 15	49 / 15		131 / 40
Connection Method			Flared / Flared			
Refrigerant			R410A			

Specifications are subject to change without notice.