Grand Hi Rise 95 Apartments

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Heating and cooling throughout the building is provided by two 3500 MBH boilers and a 250 ton chiller. The cooling equipment uses R-22 as a refrigerant.

Heating and cooling distribution is provided by four 20 horsepower circulation pumps. Two of the pumps serve the heating loop and two of the pumps serve the cooling loop. A central air handler for the corridors is located in the penthouse and three additional air handlers serving first floor spaces are located in mechanical closets in the community room.

Fan coil units are located throughout the common area spaces.

Air distribution from the air handlers is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located in each space. The heating and cooling system are controlled by local thermostats.

Supplementary cooling for the penthouse area is provided by an individual split system condensing unit and ductless condensing unit. Supplementary heating in the penthouse is provided by a hydronic unit heater.

Metropolitian Hi-Rise 78 Apartments

Item	Description	Action	Condition	Recommendation
Maintenance	Outside contractor			
Age and Type	The HVAC equipment appears to vary in age.			
Heating and Air Conditioning (RAD Workbook 3.4.2.1.01)	Central hot water boilers Central furnaces Condensing units	RS RS RS	Fair Poor Failed/Fair	Green/Traditional
Refrigerant	R-22			
Quantity/Capacity (RAD Workbook 3.4.2.1.01, 3.4.9.03, and 3.4.9.04)	2 boilers @ 1154 MBH each, 80% Efficiency 2 in-line duct furnaces @ 300 MBH each, 80 AFUE 1 condensing unit @ 2 tons, 11 SEER 2 condensing units @ 7.5 tons each, 10 SEER			
Vent Damper	Boilers are equipped with vent dampers			
Boiler Controls	The boilers are equipped with Outside Air Temperature Reset Controls			
Distribution (RAD Workbook 3.4.9.02 and 3.8.08)	Two-pipe distribution systems to coils 2 circulating pumps @ 3 HP each	RS RR	Poor Good	Traditional
Controls	Programmable thermostats	RM	Fair	N/A
Ducts	Concealed ducts above ceilings	RM	Fair	NA
Insulation (RAD Workbook 3.8.11)	Ducts insulated and sealed Piping and tanks partially insulated	RS	Fair/Missing	Green
Supplemental systems (RAD Workbook 3.8.09)	Dedicated split system for server room	RR	Fair	Traditional
Ventilation (RAD Workbook 3.4.3.1.01)	Central exhaust fans with concealed ducts to spaces 12 Fans @ 1/5 hp each	RR	Fair	Traditional
Load Sizing	Manual J Load Sizing Calculations are included in the Energy Audit	NA	NA	NA

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Hallmark Meridian 75 Apartments

Item	Description	Action	Condition	Recommendation
Maintenance	In-House Staff			
Age and Type	The HVAC equipment appears to vary in age. HVAC equipment is reportedly replaced on an "as needed" basis.			
Heating and Air Conditioning (RAD Workbook 3.4.2.1.01 Heating or 3.4.3.1.02)	Central Hot Water Boilers at Hallmark and Meridian Rooftop Units at Community Building	RS	Fair	Green
Refrigerant	R-22			
Quantity/Capacity	4 boilers @ 900 to 1,200 MBH each, 80% Efficiency 1 condensing unit @ 3 tons each, 10 SEER 1 condensing unit @ 1.5 tons each, 10 SEER 3 Rooftop packaged units @ 5 tons each			
Vent Damper	Boilers are not equipped with vent dampers			
Boiler Controls	The Boilers are equipped with Outside Air Temperature Reset Controls			
Distribution	Ducts from roof to spaces at community building Two-pipe distribution systems to radiators/convectors at Hallmark and Meridian 4 circulating pumps @ 1/2 hp	RR	Fair	Traditional
Controls	Local thermostats at Community Building. Automated control system at Hallmark and Meridian.	RR	Fair	Green
Ducts	Concealed ducts above ceilings at Community Building	RM	Fair	N/A
Insulation	Ducts insulated and sealed Piping and tanks not insulated	RM	Fair	N/A

The rooftop condensing units and thru-wall air-coditioners in the dwelling units were replaced in 2024

Short Helena 14 Apartments (2 Buildings)

Heating and cooling are provided by gas-fired forced-air furnaces with split system air-conditioning. The furnaces and cooling coil units are located in mechanical closets. The air-conditioning condensing units are pad-mounted on grade. The cooling equipment uses R-22 as a refrigerant. Air distribution is provided to supply air registers by ducts concealed below the floors. Return air grilles are located adjacent to the furnaces. The heating and cooling system are controlled by local thermostats. Natural ventilation is provided by operable windows. Mechanical ventilation is provided in the bathrooms by ceiling exhaust fans.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Triangleview 50 Apartments

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	N/A	N/A	40MBH	60MBh	60MBH	N/A
Manufactured Rated Efficiency	N/A	N/A	97%	97%	97%	N/A
Age	N/A	N/A	1	1	1	N/A
Heating Plant Condition	--	--	GOOD	GOOD	GOOD	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	N/A	N/A	2.5 Ton	2.5 Ton	3 Ton	N/A
Manufactured Rated Efficiency	N/A	N/A	14EER	14EER	14EER	N/A
Refrigerant	N/A	N/A	R410a	R410a	R410a	N/A
Age	N/A	N/A	1	1	1	N/A
Cooling Plant Condition	--	--	--	--	--	--

Holt 8 Apartments

Item	Description	Action	Condition	Recommendation
Maintenance	In-house staff			
Age and Type	The HVAC equipment appears to be approximately 13 years old. HVAC equipment is reportedly replaced on an "as needed" basis.			
Heating and Air Conditioning (RAD Workbook 3.4.2.1.02)	Heating: Forced Air Furnace Cooling: Window units only (tenant provided)	RR	Fair	Traditional
Refrigerant	R-22			
Quantity/Capacity	One furnace @ 44 MBH per apartment, 80 AFUE			
Distribution	Ducts from furnaces to spaces	N/A	Fair	N/A
Controls (RAD Workbook 3.4.9.01)	Digital thermostats	RR	Fair	Green
Ducts	Concealed ducts above ceilings and below floors	N/A	Fair	N/A
Insulation	Ducts insulated and sealed	N/A	Fair	N/A
Ventilation (RAD Workbook 3.4.3.1.01)	Bathroom exhaust fans	RS	Fair	Green
Load Sizing	Manual J Load Sizing Calculations are included in the Energy Audit	NA	NA	NA

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Wentworth Hi-Rise 147 Apartment Units

Item	Description	Action	Condition	Recommendation
Maintenance	Outside contractor			
Age and Type	The HVAC equipment appears to vary in age.			
Heating and Air Conditioning (RAD Workbook 3.4.2.1.01, 3.4.9.02, and 3.4.9.03)	Central hot water boilers Central chiller Central air handling unit	RS RR RR	Fair/Poor Fair Fair	Green Traditional Traditional
Refrigerant	R-22			
Quantity/Capacity	2 boilers @ 3000 MBH each, 80% Efficiency 1 chiller @ 180 tons, 10.0 EER 1 air handler @ approximately 15,000 CFM			
Vent Damper	Boilers are equipped with vent dampers			
Boiler Controls	The boilers are equipped with Outside Air Temperature Reset Controls			
Distribution (RAD Workbook 3.4.9.04 and 3.8.08)	Four-pipe distribution systems to fan coils in units 2 heating water circulating pumps @ 5 HP each 2 chilled water circulation pumps @ 15 HP each	RM RR RR	Fair Fair Fair	Traditional
Controls	Automated system	RM	Fair	N/A
Ducts	Concealed ducts above ceilings	RM	Fair	NA
Insulation	Ducts insulated and sealed Piping and tanks insulated	RM	Fair	NA
Supplemental systems	None	N/A	N/A	N/A
Ventilation (RAD Workbook 3.8.07)	Central exhaust fans with concealed ducts to spaces 3 Fans @ 1/5 to 3/4 hp each	RR	Fair	Traditional
Load Sizing	Manual J Load Sizing Calculations are included in the Energy Audit	NA	NA	NA

New equipment is currently in the A/E design phase.The boilers and the chiller will be replaced in the summer of 2026

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Winston Woods 30 Apartments

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	40MBH	60MBh	--	--
Manufactured Rated Efficiency	--	--	93%	93%	--	--
Age	--	--	2003	2003	--	--
Heating Plant Condition	--	--	FAIR	FAIR	--	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	2 Ton	2 Ton	--	--
Manufactured Rated Efficiency	--	--	9.5EER	9.5EER	--	--
Refrigerant	--	--	R-22	R-22	--	--
Age	--	--	2007	2007	--	--
Cooling Plant Condition	--	--	Fair	Fair	--	--

DISTRIBUTION SYSTEM	
Fan Coil System	No
Location of Fan Coil System	N/A
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	No

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Wolfcreek 35 Apartments (7 Buildings)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	--	60MBh	--	--
Manufactured Rated Efficiency	--	--	--	93%	--	--

APARTMENT HEATING SYSTEM						
Age	--	--	--	2009	--	--
Heating Plant Condition	--	--	--	FAIR	--	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	--	2 Ton	--	--
Manufactured Rated Efficiency	--	--	--	9.5EER	--	--
Refrigerant	--	--	--	R-410A	--	--
Age	--	--	--	2009	--	--
Cooling Plant Condition	--	--	--	Fair	--	--

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Cornell Ridge 32 Apartments

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	N/A	N/A	40MBH	60MBh	60MBH	N/A
Manufactured Rated Efficiency	--	--	80%	80%	80%	--
Age	--	--	2011	2011	2011	--
Heating Plant Condition	--	--	Fair	Fair	Fair	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	1.5 Ton	1.5 Ton	2 Ton	--
Manufactured Rated Efficiency	--	--	8.75 EER	8.75 EER	8.75 EER	--
Refrigerant	--	--	R-22	R-22	R-22	--
Age	XX	XX	2011	2011	2011	XX
Cooling Plant Condition	--	--	Fair	Fair	Fair	--

DISTRIBUTION SYSTEM	
Fan Coil System	No
Location of Fan Coil System	N/A
Ductwork	Yes
Temperature Control:	Individual Thermostats
Bathroom Exhaust Fan	Yes

Caliph Court 36 Apartments

APARTMENT HEATING SYSTEM						
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Heating Plant Condition	--	--	FAIR	FAIR	FAIR	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	1.5 Ton	1.5 Ton	1.5 Ton	--
Manufactured Rated Efficiency	--	--	9.1EER	9.1EER	9.1EER	--
Refrigerant	None	None	R-22	R-22	R-22	None
Age	--	--	15	15	15	--
Cooling Plant Condition	--	--	--	--	--	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Basement
Ductwork	Yes
Common Area Temperature Control:	Non-Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Fredrick Pike 6 Apartment Units (1 Building)

Heating is provided by electric baseboard heaters. The heaters are individually controlled by integral thermostats. Ductless mini splits systems are located in the apartment unit living rooms and bedrooms. Natural ventilation is provided by operable windows. Mechanical ventilation is provided in each bathroom by ceiling exhaust fans. All new equipment was installed in 2023.

Lori Sue 6 Aparments Units (1Building)

Heating is provided by hot water baseboard radiators, which are supplied by the central hot water system. The radiant units are individually controlled by wall thermostats. Air conditioning is provided by ductless split system air conditioners. The evaporator units are located on the unit walls. The air-conditioning condensing units are pad-mounted on grade. The cooling equipment uses R-410A as a refrigerant. The air conditioning systems are controlled by local thermostats. Natural ventilation is provided by operable windows. Mechanical ventilation is provided in the bathrooms by ceiling exhaust fans.

Riverside Estates 40 Units (5 Buildings)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Heatpump System					
Heating Fuel	Electric					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	25MBH	25MBh	--	--
Manufactured Rated Efficiency	--	--	9.3EER	9.3EER	--	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Heatpump System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	1.5 Ton	1.5 Ton	--	--
Manufactured Rated Efficiency	--	--	8.6 EER	8.6 EER	--	--
Refrigerant	None	None	R-22	R-22	None	None
Age	--	--	22	22	--	--
Cooling Plant Condition	--	--	Fair	Fair	--	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Non-Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Malden Hollencamp 21 Single Family Homes

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	44MBH	66MBh	60MBH	100MBH
Manufactured Rated Efficiency	--	--	79%	80%	83%	93%

APARTMENT HEATING SYSTEM						
Age	--	--	14	14	14	8
Heating Plant Condition	--	--	FAIR	FAIR	FAIR	FAIR

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	1.5 Ton	None	2 Ton	3 Ton
Manufactured Rated Efficiency	--	--	EnergyStar	None	EnergyStar	EnergyStar
Refrigerant	--	--	R410-A	None	R410-A	R410-A
Age	--	--	8	None	8	8
Cooling Plant Condition	--	--	Fair	None	Fair	Fair

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	No

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Westdale Hi-Rise 57 Apartment Units

Westdale Cottages 43 Apartment Unit

Item	Description	Action	Condition	Recommendation
Heating and Air Conditioning (RAD Workbook 3.4.2.1.02, 3.4.3.1.03, and 3.8.01)	Heating – Townhomes: Forced air furnaces Heating – Garden: Central hot water to PTACs Heating – High-rise: PTACs Cooling – Townhomes: Split-system condensing units or window units Cooling – Garden: PTACs Cooling – High-rise: PTACs	RS/RR	Fair	Traditional/Green
Refrigerant	R-22			
Quantity/Capacity	One furnace at 40 to 50 MBH per townhome apartment, 80 to 95 AFUE One condensing unit at 1.5 to 2 tons per townhome apartment, 13 SEER 2 PTAC units at high-rise and garden apartments at 8,000 to 15,000 Btu/h each, electric & hydronic			
Distribution	Ducts from furnaces to spaces	N/A	Fair	N/A
Controls (RAD Workbook 3.4.9.01)	Digital thermostats or integral thermostats	RS/RR	Fair	Green
Ducts	Concealed ducts above ceilings and below floors	N/A	Fair	N/A
Insulation	Ducts insulated and sealed	N/A	Fair	N/A
Ventilation (RAD Workbook 3.4.3.1.01)	Bathroom exhaust fans	RS/RR	Fair	Green
Load Sizing	Manual J Load Sizing Calculations are included in the Energy Audit	NA	NA	NA

Hawthorn Village 7 Single Family Homes

Heating is provided by gas-fired forced-air furnaces. The furnaces are located in mechanical closets. Cooling is provided by condensers located exterior to the apartment units on concrete pads. Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located adjacent to the furnaces. The heating system is controlled by local thermostats. Natural ventilation is provided by operable windows. Mechanical ventilation is provided in the bathrooms by ceiling exhaust fans.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Riverview Terrace 61 Apartments (Townhouse Style)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	40 MBH	60 MBh	--	--
Manufactured Rated Efficiency	--	--	80%	80%	--	--
Age	--	--	9	9	--	--
Heating Plant Condition	--	--	FAIR	FAIR	--	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	1.5 Ton	2 Ton	--	--
Manufactured Rated Efficiency	--	--	9.5 EER	9.5 EER	--	--
Refrigerant	--	--	R410-A	R410-A	--	--
Age	--	--	9	9	--	--
Cooling Plant Condition	--	--	Fair	Fair	--	--

DISTRIBUTION SYSTEM-	
Fan Coil System	Yes
Location of Fan Coil System	Part of Warm Air Furnace
Ductwork	Yes
Unit Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Friden – Whitmore 21 Single Family Homes

APARTMENT HEATING SYSTEM- 2 BEDROOM UNITS						
Primary Heating System Type	Electric baseboard Heating					
Heating Fuel	Electric					
Heating System Types			**2-Bed**			
Input Capacity	--	--	40MBH	--	--	--
Manufactured Rated Efficiency	--	--	80%	--	--	--
Age	--	--	20	--	--	--
Heating Plant Condition	--	--	POOR	--	--	--

APARTMENT HEATING SYSTEM – 1 BEDROOM UNITS						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Electric					
Heating System Types		**1-Bed**				
Input Capacity	--	5kA	--	--	--	--
Manufactured Rated Efficiency	--	80%	--	--	--	--
Age	--	1	--	--	--	--
Heating Plant Condition	--	EXCELLENT	--	--	--	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

Five of the units have heat pumps.

BUILDING HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

Fitch – Hawthorne 6 Apartments (2 Buildings)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	--	50,000 Btu/hr	--	--
Manufactured Rated Efficiency	--	--	--	90%	--	--
Age	--	--	--	2003	--	--
Heating Plant Condition	--	--	--	Fair	--	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	-	--	2 ton	--	--
Manufactured Rated Efficiency	--	--	--	7.5 SEER	--	--
Refrigerant	None	None	None	R-134A	None	None
Age	--	--	--	2003	--	--
Cooling Plant Condition	--	--	--	Fair	--	--

DISTRIBUTION SYSTEM	
Blower in furnace	Yes
Location of Fan Coil System	N/A
Ductwork	Yes
Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

Air distribution is provided by the furnace to supply air registers by ducts concealed above the ceilings. Return air grilles are located at the ceilings. The heating is controlled by local thermostats.

Natural ventilation is provided by operable windows. Mechanical ventilation is provided in the bathrooms by ceiling exhaust fans.

Woodview Terrace 58 Apartments (29 Buildings - Doubles)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	60MBH	60MBh	--	--
Manufactured Rated Efficiency	--	--	93%	93%	--	--
Age	--	--	10	10	--	--
Heating Plant Condition	--	--	FAIR	FAIR	--	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	2 Ton	2 Ton	--	--
Manufactured Rated Efficiency	--	--	10.5EER	10.5EER	--	--
Refrigerant	None	None	R-22	R-22	None	None
Age	--	--	10	10	--	--
Cooling Plant Condition	--	--	Fair	Fair	--	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Non-Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Wilmington Hi-Rise 64 Apartment Units

Heating in the common areas are provided hot water boilers. There is a total of 2 boilers, which are rated at 625 MBH each. Cooling in the common areas are provided by an air-cooled chiller. The chiller size is 108 tons and was replaced in2019. The cooling equipment uses R-410a as a refrigerant. Air distribution is provided by two air handler units located on the roof. The air handler units are each 1500 CFM. The air handler units supply air registers with ducts concealed above the ceilings. Return air grilles are located in each space. The heating and cooling system are controlled by direct digital controls.

Cityview Terrace 10 Apartments (3 Buildings)

APARTMENT HEATING SYSTEM

Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	40MBh	40 MBH	--	--	--
Manufactured Rated Efficiency	--	90%	90%	--	--	--
Age	--	2013	2013	--	--	--
Heating Plant Condition	--	GOOD	GOOD	--	--	--

APARTMENT COOLING SYSTEM

Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	2 Ton	2.5 ton	--	--	--
Manufactured Rated Efficiency	--	8.53 EER	8.53 EER	--	--	--
Refrigerant	None	Unknown	Unknown	None	None	None
Age	--	2013	2013	--	--	--
Cooling Plant Condition	--	Good	Good	--	--	--

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Huffman Parnell 12 Aparment (2 Buildings)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	0-Bed	1-Bed	2-Bed	3-Bed	4-bed	5-Bed
Input Capacity	--	--	40,000 Btu/hr	--	--	--
Manufactured Rated Efficiency	--	--	90%	--	--	--
Age	--	--	2003	--	--	--
Heating Plant Condition	--	--	FAIR	--	--	--

APARTMENT COOLING SYSTEM						
Cooling System Types	0-Bed	1-Bed	2-Bed	3-Bed	4-bed	5-Bed
Cooling Capacity	--	--	1 Ton	--	--	--
Manufactured Rated Efficiency	--	--	8.53 EER	--	--	--
Refrigerant	None	None	R-22	None	None	None
Age	--		5		--	--
Cooling Plant Condition	--		Fair	--	--	--

Window air condition units are tenant owned

DISTRIBUTION SYSTEM	
Blower in furnace	Yes
Location of Fan Coil System	N/A
Ductwork	Yes
Area Temperature Control:	Non-Programmable
Bathroom Exhaust Fan	Yes

The furnaces were replace in the summer of 2025 90% unit. Central airconditioning was installed as well. 2 ton 14 seer units.

Revere 8 Apartments (1 Building)

Emergency heating is provided by electric baseboard heaters in each room, ensuring reliable warmth during unexpected cold spells. For cooling, the system utilizes efficient ductless mini split heat pumps, which operate with R-410a refrigerant at 1.5 tons. The entire heating and cooling setup is managed by advanced direct digital controls for precise temperature regulation, while the baseboard electric heaters feature individual thermostatic controls in every space. The HVAC upgrades were performed in 2022.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Smithville 22 Apartment Units (1 Building)

BUILDING CENTRAL HEATING SYSTEM SMITHVILLE-MONARCH BUILDING	
Primary Heating System Type	Central Hotwater Boilers
Quantity	2
Heating Fuel	Natural Gas
Heating System Input Capacity (btuh)	399,000
Manufactured Rated Efficiency	84%
Location of Equipment	Mechanical rooms
Space Served by System	Entire building
Age	14 Yrs (2003)
Heating Plant Condition	Fair

Rosemont 28 Units (2 Buildings)

The heating for the units is provided by a gas-fired furnace located in the mechanical room of each unit. Through wall air conditioning units provide cooling for the units.

Argella 6 Apartments (1 Building)

APARTMENT UNIT HVAC SYSTEM (UNITS ARE 1-BEDROOM 525 SF UNITS)			
HEATING		COOLING	
Primary Heating System Type	Furnace	Primary Cooling System Type	Split System AC
Heating Fuel	Natural Gas	Cooling System Types	Forced cool air
Heating System Types	Forced hot air	Cooling Capacity	2.0 Tons

APARTMENT UNIT HVAC SYSTEM (UNITS ARE 1-BEDROOM 525 SF UNITS)			
HEATING		COOLING	
Input Capacity	60,000 BTU/H	Manufactured Rated Efficiency	13
Manufactured Rated Efficiency	0.93	Refrigerant	R-410A
Age	4 Years	Age	4 Years
Condition	Good	Condition	Good

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Utility closet adjacent to kitchen
Ductwork	Flexible insulated in attic
Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes
Kitchen Exhaust Fan	Yes (in range hood)

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Pompano Circle 31 Units, Which Consist Of Double Units And Single Family Homes

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	40MBH	60MBH	60MBH	--
Manufactured Rated Efficiency	--	--	93%	93%	93%	--
Age	--	--	6	6	6	--
Heating Plant Condition	--	--	GOOD	GOOD	GOOD	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	-	-	2 Ton	2.5 Ton	2.5Ton	-
Manufactured Rated Efficiency	-	-	10.5 EER	10.5 EER	10.5 EER	-
Refrigerant	-	-	R-410A	R-410A	R-410A	
Age	-	-	6	6	6	-
Cooling Plant Condition	--	--	Good	Good	Good	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Basement or Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Limestone Modena 26 Apartment (6 Buildings)

APARTMENT HEATING SYSTEM	
Primary Heating System Type	Forced Air Furnace
Heating Fuel	Natural Gas
Heating System Types	**2-Bed**
Input Capacity	39 MBH
Manufactured Rated Efficiency	95.5 AFUE
Age	2012
Heating Plant Condition	FAIR

APARTMENT COOLING SYSTEM	
Primary Cooling System Type	Split System
Cooling System Types	**2-Bed**
Cooling Capacity	1.5 Ton
Manufactured Rated Efficiency	16 SEER
Refrigerant	R410A
Age	2012

APARTMENT COOLING SYSTEM	
Cooling Plant Condition	Fair

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Channingway Court 32 Apartments (8 Buildings)

Apartment Unit HVAC System			
Heating		**Cooling**	
Primary Heating System Type	Heat Pump	Primary Cooling System Type	Heat Pump
Heating Fuel	Electric	Cooling System Types	Forced cool air
Heating System Types	Forced hot air	Cooling Capacity	2.0 Tons
Input Capacity	22,500 BTU/H	Manufactured Rated Efficiency	13
Manufactured Rated Efficiency(HSPF)	8.2	Refrigerant	R-410A
Age	5 Years	Age	5 Years
Condition	Good	Condition	Good

DISTRIBUTION SYSTEM	
Location of Fan Coil System	Utility Closet adjacent to kitchen
Ductwork	Flexible insulated in attic
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes
Kitchen Exhaust Fan	None

Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located adjacent to the fan coil units which are in a utility closet adjacent to the kitchen. The heating and cooling systems are controlled by digital programmable thermostats. Natural ventilation is provided by operable windows. Mechanical ventilation is provided in the bathrooms by ceiling exhaust fans.

Bellefontaine Ridge 26 Units (6 Buildings)

APARTMENT UNIT HVAC SYSTEM (UNITS ARE 2-BEDROOM 780 SF UNITS)			
HEATING		COOLING	
Primary Heating System Type	Furnace	Primary Cooling System Type	Split System AC
Heating Fuel	Natural Gas	Cooling System Types	Forced cool air
Heating System Types	Forced hot air	Cooling Capacity	2.5 Tons
Input Capacity	60,000 BTU/H	Manufactured Rated Efficiency	13 EER
Manufactured Rated Efficiency(HSPF)	93%	Refrigerant	R-410A
Age	5 Years	Age	5 Years

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Utility Closet adjacent to kitchen
Ductwork	Flexible insulated in attic
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes
Kitchen Exhaust Fan	No. range hood re-circulates

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Fisher, Wayne Meadows, Hilgerford 16 Apartments (4 buildings)

APARTMENT HEATING SYSTEM	
Primary Heating System Type	Heatpump System
Heating Fuel	Electric
Heating System Types	**2-Bed**
Input Capacity	18 MBH
Manufactured Rated Efficiency	2.12 COP
Age	10
Heating Plant Condition	FAIR

APARTMENT COOLING SYSTEM	
Primary Cooling System Type	Heatpump System
Cooling System Types	**2-Bed**
Cooling Capacity	1.5 Ton
Manufactured Rated Efficiency	9.2 EER
Refrigerant	R-22
Age	13 years
Cooling Plant Condition	Fair

DISTRIBUTION SYSTEM	
Fan Coil System	No
Location of Fan Coil System	N/A
Ductwork	Yes
Apartment Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

Imperial 137 6 Apartments (1 Building)

Imperial 149 6 Apartments (1 Building)

These buildings are currently undergoing comprehensive modernization. Each unit is equipped with a high-efficiency gas-fired forced air furnace to provide reliable heating. For cooling, every unit features a 1.5-ton condensing unit, ensuring effective climate control throughout the year. The entire heating and cooling system is optimized and monitored by advanced direct digital controls, allowing for precise and consistent temperature regulation, enhancing both comfort and energy efficiency.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Misty Lane 1, 18 Apartments (5 Buildings)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	N/A	40MBH	60MBH	60MBH	60MBH	N/A
Manufactured Rated Efficiency	N/A	93%	93%	93%	93%	N/A
Age	N/A	2012	2012	2012	2012	N/A
Heating Plant Condition	--	GOOD	GOOD	GOOD	GOOD	--

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	N/A	1.5 Ton	1.5 Ton	2 Ton	2 Ton	N/A
Manufactured Rated Efficiency	N/A	10.5 EER	10.5 EER	10.5 EER	10.5EER	N/A
Refrigerant	None	R-410A	R-410A	R-410A	R-401A	None
Age	N/A	5 years	5 years	5 years	5 years	N/A
Cooling Plant Condition	--	Good	Good	Good	Good	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Misty Lane 2, 8 Apartments (2 Buildings)

APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	N/A	N/A	40MBH	N/A	N/A	N/A
Manufactured Rated Efficiency	N/A	N/A	92.5%	N/A	N/A	N/A
Age	N/A	N/A	2003	N/A	N/A	XX

APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Split System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	N/A	N/A	1.5 Ton	N/A	N/A	N/A
Manufactured Rated Efficiency	N/A	N/A	10.5 EER	N/A	N/A	N/A
Refrigerant	None	None	R-22	None	None	None
Age	N/A	N/A	12 years	N/A	N/A	N/A
Cooling Plant Condition	--	--	Fair	--	--	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

Quitman 6 Apartments (1 Building)

Emergency heating is provided by electric baseboard heaters in each room, ensuring reliable warmth during unexpected cold spells. For cooling, the system utilizes efficient ductless mini split heat pumps, which operate with R-410a refrigerant at 1.5 tons. The entire heating and cooling setup is managed by advanced direct digital controls for precise temperature regulation, while the baseboard electric heaters feature individual thermostatic controls in every space. The HVAC upgrades were performed in 2023.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Park Manor Hi-Rise 140 Apartment Units (1 Building)

Park Manor Cottages 45 Units (8 Buildings)

Park Manor Community Building

The Hi-Rise and Community Buildings are heated by a 2-pipe hot water circulating system. Two 3,000 MBH boilers and three 3 HP pumps circulate the hot water to air handlers and fin tube radiators scattered throughout the apartment units and common areas located in each of these buildings. The Hi-Rise Building is cooled by a 2-pipe cold water circulation system. One 170 Ton air cooled chiller with two 25 HP pumps circulate the chilled water to air handlers and fan coil units located in the Hi-Rise Building only. The Community Building is cooled by four 5.0 Ton roof mounted air conditioning only packaged units. Six of the Single-Story Apartment Buildings (Buildings 2 through 7) are heated by a two-pipe hot water system. Each of these buildings have two 155,000 BTU/H boilers and two fractional HP pumps that provide the hot water to fin tube radiators located in each apartment unit. Cooling in these units is provided by 1.5 Ton split system air conditioners. The heating and cooling in the remaining two Single Story Apartment Buildings (Buildings 1 and 8) are provided by split system heat pumps. The systems in these two buildings (1 and 8) were converted from the 2-pipe boiler hot water systems with the split system air conditioners to heat pump systems in 2016. The following tables provide details of the central systems used in each of the buildings.

BUILDING CENTRAL HEATING SYSTEM: HI-RISE AND COMMUNITY BUILDINGS (LOCATED IN MECHANICAL ROOM IN HI-RISE BUILDING)	
Primary Heating System Type	2-Pipe hot water circulating system with 2 boilers and three 3 HP pumps circulating hot water to fin tube radiators located throughout the two buildings (apartments and common areas)
Quantity	Two Bryan boilers
Heating Fuel	Natural Gas
Heating System Input Capacity (btuh)	2,400 MBH each
Manufactured Rated Efficiency	0.80
Location of Equipment	Mechanical Equipment Room on 1st floor of Hi-Rise Building
Space Served by System	Hi-Rise and Community Building
Age	28 years old, installed in 1989
Heating Plant Condition	Fair

Continued on next page

Park Manor Continued

BUILDING CENTRAL COOLING SYSTEM: HI-RISE BUILDING	
Primary Cooling System Type	2-Pipe cold water circulating system with one 14 stage 170 Ton air cooled scroll chiller and two 25 HP pumps circulating cold water to air handlers and fan coil units located throughout the building
Quantity	One 14 Stage Trane air cooled scroll chiller
Refrigerant	R-22
Cooling System Capacity (Tons)	170 Tons
Cooling Tower Size	None, no cooling tower

BUILDING CENTRAL COOLING SYSTEM: HI-RISE BUILDING	
Manufactured Rated Efficiency	9.0 EER
Location of Equipment	Pad mounted on west side of building
Space Served by System	Hi-Rise building only
Age	10 years
Cooling Plant Condition	Good

BUILDING CENTRAL COOLING SYSTEM: COMMUNITY BUILDING (UNITS LOCATED ON ROOF OF COMMUNITY BUILDING)	
Primary Cooling System Type	Packaged Units, Air Conditioning only
Quantity	Four Trane Roof Mounted Packaged Units
Refrigerant	R-22
Cooling System Capacity (Tons)	5.0 Tons each
Cooling Tower Size	None, packaged units are air cooled
Manufactured Rated Efficiency	10 EER
Location of Equipment	Roof Mounted
Space Served by System	Community Building only

Continued on next page

Park Manor Continued

BUILDING CENTRAL COOLING SYSTEM: COMMUNITY BUILDING (UNITS LOCATED ON ROOF OF COMMUNITY BUILDING)	
Age	10 years
Cooling Plant Condition	Fair

BUILDING CENTRAL HEATING SYSTEM: SINGLE STORY APARTMENT BUILDINGS	
Primary Heating System Type	2-Pipe hot water circulating system with 2 boilers and two fractional HP pumps in Single Story Apartment Buildings 2 through 7 circulating hot water to fin tube radiators located in the apartment units of each of the six buildings
Quantity	Two Weil McClain boilers
Heating Fuel	Natural Gas
Heating System Input Capacity (btuh)	155,000 BTU/H each
Manufactured Rated Efficiency	0.90
Location of Equipment	Mechanical Equipment Room in each of the six Single Story Apartment Buildings
Space Served by System	Apartment units in Single Story Apartment Buildings 2 through 7
Age	Varies in age but all typically less than 5 years old
Heating Plant Condition	Good

Desoto Bass Courts

The heating units at the Desoto Bass Courts complex feature a variety of systems. These include standing pilot gas-fired forced air furnaces, 80% efficient gas-fired forced air furnaces, and low-pressure gas-fired boilers with fin tube heating. Additionally, low-pressure boilers are installed in both the 904 Wilberforce Building and the 811 Oldfield office building with central cooling, while the Senior Citizens building is equipped with a gas-fired forced air furnace paired with central air conditioning. Air conditioning is available through window-mounted units in the 5-2 area only.

Madrid Estates 100 Apartments (25 Buildings), Madrid Community Building

The Madrid Estates apartments are equipped with advanced variable refrigerant flow (VRF) systems for both heating and cooling. Each 6-ton VRF unit efficiently serves two separate dwelling units, ensuring consistent climate control throughout the year. In case of an emergency or system failure, in-wall electric heating units provide reliable backup heat to maintain comfort and safety for residents. The community building is heated and cooled by the same system type in the apartment units.

SHRMe VRF Outdoor Unit
MMY-MAP0726FT2P-UL - Heat Recovery

TOSHIBA
Carrier

Submittal Data

Job Name Madrid Estates Location Only 6-ton Unit on A - ADA Building
Tag CU-3

SHRMe VRF Heat Recovery Features

- 6-ton single-phase modules available
- Capable of simultaneous cooling and heating (flow selector boxes required)
- Modules have 2 inverter-driven twin rotary compressors
- Backup capability due to multiple compressors
- Compressor speed varied in 0.1 Hz increments for comfort and efficiency
- Direct drive, inverter-driven 64-step outdoor motor
- 2 modules can be combined to form 12-ton single-phase system
- Up to 3281 ft (1000 m) actual total system piping (liquid line)
- Up to 591 ft (180 m) actual piping length from outdoor unit to furthest fan coil
- Up to 330 ft (100 m) outdoor control wiring
- Up to 6560 ft (2000 m) control wiring between outdoor and indoor units
- Operating temperature range
  Cooling (db): 14 to 122 F (–10 to 50 C)
  Heating (wb): –13 to 60 F (–25 to 15.6 C)
- Protection: high pressure switch, low pressure sensor and switch, PC board fuse, inverter overload protection
- 7-year compressor limited warranty, 5-year parts limited warranty

Header Unit Model	MMY-MAP0726FT2P-UL	
PERFORMANCE		
Rated Cooling Capacity	Btu/h	69,000
Rated Heating Capacity	Btu/h	77,000
Maximum Total Connected Indoor Unit Capacity		Up to 150%
SIMULTANEOUS COOLING AND HEATING EFFICIENCY*		
SCHE, Ducted FCUs		26.90
SCHE, Ductless FCUs		30.60
COOLING EFFICIENCY*		
EER/IEER, Ducted FCUs		12.60/19.50
EER/IEER, Ductless FCUs		14.60/26.60
HEATING EFFICIENCY*		
COP at 47 F, Ducted FCUs		3.42
COP at 47 F, Ductless FCUs		3.67
Fan Type (Qty)		Propeller (1)
Airflow, Standard Range	CFM	6700
Sound Pressure, Cooling/Heating	dBA	57.0/60.0
External Static Pressure†	in. wg	0.24

LEGEND

db — Dry Bulb
COP — Coefficient of Performance
EER — Energy Efficiency Ratio
FCU — Fan Coil Unit
IEER — Integrated Energy Efficiency Ratio
SCHE — Simultaneous Cooling and Heating Efficiency
wb — Wet Bulb

NOTE: Unit cabinet and coil slab shall be capable of withstanding 500-hour salt spray test in accordance with the ASTM (American Society for Testing and Materials, U.S.A.) B-117 Standard.

ELECTRICAL		
Power Supply	V/Ph/Hz	208-230/1/60
Minimum Circuit Amps (MCA)	A	47
Recommended Fuse Size	A	50
COMPRESSORS		
Type (Number)		Inverter Twin Rotary (2)
Motor Output	kW	2 x 2.1
FAN MOTOR		
Motor Type (Steps)		Inverter Direct Driven (64)
Motor Output	kW	1.0
PHYSICAL DATA		
Pipe Connection Size - Liquid (High Pressure)	in.	1/2 (Flare)
Pipe Connection Size - Gas (Low Pressure)	in.	7/8 (Brazed)
Discharge (High Pressure)	in.	3/4 (Flare)
Balance	in.	3/8 (Flare)
Refrigerant		R-410A
Factory Charge**	lb	24.3
External Finish		Munsell 1Y8.5/0.5
Unit Width	in.	39.0
Unit Height	in.	72.9
Unit Depth	in.	30.7
Unit Net Weight	lb	600

*Rated per AHRI (Air-Conditioning, Heating and Refrigeration Institute) 1230 Standard.
Cooling: Indoor 80 F (27 C) db/67 F (19 C) wb; Outdoor 95 F (35 C) db
Heating: Indoor 70 F (21 C) db; Outdoor 47 F (8 C) db/43 F (6 C) wb
†Requires setting by DIP switches.
**Additional charge required.

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BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Hope 6 Homes (50 Single Family Homes)

The Hope Six single-family homes are equipped with energy-efficient, gas-fired forced air furnaces that provide 80% efficiency, complemented by 2.5-ton central air conditioning for year-round comfort. Each unit features programmable thermostats, allowing residents to easily manage and optimize their indoor climate for both convenience and energy savings.

Germantown Crossing (50 dwelling Unit Apartments, One Building)

The Germantown Crossing apartments are equipped with advanced variable refrigerant flow (VRF) systems for both heating and cooling. Each 1.5-ton VRF, ensuring consistent climate control throughout the year. In case of an extreme cold or system failure, in-wall electric heating units provide reliable backup heat to maintain comfort and safety for residents.

Maimi Chapel Desoto Bass (50 dwelling Unit Apartments, 9 Building)

The Maimi Chapel currently under construction apartments are equipped with advanced variable refrigerant flow (VRF) systems for both heating and cooling. Each 1.5-ton VRF, ensuring consistent climate control throughout the year. In case of an extreme cold or system failure, in-wall electric heating units provide reliable backup heat to maintain comfort and safety for residents.

Germantown Village (50 Units)

The Germantown Village apartments are equipped with energy-efficient, gas-fired forced air furnaces that provide 90% efficiency, complemented by 2-ton central air conditioning for year-round comfort. Each unit features programmable thermostats, allowing residents to easily manage and optimize their indoor climate for both convenience and energy savings.

Windcliff Phase 1 (36 Units, 10 Buildings)

The Windcliff Phase 1 site features modern gas-fired forced air furnaces, each paired with a 2-ton central condensing unit to ensure efficient climate control throughout the residences. These systems are managed by programmable thermostats, allowing residents to easily customize their indoor comfort and optimize energy usage.

Windcliff (61 Units, 14 Buildings)

1-STORY TOWNHOME BUILDING APARTMENT HEATING SYSTEM						
Primary Heating System Type	Forced Air Furnace					
Heating Fuel	Natural Gas					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	60MBH	60MBH	--	--
Manufactured Rated Efficiency	--	--	93%	93%	--	--
Age	--	--	11 years	11 years	--	--
Heating Plant Condition	--	--	FAIR	FAIR	--	--

1-STORY TOWNHOME BUILDING APARTMENT COOLING SYSTEM	
Primary Cooling System Type	Split System

1-STORY TOWNHOME BUILDING APARTMENT COOLING SYSTEM						
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	1.5 Ton	1.5Ton	--	--
Manufactured Rated Efficiency	--	--	10.5EER	10.5EER	--	--
Refrigerant	--	--	R-410A	R-410A	--	--
Age	--	--	8 years	8 years	--	--
Cooling Plant Condition	--	--	Fair	Fair	--	--

2-STORY TOWNHOME APARTMENT HEATING SYSTEM						
Primary Heating System Type	Heatpump System					
Heating Fuel	Electric					
Heating System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Input Capacity	--	--	--	N/A	N/A	--
Manufactured Rated Efficiency	--	--	--	7.7 HSPF	7.7 HSPF	--
Age	--	--	--	9 years	9 years	--
Heating Plant Condition	--	--	--	FAIR	FAIR	--

2-STORY TOWNHOME APARTMENT COOLING SYSTEM						
Primary Cooling System Type	Heatpump System					
Cooling System Types	**0-Bed**	**1-Bed**	**2-Bed**	**3-Bed**	**4-bed**	**5-Bed**
Cooling Capacity	--	--	--	2Ton	2Ton	--
Manufactured Rated Efficiency	--	--	--	13 SEER	13 SEER	--
Refrigerant	--	--	--	R-410A	R-410A	--
Age	--	--	--	9 years	9 years	--
Cooling Plant Condition	--	--	--	Fair	Fair	--

DISTRIBUTION SYSTEM	
Fan Coil System	Yes
Location of Fan Coil System	Mechanical Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

Senior Village (30 Dwelling Units One Building)

The senior Village building's HVAC system features a robust and energy-efficient design to ensure consistent and reliable climate control year-round. Cooling is provided by a single 70-ton chiller, equipped with two pumps rated at 7.5 horsepower, 208 volts, 3-phase, and operating at 1,750 RPM. Each pump delivers 160.0 gallons per minute at 75 feet of head pressure, supporting optimal circulation for large-scale cooling needs. For heating, the system utilizes a high-efficiency gas-fired boiler with a substantial 750,000 BTU input and an 88% efficiency rating, significantly reducing energy consumption. Two pumps support the boiler, each rated at 5 horsepower, 208 volts, 3-phase, 1,750 RPM, and capable of circulating 66 gallons per minute at 65 feet of head pressure, ensuring dependable heated water flow. Together, these systems efficiently pump both chilled and heated water into strategically located air handling units inside the apartments and common areas in the building.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Corona Telford 514, 524, 526, AND 532 Telford, 16 Units (Four Buildings)

Corona 550 551, 557 AND 538 Telford 16 Units (Four Buildings)
Shoyer 2018 AND 1907 Shoyer 10 Units (2 Buildings)

Each unit is equipped with a high-efficiency gas-fired forced air furnace to provide reliable heating. For cooling, every unit features a 1.5-ton condensing unit, ensuring effective climate control throughout the year. The entire heating and cooling system is optimized and monitored by advanced direct digital controls, allowing for precise and consistent temperature regulation, enhancing both comfort and energy efficiency.

Governors Square 4 Units (1 Building)

APARTMENT HEATING SYSTEM		
Primary Heating System Type	Forced Air Furnace	
Heating Fuel	Electric	
Heating System Types	**1-Bed**	**2-Bed**
Input Capacity	4 kW	4 kW
Manufactured Rated Efficiency	100%	100%
Age	7	7
Heating Plant Condition	GOOD	GOOD

APARTMENT COOLING SYSTEM		
Primary Cooling System Type	Split System	
Cooling System Types	**1-Bed**	**2-Bed**
Cooling Capacity	2 Ton	2 Ton
Manufactured Rated Efficiency	12.5 EER	12.5 EER
Refrigerant	R-410A	R-410A
Age	7	7
Cooling Plant Condition	Fair	Fair
DISTRIBUTION SYSTEM		
Location of Furnace	Utility Closet	
Ductwork	Yes	
Common Area Temperature Control:	Programmable	
Bathroom Exhaust Fan	Yes	

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Washington Village 8 Eight Units (2 Building)

APARTMENT HEATING SYSTEM		
Primary Heating System Type	Forced Air Furnace	
Heating Fuel	Electric	
Heating System Types	**1-Bed**	**2-Bed**
Input Capacity	4 kW	4 kW
Manufactured Rated Efficiency	100%	100%
Age	5	5
Heating Plant Condition	GOOD	GOOD

APARTMENT COOLING SYSTEM		
Primary Cooling System Type	Split System	
Cooling System Types	**1-Bed**	**2-Bed**
Cooling Capacity	2 Ton	2 Ton
Manufactured Rated Efficiency	12.5 EER	12.5 EER
Refrigerant	R-410A	R-410A
Age	5	5
Cooling Plant Condition	Good	Good

DISTRIBUTION SYSTEM	
Location of Furnace	Utility Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Westerfield 20 Apartments (2 Buildings)

APARTMENT HEATING SYSTEM	
Primary Heating System Type	Forced Air Furnace
Heating Fuel	Electric
Heating System Types	**2-Bed**
Input Capacity	9.6 kW

APARTMENT HEATING SYSTEM	
Manufactured Rated Efficiency	100%
Age	4
Heating Plant Condition	GOOD

APARTMENT COOLING SYSTEM	
Primary Cooling System Type	Split System
Cooling System Types	**2-Bed**
Cooling Capacity	2 Tons
Manufactured Rated Efficiency	12.5 EER
Refrigerant	R-410A
Age	4
Cooling Plant Condition	Good

DISTRIBUTION SYSTEM	
Location of Furnace	Utility Closet
Ductwork	Yes
Common Area Temperature Control:	Programmable
Bathroom Exhaust Fan	Yes

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Indian Trails 35 Apartment Units (7 Buildings)

Indian Trails Rental Office 1 Building

Each unit is equipped with a high-efficiency gas-fired forced air furnace to provide reliable heating. For cooling, every unit features a 2-ton condensing unit, ensuring effective climate control throughout the year. The entire heating and cooling system is optimized and monitored by advanced direct digital controls, allowing for precise and consistent temperature regulation, enhancing both comfort and energy efficiency.

Winters 6 Apartment Units (2 Buildings)

Heating is provided by gas-fired forced-air furnaces. The furnaces are located in mechanical closets. Air distribution is provided to supply air registers by ducts concealed above the ceilings. Return air grilles are located adjacent to the furnaces. The heating system is controlled by local thermostats. Natural ventilation is provided by operable windows. Mechanical ventilation is provided in the bathrooms by ceiling exhaust fans. The air-conditioning is provided by thru-wall units.

Olive Hills 100 Apartments (11 Buildings)

BUILDING CENTRAL HEATING SYSTEM	
Primary Heating System Type	Central Hotwater Boilers
Quantity	18
Heating Fuel	Natural Gas
Heating System Input Capacity (btuh)	**140,000 – 175,000 Btu**
Manufactured Rated Efficiency	83.5%
Location of Equipment	Mechanical rooms
Space Served by System	1 or 2 boilers per building
Age	**Varies – 10 to 20 years old**
Heating Plant Condition	Fair

The outdated low-pressure boiler heating units currently used to heat the buildings will be replaced with modern ductless mini-split systems, which will provide both heating and cooling, addressing the current lack of air conditioning. Each system will be equipped with an emergency heat backup. This upgrade will give every unit its own energy-efficient and dependable climate control system. The installation work is anticipated to begin in late 2026 or early 2027.

BUILDING HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Mountcrest Court 48 Apartments (8 Eight Buildings)

Community Building

Heating and cooling in the apartment units is provided by gas-fired forced-air furnace, however it's important to note that the apartments do not have air conditioning. The furnaces are conveniently located in dedicated mechanical closets inside each unit, allowing for easy maintenance and minimal disruption. By contrast, the community building is equipped with both gas-fired forced-air heating and central air-conditioning.