

# Property Management Manual

GUILFORD PARK PRESBYTERIAN CHURCH

2100 FERNWOOD DRIVE

GREENSBORO, NC 27408

## Electrical System

### Electrical Entry

Electrical power to the building comes from the power transformer on Fernwood. Two underground conduits cross under the walk to the meter box on the sanctuary wall next to the cross walk, then to the main disconnect located on the eastern wall of the boiler room. The power splits here through several disconnects to breaker panels located throughout the building.

### Breaker Box Locations

- Boiler Room: There are two breaker panels here that contain breakers for the mechanical equipment within the boiler room.
- Main Hallway: There are two breaker panels next to the men's bathroom in the main entrance hall. One contains breakers for the lights and outlets in the Birdseye building. The other panel contains breakers for the roof top cooling units for this area.
- Sacristy: (organ side) Contains breakers for lights and outlets in the sanctuary. Also located here is a time clock that controls the sign and outdoor lights on the Fernwood side.
- Youth Lounge Storage Closet: Adjacent to the middle classroom in the youth lounge that contains breakers for the lights, outlets, water heater, air handlers and condensing units for the youth lounge. Also located here is the rheostat for the dimmer control for the sanctuary lighting.
- Kitchen (over sink): Contains breakers for the kitchen equipment, lights and outlets.
- Fellowship Hall (table and chair storage area): One breaker panel contains breakers for the lighting and outlets. The other contains breakers for the rooftop heating/cooling unit, and the LED sign.

(Identification of breakers in most panels is vague or non-existent.)

Detailed electrical plans are located in the archive room in the youth lounge.

## **Heating and Air Conditioning**

### **Main Heating System**

Two low pressure steam boilers with associated condensate receiver, condensate pumps and safety and operating controls are located in the basement boiler room to provide heat for the majority of the building. They provide steam to the sanctuary air handler via a pneumatically controlled valve to the heating coil. They also provide steam to the convectors located throughout the classrooms, Westminster and music room. Each has a heating thermostat within the room. Steam piping to these areas is run through perimeter tunnels around the building. Access to these tunnels is through doors on each side of the Birdseye Wing, parking lot end, and an access door in the southeast corner of the playground. Individual through-the-wall units are in the library– room 108, Christian Education office– room 101A, and the associate pastor’s office– room 100C. The main office areas– room 100, 100B, and the senior pastor’s office– room 100A, are heated by a roof top heat pump unit. Separate thermostats control the temperatures within these areas. The steam boiler must be inspected annually by the State of North Carolina. This is scheduled through our insurance carrier, Church Mutual.

### **Youth Lounge**

Temperature is controlled by two split heat pump units with the air handlers located in the storage area closets in the lounge area. Condensing units are located on the sanctuary wall at the cross walk on the Fernwood side of the building. Each unit has a thermostat located on the wall in the lounge.

### **Fellowship Hall**

Heating and cooling is provided by a 30-ton gas heating and cooling package roof top unit located over the table/chair storage room on the left side behind the partition in the Fellowship Hall. A programmable thermostat is located on the partition wall ( right side) entering from the Fellowship Hall.

### **Parlor and Kitchen**

A gas heating/cooling roof top unit over the kitchen area provide temperature control for this area. The thermostat is located in the parlor.

### **Sanctuary cooling**

Two 10-ton units with a split circuit coil in the air handler and a split circuit condenser located on the roof provide cooling for the sanctuary. Temperature is controlled by return air thermostats located in the boiler room. The control sequence is started by enabling the AHU fan. This can be done in three ways. The time clock in the basement will start the fan. It is currently set to come on Saturday night at 12:00 a.m. and off at 1:00 p.m. on Sunday. The fan can also be brought on by the heat night low limit thermostat located in the sanctuary. Once the fan is started, the cooling relay and heating interlock will energize and allow the cooling and heating controls to function. The temperature will be controlled by the cooling and heating controllers which sense the return air temperature. These are located in the basement on the wall by the disconnect. The set points can be adjusted so the heating and cooling do not operate at the same time. These controls will cycle the compressors or steam valve as needed. The cooling and heating will be locked out by two separate outside thermostats located on the basement entry door frame. There is an emergency shut down located on the door frame also.

**Classroom Areas**

(Birdseye Wing) Cooling for classrooms, Westminster, music and library is provided by 4 roof top cooling units. Cooling thermostats for these units are located in the Westminster (109B), nursery (110) and classrooms 104 and 105 in the Birdseye Wing.

**Boiler Room**

There are two sump pumps located in the boiler room's southeast corner to handle the area drain in the boiler room stairwell as well as any leakage or discharge of water from the mechanical equipment if it occurs. Proper operation of these pumps is critical, for if they do not work, the boiler room can flood damaging the boilers and compressors. Operation of the pumps should be checked periodically. To check operation, use garden hose to fill the sump reservoir with water until the #1 pump operates. Unplug it and continue filling reservoir until #2 pump starts. (The pumps are at different levels in the reservoir so pump #2 is a backup of #1.) Shut off water and re-plug pump #1. The pumps should remove the water from the reservoir and shut off in sequence- #2 then #1.

An air compressor is located on the north wall of the boiler room to provide air for the pneumatic control system throughout the building. It is equipped with an automatic condensate vent to bleed water from the tank during operation.

See Attachment 3 for an inventory of existing HVAC equipment.

**Lawn and Grounds**

The lawn, shrubs and trees are maintained by outside contract. Flower beds and planting areas are tended by volunteers.

**Parking Lots**

There are three parking lots on the property. A paved lot at the end of the Birdseye Wing, corner of Fairfield and Bluemont. Also two gravel area lots, one located at the corner of Lawndale and Bluemont, the other at the corner of Fernwood and Fairfield. These lots are maintained by contract as repairs require.

**Pest Control**

Pest control contracts are maintained to provide insect elimination in the church buildings and the rental house.

**Rental Property**

The church own the house located at 2410 Lawndale Drive which it rents. Total maintenance of this house is provided by the church, by contract and volunteers.

**Building Cleaning**

The building is cleaned by outside contract with a janitorial company. Many of the cleaning chores are also done by volunteers.

**Fire Alarm**

The structure does not have an alarm system. Manual pull boxes are located throughout the building as are alarm bells. Fire exercises by the Preschool test these items from time to time as does the Fire Marshal on various inspections. There are also fire extinguishers located throughout the building in locations advised by the Fire Marshal. These are maintained by this committee. The alarm pull box located on the wall across from the janitor's room can be opened and the alarm can be set off manually. Replacement of batteries in fire and smoke detectors in the buildings are the responsibility of Property. All members are requested to report any weak sounds from these detectors so the batteries can be replaced.

**First Aid Kits**

First Aid Kits are located in the kitchen, Preschool office, and the main office. An AED is located above the water fountain outside the men's room in the main hall.

**Church Bus and Van**

The church bus and van are the responsibility of Property. The committee oversees the maintenance and repairs of the vehicles. It also obtains the annual license and inspection. Members who operate the bus and van are requested to report any items that need attention. This committee is not responsible for the driver training or certification of drivers.

### **Security System**

The control keypad for the security system is located in the storage closet in the main hall next to the women's restroom. It is a series type system consisting of eight zones for various areas of the building. One zone is a fire detector located in the boiler room. The zones are identified at the control location as are the operating instructions. The system is monitored and forwards the alarm signal to the monitoring service.

### **Telephone System**

The main frame for the telephone system is located in the storage closet in the main hall next to the women's restroom. The panel boards are located here. There is also a junction panel located next to the electric panels next to the men's restroom in the main hall.

### **Natural Gas System**

Gas is supplied to the building from the Fernwood side through an underground pipe that runs adjacent to the sidewalk leading to the Columbarium area, under the Columbarium area to the main meter on the exterior wall of the Westminster room. The main shutoff valve is on the high pressure side of the meter. There are two grills piped to the kitchen entrance area. Underground piping carries gas to the boiler room, the kitchen stove, the water heater in the fellowship hall closet and to the kitchen/parlor rooftop unit. Each appliance has a shutoff valve adjacent to it.

### **Permanent LED Sign**

The permanent LED sign on Lawndale is powered by breakers in the right panel in the fellowship hall closet. The antenna which sends the WiFi signal is located in the Preschool office. The sign is controlled by computer software found at [sminfinity.com](http://sminfinity.com). See the Church Administrator for log in information and instructions.

### **Main Shutoff Valve:**

Water is supplied by a 2 inch underground pipe from the Fernwood Drive side of the building. The main valve is located in a valve box on the church property across the sidewalk from the city meter—approximately 10 feet west of the power pole at the corner of Fernwood Drive and Fairfield Avenue and approximately 8 feet across the walk from the meter. There are various shutoff valves throughout the building to isolate individual areas or fixtures.

### **Water Heaters**

There are three water heaters in the system:

1. An 81-gallon gas fired unit in the fellowship hall storage room supplies the kitchen and fellowship hall baths. This unit has a circulating pump to provide quick response to the dishwashers and sinks in the kitchen.
2. A 40-gallon electric water heater is in the archive room in the youth lounge which provides water for the youth lounge kitchen and baths.
3. A 30-gallon gas water heater is located in the boiler room which provides water to the main bathrooms and sinks in the Birdseye Wing area and the custodial mop sink in the janitor's closet. This unit has a circulating pump to provide quick hot water response to the faucets.

**Water is plumbed to**

- 3 water heaters
- 3 dishwashers
- 1 ice machine
- 2 water fountains
- 7 restrooms
- 1 janitorial sink
- 4 outside faucets
- 4 classroom sinks
- 3 kitchen sinks
- 1 boiler complex
- 1 icemaker in refrigerator

**Ice Machine**

For proper and sanitary operation of the ice machine in the kitchen, it must be professionally cleaned and serviced twice yearly.

**Columbarium Watering System**

This system is the responsibility of the Columbarium Committee. Special instructions for the system are attached for information only. This system was installed by Landscape Irrigation Systems and is currently maintained by New Garden Nursery. See Attachment 2 for details for the operation of the irrigation system.

Guilford Park Presbyterian Church  
Sanctuary HVAC System Control Overview

This information is intended to provide a basic understanding of the equipment and controls used to control the temperature in the sanctuary for church services, special events (weddings, memorial services, etc.) and ensure the temperature does not go below 60 degrees to protect the pipe organ.

The HVAC system is a forced air system utilizing a blower to take air from the sanctuary floor and when necessary either cool it or heat it before returning it to the sanctuary via vents located along the external walls.

Heat is supplied by the steam boiler in the basement and transferred to the air using steam coils inside the ductwork. Cooling is supplied by an industrial air conditioner which also has cooling coils inside the ductwork.

The blower or fan must be in operation for either the heating or cooling systems to operate. The boilers for heating and the air conditioner for cooling each have their own thermostats. The temperature in the sanctuary is measured in the air return duct from the sanctuary.

The cooling thermostat is located rather high on the back wall of the boiler room. The temperature should be set at 75 or 76 degrees.

The heating thermostat is also located on the back wall of the boiler room just below the cooling thermostat. The temperature for heating should be set to 70 degrees. There is a second input to the heating controls. It is a thermostat located behind the pulpit to the left of the organ keyboard. It is set at 60 degrees, and it turns on the blower and heat when the temperature in the sanctuary goes below that. This is protecting the organ from being damaged by excessively cold temperatures.

During spring and fall when the boilers are on, and the outside temperatures are up and down, if the heat temperature is set too high and the cooling temperature set too low, both systems could work against each other.

Because it would be very costly to heat or cool the sanctuary when not in use, an Intermatic Grasslin electronic timer has been installed to activate the blower on Sundays at 2:00 am and turn it off at 11:45 am. When the blower comes on it also activates the thermostats for heating or cooling. This timer is also located on the back wall of the boiler room. The display is difficult to read and the manual makes no mention of a built in battery back up making it difficult to ensure the system is being activated on time. The manual for the timer is written by a foreign tech person and is not helpful.

There is one additional key component to the system. That is a system override timer located in the Sacristy room up front and on left side of the sanctuary. The timer is behind the door to the right of the electrical panel. Turning the timer to the number of hours desired activates the blower and heating or cooling as required for the desired amount of time. The override timer is used for activities in the Sanctuary other than the regularly scheduled worship service like a memorial service or wedding.

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