

## **Grace Lutheran Church – Sanctuary Air Handler Heating Addition**

We currently have a quote for 2 options from Complete Mechanical Services, Inc. (CMS) to add heating to the sanctuary. Below is an explanation for why this is needed, a summary of the 2 options, and a recommendation.

### **Situation:**

Currently our sanctuary is heated by hot water from the boiler system via radiant heaters at the floor along both side walls. The piping and radiant heaters in the sanctuary and fellowship hall date back to the original building of the church and were not upgraded during the addition. As debris and sediment build up from our well water build up in those pipes, they naturally float to the highest point in the system... the sanctuary. We have 2 radiant heaters that are clogged and have no water flow, meaning no heat from them. The labor costs to tear them apart, possibly replace pipe, even further possibly need to replace a heater could get extremely costly. On top of that, we only have temperature control of the heat of the water leaving the boiler. So even to heat the sanctuary with all radiant heaters working to a comfortable temperature means the fellowship hall is extremely warm. You may recall being down there in the winter for an event and the windows needing to be opened. We already have all the ductwork and air handler in place that cools the sanctuary. By adding a heater in the ductwork outside by the unit, controlled by the unit, we can adequately heat the sanctuary and not overheat our basement.

### **Option 1: Gas Fired Duct Furnace**

This will be located outside by the unit, in the ductwork. It is controlled by the thermostat in the sanctuary. It requires CMS to install a 300,000 BTU, 80% efficient, duct furnace including: connection to the gas line currently in the kitchen, necessary outside duct revisions, running of gas pipe, controls, and startup of the heater.

Price is \$11,650.00

### **Option 2: Electric Duct Heater**

This will be located inside the unit. It is controlled by the unit. It requires CMS to install a 54Kw electric heater, controls, and startup.

Price is \$2,350.00

NOTE this price does NOT INCLUDE:

High voltage power wiring OR verification that our existing electrical service to the building can handle the addition of this large, electric heater.

### **Recommendation**

It is the recommendation of CMS and Nick Rex (12 year commercial HVAC Project Manager) that we approve Option 1. Gas heat is more efficient and less expensive than electric heat. We would see our electric bill go way up to power that size of a heater. We will see our gas bill rise with the gas heater, but not nearly as much as electric.

We also do not know if our building power can even handle the addition of the electric heater. That would require a survey by a qualified electrician or electrical engineer. It would then require hiring an electrician to run the power from our main electrical panels (in the sprinkler room) out to the Air Handling Unit. That's a circuit breaker, conduit, and wire installation above our basement drop ceilings. Labor intensive for sure.

With the unknown costs of all the electrical needs coupled with much higher operating expenses of electric heaters, our best option is the gas fired heater.

All questions and concerns can be e-mailed to [president@graceoflilylake.com](mailto:president@graceoflilylake.com). They will be answered each week via e-blast for all to read and read at the congregational meeting on 12/19 during the discussion leading up to the official vote.

Thank you  
Nick Rex – Vision Team President