



Town of Wilmington

Town Hall/ School Administration Building Committee
121 Glen Road Wilmington, 01887

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Town Hall/ School Administration Building Committee Meeting Minutes April 5, 2023

Chairman George W. Hooper II called the meeting to order at 6:06 pm.

Members present, Diane M. Allan (remotely), Jack Holloway, Paul Ruggiero, Paul Melaragni, Steve Turner, Phil O'Brien John Doherty, and Jesse Fennelly

Absent: Kevin Caira

Also present: Town Manager Jeffrey M. Hull, Assistant Town Manager Susan L. Inman, Architect Phil O'Brien, and OPM Dan Pallotta.

APPROVAL OF MUNITES FROM MARCH 1, 2023

Mr. Hooper entertained a motion to accept the minutes from March 1, 2023; Diane Allan requested that the minutes be revised to reflect her absence from the meeting. Mr. Melaragni noted the misspelling of his name. Mr. Hooper entertained a motion to accept the minutes as amended, seconded by Paul Melaragni. Diane Allan and John Doherty abstained from voting as they were not present at the meeting in question. It was voted by roll call to accept the minutes from March 1, 2023 as amended.

DISCUSSION ON BUILDINGS SYSTEMS BY GGD ENGINEERING

Mr. O'Brien introduced Dominic Puniello of GGD Consulting Engineers. Mr. O'Brien noted that Johnson Roberts & Associates had a longstanding relationship with GGD for the fact that they specialize in the field of HVAC. Mr. Puniello informed the committee that he has been with GGD since 2008 and has completed many municipal projects with Johnson Roberts & Associates. Mr. Puniello stated that there were three proposed options for HVAC systems appropriate for the Town Hall/ School Administration System. The first option, a Fan Powered Variable Air Volume System; option two; an Air Source to Hydronic Heat Pump Chill Beam System; option three; a Variable Refrigerant Flow System (VRF); and option four, a Geothermal VRF System.

Mr. Puniello presented a life cycle cost analysis which depicted the three major cost factors related to HVAC systems which include installation, maintenance, and operating cost over a 30-year period. Mr. Puniello explained that 30 years is the typical life span of such systems. Mr. Puniello explained that all three options would be compared against a code baseline, option one, a Fan Powered Variable Air Volume System, which may lead to reduced inside air quality, higher energy costs, and higher ductwork costs.

Option two, consists of an Air Sourced Heat Pump System. Mr. Puniello explained that this is a good choice for new buildings and showed the committee images of how the system functions. This system would have a high degree of thermal comfort, each space would essentially have its own zone, however would come at higher cost. An electric boiler would be included as a backup in the event of heat pump failing to keep the building from freezing. The system includes an outdoor refrigerant system and the hot water/ chilled water within the building which would contribute to reduced future replacement costs.

Option three, a Variable Refrigerant Flow System (VRF) would consist of a refrigerant based heat pump outside of the building and indoor air handling units. This system has a lower piping cost, the indoor unit cabinet can be used for heating and cooling, both reducing first costs. Mr. Puniello informed the committee that the cons of a VRF system included maintenance of individual fan motors within the space, more complex automatic controls, and would require a refrigerant license.

Option four, consisted of a Geothermal VRF System which could be applied to options two and three and modified if needed. This system is more energy efficient, produces low noise levels inside and outside, and uses heat recovery for energy efficiency. This system would have higher first costs, and additional site coordination needs.

Options two, three, and four all consist of Dedicated Outdoor Air Systems, providing code required ventilation air for the building. Mr. Puniello explained how the systems use heat recovery, which pulls heat from the exhaust to temper the incoming outdoor air. Regardless of the option chosen, the HVAC controls would be integrated into a Building Energy Management System, allowing scheduling options to further contribute to energy savings.

Mr. Puniello expressed that option three, the VRF has the greatest 30-year life cycle total savings, just under half a million. Option two, the chill beam system would still be a viable option, better than the code baseline and would have a discounted payback at 11 years. Option four, the Geothermal VRF System, although the most energy efficient, does not pay back over 30 years.

Mr. Fennelly noted that the dollar values provided do not include environmental benefits or reduced noise; which should be taken into consideration for the neighbors. Mr. Hooper explained that his background in facilities management has led him to always look for efficiency, reliability, and longevity through redundancy. Mr. Hooper expressed that the town would need to have the Town Hall/ School Administration building be as energy efficient as possible.

Mr. Hull asked what type of HVAC system was used in the high school. Mr. Kelley explained that there was a natural gas-powered hydronic system. Mr. Puniello explained that natural gas had not been considered, but the options available have the potential for natural gas. Mr. Pallotta acknowledged the potential for changing in codes related to fuel sources. Mr. Puniello noted that if Wilmington was to adopt the stretch code, a gas boiler may create challenges in being compliant. Mr. O'Brien informed the committee that the Commonwealth has included Net 0 Carbon which means

fossil fuels are going to be on the way out. The committee discussed the various options for gas or diesel powered backup generators to accompany the HVAC system options. Ms. Allan asked if gas or diesel options were chosen, would affect the option of each room having its own temperature controls. Mr. Pollatta explained that it would not effect the availability of different heating zones. Mr. Hooper expressed his interest in having a system that is easy for the Public Buildings Department to work on. Mr. Pallotta suggested completing a propriety spec of the building systems, as would be completed with fire alarms and security systems.

Mr. Pallotta explained that going with option 3 or 3A would reduce the size in ductwork which would allow more space within the ceilings to better accommodate sprinklers, plumbing, and the HVAC systems.

Mr. Hooper asked Mr. Kelley's opinion of the VRF System. Mr. Kelly noted that it would be important to have control over multiple rooms to accommodate individual temperature preferences throughout the building. Mr. Kelly added the ability for repairs to take place in town, the technology would have to match with the department's skill set or have a number of vendors to perform the work. Mr. Kelly questioned what the lead times were like on the different options. Mr. Puniello explained that lead times are about 30-40 weeks for varying systems and parts.

Mr. Hooper asked if Mr. Pallotta was looking for a recommendation. Mr. Pallotta stated that from a schedule standpoint the VRF System would be the most suitable and that the supplemental heat system and hot water system would be dealt with further along in the project. Mr. Hooper expressed his interest in choosing option three. Mr. Hooper stated he would like to see option three with other options. Mr. Hooper entertained the motion for choosing option three with added options, seconded by Jack Holloway. And it was voted by unanimous verbal role call to choose option three with other options.

Mr. Pallotta stated that the committee needed to have a conversation about how the lighting in the building will be controlled and how these controls can effect the HVAC controls. Mr. Hooper stated his preference of simplicity with lighting systems and having things such as occupancy and vacancy sensors and individual controls. Mr. Puniello explained that it was functional to integrate the lighting and HVAC controls, as a occupancy and vacancy sensor could allow for the automatic adjustments to occupancy and vacancy temperatures. Mr. Pallotta asked if carbon dioxide sensors would be used to adjust the amount of airflow in conference rooms for larger meetings. Mr. Puniello stated this would be adjustable. Mr. Pallotta explained the importance of these factors and the decision of how important the sequence of controls is.

Mr. Hull asked if the rooms would be controlled individually, would it mean the doors of the rooms would need to be shut for the HVAC system to operate properly. Mr. O'Brien stated there would be closing mechanisms for the doors, and the hallways and rooms would be working against each other but would not be noticeable. Mr. Melaragni asked if there was supporting data available to confirm the energy efficiency of using expensive occupancy and vacancy sensors. Mr. Puniello stated that this technology is standard in the industry and is typically code driven.

Ms. Inman asked if the switches and controls were to be individually controlled, would they be tied to a system which would establish a uniform base temperature. Mr. Puniello explained that the system would be controlled by the building management system, and would have heating and cooling set points, the building would cool at 75 degrees and heat at 70 degrees, usually plus or minus 2 degrees are used from these set points.

Ms. Allan asked that if part of the building were to be closed, and a night meeting were to be held, would the custodian have to turn down the individual thermostats to unoccupied temperatures. Mr. Hooper explained that this would be a setting for the Building Management System, and would be programmed.

Mr. Fennelly asked how the systems would handle airborne pathogens in respect to COVID-19, and if the air would be disinfected. Mr. Puniello explained that with the VRF System would use 100% outside air which would be filtered, it would be possible to add UV or Bipolar Ionization to the ductwork. Ms. Inman asked if it was typical that these types of systems were being used in municipal buildings or just clean room settings. Mr. Puniello explained that it is standard that buildings have the ability to add these systems as needed. Mr. Hull asked if there would be operable windows in the building. Mr. Hooper explained that open windows would effect the balance of the HVAC system, and operable windows would not be part of the project. Mr. O'Brien reminded the group that the system is providing 100% fresh air.

UPDATE ON CMR PROCESS BY OPM

Mr. Pallotta informed the committee that the CMR process is on track, the review committee has received their packages for the three submitted RFPs. All three submitters will be reviewed by the end of next week. Diane asked what the names of the submitters were. Mr. Pallotta stated that the firms who submitted were Consigli, Commodore, and Colantonio, and he was confident the review committee would select a CMR who's name starts with a "C".

DISCUSSION ON THE NEXT NEWSLETTER

UPCOMING MEETINGS AND NEXT STEPS

Mr. Hooper stated the next Town Hall/ School Administration Building Committee Meeting would be May 3, 2023 at 6pm.

PUBLIC COMMENTS

Mr. Hooper entertained the opportunity for public comments; there were no public comments.

ADJOURN

Motion to adjourn made by John Doherty, Seconded by Paul Melaragni, and voted upon unanimously that the Town Hall/ School Administration Building Committee adjourn.

Meeting adjourned at 7:40 pm

Respectfully submitted,

Thomas F. Donahue
Recording Secretary

