**TOWN OF ENFIELD**

**MUNICIPAL FACILITIES ADVISORY COMMITTEE**

**DESIGN TEAM**

**MEETING MINUTES**

**January 9, 2024**

**MFAC Design Team in Attendance:** Tracy Young, Tate Picard, Travis Boucher, Reed Bergwall, and Kim Quirk (Online)

**MFAC Design Team Absent:** N/A

 **Ex Officio Members in Attendance:** Ed Morris, Town Manager and Shirley Green, Library Trustee

**Ex Officio Members in Absent:** N/A

**Town Staff in Attendance:** N/A

Called to order at 3:30 PM

BUSINESS

The minutes of 11-28-2023 were discussed. The minutes were accepted by consensus.

**PUBLIC SAFETY UPDATE**

Mr. Morris turned the meeting over to Andrew Martin from Neagley and Chase for an update, budget review, and to discuss the HVAC systems.

Andrew Martin started with a high level overview of the budget. He mentioned that the construction price of 6.5 million was their goal and at the last meeting with them, the project was $400,000 over budget. Through some continued updates and more official estimates the project is now at $300,000 over budget, but that does not account for the generator grant. Taking $100,000 off for the generator grant brings the project down to $6,700,000 which is $200,000 more than the budget. He then explained some research they are looking into using a Zip system and reducing exterior rigid insulation. There will be a slight reduction in R-value, but would still be above the Vermont standard, which is much more stringent than the NH standard. The additional air sealing qualities of the Zip system will also help with efficiency. This change looks like it will reduce the cost by approximately $70,000.

There were a few questions about the insulation change, but the committee was satisfied with the answers they received. Mr. Morris stated that the $130,000 overage does not account for any future grants or NH Saves incentives. This could bring the budget down within striking distance. He encouraged Neagley and Chase to continue looking for some cost savings.

Andrew Martin then moved on to the review of the project and updated the MFAC that RFP’s would be released and he expected to have final pricing and be ready to sign a contract by mid-April. Andrew stated he was hopeful that we could find some more cost savings, but thought the estimate was going to be very close to actual pricing because of the pricing estimates they have received from actual companies for the work that has been specified.

Andrew then went through the projected permit schedule:

Water/Sewer Permit – Early February

DOT submission- Early February

EPA general Permit – February

Site Plan Review February 28th

Building Permit Early April

He stated they are looking at a 10 month schedule once construction begins.

The conversation then turned to the HVAC system focusing mostly on the reasons for the backup propane boiler. Notes from the meeting provided to the MFAC for this discussion is as follows:

***Office Area - Heating and Cooling System:***

*Heating and Cooling of the occupied space is efficiently accomplished by electric sourced variable refrigerant volume (VRV) / variable refrigerant flow (VRF) heat pump system. Two separate heat pump systems avoid having the office wing on one heat pump system and splits the refrigerant piping into two separate systems. The equipment for the basis of design is Daikin VRV “Auroa”.*

*System heat and cooling loads and equipment sizes are based on room set point temperatures for the occupied spaces as recommended by the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE) of 68.5°F to 75°F in the winter, and 75°F to 80.5°F in the summer.*

*A high efficiency propane fired boiler is included for supplemental heat if the heat pump system is unable to supply sufficient heat. Under back-up / emergency conditions, the building will stay above 32F and can drop down to as low as 40F during extended (unlikely) temperatures of below - 20F.*

*Each zone will have a thermostat to control heating and cooling temperature and the fan operation (on auto). The maximum allowed heating temperature and the minimum allowed cooling temperature can be programmed.*

*Note: Heating and cooling supply air to vestibules, entries and corridors is ducted from the heat pump adjacent room system.*

***Backup/Emergency Heat for Office Area***

*Backup/emergency heat is necessary when outside temperature is below -20F (the operating capability of the heat pump system), or a failure of the heat pump system.*

*The use of a high efficiency propane fired boiler will allow the installation of a 150-kW propane fired generator that will supply total electric backup of the facility.*

*A propane fired combination heating and domestic water heating boiler will provide adequate heat to maintain office wing above freezing when outdoor air temperature is below the operating temperature of the heat pump system.*

***Computer Network Room AC System:***

*Two wall mounted split Air Conditioning units rated to -40 F outdoor air temperature.*

1. *System operator shall set room temperature.*
2. *Cooling units shall alternate monthly.*
3. *If room temperature rises 5 degrees (adjustable) above set-point, stand-by unit shall activate,*

*and the system shall alarm.*

1. *System shall alarm on a high condensate signal. Unit with high level condensate shall shut-down and stand-by unit shall activate.*

***Community Room:***

*Pedestal mounted Runtal baseboard heat under windows.*

1. *A dedicated circulator pump shall run continuously when the outdoor air temperature is an adjustable set temperature. 3-way valve with outdoor reset control shall control water temperature.*
2. *Runtal decorative control valve shall control GPM flow though heaters.*

*Hydronic System for Emergency / Auxiliary Heat:*

1. *Ceiling Mounted Cabinet Unit Heater: Room 101*
2. *Wall Mounted Cabinet Unit Heaters: Room 102 and Fitness Corridor Room 118*

***Sally Port:***

*Hot Water Hydronic Unit Heater to maintain Sally Port at 55F.*

1. *Circulator pump for Unit Heaters shall run continuously when outdoor air temperature is below an adjustable set point. Outdoor reset control shall control water temperature based on the outdoor air temperature.*
2. *Line voltage thermostat shall activate unit heater fan on a call for heat.*

***Ventilation:***

*Three Energy Recovery Units provides exhaust and fresh air, The exhaust air passes through an energy recovery wheel, transferring energy to the incoming fresh air.*

***Apparatus Bay Heat:***

*Two-stage propane fired Infrared heat to maintain Apparatus Bay at 55F.*

***Apparatus Bay Ventilation and Air Filtration:***

*Exhaust ventilation design, as required by code, is provided by an exhaust fan and supply air louver. Exhaust fan motor is variable speed and controlled by NOX and CO sensors. These sensors will alarm if either NOX or CO exceed acceptable levels. The system utilizes the Plymovent vehicle exhaust capture and removal system, as supplied by the town.*

***Domestic Hot Water:***

*An electric water heater supplies domestic hot water and serves as a buffer tank for the boiler. The buffer tank prevents the propane fired boiler from short cycling and also serves as the domestic hot water tank. The propane fired boiler can supply domestic hot water.*

*A domestic hot water circulator provides hot water to fixtures within 5 seconds of turn on. Note: This is a requirement for the emergency safety shower and eye wash. Circulator cycles based on recirculated water temperature.*

Meeting adjourned at 4:25 PM