**Feasibility Study Notes**

**Northampton**

Design Services for Capital Improvement Planning to **Upgrade Seven Municipal Buildings** to Net‐Zero Energy Use by 2050

A not to exceed **total fee of $120,000** has been set. The due date for proposals is 2:00 pm, September 10, 2020.

Description of work

The City is seeking design services to conduct, for each building, a Feasibility Study that will include the development and evaluation of potential alternative solutions needed to achieve net- zero energy use by 2050 and continue through a Basis of Design phase and Phased Capital Improvement Schedule of the preferred alternatives. Each Feasibility Study will include proposed improvements to the building envelope to lower energy load and proposed alternative heating ventilation and air conditioning (HVAC) and domestic hot water (DHW) systems that eliminate on-site combustion of fossil fuels. Each Basis of Design shall provide the energy use intensity, greenhouse gas (GHG) emissions, indoor air quality, structural longevity and life-cycle costs of proposed improvements. The technical approach will include detailed descriptions – including schematic drawings when needed for clarity – of changes proposed in such areas as thermal, air, water, and vapor barriers, drainage planes and fenestration and narrative descriptions of proposed changes to heating, ventilation and air conditioning systems. Each Phased Capital Improvement Schedule shall include a Gantt chart showing dependency relationships and a narrative on incorporating the improvements into the City’s long-term capital improvement plans.

**NET-ZERO ENERGY USE**

For this work, the City defines a **Net-Zero Energy Use Facility** as a highly efficient (low energy use intensity) building that does not combust fossil fuels on site for space and domestic hot water heating or cooling and sources 100% of its annual electricity from renewable electricity sources.

The design work requested in this RFP will prioritize reduction of energy use intensity for each building and conversion of heating and cooling systems to those that do not combust fossil fuels on-site. While the City may opt to invest in on-site renewable electricity prior to 2050, planning to do so is not part of this work. Instead, for planning purposes, the City will assume that the State of Massachusetts will regulate a move to 100% renewable electricity by 2050.

**Chilmark School- information provided by Rob Hannemann**

10,000 sf.

The scoping study was $11,000. (bid was from Jan 2020)

We had a pretty clear idea of what we wanted (get rid of fossil fuel by using ASHPs, make sure ventilation is both quiet and effective).

***(Our needed work is more extensive than Chilmark School which is newer than any of our buildings. Their project did not include analysis of thermal envelope and drawings and specifications for improvement)***

Per square foot cost might not be correct because in reality, the School was built in 3 pieces and each of those pieces would have been built similarly.

The PSB Fire Station was built in one piece in 1999.

Fire Station One has a few pieces, maybe built at different times.

Each has more or less one mechanical system. (School has a few other parts.)

**School—mid 70s-mid 90s.**

61,000 square feet

$40,000 was suggested to Kate as a possible amount to do a FS for the School

Rob Hannemann suggests possibly $25-30,000.

Possible "custom grant" available for $25,000 from Green Communities program.

Margaret Song of the Cape Light Compact will help us apply for this grant.

**Fire Station at Public Safety Building --1999**

Gross Area SF 20,929

Finished Area SF 11,723

**Fire Station One—1950-1980?**

3012-3652 SF (as per Assessor's drawing)