

MEMORANDUM



Energy-Conscious Design: The Medway Municipal Complex consists of the Medway Town Hall, Police Station, and Fire Station the building is designed as an all-electric building that meets the Targeted Performance Compliance path of the Massachusetts Stretch Energy Code (225 CMR 23).

Heating and cooling come from a ground source variable refrigerant flow heat pump system, with dedicated outdoor air units providing ventilation through high-efficiency energy recovery. The apparatus bays are heated by radiant floors and hydronic unit heaters served off the same ground source plant. No fossil fuel combustion is used for space heating anywhere in the complex.

The envelope of the building is also providing excellent efficiency: an R-45 roof, an effective wall assembly of R-21.7 after thermal bridging, triple glazing at U-0.27, and a window-to-wall ratio held to under 12 percent. Air leakage is targeted at 0.20 cfm/sf at 75 Pa, roughly half the code maximum.

The project team has engaged with Mass Save and Eversource and the building complies with their incentive Path 1 program.

Renewable Energy: The Medway Municipal Complex project includes photovoltaic (PV) design consisting of three arrays: one located on the Fire Department roof, one on the Town Hall sloped roof, and one on the Police Department roof. The arrays utilize available roof areas that are generally oriented toward the south to maximize solar exposure and energy production.

The system consists of 1,026 solar panels and four inverters, with a total installed capacity of approximately 154.76 kWdc. The system is estimated to generate approximately 188,000–200,000 kWh of electricity annually.

Water Efficiency: The proposed design includes high efficiency water-saving fixtures including the following:

- High-efficiency water closets equipped with 1.28 gallon per flush flushometers.
- High-efficiency urinals equipped with 0.125 gallon per flush flushometers in lieu of code required 0.5 gallon per flush urinal.
- Public use lavatory faucets with 0.35 GPM aerators in lieu of code required 0.5 GPM.
- The showers shall be equipped with 2.0 GPM shower head.
- Kitchen sinks shall be equipped with 1.5 GPM outlets in lieu of code required 2.2 GPM.

Additionally, the project is specifying drought-resistant landscaping species to mitigate the need the irrigation.