



# Accelerate Perform Program

**Review of Proposed Energy Performance Targets for the New AHS**

November 6, 2018

# Accelerate Performance Program Overview

- ▶ Adopt aggressive, but realistic, energy use targets early in the design process
  - ▶ Site energy use intensity (EUI) at least 25% lower than code compliant building
- ▶ Position the new AHS to become an all-electric and net-zero energy building
- ▶ Achieve desired energy performance at no or low incremental cost

## Program incentives

- No cost to Arlington to participate
  - Free energy consultant support and oversight
- Committing to a minimum of \$204,234 in incentives\*
  - Contingent on Arlington HS meeting energy targets
  - Exact amount to be calculated based on achieved performance
  - Does not reduce MSBA reimbursement rate
- Up to \$30,000 incentive for design team
- \$3,000 for energy design charrette

\* Based on 408,467 gsf and utility incentive of \$0.50/gsf.

## Proposed AHS EUI Goals

Site Energy Use Intensity Targets (kBtu/sf-yr)		
Goal Level	All Electric	Gas Heat
Baseline	38	48
Target	30	40

- ▶ “Target” shown to be achievable in similar projects
  - ▶ Positions building for net-zero energy operation
- ▶ Design for all electric or ability to convert to all electric in the future
  - ▶ To work with decarbonized grid of the future to achieve carbon neutral operation

## Other Key Energy Performance Goals

- ▶ Maximize onsite solar electricity production
- ▶ Minimize energy use “after-hours”, e.g.,
  - ▶ Aggregate after-hours spaces and serve with separate systems
  - ▶ Use occupancy controls to shut down systems during low or no occupancy
- ▶ Design for ease of maintenance / low maintenance costs

## Comfort Goals and HVAC systems

- ▶ Classroom space will have air conditioning
  - ▶ Balance energy conservation with desired thermal comfort
  - ▶ Suggested summer “design day” criteria of 80°F & 45% RH
- ▶ Acoustics: classrooms shall not exceed a maximum 35 NC
- ▶ Heat pump based HVAC design – including geothermal and VRF systems.
  - ▶ This will allow for beneficial electrification
  - ▶ Gas heat to be considered as necessary to supplement or back-up heat-pumps

## Measurement & Verification

- Design for real-world performance (not just on paper)
- Engage students and staff in energy efficiency through good design and training
- Collect energy data to track performance and identify equipment issues more quickly
- Integrate new measurement systems with Arlington's existing platforms

Questions?