

# Sustainability, Energy Efficiency and Life Cycle Costs

## **8. Sustainability, Energy Efficiency and Life Cycle Costs**

Davenport Community Schools will remain a leader in its efforts to consider environmental sustainability, energy efficiency and life cycle costs in the management of its facilities. The District is a current member of the U.S. Green Building Council and we are implementing best management practices for sustainability and energy efficiency in every area of practice.

The proposed Long Range Facilities Plan recommends allocating \$1,000,000 of PPEL funds for a program of on-going energy efficiency upgrades to existing schools. This includes things like retrofitting gym lights, classroom, corridor and parking lot lights to LED fixtures, adding occupancy sensors, dimmable fixtures that harvest daylight and early adoption of developing energy savings technologies. These programs also qualify for rebates of a portion of the costs from Mid-American Energy. DCSD aggressively seeks rebates, energy efficiency incentives and grants.

In addition to the Energy Efficiency line item, there is a PPEL line item to invest an additional \$1,000,000 in Retro-Commissioning of existing buildings. Retro-Commissioning is a process of having a certified Commissioning Agent assess all of the heating, cooling, lighting and energy using systems of a building to ensure that all systems are performing as designed and identifying where systems improvements will provide high financial returns on investments through energy savings, incentive payments and rebates.

The program will leverage additional funds from Mid-American Energy whose retro-commissioning program will reimburse a portion of the retro-commissioning cost and pay additional incentives for equipment replacement and upgrades resulting from the retro-commissioning effort. The value of rebates on equipment, reimbursements of retro-commissioning costs and energy incentive payments will likely also reach \$1,000,000 over the ten year life of the program. In addition to getting \$3,000,000 in value for the \$2,000,000 spent in these two programs, each of the investments results in significant energy savings and a reduction in utility costs that are General Fund expenses.

All new construction and major renovation work undertaken in the Long Range Facilities Plan will be designed to exceed the Iowa Energy Code minimum requirements. Consideration will be given on a case by case basis to install Photo Voltaic (solar electric) or wind energy generating equipment on each project and investments will be recommended where ever life cycle return on investment costs makes economic sense.

New construction projects and major renovations that qualify will be entered into the Mid-American Energy Commercial New Construction Program and designed to maximize the energy savings available through use of the design cost assistance, incentives and rebates. The Commercial New Construction

Program helps owners evaluate different energy cost savings alternatives and select those that offer the best return on investment and maximum level of exceeding the Iowa Energy Code.

DCSD specifications for Heating Ventilating and Air Conditioning Equipment, lighting and all energy using systems will take into consideration total life cycle costs. This means that investing in higher initial cost equipment that will save operating funds by using less energy will be a priority. In many cases, higher first cost for equipment and systems results in lower life cycle costs.

Across all DCSD operations attention and priority are given to environmental sustainability. This is reflected in custodial services through the green cleaning initiative where only environmentally sensitive cleaning products are used. Harsh chemical solvents are avoided. Disposable paper towels and tissue are specified to contain minimum levels of recycled contents. DCSD has implemented an Integrated Pest Management Program to carefully manage when, under what circumstances and by whom pesticides or herbicides are applied in our buildings and on our grounds. Only licensed applicators may apply these products, only with prior notice and only when other pest control strategies have proven inadequate.

Many DCSD building have a number of asbestos containing materials used in their original construction. The District has an inventory where asbestos containing products exist in each building and maintains a comprehensive log of any work that disturbs asbestos containing materials. The Asbestos Hazard Emergency Response Act (AHERA) set out very particular standards for the identification and management of asbestos containing materials in schools and DCSD maintains full compliance with all AHERA standards and exceeds the requirements of many. At every opportunity, when projects are planned in each building, asbestos containing materials are abated by a licensed abatement contractor in strict compliance with Iowa Department of Natural Resources and Federal Environmental Protection Agency Standards.

DCSD complies with current State of Iowa requirements for radon testing. Any paints of unknown origin are treated as lead based unless testing proves they are not lead based. Material Safety Sheets (formerly known as Material Safety Data Sheets or MSDS) catalogs are maintained individually at each campus for all products authorized for use at that campus.

The District has storm water quality and quantity management systems, bio swales and detention ponds at many sites and a very active involvement with City of Davenport Public Works program that connects our teachers with curriculum and program support for instruction using the site storm water features for rain gardens and outdoor science instruction. This is a very strong partnership between the city and many of our schools. The City values the instruction of students in the topics of storm water

management, water quality, conservation and other units that are taught using these facilities so highly that they waive a significant amount of storm water management fees that would otherwise accrue to the District.

The Superintendent has implemented an energy savings committee and district wide energy efficiency program aimed at behavior modification with a first year goal of saving \$180,000. This program audits all buildings to ensure that convenience appliances are not used, that only CFL or LED bulbs are used in task lighting, that all equipment is turned off when not in use and every reasonable step to save energy is undertaken by all district staff.

This program also compiles and distributes a quarterly energy newsletter with usage data and graphs for every campus and District wide, so that everyone can see the data and how it compares to the previous year. We are engaging staff at every level in this program, providing data and energy savings tips and keeping the level of involvement and information very high.

The District's commitment to environmental sustainability, energy efficiency and life cycle costing is reflected in our construction specifications, in our maintenance practices, in our daily operations and in our long term planning.