Use of materials with recycled content
Many of the materials that will be used in the R-B renovation will include recycled content, including ceiling panels, carpeting, ceramic tiles and flooring.

Use of locally made materials
Using materials made locally reduces energy use and environmental impacts from transportation. Our project makes extensive use of cast stone and concrete masonry units (cement blocks) made in the Chicago area.

Use of low VOC emission materials
Volatile organic compounds (VOCs) are carbon-based substances that can be chemically active in the environment when released. The RBHS renovation project is using sealants, paints, adhesives and other building materials that are formulated to have low or no emissions of VOCs.

Refurbishing of furniture and fixtures
Wherever possible, classroom cabinets, whiteboards, corkboards, doors and woodwork were refinished and reused during Phase I, resulting in less discarded demolition waste and less money spent on new materials.

Recycling construction demolition waste
Approximately 80 percent of the materials removed from the school during demolition are being recycled for new uses. Recycling building materials saves energy that would be spent manufacturing new materials.

Ventilation to exceed ASHRAE 62-2004 standard
The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standard 62-2004 recommends minimum ventilation and outdoor air exchange rates for maintaining healthy indoor air quality for building occupants. R-B's new ventilating system is designed to exceed the ASHRAE standard.

On-the spot control of room environment
Each classroom will be equipped with its own thermostat, multiple light switches, blinds and operable windows so that room occupants will be able to set temperatures and lighting to the levels that are right for the task at hand.

Renewed, more efficient heating system
The school's heating system is being completely replaced. The system will still be hydronic (pumped hot water, as opposed to steam), but the boilers will be new with modern controls and efficient natural gas burner technology.

Efficient air conditioning with non-ozone-depleting refrigerants
The new air conditioning rooftop units are equipped with latest-technology efficient electric compressor motors and provide for recovery of all refrigerants that might otherwise be released to the atmosphere during system service.

Centralized digital control for climate systems
The ventilation and air conditioning system will have all-new direct digital controls, which along with the heating system controls will be programmed and monitored from a central computer in the Buildings and Grounds offices. This centralized control will allow the facilities crew to locate and repair problems quickly to keep the system running at top efficiency.

Light colored roofs reduce cooling load
Where new roofing is being installed, light-colored roof coverings are being used to reduce heating of the roof. This will reduce the need for cooling in the building below and save energy. It will also reduce the building's contribution to the "urban heat island" effect, where man-made surfaces like pavements and roofs absorb solar heat and drive up local air temperatures.

Smart plumbing fixtures for lower water use
Motion sensor valves and timed on-off operation will be used on bathroom sink faucets and toilets to reduce water consumption. Lower water consumption reduces community water treatment plant throughput, which means lower energy consumption.