

# progress

**2013 EDUCATION** ISSUE

## Honoring Thomas Jefferson's Iconic Design

Jefferson Elementary School is one of five elementary schools in the Summit Public School District. As Summit's Architect-of-Record EI Associates is designing additions to both Jefferson and Franklin Elementary School to address Summit's expanding student population. The proposed Jefferson addition has been designed to not only provide additional classroom space, but to also address site circulation, safety and security concerns. This two-story addition will provide the District with five Small Group Instruction Rooms, Special Ed Classrooms, and toilet rooms on the second floor. A new main security entrance and main office area as well as multi-purpose lobby on the lower level will be provided. To permit better circulation and utilize the sloped site, the design includes a new terraced outdoor educational area, walkways and new entrance structure.

*Continued on page 3*



*Rendering of New Entrance & Classroom Wing Addition*



## Academy Model – 21st Century Educational Program



*Rendering of Business and International Studies Academy*

A 21st Century High School is taking shape for the Bensalem Township School District, Bucks County, PA. Over the last several months the Leadership Team and EIA's Project Team have been working on the educational design of what many would call the high school of the future. The newly programmed high school will include a four-academy structure: 9th Grade Academy, Business and International Studies Academy, STEM Academy, and Visual and Performing Arts Academy. Each academy will function as a "school within a school" connected by a Center Core area, which will include multiple flexible instructional areas, a Fitness Center, new student dining, an Internet Café, and an outdoor courtyard. The new design will incorporate a central Administration Office and enhanced security. The design includes replacing the existing Natatorium with a new structure to meet current competition standards.

*Continued on page 3*

## Protecting our Children

Security experts recognize that Districts cannot plan for all emergency scenarios but do encourage school leaders to implement security plans and procedures that are designed to Slow Down, Deter and Detain intruders, maximize the responsiveness of first responders, and maintain effective communication with authorities during all school emergencies. To this end, EI is assisting several districts in evaluating facilities and designing security improvements which eliminate casual and uncontrolled school access.

A significant improvement for many schools is the installation of a secure vestibule to control access into the facility. As has now been implemented for several of our clients, secure vestibules typically incorporate three important elements:

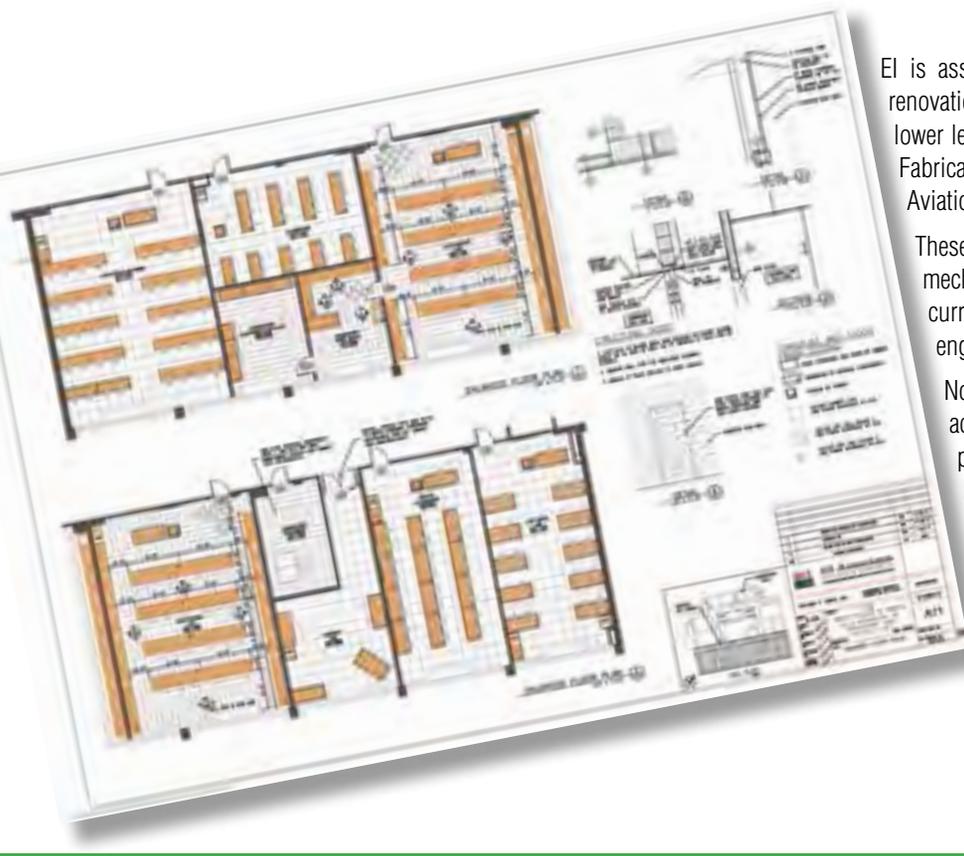
1. Two sets of secured doors: one exterior set and an interior set which form a secure containment area prior to confirming the identity of any visitor. These doors provide access control via electro-mechanical hardware following visitor clearance and are connected to intrusion detection and alarm systems.
2. Visual surveillance of the secure entrance area. Security cameras should be connected to a monitoring system located in the school's Main Office to identify all visitors as well as to the local Police Department to improve response time.
3. A system is provided to communicate with the visitor. Remote camera and speaker systems can be used to validate each visitor. As an option, a secure window within the vestibule can function similar to a teller station to provide more direct communication with school visitors.

This design provides a very effective "visitor management system" for school staff and provides a more secure atmosphere that helps to Slow Down, Deter and Detain school intruders and maximize response time for first responders in the event of a school emergency.



*New Security Vestibule*

## Engineered for Flexibility - CCM's New Engineering Labs



EI is assisting the County College of Morris (CCM) by designing the renovation of seven engineering labs, totaling 7,111sf, located on the lower level of Sheffield Hall. The engineering labs consist of a Materials Fabrication Lab, a Fabrication Instructional Lab, a Material/Testing Lab, an Aviation Lab and three Electronics Labs.

These laboratories are used to support a variety of programs covering mechanical, electrical, fabrication, aviation and other engineering curricula. Each lab's configuration is dependent on the type of engineering program being supported.

Noise concerns were addressed with the use of ceiling mounted acoustical panels to mitigate noise generated by existing drill press, lathe and CNC machines. Proper mechanical exhaust has been designed for welding booth, fume booth and paint booth equipment. New lab utilities comprising gas, electric, CW, HW and compressed air lab utilities were designed to suit the new lab configurations.

The new lab designs provide flexibility of use, ease of maintenance, and where possible, the use of sustainable materials and efficient use of resources. The new labs have been designed to be reconfigurable when possible, given lab infrastructure requirements, to accommodate future changes in technologies and instructional techniques.

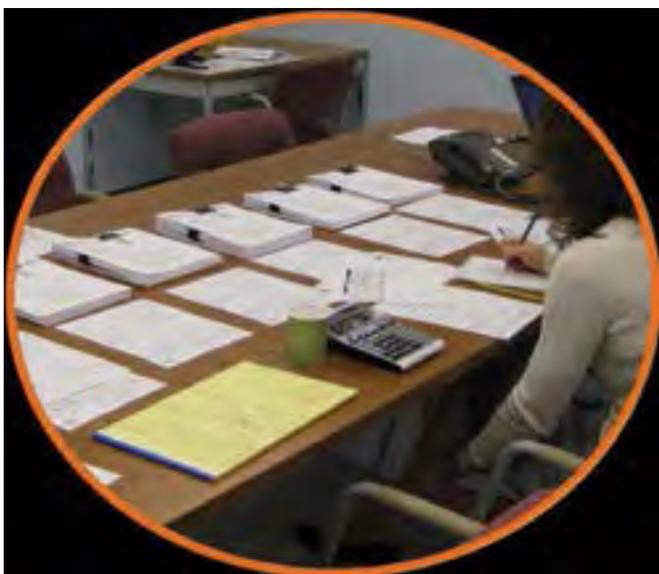
# Navigating ROD 4 in NJ

El Associates submitted over one hundred ROD 4 applications on behalf of our NJ public school clients totaling approximately \$100 million in construction costs before the September 4th deadline. State approval for these Grant Applications is expected in early December. Recognizing that the key to a successful ROD Project is an understanding of the process and the establishment of effective management and accounting practices at the outset, we present this Planning Checklist to help Districts successfully navigate their ROD 4 projects.

- Review, understand and use Exhibit B (Design Phase Checklist) and Exhibit C (Construction Phase Checklist) at the outset as a guide to establishing in District accounting and management procedures for securing and managing required documentation and completing Payment Requests accurately, completely and in a timely manner.
- Develop these specific accounting project management strategies for each individual project by DOE Project Number.
- Secure and file all required BOE resolutions including Design Firm notice of award for professional services, authorization to file Grant Application and bid specifications and award of contracts. These resolutions should be original, signed and sealed BOE resolutions.
- Secure and file DOE Forms including: PEC and FEC Letters, Educational Adequacy Approval; Exhibit B Design Phase Checklist and Exhibit C Construction Phase Checklist and the appropriate 806GA for each individual project.

Remember that there are different 806GA forms and payment schedules depending on whether the project is > or < \$250,000.

- Secure and file SDA forms including Grant Offer Letter, Executed Agreement and Reviews for Payment for each project.
- Secure and file all Certificates of Insurance and Business Registration Certificates for individual contractors for each project. Include four additional insured parties: State of NJ, NJDOE, NJEDA & NJSDA. Secure Architect's Professional Liability Insurance.
- Secure and file all invoices, AIA documents and payment requests by individual project.
- Use the submission checklists for each project number and allow for turnaround time.
- Communicate with SDA both SDA Grant Analyst and Grant Specialist with respect to any procedural changes from the previous ROD allocations.



# District Administration Office Expands

## Flexible Board Room and Multi-Media Technology



*Exterior Rendering*

Alterations and additions to the Cumberland Valley School District's, District Administration Office is the culmination of a 20 year master plan that addressed both enrollment growth and the needs at all of the district's facilities. The long awaited project encompasses alterations and additions that will accommodate staff and program needs. Certain programs such as student registration will be relocated from another existing facility to this building for easier public access. The existing building also lacked sufficient conference rooms. The project provides conference spaces of varying sizes for flexibility and different uses. The new board room is three times the size of the current board room. It was designed so that it can be easily reconfigured and utilized during the day for staff training. It has an acoustical dividing partition that can be used to subdivide the space and raised access flooring to allow for easy reconfiguration of power outlets without exposed power cords. The space will have the latest in multi-media technology.

The facility will be designed to house 40 staff members. Suites have been developed to group Executive Staff, Curriculum Directors, Human Resources, and the Business Office. Also included are core and support areas such as a Board Room to seat 170 people, three conference rooms, a work room, lobby, central registration reception area, staff break room and building services areas.

### *Cover story continued: Honoring Thomas Jefferson*

Drawing cues from the signature architectural achievement of our nation's third president, Thomas Jefferson's Monticello residence, the new entrance structure will provide a readily-identifiable main entrance and provide a symbol of our country's rich history. Designed as a skeletal structure, the new entrance will be a modern interpretation of the Monticello dome and will provide students and the community a historic link to the past.

### *Cover story continued: Academy Model*

In addition to the academic model, the high school is being designed as a high-performance building which is seeking LEED® Gold certification. El Associates assisted the District in applying for the Alternative and Clean Energy grant. In May, the School District was awarded \$2 million dollars in grant funding from the Department of Community and Economic Development under the direction of the Commonwealth Financing Authority (CFA). This project will include a new ground-source geothermal HVAC system, installation of energy efficient lighting, and building thermal envelope upgrades. The project will eliminate fuel oil as an energy source and is anticipated to reduce energy consumption by an estimated 1,812,837 kwh annually. Fixtures that exceed building code requirements relative to water-flow restrictions will be employed and are expected to save the School District over 3,476,800 gallons of water (41%) annually.

# Repurposing for 21st Century Education

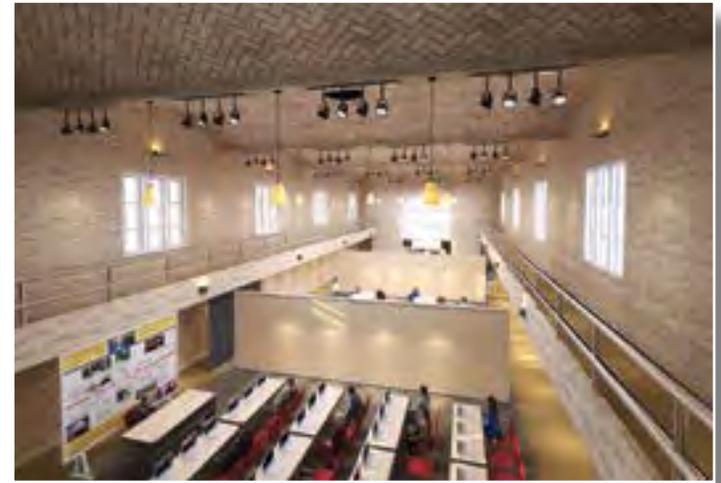
Revive. Restore. Repurpose. These principles can be applied not only to recyclable goods and products, but on a larger scale to America's aging school facilities. Today's school districts are not only economically challenged, but also challenged in terms of meeting the ever changing needs of 21st Century Education. Facilities once designed for specific and limited purposes are being re-purposed into flexible learning environments.

As Architect-of-Record for the South Orange-Maplewood School District EI is developing options to adapt the pool facility built in 1928 for use as a flexible, multi-purpose space to accommodate both small and large group instruction, assembly uses such as recitals, pre and post-performance receptions and student exhibitions, as well as for student fitness and as much needed swing space during ongoing renovations to the 90 year old school. The proposed renovations include the installation of sliding wall and drapery systems, new lighting systems and controls to support changing venues, improved acoustic finishes, movable partitions, and flexible furniture systems.

Repurposing offers school districts the opportunity to address changing educational program needs within the existing building envelope, thereby avoiding the need for costly additions. Projects such as with the SOMSD Pool not only preserve existing available buildings but can be performed to preserve historic elements of iconic facility while optimizing building use and breathing new life into older structures to meet 21st Century Educational Program goals.



*Proposed Re-Use Options of Existing Pool*



## Conewago Elementary School Receives LEED® Gold Certification

### The 14th LEED® Certified Project Completed by EI Associates



*Main Entrance*

The Conewago Elementary School, Lower Dauphin School District, Dauphin County, PA has achieved the Leadership in Energy and Environmental Design (LEED®) certification from the U.S. Green Building Council (USGBC). The project's LEED® rating reflects 60 documented and approved points, which corresponds to the certification level Gold under the LEED® for Schools version 2009. LEED® certification identifies the Elementary School as a pioneering example of sustainable design and an asset to the community. This is the fourteenth LEED® certified project completed by EI Associates.

*"We are gratified and thrilled that the hard work and planning for this project has resulted in LEED® Gold Certification," said Superintendent Dr. Sherri L. Smith. "Working in partnership with EI Associates, our teachers and community, we have a school, which will provide a physical example for our students' lessons about sustainability and conservation. Our students will benefit from this project for years to come."*

The project included 70,000 square feet of new one and two-story additions and renovations to the existing building, 11,400 square foot area. A whole building energy simulation model was utilized to compare the project's 39.5% reduction in energy use over a similar new/existing baseline building. The reduction in energy use is achieved by the school's tight thermal envelope, high efficiency geothermal heat pumps, daylight/occupancy sensors, and the efficient operation of the mechanical systems via a web based, automated building control system.

# Wilson School District Is Making a Splash

The Wilson School District and its community support an extremely successful aquatics program that provides a wide variety of year round activities. Instruction is provided for all of the district's students. The facility serves both the school district and the community swimming, diving, water polo and recreational programs.

The Roy G. Snyder Natatorium was constructed 45 years ago and was a well planned facility incorporating features for both instruction and competition at that time. Since then the District's aquatic program has grown and expanded and pool standards have changed. The current facility is dated and while well-maintained, is showing signs of wear.

EI Associates was commissioned by the Wilson School District to complete a Natatorium Study that was used as a tool to evaluate the Natatorium's current and future facility capital improvement projects, maintenance projects, and expenditures.

EI Associates provided the District with four options. One called for a totally new facility. The other three offered options for expansion, both internally and externally. The solution that was ultimately selected was designed around a new 75' x 75' pool that provides maximum flexibility when it came to water



*Interior Rendering of Pool and Seating*

use and scheduling. New balconies will greatly expand seating capacity, while the recapturing of an under-utilized court-yard area allowed for the relocation of locker rooms and the provision of additional deck area. While the seating in one balcony area is fixed, the other is retractable to provide additional instructional or staging space. Since the existing campus is fully developed with regard to fields and parking, the minimization of additions on the exterior of the building became a significant factor in the selection of the appropriate option.

The new pool incorporates indirect lighting that allows for maintenance from balconies or decks. The new dehumidification system is a fully programmable, packaged Dectron unit with a Smart Saver Heat Recovery component. The water recirculation system incorporates a source-capture chloramines exhaust plenum that greatly reduces the chloramines in the air. A Colorado timing system has also been specified. Finally, the installation of a hydraulic elevator provides handicap access to the upper level balconies and convenient access to storage spaces for staff.

## Finding Friendly Funding

EIA's relationship with Tri-Valley School District, Schuylkill County, PA spans over two decades. In 2011 EI Associates completed a District-Wide Feasibility Study. As a result of that study, the District has elected to proceed with alterations and additions at both of the District's elementary schools, Hegins-Hubley and Mahantongo Elementary Schools. The District then went to work to find alternative funding for the projects to reduce the tax impact on the community.

The Qualified Zone Academy Bond Program (QZAB), was authorized through the American Recovery and Reinvestment Tax Act. This federal program allows for certain schools, known as Education Zone Academies, to finance the renovation of school facilities, purchase equipment, and, if allowed by state law, provide up to date technology and instructional materials on an interest-free, or nearly interest free, basis through the allocation of tax credits. The Tri-Valley School District was granted an allocation of the remaining state FY 2011 Qualified Zone Academy Bond (QZAB) Program in the amount of \$8,997,000. This allocation was made for qualified work to be performed at the Hegins-Hubley Elementary School and the Mahantongo Valley Elementary School.

EI Associates also successfully assisted the Tri-Valley School District in applying for the Alternative & Clean Energy Grant for each school receiving \$565,000 for Hegins-Hubley Elementary School and \$320,000 for Mahantongo Elementary School. Each school is seeking LEED® Gold Certification.



*Top: Exterior Rendering of Hegins-Hubley Elementary School  
Bottom: Exterior Rendering of Mahantongo Elementary School*

# Improving Vehicular and Pedestrian Circulation at the Cranbury School

EI recently assisted the Cranbury Township School District with the design of site safety and circulation improvements at the Cranbury School. Traffic patterns and the number of vehicles in the parking area during morning drop-off and afternoon dismissal created concerns about student safety. The overlapping patterns of pedestrian and vehicular traffic caused most of the safety concerns.

To address the site circulation issues EI designed the resurfacing of portions of the existing parking lot and the installation of new curbs to properly control traffic. The addition of new islands improved existing traffic patterns and created safe pedestrian walkways throughout the parking lot.

New site signage was also installed to direct site circulation along with a new entrance canopy. The design also connects the sidewalk in front of the Auditorium with the sidewalk in front of the main entrance and provides a visual screen from the dumpster and boiler room entrance.



NEW ISLANDS



For additional information  
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## News, Notes & Events

### SUSTAINABLE DESIGN

#### LEED® Certified

- SD of the City of York – McKinley ES – LEED® Silver Certified
- SD of the City of York – Phineas Davis ES – LEED® Gold Certified
- Bedford Area SD – Bedford Area MS – LEED® Silver Certified
- Lower Dauphin SD – Conewago ES - LEED® Gold Certified

#### Seeking LEED® Certification

- Bensalem Township SD – Bensalem HS – Gold
- Carlisle Area SD – Wilson MS – Platinum & Lambertson MS - Gold
- School District of the City of York – Jackson ES – Silver
- Southern York County SD – Friendship ES – Silver
- Greencastle-Antrim SD – Greencastle-Antrim MS/HS – Gold
- Southeastern SD – Delta-Peach Bottom, Fawn Area & Stewartstown ES – Silver
- Lehigh Area SD – East Penn ES & Mahoning ES – Gold
- Tri-Valley SD – Hegins-Hubley & Mahantongo ES – Gold
- Newport SD – Newport ES – Gold
- Halifax Area SD – Halifax Area MS/HS – Gold
- Manheim Central SD – New ES – Gold
- Hatboro-Horsham SD – New Hallowell ES – Gold

#### Green Ribbon Award

- Summerfield ES – Neptune Township, NJ

### NEW PROJECTS

- Bensalem Township SD – Alterations/Additions to Bensalem HS
- Cranbury Township SD – Sitework/Casework/Window Improvements
- Christina School SD – Kitchen Alterations
- Cumberland Valley SD – ROTC Suite Expansion, Maintenance Projects
- Greencastle-Antrim SD – Alterations to MS/HS
- Hackettstown SD – Pavement Improvements
- Halifax Area SD – Alterations/Additions to Halifax Area MS/HS
- Hillside SD – Security Upgrades/Window Replacement
- Jefferson Township SD – LRFP Update/Window Replacement
- Lambertville SD – LRFP Update
- Metuchen SD – Campbell ES Addition & Renovations
- Mendham Township SD – Campbell ES/Edgar MS Boiler Replacements
- Milton Hershey School – Site Drainage Improvements/Window Replacement
- Newton SD – Alterations to Senior Hall HS
- Newton SD – HS Track Improvements
- South Orange Maplewood SD – District Master Plan & HS Renovations
- Summit SD – District-Wide Additions & Renovations
- Tewksbury Township SD – LRFP Update
- Verona SD – Mechanical Upgrades & Field Improvements
- West Amwell SD – LRFP Update and Roof Replacement
- County College of Morris – Lab, Site Security & HVAC Renovations
- Union County College – Multiple HVAC System Replacements

### EVENTS

- PSBA/PASA Annual Conference, Hershey, PA: October 15-16, 2013 - Visit us at our Booth # 326/328
- NJSBA/NJASBO/NJASA 2013 Workshop and Exhibition, "Student Achievement Share the Vision" – October 22, 23, 24 – Atlantic City Convention Center, Atlantic City, NJ Visit us at our Booth # 537-636 to discuss your District's facility needs.
- PASBO Annual Conference & Exhibits, Hershey, PA: March 11-15, 2014
- Maryland & DC ASBO Spring Conference, Ocean City, MD: May 18-21, 2014