

New Hall High School is a 21st Century Educational Environment

Hall High School in Spring Valley, IL is a newly constructed high school in Spring Valley, Illinois that opened in Fall 2015. The masonry building materials are a variety of brick, stone, and block that achieve not only structural integrity, but also a modern environment for 21st Century academic programs. The new facility features Classrooms, Science Labs, STEM Lab, Home Economics Lab, Tech Lab, Media Center, Fine Arts, Auditorium, Cafeteria, and Athletic Facilities.



The Project

Project name and address:

Hall High School
800 West Erie Street
Spring Valley, Illinois 61362

Architect:

Healy, Bender &
Associates, Inc.
4040 Helene Avenue
Naperville, Illinois 60564

The Builders

Construction Manager:

Leopardo Construction, Inc.
5200 Prairie Stone Parkway
Hoffman Estates, Illinois
60192

Mason Contractor:

Jimmy'Z Masonry
Corporation
8550 Ridgefield Rd., Suite B
Crystal Lake, IL 60012

The Scope

Project Totals:

134, 265 sq. ft.

which include:

STEM Lab, Science Labs,
Classrooms, Home
Economics Lab, Auditorium,
Cafeteria, Athletic Facilities,
Fine Arts, Media Center,
and Tech Lab

Type(s) of materials used:

Face Brick (Two Types - Exterior, Main Entry Lobby, Cafeteria, Athletics Lobby):
Endicott – Utility, Bordeaux Blend Velour
Glen Gery – Utility, Ironwood Classic

Thin Faced Face Brick (at Pre-cast Concrete Panels):
Endicott – Bordeaux Blend

Split Faced Masonry (Main Entry Lobby, Cafeteria, Athletics Lobby):
Trenwyth Industries - Lincoln

Smooth Face Masonry (Exterior Building Base): Cordova Stone – Limestone Color, Texture Face Finish

Cast Stone (Water Table, Bands, Sills, Accents): Custom Stone Works, Inc. - White

Concrete Masonry Units (Masonry backup walls, interior walls):
Northfield Block Company

Acoustical Masonry Blocks (Auditorium):
RPG – Diffusor Blox



Redesigning A Masonry School Building

The original high school comprised of a classroom building and a separate vocational building constructed in 1914. Over the years, four additions were constructed in 1939, 1962, 1974, and 1986 for a total building area of approximately 125,500 square feet. The school had 32 different levels; and systems were outdated, inefficient and costly to update. After considering many options, the community determined it was time to construct a new school facility.

Saying good bye to the 100 year old school was difficult for many in this small community. Heritage, education, and history were valued. While incorporating 21st century educational features, it was important that the new school include a design respectful of the original school.

The overall exterior aesthetics of the new high school includes massing reminiscent of the original building including the multilevel academic wing with red gabled roof forms along the predominant north elevation. Masonry detailing at the water table and brick color pays homage to the original building. The main entrance of the high school includes an arched cast stone pediment with the school name, which was an element found above the entry at the old school. Cast stone sills were designed to match similar details found on the original school too.



Integrating Historical Elements

To pay tribute to the history of the old school, several items were salvaged and incorporated or displayed in the new facility. A brick diamond diaper masonry element from the former school was carefully disassembled and reconstructed in a prominent area of the new cafeteria. The original corner stone was also saved and is now displayed in the new building.



Design Encourages Collaboration

The interior of the new high school is organized into three main areas including the three story academic wing, the fine and performing arts area, and an athletics area. Classrooms are organized to promote interdisciplinary collaboration and project-based learning. The main floor of the academic wing houses math and science classrooms. In the same area, a 1,500 square foot STEM lab is designed to promote project based learning and indepth scientific research and instruction. Science labs provide project-based instruction into biology/life sciences, physical/earth sciences, and chemistry/physics. Science labs are grouped to promote instructional collaboration.

The upper level of the academic wing houses a media center, humanities, and world language classrooms. This floor also includes a large technology lab adjacent to the media center offering multi-discipline instruction for humanities and world languages. The media center also features a broadcast room where student content can be developed and produced. The lower level of the academic wing houses consumer science classrooms for FACS, business, technology, and driver education. Also on the lower level are several special education classrooms which offer instruction for a variety of student needs.



The fine and performing arts area features a full performance theatre with seating for 470. A full catwalk system offers opportunities for lighting, sound and other technical aspects of the performance. Also housed in the fine and performing arts wing are the art and music rooms. A culinary arts foods lab is also located within this area and is in close proximity to the main kitchen to allow for instruction in a commercial kitchen environment.

The athletic area houses a 13,300 square foot gymnasium, an auxiliary gymnasium and weight and fitness room for physical education and athletic training. The athletic area flows to the main cafeteria on the main floor with the center-piece of the athletic area being the 1,300 seat, full-submersion gymnasium, where spectators enter from the top level and walk down to their seats.



When the bleachers are closed, the gym floor accommodates two full size basketball courts. The gymnasium can house the entire student body for assemblies and programs, and can comfortably host graduation ceremonies.

Masonry Provides Energy Efficiency, Durability, and Aesthetic Value

Exterior walls on the academic wing were constructed as mass wall construction utilizing face brick with concrete masonry unit back up. For constructability and schedule, a Dow Cavitymate Ultra Air System was employed to address the need for thermal insulation and a vapor and air barrier.

For durability, corridor walls, toilet rooms, locker rooms, and other high abused areas were constructed of concrete masonry units.

Face Brick, Split-faced and smooth faced masonry were incorporated in the main lobby, cafeteria, and athletics lobby to add durability, beauty and warmth to these spaces.

Masonry forms and earthtone colors were used to tie the school with its historical precedent. To reduce cost and save time, the shell of the auditorium was constructed of load bearing precast concrete wall panels, but a wythe of acoustical masonry was added to the interior face to enhance acoustics within the performance space.

Similar to the auditorium, athletic areas were constructed of loadbearing precast. To add aesthetic value and blend them into the architecture of the facility, thin face brick and smooth face masonry were veneered at key areas on the precast panel system.



The new school was designed to earn a Leadership in Energy and Environmental Design (LEED) Gold status by the U.S. Green Building Council.

The former school was situated on the site with a large front yard north of the school. This allowed the school to be constructed immediately north of the original building while allowing the existing school to remain in operation during construction.

A new parking lot is situated south of the school within the footprint of the original school. The new lot was constructed of ecological permeable pavers in two different colors to distinguish between drive areas and parking areas.

Designed as a LEED Gold Project

The new school was designed to earn a LEED Gold rating, recognizing best-in-class building strategies and practices.

Design features that contribute to the sustainability of the project include the following:

- Limiting number of parking stalls to meet minimum ordinance
- Stormwater features to control quantity and quality of stormwater
- Permeable pavers in parking lots and drives
- Cool roof materials
- Exterior lighting designed using Dark Sky design principles to minimize light pollution
- Water saving plumbing fixtures with a goal of achieving 35% water savings
- Energy efficient HVAC systems with a goal of achieving 35% energy savings
- Controllability of lighting and HVAC systems for occupant comfort
- Demand control ventilation to provide fresh air corresponding to occupancy loads
- Highly insulated building envelope (roof, walls, windows, doors)
- Low VOC refrigerants to minimize greenhouse gases
- Enhanced commissioning process for HVAC and lighting systems
- Recycling of construction and demolition materials diverted over 50% of waste from landfills
- Construction measures to protect absorbent materials from moisture
- Completed pre-occupancy building flush of nearly 2 billion CFM
- Use of materials with recycled content exceeding 20%
- Use of materials regionally produced exceeding 40%
- Use of materials to enhance acoustic performance
- Use of high level IAQ standards during construction
- Use of low-emitting (low-VOC) materials for adhesives, paints, composite wood, and ceilings/walls
- Management of indoor chemical and pollutant source controls

Hall High School is a quality masonry building designed and built by these Chicago-area Companies :



JIMMY'Z MASONRY CORP.