IMI Case Study

January 2004 *Number 20*

OWNER: Town of Madison, Public Schools

ARCHITECT: Jeter, Cook & Jepson, Architects, Inc. - Hartford, CT
John A. Matthews, AIA

STRUCTURAL ENGINEER: Michael Horton & Associates - Hamden, CT

CONSTRUCTION MANAGER: Dimeo Construction - New Haven, CT

MASON CONTRACTOR: Connecticut Masons/Joe Capasso Mason, LLC
Hartford, CT

LOCAL UNION: International Union of Bricklayers and Allied Craftworkers, Local #1, Connecticut

MASONRY: 425,000 modular brick, 6,900 pieces of decorative cast stone, 200,300 CMU, 63,000 decorative CMU, 12,000 sound block, 3,000 SGT

SPECIALTY CONTRACTORS: Armani Restoration - Hartford, CT; Frank Capasso & Sons - North Haven, CT

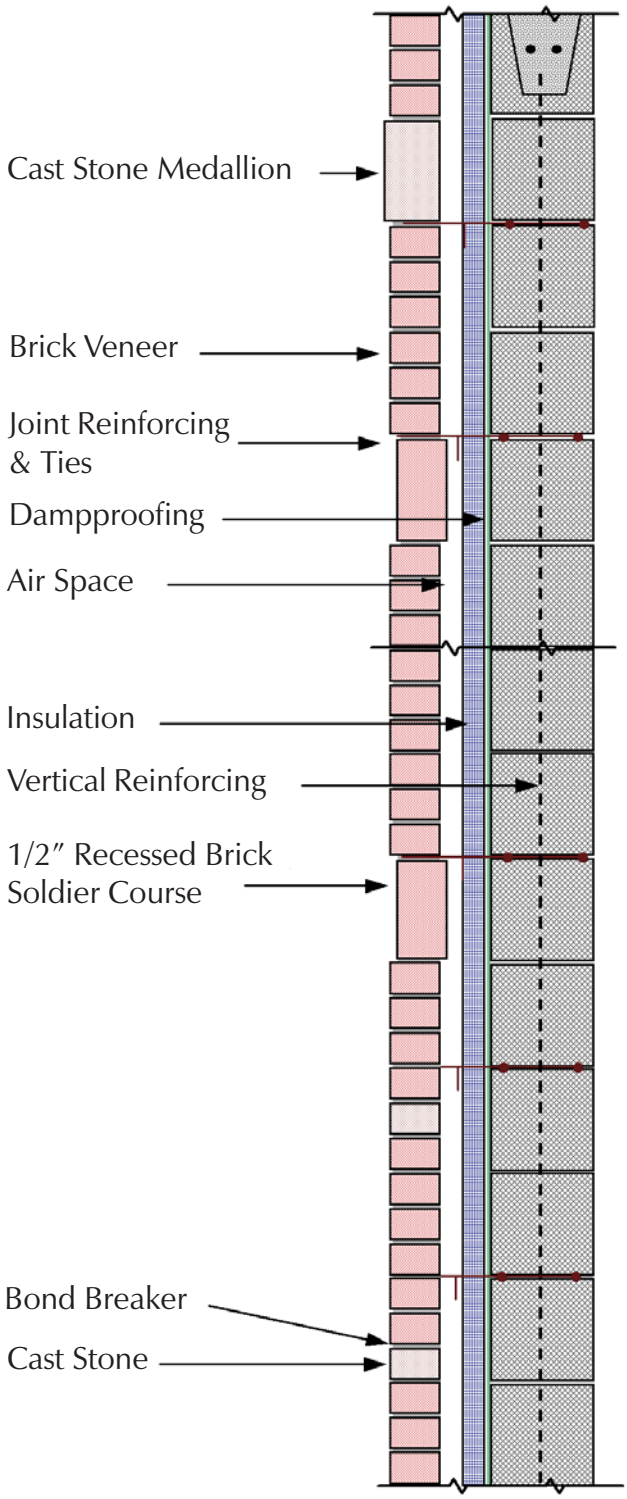
PROJECT COST: $44,750,000

School construction has dominated the commercial building industry for several years. Economic conditions have sometimes challenged school building committees with producing a high-quality educational facility using limited funds. When called upon to design a new high school for Madison Public Schools, Jeter, Cook & Jepson Architects, Inc. (JCJ) utilized the advantages of masonry construction to meet the requirements of the school committee. These advantages included:

- Mold resistance
- Fire safety
- Energy efficiency
- Durability
- Low-cost maintenance
- Acoustical efficiency
- Interesting aesthetics
- Improved indoor air quality
- Security

Dave Jepson, President of JCJ, Bruce Kellogg, Vice-President, and Jim LaPosta, Principal, have been industry proponents of mold and fire-resistant construction. Tom Brennan of Dimeo Construction, Construction Manager for the project, worked with JCJ to value engineer (in) CMU back-up and CMU corridor walls. They emphasized to the owner the long-term, life-cycle value of CMU versus stud wall systems. Therefore, the exterior walls were designed as drainage walls, consisting of brick and cast stone veneer with concrete masonry unit (CMU-block) back-up. Block is strong, durable, non-combustible, and is not a food source for mold. The exterior wall assembly included superior systems in moisture (and mold) control, such as flashing, mortar drip edge, mortar drainage net, and CMU dampproofing.

The JCJ design team used a unique combination of brick and cast stone to create a balanced exterior design. Cast stone bands and medallions provided relief within the massive brick walls. Recessed brick soldier courses added continuity and depth to the elevations. Cast stone panels divided sections of the building. Various stone sizes were laid in running bond to create a custom ashlar pattern. Brick piers and columns also created interesting aesthetic relief. An ornate precast beam topped out the exterior wall. John Matthews AIA, consulting architect and school building committee member, worked closely with JCJ on the exterior design.



Exterior Wall Section

Inside, corridors were constructed of decorative ground-face and split-face CMU. Architect Bruce Kellogg noted, "These 8" CMU provide non-combustible, 2-hour fire rated walls for a fire-safe environment. They also provide superior sound control in the noisy corridors during class changes." Structural Glazed Tile were used at the base of the wall to provide for ease in maintenance. Lightweight CMU were used above the ceilings to complete the wall assembly. Stairwells serve as an area of refuge and means of egress, and were constructed of 2- hour painted CMU.

The gymnasium was constructed of painted CMU and special sound absorbing block. Michael Horton, the Structural Engineer, worked closely with JCJ to incorporate the sound blocks into the design. Sixteen inch high bond beams provided additional support for the tall walls. Stack bond units were also used to provide architectural relief. These stacked units received additional reinforcing to comply with the building code. The great hall (cafeteria / auditorium) was constructed with split-face, ground-face and sound absorbing CMU.

Joe Capasso, co-owner and project manager for Connecticut Masons Joe Capasso Mason Contractors, worked closely with Bob Davis of Dimeo Construction to provide a quality project and complete the masonry work on schedule. He received assistance with project coordination from employees Mike Papa and Pat Foley. Connecticut Masons Joe Capasso Mason Contractors is currently enrolled in the IMI contractor College Certification program.

Armani Restoration provided dampproofing, fire-caulking and masonry cleaning on the project, and sealants were installed by Frank Capasso & Sons.

For additional information on the project detailed in this IMI Case Study, contact:

Richard Filloramo, Area Director of Market Development and Technical Services
IMI New England Region
225 Grandview Drive, Glastonbury, CT 06033
Ph: (860) 659-5813 Fax: (860) 659-5884 rfilloramo@imiweb.org

team IMI™

International Masonry Institute
42 East Street, Annapolis, MD 21401
800-IMI-0988
Fax 301-261-2855
www.imiweb.org

The International Masonry Institute is a labor/management cooperative serving the interests of the International Union of Bricklayers and Allied Craftworkers and the contractors who employ its members.

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