

## Case Study - Tully Fire Station



### Aesthetic Concept

The Tully Fire Station incorporated a large variety of masonry products.

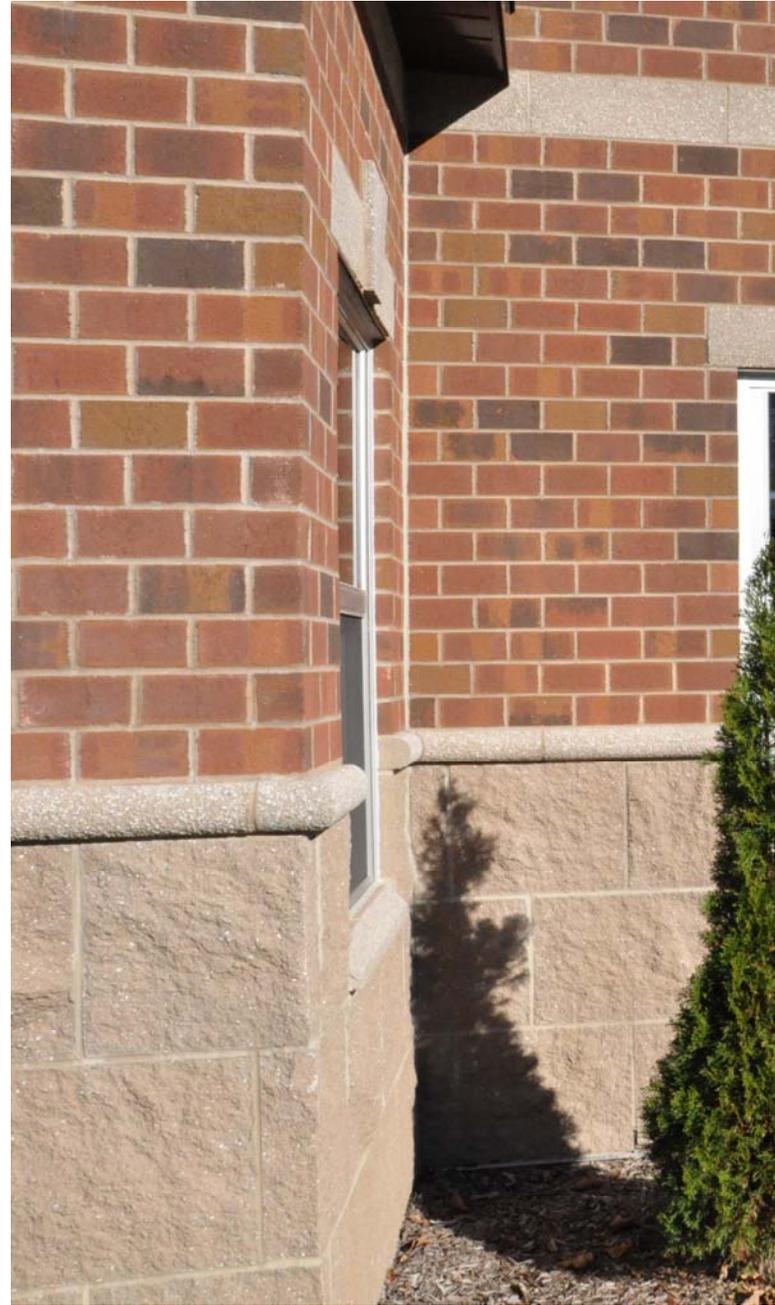
The exterior veneer consists of over size 4x16x24 split face CMU in a beige color at the base. The massive units do not look like traditional split face CMU in that they are three times the size of the standard module.

Clay brick that are 4x4x8 size units in a classic red range was used above the wainscoting of split face block for the majority of the building exterior. Keystones and arches, created from large CMU and then sand blasted for an attractive finish, adorn the window, door and garage door openings. Specially fabricated CMU sill units were placed under all of the windows. A watertable course, which is a 4 inch high CMU course that is a full radius unit on the face, separates the split face from the clay brick.



Higher up on the wall, a 4x8x24 Decro Face or Sandblasted course is incorporated into the brick to lend color contrast, but because of its smoother nature, provides a cleaner line in the brick wall.

The design creates the classic look and feel of an old time fire station that might have been built 100 years ago with a large stone foundation and clay brick.



## Structural Design

The majority of the structure including the apparatus bays was designed and constructed using a brick and block cavity wall system.

The 18 inch cavity wall included 10 inch CMU reinforced with #6 rebar and grouted typically at 40 inches on center, two inches of rigid insulation, an air space and then the veneer.

A large interior wall of 10 inch block separates the apparatus bays from the office areas. There is also CMU walls around a number of rooms, providing fire protection.

Columns of masonry between the garage door openings consists of a brick and block cavity wall that is 32 inches wide with the CMU containing 8 - #6 reinforcing bars, fully grouted.



## Innovative Use of Materials

The use of the large units at the base creates the look and feel of a large stone foundation, at a fraction of the cost. Using large masonry units is an innovative way to change the scale of a structure. Here, the designers have not only changed the scale of the building, but they have worked a variety of sizes, colors, and textures into an extremely attractive facility that would not have anywhere near the same appeal if one of the components was left off the list.



Details such as Keystones, Arches, Sills and Watertables were created using specially fabricated CMU shapes, from large rectangular CMU. The cost of producing these special shapes was a great value and allowed the Architect flexibility in design.

The walls of the structure were designed to provide the durability that a Fire Department required, but with the ease of maintenance.

## Quality of the Installation

The large variety of masonry shapes and sizes created a challenge for the mason. Coordinating the different units on site and into the wall was handled well by the crew.

The mason Contractor, Alliance Masonry, did an excellent job installing the masonry, but especially the 4x16x24 Split Face units. Their size and weight create the need for two masons to work in conjunction when installing the veneer, which can be a challenge in its own right.

One location that the quality workmanship can be noticed is at the control joint locations. When the large units are cut in two for control joints, the edge of the units must be trimmed to provide a straight edge for the masons to strike the joints cleanly or for caulking purposes. Close inspection of the control joints will prove that this small, but important detail was not missed.



Attention to detail can be seen throughout the project. Flashing and weep details placed at the proper locations to help direct any moisture out of the cavity wall system. A Stainless Steel drip edge is even used to prevent moisture that reaches the flashing from doubling back underneath the flashing at these critical junctions. Control Joints spaced properly and caulked to minimize any potential cracking of the masonry.

The end result is a project that the owner, designer, contractor, and masonry supplier are proud to have been involved with.

A close inspection of this building will not disappoint anyone looking for a quality masonry design and installation.



Concrete Masonry Units for this project were manufactured by Barnes & Cone, Inc. in Syracuse, NY. Additional information for this project can be found at [www.BarnesAndCone.com](http://www.BarnesAndCone.com) or by calling (315) 437-0305.



The Tully Fire Station was constructed in 2010-11 and is located at 1 Railroad Street, Tully, NY.

Owner:  
Tully Fire District

Architect:  
Bivens + Associates Architects

Engineer:  
St. Germain & Aupperle Consulting Engineers

General Contractor:  
Parsons McKenna Construction

Mason Contractor:  
Alliance Masonry Corporation

