

Timeline of Events with Meyers High School & Memorial Stadium

During the 2016-2017 school year, the district has been monitoring several areas of concern at Meyers High School and Memorial Stadium. These areas include:

- floor settlements near the auditorium stair and basement shop
- various cracks in the interior brick finishes of the 1st, 2nd, and 3rd floor (auditorium side)
- loose marble tiles above the grand staircase
- ongoing deterioration of the exterior walkway

Due to the areas of concern showing continuing deterioration, the District contacted the Wilkes-Barre City Code Enforcement office and requested an inspection that occurred on June 20th.

June 20th - Dan Kratz and Jason Humenanski from the City Code Enforcement office inspected Meyers High School. During the inspection the areas of concern were identified.

June 27th - A meeting was held at City Hall with Mayor Tony George, City Administrator Ted Wampole, City Attorney Tim Henry, Director of Operations Butch Frati, Gary Salijko, Thomas Leonard and myself.

During the meeting, Wilkes-Barre Area School District and Wilkes-Barre City Code Officials did not believe any of the observed issues were cause to close the structure, but all agreed they were concerned with the overall long-term safety of the building.

At the conclusion of that meeting, the following recommendations were made:

- Wilkes-Barre City officials requested that some areas of the steel frame be exposed to ensure no hidden corrosion existed (various locations).
- Loose sections of marble finish above the grand staircase be repaired or removed.

Within the following two weeks the District began opening the walls of the requested areas and identifying all the pieces of marble that had to be removed or secured.

July 18th - Leonard Engineering informed the Wilkes-Barre Area School District:

- Exposed steel beams in the areas of concern within floors 1-3 were found to be in good condition with little or no corrosion.
- Exposed steel beam located in the basement was found to be in fair condition, with no serious corrosion or delamination.
- A masonry wall in the wood shop had settled noticeably. (While the observed cracks have existed for years, they have expanded and the movements have made operation of the storage room door in the wall difficult.)
- The condition of the exterior masonry continues to decline.

- The most concerning area is the cafeteria/gym walkway which is closed except for ADA emergency egress.
- The tunnel below the walkway is closed except for ambulance access during athletic events. However, it is not likely it will remain useable until the new high school is built due to recent movement and noticeable deterioration of the steel and concrete framing

The summary of the report indicated that “at this time no critical structural deficiencies endangering the occupied areas are apparent. However, the marble panels in the grand staircase must be addressed prior to the start of the new school year. We will continue to monitor the structure for signs of any danger to the students or teachers and will immediately report any changes.”

July 31st - District held an informational meeting to present the results of the inspection and overall status of Meyers High School.

August 7th (2:30 pm)- Wilkes-Barre Area School District met with Wilkes-Barre City Officials to provide an update with Thomas Leonard’s report and the progress of the removing or securing of marble. During this meeting Wilkes Barre City officials requested a tour of the building, which would include Butch Frati, Ted Wampole and Mayor Tony George as well as monthly inspections of the facility.

August 7th – Wilkes-Barre Area School District provided information (including pictures) of Thomas Leonard’s report to the public during its regular scheduled board meeting.

August 8th – Continuing the ongoing work at Meyers, District personnel began removing (scraping) hanging pieces of steel under the tunnel entrance to the field (locker rooms) due to the continuing deterioration of beams. During this time, as a preventative measure, Thomas Leonard had requested District personnel to remove some loose bricks which would expose a beam to assure no hidden erosion existed. Upon inspection, there was a hole in the center of the beam due to ongoing deterioration.

Picture Attached. (if you zoom in on the picture you will be able to see the light through the hole of the beam.)



August 8th - The entrance was closed and an alternative entrance to the field was utilized through the equipment room (located around the 20-30 yard line).

August 9th – City and District Officials toured the building. Upon completion of the tour, City Officials requested another inspection to occur with Jason Humenanski.

August 16th – Wilkes-Barre City inspection occurred at 1:30 pm.

August 17th – The Wilkes-Barre Area School District received reports from Thomas Leonard and Jason Humenanski. The information concluded:

- it would be necessary to close the elevated walking surface as it has deteriorated to a condition that is unsafe. The closure of the elevated walking surface will reduce the egress components to below the required amounts for the cafeteria and the gymnasium. Both of these areas will be required to comply with the reduced occupant load.
- The cafeteria will still be able to use the secondary egress stairs to the football field, which will reduce the burden on the interior corridor.
- The equipment room (which was being used to enter Memorial Field) and the shared locker room corridor to the football field should be closed. The condition of the steel beams in those areas are also in a deteriorated condition that would qualify as unsafe.
- A protective wood shed can be constructed in the hazardous area to allow continued access to the field. (Design and Bids occurred by 1:30 pm on August 17th)

Leonard Engineering also stated, "It should be noted that the reason for these revised recommendations is the visible changes in the deterioration level in a short time. The City officials were surprised at the changes in the walkway since their last tour only a few weeks ago."

Although the timing of these events caused an inconvenience within our sports schedule, I cannot thank District and City officials enough in working together to ensure the safety of all occupants within the Meyers High School facility. We will continue to monitor the facility throughout the school year. We look forward to hosting games again at Memorial Field by September 7th, 2017.

Sincerely,

Dr. Brian J. Costello
Superintendent
Wilkes-Barre Area School District

Reports Attached Below:

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W

Construction Consultation Services, Inc.

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Wilkes Barre City Code Enforcement
40 E. Market St.
Wilkes Barre, PA 18711
Attn: Dan Kratz

17 August, 2017

Re: Meyers High School
341 Carey Ave.
Wilkes Barre, PA 18702

Dear Dan Kratz,

Yesterday a thorough, but non-invasive inspection was performed at the Meyers High School located at 341 Carey Ave., Wilkes Barre PA in order to determine the condition of structural supporting elements for the walkway that connects the sidewalk to the rear of the building and provides both mandatory egress from the cafeteria, the gymnasium and the auditorium to those sections of the building. This report is an attempt to identify the areas that were discovered. The auditorium is not mentioned in this report as all of the egress components from the auditorium exit prior to the start of the elevated walking surface.

Elevated Egress Walkway

The elevated egress walkway from the cafeteria and the gymnasium that continues on to the sidewalk on the Carey Ave. side of the building has deteriorated beyond a usable condition. The supporting steel elements have delaminated to a condition that would be considered unsafe. The structural supporting columns have deteriorated along with the supporting beams that support the concrete surface above the steel supporting structure. Attempts have been made in the past to try to temporarily support the steel and concrete structure above. Since these additional provisions have been installed it appears as though additional deterioration has been exposed that is compromising the ability of the structural elements to be capable of supporting the potential loads of egressing the amount of persons that would be required to egress on the elevated egress walkway. The potential exists that during an emergency the amount of persons to use the elevated egress walkway could end in a catastrophic failure of the elevated egress walkway.



The above picture details the delamination of the structural steel that is supporting the concrete surface of the walkway. A temporary support wall constructed of wood 2" x 6" structural members was added recently in order to prevent catastrophic failure. This condition appears to have deteriorated further since these walls were installed.



This structural steel beam supporting the concrete surface above is delaminating and is deteriorating. The steel concrete decking that is supporting the concrete surface above has deteriorated beyond its usability and was also recently supported with 2" x 6" temporary supporting walls in order to prevent catastrophic failure.



The above picture further details the deterioration of the structural steel elements and also further clarifies the condition of the concrete above the structural steel elements. The exposure of the rebar embedded in the concrete indicates that the level of deterioration has reached its limit state.



Directly above the 2" x 6" temporary support there is a hole in the structural beam that is supporting the concrete walkway above. The beam to the right of it has also delaminated.

Locker Room Egress To The Football Field

The locker rooms egress to the football field has a central corridor from the locker rooms to a shared access point that egresses to the football field. At the exterior of the central access point there is an existing door that has recently been discovered to have structural supporting elements above it that have deteriorated beyond a usable condition.



This photograph indicates the condition of the structural steel above the central access point from the locker rooms to the football field. Directly below the structural steel beam the bricks are separating from each other and becoming hazardous. The daylight that is visible through the beam location is an opening in this wall.

Equipment Room

The equipment room has numerous locations that indicate the wall materials have deteriorated. There is a structural steel beam in this room that has also delaminated beyond a usable condition.



The structural steel beam above a concrete masonry wall that is supporting a concrete walking surface above has deteriorated to a point that the center web of the beam is no longer there.



The deterioration of the concrete has reached a condition that the rebar installed within the concrete is now exposed.

Rear First Story Cafeteria Egress

The first story egress from the cafeteria has deteriorated to a condition that has become unsafe. The steel decking supporting the concrete above has deteriorated and the structural supporting wall below it is crumbling. The steel decking has deteriorated and is now falling away from the concrete that it is designed to support.



Mandatory Egress Components

In accordance with section 1004.7 of the 2009 International Building Code assembly occupancy areas having fixed seating without dividing arms such as bleachers in a gymnasium shall be calculated at a rate of 18" per person. It was determined that the fixed bleachers are 70'-6" in width and would accommodate 47 persons per row. There are fifteen rows of fixed seats which would result in 705 occupants. There are also two rows of fold-out bleachers that contain 4 rows that were measured to be 32'-3" in width, which would result in an additional 172 persons. The total occupant load of only the bleachers would be determined to be 877 in accordance with this section.

The cafeteria occupant load would be determined to be at a rate of 15 net per the total square feet of the space. The cafeteria was determined to be 7,095 sq. ft., which would result in 473 occupants. The kitchen area was determined to be approximately 1,376 sq. ft., but uses a calculation of 200 square feet per occupant, which results in 7 occupants total. This results in a total occupant load for this area to be 480.

The combined occupant load of the cafeteria and the gymnasium would be 1,357 in accordance with Chapter 10 of the 2009 International Building Code. In accordance with section 1005 of the 2009 International Building Code the required minimum egress width in inches shall not be less than the total occupant load served by the means of egress multiplied by 0.3 inches per occupant for stairways and by 0.2 per occupant for other egress components. Using this calculation the minimum egress width for the cafeteria would be 96 inches. The total minimum egress width for the gymnasium would be 175.4 inches.

The elimination of the elevated walkway surface would also eliminate the usability of two sets of double doors for the gymnasium and a set of double doors providing egress from the kitchen area, along with a single door provided near a toilet room that all exit to the elevated walking surface. The rear exit doors for the kitchen area will not be directly affected by the elimination of the elevated walking surface, as there has recently been an additional egress stair that was added in order to accommodate necessary changes at the time they were installed. However, the egress stairs would be calculated at the 0.3 inches per occupant as opposed to the 0.2 inches per occupant and therefore may not be able to accommodate the additional mandatory minimum egress components should the elevated walking surface be closed.

The gymnasium is provided with approximately 288 inches of egress through four separate sets of double doors. Two of those double doors egress to the elevated walking surface. The elimination of the elevated walking surface would provide only 144 inches of egress to an enclosed corridor which is also providing egress for numerous classrooms and a library. The corridor width is 11'-10 3/4" as indicated on drawings that were provided to me from the structural engineer. This corridor is provided with a set of steps between the egress components from the gymnasium to the front exit. At the steps currently located in the exit corridor the minimum mandatory egress width would be 263.1 inches to be provided. The corridor width is 142.68 inches. Therefore the mandatory egress width that is required under the 2009 International Building Code will not be provided if the elevated walking surface were to be removed.

Conclusion

In conclusion it would be my recommendation to close the elevated walking surface as it has deteriorated to a condition that is unsafe. The closure of the elevated walking surface will reduce the egress components to below the required amounts for the cafeteria and the gymnasium. Both of these areas will be required to comply with the reduced occupant load. The cafeteria will still be able to use the secondary egress stairs that egress to the football field, which will reduce the burden on the interior corridor. Further analysis of the occupancy of the classrooms, library, etc. would be required to be completed in order to determine the maximum occupant load.

The equipment room and the shared locker room corridor to the football field should also be closed. The condition of the steel beams in those areas are also in a deteriorated condition that would qualify as unsafe.

Sincerely,

A handwritten signature in black ink, appearing to read 'JH', is written over the typed name.

Jason Humenanski
Certified Building Inspector, B-5

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Wilkes-Barre, PA 18702
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August 17, 2017

Mr. Brian Costello
Superintendent
Wilkes-Barre Area School District
730 South Main Street
Wilkes-Barre, PA 18701

Re: Meyers High School Update

Dear Mr. Costello,

Pursuant to our walk-through of Meyers High School with City officials yesterday, I am offering the following recommendations:

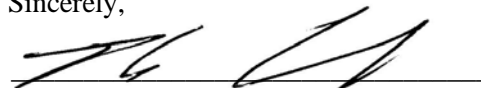
- Due to continuing deterioration, I recommend closing the pedestrian walkway from the end of the boiler house to the cafeteria doors. A 10' high wall should be constructed at each end of the closed area to prevent student access. All doors leading to the restricted area in the gym and kitchen areas should be locked. The only exterior egress from the cafeteria will now be the new wood stair leading to the stadium field level.
- Due to recently discovered steel corrosion and loose bricks in the area above the field entrance door (locker room tunnel), this area should be immediately closed. A protective wood shed can be constructed in the hazardous area to allow continued access to the field.
- Due to a deteriorated perimeter steel beam and loose concrete on the underside of the second floor, the equipment room adjacent to the home locker room should be closed to all students and coaches. Since this area contains a generator and other mechanical equipment, it is recommended that access by maintenance personnel be limited to an "as-needed" basis with protective headgear/eyewear required.

It is my understanding that the City is in full agreement with the above recommendations and the Code Enforcement Office is currently reviewing the impact of the loss of the walkway egress.

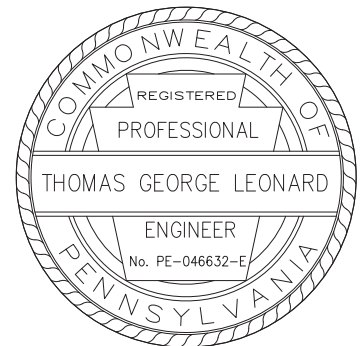
It should be noted that the reason for these revised recommendations is the visible changes in the deterioration level in a short time. The City officials were surprised at the changes in the walkway since their last tour only a few weeks ago. Also, the severely corroded beam above the field entrance door had been concealed by brick until our closer investigation after the last Board information session. The equipment room area had not been a focus of our periodic inspections since it on the interior of the building where no serious steel or concrete deterioration had been found previously.

Please call me with any questions.

Sincerely,



Thomas Leonard, P.E.
President



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July 18, 2017

Mr. Brian Costello
Superintendent
Wilkes-Barre Area School District
730 South Main Street
Wilkes-Barre, PA 18701

Re: Meyers High School Conditions

Dear Mr. Costello,

This letter is to summarize our recent discussions and findings regarding the conditions at Meyers High School. As you are aware, Gary Salijko and I have been monitoring several areas of the school since a settlement was discovered earlier this year. Areas of concern include floor settlements near the auditorium stairs and in the basement shop, cracks in the interior brick finishes on the 2nd and 3rd floor near the auditorium, loose marble tiles above the grand staircase and the ongoing deterioration of the exterior walkway.

Since the conditions continue to deteriorate, we felt the Wilkes-Barre Code Enforcement office should be informed of the situation and requested an inspection. On June 20th we toured the structure with Dan Kratz and Jason Humenanski, pointing out the areas of concern we have been monitoring.

On June 27th, a meeting was held at City Hall with Mayor Tony George, City Administrator Ted Wampole, City Attorney Tim Henry, Director of Operations Butch Frati, the code officials, Gary Salijko, you and me. While the code officials do not believe any of the observed issues are cause to close the structure, they are also concerned with the overall long-term safety of the building. As a precaution they requested that some areas of the steel frame be exposed to ensure no hidden corrosion existed. They also requested that the loose sections of marble finish above the grand staircase be repaired or removed.

During the inspection with the code officials, we observed a column and beam affected by a long-term water leak in the officials' locker room in the lower level. The chase wall which had originally concealed this framing was partially removed and the base of the column was buried in the debris. The code officials also requested that the area be cleared to allow inspection of the column.

Last week district personnel opened several areas to allow us to observe the condition of the steel framing. The areas included the cafeteria and 2nd/3rd floor corridor. I am pleased to inform you that the steel in all of these areas was found to be in good condition with little or no corrosion. The lower portion of the steel column in the officials' locker room was exposed and found to be in fair condition, with no serious corrosion or delamination.

The origin of the cracks in the 2nd and 3rd floor corridors is believed to be due to recent foundation settlement. During a floor survey in February, areas near the stair adjacent to the auditorium were found to have settled up to ½" since our 2014 survey. Previous floor elevation surveys between 1995 and 2014 had indicated no movement in the floors. The settlement was likely induced by dynamic compaction operations at the nearby Geisinger site in 2015. You and I were called to the school that day due to concerns regarding vibrations felt throughout the entire structure.

The soils supporting the school are loose and subject to additional consolidation. The loose soil conditions are the probable cause of the 6" to 12" differential settlements in the classroom area between the grand staircase and auditorium, as detailed in our 2014 feasibility study/structural evaluation. It was my opinion that those settlements occurred during construction of the school and were a result of insufficiently compacted soil.

During our recent inspections it was also noted that a masonry wall in the wood shop had settled noticeably. While the observed cracks have existed for years, they have expanded and the movements have made operation of the storage room door in the wall difficult.

Because of the settlement history and known hydrostatic pressure issues in the soil, a concern that I share with the code officials is the possibility of additional settlements and their effect on the steel frame. A water line leak discovered below the basement slab a few years ago makes the potential for additional foundation settlements even greater. As Gary pointed out during one of our inspections, the abandoned girls' swimming pools still fills with ground water and requires pumping.

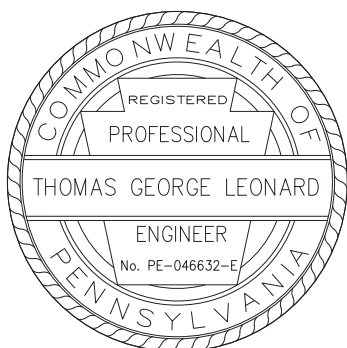
In addition to the internal issues, the condition of the exterior masonry continues to decline. Most entrance locations are protected with wood sheds and the perimeter walls along Carey Avenue and Hanover Street are fenced to keep students away from the building. As I demonstrated during a recent tour with several Board members, several large ground level stone panels can be easily moved by hand. It is unknown if any of the anchors in the upper level panels are nearing deterioration to this extent, but it is possible, if not likely.

By far the most concerning area is the cafeteria/gym walkway which is closed except for ADA emergency egress. The tunnel below the walkway is closed except for ambulance access during athletic events. We have added shoring walls and steel reinforcement in the last year to keep the walkway open, however it is not likely it will remain useable until the new high school is built. Recent movements and noticeable deterioration of the steel and concrete framing indicate the time is approaching to permanently close and/or demolish it.

At this time no critical structural deficiencies endangering the occupied areas are apparent. However, the marble panels in the grand staircase must be addressed prior to the start of the new school year. We will continue to monitor the structure for signs of any danger to the students or teachers and will immediately report any changes.

Please call me with any questions.

Sincerely,




Thomas Leonard, P.E.
President