PEASE BORST
& ASSOCIATES LLC
STRUCTURAL ENGINEERS

January 2, 2009

DLA Architects, Ltd.
462 North McLean Boulevard
Elgin, Illinois 60123

Attention: Mr. Steve Wright

Reference: Gavin Central Elementary School
Ingleside, Illinois

Dear Mr. Wright:

In accordance with your request, I was present during the December 22, 2008 roof truss inspection that was performed by representatives of Legat Architects. My primary role was to observe the inspection process and prepare written commentary on the methodology that was employed to inspect the roof trusses. This report summarizes my observations.

The inspection protocol that I witnessed was comprised of two distinct tasks. The first task involved two-(2) representatives of Legat Architects accessing the attic space above the two classroom wings to observe the condition of the truss top and bottom chords and webs. The second task involved a third representative from Legat Architects observing the ends of the classroom wing trusses from within the classroom space through the new access ports created at the time of the major truss repair work. A more detailed discussion of these observations follows below.

There are approximately 100 primary wood roof trusses in each of the two classroom modules (A & C), and an additional 55 primary wood roof trusses in the center portion of the school known as Module B. It is my understanding that the observation protocol that has been developed by Legat Architects, calls for the visual review of every 8th truss at each visit. It was estimated that at the completion of this most recent visit, approximately 60% of the roof trusses will have been observed. At this rate, three to four additional inspections will be required to complete one full round of observation on 100% of the trusses.

As to the inspection itself, a majority of the process occurs from within the attic space and involves a two person team crawling along the bottom chords of the wood trusses, while shifting approximately 2ft of blown-in insulation away from the chords to permit observation. Moving enough of the insulation to get a clear view of the bottom chord is an onerous task, and is further complicated by the installation of new strong-backs and bracing pieces that were installed as part of the original truss repair. These additional components make unfettered access difficult, but not impossible and would naturally slow down the observation of the trusses. At the outer ends of the trusses, the low slope of the roof does physically prevent access to the last 7' – 9' of the truss. To compensate for this hindrance, numerous 2' x 2' observation ports have been cut through the gypsum board sheathing that clads the bottom chord of the trusses in this otherwise un-observable region. These ports are accessed from within the classroom space and offer a visual observation of at least a 2'-0" long section of one side of each truss. Beyond the exact

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limits of the port, the presence of insulation again obscures the bottom chord. The representative of Legat Architects attempted to expand the limits of the access port observations by "feeling" the bottom chord for +/-12" beyond the limits of the opening. Given that the insulation was not moved and that the observer's head never entered the attic space, it is fair to assume that 5' – 7' of the last 9' of each end of each truss does not get visually observed by the current protocol. With a typical truss length of 79', the un-observed region represents approximately 15% of the truss.

The observation described above was completed by three representatives of Legat Architects over the course of approximately 6 hours spent at the site, for a total expenditure of 18 man-hours. As a point of comparison, the original truss investigation performed by our office for the entirety of the accessible trusses expended 224 man hours, or the equivalent of 28 hours for each 1/8 roof segment.

During the course of the observation, two additional truss chord fractures were discovered. Both of these fractures occurred in the bottom chords. Representatives of Wiss Janney Elsner (WJE) arrived in the afternoon to review these breaks. It is my understanding that WJE will engineer the necessary repair details to fix these latest truss breaks.

Please feel free to contact me with any questions on this information.

Sincerely,

PEASE BORST & ASSOCIATES, LLC

Jeffrey R. Borst

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