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September 20, 2024

RE: Idaho Falls High School Ceiling Evaluation

Karla,

On September 4th, 2024, Kore 4 visited Idaho Falls High School located at 601 S Holmes Ave, Idaho Falls, ID 83401 to assess the structural condition of the suspended ceiling. Over Labor Day weekend, a portion of suspended ceiling collapsed in the hallway on the second floor, see photos #1 and #2. This portion of suspended ceiling was installed during an addition in 1991. This raised concern about the remaining suspended ceiling that was installed during the same time frame.

The portion of building in questions is a 2-story structure. The roof framing system over the portion of suspended ceiling that collapsed and also a part of the original building was observed to be precast concrete supported by exterior masonry bearing walls. The roof framing system of the 1991 addition was observed to be steel joists and steel deck supported by steel beams and masonry exterior bearing walls. The second floor of a portion of the original building appears to be supported by precast concrete supported by masonry bearing walls. The second floor of the 1991 addition appears to be supported by concrete over steel deck and steel joists supported by steel beams and masonry bearing walls. The foundation system is assumed to be conventional reinforced spread footings. See the attached photos for clarification on assumed framing systems.

The suspended ceiling appears to be peel and stick acoustical tiles adhered to a single layer of gypboard and suspended from the roof or floor framing with wire ties at an unknown spacing pattern. The suspended ceiling that collapsed appears to have been supported by wire ties that were stapled to a 1x furring strip that was anchored to the underside of the precast concrete roof. It is unknown how the furring strips were attached to the concrete. The suspended ceiling on the second floor of the 1991 addition appears to have the wire ties wrap around the steel joists and attach to a frame for the acoustical tiles, see photo #5. The suspended ceiling on the first floor of a portion of the original building appears to have the wire ties anchored on top of the precast concrete and protrude through the precast concrete to support the ceiling frame, see photo #4. The suspended ceiling on the 1st floor of the 1991 addition appears to have the wire ties wrap around the steel joists and attach to a frame for the acoustical tiles, see photo #1. There was slight water damage observed to small areas of acoustical tiles on the second floor. There was blown in insulation observed resting on the suspended ceiling on the second floor, see photo #5.

The portion of suspended ceiling that collapsed appears to have had wire ties stapled to the sides of 1x furring strips attached to the underside of the precast concrete roof. The furring strips do not appear to have been affected by the collapse of the acoustical

ceiling. No water damage was observed in the collapsed ceiling. There was observed to be internet cables and other IT equipment run through this area that is believed to have been installed after the ceiling was already installed, see photo #2. The superintendent made the observation that there was a plank run across the collapsed area that was potentially used for walking across the suspended ceiling to install various equipment.

In our engineering judgment, we believe the collapse of the suspended ceiling was due to being insufficiently installed at the time of construction. With the wires holding it only being stapled, any form of disturbance could have caused the wire ties to slip through the staples, or even the staples to have pulled out of the supports entirely. We also believe that a contributing factor to the collapse was the presumption that people were using the suspended ceiling to support their entire weight to run IT equipment or other various equipment. The collapsed ceiling was likely to have been due to a culmination of events over time and not due to any single event.

In order to prevent localized ceiling failures, we recommend preventing people from using any suspended ceiling to fully support their weight in any way, as they are not designed to support a person's weight. We recommend repairing all water leaks that leaks onto suspended ceilings and taking preventative measures to ensure water does not get into the suspended ceilings, as this would add weight to the suspended ceilings and could potentially lead to a collapse in the future.

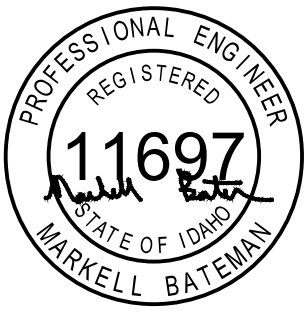
In our best engineering judgement, the remainder of the suspended ceilings appear to have been installed adequately to support their own weights. We further believe that as long as the above mentioned preventative measures are taken, the remaining suspended ceilings of the addition built in 1991 will continue to perform as intended.

Our office only addressed the above-mentioned items. Please note that our scope did not include a full structural analysis of the existing structure or destructive testing to determine existing conditions. Please also note that our office only observed the readily available and accessible areas of suspended ceilings in the addition built in 1991 and did not observe all of the suspended ceilings. If any other items are revealed that are not addressed in this report and may cause structural problems, please contact our office to address these items.

Respectfully,

Cody Brian

Reviewed by: Markell Bateman, PE



09/20/2024

Photo #1 - Collapsed ceiling in hallway

Photo #2 - Area where ceiling collapsed, after removal

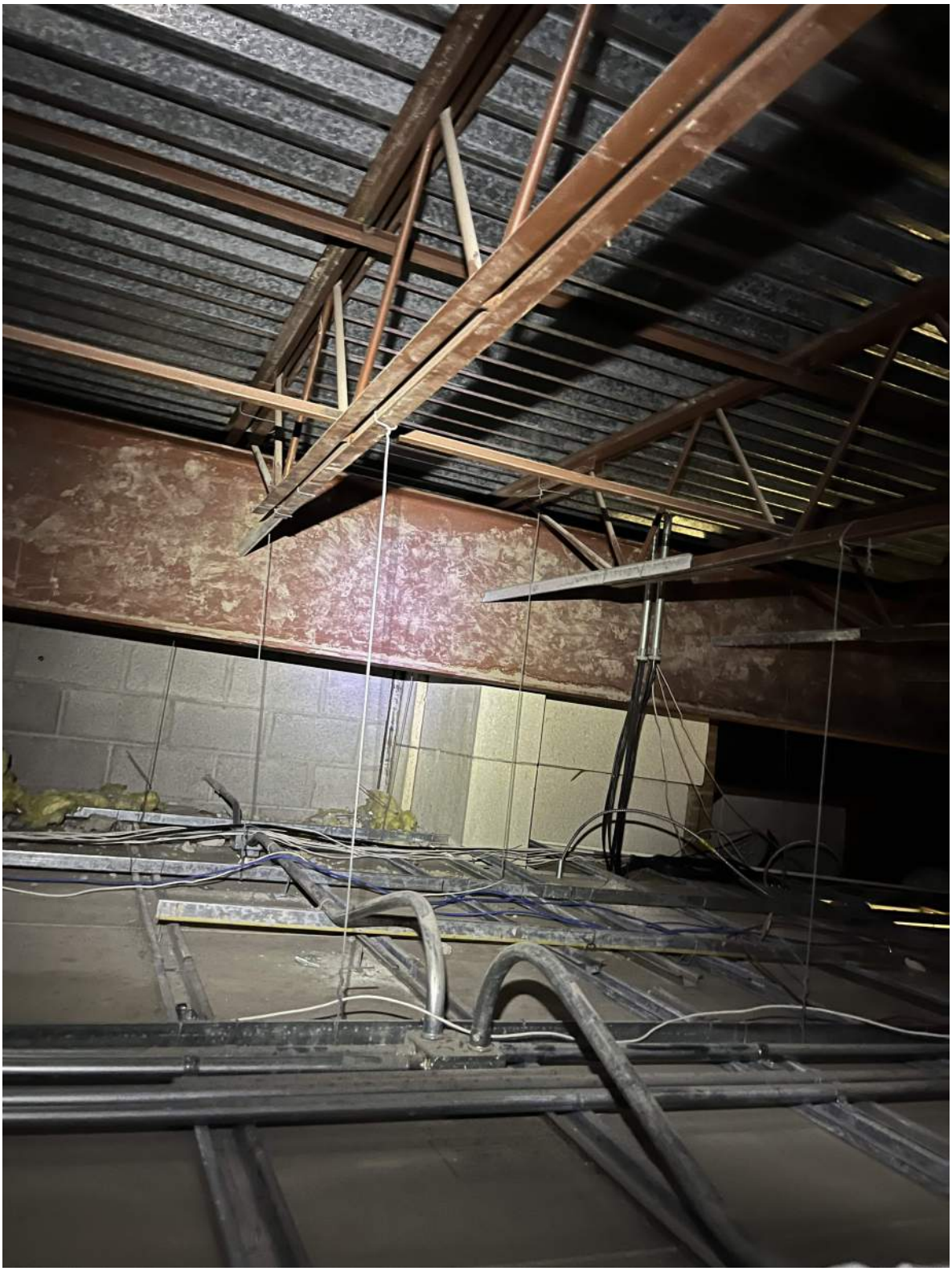


Photo #3 - Support of 1st floor suspended ceiling in 1991 addition

Photo #4 - Support of 1st floor suspended ceiling in section of original building

Photo #5 - Support of suspended ceiling on second floor in 1991 addition