

July 22, 2015

Jim Gottstein
Alaska Building
406 G Street, Suite 206
Anchorage, AK 99501

Re: Damages to Alaska Building from Legislative Information Office Construction

Dear Mr. Gottstein:

The Alaska Building has suffered significant damage due to the demolition of the old Empress Theater and the construction of the Legislative Information Office. The damages are due to movement of the common wall between the two structures and the undermining of the foundations that has occurred due to the expansion of the Empress basement.



Figure 1 Separation at west wall of stair

The Alaska Building is actually a combination of several structures built at different times going back to the development of the Anchorage Town Site in 1916. The part of the building on Fourth Avenue was a two story building and the south part of the building on the alley was originally one story and the second and third floors were added later. There is a basement under the southeast part of the building.

There is a concrete wall between the Alaska Building and the old Empress Theater building to the west that is connected to both buildings. There are no known drawings of either building.

At some point in the past the basement of the old Empress Theater building had been extended to the alley to the south. That basement extension was below the footing for the common wall. A new foundation wall had been created as part of that work.

Recently the Old Empress Theater building was demolished, the entire basement deepened and a new multi-story building built as part of the significant remodel of the Legislative Information Office. The deeper basement was below the footing

for the common wall and the foundation wall that had been added when the Empress Theater basement had been extended. A shoring wall of driven H pile and wood lagging was installed to retain the soil under the common wall during the basement excavation.



Figure 2 Separation at door frame at base of stair

The common concrete wall was monitored during the construction. A series of survey points were established on the wall. Tracking the monitoring points placed on the wall, changes in elevation are as much as 1.4", changes in north/south direction are as much as 0.60", and changes in the east/west direction are as much as 0.84". Movement of that joint wall during construction has caused some damage to the structure and the architectural finishes of the Alaska.

The separation that has occurred between the common wall and the northern part of the Alaska Building is most clearly evident in the northwest stair



Figure 3 Separation at west side of stair

as can be seen in Figures 1, 2 and 3. The large unknown is what this separation means to the structural integrity of this part of the Alaska Building, since the wall provides vertical and lateral support for it. The gaps that now exist raise significant questions as to how stable that support now is. It is not known how much bearing exists on the common wall and how much that was reduced during the construction. During

a seismic event it is possible the bearing could be lost and there could be catastrophic collapse of all or parts of the Alaska Building. At the southern part of the building posts and beams provide the vertical support but the lateral support is still provided by the wall. Again the integrity of the connections to the wall at the south part of the building are unknown.



Figure 4 Gap at settled column

Where the basement foundation on the Empress Building and the Legislative Information Office undermined the Alaska Building a large void under the slab led to the sudden settlement of a major building column which was sitting on the slab. It is possible some of the void existed prior to the recent work, but most of the void was created due to the recent work. Although that void was filled with concrete the one column is still lower than it was

before the settlement as is evident in the gaps at the beam supports at the top of the wall. See Figures 4 and 5. This settlement is evident in the slopes of the floors above this column as shown in Figures 6, 7 and 8. There are new cracks evident in the slab in this area. See Figures 9 and 10.

Furthermore, the soil lost when the void was created left a section of unconsolidated soil. Settlement is continuing in this area and will require future adjustments. It is possible there are still some voids under the slab. This could be investigated with ground penetrating radar.

An additional cost for the Alaska Building would be the removal of the larger block of concrete if at some future time the site is redeveloped.



Figure 5 Buckled plywood

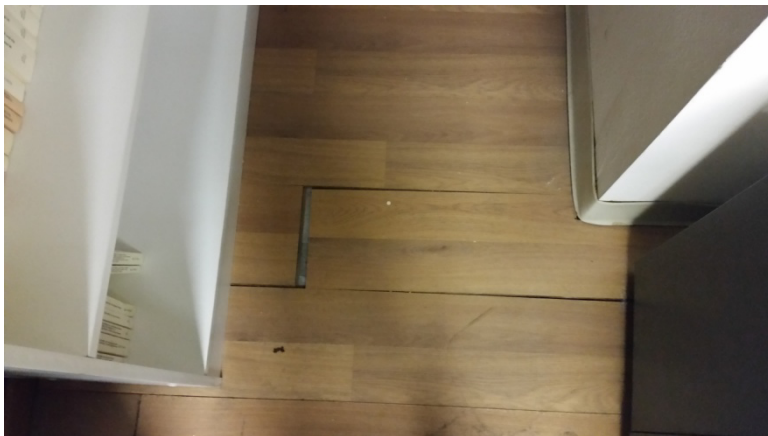


Figure 6 Shifting of floor finishes on slope floor



Figure 7 Slope in floor at door sill



Figure 8 Slope of floor at interior wall



Figure 9 Crack in slab at east side of storeroom.



Figure 10 Crack in slab in storeroom

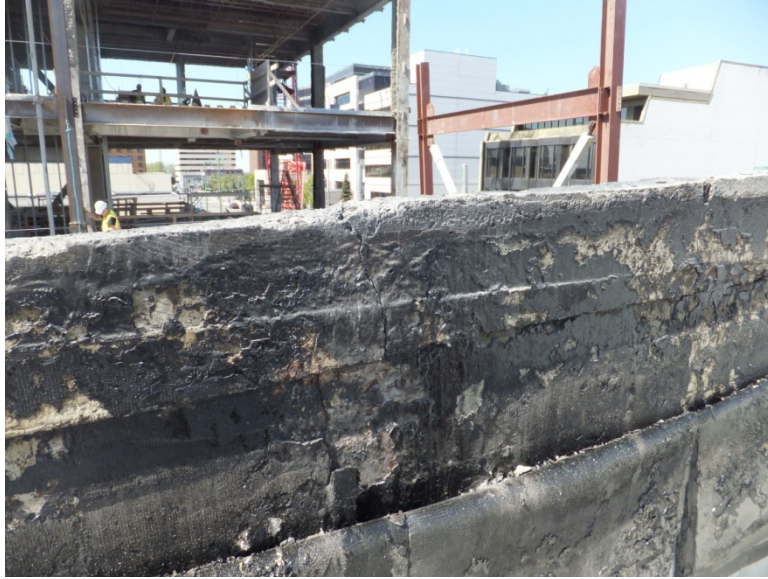


Figure 11 Open top of common wall

During construction the top of the common wall was open to the elements and created a path for moisture to get into the building. See Figures 11 and 12. There were cuts made into the north end roof to determine if there was moisture below the roof membrane, but none was found. There is evidence of water damage in the finishes. See Figure 13. However, the damage to the structure along the common wall could not be fully determined without extensive demolition of the building finishes to expose them.



Figure 12 Open top of common wall



Figure 13 Water damage to second floor ceiling

Quantifying the damages is difficult because the full impact on the structure is not known without significant demolition of the finishes of the building. However, in my opinion the costs are the following:

Movement of the common wall

Remove finishes exposing the structure	\$25,000
Reinforce structural connections	\$65,000
Replace finishes	<u>\$60,000</u>
Subtotal	\$150,000

Undermining of the foundations

Grout jack slab to level	\$10,000
Raise building structure back to original level	\$15,000
Repair finishes	\$35,000
Future settlement consideration	<u>\$15,000</u>
Subtotal	\$75,000

Weather damage

Remove finishes	\$5,000
Repairs to damaged material	\$8,000
Replace finishes	<u>\$12,000</u>
Subtotal	\$ 25,000

Total \$250,000

Sincerely,

BBFM Engineers, Inc.



Dennis L. Berry, PE

Senior Principal