



Memorandum

Date: 1 May 2020
To: Smithsonian Institution
From: Richard Kadlubowski
Subject: Investigations/Openings at SI CRC on 1 May 2020

Richard Kadlubowski from Hoffmann Architects was escorted to the roof by Mr. Tim Albright from SI to perform additional investigations at the openings in the lower roof parapet wall, performed on 16 April 2020.

Although there was some heavy rain yesterday and some rain overnight, when both openings No. 1 & No. 2 were opened, no active leaking or wet surfaces were observed. Albright also viewed the existing conditions. Photographs were taken and the openings were closed.



Photo 1: Opening No. 1. The interior surfaces of the parapet wall are not wet. Note the coping edge vent.



Photo 2: Opening No. 1. The plywood wall is not wet.

It is Hoffmann Architects' opinion that more than one condition is causing the water intrusion into the Collections area. As speculated by several individuals, including Hoffmann Architects, it is believed that the conditioned air of the collections area is flowing into the roof overhang and condensing on the colder metal surfaces within the overhang. It is Hoffmann Architects' opinion that although it may be one source of moisture, condensation alone would not provide the volume of water observed leaking into the space. A SI representative stated his belief that a moisture detection and fan circulating system has been installed in the overhang to address condensation, no system has yet been observed other than wiring on the collections north wall.

It is still Hoffmann Architects' opinion that the primary source of water getting onto the steel roof deck and flowing to leakage locations in the Collections space, is that water is entering at the roof edge/parapet wall. The problem thus far, however, is the active leak source has not yet been observed. The current openings in the parapet wall allow access whenever wanted, but apparently the correct weather conditions have not occurred to cause the leaks since the openings were installed.

From what has been observed thus far, it appears that water is entering the parapet wall and wetting the exterior wall plywood. The mold growth is only on the exterior wall. (Photos 1 & 2) The edge vents on the coping are suspected to be the entry point. (Photo 3) Wind driven rain that hits the north wall, sheets upward on the surface of the overhang and is driven up into the edge vents and into the parapet wall interior. (Photo 4)



Photo 3: The parapet coping edge vents are a suspected entry point for water entry.



Photo 4: The face of the overhanging roof is exposed to wind-driven rains.

To progress these investigations, Vatica Construction will be contacted to perform the remaining proposed openings and water tests. These openings and tests are expected to occur within the next 2-weeks. SI will be updated about the specific days.

While the SI lift is in use at the exterior of the north wall to make the soffit opening, a water test will also be conducted at the coping and edge vents to ascertain if water does enter at that location. If it is found that the coping edge vents do allow water entry, they can be sealed during these operations.

For the opening in the soffit, underside of the overhang, Vatica requested permission to install a ceiling access door in lieu of repairing the plaster soffit. The access door would allow for access into this space as needed for maintenance.



Photo 5: Proposed location on the underside of the overhang and coping water tests.

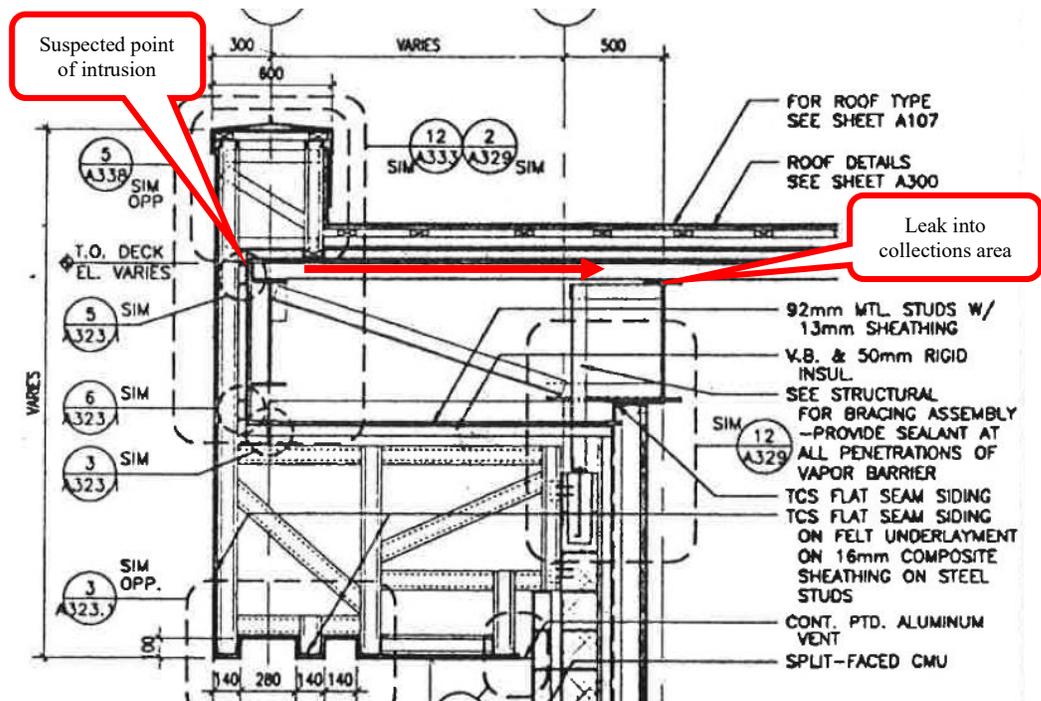


Photo 6: Suspected leak path.

P:/219045/Corres/Investigation Status Memo RPK 05012020.docx