

## BACKGROUND

The client had ongoing issues with water infiltration on a multi-level institutional residence. Infiltration was not always linked to rain and it could not be duplicated through forced ponding. Nevertheless, under certain conditions, significant water infiltrated the building envelope and caused significant damage.

## INITIAL CONDITION

The roof was a ballasted single-ply PVC roof which appeared to be in good general condition. Work was awarded in the summer when the roof was dry and internal water damage had been recently repaired.

## ANALYSIS

Using a standard Induspec inspection protocol, careful analysis of the roof membrane and roof mounted appliances was undertaken. Induspec was not only looking for the problem areas but was analyzing all areas of the roof so the client could have piece of mind that the vast majority of the roof is in good condition.

## IDENTIFIED CAUSE

A combination of issues was identified. First, several breaches in the roofing membrane were identified through the use of thermographic techniques and visual inspection. Secondly, a workmanship flaw was identified on a number of rooftop HVAC units which allowed water into distribution ducting.

## RECOMMENDATIONS

Induspec recommended the repair scope of small areas of roofing so that wet insulation could be replaced to mitigate heat loss and mould generation. Furthermore, Induspec provided design sketches of how to correct the HVAC workmanship issue with minimal cost and effort.

## IMPLEMENTATION

Induspec put in place temporary repairs which would seal the breaches and HVAC units for a period of 1-2 years allowing ample time for permanent repairs. The total cost for the inspection, identification of faults and temporary corrective work was under \$ 5k and provided an outstanding value. Ongoing damage mitigation work far exceeded the cost of the identification and corrective work.

## Gallery

