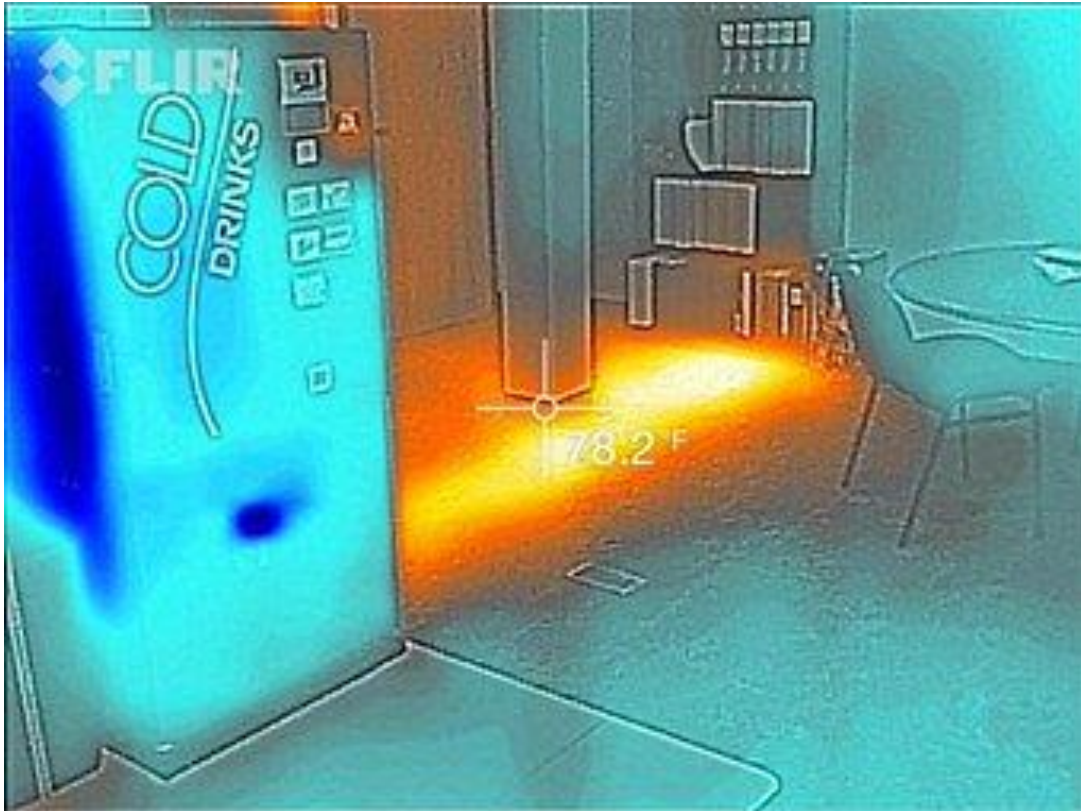


Cold Drinks, Hot Floor



No, the above picture is not a thermal image of a radiant floor heating system design. In truth, the floor isn't supposed to be heated at all. This heated floor was caused unintentionally by the absence of insulation on the heating hot water piping located above the space below this office break area. This picture was taken of an existing building and it appears the piping was never insulated. Apparently during construction, it was rationalized that insulating the hot water pipes was not worth it. Now this floor is a permanently uncontrolled heated floor.

An important goal of a building's HVAC system is to deliver heating and cooling to the spaces that need it. A common thought is that the heat loss from pipes is ok because the building needs the heat in the winter, so there really isn't any energy loss. The space shown above may indeed need heating at certain times of the day, but not constantly. This uncontrolled heating represents an inefficiency as the heat is lost to this space and all the other spaces that this piping is routed through or under or around when the spaces are comfortable. One key to energy efficiency is to deliver only the energy that is required and no more. On this account, this system falls short.

One last thought, this piping configuration is duplicated on the ceiling of this break area. That piping is routed along the roof structure and is heating the structure. It would be interesting to see what the heat loss looks like through the roof and whether it might even melt snow off the roof in the winter!

The little story above is an example of some of the interesting things we discover while commissioning buildings. What stories does your building have to tell?