

August 5, 2022

## Advisory Bulletin AB-2022-05

### **Rooftop Equipment Awareness.**

With the continuous development and advancement of remote sensors, IoT devices and wireless technology the surface area of the roof is quickly becoming a highly sought-after location for additional equipment that may have financial benefits to the building owner. There are four critical aspects that should be reviewed while evaluating the introduction of any equipment on the roof surface.

#### **1. Will the design of the roof accommodate the alteration / addition?**

Anytime additional equipment is being installed on a roof, the structure needs to be reviewed by a professional to ensure the structure can accommodate the design loads. The roofing assembly needs to be reviewed to ensure the compressive strength of the roofing assembly materials (i.e., insulation, coverboard) will accommodate the point loads without causing damage to the assembly. It is also important to ensure any additional equipment does not negatively impact the drainage of the roof.

#### **2. How will the roof be protected during the installation?**

During the installation of additional equipment, it is important to have a plan to protect the roof membrane while the additional equipment is being installed. Damage may occur on a variety of membrane materials due to falling objects (tools), sharp edges resting on the membrane or extensive foot traffic over concentrated areas.

#### **3. What membrane protection has been installed to protect the durability of the roofing membrane?**

Under no circumstances shall any equipment be supported directly on the surface of an unprotected membrane. The two most common methods of membrane protection are to either install a loose laid compatible ply of membrane under the equipment or install the equipment on a free-floating pre-cast concrete sleeper adhered to a minimum 25mm layer of type 4 extruded polystyrene insulation with a minimum compressive strength of 240 kPa.

#### **4. Are there any additional safety precautions due to the new installation?**

There are safety precautions that need to be observed when working on any roof, at any height, but some technologies have introduced additional safety concerns. Rooftop photovoltaic installations may introduce electrical safety issues, depending on the type of system and equipment locations. The radiation exposure of radio antennas (i.e. 5G) is currently under a federally regulated safety code (Safety Code 6) but awareness and compliance is limited. Rooftop terraces are required to comply with loading and railing design parameters set in the National Building Code – Alberta Edition.

Asking these questions will ensure that your roof assembly continues to perform its primary task of protecting the interior environment from the exterior elements. It will also ensure the life cycle of the roof is not compromised, lower maintenance costs and reduce possible disturbances to the occupants of the building while investigating leaks or other roofing concerns.