

The Power of Natural Light

Recently (January - February 2017) at St Georges Barracks Bicester, Babcock RSME Major Projects Team have recently completed the installation of 56 Solar light tubes following a successful pilot project carried out in 2016.

56 Solar light tubes (Sun Pipes) have been installed into the Authority's main training offices. These offices were chosen to be in phase 1 of the project as they had little to no direct sunlight so were lit with florescent lights, which are on all year round due to lack of natural light.

How it Works

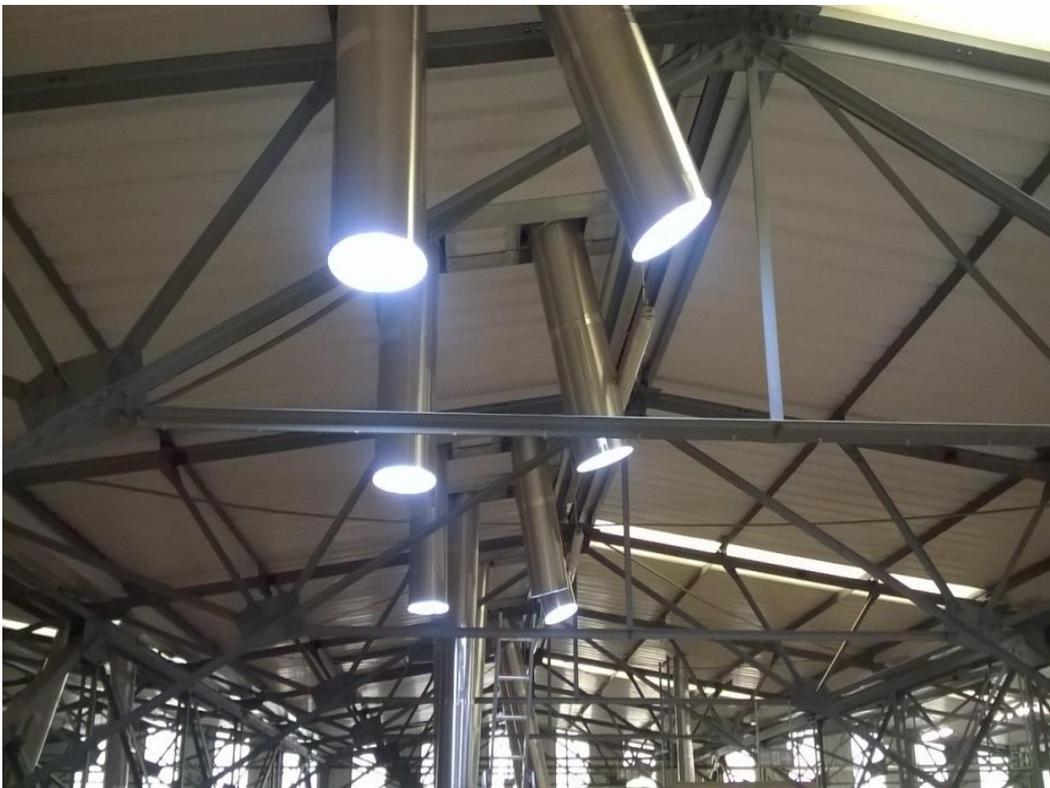
Daylight is channelled into the building via the impact-resistant polycarbonate domes which are installed onto the existing roof surface and designed to allow cleansing by the elements.



The complete Sun Pipe system installed at St Georges Barracks



The Roof Domes of the Sun Pipes installed at building BCB001



The Sun pipes from the Roof Domes (*Note this picture taken on a cloudy day!*)

The highly reflective tube passes through the existing roof covering and are fixed to the dome fitting.



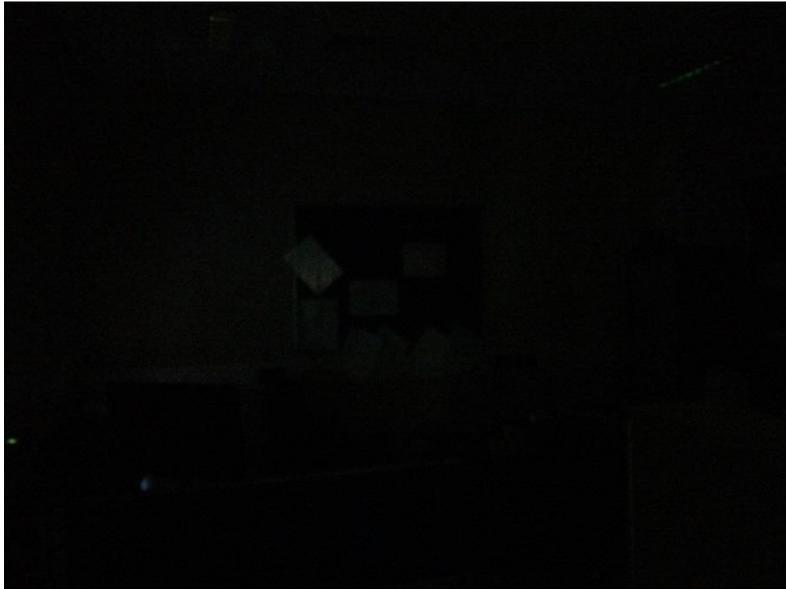
The Sun Pipes leading from Roof Domes to office ceiling Diffuser's

One of the key advantages to the system used is that the highly reflective pipes can be installed within tight spaces and with a simple alteration to the existing room lighting. Utilising a photo sensitive PIR the lighting levels within a room can be programmed to auto adjust the artificial light levels depending on the amount of natural incoming light. As the levels of natural light increase the PIR auto adjusts the artificial light reducing its intensity. The switching within the office also allows the occupant to turn off the artificial lights in the event the natural light is bright enough.

Benefits:

There are a number of benefits associated with the installation of sun pipes, introduction of natural light into the building:

- Increased worker productivity
- Reduced staff absenteeism
- Improved staff / student performance
- Reduced energy consumption



Typical Office Before Sun pipe Installed with lights off.



Typical Office after Sun Pipe installation without electric lighting.

Accessories Utilised:

Within the Babcock office and an Authority classroom the electric daylight dimmer has been trialled allowing adjustment of the daylight coming into the room, ideal for AV applications.

