Case Study

Water Conservation - Flushing Reduction at Croom Orthopaedic Hospital

Caipiteal & Eastáit FSS
Oifig um Bonneagar Inbhuanaithe
HSE Capital & Estates
Sustainable Infrastructure Office

Background

As part of their ongoing sustainability work, a Green Team member noticed legionella flushing being carried out twice weekly in sinks that are in frequent use in the theatre department.

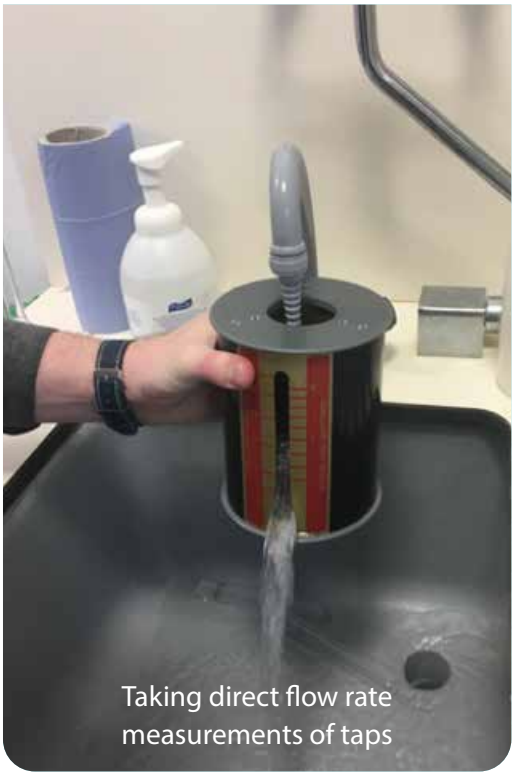
By taking direct flow rate measurements of taps, preliminary calculations for the water used for each of these biweekly flushes was ~ 75 litres per tap (25 litres per minute for 3 minutes, or 150 litres per sink for each flushing).

Based on this, the water being used each week for the 48 sinks throughout the department was estimated at 14,430 litres (14.4 m^3). This equates to ~ 750 m^3/year with an annual cost, excluding the cost of heating the hot water, of ~€2,300[1].

In addition, the cost for heating this water is estimated as €1,300 per year. This is based on 50% of taps being hot taps, that the hot water is supplied at an average temperature of 40°C, and hot water heating is provided by natural gas.

IN TOTAL, THIS ANNUAL FLUSHING, WHICH ACCOUNTS FOR ROUGHLY 5% OF THE WATER USED ON SITE, COSTS ~€3,500.

Based on Uisce Eireann water charges of €3.02 per m^3



Taking direct flow rate measurements of taps

What was done

Based on the observations and estimated costs, the Green Team explored the policy for flushing these sinks considering they are used so frequently. This policy had been in place for many years and, after discussions with ADON in IPC, a new weekly flushing policy based on best practice was introduced. This new policy was then communicated to the attendant supervisor and all theatre attendants and is now in place.

THE IMPACTS

The water savings associated with this changed behaviour, which relate to flushing the 48 taps in just this department, amounted to an estimated 390m^3 per year.

That's a cost saving of ~€1,900 which include €1,180 in water charges and €680 in water heating costs.

This has a corresponding carbon saving of ~2 tonnes of CO_2 per year.