Water Leak Detection Site Survey Eastbourne

11th February 2015

We attended site on 10th February 2015 to carry out water leak detection after receiving a call from Tyre Specialist advising that their Eastbourne site had received a high consumption invoice.

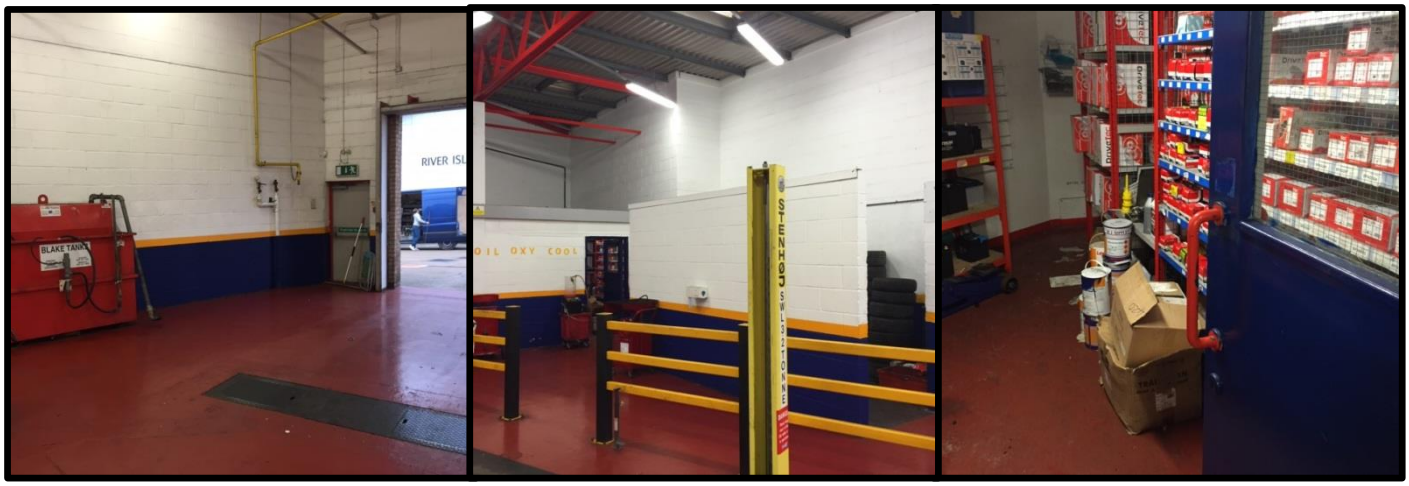
Upon arrival we carried out supply checks on both meters to ensure they were both feeding the property. We identified that water meter 076420 supplies the offices which are currently vacant, hence zero consumption on this water supply. The water meter reading on 10th February was 5,843m³ which is the same as the meter was reading in November 2014. Therefore, we established that this meter does belong to Tyre Specialist, there are no leaks and no consumption flowing through the meter as the offices are vacant.

We then carried out a supply check on water meter 126526, located in Junction Road which serves the main building. The meter appeared to be spinning quite rapidly which implied there could be potential leakage on this supply. We isolated the water supply via the internal stop valve and monitored the water meter. With the internal stop valve closed and the supply shut off, there was still approx. 10 litres of water per minute flowing through the water meter proving that the site has unaccounted water loss on the premises.

Picture 1 – Water Meter 076417 feeding the vacant offices

Picture 2 – Water meter 126461 feeding the main building with a leak rate of 10 litres per minute

A **leakage rate of 10 litres per minute** equates to an **unaccounted water loss to site of 0.6m³ per hour**, **14.4m³ per day** and **5,256m³ per annum** with an **unaccounted financial loss of £2.68 per hour**, **£64.32 per day** and **£23,476.80 per annum.** From looking at the water bills, we believe this water leak has been ongoing since approximately May 2014 when the average daily usage on site rose from 0.5m³ per day to 8.5m³ per day on the following water bill.



Picture 3, 4 & 5 – We could hear good noise underground to the right hand side of the building, across the floor and underneath the racking

We carried out acoustic sounding and found good underground leak noise to the right hand side of the building. This noise could be heard across the floor, through the tyre store and into the back room where there is racking & stock. Underneath the floor there are also two large cables which run alongside the supply pipe for approx. 30-40m length in approx. 3-4m depth of concrete.

To excavate the entire concrete floor and move all the metal racking would be exceptionally disruptive and costly. Therefore, to repair this leakage we would carry out the following:

Attend site for x 2 days. Carry out a trial hole at the front of building to locate pipe. Once the pipe is located, we will cut and cap the pipe to prove the leakage is only internal. Once we have proven the leakage is only internal and the leaking supply is capped off, the leakage on this supply will be eradicated.
We will then connect 40m of 15mm HEP 20 barrier pipe to the incoming external supply. We will run this pipework up the wall and around the inside of the building and will clip the pipe to the wall at high level, installing an isolation valve to the pipe as we go. We will access the high level by using a Genie Boom. Once the new pipework is installed and isolation valve in place, we will reinstate the excavated trial hole in concrete.

In conclusion, we believe there to be a leak on the underground supply served by water meter 126461 with a leakage rate of approximately 10 litres per minute, proven when the water supply was isolated.

This leakage is having a financial impact on Tyre Specialist Eastbourne to the sum of approx**. £23,476.80 per annum**, therefore we recommend urgent repair.

Recommendations

Attend site for x2 days. Carry out a trial hole in the concrete floor, check leak is only internal, cut & cap supply to eradicate leakage, attach approx. 40m of barrier pipe to incoming supply and feed up wall and around inside of building to minimalize cost & disruption. When completed, reinstate trial hole with concrete.

Annual Saving:
£23,476.80