

## *Sun Printers' Clock Tower*

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*by Peter Draper, Sun's chief engineer for most of the 1980s*

In order to print in four colours in the rotary gravure process (as Sun did), it is necessary for the preceding printed colour to be dry (wet-on-dry printing). In the early days, drying was achieved by passing the web of paper over a large, heated steel drum and, later, by hot air. The heat source for both systems was steam and, as the heat was taken to atmosphere on the web, large quantities of water were required to raise this steam.

At Sun Engraving, the steam was originally raised by three coal-fired Lancashire Boilers. In 1956, five Danks of Dewsbury boilers, burning heavy fuel oil instead of coal, were installed by Sun Printers to replace the Lancashires.

The company's water source became its own artesian well, for which a licence was granted in 1934. The clock tower building was constructed over the well that same year. The well had a 16" diameter and was 300' deep to allow it to take water from the chalk aquifer that was replenished by the River Gade. The building was 15' (475 cm) wide and 6' (183 cm) deep. The tower itself was 3' (91 cm) x 3' (91 cm), and 17' (518 cm) from ground level to apex. The building was brick-built rendered and the green roof tiles were Italian. The tower had the word **SUN** cut into the brickwork and in one of the windows the wrought-iron protective grill had the letters **SEC** (Sun Engraving Company) designed into it. There was a clock face on all four sides of the tower. When finished, it was an elegant building and quickly became a local landmark. Its design reflected the fact that although there was a recession in the 1930s, printing was still a prosperous business. The building's sole purpose was to house the well and two associated pumps (one for backup), as well as switchgear and valve gear. A crude building would have been much easier to build and maintain, and would have sufficed but, to their credit, the company and the architect made it a feature.

The original licence allowed Sun to take 16,000 gallons of water per hour from the aquifer. In 1988, the amount was increased to 25,000 gallons per hour. The licence was revoked in 1992 following the cessation of gravure printing on the site.

The reason permission was given to increase the volume of water extracted in 1988 is interesting. Early that year, Sun's chief engineer was notified by Thames Water that the company was exceeding the extraction level of the licence. The chief engineer admitted that he was not aware that a licence existed, but no problem: he would simply obtain a new licence for the volume being extracted, 25,000 gallons/hour. Thames Water explained that life wasn't that simple and that the extraction level of 16,000 gallons/hour could not be increased, because it would lower the water table and cause environmental damage. The chief engineer's solution – that Sun would return uncontaminated water, via a water meter, to the water table – was initially rejected but eventually accepted, provided the temperature rise of the returned water was less than 3°C. A revised licence was thus issued to extract 25,000 gallons/hour and return 9,000 gallons/hour, giving a net extraction of 16,000 gallons/hour. The licence was issued only after the application had appeared in *The Illustrated London News* and the local press, and had met with no objections.

The clock tower is listed today as a building of local interest. Hopefully, with refurbishment completed, the clocks, with modern technology, will keep accurate time. (In the old days, they were notoriously bad timekeepers, being pulsed every second by a DC supply switched by a micro switch operated by a cam on a shaft driven by a synchronous motor.) The clock tower is the only physical evidence in the area (aside from a plaque on the exterior wall of “The Rising Sun” pub) that Sun Engraving/Sun Printers, with all its storied history, ever existed. So it is encouraging to know that I am not alone in my concern for the building.

*A Note by the Editors on the Clock Tower’s Latest Reprieve*

August 13, 2021: Watford’s Planning Inspector, J. Bowyer, dismissed developer Paul Stacey’s appeal of a planning application rejected earlier that year. The plan would have demolished Sun’s clock tower building. Bowyer wrote: “the evidence before me indicates that the printing industry was a major employer in Watford,” the building “remains a notable symbol of an important aspect of the area’s past,” and “notwithstanding its current condition that it makes a positive contribution to the character and appearance of the surrounding area.”

Time, neglect, and vandalism have taken a serious toll on the structure. But if its iconic nature is worth preserving, as the planning inspector clearly feels it is, then we hope sufficient funds will be raised to restore it, with all its original ornamental details, to legitimise and confirm its status as a Locally Listed Building.