

## Introduction

The project team were asked to consider adding a water feature to Wellingborough Town Centre and to research potential locations and type. As part of the work on the Town Centre Vision two potential locations were identified being outside Tithe Barn and within the Market Square.

After initial assessment of this project the findings were presented at the Wellingborough Town Centre Regeneration Working Group (WTRWG) where feedback was sought to determine the most suitable location and type. The results of these discussions proposed the location to be within the Tithe Barn public realm and after careful consideration the type of water feature to be of a decorative design rather than an interactive design.

Borough Council of Wellingborough (BCW) instructed Timotay Landscape Architects to develop a concept design for a decorative water feature incorporating the Five Wells of Wellingborough suitable for Tithe Barn, which was presented at the WTRWG, the Development committee where the proposal for the Tithe Barn water feature was agreed. Following this a request was made to Resources Committee to approve the budget for this to be built. Please refer to **Appendix One** to review the concept design.

Tithe Barn is an historic building of great importance recognised in its scheduling as an Ancient Monument and its Grade 1 listing. Any designs within this conservation area should take this into account by maximising the area and limiting any disturbance or risk to the historic barn.

## Technical Information for Classic Water Features and Fountains

In recent years water features within the public realm has become very popular in an effort to make visitors feel more relaxed with their surroundings. Decorative water features can consist of pools of water, water walls, rills and cascades and are not expected to be a fully immersive aquatic experience.

There are no official standards or legislation specifically for swimming pools or water features within the public realm. There is little published guidance although the Pool Water Treatment Advisory Group (PWTAG) is a UK based independent organisation dedicated to raising standards in water treatment by collaborating with government agencies and professional and technical specialist bodies. PWTAG's Code of Practice is recognised and followed by many within the industry which includes correct filtration, water chemistry, testing, pollution and hygiene etc. Generally decorative water features require hi-rate sand / cartridge filtration and tablet erosion fed disinfection to contend with organic plant and algae growth and maintain a fresh water look.

PWTAG recommends that all operators follow the HSE HSG179 (2018) advising suitable information and training is provided before operating the plant and equipment, ensuring that a risk assessment of the plant room is carried out. Weekly maintenance visits are advised by a technical operator who should provide written documentation of these visits to be recorded and available at the facility, including;-

- The circulation, filtration and disinfection systems are checked and working satisfactorily.
- The water feature infrastructure is in good condition.
- Water chemistry and bacteriology were tested; their resulting values recorded on the report and were found to comply with PWTAG Code of Practice.
- The operator took any corrective measures required.



Walk in plant rooms are unlikely to be architecturally accommodated due to the public arena and instead small pillars and covered pits provide a cramped plantroom solution. Suitable access, lighting, ventilation and workable space are paramount. If lift assisted covers are not fitted then manual handling limits may require cover lifting equipment to aid the operator. It is advised access to underground small plant rooms with vertical fixed ladders will require technical staff to have Confined Space Access Accreditation. Also access crowd barriers should be erected to keep public from open plant rooms and chemical handling. Any water losses can be made up automatically but require WRAS Air gap requirements to be adhered to. It is advised that all maintenance staff undertake a certain level of training including chemical handling, plant room operative training along with spill training.

Operators are required to measure, adjust and record chemical levels to match changing environments and seasonal conditions. Filter backwashing and first stage debris screening of outdoor culprits of litter and tree leaves should be regularly cleared before breaking down and passing into the system where it is more difficult to attend to. Plant rooms should be regularly cleaned of accumulated debris and safe handling practices in consideration of water borne diseases should be considered. An example of a plant room set up can be seen in **Appendix Two**.

An example of some of the more typical problems that could occur include:-

- Incorrect PH Levels, too high, too low or erratic
- High alkalinity
- Cloudy or discoloured water
- Strong smell of chlorine
- Scaling or slime build up on surfaces
- Staining at water inlets

Other safeguarding measures that can reasonably be applied to decorative water features include signage informing the public not to drink from the feature, that children should be supervised and that animals are restricted. Further details and guidelines regarding safeguarding and compliance can be seen in **Appendix Three** from a company called Fountains Direct who provided this information after reviewing the proposed concept design.

### **National Guidelines for the Control of Legionellosis in Ireland, 2009 HSE/HPSC -**

The wet or damp surfaces of fountains and other water features or moist planter soils and trays readily become coated with a growing biofilm of microorganisms unless particularly well managed. This can act as a reservoir for their transmission and dispersion. Such features or activities near them may generate aerosols and thus pose a particular risk of infection by *Legionella* bacteria following aerosol inhalation. It is imperative that all water features are adequately maintained to minimise the risks associated with water borne diseases. It is recommended to maintain:-

- A cool water temperature in decorative fountains and avoid submerged heat-generating lighting.
- Use recirculated water. Recirculated water should be filtered and the filters examined, cleaned and disinfected regularly.
- If water becomes cloudy or smelly (indicative of extensive microbial contamination), drain the feature completely, followed by thorough cleaning and disinfection. Avoid locating decorative fountains in high-risk areas including hospitals.
- Ensure routine maintenance of decorative fountains and disinfection in accordance with the manufacturer's instructions. Automatic control and feed of biocide is preferable. Maintain at least 0.5 ppm free chlorine or equivalent continuously (PWTAG recommend 3.0 mg/l to 5.0 mg/l at pH 7.2 to 7.4).
- When water treatment is inactive for three or more days (less in high temperatures or dirty conditions), features should be drained completely, cleaned and disinfected.
- A maintenance log should be maintained for all ornamental water features i.e. free chlorine levels, water temperature, visual inspection for cloudy water and areas of slime, filter inspections, filter cleaning, filter changes, pump cleaning (every 3 months), water changes and routine cleaning.
- Cleaning and maintenance of ornamental water features should form part of the overall risk management strategy for the premises concerned. A competent person(s) should be responsible for

maintaining the feature. It should form part of the normal infection control environmental sampling programme.

### **Antisocial Behaviour / Vandalism**

Wellingborough has experienced problems with anti social behaviour and vandalism particularly in the town centre area. It is an unknown entity to determine if the water feature will be vandalised or create further problems, but it is a known risk factor.

Other local authorities have experienced problems with water features located within the public realm. Examples of this can be seen on the following links to show the level and type of vandalism, such as adding washing up liquid and food colouring to the water feature, creating damage and additional maintenance call outs.

<https://www.cambstimes.co.uk/news/vandals-destroy-water-fountain-st-peters-church-gardens-wisbech-1-5374408>

<https://www.getsurrey.co.uk/news/hampshire-news/aldershot-municipal-fountain-dyed-blue-14661378>

<https://www.coventrytelegraph.net/news/coventry-news/nuneaton-landmark-falls-victim-severe-17533995>

<https://www.kentonline.co.uk/dover/news/market-square-fountain-at-risk-39541/>

Rushmoor Local Authority have not had a positive experience with their decorative water feature and confirmed that they have had several problems and complaints about their decorative water feature located in a park area, which has since been switched off. Since turning the water off, the complaints and the issues have stopped. The most common problems including adding washing up liquid to create a foam mountain and different coloured dyes that were encouraged by social media on days such as St Patricks Day by turning the water green. However because it was unknown what the dye or liquid contained the whole system would need to be emptied, cleaned and the potential contaminated waste removed. This was very expensive and is what led to the fountain being decommissioned. Prior to the incidents the estimated costs for the planned maintenance visits was in the range of £4-5k every quarter but after several complaints about algae etc. this meant additional cleans and expenses. During periods of water shortage, drought and in particular hosepipe bans the fountain needed to be switched off of which climate change may increase such instances.

### **Financial Implications**

Initial costings have been provided by the designer Timotay whom approached three different companies who currently supply and install water features around the UK for local authorities and commercial contracts. The estimated cost to install the water feature based on the concept design is £160k including the wall with seating. The maintenance costs have been estimated at around £600 per month plus additional costs for any call outs on top of the regular planned maintenance.

Fountains Direct a well known company within the industry has advised that the average annual maintenance cost for water features that they have installed for other local authorities amounts to £18k per year, plus additional costs for any call outs. They have reviewed the concept design and advised that the annual maintenance costs for this type of design could be slightly lower than the average cost of £18k.

Middlesborough council has advised that their annual maintenance costs with an external contractor is £12k per year but this only includes fortnightly checks and any remedial work is additional to the maintenance costs.

Please note that the proposed design is only a concept design for the purpose of this feasibility study, therefore a detailed design will need to be completed to fully appreciate all of the design implications, existing site conditions, utility surveys, planning restrictions and more detailed costings to determine if the proposed scheme is a feasible and viable option within the Tithe Barn public realm. To progress this project further, funding will need to be sought.

Author:

**Denise York**

**Project Co-ordinator**

**Property and Projects**

Email: [dyork@wellingborough.gov.uk](mailto:dyork@wellingborough.gov.uk)