EDWARDS
WILSON

# THE WATER TOWER
## DESIGN, ACCESS & HERITAGE STATEMENT

04 JULY 2020

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# 1.0 INTRODUCTION

## 1.1 EXECUTIVE SUMMARY

This Design and Access Statement has been prepared to support a Full Planning Application for the residential conversion of The Water Tower, Roden Lane, Roden, Telford, Shropshire, TF6 6BJ.

We seek permission to restore this iconic local landmark, propose a change of use to residential class C3 and restore the existing defunct and dilapidated lean-to.

Pre-application advice has been sought in March 2018, and the advice has been incorporated and designs amended accordingly, as described in section 3.

## 1.2 OVERVIEW OF PROPOSALS

Externally, the tower brickwork will be repaired and restored using appropriate methods, and repairs to the metalwork and cast-iron tank carried out. New timber double-glazed windows will replace the existing rotten timber windows. The late addition pump house to the west is to be removed, and the south wall and roof to the southern lean-to require replacement due to their dilapidated condition. The external appearance of the water tower will remain largely as it was originally set, with the exception of minor adaptations at ground level.

Internally, the existing floor levels are to remain and form general living accommodation such as a kitchen, living room, bathroom and bedrooms. The tank will form a roof garden accessed via a retractable access stair from the top floor.

## 1.3 LOCAL AUTHORITY PLANNING FRAMEWORK

There have been no historic planning applications listed for this building.

The Telford & Wrekin Local Plan 2011 - 2031 mentions the need and support for housing in the area, and has 5 designated areas for development. The Water Tower lies outwith these 5 areas, and the local plan confirms "*elsewhere in the rural area residential development will be strictly controlled. The Council will support applications for such housing, provided that proposals... [w]ould result in the optimal use of a heritage asset (a listed building, conservation area or buildings of local interest)*"

The Water Tower is considered to be a local heritage asset, therefore the conversion and re-use of the tower could be supported.

The tower is not listed nor in a conservation area.

## 1.4 USE CLASS

It was originally believed that the Water Tower would fall under the use class Sui Generis (Agricultural). Following discussions with the local authority however, we have been informed that the current use class is 'Infrastructure'.

Aerial view of the Water Tower viewed from the south

3D section through the Water Tower

# 2.0 BUILDING & HISTORY

## 2.1 SITE LOCATION

Located in the hamlet Roden, the Water Tower is located at the end of a row of terraced properties adjacent to Lindum House, on the B5602 (Roden Lane). The surrounding area is primarily farmland, with a small number of dwellings along Roden Lane and Marlbrook Way. A garden centre, timber workshop, food manufacturing plant and a residential care home are based nearby.

Roden sits one miles southwest of High Ercall, and six miles northeast of Shrewsbury, and is within the borough of Telford and Wrekin.

Aerial view of the Water Tower viewed from the north-east


Overhead view, the Water Tower highlighted


Aerial map showing the wider context, the Water Tower highlighted white


Aerial map, the Water Tower highlighted

## 2.2 PHOTOGRAPHS

View of the Water Tower from the south-west

South view of the Water Tower

North-west view of the Water Tower

View of the Water Tower from the south-west

The ‘pump house’ later addition lean to at the west end - note the partially covered window on the original west elevation

South lean-to: brick gable walls, corrugated metal walls and tiled roof

South view of the Water Tower

South elevation, damage to the brickwork and stone corbel at the west end

South elevation, movement and associated damage at the east end

North elevation, movement & damage to the brickwork and corbel at the west end

East elevation, damage to the steel and corbel under the water tank

South-east corner of water tower

Existing timber 'roof' to the water tank, view from the west

Damage to the timber window within the north elevation

Western timber window granting access to the ladder to the tank

South elevation general condition

Aerial view of the Water Tower showing the timber 'roof' to the tank

Deteriorated brickwork to the south elevation

Dilapidated condition of the south lean-to, both the walls and roof tiles

## 2.4 INTERIOR PHOTOGRAPHS

Ground floor staircase and internal timber partition

First floor south facing timber window

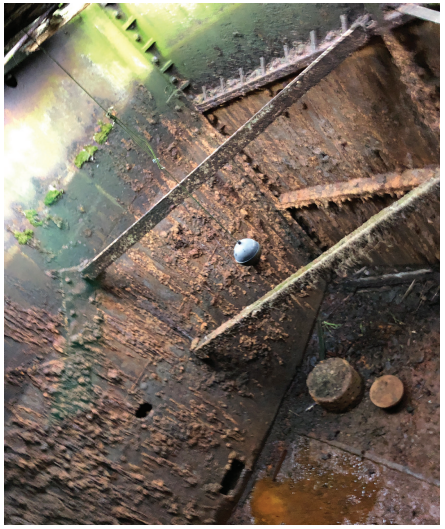
First floor timber staircase

Interior of the water tank

Second floor directly underneath the tank, looking west

Second floor looking east

Internal condition of the brickwork, note cracking to corners



Interior of the redundant water tank

## 2.5 HISTORY

The Water Tower was constructed and commissioned by the Co-operative Wholesale Society (CWS) as part of a system of four water towers in Roden, used for irrigation to the glass-house industry.

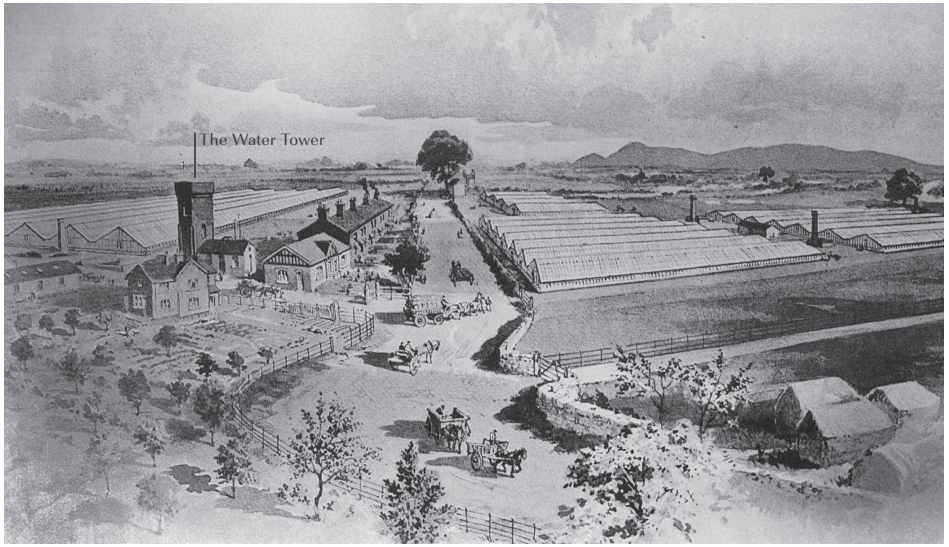
From its beginnings in 1863, the Co-operative Wholesale Society (CWS) became one of the largest co-operative organisations in the UK, changing its name to The Co-operative Group in 2001. The CWS began in small premises in Manchester and grew to occupy a large part of the city centre. It produced the famous CWS Brand goods for co-operative societies throughout the UK. These included food, furniture, clothing and household products. The society established trade links with countries including India, Sri Lanka and South America. The CWS also looked after its employees by introducing the 8-hour day in its factories and publicising its stance against sweated industries, as well as introducing convalescent homes for sick employees.

The Roden estate was the first farm purchased by CWS in 1896, consisting of 742 acres of land including five farms and a residential hall, for £30,000. The hall, dating from 1860, was converted into a convalescent home for co-operators, and opened in 1900[1]. The first crops grown on the farms were strawberries, raspberries, currants and gooseberries. Glasshouses were built to grow cucumbers and tomatoes. Further farms were added to the CWS estates and today the Co-operative Group is one of the UK's largest farmers.

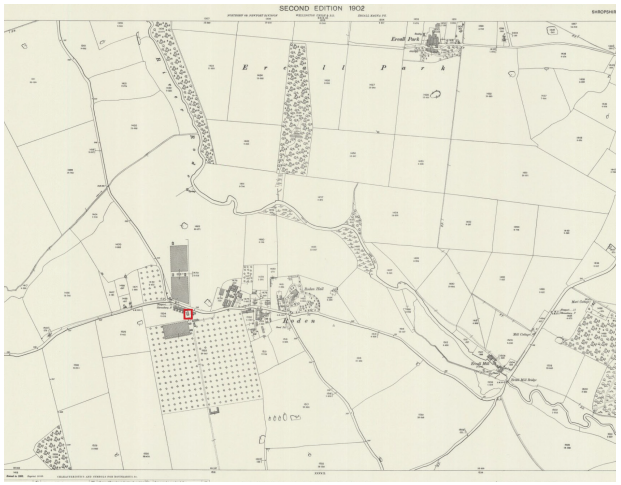
The construction of the Water Tower was first mentioned in the CWS meeting minutes taken at the end of 1898[2]. Based on the evidence in the minutes and historical map, The Water Tower is believed to have been built between 1899 and 1901, it is constructed from masonry with two lean-to brick additions (one added at a later date) and is surmounted by a cast iron-water tank. Historic images show that originally the water tank was approximately half the height that it is currently. The tank was replaced at some point before the 1960s to increase capacity. It is believed that at this point some steel beams were added to the ring beam directly under the tank to support the increased weight of the extra water. The south lean-to is original to the main tower, as can be seen from historic images and indicated by the brickwork used. Conversely, the west lean-to, which housed pumping equipment, is a later addition using modern brickwork, and blocked the window to the previous records office at ground floor level.

1 Building Co-operation: A Business History of The Co-operative Group, 1863-2013 By John F. Wilson, Anthony Webster, Rachael Vorberg-Rugh

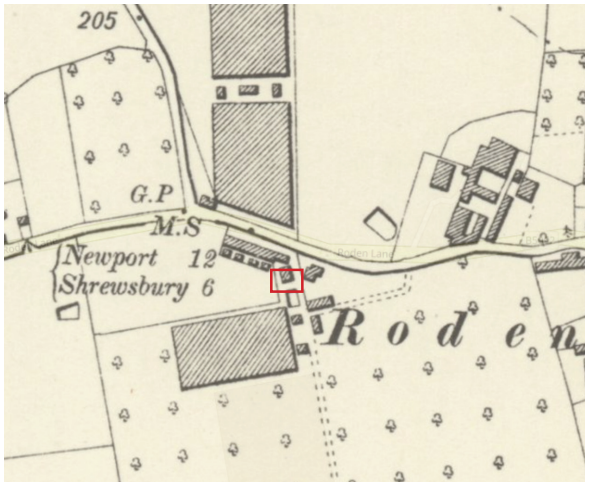
2 Courtesy of Sophie McCulloch, archivist at the Co-operative Heritage Trust, National Co-operative Archive



Early sketch of Roden



Roden, 1902, the Water Tower highlighted

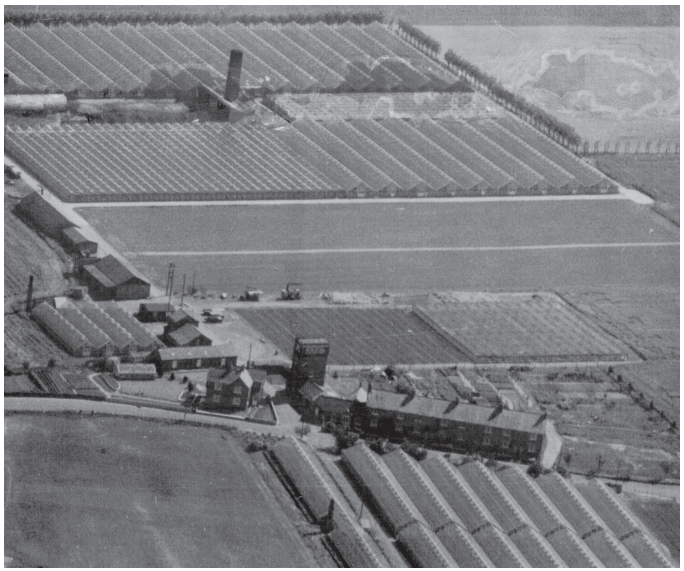


Roden, 1902, the Water Tower highlighted

Image depicting historic layout of Roden Lane

For the most part of the 20th century, the Roden glasshouses were used for tomato and salad growing for distribution throughout Europe. This was eventually scaled back in the 1980s, and finally sold to the current owners, who operate the nearby garden centre, Roden Nurseries.

The other three water towers in Roden were elevated iron towers and have been decommissioned and dismantled over time, with the last being removed in 1995. This tower is the only one remaining. The Water Tower continued to provide irrigation to the garden centre until April 2019 when it was decommissioned due to long overdue system upgrades. A new modern water storage facility is now located on the retail site of the garden centre.



Aerial photo of Roden, note the taller (current) water tank


Roden, 1951, the Water Tower highlighted

Early photograph of the Water Tower, note the reduced height tank

The Water Tower viewed from the west, photograph 1981


Early photograph of the Water Tower, pre-1911. Note the CWS logo and the taller tank suggesting this may have been replaced earlier than believed

# 3.0 HERITAGE STATEMENT

## 3.1 SIGNIFICANCE VALUES

Significance can be defined as the sum of the cultural, social and/or natural heritage values that make a building or place important to this and future generations. Many heritage values are recognised by the statutory designation and regulation of significant places, however it is important to go beyond this view to conclude the significance of a building or site within a wider context. The Water Tower is not listed however this does not mean that the building does not have a heritage value, as explored in the following sections.

For the purposes of this document, significance is considered to be the overarching analysis and understanding of what is important about the building. It combines a wide combination of factors that contribute to its overall significance, including: architectural interest, historic interest, group value, social value, former uses, local distinctiveness, and much more.

These aspects can be grouped under the following headings, which are based on guidance in English Heritage's Conservation Principles, Policies and Guidance (2008):

- Evidential Value: the potential of a place to yield evidence about past human activity
- Historical Value: the ways in which past people, events and aspects of life can be connected through a place to the present
- Aesthetic Value: the ways in which people draw sensory and intellectual stimulation from a place
- Communal Value: the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory

The significance of a place is the sum of these values. This analysis of the above significance values then forms the foundation upon which any proposals for change and enhancement of a place can be considered and carried forward.

## 3.2 EVIDENTIAL VALUE

The Water Tower has been cleared of the majority of items relating to its use as the irrigation system for the glasshouses. There is the potential during any works, to uncover artefacts relating to the building in use and learn more about the everyday running of the industry. The likelihood however is low, as uncovered items are unlikely given the construction type and simplicity of the building.

The fabric of the building may hold evidential value relating to the building's construction, and any phasing such as the replacement of the water tank, the introduction of the steel beams and the construction of the small west lean-to. This may become apparent during the process of carrying out physical repairs to the building, however we can gauge a reasonable understanding of the building's development from analysis of the existing building fabric and historic photographs etc. As the building is an industrial building comprising exposed brickwork surfaces, it is unlikely that further evidence exists within the fabric to provide a more complete understanding of the building. The evidential value within the building itself is therefore low.

Roden has a manorial history traceable to the 12th century. This relates to Roden Hall, which sits ~380m east of the Water Tower was classified as 'an early 19th Century farmstead'. Early maps suggest that Roden Hall retained well defined boundaries and it is possible a building pre-dated the farmhouse mentioned in Sale Particulars of 1765. The land immediately surrounding the hall was initially used as a farm with farmland, orchards and gardens, before being rebuilt as a Gentleman's residence with parklands and landscaped lawns, it was then converted into a convalescent home for CWS and is now a residential care home. The Historic Environment Records (HER) for the immediate vicinity records mainly settlement evidence relating to the Medieval and Post-Medieval development of Roden and the surrounding villages. There is, however, evidence of prehistoric and Roman activity to the south and east of the site.

Given the close proximity of the historic settlement at Roden Hall, which has a medium to low potential to uncover medieval or post-medieval remains (or less likely prehistoric or Roman remains), there remains a slight possibility of below ground archaeology at the Water Tower. As that the area has been developed during the construction of the farm buildings, this reduces the likelihood of any well-preserved below ground archaeology further, and thus the evidential value for any below ground elements in low. Nonetheless any potential below ground archaeology remains undisturbed in the current proposals and thus the potential significance the building holds relating to below ground archaeology remains the unaltered.

Debris remaining on the first floor relating to the buildings use as a water tower

## 3.4 HISTORIC VALUE

### Historic Fabric

The Water Tower was constructed in the early 1900s, therefore the age of the fabric itself is not of particular significance in isolation. Original features and detailing do remain, and whilst these are simple and industrial in their nature, they give an insight into the use and history of the building. The historic fabric itself is of low significance.

### Historical Associations

There is a notable association with CWS present at the tower. The Co-operative Group (previously CWS) is the largest consumer co-operative in the UK, owned by more than 4.6 million active members, and has been long established as an ethical retailer. The Water Tower represents the CWS's expansion into farming. Roden being their first farm, and the fact that this is the only water tower remaining of the four that CWS built in Roden makes the association more significant. There was historically text on the side of the water tank which referred CWS and their Manchester headquarters. In historic photographs this can be seen as white lettering. This text remains, however has weathered and is only visible from certain angles due to the faded nature of the paintwork. Despite this, the text clearly states 'CWS' to the east and west elevations, and 'Co-operative Wholesale Society Ltd, Central Office, New Century House, Manchester' to the north elevation facing the road, thus providing a physical manifestation of the historical association with CWS. The properties within Roden were once owned by CWS, and housed the workers of the adjacent glasshouses, and as noted earlier, Roden Hall was used as a convalescent home for CWS workers. The subtle text on the side of the Water Tower is perhaps the only physical reminder that this small hamlet was once entirely owned by CWS. The value in its historic associations is therefore medium.

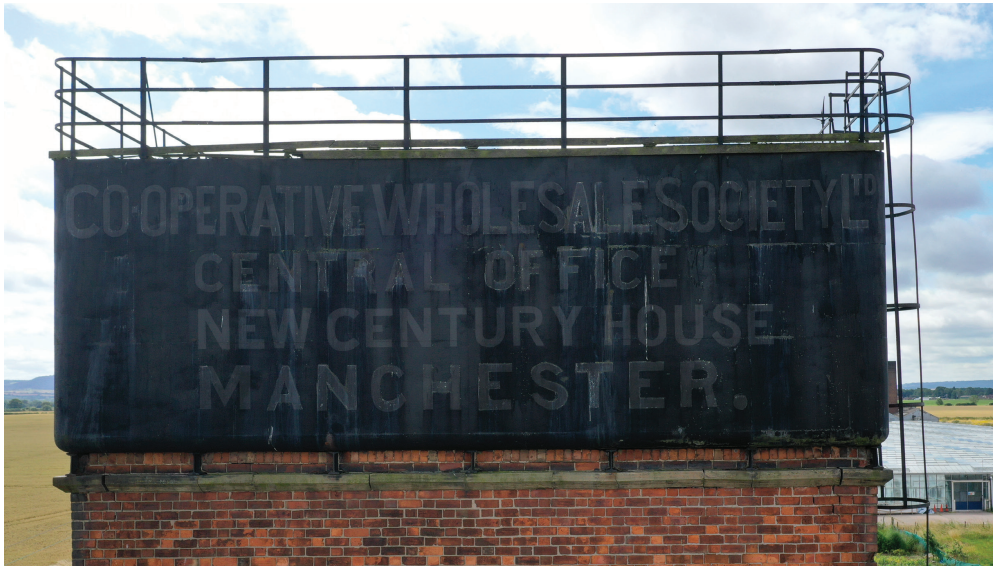
### Historical Use

The Water Tower's use as the irrigation system for the adjacent glasshouses is of historical interest. Many water towers were dismantled or demolished when they are decommissioned. In this instance the water tower in question is the only remaining of the four that were constructed in Roden. The buildings form and architecture reflect its use in a very direct manner, with the cast iron water tank visibly elevated by the narrow brick structure. There are however many examples regionally and nationally of water towers remaining, and it is not of exceptional interest when seen without the context of the historical associations or the community value therefore its historical use has a medium to low significance value.

Historic image of CWS logo


Existing aerial view showing the CWS visible


View of the text showing the current condition and visibility



Enhanced image showing the text - refer to the top right image to see the actual condition of the text

## 3.5 AESTHETIC VALUE

In its locality, the Water Tower is an aesthetically iconic building. The surrounding properties are of a residential scale, with the Water Tower standing significantly taller, at 13.5m high. The architecture of the building is functional, yet details have been incorporated such as arched brick heads to the windows, and a stone corbel underneath the water tank. Other elements such as the brick buttresses to each corner, are functional yet add a level of refinement to the architecture. The brickwork and timber windows duplicate the materiality of the adjacent residential properties, however, note that many of the residences have since replaced their windows with uPVC, and in different configurations. The Water Tower and the properties immediately surrounding share an agricultural architectural language, unlike the newer dwellings located on Marlbrook Way, north of the site.

Whilst the materiality of the Water Tower harmonises with the adjacent residential properties, the cast iron water tank and its tall narrow form clearly differentiate this building as an agricultural monument within the hamlet of houses. Externally the elements of highest significance are the upper levels which can be seen from the surrounding areas. The Water Tower has become a landmark building, visible from the surrounding villages. The tank in particular, whist this has changed form over the building's history, is a significant element of the building's overall appearance and its value as a heritage asset. The Water Tower is a good example of a functional building within a rural setting, and its iconic nature determines the aesthetic value to be medium.

Internally, the spaces are plain and functional, with three levels within the brick building and the water tank separated, with access from an external vertical ladder. The interior comprises exposed brickwork walls which have been whitewashed, timber floorboards and a timber access ladder. The internal partition that forms the records office on the ground floor is constructed of timber match boarding, again this is functional but has small elements of decorative detail. The interior of the building has a low aesthetic value.

## 3.6 COMMUNAL VALUE

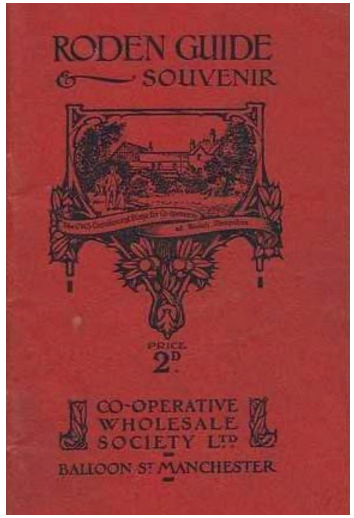
The Water Tower is a key part of Roden's history, and in living memory this was the heart of the agricultural industry in the hamlet. The records office is located on the ground floor of the building, and its central location around the glasshouses meant it acted as the beacon for the workers. A button remains on the wall in the Water Tower which reads 'hooter', this would sound the horn at the top of the tower to signify the break for the workers. The sound of the hooter was a familiar sound within the village, as was and the sight of the rush of workers out of the glasshouses shortly after the sounding of the horn.

Since it became redundant in 2019, the Water Tower remains an iconic part of Roden, signifying its agricultural past. Younger residents of Roden, who do not remember the tower in-use by the CWS, have different but similarly strong memories of the tower. To this generation, the Water Tower signifies a curious imposing building, one that many have trespassed into to investigate the redundant building.

The Water Tower is an important part of Roden's history, from its construction in the early 1900, signifying the huge expansion of the CWS, to its pivotal role in the function of the agricultural industry - calling the local residents to work and dictating their breaks. Every Roden resident will have some form of connection to the Water Tower, either from its time as a functional water tower for the glasshouses, or as a curious landmark building. It now defiantly stands as a redundant yet iconic structure, a physical reminder of the connection to CWS, who shaped the form of Roden, and has become a distinctive and well-known local landmark. For these reasons, the communal value of the Water Tower is high.

View of the Water Tower from the west approach to Roden


Functional interior elements with small details such as the chamfer around the door frame



The Roden Guide and Souvenir, by Percy Redfern, produced by the CWS, 1911

The 'hooter' button that sounds the horn to indicate break times to the farm worker s

# 4.0 CONSULTATION

## 4.1 PRE-APPLICATION PLANNING ADVICE

Advice from the Telford & Wrekin Council was sought in March 2018 (application number: PE/2018/0200, annexed to this document). The images opposite were the designs submitted for the pre-application advice.

The officer assessed the design based on 4 criteria; Principle, Design & impact upon heritage asset, Highways, Environmental Considerations.

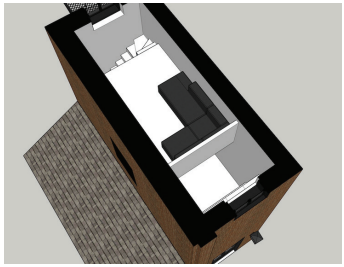
Principle: although the site is located outside of the five named settlements, it was noted that this proposal is an exception due to the retention and re-use of a heritage asset and as such the proposed design could be supported.

Design & impact upon heritage asset: the planning officer advised timber cladding to the end wall of the lean-to in the style of double doors instead of brick, with windows set within. We have amended our designs to reflect these changes (see section 4 & 5). Further details relating to the garden area were requested, which are now included (see section 5.4). The conservation officer noted concerns regarding the impact of increasing wall thickness to meet building standards on the usable floorspace. Carrying out thermal modelling of the building has calculated the likely U-value of the walls as sufficient to meet modern standard without the need for insulation, thus not compromising internal layout or insulation standards, refer to section 5.3 for further information. A heritage statement was requested which is included in section 3.

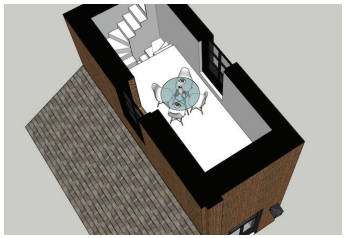
Highways: the existing access was deemed permissible, and provision will need to be made for 2.3 spaces to service a 2-bedroom residence. 2 parking spaces have therefore been included as requested.

Environmental Considerations: it was noted that although Roden is served by a private water supply, confirmation should be provided of the redundancy of the water tower's use; the tank has now been drained and isolated, evidence of which is visible in section 2.2 where the empty tank has been photographed. A foul drainage scheme was also requested; further site investigations have been carried out and existing foul drainage is available on site. A collapsed section has now been replaced with a new pipe which terminated to the rear of the building - (see section 5.3)

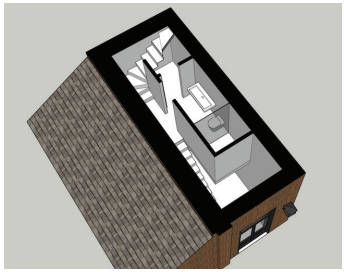
Overall, the planning officer's comments confirm support of the design submitted in March 2018, subject to details of design and appearance, and with the recommendation that the suggested amendments be adopted.



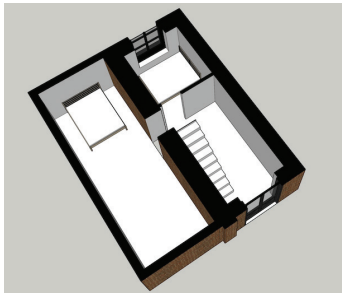
Third floor



Second floor

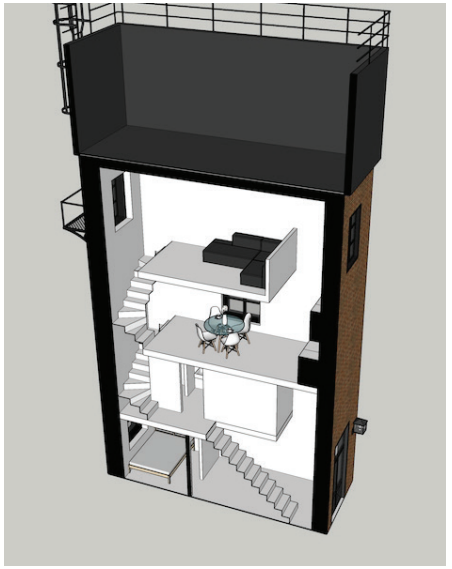


First floor



Ground floor

Section looking south



Section looking north

Southwest view of the tower

Southeast view of the tower

# 5.0 PROPOSAL

## AMENDMENTS FROM THE PRE-APP DESIGN

The design submitted for pre-application advice involved adjusting the floor levels to create an additional mezzanine floor (first floor out of four). This would have no windows and was proposed to house the bathroom. The current design has been amended however to negate the need to adjust the floor levels and the same accommodation has been housed within the existing lean-to and ground floor without introducing an additional floor.

At the request of the planning officer, the material for the replacement lean-to wall has been amended from brickwork to timber, refer to materials section below.

## 5.1 USE & LAYOUT

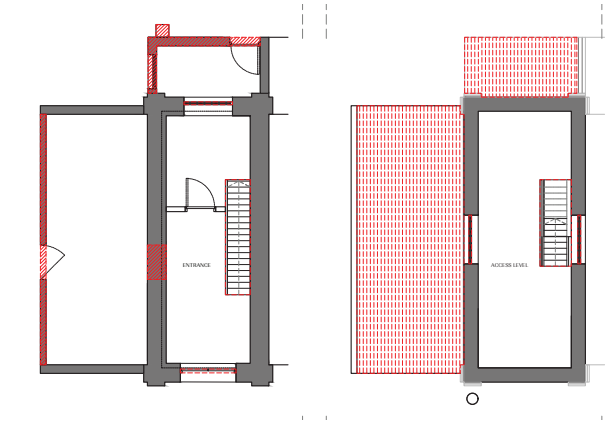
The proposal comprises; re-ordering and restoration of the main tower, removal of the poorly constructed modern pump house towards the rear to allow the original facade to be reinstated; and renewal of the dilapidated lean-to in the same form as existing.

The Water Tower layout is formed of a number of narrow floor plates. It is proposed to remove the central timber stairs and introduce new compliant vertical circulation at the east end of the footprint. The relocation of the stair will allow the full width of the floors to be utilised.

The use of the building is to be a residential property for the owner and family to stay when they visit their family in their home village of Roden. In this regard, the tall and narrow nature of this unusual property will not cause adversity as it is not to be utilised as a full-time residence.

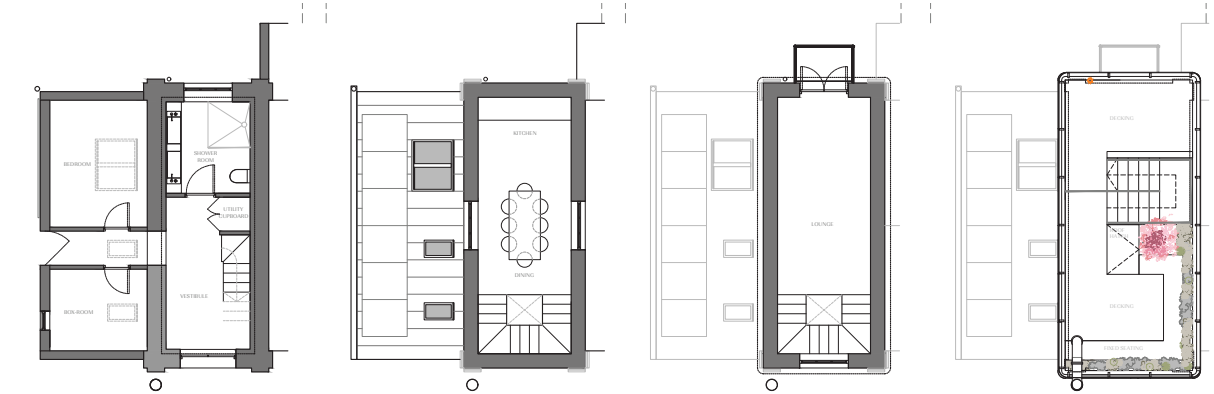
The ground floor of the main tower comprises an entrance vestibule, stairs, utility cupboard and shower room. The lean-to will be divided into two bedrooms, one double and one small bedroom/nursery. The first floor comprises a small kitchen and dining space, and the second floor provides the living room space.

The tank is a key part of this iconic buildings history and will be retained and utilised as a garden space in order to not change the external appearance of the structure. The access to the tank garden will via a pull-down staircase and access hatch within the living room ceiling. A small storage area will be provided underneath the higher decking level of the garden.




Existing Plans


Proposed Section




Proposed Plans

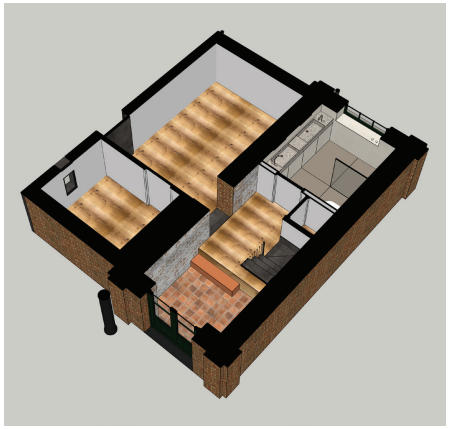
## 5.2 SCALE & MASSING

The scale and massing of the building will remain largely unchanged by the proposal. The only amendment to the massing of the building is the removal of the small modern pump house to the west of the tower. This is a later addition, blocks a ground floor window of the tower, and disrupts the original west elevation. This element of the building also contains an amount of asbestos and which needs to be removed as soon as possible. The removal of the late addition will not have an adverse effect on the property, and cannot be seen from the road. The view from the street will not be altered by the proposal, as the alterations to the south-facing lean-to is not visible from the street.

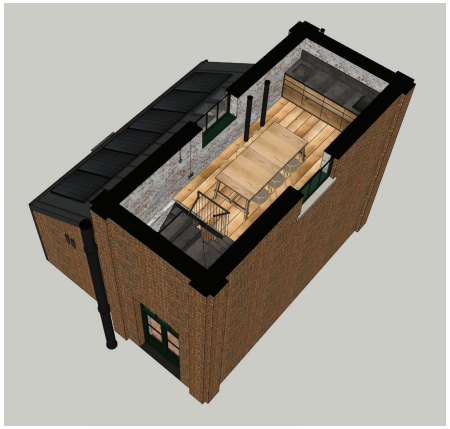
The tower is the tallest structure in the village, and can be seen throughout Roden and from further afield. It is therefore important for this structure to not be altered by the proposal.

View of existing the main road

Section cut through proposal

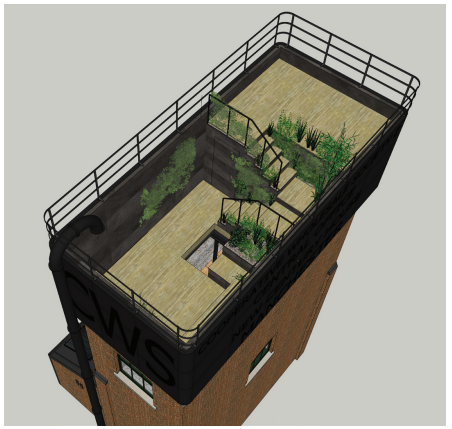


Sectional ground floor plan - proposed



Sectional first floor plan - proposed

Sectional second floor plan - proposed



Sectional tank/roof plan - proposed

# 6.0 DESIGN

## 6.1 APPEARANCE

As the tower is part of the early fabric of the village, the proposed design has been considered in relation to the agricultural history of the site. The roof and central wall of the lean-to will be replaced, keeping the two brickwork end walls, (see materials below). Conservation roof lights are proposed within the roof to provide even south-facing light, with the introduction of a new window to the south lean-to wall to provide light to the box room.

To the main tower, new replacement windows take the same form as existing, to replicate the current design. The window format is similar to the original arrangement of the residential properties on Roden Lane, constructed approximately 10 years before the Water Tower, and sharing many elements of detail. Although many of the older properties windows have been replaced with UPVC, replicating the typical Roden window design will maintain this historic relationship and preserve the historic window design.

Brickwork repairs and localised re-pointing is required as part of the essential fabric repairs to the building. Any work will be carried out in like-for-like materials, replicating original details therefore no change is proposed to the external appearance of the tower.

The cast iron water tank will have localised repairs carried out and be repainted in matching black paint to preserve this key element. The historic sign writing will be reinstated in a subtle tone to give a similar appearance to its current form whilst maintaining the heritage.

## 6.2 MATERIALS

The existing lean-to comprises of timber and corrugated metal sheeting, which is reflected in the proposed material pallet. A metal standing seam metal roof is proposed as the replacement roof of the lean-to, reflecting the agricultural nature of the building and site, whilst demonstrating an honest intervention. The external wall of the lean-to will be replaced with timber cladding, at the request of the planning officer in their pre-application advice.

Following years of neglect, the original timber windows and front door are rotten and cannot be salvaged. Their proposed replacements will be constructed using double glazed timber units.  It is proposed that the frames will be finished with linseed paint ensuring they require little maintenance over the next 50 years.

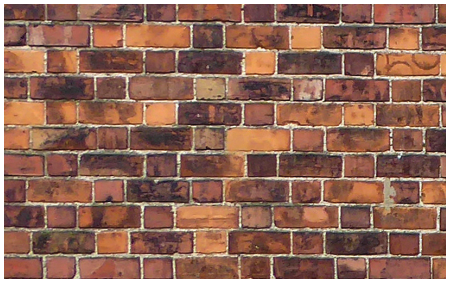
Example of metal standing seam roof

Standing seem roof

Timber cladding proposed for south facing lean-to wall


View of existing lean-to is limited from the street

Timber cladding



Existing wall treatment - brick to be matched

## 6.3 SERVICES & SUSTAINABILITY

The materials used in this conversion will be specified to achieve A or B ratings, within the BRE 'Green Guide to Specification' and where possible materials and labour will be locally sourced to support local industry and avoid unnecessary CO2 emissions.

Utilising the existing building shell will greatly reduce the carbon footprint when compared to demolition and re-construction of a like-sized project; and whilst the older structures are difficult to adapt and improve thermally without compromising their construction or appearance, by adapting 2 different approaches for the living and sleeping accommodating, the proposed conversion has centred around suitable solutions for heat, energy and water.

### 6.3.1 THE TOWER – LIVING ACCOMMODATION.

Split over 3 storeys with exposed brickwork, the intention is to maintain the exposed masonry and repoint internally with lime. This will allow the building to remain naturally permeable to water vapour as it was intended, whilst allowing for some minor movement in the structure. The decision not to insulate the inside of the tower has been developed with a series of sustainability specialists to provide a balance of low-energy options without compromising the existing structure. Insulation would reduce the habitable space internally, in tern creating a space too narrow to use for a residential function.

The masonry walls are around 500mm thick so the thermal mass will be utilised along with the introduction of air-source heat pump for background heat. Whilst this alone will not provide enough space heating for comfort without the introduction of insulation, it will maintain an ambient condition and prevent damp and condensation building up when the property is unoccupied. Space heating will be provided via electric heating which will be powered initially by solar panels on the roof. Battery storage will extend the solar use with the remaining demand being topped up by the grid when required. Having established the constraints on the tower, new double glazed timber windows will provide sufficient thermal protection whilst maintaining the historic appearance of the tower. Finally in the living space on the top floor, a bio-ethanol burner will provide additional comfort heating as well as a focal point. Excess heat from this will be recycled via the MVHR system and distributed throughout the building. Bio-ethanol burners require no flues only discharge water vapour, which in turn is environmentally clean.

### 6.3.2 THE LEAN-TO – SLEEPING ACCOMMODATION.

As a new timber construction within the existing gable walls, the utilisation of a modern air-tight and passive approach is proposed. The air source heat pump will allow sufficient heat for the bedrooms. The windows and rooflights in this area will be triple glazed to ensure heat loss is minimised.

Air-tightness is key to minimising heat loss, the bedrooms will be constructed to be airtight, and fresh air ventilation will be provided throughout with the installation of mechanical ventilation with heat recovery. This kit will be installed internally and will have no visual or audible affects externally.

### 6.3.3 ENERGY

It has been decided that ahead of the government's future climate change targets for 2025, that a gas supply will not be installed, and the services will be designed to provide sufficient power and heating with a combination sustainable energy sources and the existing electrical supplies on site.

It is proposed to heat the water and bedrooms with an air-source heat pump, this will allow year-round heating to the building. The lean-to with sufficient insulation will require little additional space heating, whilst the air source heat pump will provide background heat for the tower, with the majority of the heat in the room being recovered via the MVHR system.

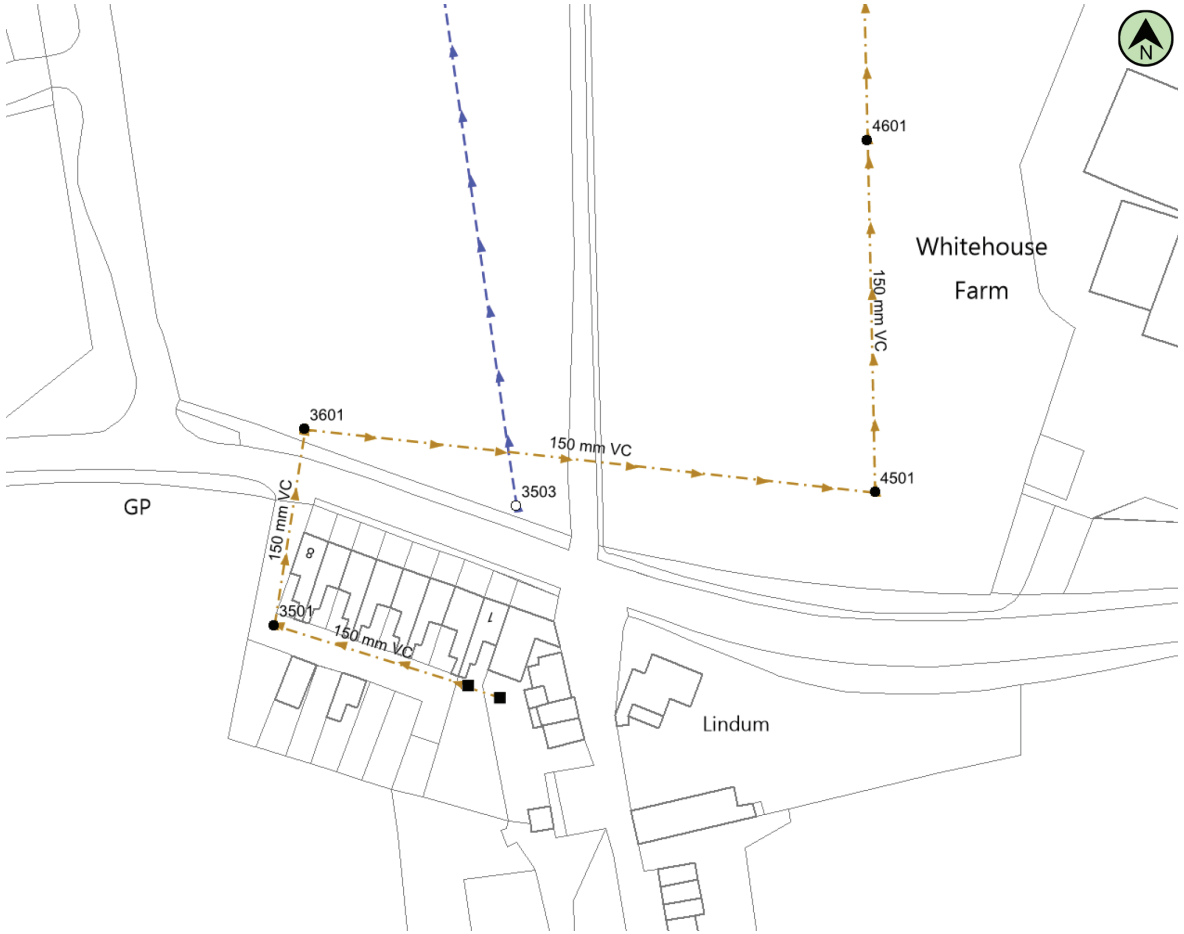
The south-facing lean-to roof provides an opportunity for an array of high-performance solar panels. Whilst solar panels aren't typically associated with historic assets, the roof faces away from the road and cannot be seen when passing, therefore we believe will have no negative impact on the area, but could provide the majority of the energy for the building. Any small remaining energy demand can be topped up from the grid using the existing supply to the site. All lighting will be provided using high-efficiency LEDs, and all appliances and white goods with achieve an A+ or higher certification. The proposal will also benefit from the installation of an electric vehicle charging point located next to the bin store at the rear.

6.3.4 WATER

All water outlets will be fitted with flow restrictors to exceed current standards for water use.

SuDS: The tank roof will contain a roof garden with growing media providing additional insulation, and by its nature also a degree of water attenuation. Overflow from this roof will be captured in an attenuation tank which will be linked to a garden irrigation system make use of the grey water. The combination of biodiverse green roofs and terraced areas will be installed over a SuDS blue roof void construction. The void structure beneath the green roof allows storm water not used by the green roof to be controlled at roof level and discharged with a restricted flow into the existing surface water drains.

Waste water will be discharged via the exiting foul drainage on site, The manhole has been inspected and cleared of debris, and a section of collapsed pipe has been renewed to ensure a smooth flow can be achieved.



## 6.4 LANDSCAPING

A diverse landscaping plan has been developed to promote wildlife, provide screening, water attenuation and shade.

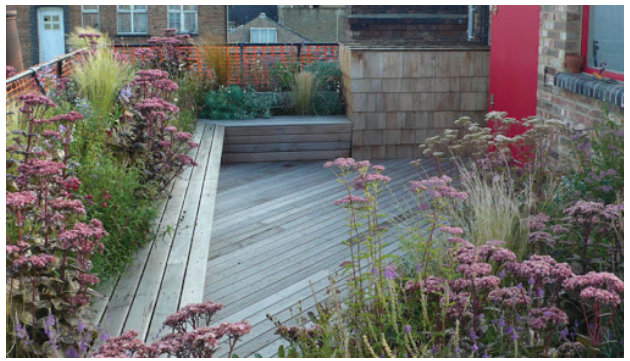
| Notes | |
|---|---|
| 01 | SITE BOUNDARY / AREA OF WORKS |
| 02 | Standing seem metal roof |
| 03 | New conservation roof light |
| 04 | Roof access hatch |
| 05 | Solar Panels |
| 06 | Timber Decking - Pots and planters to be added |
| 07 | Seating area |
| 08 | Existing refurbished metal handrails |
| 09 | Metal access steps |
| 10 | Deep planted area |
| 11 | Flowering fruit tree |
| 12 | Flower boxes to existing balcony |
| 13 | Shrubs to line parking area |
| 14 | 2400 x 4800mm parking bay |
| 15 | Timber bin store |
| 16 | Heat pump |
| 17 | Gravel access / drive |

Landscaping plan

Example of the mixed landscaping proposed for the tank

Example of the natural timber decking proposed for the tank

Example of the gravel that will form the drive & parking area



Example of the seating area in the tank space

# 7.0 ACCESS

## 7.1 VEHICLE & TRANSPORT LINKS

Primary vehicular and pedestrian access to the property will remain unaltered. A bus stop is located within 100m of the site, providing public transport connections to Wellington, Shrewsbury and Telford Town Centre. The site is accessed directly from the B5602 via an existing service route, with parking to the rear.

## 7.2 EMERGENCY SERVICES

Shrewsbury Police Station is 5.8 miles from the site and Wellington Police Station is 8.3 miles from the site. The Princess Royal Hospital in Wellington is the closest hospital to the site, at 7.3 miles to the east and Royal Shrewsbury Hospital lies 12.2 miles to the south-west. The closest fire stations are Shropshire Fire and Rescue Service in Shrewsbury and Wellington Fire Station, 5.7 miles south-west and 8.5 miles east, respectively, from the site.

## 7.3 WASTE MANAGEMENT

A timber bin/recycling store is proposed to the rear of the property. There is enough flexibility in the proposed location and design to allow for any changes in bin size to still be accommodated and hidden. The bin requiring collection will be wheeled to the front of the property for collection within the local authorities designated slots, therefore a simple addition for refuse collection.