# Supporting Documentation
## Neston St Mary and St Helen – Bell frame

**Note to parish**

This bundle includes all the supporting documentation to your faculty application as required under Rule 5.5 of the Faculty Jurisdiction (Amendment) Rules 2019.

**List of documentation**



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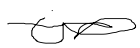
Caroline Hilton, DAC Secretary  20 April 2022

**We petition the Court for a faculty to authorise the following-**

*Please describe the works or other proposals for which a faculty is sought in the way recommended by the Diocesan Advisory Committee in its Notification of Advice.*

SCHEDULE OF WORKS OR PROPOSALS

The works that are proposed are, to replace the wooden bell frame with a steel frame. Over many years the frame has become cracked, worn and is showing signs of movement.
These works have been recommended by two professional sources John Taylor, Bell Founders and Ward Cole. Structural Engineers, both reports are attached and include pictures and descriptions.
Funding will be sourced through various grant schemes that are available and public donations.

*Copies of the Standard Information Form and any drawings, plans, specifications, photographs or other documents showing the proposals must be provided with this petition.*

| | | | |
|---|---|---|---|
| **Ref:** | 2022-068775 | **Church:** | Neston: St Mary & St Helen |
| **Diocese:** | Chester | **Archdeaconry:** | Chester |
| **Created By:** | Mr Terry Abel (18/01/2022) | **Contact Tel.:** | 07754833615 |
| **Status:** | Notification of advice | | |

# Statement of Significance

## Section 1: The church in its urban / rural environment.

### 1.1 Setting of the Church

Market Town - Semi Rural

### 1.2 The Living Churchyard

Participate with God's Acre initiative

### 1.3 Social History

Present building completed in 1875.

### 1.4 The church building in general

In good repair

### 1.5 The church building in detail

Grade 2*

### 1.6 Contents of the Church

Not relevant

### 1.7 Significance for mission

The project will not only sustain the sound of change ringing for the next couple of centuries but will make the ringing a lot easier, it will improve the quality of ringing, and hopefully encourage future generations of ringers.

## Section 2 : The significance of the area affected by the proposal.

**2.1 Identify the parts of the church and/or churchyard which will be directly or indirectly affected by your proposal.**

Sections of the tower that will be affected:
Toilets
Tower Rope Room
Tower Clock Room
Tower Bell Chamber Room

**2.2 Set out the significance of these particular parts.**

In order to remove the bells from the tower, it was decided by the Bell Hangers, the easiest direction would be down through the tower sections (or rooms) a proportion of the Bell Chamber floor, and Clock Room floor/Toilet ceiling would be removed in order for the bells to be lowered by rope to the ground floor. and visa versa when the bells return from the foundry, they will then be hoisted through the tower sections by rope and secured in place on the frame.

## Section 3: Assessment of the impact of the proposals

**3.1 Describe and assess the impact of your proposal on these parts, and on the whole.**

To have this work carried out would not only make a significent improvement to the sound of the bells through re-tuning, all ropes will hang plum making the bells easer to ring.

It will also eliminate the a safety threat as the original wooden frame has become vertually the end of its life.

**3.2 Explain how you intend, where possible, to mitigate the impact of the proposed works on the significance of the parts affected and the whole.**

To inform paristioners and the local community of the works via local media and church litriture important so that all should have a clear understanding of the importance of maintaing a ring of bells for future generations and the sigificent safety improvement to the bell frame.

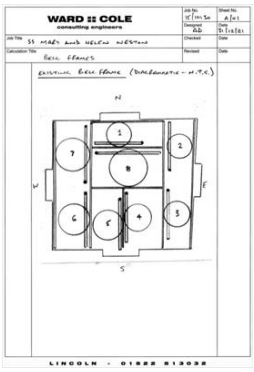
**Sources consulted**

John Taylor& co. Bell Founders and Bellhangers

Ward Cole. Structural Engineers

Donald Insall. Architects

**Plan**




## Interior

## Exterior

| | | | |
|---|---|---|---|
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# Statement of Needs

## General information

The parish of Neston has three churches, the Parish Church of St Mary and St Helen, and 2 daughter churches, St Michaels in Little Neston and St Thomas in Parkgate.

This application is for the Parish Church of St Mary and St Helen.  This church was substantially rebuilt in 1875. It is a coursed squared red sandstone with ashlar dressings; slate roofs with red tile ridge cresting; stone copings; gable crosses and finials.

It is used for worship and meetings.

## What is needed?

To replace our existing wooden bell frame as, according to professional reports, it is of poor structure and is comming to the end of its life. A replacement steel frame is recomended in order to support our eight bells.

## The proposal

I propose we engage a proffessional bell habging company John Taylor & co to carry out all works required to meet the recomendation in their report and that of Strucural Engineer Ward Cole ltd

## Why?

The intial John Taylor survey was carried out 30th April 2018 and it indicated that the remaining life span of the wooden frame would be 5years.

Four years on 2022, in theory 12 months remain. If no acction is taken the bells may regretabley cease to be rung. including the clock bell, and as a possible health & safety risk they may have to be removed all together for fear of the existing wooden frame weekening.

## Justification

The change ringing is very much a part of the quintessential English landscape and no more than in the Parish of Neston. The bells are rung for all main Sunday services and special occasions such as weddings and half muffled in times of sorrow, funerals and times of remembrance announcing the presents of the church within the parish. They are also rung to mark occasions of local and national importance.
The sound of the hourly bell plays a great part in the daily lives of our towns folk and parishioners as a reminder of time and the call to Sunday services and special occasions such as weddings and half muffled in times of sorrow, funerals and times of remembrance announcing the presents of the church within the parish. They are also rung to mark occasions of local and national importance.

St Mary & St Helen Church. Neston
Faculty Application for replacement bell frame

At Neston we are very lucky to have a fine ring of eight bells hung in the English change ringing style. Four of the bells were cast in 1731 as part of a ring of six bells. In 1884 the bells were augmented with the addition of four more bells. In 2018 an inspection was carried out by John Taylor & Co of Loughborough and it was discovered that the bell fittings and frame were coming to the end of their useful life due to frame movement, warping and ageing headstocks, the handling and striking properties of the bells have become increasingly difficult. Realistically, if nothing is done, we will only be able to ring for a further five more years (commencing from the time of inspection) before they come unringable.

The bells are rung for all main Sunday services and special occasions such as weddings and half muffled in times of sorrow, funerals and times of remembrance announcing the presents of the church within the parish. They are also rung to mark occasions of local and national importance.

Following the 2018 inspection, a structural engineers inspection was carried out be by Ward-Cole Consulting Engineers, Nottingham. The report confirmed the findings of that of John Taylors in 2018, and also confirms the tower fabric capable withstand all works that will be carried out.

In order for the bells to continue ringing out of the parish of Neston for future generations it is imperative that a new bell frame is installed with new bell fittings i.e. headstocks, wheels, clappers.
A quote of £87,785.00 plus vat has been received from John Taylor & Co for the bells to be removed from the tower and transported to Loughborough foundry for cleaning and tuning and the addition of new fittings, and for the existing wooden frame to be removed and replaced with a metal frame sitting slightly lower in the tower.

In addition, an electronically operated sound control system behind the louvred windows will be included in the work at an additional cost of £8,213.00 plus VAT. This system would be useful for reducing the volume for training purposes and additional ringing.

The project will not only sustain the sound of change ringing for the next couple of centuries but will make the ringing a lot easier, it will improve the quality of ringing, and hopefully encourage future generations of ringers.

The cost of this project will be covered by a number of funding organisations who have provided grants for similar projects, we have already received many offers of donations.

Terry Abel
Church Warden
13th January 2022

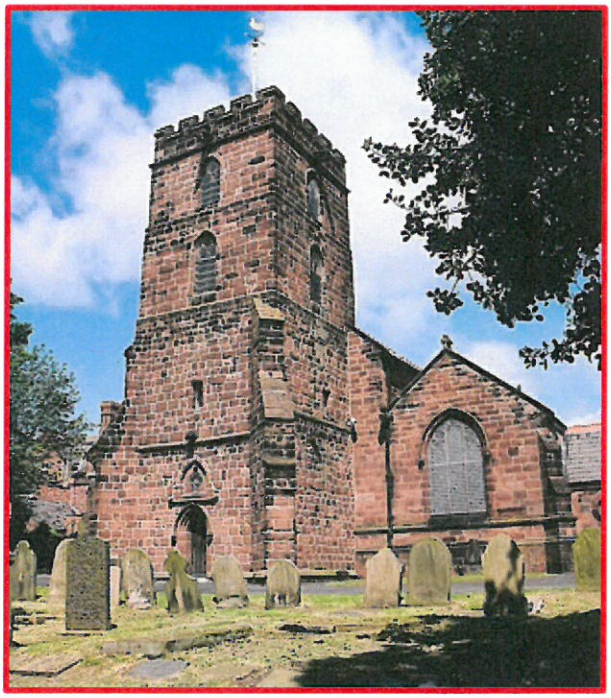
**Additional information attached**
Initial Report and Quotation 28th November 2018
Revised Report Site inspection and Final Proposal 18th April 2021

# JOHN TAYLOR & CO

BELLFOUNDERS, BELLHANGERS
AND CARILLON BUILDERS

## CHURCH OF ST MARY & ST HELEN

## NESTON



# THE BELLS

## REPORT & QUOTATION

**John Taylor Bell Foundry (Loughborough) Limited trading as**
**JOHN TAYLOR & CO.**
The John Taylor Bell Foundry, Freehold Street, Loughborough, Leicestershire, LE11 1AR, UK
Telephone: 01509 212241 Fax: 01509 263305 Tel: International +44 1509 212241 Fax: International + 44 1509 263305
Email: office@taylorbells.co.uk www.taylorbells.co.uk
Registered in England No. 7032766

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Terms & Conditions enclosed

# JOHN TAYLOR & CO
## BELLFOUNDERS, BELLHANGERS AND CARILLON BUILDERS


Our ref: PT/sap/767/27

Mr David Jones
27 Carlton Close
Parkgate
Cheshire
CH64 6TD

28th November 2018

Dear Mr Jones,

**CHURCH OF ST MARY AND ST HELEN, NESTON – THE BELLS**

As arranged, I visited the Church on Monday 30th April 2018, to inspect the bell installation. Thank to you for making the arrangements and to Geoff Sharp for accompanying me whilst I undertook the inspection. Please accept our sincere apologies for the delay in providing this document.

We report on our findings as follows:

**The Bells**

The tower houses a peal of eight bells; the 2nd, 3rd, 4th, and 6th bells were cast by Abraham Rudhall of Gloucester in 1731, whilst the Treble, 5th, 7th, and Tenor bells were cast by Mears and Stainbank of Whitechapel in 1884. The bells hang in a timber bellframe which was formed coeval to the Mears and Stainbank bells and the majority of their fittings in 1884.

The details of the bells are listed below:

| Bell | Weight cwt / kg | Note | Diameter inch / mm | Date | Founder |
|---|---|---|---|---|---|
| Treble | 4-3-17 / 249kg | F# | 27.00" / 686mm | 1884 | Mears and Stainbank |
| 2nd | *5cwt / 254kg* | E# | 27.50" / 699mm | 1731 | Abraham Rudhall |
| 3rd | *5¼cwt / 267kg* | D# | 28.50" / 724mm | 1731 | Abraham Rudhall |
| 4th | *6cwt / 305kg* | C# | 30.50" / 775mm | 1731 | Abraham Rudhall |
| 5th | 7-1-22 / 378kg | B | 32.50" / 823mm | 1884 | Mears and Stainbank |
| 6th | *8cwt / 406kg* | A# | 35.00" / 889mm | 1731 | Abraham Rudhall |
| 7th | 10-1-21 / 530kg | G# | 38.00" / 965mm | 1884 | Mears and Stainbank |
| Tenor | 14-2-24 / 748kg | F# | 43.00" / 1092mm | 1884 | Mears and Stainbank |

The weights of the Treble, 5th, 7th, and Tenor bells are known exactly, whilst the weights of the 2nd, 3rd, 4th, and 6th bells in the table above are estimates which are calculated respectively from other bells of the same note, diameter, and founder.

The Treble, 2nd, 4th, 5th, 7th, and Tenor bells are maiden (as cast) and have not been tonally altered in any way. Whilst the 3rd and 6th bells have had their soundbows edge chiselled in order to raise their nominal notes. This crude method often spoils the tone of bells

A tonal analysis was carried out as part of our inspection, the results of which are as follows:

| Bell | Nominal | | Quint | | Tierce | | Fundamental | | Hum | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Freq. | Cents | Freq. | Cents | Freq. | Cents | Freq. | Cents | Freq. | Cents |
| Treble | 1502 | -22 | 1142 | 4 | 889 | -30 | 660.5 | -244 | 386 | 26 |
| 2nd | 1435 | -1 | | | 849.5 | -8 | 636 | -210 | 386 | 126 |
| 3rd | 1277 | -3 | 1103.5 | 244 | 774 | 30 | 605 | -96 | 365.5 | 232 |
| 4th | 1135 | -7 | 898 | 88 | 669.5 | -21 | 566 | -11 | 286 | 7 |
| 5th | 1013 | -4 | 813 | 116 | 616.5 | 37 | 506 | -5 | 271 | 114 |
| 6th | 945 | -24 | | | 570 | 1 | 462 | -63 | 267 | 188 |
| 7th | 844.5 | -19 | 655.5 | 43 | 510 | 8 | 415 | -49 | 227 | 107 |
| Tenor | 760.5 | Datum | 597 | 81 | 458 | 22 | 366 | -66 | 208 | 156 |

The above figures are given in cents (hundredths of a semitone) relative to ideal using the Nominal frequency of the Tenor bell as datum.

The above tuning figures are relative to Equal Temperament, since this is the temperament towards which the figures lean. The Nominal frequency of the Tenor bell was found to be 760.5 Hz, which relates to 47 cents sharp of the International Standard Pitch for the note $F\#_5$.

The figures in the grey columns marked 'Freq.' show the actual recorded frequency in Hertz (cycles per sec) for each partial, whilst the white column marked 'Cents' gives the actual error from ideal in cents of a tone. A discrepancy of +/-15 cents is not normally detectable; however, by the time these errors are more than 20 cents, it is usually detectable to the ear, making the bell sound out of tune or 'sour' compared to its companions.

The quint frequencies of the 2nd and 6th bells were too weak to be measured by our recording device.

The nominal notes (strike notes) of the 2nd, 3rd, 4th, and 5th bells are only slightly flat being -1, -3, -7, and -4 cents, indicating that these bells are very close to their correct thickness; whilst the nominal notes of the Treble, 6th, and 7th bells are much flatter than ideal by -22, -24, and -19 cents.

A sharper partial indicates that an area of the bell has added thickness, and a flatter partial indicates that thickness is lacking. When using the Tenor bell as datum, the nominals of all the bells are flatter than ideal, indicating that the Tenor bell is thick in its soundbow and waist.

The hum notes (main resonance) of all the bells are sharp of ideal, with the 3rd and 6th bells being worst affected by 188 and 232 cents. The hum notes of all the bells are over-sharp with the least affected being the 4th bell, which is sharp by only 7 cents.

The fundamental partials of all the bells are flat, with the Treble bell being the worst affected by -244 cents. The majority of the quint and tierce partials are sharp than ideal indicating that the bells are all thick in their waists.

We believe that this peal of bells may have enough thickness to correct the above-mentioned discrepancies and this would become clearer when the bells are measured and analysed.

When the bells are next restored, they would benefit from careful treatment on the tuning machine, in order to properly align the Nominal and Hum frequencies and improve the alignment of the other frequencies as far as their profiles will allow. We believe that the sharp bells could be tuned down to correspond with the pitch of the 6th bell and lower, bringing the peal nearer the Key of $F_5$, allowing them to be better in tune with themselves and each other.

The 2nd, 3rd, 4th, and 6th bells were moulded with cast-in iron crownstaples within their heads, made to form a clapper pivot and suspension. These cast-in staples were largely removed to allow the fitting of independent crownstaples in-situ by Whitechapel Bellfoundry some time ago. Small traces may still remain and any roots should be carefully removed next time they are restored, to lessen the chance of cracking the heads of the bells by rust expansion from the ferrous material.

The 2nd, 3rd, 4th, and 6th bells have been quarter turned (rotated by 90°), this has been done so their clappers can strike on unworn areas of the soundbows. We noted that the soundbows of all the bells are moderately worn where their clappers currently strike. The older Rudhall bells are also marked with wide arcs of wear due to the historical looseness of their 'Baldrick' type clappers. When the bells are next removed from the tower, they should be closely examined to see if they will need further turning, to present unworn areas of the soundbows to the blows of the clappers.

The 2nd, 4th, and 6th bells were cast with six canons (ornamental loops) upon their heads from which they currently hang from their timber headstocks. However, the canons of the 3rd bell were removed by Whitechapel Bell Foundry. We noted that one of the canons of the 2nd bell had broken off some time ago and this has now been replaced with a false canon which passes through the head of the bell and is fixed with a nut anchored from the underside of its crown. We noted that this false canon is not fixing the bell level to its headstock and that it may be possible to adjust this by tightening the nut found in the underside of the bell head.

The Treble, 5th, 7th, and Tenor bells were cast with four Doncaster canons (smaller lugs) upon their heads from which they remain attached to their timber and cast-iron headstocks.

## Bell Fittings

The seven smaller bells are hung from hardwood timber headstocks formed from Elm, the undersides of which are carved to fit over the canon heads of the bells. They all sustain fractures from the pressure of the bell heads and appear to be cracking around their stay fixings and gudgeon boxes. We noted that the headstock of the 5th bell has suffered from wet rot which has now dried out; the timber is now very brittle and beginning to crumble. We also noted that this headstock has a very large crack on its underside and this must be monitored regularly; if the handling properties of this bell suddenly change, we advise that it must not be swung. None of the bells which hang from timber headstocks are balanced as the timber has become misshapen and warped over the years, this will make the bells 'oddstruck' whilst adversely affecting their handling properties.

*Above: Images showing the cracks on some of the headstocks.*

The headstock of the Tenor bell is formed of cast iron and is of hollow box-section canon-retaining pattern. This was provided by Mears of Whitechapel in 1956. There are no visible signs of distress in the cast iron and other than the slight build-up of surface rust, this headstock is generally in a good condition. However, the majority of the heavy iron sits high above the pivot resulting in loss of momentum and a slower swing time then what is ideal.

Each of the timber headstocks are fitted with steel gudgeons which are fixed in cast iron boxes. These are fixed to the headstocks using two U-bolts each which pass vertically through the headstock bodies. We noted that these are rusty but are in a fair condition.

The headstock of the Tenor bell is fitted with turned steel cast-in gudgeons. We noted that these are no longer fixed tight at their inner faces as traces of grease have come through to the inner faces of the headstock from the bearings and along the gudgeons. We swung the bell full circle with its clapper tied to hear if these gudgeons are exhibiting any 'knocking' sounds, however, there were many noisy counterparts that could be drowning any sounds made by loose gudgeons. We advise that this headstock is regularly checked at its inner face for any new cracks or signs of movement in the cast iron.

*Above: An image showing the seeping wheelside gudgeon of the Tenor bell.*

The gudgeons on all the bells rotate in single-row ball bearings in cast-iron housings equipped with lubricators all fitted by Mears of Whitechapel in 1956. The seals are not working well to retain the lubricant within them as seepage can be traced around all the bearings housings. This will allow dust and grit to enter the housings which will wear out the bearings causing them to rapidly become pitted.

The Treble, 5th, 7th, and Tenor bells are attached to their headstocks by two U-bolts each which run up the outer faces into two top connecting plate brackets which we noted to be rusty. We also noted that a top connecting bracket of the Treble bell has shifted as the timber headstock had softened. This has caused the Treble bell to hang out of balance.

*Right: An image showing the shifting ironwork of the Treble bell.*

The 2nd, 4th, and 6th bells are attached to their headstocks with traditional ironwork consisting of six hinged eyebolts and three top connecting brackets each; whilst the 2nd bell is fitted with the additional false gudgeon. We noted that the hinged bars are no longer straight and are distorted due to the periodical tightening of the bolts and the timber headstocks shrinking. We also noted that all of the ironwork is rusty on its surface.

*Above: An image showing how the ironwork is becoming distorted.*

The 3rd bell is attached to its headstock with four independent support bolts which we noted to be rusty.

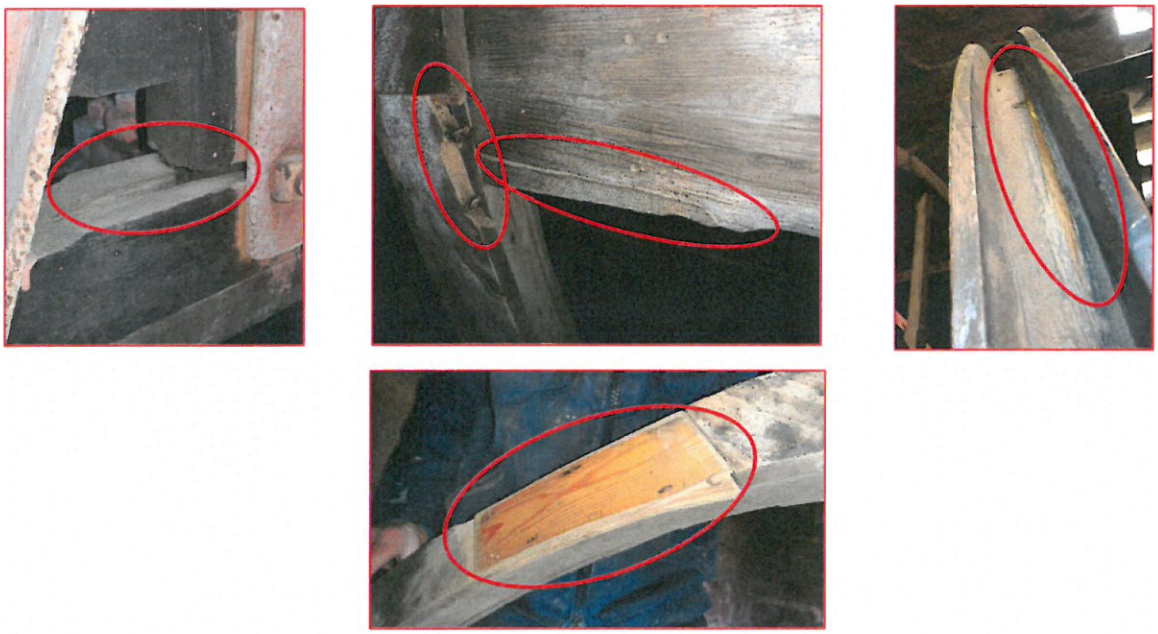
All the bells retain wrought iron clappers provided by Whitechapel Bellfoundry which are of barrel top pattern. The striking faces of all the clappers are now beginning to become worn, creating a wider impact on the surface on the soundbows of the bells, which also causes a negative effect to their tone and resonance. The flights of the 5th and Tenor bells are formed with jumped (shortened) flights, and although these have been formed this way, we noted that the flight of the Tenor bell is catching the bellframe ever so slightly.

The clappers are held in clevis type independent crownstaples formed from cast iron which are fixed tightly and appear to be in a fair condition. We noted that those of the 5th and Tenor bells are not fitted straight with the running lines of the swinging bells.

The joint pins from which the clappers pivot from are formed from stainless steel having headless bolts which can work loose in the crownstaple over time. These joint pins are devoid of any means of efficient lubrication.

The bushes (plain bearing surfaces) within tops of the clappers are only moderately worn. However, the clappers are stiff to swing and make distinctive squeaking sounds when swung; this indicates that these are formed from self-lubricating nylon or Tufnol, which are known to expand in conditions of high humidity causing more friction. These can wear-out rapidly and need to be replaced more often, due to their expanding properties.

The bell wheels have dilapidated and had quick repairs made to them over the years. The shrouding (rims) nails are rusting which is allowing the segments to come away, and the feather joints fixing the shrouding together have burst; repairs to replace missing segments of shrouding have been made on the wheels and more are coming away from the soling. The soling (tracks) on all the wheels are now very worn from the passage of bellropes over them. We noted that there cracked are spokes on all the wheels and that all the timber centres are no longer as firm as they should be.



*Above: Images showing the condition of the bell wheels, including: Split spokes, burst feather fillets, replacement shrouding, and worn soling.*

The wheels of the seven smallest bells are braced against their headstocks with two round bars iron wheel stays each in order to provide additional rigidity. We noted that these are rather rusted and are coming loose from their fixings, causing the bell wheels to be unsteady. The wheel of the Tenor bell is braced against its headstock with two RSA (Rolled Steel Angle) bars which are rusty but holding well.

All of the roller boxes are of a single wheel pattern. The roller wheels are formed of timber sheaves, fitted on plain pins in hardwood boxes. The pins are drilled, tapped, and fitted with Stauffer lubricators for periodical lubrication. We noted that the lubricator on the pin of the Treble bell has gone missing. All of the roller wheels are grooved due to the passage of the bellropes over them and are rickety on their spindles. We noted that the sheave of the 2nd bell has completely split horizontally and that many of the boxes have cracks and are very tired.

*Above: An image showing the split sheave of the 2nd bell.*

An additional roller is fitted to the rope of the 5th bell to improve the rope circle. This roller was provided by our company and fitted by locals, it is in a good condition but not fitted with a flapping board as advised. Much of the rope circle can be improved by fitting rollers of double wheel pattern in the pit of each bell, this would allow the ropes to fall plumb from the bell chamber without causing any additional drag.

The stays are all tapered or curved and are of side fixed pattern. They all appear to be fitted correctly with two bolts each, which we noted to all be rather rusty. We also noted that there are cracks forming on the stay around the top bolt of the 3rd bell and that the stay of the 6th bell appears to be in two halves and could be purposely fused together.

The sliders are of curved pattern and are moderately worn where they contact their running faces. The sliders each pivot from a basic peg which are fixed to the base sills of the bellframe and are rusty, these have nothing to prevent them from lifting off their pivot.

All the sliders run on plank type runner boards which all appear to be in good condition.

There is a gravity operated clock hammer fitted to the Tenor bell which appears to be in a fair condition.

## Bellframe

The bellframe is of Oak construction, which was built and installed by Mears & Stainbank in 1884. It is similar to the Pickford classification layout type 8.3 with truss type 6.A, consisting of head sills, base sills, and diagonal braces from base sill to head sill. The whole construction is fixed together with pegged mortice joints and tenons.

The bracing gate ends are formed with extended 'gallows' which are designed for where space is at a premium. To accommodate the swinging bells in the tight space, the crossbar at the gate end of each pit is heightened so that each bell can swing beneath it. This alternative design is an ineffective approach to reducing lateral deflection and twisting framesides.

The frame is arranged so that the 6th and 7th bells swing mouth to mouth in the north to south direction at the west side of the tower. The 2nd and 3rd bells also swing mouth to mouth but along the east side of the tower. The remaining four bells are hung in the central half of the bellframe, with the Treble and Tenor bells swinging side by side in the east to west direction. There was not enough room to accommodate the 4th and 5th bells to also swing side by side in the east to west direction, therefore, they swing side by side in the north to south direction in the central portion of the bellframe. This means that the majority of the lateral forces generated from swinging bells is in the north and south direction. It is unclear if these are the stronger areas of the tower structure.

The bellframe is seated on the bell chamber floor. The floor is supported by four 10" timber support beams which span the east to west direction and are built into the walls. A further two support beams of similar size span the north to south direction and rest on squinches at all four corners of the tower; these only support the primary layer of supports at their beam ends. An additional transverse beam RSJ (Rolled Steel Joist) girder has been fitted beneath the pit of the Tenor bell as the timber support beams are not an appropriate size to firmly withstand the dynamic forces of the swinging bells. This underpinning work was carried out by Mears of Whitechapel in 1956.

*Above: An image showing the support beams which supports the bell installation.*

The bellframe is given additional rigidity from vertical tie bars that run through the framesides of all the bells. As part of our inspection the 7th and Tenor bells were swung full circle with their clappers tied, so that we could determine how the bellframe coped with the dynamic loads placed upon it. When the 7th bell was swung in the north to south direction, the lateral deflection was measured at +/- 1.5mm. When the Tenor bell was swung in the east to west direction, the lateral movement was also measured at +/- 1.5mm, which is not ideal.

We also noted that the bellframe appeared to be exhibiting vertical movement which we were unable to measure. However, we managed to video record the deep creaking noise that could be heard coming from the support beams. We advised that all the tie rods and components which fix the bellframe to the RSJ girder below should be tightened, and that a careful analysis should be undertaken after the frame has been serviced.

Our previous reports from 1951, 1980, and 1993 all noted that the bellframe was exhibiting excessive movement which had been improved by other contractors over the years. It could be possible to reduce the majority of the lateral deflection by tightening and servicing the current rigidity components, however, the vertical movement will need to be closely analysed to see if it can be completely resolved.

Overall, the timber components of the bellframe are treated with a good quality wood preservative and appear to be in a good condition, free from rot and wood boring insects. We noted that there are a few splits in some of the timbers, but these do not flex when the swinging bells are in motion.

## General

There is limited parking on the path surrounding the church building from the south to the north side of the churchyard. From here, a level path runs to the main entrance at the south side of the building.

At the southeast corner of the tower, a spiral stairway rises to the first-floor ringing chamber which continues to rise to the second-floor intermediate chamber. From here, timber ladders ascend through the central trap giving access to the third-floor bell chamber above.

The belfry windows are fitted with louvres and are well wired against bird entry but remain open to the elements.

There is some electrical lighting and fair natural light in the bell chamber. 240V sockets can be found within the building.

There is a bell trap on the bell chamber floor and again on the intermediate and ringing chamber floors. However, the bell chamber floor trap has been narrowed by the later fitted RSJ girder, making this trap only 39" wide. The two remaining traps are wide enough to fit the largest bell through however, toilets have been fitted at the bottom of the tower completely obstructing the possibility of lowering bells to land at the ground floor. If the bells were to be lowered internally, the walls and door frames would need to be cut back and a trap door would need to be cut into the ceiling of the toilets.

Another option to lowering the bells out of the tower would be to erect a scaffold tower which is capable of bearing the weight of the largest bell, so the bells could be lowered externally through the west or south windows. We believe that a certified stonemason could remove some stone to allow the largest bell to pass through these openings, and correctly refit them once the work is complete. The scaffold tower would also give a good working platform for the stonemason.

Lowering the bells from the outside of the tower means that some of the timber bellframe would have to be dismantled which would adversely affect the strength of the structure if it were to be reassembled.

There is an electronic clock positioned at the east wall of the intermediate chamber. The old clock is positioned on the south wall of the intermediate chamber. Dial rods run up the east wall and are fitted to the dial which blocks the window opening at the east wall. This will have to be dismantled before any major restoration is carried out.

There is a large central beam which could be used for lifting bells. Additional beams would have to be provided for lifting bells around the outer portions of the bellframe.

**Recommendations**

Given that the timber bellframe is not coping with the dynamic loads of the swinging bells and the bell fittings are dilapidating, we can see that the bell installation is now in a rather tired condition. The timber headstocks and their supporting ironwork have now come to the end of their useful life.

We recommend that the bells are removed from the tower so that they can receive careful and conservative attention, and that their bell fittings are largely replaced.

We recommend replacing the old timber headstocks with our own pattern cast iron box section headstocks, fitted with turned steel gudgeons and heavy duty twin row self-aligning ball bearings which are kept in specially designed bearing housings of our own design.

We recommend that the bell wheels are replaced with new ones to suit the new headstocks. If any wheels are economically salvageable, we can allow a reduction to refurbish and adapt them.

We recommend replacing the single roller boxes with those of double wheel pattern, in order to draw the ropes under the wheels and improve the rope circle.

To follow CBC guidelines, the heads of the older Rudhall bells should have all traces of the old cast-in crownstaples carefully removed, completely relieving their heads of the ferrous material.

We recommend conservative retuning of the seven smaller bells to correspond with the flatter Tenor bell.

If funds allow, we highly recommend that the bells and the bellframe are removed from the tower, so that a new cast iron 'H' pattern bellframe can be built on a new galvanised grillage of UB (universal beam) girders. The bellframe would be positioned lower in the tower and the bell chamber floor would be replaced, which would allow for safer access for periodical maintenance. This new frame would alter the positions of the bells to create a better rope circle that allows each rope to fall plumb from the pulley to the ringer. The new girders can be set out on two levels, thus entering all four walls rather than just two walls. This new arrangement would strengthen the tower structure, tying all four walls and spreading the dynamic loading of the forces generated by swinging bells.

We quote below for the works we recommend above. Cost saving options are given where labour, transport, and accommodation can be provided. Further cost saving options are given for where the current bellframe can be strengthened and for where wheels can be retained and refurbished.

**CHURCH OF ST MARY AND HELEN, NESTON**

**-SPECIFICATION AND QUOTATION 1.0-**

***TO REHANGING THE PEAL OF 8 BELLS ON NEW FITTINGS IN A NEW BELLFRAME***

*Dismantling*

Bellhangers to travel to the Church with the necessary tackle, tools, Mendham brackets and lifting beams.

Hoist the lifting beams through the central trapdoors and fit above the bellframe. Close all passageways and rig the tackle in the bell chamber from the lifting beams.

Carefully dismantle the eight bells and their fittings and hoist the bells through a window opening which has been widened and had the louvres removed by stonemasons. The bells to lowered to the ground using the external scaffolding erected by others.

The Clock Hammer to be removed for overhaul and service.

Dismantle the bellframe and lower the timber component sections to the ground.

The bells, fittings and framework to be loaded onto our vehicle provided and transported to our works in Loughborough.

*At the works*

At our works, careful measurements to be taken to allow for the manufacture of the new bell fittings.

Any roots left by the cast–in crownstaples in the bell heads to be removed. Any voids left by the staple roots to be back filled with a durable repair putty.

The canons to be carefully removed and a polyurethane resin pad to be cast around their remaining stumps, and machined on our lathe to allow for a flat surface.

If found necessary, the bells to be turned to present the unworn surfaces of their soundbows to the blows of the clappers.

The bells to be placed on our tuning machine and retuned to as far as their profiles and thickness will allow.

The bells to be gently sandblast cleaned to remove scale and verdigris and their outsides to be given a brushed-on layer of protective graphite blacking to enhance and conserve their appearance.

*Bell Fittings*

When modern bell fittings were first introduced by our predecessors at Loughborough in the late 19th century, the hollow box section cast iron headstock brought about a considerable improvement in the ease with which bells could be rung compared with timber headstocks that preceded them.

The headstocks were very carefully and cleverly designed to give a very good weight relationship to the bells that hung from them and this, combined with a deceptively simple hanging geometry formula has provided the philosophy behind the mainstay of bell hanging by this Company since 1892.

There are numerous examples of peals which have been rehung by John Taylor & Co, which provide a familiar and comfortable at ease feeling to the handling of the bells when they are being rung.

Provide for each of the bells a set of new ringing fittings comprising:

- A cast iron headstock of hollow box-section which is carefully machined to be balanced with the head of each bell and fitted with turned steel gudgeons with hot rivet fastenings.
- Heavy duty, twin-row, self-aligning, taper-locking ball bearings fitted to the ends of the gudgeons and totally enclosed cast iron housings of our own design which are sealed for life, exclude dust and grit and are specially designed to fit to the bellframe.
- Rot resistant cast resin pads to be fitted between the heads of the bells and the undersides of their headstocks.
- An independent cast iron crownstaple with a mild steel joint pin to which is fitted with a new spheroidal graphite cast iron clapper which is machine profile for accurate swing times. Each clapper to be fitted with a resiliently mounted *oilite* bush, accurately bored to suit new mild steel joint pins, cross drilled and fitted with angular hydraulic lubricators to facilitate periodical lubrication.
- A new wheel with a well-crafted hardwood centre, hardwood steam bent ash soling, and Sapele shrouding, well carpentered with hardwood bobbins at the garter hole to protect the bell rope. The soling and shrouding of the wheel rim to be fixed in place using best quality stainless steel screws.
- Turned hardwood rope roller (pulley) with steel spindles working on enclosed bearings in a timber box with the necessary securing ironwork, to assist the bell rope as it passes down to the ringer.
- A stay and slider of ash with a steel centre block and pivot pin, and a robust timber runner bar with adjustable hardwood stop blocks.
- The necessary cast iron turned floor bosses to protect the bell rope where it passes through the ceiling and floors. For the belfry floor, the rope bosses to be made of weather resistant smooth turned nylon.

Each bell to be fully assembled in the works with its headstock, bearings, clapper, crownstaple and wheel and dynamically tested on our ringing-up frame to ensure accuracy of alignment and striking.

*Above: An image showing a refurbished bell being swung in our testing stand.*

All cast items to be finished with two coats of traditional Taylor red paint. Steel items to be hot-dip galvanised. Wooden components to be treated with high quality wood preservative.

*Bellframe*

Design, construct and erect in our works a new bellframe on foundation beams to house the eight bells on one level. Form new 'H' pattern cast iron framesides which are especially designed for the tower and well ribbed for strength. The framesides to be accurately machined on all bearing surfaces and securely bolted to the new frame foundation.

The frame foundation to consist of two sets of heavy rolled steel girders bolted through at each point of intersection and fitted with anti-drag cleats at the girder ends to form anchors in the tower walls when grouted in. The girders to be fitted with diamond pattern cross-bracing fabricated from steel flats to minimise lateral deflection. The arms of the 'H' pattern framesides to be fitted with heavy section rolled steel angle (RSA), all constructed and fitted at our works to tie them together to provide maximum rigidity.

All steel to be properly prepared. The base steel members of the bellframe to be hot dip galvanised for rust protection to BS EN ISO 1461 (2009) unless any members are zinc plated or otherwise treated against rusting.

*Fixings*

All necessary galvanised nuts, bolts, washers and other fixings to be provided for the bellframe and bell fittings.

*Above: An image showing a partly installed, new "H" pattern bellframe.*

*Above: A new 'H' pattern bellframe being built in our works.*

*Bell Chamber floor*

At our works cut RSA wall plates to form the perimeter supports for the new floor. Provide pressure treated timber 9" x 3" beams from which to construct the floor joists.

Provide chemical anchor bolts, formed from M16 steel stud bar to secure the wall plates.

Timber boards for the floor covering to be formed of pressure treated 8" x 2" planks. Match boarded tongue and groove boarding to be provided for the bell chamber of the first floor.

The floor to be provided with a trimmed central bell hatch, capable of passing the largest bell.

Supply all necessary bolts, nuts, washers, and other fixings.

Deliver the parts and erect a zip-up scaffold system, to work off the current ringing chamber floor in the tower.

The RSA wall plates to be hoisted and set a level determined by our design team. The timber joists to be set in position; the centre beams to be trimmed to allow central trapdoors to be cut allow for future passage of the largest bell.

*Above: An image of a 'H' frameside passing through a floor that our bellhangers have recently built.*

*Delivery and Installation*

Deliver the bells, fittings, and framework to the Church.

*Photo: An image showing the arrival of a restored peal of bells with their fittings.*

The bells to be positioned in the Church on display.

Bellhangers to travel to the Church with the necessary tackle and tools.

Carefully mark and cut the necessary single and double depth holes in the walls of the tower.

Hoist the framework into the tower and set the foundation girders in position in the double and single depth packets. Hoist and fit the trimmer beams and bolt into position. Hoist and position the framesides on the foundation and bolt down ensuring that the bearing beds are square and level.

Grout in the beam ends of the new steelwork to the tower walls using a well compacted OPC mix to comply with BS8500.

Hoist the bells from the scaffolding and their fittings into the bell chamber and hang the bells on their fittings in their respective pits. Carefully and correctly adjust the fittings of each bell.

Mark down from the wheels and cut rope holes in the floors and ceiling if necessary, fit the rope bosses, the bell ropes, and fill any old rope holes.

All debris, to be carted away for disposal. Any areas of paint work damaged during the work to be touched up. The belfry and Church to be left in a clean and tidy condition.

The bells to be tried out by a competent band of ringers under our supervision before our bellhangers leave site to ensure that all is well with the installation.

Carry-out a servicing of the bells within twelve months of completion of the work. This to include ensuring that all accessible nuts and bolts are tight, clappers are checked for "odd-struckness" and that rope rollers freely rotate.

We undertake to do the work in the specification above for the sum of **£96,164.00 plus VAT.** This price is fully inclusive of all parts, labour, accommodation, and transportation.

## Cost reducing items

**Appended item 1.1 – Local labour helpers**

If local labour help in the form of two or more able bodied assistants could be provided free of charge to us, to work with one bellhanger for the full duration of time that he is on site, Quotation 1.0 could be **reduced by the sum of £11,742.00**. We would require local labour to be physically able to undertake manual work, and to be present on site at all times with our employees for health and safety requirements.

Any local labour volunteers working in conjunction with our bellhangers are fully covered on our public and employer liability insurance, free of charge to the restoration project.

**Appended Item 1.2 – Local accommodation**

If free of charge accommodation in the form of bed & breakfast/pub/hotel/guesthouse could be provided for our bellhangers whilst they were working at the Church, our quotation above would be reduced by the sum of **£2,700.00** for two bellhangers, or **£1,350.00** for one.

**Appended item 1.3 – Locally provided transport**

If locally provided transport were made available free of charge to us to move the bells from the Church to our works and back, our quotation above could be **reduced by the sum of £294.00**

**Appended item 1.4 – Local removal of clappers, wheels, ropes and stays**

If the bellropes, stays, roller boxes, and wheels could be removed ahead of our arrival, we could allow a **reduction of £512.00** from our main quotation.

**Appended item 1.5 – Retainable bell wheels**

If the bell wheels are economically salvageable after being dismantled, we could allow a reduction for the wheels to be brought to our works and stripped from their old soling, shrouding, and bobbins. The broken spokes to be replaced and the centres to be sanded down, adjusted to suit the new headstocks, fitted with new, well carpentered hardwood steam bent soling and sapele shrouding. New hardwood bobbins at the garter hole to protect the bell rope. The soling and shrouding of the wheel rims to be fixed in place using best quality stainless steel screws throughout and thoroughly treated with a high-grade wood preservative.

If any of the wheels are found to be retainable, we can allow a reduction off the main quotation from **£262.00 to £352.00** per wheel.

**Appended item 1.6 – To retaining and refurbishing the current clappers**
If decided, the current clappers could be reused:

At our works, carefully strip down the clappers into component parts and examine each clapper and dispose the crownstaples. Thoroughly remove all old paint and rust. If required, build with soft welding, and grind the clapper faces with a soft abrasive pad to re-profile the spherical surface at the strike point.

Remove the worn-out clapper bushes and replace them with new precision Oilite bushes, surrounded by a resilient rubber mount, to act as impact absorbent and transmission insulator. Provide new cast iron crownstaples with centre bolts to suit the new headstocks and fit them with new mild steel joint pins, cross drilled and equip with an angular hydraulic greaser for periodical lubrication.

Thoroughly paint all metal work with high grade protective primer, and two top coats of industrial grade gloss paint. Provide new leather washers to fit between the crownstaples and the bells. Provide new castle nuts and split pins for each clapper.

Fully assemble each clapper unit.

If all the clappers were to be reused, we could allow a reduction of **£464.00** from our main quotation above.

**Appended item 1.7 – To retaining and strengthening the current bellframe.**

If it were decided to retain the bellframe, we can provide additional strengthening items where possible. However, many strengthening items such as cross-bracing may not fit as space is at a premium.

Our design engineer to travel to site and take careful measurements for the manufacture of corner cleats and other strengthening steelwork. A number of bell ringers to be present so that our design engineer can determine the worst affected areas. Our engineer to investigate any vertical movement in the bellframe with precision technology.

*At the works*

The new parts to be manufactured from steel and protected from corrosion. An additional transverse beam formed from UB girders with a splice and anti-drag cleats to provide additional underpinning to reduce vertical deflection. All items to be prepared for delivery to site.

*Installation*

Corner cleats and cross-bracing steelwork to be fixed into place using fixings which are protected against corrosion.

Carefully mark and cut the necessary single and double depth holes in the walls of the intermediate chamber.

Hoist the UB girder into the tower and set in position in the double and single depth packets.

Grout in the beam ends of the new steelwork to the tower walls using a well compacted OPC mix to comply with BS8500.

The belfry and Church to be left in a clean and tidy condition.

The bells to be tried out in the presence of our bellhangers, and any movement in the bellframe to be measured before our bellhangers leave site.

If this work were to be carried out instead of providing a new bellframe, we could allow a reduction of **£21,626.00** from our main quotation above.

**Complimentary Item 1.8 – To servicing the bells**

As part of our contract, our service engineer to carry-out a one-off servicing of the bells within twelve months of completion of the work listed above. This is to include ensuring that all accessible nuts and bolts are tight, clappers are checked for "odd-struckness" and that rope rollers freely rotate.

**Financial summary of Neston, Church of St Mary & St Helen Bells Project – Assuming all proposed work and local labour reductions**

| Item | Cost |
|---|---|
| *Quotation 1.0 – Rehang 8 bells on new fittings in a new frame* | £96,164.00 |
| | |
| Reduction for local labour help | -£11.742.00 |
| Local labour part dismantling | -£512.00 |
| Reduction for local B&B | -£1,350.00 |
| Reduction for local transport | -£294.00 |
| | |
| New Sub total | £82,266.00 |
| VAT | £16,453.20 |
| Possible lowest total | **£98,719.20** |

If it were decided to retain and strengthen the bellframe, the overall cost with all reductions would be £60,640.00 plus VAT.

**Exclusions**

The erection of a scaffold tower capable of bearing the weight of the heaviest bell and a stonemason to remove the louvres and widen the window openings are excluded from the above quotation.

*NOTE*

Most bell hanging contractors may exclude the majority of building works from their contract, which involves cutting pockets into the stonework and encasing the bellframe foundation beam girders with concrete. This leaves the parish to arrange this aspect of the work to be done by others, whilst our company offer this aspect of a bell restoration contract as standard. The cost of carrying out this building work is included within our main quotation above.

Further work that other bell hanging contractors may exclude from their contracts, is the installation of lifting beams and the opening of bell traps. This also leaves the parish to arrange this aspect of the work to be done by others, whilst our bellhangers will carry out this work within their first visit to the tower. We also carry out the installation of the new floors as specified and the cost of carrying out all of this work is also included within our main quotation above.

Price reductions for local contractors to carry out the building works listed above can be provided on request.

**VAT.**

Under the present rules regarding tax on bell work, all the work outlined in of our quotation would be subject to VAT at the Standard Rate, currently 20%, however, the PCC can reclaim all the VAT paid, in the form of a grant from the Listed Places of Worship. See lpwscheme.org.uk.

**Terms**

Our terms and conditions are enclosed. We are happy to consider variations to our terms of payment, **and to our proposals**. Our quotations can be considered fixed price if the works are ordered by December 2019.

**Guarantee**

All our work carries a guarantee against failure. If supplied by us, the bellframe will be guaranteed for **25 years**, and all other fittings will be guaranteed as stated in our terms and conditions enclosed.

**Faculty**

A faculty will be needed before works can commence.

## Funding

We recommend that the following funders are approached:

Garfield Weston Foundation
Sainsbury's Charitable Foundation
Co-operative Community Fund
Tesco Bags of Help (groundwork.org.uk)
Wind farms community trusts
Landfill Operators (VIRIDOR CREDITS, SITA TRUST, Entrust Ltd)
WREN via National Historic Churches Trust
Quarry Operators (TARMAC, LAFAGRE, etc)
Waitrose Green Token Community Fund
The D'Oyly Carte Opera Company
Andrew Lloyd Webber Foundation
The Compton Fund for Arts, Culture, and Heritage

For the Garfield Weston Foundation & HLF, if you can put an 'Educational' and 'Historical' spin on the application, encompassing the wider community as far as possible, that will help. We suggest:

* Arrange an evening lecture on bells with notable historians, such as Chris Pickford
* Set up a display in Church about the current bellframe and future scheme; link the scheme to something of community benefit and significant historical events.
* Engage with schools / colleges / youth groups to learn about the bell founder's history, and the art of bell tuning, casting etc.
* Arrange a coach trip to the Bellfoundry (tours for up to 35 possible)
* Use local labour / unemployed youngsters (often through a scheme or foundation) to gain work experience, assisting the bellhanger on site
* Set up a permanent display board, so that reduced mobility people can see photos without climbing the tower. Install CCTV in the bell chamber
* Arrange a number of open days per year
* Bring in local media

A great deal of the above could be financed by HLF as a part of their grant.

Funders that may require a faculty and an amount of money already to be in place are:

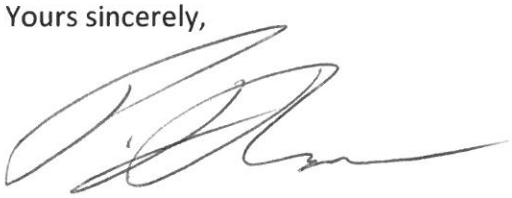
Churches Building Council
Pilgrim Trust
Manifold Bell Trust
Barron Bell Trust
Sharpe Trust
Leche Trust

A grant maybe given by the Chester Diocesan Guild of Church Bellringers bell restoration funds.

We trust that you will find our report helpful and our quotation to be of interest and we look forward to hearing further from you when the ringers and PCC have considered our recommendations.

In the meantime, please do not hesitate to contact us if there are any further questions that you would like to ask, regarding the bell installation or our proposals.

Yours sincerely,



Peter J Thomson
**JOHN TAYLOR & Co.,**

# JOHN TAYLOR & CO

## BELLFOUNDERS, BELLHANGERS AND CARILLON BUILDERS


Our ref: PT/sap/767/27

Mr Don Poole
8 Kenilworth Road
Neston
Cheshire
CH64 0SP

18th April 2021

Dear Mr Poole,

**CHURCH OF ST MARY AND ST HELEN, NESTON – THE BELLS**

***Site Consultation & Final Proposal***

As arranged, our design engineer, Tom Onyon and I visited the Church on Wednesday 21st October 2020 to take dimensions of the tower and for a site consultation. We can now fully visualise the proposed bell restoration scheme and have prepared this document to confirm these proposals. Please find below our proposals followed by a finalised and detailed specification and quotation:

Following our inspection and report given 28th November 2018, we can clearly see that the bell fittings and bellframe are coming to the end of their useful life and are in need of replacement. From our historic records of this tower, we could see that the Church continued to repeatedly commission small restoration projects which enabled ball bearings to be fitted onto the old timber headstocks and steel strengthening components to be fitted to the framework to extend its useful life. However, it now appears that the warped and aging headstocks are adversely affecting the alignment of striking and the handling properties of the bells. Additionally, the bellframe cannot be fitted with any additional components to further strengthen it, whilst the way in which the bells are positioned is causing a poor rope circle, which causes difficulties for when bell ringers need to observe all of the other ropes to rhythmically operate their bell in time.

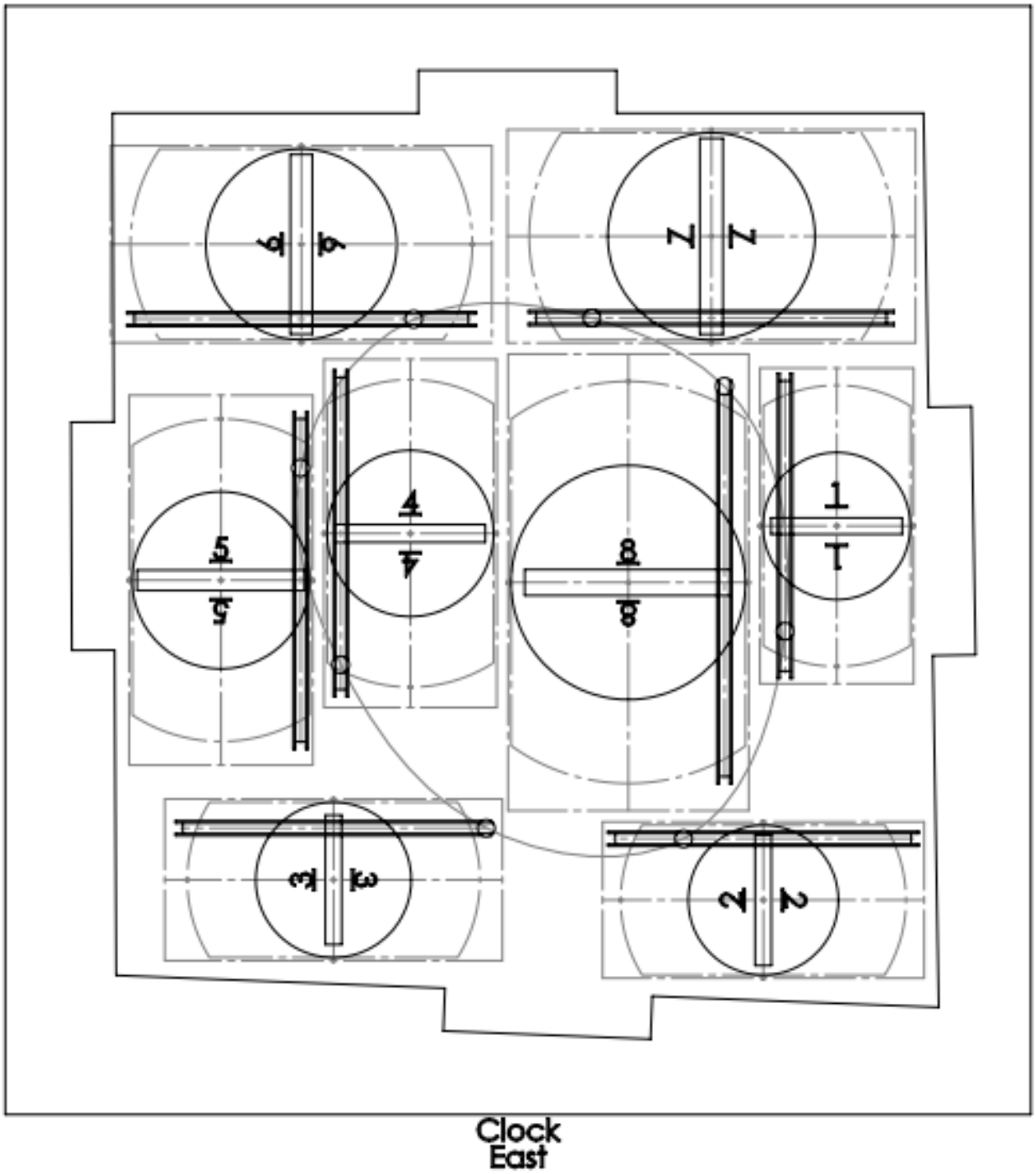
I visited the Church on Thursday 17th October 2019 to meet with David Jones and yourself to discuss the possible scope of works for refurbishing the bell installation. We agreed that the bells should be fully refurbished and tonally improved by specialist tuning in our workshop. Additionally, the bells should be cleaned and polished with graphite, and have their canons and ferrous cast-in crownstaples removed. We also decided that the bell fittings should be replaced entirely to maximise the life span of the installation and the dynamic and geometric quality of the swinging bells.

It was agreed during my visit in 2019 that the current and weak timber bellframe should be replaced with one formed from steel and cast iron, allowing the bells to be positioned so that the rope circle is vastly improved, allowing each rope to fall plumb from the pulley to the ringer. The girders of the bellframe should be set out on two levels, thus entering all four walls rather than just two walls, which will strengthen the tower structure by tying all four walls to spread the dynamic loads generated by the swinging bells.

Due to the lack of space in the tower, I had initially proposed to hang the bells in a new frame with cast iron ‘H’ pattern framesides. However, producing ‘H’ framesides is costly and we therefore invited our design engineer, Tom Onyon, to our site consultation to see if cast iron ‘lowside’ pattern framesides would fit. ‘Lowside’ pattern framesides would not only lower costs for producing a new bellframe, but they would allow for better access to each pit of the bells in this tower, as the bell chamber ceiling (tower roof) would be quite close to the tops of the ‘H’ framesides. Additionally, we also agreed that an independent bell chamber floor should be installed for better access under the bells for the fitting of muffles and maintaining the clappers, running gear, and pulleys.

I am pleased to inform you that design engineer, Tom Onyon, has managed to confirm that hanging the bells in a bellframe of ‘lowside’ pattern is a likely approach, but we still cannot fully guarantee that it will fit without comprises until the current timber bellframe and bell chamber floor is removed from the tower, to allow the empty space to be comprehensively measured. However, as we are certainly more confident that a ‘lowside’ bellframe will fit, we will now use this as our main proposal.

Please find a drawing of our ‘Lowside’ bellframe layout proposal of the bells below:




We quote below for the work outlined above. Cost saving options are given for where labour and transport can be provided. Additional options are given where sound control can be installed and for us to remove and refit the partition above the toilets.

**CHURCH OF CHURCH OF ST MARY AND ST HELEN, NESTON**

***SPECIFICATION & QUOTATION 2021***

***TO REHANGING THE PEAL OF 8 BELLS ON NEW FITTINGS IN A NEW 'LOWSIDE' PATTERN BELLFRAME***

*Dismantling*

Bellhangers to travel to the Church with the necessary tackle, tools, Mendham brackets and lifting beams.

Hoist the lifting beams through the central trapdoors and fit above the bellframe using nonintrusive Mendham brackets. Close all passageways and rig the tackle in the bell chamber from the lifting beams.

Dig out the spliced girder which obstructs the trap door and lower it to the ground.

Carefully dismantle the bells from their fittings. The headstocks to be removed from the 6th, 7th, and Tenor bells, and eye bolts to be fitted in the central holes in their crowns.

The partition which covers the loft space to be removed by local contractors which are provided by the Church.

An additional hole to be cut / widened by our bell hangers in the floor of the ringing chamber to allow the passing of the hook for an additional chain block. The tackle to be rigged from the beams above, through the rope holes available.

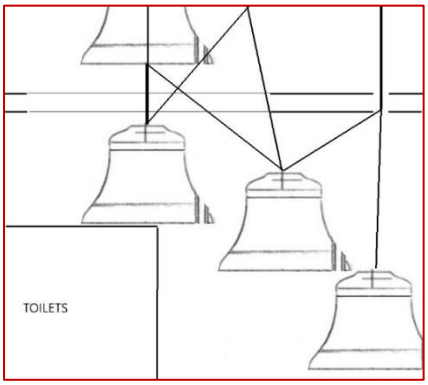
The bells to be hoisted in turn and lowered to the ground, passing them from the main hoist to the additional chain block to allow each bell to be hoisted over the toilets. A tripod lifting frame to be erected at the back of the Church so that each bell can be hoisted off and on the trolley.

The Clock Hammer to be removed for overhaul and service.

Dismantle the bellframe and lower the timber component sections to the ground.

The bells and bell fittings to be loaded onto our vehicle provided and transported to our works in Loughborough.

Design engineer to return to the Church and measure the empty tower space for the final design.




*Above: A sketch showing how we propose to lower the bells past the toilets.*

*At the works*

At our works, careful measurements to be taken to allow for the manufacture of the new bell fittings.

Any roots left by the cast–in crownstaples in the bell heads to be removed. Any voids left by the staple roots to be back filled with a durable repair putty.

The canons to be carefully removed and a polyurethane resin pad to be cast around their remaining stumps and machined on our lathe to allow for a flat surface.

If found necessary, the bells to be turned to present the unworn surfaces of their soundbows to the blows of the clappers.

The bells to be placed on our tuning machine and tuned to as far as their profiles and thickness will allow.

The bells to be gently sandblast cleaned to remove scale and verdigris and checked for cracks. Their outsides to be given a brushed-on layer of protective graphite blacking to enhance and conserve their appearance.

*Above: An image showing a bell which has been sandblast cleaned, had its canons removed, and resin pad cast upon its crown to allow for a flat surface.*

*Above: An image showing a peal of bells which have been tuned, had their canons removed, had resin pads cast upon their crowns and have received their first coat of polish. Ready to receive their new bell fittings.*

*Bell Fittings*

When modern bell fittings were first introduced by our predecessors at Loughborough in the late 19th century, the hollow box section cast iron headstock brought about a considerable improvement in the ease with which bells could be rung compared with timber headstocks that preceded them.

The headstocks were very carefully and cleverly designed to give a very good weight relationship to the bells that hung from them and this, combined with a deceptively simple hanging geometry formula has provided the philosophy behind the mainstay of bell hanging by this Company since 1892.

There are numerous examples of peals which have been rehung by John Taylor & Co, which provide a familiar and comfortable at ease feeling to the handling of the bells when they are being rung.

Provide for each of the bells a set of new ringing fittings comprising:

- A cast iron headstock of hollow box-section which is carefully machined to be balanced with the head of each bell, fitted with turned steel gudgeons with hot rivet fastenings, and clapper adjustment screws.
- Heavy duty, twin-row, self-aligning, taper-locking ball bearings fitted to the ends of the gudgeons and totally enclosed cast iron housings of our own design which are sealed for life, exclude dust and grit and are specially designed to fit to the bellframe.
- Rot resistant cast resin pads to be fitted between the heads of the bells and the undersides of their headstocks.
- An independent cast iron crownstaple with a mild steel joint pin to which is fitted with a new spheroidal graphite cast iron clapper which is machine profile for accurate swing times. Each clapper to be fitted with a resiliently mounted *oilite* bush, accurately bored to suit new mild steel joint pins, cross drilled and fitted with angular hydraulic lubricators to facilitate periodical lubrication.
- A new wheel with a well-crafted hardwood centre, hardwood steam bent ash soling, and Sapele shrouding, well carpentered with hardwood bobbins at the garter hole to protect the bell rope. The soling and shrouding of the wheel rim to be fixed in place using best quality stainless steel screws.
- Turned hardwood rope roller (pulley) with steel spindles working on enclosed bearings in a timber box with the necessary securing ironwork, to assist the bell rope as it passes down to the ringer.
- A stay and slider of ash with a steel centre block and pivot pin, and a robust timber runner bar with adjustable hardwood stop blocks.
- The necessary cast iron turned floor bosses to protect the bell rope where it passes through the ceiling and floors. For the belfry floor, the rope bosses to be made of weather resistant smooth turned nylon.
- A new high-quality flax bellrope with polypropylene top end and soft woollen sally to the colour of the Church’s choice.

Each bell to be fully assembled in the works with its headstock, bearings, clapper, crownstaple and wheel and dynamically tested on our ringing-up frame to ensure accuracy of alignment and striking.

*Above: An image showing a bell being analysed in our testing stand.*

All cast items to be finished with two coats of traditional Taylor red paint. Steel items to be hot-dip galvanised. Wooden components to be treated with high quality wood preservative.


*Above: The peal of 12 bells from St Paul's Cathedral, London ready for dispatch, following their refurbishment and replacement of their bell fittings.*

*Bellframe*

Design, construct and erect in our works a new bellframe on foundation beams to house the eight bells on one level. Form new 'Lowside' pattern cast iron framesides which are especially designed for the tower and well ribbed for strength. The framesides to be accurately machined on all bearing surfaces and securely bolted to the new frame foundation.

The frame foundation to consist of two sets of heavy rolled steel girders bolted through at each point of intersection and fitted with anti-drag cleats at the girder ends to form anchors in the tower walls when grouted in. The girders to be fitted with diamond pattern cross-bracing fabricated from steel flats to minimise lateral deflection. The arms of the framesides to be tied together and fitted with cross-bracing gate ends which formed from flat steel bar to provide maximum rigidity.

The new bellframe to be erected in our works. The bells, their fittings, and the clock hammer to be correctly fitted onto the new framework before dismantling and dispatch.

All steel to be properly prepared. The base steel members of the bellframe to be hot dip galvanised for rust protection to BS EN ISO 1461 (2009) unless any members are zinc plated or otherwise treated against rusting. The cast iron framesides to be finished with two coats of traditional Taylor red paint.

*Fixings*

All necessary galvanised nuts, bolts, washers and other fixings to be provided for the bellframe and bell fittings.

*Above: An image showing a new steel and cast iron bellframe being erected in our works.*

*Bell Chamber floor*

A new bell chamber floor to be built to allow a space below the lowest foundation beams, giving good access for future maintenance.

At our works cut RSA (Rolled Steel Angle) wall plates to form the perimeter supports for the new floor.

Provide pressure treated timber beams from which to construct the floor joists.

Provide chemical anchor bolts, formed from M16 steel stud bar to secure the wall plates.

Thick timber lengths to be provided for the bell chamber floor covering.

The floor to be formed with a trimmed central bell hatch, capable of passing the largest bell.

Supply all necessary screws, bolts, nuts, washers, and other fixings.

Deliver the parts and erect a zip-up scaffold system, to work off the intermediate chamber floor in the tower.

The RSA wall plates to be hoisted and set at a level determined by our design team. The timber joists to be set in position; the centre beams to be trimmed to allow central trapdoors to be cut allow for future passage of the largest bell. The boards to be fitted to the top side of the joists.

Steel fixed ladders to be designed, provided, and fitted for access to the new bell chamber floor and to the tower roof if possible (if stationary ladders obstruct the bells, we recommend that movable ladders should be stowed away beneath the bellframe). The ladders to be provided with safety hoops where necessary and, all of the fixing cleats and splicing plates.

*Delivery and Installation*

Deliver the bells, fittings, and framework to the Church.

The bells to be positioned in the Church on display using a tripod lifting frame to hoist the bells off the trolley.

Bellhangers to travel to the Church with the necessary tackle and tools.

Carefully mark and cut the necessary single and double depth holes in the walls of the tower.

Hoist the framework into the tower and set the foundation girders in position in the double and single depth packets. Hoist and fit the trimmer beams and bolt into position. Hoist and position the framesides on the foundation and bolt down ensuring that the bearing beds are square and level.

Grout in the beam ends of the new steelwork to the tower walls using a well compacted OPC mix to comply with BS8500.

Hoist the bells and their fittings into the bell chamber and hang the bells on their fittings in their respective pits. Carefully and correctly adjust the fittings of each bell including the centring of the clappers.

Mark down from the wheels and cut rope holes in the floors and ceiling if necessary, fit the rope bosses, the bell ropes, and fill any old rope holes.

All debris, to be carted away for disposal. Any areas of paint work damaged during the work to be touched up. The belfry and Church to be left in a clean and tidy condition.

The bells to be tried out by a competent band of ringers under our supervision before our bellhangers leave site to ensure that all is well with the installation.

Local contractors which are commissioned by the Church to reinstate the partition above the toilets.

We undertake to do the work in the specification above for the sum of

**£87,785.00 plus VAT.**

***This price is fully inclusive of all parts, labour, accommodation, building work, and transportation.***

## Cost reducing items

### Appended item 1.1 – Local labour helpers

If local labour help in the form of two or more able bodied assistants could be provided free of charge to us, to work with one bellhanger for the full duration of time that he is on site, Quotation 1.0 could be **reduced by the sum of £9,072.00**. We would require local labour to be physically able to undertake manual work, and to be present on site at all times with our employees for health and safety requirements.

Any local labour volunteers working in conjunction with our bellhangers are fully covered on our public and employer liability insurance, free of charge to the restoration project.

*Above: An image showing local labourers assisting our bell hanger.*

### Appended item 1.2 – Locally provided transport.

If locally provided transport were made available free of charge to us to move the bells from the Church to our works and back, our quotation above could be **reduced by the sum of £567.00.**

### Appended item 1.3 – Local dismantling of clappers, wheels, ropes and stays

If the bellropes, stays, roller boxes, wheels, and clappers could be removed ahead of our arrival, we could allow a **reduction of £576.00** from our main quotation.

## Additional items

**Appended item 1.4 – To fitting electronically operated sound control system behind the louvred windows.**

To be in conjunction with our main quotation above.

Bellhangers to travel to the church with the necessary materials tackle and tools with which to construct a new sound control system, to be fitted alongside the louvered windows.

Passageways throughout the tower to be opened up. Hoist tools and materials into the belfry. Close the passageways.

Fill the bell chamber window openings with layers of 25mm weatherproof marine ply boardings. The boards to be set in place and fixed over the window openings with stainless steel chemically anchored bolts. The board edges to be sealed with rot free frame sealant where they meet the tower stonework.

A rectangular opening to be left in each face, their inner sides to be fitted with a triangulated hopper and top lid full aperture hinged opener.

The windows to be fitted with individual electrically operated 24v linear actuators, connected to a system of control switches, wired down and terminating at a convenient place in the ringing chamber.

Following the installation of the sound control system, the bells to be rung, and decibel readings to be taken from outside the tower. Site to be cleared of tools and building materials.

The cost of undertaking the work described above would be **£8,213.00 plus VAT with local labour help** or £9,303.00 plus VAT without**.**

*A reduction to fit a manually operated sound control system can be provided on request (variable to how it is to be operated).*

**Contingency appended item 1.5 – For if 'H' pattern framesides must be used.**
When the bells, frame, and bell chamber floor are removed from the tower, the emptied space is to be carefully measured for the final design. If our design engineer finds obstructions which were concealed by the current frame and floor during his recent visit, he may advise that 'H' pattern framesides must be used instead of 'lowside' framesides. The additional cost of using 'H' framesides would be up to **£2,996.00 plus VAT.**

**Appended item 1.6 – To removing the partition above the toilets and reinstating it once the work is complete.**
Before the bells are hoisted, bellhangers to remove the partition between the toilets and the underside of the ringing chamber floor.

Once the work is complete, the bell hangers to build new timber framework to reinstate the partition. Fit its doorway in position and screw plasterboard sections onto the timber framework. A plasterer hired by us to travel to the Church and skim over the plasterboard sections and finish it with white matt paint.

The additional costs of us removing and reinstating the partition would be **£3,442.00 plus VAT.**

**Complimentary Item – To servicing the bells**
As part of our contract, our service engineer to carry-out a one-off servicing of the bells within twelve months of completion of the work listed above. This is to include ensuring that all accessible nuts and bolts are tight, clappers are checked for "odd-struckness" and that rope rollers freely rotate.

## Financial Summaries for the Neston Bell Restoration Project.

Please find below the final options summarised financially:

**To refurbishing and rehanging the bells on all new fittings in a new steel and cast iron bellframe of 'Lowside' pattern as outlined in our main quote, including all reductions.**

| Item | Cost |
|---|---|
| Maximum cost of the work | £87,785.00 |
| | |
| Overall locally provided labour reduction | -£9,072.00 |
| Locally provided transport reduction | -£567.00 |
| Local labour dismantling | -£576.00 |
| | |
| **Sub-total** | **£77,570.00** |
| Reclaimable VAT | £15,514.00 |
| Lowest possible total | £93,084.00 |

If we were to also fit electronically operated sound control the overall cost of the project including local labour reductions would be
**£85,783.00 plus VAT.**

*Without any reductions, the full cost of the project including sound control would be £97,088.00 plus VAT.*

**Exclusions**

If the electronic sound control is to be used, we will require an electrician to fit electrical 3-core feed cable from the where the control box is to be located in the ringing chamber to the bell chamber, and providing a 240v 13amp power supply where the control box is to be located.

No other items are considered to be excluded for the satisfactory refurbishment of the bell installation

***Our All-Inclusive Service***

Most bell hanging contractors may exclude the majority of building works from their contract, which involves cutting pockets into the stonework and encasing the bellframe foundation beam girders with concrete. This leaves the parish to arrange this aspect of the work to be done by others, whilst our company offer this aspect of a bell restoration contract as standard. The cost of carrying out this building work is included within our main quotation above.

Further work that other bell hanging contractors may exclude from their contracts, is the installation of lifting beams and, the opening and forming of bell traps. This also leaves the parish to arrange this aspect of the work to be done by others, whilst our bellhangers will carry out this work within their first visit to the tower. The cost of carrying out all of this work is also included within our main quotation above.

We have considered and included every single item of work which is necessary to allow for a full ringing peal of bells in this tower, from fitting trap doors, to fitting new floors and replacement access ladders where necessary. Other contractors may not have considered these items and it is imperative that all off the necessary building work is carried out in a predetermined manner, as to not create any unwanted contingencies which arise during the work of the bell restoration project. We provide the most detailed service and have the abilities to carry out all of this work ourselves, making a bell restoration project of this magnitude a much simpler process to manage in comparison with the service given by other contractors.

*Price reductions for local contractors to carry out the building works listed above can be provided individually on request. However, if differing building contractors have not installed the items exactly to our specification, we cannot take responsibility for any discrepancies or further costs caused by this.*

**VAT.**
Under the present rules regarding tax on bell work, all the work outlined in of our quotation would be subject to VAT at the Standard Rate, currently 20%, however, the PCC can reclaim all the VAT paid, in the form of a grant from the Listed Places of Worship. See lpwscheme.org.uk.

**Terms**
Our terms and conditions are enclosed. We are happy to consider variations to our terms of payment, and to our proposals. We will gladly discuss payment plans to allow for a speedier project commencement, and we are happy to discuss this at any time. Our quotations can be considered fixed price if the works are ordered by May 2022.

**Guarantee**
Our work carries a guarantee against failure. Our new bellframe will be guaranteed for **35 years** and all other items will be guaranteed as stated in our terms and conditions.

**Funding**
We recommend that the following grant giving bodies are approached:

Heritage Lottery Fund (now accepting applications)
Garfield Weston Foundation
Sainsbury's Charitable Foundation
Co-operative Community Fund
Tesco Bags of Help (groundwork.org.uk)
Wind farms community trusts
Landfill Operators (VIRIDOR CREDITS, SITA TRUST, Entrust Ltd)
WREN via National Historic Churches Trust
Quarry Operators (TARMAC, LAFAGRE, etc)
Waitrose Community Fund
The Arts Council
The D'Oyly Carte Opera Company
Andrew Lloyd Webber Foundation
Ironmonger's Trust Company
The Compton Fund for Arts, Culture, and Heritage
Put donors' names on bells
Approach local business who may be interested in purchasing a bell

For the Garfield Weston Foundation & HLF, if you can put an 'Educational' and 'Historical' spin on the application, encompassing the wider community as far as possible, that will help.

Funders that may require a faculty and an amount of money already to be in place are:
Church Buildings Council
Pilgrim Trust
Manifold Bell Trust
Barron Bell Trust
Sharpe Trust
Elmgrant Trust
Chester Diocesan Guild of Church Bell Ringers bell restoration fund.

**Price list for potential benefactors (excl. VAT)**

| Bell | Price of Headstock | Price of clapper | Price of wheel | Rope |
|---|---|---|---|---|
| Treble | £1,036.00 | £357.00 | £753.00 | £195.00 |
| 2nd | £1,036.00 | £357.00 | £753.00 | £195.00 |
| 3rd | £1,080.00 | £359.00 | £798.00 | £195.00 |
| 4th | £1,126.00 | £359.00 | £798.00 | £195.00 |
| 5th | £1,173.00 | £361.00 | £801.00 | £195.00 |
| 6th | £1,176.00 | £399.00 | £801.00 | £195.00 |
| 7th | £1,176.00 | £402.00 | £801.00 | £195.00 |
| Tenor | £1,332.00 | £425.00 | £843.00 | £195.00 |

We trust that we have covered all of your preferences in this document, and we look forward to hearing further from you when the Ringers and PCC have considered our proposals above.

In the meantime, please do not hesitate to contact us if there are any further questions that you would like to ask, regarding the bell installation or our proposals.

Yours Sincerely,

Peter J Thomson
**JOHN TAYLOR & Co.,**

# STRUCTURAL REPORT

**Client: St Mary and St Helen, Neston, PCC**

**Project: Structural Inspection of the Tower and Bell Installation**

**Job No.** : 15_10139

**Revision** :

**Date** : December 2021

**Engineer** : **A DEMPSTER BSc CEng MIStructE MICE**

WARD COLE
consulting engineers

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Selston
Nottingham
NG16 6BU
Tel: 07971 142829

**REPORT OF A STRUCTURAL INSPECTION OF THE TOWER AND BELL INSTALLATION AT THE CHURCH OF ST MARY AND ST HELEN, NESTON, CHESHIRE**

## 1.00 INTRODUCTION:

1.01 At the request of Terry Abel, on behalf of the PCC, the church was visited on Tuesday 7th December 2021 for the purposes of carrying out a visual structural inspection of the tower, both internally and externally. It is proposed to remove the existing timber bell frame and its foundation beams and rehang the existing eight bells, tenor weight 14cwt 2qr 24lb, hung for full circle ringing in a low sided cast iron frame supported on a grillage of steel foundations beams built into the tower walls. Concern had been expressed about movement of the bell frame when the bells are rung full circle and the effects of this on the tower walls and on the handling of the bells. Advice had been sought on the structural feasibility of the proposals.

1.02 Details within this report are confined to the structural aspects as detailed in paragraph 1.01 above. The report does not constitute a full building survey and excludes certain items such as those listed below.

a) The decorative condition of the tower.

b) The condition of the tower with respect to dampness, dry rot, timber infestation and the like.

c) The condition of services.

d) The condition of roof, floor, wall and ceiling coverings.

1.03 No testing of materials, monitoring, breaking out or long-term investigation has been undertaken. We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the structure is free from defect.

1.04 The tower, which stands at the west end of the church, is of coursed red sandstone construction with ashlar dressings. The tower is described as being 14th Century, with restoration work having been carried out in the late 17th and late 19th Centuries. The church is listed Grade II* and a copy of the listing is given below.

*NESTON*

*SJ2977 HIGH STREET, Neston Town 794-1/6/66 (West side) 27/12/62 Church of St Mary and St Helen*

*GV II**

*Parish church. C14 tower incorporating masonry from church of 1170, probably restored 1697; chancel, nave, aisles and upper stages of tower heavily restored and substantially rebuilt in 1875. C19 restoration by J Francis Doyle. MATERIALS: coursed squared red sandstone with ashlar dressings; slate roofs with red tile ridge cresting; stone copings, gable crosses and finials. PLAN: 2-bay chancel and north vestry; 6-bay aisled nave and south porch; west tower. EXTERIOR: 3 stepped lancets with stained glass to chancel east window flanked by diagonal buttresses. Aisle gable ends have trefoil headed lancets in pairs with trefoils above under hoodmoulds with face stops. A high plinth with cavetto cornice and ogee sill-string are continuous features throughout the east gable-ends and aisles elevations. Aisle windows are mainly lancets. On the south side, oak doors in the porch and to east in aisle wall are pointed and have hoodmoulds. On north side, vestry door is set within a recessed porch. 4-stage tower has low weathered plinth and diagonal buttresses. Small pointed door to west with trefoil window above; first stage has sunken narrow windows with flat heads. The upper levels have louvred 2-light traceried openings. Datestone set in the south face gives 1697 restoration date. Crenellated parapet with four main face gargoyles. INTERIOR: chancel has twisted crested wrought iron chancel rail. Painted stone reredos with statues, painted features, gablets and crocketed pinnacles; brass rail and mosaic floor to Sanctuary; 3-seat sedilia and panelled oak choir stalls. 6-bay nave arcades of alternately octagonal and round columns with moulded capitals. Round tower arch fitted with ornate memorial gates circa 1904: high on east wall, blind arcade of six shafts commemorates the earlier origins of the church. Waggon roof to chancel; diagonally boarded hammerbeam roof to nave. FITTINGS: pitch pine benches and nave wainscotting with quatrefoil frieze. C16 octagonal roll moulded stone font with quatrefoils to bowl and cusped lancet panels to stem. Panelled oak pulpit on stone base. MEMORIALS: 1914-1919 memorial window flanked by names on slate tablets. Stones: fragments of Saxon crosses mounted at west end of church. STAINED GLASS: by Morris and Co, and Kempe.*

## 2.00 EXTERNAL OBSERVATIONS:

The following observations were carried out from ground level with the use of binoculars.

2.01 South Elevation Wall:

This wall contains louvre window openings at belfry and clock chamber levels and a small, glazed window opening giving light to the ringing chamber. The masonry appears to be in generally fair condition, consistent with its age, with no evidence of any significant cracking, recent or ongoing movement.

## 2.02 West Elevation Wall

This wall contains louvre window openings at belfry and clock chamber levels, a small, glazed window opening giving light to the ringing chamber and a door opening at ground level with a small quatrefoil window immediately above this. Again, the masonry appears to be in generally fair condition, consistent with its age, with no evidence of any significant cracking, recent or ongoing movement.

## 2.03 North Elevation Wall

This wall contains louvre window openings at belfry and clock chamber levels. To the north east corner, there is a small projection which houses the spiral staircase and extends up to clock chamber level. There are two small window openings towards the top of this projection which give light to the staircase. Again, the masonry appears to be in generally fair condition, consistent with its age, with no evidence of any significant cracking, recent or ongoing movement.

## 2.04 East Elevation Wall

These observations are limited to that section of wall which could be seen above nave and north and south aisle roof levels.

This wall contains a clock face at belfry level with a blocked-up opening below it, partly exposed above nave roof level. Again, the masonry appears to be in generally fair condition, consistent with its age, with no evidence of any significant cracking, recent or ongoing movement.

## 3.00 INTERNAL OBSERVATIONS:

3.01 East Elevation Wall (From Nave):

This wall contains a large arched opening which takes up almost the full width of the tower internally and extends up to just below ringing chamber floor level. The arch has been partly infilled with masonry and contains a smaller double door opening. Above the larger arch is a blind, decorated arcade. The masonry to this elevation has been rendered and scored with horizontal and vertical grooves to resemble coursed masonry. There is evidence of minor cracking and crazing to the render throughout the elevation. This appears to be mainly old and longstanding and is considered to be due to shrinkage/thermal movement.

3.02 Ground Floor Chamber:

The original floor level has been raised to match the nave floor level. Toilets and a central heating boiler have been installed relatively recently. The walls, where exposed, have been painted and the masonry appears to be in generally fair condition, consistent with their age, with no evidence of any significant cracking, recent or ongoing movement.

3.03 First Intermediate Chamber (Ringing Chamber):

The walls at this level are partially obscured by timber panelling. Where they are exposed, they have been painted. There does not appear to be evidence of any significant cracking, recent or ongoing movement to the masonry.

3.04 Second Intermediate Chamber (Clock Chamber):

The walls at this level are of exposed stone masonry construction. There are what appear to be the beginnings of squinch arches below belfry floor level, the purposes of which are unknown. Possibly there was some intention of building a spire at some time in the past. There does not appear to be any evidence of significant cracking, recent or ongoing movement to the masonry.

The floor of the belfry is exposed above this level and consists of floorboards supported on four timber beams which run east west which, in turn, are supported on two timber beams which run north south and are adjacent to the east and west walls, partially supported on the squinches noted above. The timber beams appear to be the original bell frame foundation beams. There have evidently been structural problems with the bell frame and foundation beams because efforts have been made to strengthen them since the original installation in the late 19th Century. These strengthening measures include the installation of a steel beam running north south and built into the north and south elevation walls, together with a number of bolted steel clamps between the bottom sills of the bell frame and the east west timber beams below. Steel angle brackets have also been installed at the junctions of the upper and lower foundation beams. The steel beam has been spliced at its centre with a bolted steel plate to the bottom flange and bolted steel plates to both sides of the web. Surprisingly, there is no plate to the top flange.

3.05 Fourth Intermediate Chamber (Belfry):

The walls at this level are of exposed stone masonry construction and, where they are not obscured by the bell frame, the masonry appears to be in fair condition, consistent with its age, with no evidence of any significant cracking, recent or ongoing movement or other structural distress.

There is a ring of eight bells, tenor weight 14cwt 2qr 24lb, at this level, hung in a timber frame for full circle ringing. All the bells except the treble and tenor swing north south. The existing bell frame is given in diagrammatic form in Appendix A to this report. The bell frame fits so tightly in the tower that there are gallows ends to all the north south frame sills to allow the bells to swing freely and some of the tower masonry has been chipped away to make room for the bell installation. The bell frame members are rather slender, and the top sills are split at almost every right-angle joint where ferrous metal coach bolts or screws are penetrating the timber. At the time of the visit, it was raining, and rainwater was being blown through the louvre in the north elevation wall and landing on the bells and frame.

4.00 Observations with the bells ringing full circle:

All eight bells were rung full circle so that the effects of this could be observed on the bottom sills of the bell frame, the foundation beams and the tower walls. With the bells ringing full circle, minor differential horizontal movement was noted between the bottom sills of the bell frame and the tower walls. Some vertical deflection was also noted.

Following this, the tenor was rung down so that there was safe access to the tenor pit to observe any movement to the top sills of the bell frame with the remaining seven bells ringing full circle. Differential horizontal movement of approximately 3mm (+/- 1.5mm) was noted between the top sills and the tower walls in the north south direction, with some minor differential movement in the east west direction.

There was no discernible tower sway occurring with the bells ringing full circle.

**5.00 PROPOSALS:**

5.01 It is proposed to rehang the existing eight bells and their frame and foundation beams with new ringing fittings and also replace some of the headstocks. The new frame will be a series of low sided castings supported on a grillage of steel foundation beams built firmly into the tower walls. The new frame will be slightly lower than the existing frame and an independent belfry floor will be installed to make maintenance easier than at present.

A layout of the proposed bell frame is given in Appendix A to this report. It should be noted that the proposed layout will result in a much better rope circle than the existing layout and standard, braced frame ends can be used.

## 6.00 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS:

6.01 Externally and internally, the tower masonry appears to be in generally fair condition, consistent with its age, with no evidence of any significant recent cracking, movement or other structural distress. There is evidence of some minor shrinkage/thermal cracking to the render to the west wall of the nave internally. This appears to be old and longstanding and is not significantly affecting the stability of the tower. Advice should be sought from the church architect with regard to appropriate cosmetic repairs.

6.02 With all the bells being rung full circle, there was no evidence of any discernible tower sway.

6.03 The bell frame is of poor design, with a poor rope circle and rather slender members being used, with gallows end frames being used in most cases. The original coach bolts and screws have caused splitting to occur at most of the right-angle sill joints. This has probably been caused by movement at the top of the bell frame when the bells are being rung, exacerbated by corrosion of the embedded iron work caused by wetting of the bell frame by wind-blown rainwater penetration through the louvre window openings. Efforts have been made to strengthen the bell frame and its foundation beams since its original installation. These has evidently been unsuccessful and differential movement is occurring between the bell frame and the tower walls. Horizontal movement of 3mm was observed at top sill level. This is almost double the movement required to make the bells difficult to ring full circle.

6.04 In view of the above, it is considered that the existing installation has reached the end of its useful life and that the bells should be rehung in a new frame as proposed. It can be confirmed that the proposals are feasible from a structural point of view and will not affect the structural stability of the tower.

6.05 In view of the rainwater penetration which is occurring at belfry level through the louvre window openings, it is recommended that “Galebreaker” membranes or similar are fixed to the louvres internally. The membrane allows ventilation and prevents rainwater penetration.

6.06 It is of paramount importance that no differential movement is allowed to occur between the ends of the new steel bell frame foundation beams and the walls into which they are built. It is therefore recommended that the foundation beam ends are built into pockets formed in the walls of the tower and surrounded with good quality, well compacted, ordinary Portland cement concrete mixed with just enough water to make it workable. Under no circumstances should lime based concrete or lime mortared masonry be used. It should be noted that ordinary Portland cement concrete inhibits corrosion and also allows a good load transfer between the ends of the foundation beams and the tower walls when the bells are rung full circle.

**FOR AND ON BEHALF OF WARD COLE**

**A DEMPSTER, B.Sc., C.Eng. M.I.Struct.E. M.I.C.E.**

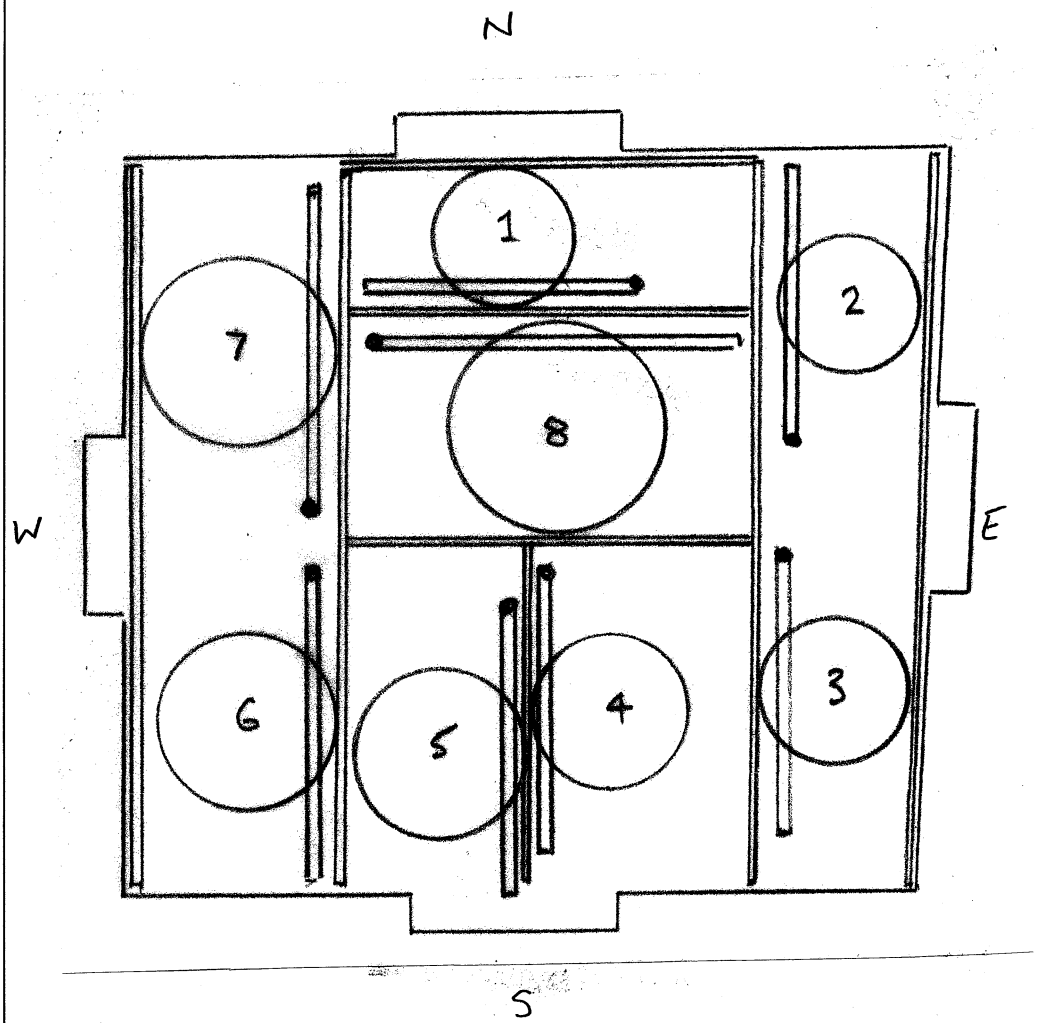
# APPENDIX A

## Existing Bell Frame

## Proposed Bell Frame

| WARD :: COLE consulting engineers | Job No. 15/10130 | Sheet No. A/01 |
|---|---|---|
| | Designed AD | Date 31/12/21 |
| Job Title SS MARY AND HELEN NESTON | Checked | Date |
| Calculation Title BELL FRAMES | Revised | Date |

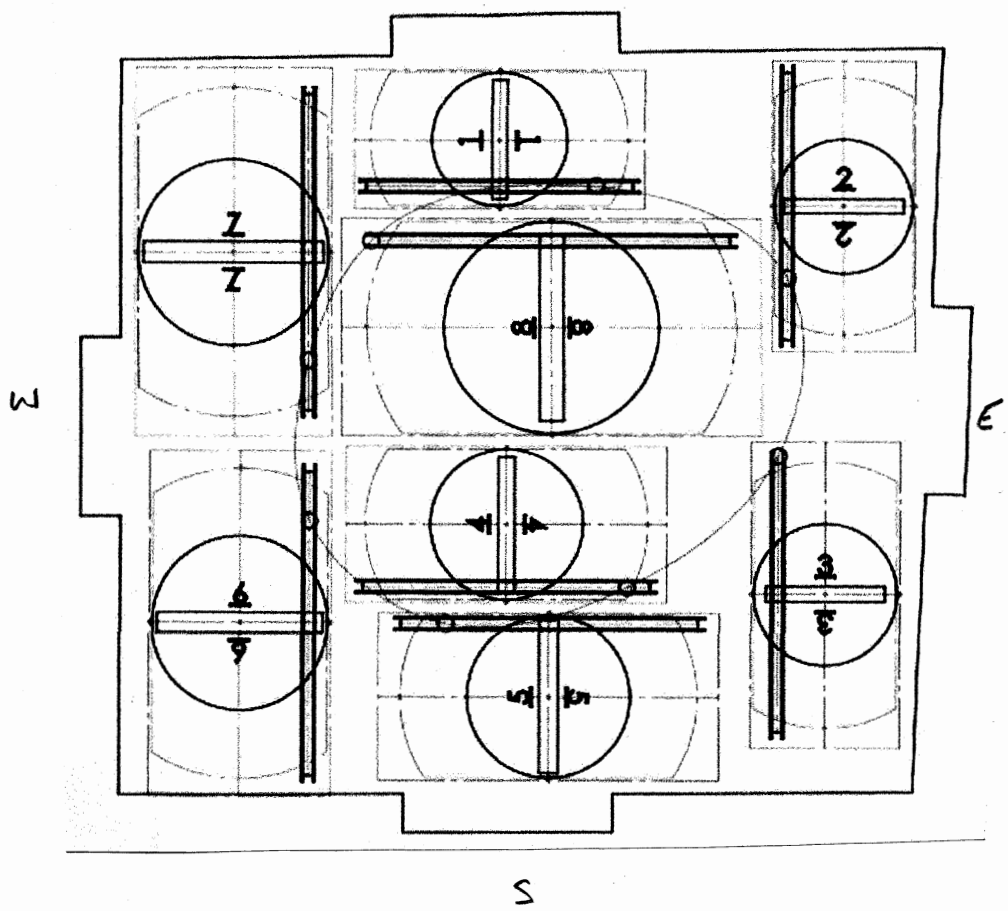
EXISTING BELL FRAME (DIAGRAMMATIC - N.T.S.)



| WARD :: COLE consulting engineers | Job No. 15/10130 | Sheet No. A/02 |
|---|---|---|
| | Designed AD | Date 31/12/21 |
| Job Title SS MARY AND HELEN NESTON | Checked | Date |
| Calculation Title BELL FRAMES | Revised | Date |

PROPOSED BELL FRAME (N.T.S.)

(COURTESY OF JOHN TAYLOR AND CO. LTD.)



## THE TEWKESBURY SOCIETY AT SALFORD PRIORS.

On Monday, October 27th, the Tewkesbury Society, accompanied by the Rev. C. D. P. Davies, and by a member of the band in the neighbouring village of Tredington, left home by the first train in the morning, *en route* for Salford Priors, a village in a picturesque part of Warwickshire, lying not far from the banks of Shakespeare's Avon, and between the towns of Evesham and Stratford. Arriving at the end of their journey, during which they had rung courses of Triples, Major, and Caters on the handbells, they set out directly for the church, which, together with the vicarage, is but two or three hundred yards from the station. On their way, they were met by the vicar, the Rev. S. Garrard, whose previous permission for their visit had been very kindly granted, and from whom they now received a most cordial welcome. After shewing them the church, which has been carefully restored, and the fine Norman doorway in the north porch, he conducted them behind the curtain across the western arch to the belfry, which is on the ground floor. Though scientific change-ringing is not practised at Salford, a glance was sufficient to shew that the bells and belfry are under the best of care. An excellent circle, bells in good going order, a clean, tidy, and comfortable belfry, with good bell rope mats, was the visitors' good fortune to find. There were indeed two points, and only two, upon which criticism could possibly vent itself. The ropes were much worn, and not of the best type; and when the bells were raised, the sound of the two trebles was found to be indistinct. But both of these are capable of easy and speedy remedy; the latter can be very simply done by a spouting from the bell room to the ceiling of the belfry. The tower contains a good clock with Westminster quarters, and strike. The bells are a most musical ring in F., tenor 18 cwt. The two trebles added by Mears are a good splice, and were, as we were given to understand, the munificent gift of one of the inhabitants. Previous to lunch at "The Bell," a short touch of Grandsire Triples was rung. Afterwards an attempt was made to ring a peal of the same; but just before 1008 changes had been reached, a strand was seen to have broken loose from the rope of the sixth. It soon came undone to the length of a yard or more, thus rendering the ringing uncomfortable, not to say dangerous, and so the conductor was forced to bring the bells to a stand. After the rope had been patched up, an excellent quarter-peal of Grandsire Triples was rung in 45 mins., as follows. W. Hampton. treble: H. Witherington, 2; F. Moore, 3; T. Devereux, 4; J. Hale, 5; E. Wallis, 6; J. Wathen (conductor), 7; Rev. C. D. P. Davies, tenor. The bells were then left up, while some of the visitors and the sexton of Salford walked to Bidford, a distance of one and a half miles, where they rang two 6-scores of Grandsire Doubles. Here, neither the belfry nor the go of the bells could compare favourably with Salford. Thence they returned to tea at "The Bell," after which, another short touch was rung at Salford, followed by the falling of the bells in peal; and then the whole party returned to the station, having spent a enjoyable day. The kindness with which they were met on this occasion, for which they desire to return their best thanks, encourages them to hope that at no very distant date an opportunity may be given them of revisiting Salford Priors.

## ASSOCIATION FOR THE WEST RIDING OF YORKSHIRE.

On Saturday, October 25th, the Annual Meeting of this Association was held at St. Mary's and St. Paul's, churches, Mirfield, when the following companies were represented: St. Mary's and St. Paul's, Mirfield, Brighouse, Lowmoor, Tong, Halifax (late parish), Liversedge, Haley Hill, Birstall, Dewsbury and Kirkheaton. The welcome peal was rung by the All Souls' ringers. During the afternoon and evening short touches in various methods were given upon the peals of six and ten bells. Selections upon the handbells were given in good style. At five o'clock the whole of the ringers were most hospitably entertained to a good knife and fork tea, by the vicar, the Rev. M. Greenside, who, in a few well chosen words pointed out to them the honourable part they took in the Church Service, by calling people to church, and hoped it was not the only part they took in public worship. An adjournment was then made to "The Dusty Miller" Inn, where a meeting was held (the church house not being large enough to hold the whole of the members at one time), at which it was decided to hold the next meeting at Low Moor, in April next. The following were elected officers for the ensuing twelve months: Mr. Joah Pocock, President; Mr. Sidney Goodall, of Liversedge, Vice-President; Mr. Sam. Wright Steward, of Halifax, Treasurer: Mr. G. D. E. Mercer, of Halifax, Secretary, along with a committee of five, consisting of Mr. Luke Illingworth, of Liversedge; Mr. James Lockwood and Mr. Greenwood Clayton, of Halifax; Mr. Joseph Briggs, of Lowmore, and Mr. Cyrus Leeves, of Kirkheaton. Votes of thanks to the host and to the retiring officers and a special vote of thanks to the vicar for his kindness in entertaining them (the same to be forwarded to him signed by the officers), brought to an end a most successful meeting, after which ringing was resumed till a late hour.

## OPENING OF A NEW PEAL OF BELLS AT NESTON, CHESHIRE.

THE new peal of bells which have recently been placed in the belfry of the parish church at Neston, were opened with a solemn dedication service on Thursday, October 23rd. The service commenced at 3.30 p.m., opening with the hymn, "O God our help in ages past," and proper Psalms (122 and 150) were chanted. The lessons were 1 Kings, viii., and Revelations v. After the second collect, special prayers were offered. The ringers then rung a short touch upon the bells, after which the choir and congregation sang the hymn, "Now at length our bells are mounted." The hymn before the sermon was "When morning gilds the skies" (Ancient and Modern). A very eloquent and appropriate sermon was delivered by the Rev. C. H. Hylton Stewart, precentor of Chester Cathedral. The chancel and communion were tastefully decorated with flowers, and there was a very large congregation. The ringers of Bromborough church were selected to open the bells. The peal at Neston formerly consisted of six bells in A♭, bearing the following inscriptions:—

| | | |
|---|---|---|
| *Treble.*— | F | "Peace and good neighbourhood, A.R. 1731." |
| 2nd.— | E flat | "Prosperity to this Parish, A.R. 1731." |
| 3rd.— | D flat | "Prosperity to the church of England, A.R. 1731." |
| 4th.— | C | (No motto). "A.R. 1731." |
| 5th.— | B flat | "Abr. Rudhall cast us all, 1731." |
| *Tenor.*— | A flat | (nearer G, a very bad bell). "William Hutchinson and and Andrew Gibbons, Churchwardens, 1804." |

Early in 1883 one of the bells broke down, and an examination of the bell-frame revealed so dangerous a state of things that further ringing of the bells was forbidden. In December of the same vestry meeting was called by the vicar, and a committee year a was appointed to consider the whole question. The first scheme under consideration was one recommended by Messrs. Taylor, of Loughborough, which would have swept away all the old bells, replacing them with six new ones of larger size. But the plan ultimately adopted was one suggested by the Rev. Herbert A. Cockey, an experienced amateur ringer, who kindly came to Neston to confer with the committee. By this plan four of the old bells have been retained and four new ones have been added, the founder making the usual allowance for the metal of the old tenor and of the cracked 4th. Of course for this peal of eight bells, a new bell-frame and fittings were required, and an appeal was made for the necessary funds (some £370). An immediate and generous response was made both by the parishioners and by some friends not resident in the parish who are always ready to promote its interests. In April this year, a contract for the whole work was made with Messrs. Mears and Stainbank, the well-known bell founders of Whitechapel Road, London. The remodelled peal, in F sharp, now stands thus:—

| | | Note. | Approx. weight. cwt. |
|---|---|---|---|
| *Treble.*— | New | F sharp | 5 |
| 2nd.— | Old Treble | E sharp | 5½ |
| 3rd.— | Old 2nd | D sharp | 6 |
| 4th.— | Old 3rd tuned | C sharp | 6¾ |
| 5th.— | New | B | 7½ |
| 6th.— | Old 5th | A sharp | 8½ |
| 7th.— | New | G sharp | 10¾ |
| *Tenor.*— | New | F sharp | 14¼ |
| | | Total approximate weight... | 64½ |

The inscriptions on the four old bells of course remain as before. Of the four new bells they are as follows:—

*Treble.*—"Venite et ascendamus ad domum Dei Jacob." *
5.—"Venite exultemus Domino." †
7.—"Venite adoremus." ‡
*Tenor.*—"Adorate Dominum in atrio sancto ejus." §

*Is. II., 3. †Ps. XCV., 1. ‡Ps. XCV., 6. §Ps. XXIX., 2.

Each of the new bells bears also the founders' names, and the date 1884, and a few inches below the shoulder is an embellishment, copied from a scroll which surrounds an arch in San Zeno, of Verona. The clock will strike upon the new tenor. The bell frame, and the massive beams which carry it, are of well-seasoned English oak. The bell-gudgeons are of steel, and the whole work has been done in a thoroughly workmanlike manner. After service, about 200 of the principal parishioners adjourned to the schoolrooms, where they partook of a sumptuous tea, provided by Mr. J. Acton, of the Union Hotel, Parkgate. The Rev. Canon Gleadowe, vicar of Neston, in proposing a vote of thanks to the subscribers, complimented his parishioners upon the many improvements which had been made in the parish during his thirty years' ministry. He looked upon the new peal of bells as a crowning act. In addition to the beautiful parish church they had now a beautiful set of eight bells, which he believed would be as sweet-toned a peal as any in the county of Chester. Mr. U. Corbett replied on behalf of the subscribers. Mr. R. Bushell (vicar's warden) responded to a vote of thanks to the committee, and commented upon the workmanlike manner in which the work had been performed by Mr. Oliver. The Rev. K. Kempston responded on behalf of the local clergy, and Mr. Hunter for the choir. The proceedings were enlivened by selections upon the handbells by the Bromborough men.

Neston St Mary – Bell frame - Correspondence with parish and others

Attachments are listed according to the numbering on the supporting documents list

- Attachments in blue are included within the proposals section
- *Attachments in black italics are superseded and not included within the application*

| Date | Message |
|---|---|
| **05/03/2019**<br><br>To: Don Poole<br>From: Katy Purvis | **DAC Advice**<br>I am writing to let you know that at its meeting of 1 March 2019, the Committee considered the proposals and wishes to offer the following informal advice<br><br>a. The Committee notes the positive feedback of the Bells Adviser to the proposals for the restoration of the bells<br>b. It acknowledges that it will be a challenge to find the most suitable way of removing the bells from the tower, and it therefore awaits the proposals to be drawn up by the Scheme Architect<br><br>If you have any queries please do not hesitate to contact me.<br><br>*(DAC feedback in response to 5) Report & Quotation of John Taylor & Co dated 28 November 2018)* |
| **08/09/2021**<br><br>To: Caroline Hilton<br>From: Lucy Brooks | As discussed, please find attached the latest proposal from John Taylor & Co with regards to the bell tower project.<br><br>Don Poole retired as Church Warden in Oct 20 and is no longer a PCC member. David Jones (bell tower captain) remains very much involved in the project. David is not a PCC member.<br><br>As expected, Mike Gilbertson confirmed yesterday that the PCC are ultimately responsible for the bell tower project.<br><br>It would be helpful to know what the next steps are. I'm in the process of preparing my monthly treasurer's report to the PCC in advance of the next meeting on Thursday 16th September.<br><br>If I can be of further assistance, please let me know.<br><br>6) Site Consultation & Final Proposal of John Taylor & Co dated 15 April 2021 |
| **14/09/2021**<br><br>To: Lucy Brooks<br>From: Caroline Hilton | Thank you for sending the revised proposal/quotation from John Taylor & Co. We will send this for review by the Bells Adviser.<br><br>You will need to obtain the input and comment of your church architect Helen Hutchinson with regards to the elements of the works affecting the tower structure and fabric, ie the replacement of the bell frame and the floor of the bell chamber, and the proposed method for removing the bells from the tower by removing the partition that covers the loft space and additional hole to be cut/widened to the ringing chamber |

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| | floor. All the works affecting the structure of the 14th century tower of this Grade 2* listed church will clearly need to be treated sensitively, and I'd also expect that you would need to obtain a structural engineers report. Your architect will be able to advise you further on this.<br><br>For reference - when the original report and quotation of John Taylor and Co was seen by the DAC at its meeting of 1 March 2019, the Committee's feedback sent to Don Poole had been as follows:<br>*c. The Committee notes the positive feedback of the Bells Adviser to the proposals for the restoration of the bells*<br>*d. It acknowledges that it will be a challenge to find the most suitable way of removing the bells from the tower, and it therefore awaits the proposals to be drawn up by the Scheme Architect*<br><br>The works will need faculty permission, and you would need to submit the faculty application via the Online Faculty System. You will first need to register to use the system. Here is the link to the registration page. Register - Online Faculty System (churchofengland.org) Once you have registered we will need to authorise your registration which can be carried out quickly and you should then be able to sign in to the Online Faculty System to start your faculty application.<br><br>The remaining DAC meeting dates for this year are as follows:<br>• 22 October 2021<br>• 19 November 2021<br>• 15 December 2021<br>The deadline for submissions for each DAC meeting is 14 days in advance of the meeting date.<br><br>If you have any queries please do let me know. |
| **19/10/2021**<br><br>To: Katy Purvis<br>From: Terry Abel | I have spoken to Helen Hutchinson regards the tower stability and having an engineering survey of the structure, knowing that there will be some major work being carried out removing the bells and frame. Unfortunately, Helen is unable to carry out a survey but will let me know of Engineer Surveyors that have worked on old church buildings.<br>My concern is, that if the Taylors report stated wear and tear, fracturing and movement of the oak frame, I question, has or is there any structural damage been done to the stone fabric of the tower over many years and would there be any possible fabric settlement when the weight of the bells and frame are removed.<br>I'm sure this is the right path to go down before commencement of any major work. |
| **29/10/2021**<br><br>To: Adrian Dempster of Ward Cole<br>From: Terry Abel | I hope you don't mind, but your name was passed on to me from Katy Purvis at Chester DAC whom I'm in contact with regarding our Church Bells and Tower.<br>Briefly, Our eight bells were inspected by Taylors Bell Founders and there were found to be out of tune, but, more importantly, the bell frame showed signs of previous repair, wear, fractures and movement and our plan now is to have the bells removed, retuned and the oak |

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| | fame removed and replaced with a recommended steel frame.<br>My concern is how would the fabric of the tower stand up to major work after over 168years.<br>I understand you were involved with St James Audlem, so I'm hoping you may happy to advise if a structural inspection of the tower fabric would be recommended before any work commences.<br>I look forward to your reply |
| **29/10/2021**<br><br>To: Terry Abel<br>From: Adrian Dempster of Ward Cole | Thank you for this enquiry. I will be happy to come to the church to carry out a visual inspection and prepare a written report with recommendations on your proposals.<br><br>In these situations, I usually visit the church on one occasion to carry out visual inspections of the tower walls and the existing bell installation. Externally, I normally use binoculars to inspect the elevations from ground level and internally, I inspect the walls from each accessible chamber in the tower. After my inspection, I would prepare a written report with recommendations for any structural or remedial works, if needed, required to ensure stability of the tower when the bells are rehung in a new frame and rung full circle.<br><br>I have an accelerometer which can be used to measure tower sway at belfry level, if I feel that any sway which is occurring is excessive. The results of the sway test, if carried out, can then be used to estimate the sway which will occur when the bells are rehung in a new frame. Please note that I will need eight ringers to ring the existing bells full circle for a short time during my visit so that I can see the effects of this on the tower walls. I will also need one ringer to remain to ring some of the bells individually.<br><br>My fees for commissions of this nature are normally charged on a time basis. My current hourly rate is £85 and mileage is charged at 55p per mile, both excluding v.a.t. Travelling time is charged from leaving until returning to Selston, where I work from home. For the visit, inspection and the preparation of my report, my fees are likely to be in the order of £1250-£1450 excluding v.a.t. If further structural work is required, e.g. drawings for a reinforced concrete ring beam or stitching across cracks, this will be charged at the hourly rate above.<br><br>I trust that the above is clear and helpful. However, should you have any queries or require any further information, please do not hesitate to contact me. Please let me know if the above quotation is acceptable and I can make the appropriate arrangements to visit. |
| **29/10/2021**<br><br>To: Lucy Brooks, Katy Purvis<br>From: Terry Abel | Please see my reply from Adrian Dempster (Structual Engineer, Ward Cole).<br>He as kindly agreed to visit St Mary & St Helen, Neston to carry out an Engineer Inspection of the whole of the bell tower. He makes two important requests, for eight bell ringers and a single ringer on the day of his inspection. David can this be arranged and what week day would this be acceptable to your ringers, I think he wants a lot of swinging and not necessarily a lot of noise!!! |

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| | I'm somewhat relieved that Adrian mentions "tower sway" this sounds like a used term that has arisen in previous inspections and relates to my concerns.<br>Before I commit Adrian, if you have any comments, please email rather than telephone so comments can go on record.<br>I apologise if this project seems to have slowed down, but I'm quite busy at present, I do thank you for your patience.<br><br>*Correspondence with Adrian Dempster above* |
| **06/11/2021**<br><br>To: Adrian Dempster of Ward Cole, Helen Hutchinson of Donald Insall Associates, Katy Purvis<br>From: Terry Abel | Thank you for your detailed email regarding the tower inspection work that you recommend at St Mary & St Helen. Neston<br><br>I am happy for you to come and inspect the tower for the estimated cost of £1250-£1450 and to provide a detailed report.<br><br>Please could you let me know when you are available to visit so that a team of bell ringers can be arranged. They will require at least one weeks notice. |
| **08/11/2021**<br><br>To: Terry Abel<br>From: Helen Hutchinson of Donald Insall Associates | Would it be ok for me to come along and meet Adrian too?<br>Not sure what our wider involvement might or might not be with this project as it moves forward, but it would be helpful for me to have the chance for a short conversation and gain a better understanding of the potential impacts of replacement / repairs / lifting out the bells etc. |
| **08/11/2021**<br><br>To: Helen Hutchinson of Donald Insall Associates<br>From: Terry Abel | I don't see why not, I will copy everyone in when I hear from Adrian. |
| **10/11/2021**<br><br>To: Terry Abel, David Jones, Helen Hurchinson of Donald Insall Associates, Katy Purvis<br>From: Adrian Dempster of Ward Cole | I've put 7th December in my diary. I would like 8 ringers if at all possible but a minimum of 6. If they could come between 12.00 and 12.30, that will be great. I will probably need them all for about 15 minutes and one should stay to ring individual bells after.<br>I hope this can be arranged, but please let me know if there are any problems.. |
| **04/01/2022**<br><br>To: Caroline Hilton<br>From: Terry Abel | I forwarded the attached Engineers Structural Report of St Mary & St Helen church bell tower to Katie but her automatic reply say's she will be on leave until 2nd August.<br>If this is correct are you happy for me to forward to you updates and seek guidence that relate to the Bell Frame refurbishment project. |

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| | 7) Structural Report of Adrian Dempster of Ward Cole Consulting Engineers dated December 2021 |
| **05/01/2022**<br><br>To: Terry Abel<br>From: Caroline Hilton | Happy New Year to you, and thank you for your message and attached report of Ward Cole.<br><br>Katy is working now (the out of office auto-reply had not fully updated), but it would be very helpful if you could in any case copy me in on any further updates or queries. This scheme has been added to the agenda of the DAC meeting on 21 January. |
| **06/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | Caroline confirmed that the Bell Tower Frame has been added to the DAC agenda for 21st January 2022.<br><br>After taking over from Don Poole, I don't recall completing a Faculty request form for this scheme. Has one been completed by Don or Helen Hutchinson or, should I complete one on line.<br>I have halted further action until a Faculty has been successfully been agreed as there may be an argument between a steel frame or a wooded frame. |
| **06/01/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | There isn't an active faculty application for this yet, you can start one online whenever you are ready. It would be helpful to have a statement of needs for the meeting, but the technical report is the most important thing for now. I couldn't see that the report recommended steel or wood, I had rather assumed it was to be steel, have you any further detail on the debate/merits of either, as that would be helpful to know |
| **06/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | Thank you for your reply.<br>I apologies, I thought you would have had a copy of the report from Taylors.<br>Please see attached, two reports<br>Firstly, Taylors Bell Founders,  Page15 describes a steel framework.<br>The second report is a Ward-Cole structural engineers report<br><br>5) Report & Quotation of John Taylor & Co dated 28 November 2018 |
| **06/01/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | Sorry Terry, we have got that, I'd forgotten the detail of the frame |
| **14/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | I am attempting to fill in a faculty form on line for a replacement bell frame and I've come across a query.<br>In the lists there are specific works that require faculties but I cannot fined a specific reference to installing a replacement wood to metal Bell Frame.<br>The nearest I can only find is (A3-4) The repainting of metal bell frames.<br>Please could you advise me on a way forward. |

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| **18/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | As this is my very first application, may I ask you to cast your eye over my introduction note and advise if it is sufficient or could be more detailed.<br>I will be including detailed reports from The Bellfounders and the Structural Engineer that will pictures.<br>4) 'Faculty application for replacement bell frame' document |
| **26/01/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | **DAC Advice**<br>I am writing to let you know that its meeting of 21 January 2022 the DAC considered the formal application for refurbishment of the bells and replacement of the bell frame and wished to offer the following feedback<br><br>a. Based on the reports received, the Committee was broadly supportive of the proposals, however some further points needed addressing:<br>i. The Committee queried the parish reason for including the installation of sound control, e.g. have there been complaints about the volume? The parish should be satisfied that they definitely wish to install sound control.<br>ii. As this is a medieval bell tower of a Grade 2* listed church the Church Buildings Council would need to be consulted. The DAC office would carry this out.<br>iii. It noted that the documentation states the existing bell frame is not historically significant, however the parish will need to provide the CBC with evidence of this. It would therefore be very helpful for further information regarding the age and history of the frame to be provided ahead of the consultation with the CBC as this will help them decide whether a visit is necessary and in their consideration of the proposals generally.<br>Please let me know if we can help at all |
| **26/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | The information required may be found in the structural engineers report, but I will gather information and forward it to you. |
| **26/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | I have a query with note iii 'The age and history of the frame to be provided' The frame being 'provided' will be a new steel frame structured to fit our tower.<br>Or, does it refer to the age and history of the existing wooden Frame? |
| **26/01/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | this means you need to provide details of the age and history of the current wooden frame, not 'the frame to be provided'. We need to send the details to the CBC for their comments. |
| **26/01/2022** | I thought it may be that, but just wanted to clarify. |

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| To: Katy Purvis<br>From: Terry Abel | |
| **28/01/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | I have been looking for any info I could find about the significance of the bell frame for you, and happily, there is mention of it on your church website, link, above. David Jones wrote the article, which references Volume 3 of Bell News (1884)<br>*"The second article is much longer and describes the opening of the new bells and the dedication service on Thursday 23rd October 1884. It was published on Saturday 1st November 1884 and provides the title of this current article. As well as the description of the service and following festivities, it also briefly outlines the history of the augmentation. Detailing the original ring of six bells, it goes on to explain that one of the bells broke down early in 1883 and that on examination the bell-frame 'revealed so dangerous state of things that further ringing of the bells was forbidden.' A committee to consider the options was set up by the vicar during a vestry meeting in December of 1885. A plan to replace all the bells with a heavier ring of six bells cast by the Taylor Foundry in Loughborough was rejected following advice by the Rev Herbert A Cockey, 'an experienced amateur ringer' who suggested that four of the existing bells were retained, with four new bells to be added together with a new frame and fittings. The cost of the work was £370 and an appeal was set up to provide the necessary funds. The article explains that 'an immediate and generous response was made both by the parishioners and by some friends not resident in the parish who are always ready to promote its interests.' The work, carried out in 'a thoroughly workmanlike manner' was carried out by Mears and Stainbank, 'the well-known bell founders of Whitechapel Road, London,' and the new bells were all inscribed with their name as well as the year of casting (1884) and an 'embellishment copied from a scroll which surrounds an arch in San Zeno, of Verona.'*<br>So if David has a copy of that article, that is probably all you need as evidence that the bellframe was installed in 1884, assuming that is what it says, and we could refer this straight to the CBC. If not, this paragraph may be enough in itself |
| **28/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | Much appreciated. David is gathering information as he has all historic records, these notes will ease the process. |
| **30/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | Please see below Davids comments to points i and iii Regards Terry<br><br>i) We are very lucky to have a generally good relationship with the nearby residents. We have only received a couple of complaints about the sound of the bells but these have been carefully managed. The idea behind the installation of the sound control is to be able to increase the amount of ringing that happens. One of the key aims of the project is to attract new recruits. Having sound control would allow extra training sessions or periods of extended ringing without disturbing the local population unnecessarily. I hasten to add that for all services, normal Friday practice night and other ringing for national or local importance, the sound control would be "open" so the bells will be at the normal sound level. |

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| | iii) The frame was installed by Mears & Stainbank in 1884 when the original six bells were augmented to the current ring of 8. The details were reported in the ringers journal at the time, Bell News. I have attached a copy. The report can be read on page 363 although it is actually page 367 in the PDF. As early as 1922 there were problems with the frame. In a footnote of a peal in 1922 it is stated that "This peal convinced all the band that these bells are sadly in need of the ministrations of a bell hanger." There was work done on the frame in 1953. Originally, the job was given to a local plumber and chorister at the church, Ernest Jellicoe, but it became evident that a bell hanging firm was required and Mears & Stainbank were appointed to rehang the bells. The frame was strengthened by anchoring the foundation beams to the walls of the tower and by inserting a steel girder underneath. Some minor repairs were carried out by Whitechapel Bell Foundry in 1965 and later in the early 1990s by Oxton ringers, Alex Martin and Tommy Morgan. Reports in 1965 and 1980 recommended replacing the frame but these recommendations were not carried out. As the frame is not of historic importance and previous attempts to improve the frame have not been successful, a new metal frame will allow a long-term future for ringing in Neston. |
| **31/01/2022**<br><br>To: Katy Purvis<br>From: Terry Abel | Please see attached The Bell News publication from David Jones.<br>If you have problems opening the file, I will ask David to email you direct. |
| **31/01/2022**<br><br>To: Terry Abel, David Jones<br>From: Katy Purvis | I'm afraid I can't open that, please could David send it again? |
| **03/02/2022**<br><br>To: Katy Purvis<br>From: David Jones | Sorry for the delay in responding. I was having a few technical problems on Monday evening, followed by a busy couple of evenings bell ringing.<br><br>Due to the size of the document, I can't send the PDF as an attachment. I've used an old faithful sharing platform this time rather than the new fangled Google version. If you click the link below, hopefully that will work.<br><br>If not, I'll try and ask one of my designer friends if they have a way of cutting the one relevant page out. Or printing it out and scanning it over if all else fails!<br><br>8) Excerpt from The Bell News and Ringer's Record |
| **16/03/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | The CBC have responded and said that they will defer to DAC, so Caroline can now prepare the Notification of Advice, which is the trigger for you to post the public notice |

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| **23/03/2022**<br><br>To: Terry Abel<br>From: Katy Purvis | I'm writing to let you know that at its meeting of 18 *February* (should say March, CH) 2022 the DAC considered the formal application for refurbishment of the bells and bellframe and resolved to recommend the scheme.<br><br>This means that Caroline will shortly be able to raise the notification of advice, which allows you to produce and post the public notice.<br><br>Please let me know if you have any queries. |

Neston St Mary – Bell frame – Consultation correspondence

Attachments are listed according to the numbering on the supporting documents list

- *Attachments in black italics are superseded and not included within the application*

| Date | Message |
|---|---|
| **07/02/2022**<br><br>To: Church Buildings Council<br>From: Katy Purvis | You have been invited under part 4.5 of The Faculty Jurisdiction (Amendment) Rules 2019 to consult on the above Faculty Application. A response to the consultation will be taken into account if it is received within 42 days of the date of this email.<br><br>The deadline for your response is 21/03/2021<br><br>The proposals are for replacement of the bell fittings and the 1884 bell frame within the tower to enable bell ringing to continue. The HE listing describes the tower as C14, incorporating masonry from church of 1170, probably restored 1697; upper stages of tower heavily restored and substantially rebuilt in 1875.<br><br>A recent structural engineers report has indicated that the frame should be replaced and installation and use of the new frame should not cause any damage to the tower. |
| **15/03/2022**<br><br>To: Katy Purvis<br>From: Church Buildings Council | Thank you for consulting the CBC on the proposed new frame and fittings to the bells at Neston, St Mary and St Helen.<br><br>As none of the bells or the frame are listed, the Council is content to defer consideration of this proposal to the DAC. |