



Stewardship & Management Workgroup

of The Central Council of Church Bell Ringers



THE CENTRAL COUNCIL OF CHURCH
BELL RINGERS

Church Restoration & Alteration Projects

Considerations for Bell-Ringing & Bell Ringers

Introduction

Churches nowadays undertake restoration and alteration projects, many now aiming to make their buildings and facilities suitable for a wider range of purposes than has been customary. Changes in church attendance, the expectations of users for higher standards, health and safety considerations, the potential value of little used or unused assets, are all necessitating and stimulating proposals for additional, more diverse uses. For churches with rings of bells, the changes may also offer benefits for ringers. Improved facilities provide a better environment for ringing which in turn supports the church.

However, there are specific issues that require consideration during the planning of the changes to ensure that neither access for ringers nor the ringing of the bells themselves is compromised. It is therefore essential that experienced ringers are involved in discussions about any changes proposed in or around a bell tower, including throughout the planning and implementation phases. Inviting key people involved in planning projects to visit a bell ringing practice and to see the bell chamber itself, will provide an invaluable insight into what is involved in bell ringing and the likely impacts of the work on the ringers and ringing.

This note aims to offer advice to churches, architects, contractors, bell ringers and potential church users when restoration projects and alterations are proposed in churches with a ring of bells. This applies whether the bells are ringable and rung regularly or occasionally, or not ringable.

This note **does not** aim to consider the planning or management of projects that are directed primarily at restoration of the bells themselves. However, many points are still applicable.

Spaces used for Bells & Ringing

The spaces used by bells, bell ringing and bell ringers are often those that will also be affected by changes proposed in church projects. They typically include the following:

- Access and/or staircases to the ringing room and to the bell chamber from ground floor.
- Ringing room (from where the bells are rung). This may be an area on the ground floor or at a higher level in the tower.
- Intermediate spaces and/or rooms between the ringing room and the bell chamber. Note particularly that the bell ropes will pass at speed through such spaces when the bells are rung. They may be guided at some points by rope guides, pulleys or contained in timber ducts.
- Bell chamber (where the bells themselves are hung) including the sound exit louvres.
- Space/room above the bells, which may help to control the sound from the bells, and may also be used for the installation and use of lifting equipment during installation and maintenance.

- Vertical access (e.g. trapdoors above and/or below) for removal of the bells and associated equipment during more major maintenance work.
- The route for the largest bell and all other equipment to be removed from the tower and out of the church building, and reinstallation in the tower. There are typically three ways of getting bells in and out of a tower:
 - i. down through the tower,
 - ii. out of the roof,
 - iii. out of the louvres.

Understanding which way the bells and equipment went in, if known, may help decide which route should remain after any changes are proposed. While such work will only occur rarely, it remains an important consideration. In addition, there should be sufficient safe space to manoeuvre the essential lifting equipment. Doorways and other fixed obstructions must not restrict access.



Open gallery style ringing room. This design offers useful enclosed space at ground level. (The addition of a glass screen or long openable curtains across the arch would enable the ringing room to be heated when necessary.)

Alterations that may affect Bells & Bell Ringing

Every church is unique. Factors such as the location, current facilities, their use, and proposed modifications and use will all contribute to the options available. Church personnel and future users may or may not have knowledge of church bell ringing. Few people involved will have detailed understanding of the issues and constraints imposed by the need to access and ring the bells in the tower routinely, and less frequently during maintenance work. Additional users may or may not be involved in church related activities; the new uses may well be very different from traditional church use.

Examples of additional church uses and major work:

- Specific areas converted to event and meeting rooms, offices.
- Building extensions.
- New floors, false ceilings.
- Installation of kitchen facilities, toilets etc.
- Use by schools, businesses, community groups.
- Extended use for church and non-church activities, concerts, functions.
- Overnight accommodation ('champing').
- Addition of equipment, storage units, displays, exhibitions.
- Installation of IT equipment, sound systems, screens.
- Installation of telecommunications equipment (antennae, masts etc.) - *See Appendix*.
- Restoration of church fabric and major fittings.
- Reordering schemes, flexible seating arrangements.
- Organ maintenance/restoration.

Changes of use are likely to necessitate the alteration and addition of services such as water supplies, electrical supplies, cabling, heaters, lighting etc. The detailed locations of these are likely to affect the areas occupied by ringers and bells.

Potential Benefits of Projects for Ringers and/or Ringing

- Ringers as well as other church users, are likely to benefit from restoration projects and refurbished facilities, for example additional heating, improved lighting, kitchen, toilets, storage space, etc. Meeting rooms may be useful for training sessions, out of the ringing room.
- A proposed project may be extended cost-effectively to include minor or more major maintenance of the bells, redecoration of the ringing room, etc.
- More significantly, the ringing room may be relocated up from the ground floor to a new or existing intermediate space, offering self-contained space for ringers, while leaving room available at ground floor level.
- Any work may necessitate clearing accumulated items, materials and artefacts from the ringing room and bell chamber. This is a great opportunity for a 'good clear out' and 'clean up' but with the caution that it should involve ringers in making judgements on what is 'rubbish' and what may actually be historic records and items of genuine interest. Ringing records form either part of Parish Records held in the Diocesan Office, or local ringers' society/guild/association.

Project Planning

It will be the clergy, PCC and church wardens who will be responsible for leading projects proposed. A faculty is likely to be required for some or all the work. At the earliest planning stage, experienced ringers should be actively involved to ensure that every detail is appropriate from the viewpoint of ringers and ringing. It is very useful to appoint a nominated person as point of contact for the bell ringers. The ringers are strongly advised to seek additional advice from their local ringing society, especially if they are less familiar with the installation and maintenance of bells.

If there is no local band, then the officers of the local ringers' society should be informed by the project leaders so that appropriate reviews and comments may be made to ensure that the bells and associated installation will remain accessible and usable. Ringing societies are often based on diocesan or county areas and most have volunteers who can offer advice on bells and bell ringing. They will probably be able to arrange for those involved in church projects to visit other towers to see examples of how arrangements for ringing have been accommodated. Contact details are available on the Central Council of Church Bell Ringers website: cccb.org.uk/about/affiliated-societies

The ringers and project leaders are advised to ask the PCC Secretary to seek specialist advice from the Diocesan Bells Advisor.

It is essential that every detail of the design is reviewed carefully at every stage by ringers who have good knowledge of the requirements of ringing - including access to the space used for ringing, the bells during ringing and routine maintenance, and occasional complete removal of the bells and fittings for their renovation.

If the space at the base of the tower is to be used, for example, for kitchen, toilets, office/meeting space, consider how will the bells and associated bell frame be removed? There must be space to enable lifting equipment and other tools to be brought into the church and tower to enable maintenance work on the bell installation. In addition, large trap doors in the ceiling will be required for the bells and equipment to be lowered and raised.

Note that that all bell installations should be maintained routinely. Without adequate access that enables routine maintenance, degradation will occur that could result in very large and heavy items falling from the tower.

Considering the Plans

The changes proposed with the exact locations of any new equipment and facilities should be reviewed very carefully. Readers may ask whether there are standard specifications for bell installations and the spaces used for ringing. The simple answer to this is no. Every tower is unique as is every bell installation. A few general suggestions may help those leading church projects.

Integrating ringers with the church and its activities often makes both the ringing and church activities more successful. Ringing is audible and ringers who are also visible and accessible are more readily integrated with the wider church community.

Young people, in particular, will normally be fascinated when they see ringing underway (at a safe distance) so keeping or enabling the ringers to be visible is very helpful. This may be more straight forward if the ringing room is at ground level, or in an open gallery. Ringers who enter the tower from outside, go upstairs and are then invisible results in 'out of sight out of mind'. Having said this, a ringing room that is part of a large unheated space, may be rather inhospitable in winter for ringing practices! Architects are often able to design appropriate screens that enable the ringers to be visible but enclosed, with suitable ventilation.

A ringing room must be large enough for the rope 'circle' with space around for the ringers. This will normally be constrained by the tower itself, but alterations and additions must not compromise the

space available. There should be adequate space behind all the ropes for ringers to stand and ring, ideally 1 meter or more. There should be adequate space for the ropes to fall without the risk of catching on any objects in their path. Ringers also require a few boxes for shorter ringers to stand on, seating, storage space for example for bell muffles, spare ropes, tools, books, as well notice boards and teaching aids such as computers and a white board or chalk board. Appropriate plans should accommodate these items securely. This is especially important when the ringing room or space in which ringers stand to ring is to be shared by other users.

If the ringing room is to become a shared space, this has several consequences for ringing. Ringing requires intense concentration without disturbance, so practical arrangements need to be considered carefully and agreed. There may also be questions about temperature in the proposed ringing area. If the area is kept at an adequate temperature for other purposes (18 – 21 deg C) this will be rather warm for ringing, as well as very expensive! Conversely, if the space is left at ambient as when open to some or all of an unheated church, then it will be inefficient to heat the ringing space in winter even to a modest temperature. Adequate heating is more conducive to retaining new learners in the modern world. Conversely, there should be sufficient ventilation in a ringing room, especially in summer, as ringing rooms can become very stuffy during prolonged ringing (a full peal may last 3 hours or more).

The effects of work proposed on the sound of the bells should be considered - externally around the church and internally for the ringers. Building alterations, and the addition and/or removal of equipment, floors, fittings, fabrics etc. all influence the ways in which sound propagates. In particular, the installation of telecom equipment in the bell chamber behind the louvres is very likely to affect the sound level in and around the church. In the ringing room, ringers require the bells to be audible (with each bell distinct) but also not so loud that they cannot hear the conductor who leads the ringing by issuing instructions (calls) while the ringing is in progress. Predicting the consequences of modifications on the sound propagation is complex. If the sound of the bells is likely to be affected, then specific advice will be required from specialists.

The height of the ringing room, will often be constrained by the tower itself. If the project aims to move the ringing, for example, from ground level to a higher level in the tower, the proposed height of the ringing room and positioning of any intermediate rope guides must be considered carefully by bell hangers. The rope lengths, from wheel to ringer are determined by the sizes of the bells and their associated installation. Bell hangers will advise on rope length, whether the 'sallies' (the fatter coloured woollen sections of each rope) will pass through the ceiling bosses and any additional rope guides, and hence the suitability of the proposed space as a ringing room.

Factors such as security of the ringing room and the bell chamber itself, access protocols for ringers and other users (including in emergencies) and signage, all require careful consideration.

During the Project

The timescale from initial ideas, through planning, fund raising, to installation and project completion, is often several years. Arrangements should be made for ringing during the most disruptive periods, e.g. by joining another local band, perhaps taking the opportunity to ring on a different number of bells or by giving help at another tower. Keeping the band active will enable ringing to resume after the work is complete.

Works in the church may require the clock to be stopped for periods during the project. It is advisable to keep neighbours informed as some may be disappointed if they do hear the chimes.

Ringers should check that the work itself will not cause any damage or degradation to the bells and associated installation. Scaffolding, lifting equipment and other machinery may need to be installed for the work; the bell frame etc. must not be used as anchorage or similar in the project! If ringing is to be continued during the work, ringers must ensure, prior to every ringing session, that contractors have not left any items in the path of the bells or ropes that will impede their operation.

Furthermore, work is likely to create dust and debris, and disturb the dust of several decades, if not centuries! Appropriate screening, protective coverings and final clean up must be included in the contact costings and provided in the project. If specific hazardous materials, for example, asbestos, bird or bat droppings are anticipated, then appropriate inspection, personal protection and specialist disposal must be included.

Design and installation work in a church will normally be carried out by specialist contractors. They must all be advised of the particular hazards associated with the bells, bell ropes, and other parts of the installation. Monitoring the work while it is in progress is essential. It is essential that, if ringing continues during the work, the rope paths and bells are inspected before each session to ensure they are unobstructed and ringable. In particular that ladders and other equipment that could be impacted by the bells when set in motion have not been left in the bell chamber. Bells must be left mouth down at all times during the work, even if it is intended that no one will be entering the tower (someone may do so unexpectedly). If a non-ringer finds a bell mouth up, they **MUST NOT** attempt to touch any bell or rope. The ropes must also be tied (ideally locked) aside so that they are not accidentally or otherwise pulled to set the bells moving, and thereby cause injury to people or damage items in the bell chamber or along the rope paths.

Completing the Project

Once work is complete, it is advisable for ringers to be included in the team that verifies that the work has all been carried out as planned and designed, and has been completed satisfactorily.

Additional Information

- Project outline: www.churchofengland.org/more/church-resources/churchcare/making-changes-your-building-and-churchyard
- Church alterations: www.churchofengland.org/more/church-resources/churchcare/advice-and-guidance-church-buildings/alterations-and-extensions
- Faculties: www.churchofengland.org/more/church-resources/churchcare/church-buildings-council/how-we-manage-our-buildings

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Appendix

Installation of Telecommunication Equipment

Specific issues arise in relation to the installation of telecommunication equipment. Churches are attractive to the companies involved as a tower provides a ready-made high structure on which to install antennae. The tower space to be occupied is typically little used for other purposes, except for the bells and bell ringers. While the latest equipment likely to be installed is more compact than some previous installations, the reductions in size may be offset by the installation of more units.

Telecoms equipment installations include several component parts. Some will have little direct impact on the bells and ringers but others potentially could have significant consequences. Key parts include:

- Electrical power supply from street to church.
- Internal cables from the power supply up through the tower to the equipment. The route may be, for example, through an existing space (e.g. clock weight shaft) or new openings in the floors. New openings in particular are likely to lead to changes in the sound level of the bells when rung. The cabling must not interfere with the ropes or bells when rung. The cable paths must allow the bells to be rung full circle without hindrance. Cables must not pass close to or through any part of the bell installation.
- The main equipment will require space, access and sufficient air ventilation as it will generate some heat while operating. The units may include ventilation fans which generate a low hum when operating. Bell ringers need to be satisfied that the space occupied along with the heat and possible noise do not interfere with ringers. This equipment should not be sited in the ringing chamber. If sited in the bell chamber, consideration must be given to the risk of any heat generated on wooden bell fittings or frame. The contractor should be able to advise of the likely amount of heat that will be generated and how this will be dealt with.
- The antennae will typically be installed behind the louvres or on the roof. The louvres may have to be replaced because wood, slate and stone are all opaque to radio waves. The contractor may have to replace them with facsimile louvres manufactured from a material that is transparent to radio waves (but not transparent to the human eye). It is critical that there is room for the bells to be rung. One consequence of replacing the louvres is that external sound levels will be reduced. There may be a requirement for old louvres to be stored for replacement if the equipment were to be removed. This storage should be appropriate and, again, not interfere with ringers and ringing.
- The contractor will need to access the antennae routinely for maintenance and therefore require access ladders and working platforms. Plans for all new ladders and platforms should be considered by the bell ringers at an early consultation stage. In some instances they could be of use for ringers as well so permission could be obtained for this. The ladders should conform to Health and Safety requirements. To meet safety standards, ladders will be fixed and may include safety hoops, so these should not interfere with the ringing of the bells.
- The contractors may also require emergency access, including outside normal working hours. Ringers should be involved in setting up procedures to be followed by all users. The arrangements may, for example, require that the bells will never be left up. In addition, after any contractor has been allowed access to the tower there should be checks by the ringers to ensure that it is safe to ring the bells, that no tools or other equipment have been left where they will come in contact with bells, their fittings and ropes when ringing takes place.

- Signage must be appropriate; some contractors wish to fix signs stating 'No persons beyond this point' at the foot of a tower in which they install equipment. This would then preclude ringers from entering the tower. Again, the procedures set up should define appropriate signage and areas where ringers may and may not gain access.
- The design of the complete installation should consider fire protection for the equipment and prevention of fire spread from the equipment to the rest of the church. This may necessitate the construction of fireproof enclosures around the equipment, again perhaps reducing the space for ringers and ringing.
- The contractor is required to reassure all church users, including ringers that the installation complies with guidelines on non-ionising radiation levels. These are published by the *International Commission on Non-Ionizing Radiation Protection* available from the Health & Safety Executive: **www.hse.gov.uk/radiation/nonionising/faqs.htm#q3**