

# Access by Design



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Kew Palace

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# Kew Palace

*Kew Palace, George III's family home, set in the grounds of the Royal Botanic Gardens, reopened on the 27 April 2006, after a ten-year restoration project. In this building study we explore how Historic Royal Palaces improved access to this historic building as part of the project.*

## Client's perspective

*by Jo Thwaites*

*Kew Project Sponsor and Client Representative  
Historic Royal Palaces*

Historic Royal Palaces (HRP) is the independent charity that looks after the Tower of London, Hampton Court Palace, the Banqueting House, Whitehall, Kensington Palaces and Kew Palace. We help explore the story of how monarchs and people have shaped society in some of the greatest palaces ever built. We receive no funding from the Government or the Crown, so

we depend on the support of our visitors, members, donors, volunteers and sponsors.

For HRP, every penny counts. As guardians of Kew Palace, we had repaired and conserved the Palace and were about to embark on the final contract – a project to re-present and interpret the interior. Our aim is to tell the stories where they happened, of the royal residents King George III, his Queen Charlotte and their family at the turn of the 18th and 19th centuries at Kew. This was the time when the King was brought here for treatment for his supposed madness, now known to be the inherited metabolic disorder, porphyria. The telling of this story was to be a new and thought-provoking experience for visitors, bringing a piece of English history to new audiences.

Raising the funds for the project has taken many years. This has allowed us time to record, research and understand the Palace, originally built as a merchant's country house by Samuel Fortrey in 1631, and later taken over as a royal residence in the early 18th century. It is this work, by curators, surveyors, building historians and other specialists (using techniques such as paint and wallpaper analysis, archaeological



*Kew Palace exterior – showing the new lift shaft on the site of the former privy shaft*

# Building study

investigation, thorough analysis of building accounts and documentary sources), that has informed the development of the present Palace.

So, knowing the building well, we began to bring a team together to deliver the project. The brief included quite specific access requirements – including the installation of a lift. The architects, Purcell Miller Tritton, were selected for their approach to lift design and demonstrable care for the fabric of the building.

It had long been felt that it was reasonable to commission a design for a lift on the footprint of a demolished water closet shaft on the West flank external wall of the building. The internal 18th century door openings into the water closet were still visible inside. They had been blocked up in the 1880s when the external wing was demolished at Queen Victoria's request (perhaps because of the unhappy associations with her grandfather's illness).

All the access improvements had to be presented to English Heritage (EH) for Scheduled Monument Clearance at the Department of Culture, Media and Sport. HRP negotiated this with Purcell Miller Tritton's support.

However, gaining planning permission and consent is a long way from reaching construction drawing stage, and the design development stage was long and arduous. We were lucky to find the assistance of the access consultant David Bonnet to guide and test Dante Vanoli's, from Purcell Miller Tritton, approach and drive on the process.

But, we wanted more input from the end users we expected to visit the Palace. We were, after all, spending tens of thousands of pounds of hard-raised donations and Heritage Lottery Fund (HLF) grant assistance, and wanted the investment to work hard for us. Adding a lift was not the whole story. We wanted a holistic, integrated approach to address both physical and intellectual access issues throughout the exhibition and displays. At first we looked at some focus groups, but their consultancy fees were extortionate. So we directly employed a range of people from local disability and community groups to form the Kew Palace Disability Access Forum.

## Access Forum

The Access Forum has been tremendously helpful for the project team. At first it met monthly, then



*The Queen's Boudoir (or sulking room), used mainly by Queen Charlotte*

fortnightly, as there were so many areas to address, such as graphics, sound and access for hearing impaired people (one means of interpretation in the Palace is a radio play), modelling for visually impaired people, hidden disabilities, display case design, and mock-ups and testing (at one point, we drew the lift footprint to scale on the floor).

The education process has been a two-way process throughout. Small inexpensive design adjustments have been incorporated along the way, rather than waiting until the end, when it is often too late. To facilitate this process, we built a temporary ramp into the building site, so that members of the Access Forum could visit work in progress.

The Forum has also allowed the designers to present their work and discuss different approaches. So, now, we have many interpretative methods in the Palace, which appeal to a range of senses. There are objects on display relating to the lives of King George and Queen Charlotte on the ground floor – arranged to be visible to a range of eye levels. There are also seats throughout, a sound script (also available in large print), projections (including ghosts, silhouettes, atmospheric noises and more) and trained assistants for visitors speak to.

There has been a huge investment in the project from the Access Forum members, many of whom were presented, along with other members of the project team, to the Prince of Wales at the



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*The King's Dining Room, furnished as it might of been when King George III stayed at the Palace in early 1800*

Kew Palace Opening Garden Party on 5 May 2006. This has been such a successful route for HRP and one we want to continue to explore in the other Palaces we care for.

## Architect's account

*by Dante Vanoli*

*Associate*

*Purcell Miller Tritton LLP*

HRP's plan for the representation of Kew Palace had, at an early stage, identified the scope and limitations for making the building's interiors more accessible, from basement to second floor levels. In 2004, Purcell Miller Tritton were commissioned to examine the feasibility of implementing these ideas and to develop access design solutions that were suitable and permissible under Scheduled Monument Consent scrutiny. Externally, three principal access elements had been identified: the means of accommodating a lift to serve the main interiors, level access to the south entrance door via a new ramp, and a lift facility to undercroft level.

Internally, barriers to accessible circulation were addressed and a new toilet facility adapted for disabled use. Each feature would contribute to the improvement in access, but the unalterable historic arrangement of the main interiors,

physically separated from the undercroft, prohibited a single, fully integrated visitor circulation route to all levels.

## Lifts

The idea of introducing a passenger lift externally had been dictated by the absence of suitable locations within the compact interior layouts. Its preferred location, to the west and on the site of an 18th century water closet shaft, had evolved through preliminary consultation with EH.

Specific placement requirements were examined in the feasibility study that addressed the lift shaft's alignment to the west wall's original water closet's concealed openings, its external impact and other sensitive conservation/archaeological issues.

The lift's footprint dimensions were largely determined by its statutory requirement to accommodate wheelchair access in compliance with Part M of the Building Regulations and, in its juxtaposition to the west wall, it had to interface with the aforementioned openings to take visitors from ground to first and second floors. The main lift's proximity to the undercroft's western access area initially suggested that it might also serve the basement level, 900mm below the adjoining ground level.

Technically, such an arrangement could have been achieved, albeit with complicated changes in lift door positioning, orientation and security. This would have been a costly solution that would have generated a higher degree of excavation and adverse consequences on below ground archaeology. Given that the undercroft's usage would largely be confined to educational school visits, and there being no requirement in the brief for visitor circulation between it and the main interiors, access via the main lift was set aside in favour of a secondary platform facility that would take wheelchairs externally from garden level to the basement. (Ramp access, although considered, was not a feasible option due to space restrictions).

The main lift's dimensions and construction were designed to minimise its visual and physical impact on the Palace's setting and historic building fabric. The steel frame shaft on a simple, concrete pad foundation has been erected and shaped independently of the original wall to form a tight abutment between its pedimented bays. Clad in lapped timber weather boarding and traditional leadwork over a brick plinth, the new facility responds to the original closet shaft's siting and visual simplicity. In contrast, the contemporary platform lift is of steel and glass and sits discreetly within the undercroft's new retaining brick wall construction that is integral with the main lift plinth.

## Front entrance ramp

The problems of facilitating access for disabled people to the main entrance door are common to similar situations in which entrance steps and raised thresholds need to be overcome. At Kew, the threshold was 130mm above the original raised Portland stone landing which was three risers above ground level. Although visually sensitive, a new ramp to the landing would be relatively straightforward to install; however, the remaining threshold step would need to be resolved. Substantially altered, the existing stone steps held historical and archaeological significance which dictated options for any adjustment. Both HRP and EH contributed ideas toward the final solution by which the upper landing and steps were carefully dismantled and raised through the insertion of a new stone band set above base construction that remained undisturbed. The area of existing stone paving surrounding the steps was proportionately sloped up to new datums allowing the formation of a new ramp to a reduced gradient.



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### ***Ramped access outside the front entrance to Kew Palace***

Although adjacent to the south wall, the ramp is physically and visually separated from the original plinth brickwork which preserves the latter's capacity for absorbing and shedding moisture.

## Internal alterations

A wheelchair path survey, conducted with the access consultant David Bonnett, identified and addressed two primary pinch points on the internal circulation route: restricted access between the Library and Page's Ante Room which was eased by widening a 20th century structural opening, and modern fire compartmentation screening to the service staircase at second-floor level which was removed to facilitate wheelchair access between the lift and visitor route. The new second-floor toilet facility can now be accessed by wheelchair users and its equipment and planning have been designed to accommodate all visitors.

**Dr Michael Turner**  
*Inspector of Ancient Monuments  
and Historic Buildings*  
*English Heritage*

EH approached the project by being fully supportive of the principle of facilitating access throughout the building, in accordance with

our published guidance *Easy Access to Historic Buildings* (2004 edition), which seeks to encourage 'high-quality design that is also sensitive to the special interest of historic buildings'. But it was apparent that the status of Kew Palace as a Scheduled Ancient Monument and Grade I listed building would require carefully-crafted solutions if these aspirations were to be fully met.

The brick-vaulted basement could not be penetrated. The agreed solution of an external platform lift on the site of modern external steps provides basement access without impacting greatly on the exterior of the palace, while the low-profiled 1:21 slope to the ground-floor front entrance does not require a handrail.

Any lift to access upper floors posed a dilemma. An internal lift shaft would have compromised both the Palace's significant historic fabric and the internal circulation. But an external shaft would need to be considered in relation to its physical impact on the highly significant 1630s brickwork, which represents one of the earliest examples of Flemish-bond brickwork in the country, and to its visual impact on key views of the Palace.

The solution to position a new lift on the site of a demolished privy shaft and ground-floor extension was inspired. Historically, penetrations had been made through the side wall of the palace at all levels, so reusing them merely involved unpicking 1880s brick blocking. We insisted on having sight lines studies to ensure that a lift would not dominate key views within Kew Gardens. Our major concern was the detailing of a lead-covered 'throat' joining the shaft with the intricate brick elevation, and the unacceptable projection of the motor room above the second floor cornice. Due to the commitment of the project team, the 'throat' was refined, while the height was incrementally reduced until it was even lower than the agreed projection. The privy shaft had been timber clad, and EH sought a design which gave cognisance to that lost feature, while being expressed in a modern way. Consequently, we pressed for untreated oak cladding which reflected the general form of the lost shaft, but which would weather naturally and have an affinity with its garden setting.

We are extremely pleased with the outcome which now provides full access to the highly imaginative re-presentation of the Palace.

## Access consultant's view

by Dr David Bonnett

David Bonnett Associates

### The challenge in context

Making a unique historic building accessible challenges all involved, not least because professional responsibilities may appear to be in conflict. However, our experience with Kew Palace shows that with careful research and creative thinking, solutions can be found that are satisfactory to all involved.

At Kew Palace there was evidence of an original adjoining structure, long since pulled down, the footprint of which 'allowed' a location for a lift. While this is perhaps unique to Kew, there are other instances of installing lifts in historic buildings. The 'spare' tower at Blickling Hall in Norfolk and the much-altered staircase at Queen's House in Greenwich, are both examples where a lift was installed. At Rennie Mackintosh's house at Deragate in Northampton an adjoining property allowed an access lift to be constructed. Each of these presented an opportunity for providing a significant access improvement to a listed building without compromising heritage concerns.

Other similar factors also played a part. At Kew Palace a major overhaul was necessary for its new role as a museum and this in turn generated pressure for a comprehensive package of access improvements. This was the case at Blickling, at Greenwich and at Deragate. In all cases, the clients were highly committed to improving physical access and the architects were committed and ingenious in achieving the clients' aims.

Timing is also a factor. It is a decade since EH first published its benchmark document *Easy Access to Historic Buildings*, revised in 2004. It is also a decade since the Disability Discrimination Act 1995 (DDA) became law, putting pressure on those responsible for historic buildings to create access improvements, effectively sustaining the life of these buildings.

### The scope

Kew Palace had all the typical barriers to physical access, but our role as access consultants was not in this case to develop solutions, since these were largely devised by others. It was instead to check their feasibility in terms of acceptable standards.