INTRODUCTION

This consultation event has been planned by King’s College to share its proposals for the redevelopment of the Croft Gardens site and to hear comments on these from the local and wider community.

The proposals describe new buildings and gardens that provide a home for the College’s graduates, fellows and their families.

A previous planning application for the development of this site was made by King’s College in 2015 for a scheme that included graduate accommodation and private residences. These new proposals represent a significant change to the previous scheme as follows:

• Buildings with pitched roofs and gabled frontages, creating a central garden which emulates and improves on the existing Croft Gardens buildings;
• Retention and re-use of No 27 Barton Road, and retention of the nursery;
• Long views into the site between new buildings that blend with the scale of the Barton Road frontages.

We hope very much that you like these proposals and recognise the positive contribution we believe they will make to the Conservation Area.

We are keen to hear your feedback, so please either:

• Write your comments on a form and place it in the comments box
• Visit our project website at www.kings.cam.ac.uk/news/2018/croftgardens

SITE AND EXISTING BUILDINGS

The site formed part of the curtilage of Croft Lodge, a substantial nineteenth century house surrounded by pleasure gardens and trees including an orchard on the site of what are now Croft Gardens. No 27 Barton Road appears to have been built between 1830 and 1889 in the Tudor Gothic style and retains some historic integrity in its north elevation addressing Barton Road. The three villas of Croft Gardens arranged around a central garden were constructed in the 1930s to a design by architect D. C. Wadhwa for a London based developer who constructed a number of similar schemes in the south of England. To the rear of the site, in addition to the single storey garage blocks associated with Croft Gardens, is a barn dating from the mid twentieth century, formerly the White Horse Riding School.

HERITAGE

The site of the proposed development lies within the West Cambridge Conservation Area – a large area which developed after the enclosure of the Western Fields in 1804. The major expansion took place in the later C19 and early C20 when the area became popular as the site of impressive family homes for ‘Dons’ (who after 1882 could marry without losing their fellowship) and wealthy local business people.

The site was originally the gardens of Croft Lodge, one of the few houses evident on Baker’s Map of 1830, but which was demolished in 1904. The majority of the gardens were auctioned off in the 1930s and in 1935 the Croft Gardens development of three blocks each with four flats and two blocks each of four lock-up garages was erected by Durham Moon Estates of London. King’s College acquired the properties in 1945.

Below, city aerial
Right, local aerial
(Copyright Google)
INTRODUCTION

The removal or retention of buildings on this site has been carefully considered by the College to ensure a sensible balance is struck between conservation and renewal of the site assets for the benefit of the College and community.

No 27 BARTON ROAD

No 27 Barton Road will be retained; it will be refurbished and extended for college and community use, containing functions such as a common room, function room and small library. As well as retaining the building, we have sought to create views of this building from the road, and a new setting to enhance it.

CROFT GARDENS BUILDINGS

The existing three Croft Gardens buildings are designated Buildings of Local Interest but have no listed status. Detailed investigations have shown that they are not particularly good examples of their type, they are in poor condition externally and internally, and they fall short of current standards for dwelling.

A significant investigation has been undertaken to assess the case for demolition of these buildings against a case for their retention and refurbishment. This work covers issues of heritage, structure, architecture and sustainability, and is summarised as follows:

Heritage

The buildings’ design is a typical example of 1930s suburban speculative development. Here, this is characterised by their fabric (white render and green pan tile), its limited architectural detailing, and its composition around a central shared landscape. In terms of the character and appearance of the Conservation Area the buildings act as a local landmark contributing to the variety of built form along Barton Road. Whether it is sensible or feasible to refurbish these buildings depends on whether the ‘restored’ buildings retain sufficient heritage significance; whether the restored buildings promise a sufficient long life; and whether the cost and outcome of restoring these buildings brings meaningful returns in functional and heritage value.

Structure and Fabric

The buildings have long-term and on-going subsidence due to their inadequate foundations, which have resulted in significant cracking externally and internally. Re-use of the structures would require underpinning of all external walls and all internal loadbearing walls; this in turn would require the removal of the ground floor and internal partitions. Re-use would also require the replacement of all visible fabric (roof tiles, render, windows etc); the ‘restored’ building would in fact have no visible original fabric and be essentially reproduced.

Architecture

As places to live these buildings are flawed. Due to their raised ground floor levels, none of the apartments are accessible to wheelchair users, and the implementation of access ramps, though an undesirable solution in any event would also clutter the external character of the buildings. Internally the apartment layouts are inaccessible, with undersized bathrooms, WCs and kitchens; rectification of this would require wholesale remodelling of the interiors. The living spaces are very narrow and deep, and some of these only have north facing windows. The ceilings are much lower than contemporary standards and necessary acoustic improvements to floors between upper and lower units would reduce this height further. Externally, though the central landscape has some peripheral quality when viewed from the street, it is in fact a gloomy and claustrophobic space when thought of as a shared garden for families.

Sustainability

The buildings’ environmental performance is very poor. To comply with Building Regulations the buildings would need to be over-clad with an insulated render system (internal linings would result in a reduction of apartment sizes, and bring a risk of degradation of building fabric). The resulting performance would be significantly below that proposed in the replacement buildings. In terms of ‘whole-life’ sustainability, the refurbished buildings would have a much shorter life than the proposed development, and the suburban site would be providing far fewer dwellings than it reasonably should.

Conclusion

The outcome of this investigation is:

- The contribution that the building makes as a ‘landmark’ would, following restoration, essentially be made by a modern replica building. This contribution could be made as well or better by sensitively designed and fit-for-purpose new buildings and landscapes.
- The existing villas are not good places for families to live. Higher quality, more enduring, sustainable and accessible dwellings could be created on this site to complement the character of the local area and provide an excellent place to live, work and play.
King's College proposes the creation of a new College community for graduates, fellows, and their families that is designed to complement and integrate with the Newnham community. The proposals comprise:

- 24 apartments for College families
- 60 graduate rooms
- Communal college facilities
- A variety of shared gardens

**ACCOMMODATION**

The principles that have guided the design of these are:

- High quality landscape and building design
- An environmental exemplar designed to the rigorous Passivhaus standard
- A set-piece configuration of buildings that shape intriguing and varied landscapes
- Buildings that are responsive to their setting in height, form and character
- Building design that is responsive to shading and overlooking of adjacent residences
- Buildings that allow enhanced views into the site and beyond

This project has been designed with much consideration given to comments made on previous development application for this site, and the following design principles shaped to respond to these.

The new proposals illustrate a set piece of buildings around a generous landscape which both emulate and improve on the existing buildings. A new villa, No 27A Barton Road is designed to be a part of this family whilst directly responding to No 29 and 31.

The buildings are given pitched roofs, articulated by dormers, with accommodation in the loft areas – these roofs have been kept as low as possible, and are graded between No's 19 and 21 and No's 29 and 31 Barton Road. Similarly the set-back of the new buildings from the road strikes a mid-line between its neighbours.

Long views into and over the site have been maximised – and this includes a view to the original No 27 building which has been repurposed to offer new function rooms to both the college and wider community. Vehicular access is discreet, and the number of cars has been kept to a minimum via control over car use by the College.

The adjacent diagrams describe the key design moves that have shaped the proposals.
LANDSCAPE STRATEGIES

The adjacent diagrams describe the following landscape design strategies:

Movement and Access
- The existing entrances on Barton Road will provide access to the eastern and western car parks.
- The paved terrace area to the north of the graduate building will allow for emergency vehicular access only around the site.
- Pedestrian paths will connect entrances and provide routes around the gardens.
- There will be level access to all buildings; the site is relatively flat with no need for steps or ramps.

Trees and planting
- Specimen trees will be located throughout the site creating focal points and framing vistas.
- Informal woodland planting to the south of the site will augment the existing character, and will include large ‘forest’ trees, smaller ornamental trees and woodland shrubs, bulbs and groundcovers.
- Species that are tolerant of flooding will be utilised in the ‘rain gardens’ - planted beds designed to help manage all rainwater on site.
- Hedging will add structure and enclosure whilst some clipped topiary will make reference to the existing yew cones.
- Plants will be selected for colour, form, scent, wildlife value and seasonal interest.

Hard landscape
- A simple palette of materials has been selected to complement the buildings, whilst helping to define the character of the external spaces.
- The material choice reflects the uses of the spaces and will include natural stone paving, permeable bound gravel and brick paving.
- All materials will be porous as part of the sustainable drainage and tree protection strategies.

Parking, bicycles and storage
- 12 parking bays (4 disabled) are proposed to the east and west of the site.
- A generous provision of enclosed cycle parking and external visitor cycle parking will be distributed around the site.
- Bin stores and garden storage will be conveniently located for access from all buildings.

CHARACTER AREAS

A strong landscape structure and a palette of robust yet elegant materials will be used to create a sense of place for the site, and the various spaces will cater for a range of activities. The landscape treatment responds to the architecture of the buildings, as well as the existing landscape character of the site.

- A semi-formal green frontage will be maintained along Barton Road, with a hedge along the street and a vista deep into the site framed by trees and clipped evergreens.
- A central communal green space will be crossed by paths following desire lines, with a generous lawn for informal recreation and play, as well as a terraced grass amphitheatre for events. This central space will also function as a SUDS attenuation element with additional ‘rain gardens’ to the perimeters of the central blocks.
- Between 27 and 27A Barton Road a formal ‘garden room’ will be created, with seating niches divided by yew hedges, and mixed herbaceous planting around a formal lawn.
- To the south of the common room in No 27, a raised vegetable garden and paved terrace will be included as part of the social hub, with a summerhouse behind.
- Two parking courts to east and west will be treated as ‘shared spaces’ for parking bicycles and cars, enclosed by planting.
The new buildings are being designed to the Passivhaus standard, a low energy, high thermal comfort design standard, calculation tool, and quality control system. Passivhaus buildings generally use around 1/3 the energy of a building regulations compliant building.

While Passivhaus is excellent at the aspects it addresses, it does not cover the entire range of sustainability topics. To complement it, other aspects of sustainability are being targeted and monitored by a sustainability matrix. This includes health and wellbeing, landscape and nature, water, materials and waste, community and neighbourhood, and construction impacts. Some of these measures that are targeted are outlined below:

- The carbon intensity of grid electricity is falling, and is projected to continue dropping, lower than natural gas. The buildings are designed to use electricity as their sole energy source.
- The Passivhaus design includes excellent insulation and airtightness, high performance triple glazed windows, and mechanical ventilation with heat recovery. These combine to provide buildings that are warm and well ventilated in winter, and comfortable in summer.
- Where acoustic conditions allow, natural ventilation will be used to provide summer comfort.
- The buildings are designed for longevity, with a target design life of 100 years. Consideration of this includes design for future climate change, anticipated storm intensities, and lifespan of structure and finishes.
- The landscape has been designed to engender a sense of place and community, rather than creating a closed site.
- Generous cycle parking, and electric car charging, are provided to encourage sustainable transport.
- A sustainable drainage system (SuDS) will be integrated into the landscaping proposals and will use infiltration and rainwater harvesting systems to enable disconnection from the Anglian Water surface water sewerage system.

Environmental Strategies

In conclusion the project responds to local issues, creating truly sustainable, enjoyable and durable buildings and landscape. Of equal importance it addresses broader considerations, using small amounts of low carbon energy to minimise environmental impact.
College family apartment crescents

The pair of crescents, whose gables front Barton Road, are home to 24 apartments for Fellows and their families. There are 12 two bedroom and 12 one bedroom apartments, all designed to exceed London Housing Design Standards dwelling sizes. These space standards allow for wheelchair manoeuvring.

Eight of the apartments have level access. In terms of stair access, the apartments are grouped into clusters of six, sharing a front door, and a feature stair below which is a pram store. The two bedroom apartments are designed with equal sized generous bedrooms, as opposed to a major/minor arrangement. This ensures they can be used for fellows sharing an apartment or for families of up to four people. The "loft" apartments set within the roof void are nominally smaller in footprint, though are given spaciousness by their higher loft ceilings.

Graduate crescent

The single crescent that fronts the open court, facing back to Barton Road, is home to 48 graduate rooms. The building works as two halves, with two entrances. Each entrance serves three groups of eight rooms which are each given a generous common room and kitchen. In each group there is a larger accessible room. All rooms have lift access, and an accessible WC is provided for visitors in both entrance halls.

Graduate villa

The single villa on Barton Road is home to 12 graduate rooms. This building works as three floors with smaller groups of four graduate rooms on each floor, again served by a common room and kitchen. The common room is given a bay window onto Barton Road, helping to activate the streetscape.

No 27 and its extension pavilion

The project is a fantastic opportunity to repurpose and redisplay this existing villa. It is an intriguing building with a formal frontage and quirky sides and back. The existing ground floor is elevated, accessed via decorative external steps. The proposals look to restore the existing building, and retain as many of its valued features as possible. It will become a shared building for graduates, fellows, and their families, and also be available for community functions.

It will provide a common room with vending, a function room, small library and launderette. A pavilion conservatory is proposed to the rear, taking advantage of a south-facing aspect. This extension also allows level external access and internal lift access to the original building spaces.
In their form and scale the proposed buildings and the spaces in between have been designed to be sensitive and appropriate to the Conservation Area and Barton Road streetscape. These are pitched roof buildings, with materials and details that reflect their place, and though clearly of their time, also reference to the local and wider heritage.

The buildings have been kept as low as possible by occupying the roof volume for accommodation; their perceived height is diminished by a careful balance of wall to roof. The crescents’ eave height is set to a datum that corresponds with No’s 19 and 21 Barton Road, whilst the height of the new villa, No 27A, is intentionally slightly taller to sit comfortably alongside No’s 29 and 31. The outcome of these moves is a carefully blended transition in height along Barton Road.

Deeper into the site the new buildings are given appropriate distance from the boundary to minimise over-shading or over-lookling.

We have given equal care to width as height, to ensure an appropriate amount of space between the buildings. On the Barton Road frontage, the new crescents are further from No.21 than the original existing buildings are currently, and are designed in plan to give a narrow gable elevation echoing the widths of No.19 and 21. The new villa, No.27A, has been given a similarly broad and tall stature to its neighbours, No’s 29 and 31, and a similar gap between. The result is a sense of appropriate density and spaciousness to the site and frontages, which is enhanced by the way the crescents splay to reveal expansive gardens within.
Our aim has been to design a group of buildings that feel part of a whole, whilst having their own distinct characters. In terms of character there are three building types:

- The residences in handmade brick and plain tiles
- The extension to No 27 Barton Road in engineered oak, with a planted roof
- The outbuildings in green oak, with green pan tile roofs

The three crescents and the new villa are designed to create calm and elegant backdrops to the varied and abundant landscape settings. They will be made from handmade brick and lime mortar, materials that speak of an enduring quality and that can be used to create the smooth curved sweep of the crescent walls.

**Verticality**

These are three storey buildings with the uppermost storey held within the roof form. Hence we have introduced dormers which instantly define the character of the buildings. The dormers are in-line with the wall, framed by brick; this castellated façade prompts the introduction of a rhythm of fine crafted rainwater hoppers and pipes in copper. The resulting verticality, redolent of college courts such as St John’s, is a starting point for the building character.

**Horizontality**

We are intrigued by the opportunities for crafted detailing in brick and tile, and are keen to introduce some horizontal grain to the buildings, reminding us of the playful work of de Klerk in Amsterdam. This will help emphasise the gentle curves of the crescent walls.

**Texture and grain**

These two themes of the vertical and horizontal result in a woven façade; the verticals are marked by windows and lime mortared tile laid within the brick courses; the horizontals are expressed via a ‘corduroy’ ribbed brick coursing. The convex and concave crescent facades are given embossed and debossed ribs respectively suggesting compression or tension in the masonry. As well as creating a playful wall material, tile will also be used to create handsome solutions to ventilation louver requirements.

**Wood**

Window bays and reveals are made from long-lasting heat-treated wood. This may be ash, chestnut or sycamore, all of which will be darker in tone due to the heat treatment. Window reveals, which are deeper than usual due to wall insulation thickness, are lined with wood and copper sills. The wood lining to the windows allows the windows to be off-set within their wall openings to achieve better orientation and shading. Wood is also being used to frame the projecting bays ensuring fine framing and optimum light and views.

**Brick**

The three crescents are made from Gault clay brick and the villa of red brick. Care will be taken to select the specific supplier and make of the bricks so that they resonate with their local and wider city context.

**Garden Buildings**

Our intention is to give the extension pavilion and outbuildings their own distinct character that blends with the landscape, and creates unity across the site. The use of wood in these buildings forms a material connection to the residential crescents and villa. However, here the wood is more primary and structural, whether crisp hardwood post and fins to the pavilion, or green-oak post and screen to the outbuildings. All the garden buildings have green roofs: either re-used green pan tile to the outbuildings or an actual living green roof to the pavilion.
Materials and Character

Clockwise:
View along mews towards No 27
View east along Barton Road
View from graduate crescent towards No 27