

Barton Engineers

Heritage Statement

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Providence Corner
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Introduction

This document has been prepared as part of the Listed Building Consent application for the installation of structural strengthening to the existing first floor structure of Providence Corner in Hampstead. Design documents will be submitted as part of this application and a schedule of these can be found in Appendix A.

Barton Engineers have been employed by the owner to assess the existing structure, propose a remedial detail, and assess the impact that the intervention will have on the heritage significance of the specific location and wider environment of the building.

The property is a semi-detached cottage originally built in the 18th century on a sloping site in the grounds of Cannon Hall. It has been altered intermittently over the subsequent centuries and today serves as a family home for its current owner.

This report has been prepared and written by:

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Historical Background

Outline of Building History

Whilst Roman remains were found in excavations at Well Walk in 1774, the village of Hampstead can trace its existence back to the tenth century AD with the site being described as Hamestede in the Domesday Book, meaning “homestead”. It apparently remained an unremarkable hamlet in the environs of London until the 16th Century when it benefited from a boom in the market for medicinal waters. Well Road, Flask Walk, and Well Walk all take their names from this practice, a “Chalybeate Spring” feeding a facility on Well Walk.

The property sits at the intersection of Well Road and Christchurch Road on an enclosure dedicated to Cannon Hall, which is a large house to the north, occupied by a succession of notables since its construction in around 1720. Maps from 1815 show the hall along with buildings where Providence Corner is located.

History of Ownership and Use

The properties of Providence Corner and Cannon Cottage were likely built as part of the Cannon Hall estate, and for much of their existence they were a single property, called Holly Hedge Cottage. However, once this was subdivided that name continues to appear and it has proved difficult to say for certain which property is being referred to.

An 1855 record of the birth of a daughter shows Louis Butcher in residence. In 1870 the property was occupied by George Gushlow, who was a japanner and bronze worker based in Newman Street in Westminster. His trade was one of many Georgian and Victorian crafts to produce highly ornate products for the middle classes, such as vases and plates, snuff boxes and fabrics, often in an oriental style (hence japanner). During the family’s occupancy the property was divided, at some point between 1870 and 1895 according to Ordnance maps of the period. The family subsequently took on Holly Hedge Cottage, now known as Cannon Cottage.

During the first century of the 20th century a number of adverts for the property and servants were placed by a Mrs Russell, though further details of residents are unknown. The death notice of Maria Skeel, a Headmistress for both Nottingham Girl’s School and Paddington and Maida Vale High School, lists Holly Hedge Cottage as a former residence, as does the notice for Elizabeth Collins. That property was used as a meeting place for the Women’s Freedom League in 1909, with a talk conducted by Alison Neilans, the financial secretary of the league, which was set up as a splinter group of Pankhurst’s WSPU, opposed to that

organisation’s internal governance issues and arson campaigns.

Subsequent to this the next references to Providence Corner are made in relation to Daphne Du Maurier. Cannon Hall was her childhood home, and it appears that during her father’s life Providence Corner was retained as part of the estate. Upon her marriage to Frederick Browning in 1932 (who was to become the first commanding officer of the parachute regiment, some years later) they looked to establish a London residence: “never slow to ask her parents for favours”, writes Margaret Forster in her biography of the author, “in spite of her desire to be independent, Daphne had suggested they let her have one of the two cottages at the foot of the Cannon Hall garden – ‘we would love one of the little Providence Corner cottages, if not all knocked into one’ – and this had duly been given to her as a wedding present.” Newspaper cuttings show this remained her address beyond 1939, and in 1946 the Sphere asserts that her mother was in permanent residence.

History of Building Alterations

Newspaper records show that in 1841 the property was advertised to let as a detached property benefiting from “six bedchambers and light closets, water closet, three sitting rooms, kitchen, and domestic offices; coach-house, two-stall stable, with loft and room over; excellent water, and pretty pleasure garden”. The next indication of the property’s situation comes in 1904, where it is again advertised to rent. This time it is “an attractive, old-fashioned, semi-detached COTTAGE to LET, from October to April; nice garden, close to Heath, in quiet road; three bed-rooms, three sitting-rooms, two kitchens, no bath-room, greenhouse; would suit two people without children; new drainage; electric light; terms 4 ½ s. a week; one or both servants left as a condition.” Between these two adverts the property had been subdivided, and whilst the former is a significant property with everything a Victorian family could aspire to, the later shows a much smaller home despite the two servants to be included in the rent by the property’s long term tenant. Whether Du Maurier did indeed re-join the two houses in 1932 is unclear, but map records appear to show two distinct houses throughout this period, Providence Corner and Cannon Cottage. In 1953 a transfer of titles references two properties and their common drainage system.

Our client has owned Providence Corner since 1991, and there is evidence of changes prior to this including the erection of an en-suite bathroom at the first floor rear in 1970. Whereas the original elevation to the rear would have included a projecting bay to what is now the master bedroom, this has been filled in on the east side by the extension of Cannon Cottage, and on the west by the en-suite, leaving a French door and balcony to the middle.

The Existing Building

General Appraisal

Providence Corner is a semi-detached property set back from Well Road, with a wooded front garden and driveway. The main building consists of a two storey high block in brown bricks with a parapet wall, six sash windows to the front elevation with red brick gauged arch lintels. A mansard above provides a third storey within the roof space. To the left a single height extension creates an entrance lobby and kitchen to the rear, and two windows are located on the east wall at first floor level.

A further extension to the rear projects beyond the block's main façade and provides a garden room at ground level and an en-suite to the master bedroom above. To the left a timber door with side lights allows access at ground level, whilst French windows give on to a concrete framed balcony above with rose motif iron railings. Beyond the property to the north the garden is terraced and rises steeply to the north wall. The interface with Cannon Cottage to the west is complicated by their original condition as one single property, but Cannon Cottage's rear extension creates a 45 degree angle with the rear of Providence Corner creating a square interior due to the retention of the bay wall as the party boundary.

Project Area – Rooms to the Rear

At ground floor the rear rooms of the property consist of a dining room with built in cupboards recessed against the party wall, which then gives on to a small angled wall that connects this recess to the external rear wall. A radiator with a joinery enclosure sits on this elevation. On the other side an opening leads to a garden room with extensive timber-framed windows on the west and north sides, with brick piers in the rear façade and weatherboard cladding infills.

Accessed via a staircase and corridor in the south-west corner of the building, the master bedroom is a large, high ceilinged room with a sash windows and sidelights to the west elevation, and timber framed French windows to the north giving on to a small balcony in concrete, described previously. Above the garden room an en-suite with shower has been built. A dado rail runs around the external walls, and a recess in the party wall is obscured by a built-in wardrobe.

Windows in this room retain some form of internal shutters, whilst the French doors have operable shutters with associated ironwork, the sash window shutters appear to have been fixed back and filled previously, leading to the appearance of a decorative detail.

First Floor Structure

During our investigations the first floor finishes and floor boards were raised in the rear bedroom area, between the ends of the two diagonal walls forming the original bay. This revealed a structural frame in pine timbers of considerable age with mortice and tenon joints. A timber dating expert was engaged to provide a date for this structure, and based on features such as machine saw marks, diminished haunch joint joints, and import marks, they were able to conclude that the oldest timbers present were consistent with the early 18th century. They can therefore be assumed to be part of the original structure. These timbers have been much altered over the years with notches cut for plumbing, electrics, and other purposes.

The ceiling below has been replaced in recent years, using a traditional method of lathe and lime plaster. The first floor finish level exhibits a significant sag to the center of the bedroom.

Significance Assessment

Methodology

The National Gallery is designated as Grade 1 listed, first listed in 1970.

This heritage statement addresses the requirements of the Revised National Planning Policy Framework (NPPF 2018), Paragraph 189. Specifically, NPPF 2018 requires that:

In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.

Significance for heritage policy is defined within the National Planning Policy Framework (NPPF 2018) Glossary as:

The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its significance.

In addition, the Historic England guide, Conservation Principles and Practice, assesses heritage assets in terms of four areas of value:

Evidential Value – derives from the potential of a place to yield evidence about past human activity.

Historic Value – derives from the ways in which past people, events and aspects of life can be connected through a place to the present.

Aesthetic Value – derives from the ways in which people draw sensory and intellectual stimulation from place.

Communal Value – derives from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.

As well as assessing significance, it is also useful to assess the level of significance. This helps to justify a flexible approach to the treatment of place; the greater the significance, the greater the need for careful decision

making. The corollary is also valid; the lesser the significance, the freer may be its treatment, always provided that aspects of greater significance remain undamaged. The hierarchy of significance levels chosen for this building assessment contains five levels;

★★★★	Exceptional Significance
★★★	Considerable Significance
★★	Some Significance
★	Little Significance
■	Intrusive

The assessment of significance level is made on the basis of an independent evaluation of the element in question, tempered by a consideration of the degree to which the element tends to reinforce or reduce the significance of the whole. Some items are visually intrusive and damaging to the character and quality of a space or element and are therefore identified in the schedule of significance as "intrusive".

General Statement of Significance

Within the village of Hampstead, Providence Corner and Cannon Cottage are certainly amongst some of the older buildings still present. However, they date from a period of significant growth in the area and are not remarkable in their antiquity, construction or situation. Their relationship with Cannon Hall has been undermined by the construction of a number of later properties on the original enclosure, and they now sit in a group along Christchurch Road, leading north to Cannon Place.

Whilst a local plaque states that Daphne Du Maurier lived at Cannon Cottage between 1932 and 1934, she and her family had a much longer connection to both Cannon Hall and "The Providence Cottages", and she may or may not have altered them to join the two properties together again. Alterations through the 20th century mean that whilst some significant features remain, Providence Corner is far from an intact example of an 18th house. Instead, it creates a very positive impact on the wider area, reinforcing the village origins of modern Hampstead with its set back position from the road, boundary wall, and wooded garden. It also holds significant value as a former home of an internationally acclaimed author and celebrity, and her husband who played a pivotal role in the modernisation of the British Army during the inter-war period and the second world war.

Schedule of Significance					
Element	Location	Age	Description	Significance	Comments
Brick external walls	External	1720, with some 1970s	Brown bricks in Flemish bond	★★★	Generally in a good state of repair, some damp and missing pointing to rear, around French windows
Weatherboarding	External – extension	1970s	Vertical lapped softwood coated in stain	■	Below garden room windows and to side return below balcony
Casement windows	External – extension	1970s	Custom casement windows, horizontal panes above with vertical below, timber painted white	★	
Brick piers	External – extension	1970s	Piers are one brick across to head of window, finished with small capitals and lead flashing below lintel	★	
Garden Door	External	1970s	Half glazed, with half glazed side lights also, timber, painted white	★	
Reinforced concrete balcony and lintel over door	External	1970s	Thin concrete slab with rough chipped soffit supported by 3No. moulded beams below, all painted white, fixed back into reinforced concrete lintel	★★	
Balcony railing	External	1970s? possibly earlier	Cast iron railings with rose motif	★★	
Security fixing	External	Modern		■	
Ogee guttering and downpipes	External	Generally pre-20 th century	Downpipes in cast iron, guttering assumed to be the same	★★	
Interior plaster finishes	Internal – Throughout	Unknown	Plain finish, plaster over lathe ceilings, unknown wall construction, painted white	★★	
Radiators	Internal – Throughout	20 th century	Cast iron, mid century design, painted white	■	Obscured in dining room with joinery box
Built in cupboard	Dining Room	Modern		★	Some evidence of existing shelving visible to returns
French windows	Bedroom	Possibly pre-20 th century	1 ½ pane wide glazed doors with timber frames with top light over	★★★	
Shutters to French windows	Bedroom	Possibly pre-20 th century	Folding interior shutters with sash locks, of unknown material	★★★	

Schedule of Significance					
Element	Location	Age	Description	Significance	Comments
Built in wardrobe	Bedroom	20 th Century		★	
Joinery work to walls and doorways	Bedroom	Unknown	Moulded copings, architraves, and dado rails	★★	
Floor Boards	Bedroom	Unknown – pre-20 th century	Boards in pine or other softwood, fair condition	★★	
Primary beams	Bedroom	1720	Beam in pine, spanning between diagonal walls, mid span intersects beam from internal wall	★★★	Top notched at locations to accommodate heating pipes
Secondary beams	Bedroom	1720	Joists in pine, morticed into primary	★★★	

Structural Survey and Assessment

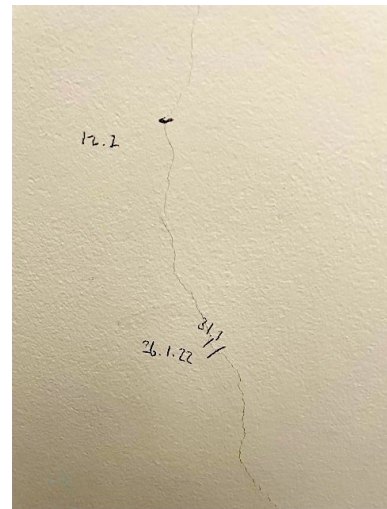
We have been commissioned by the owner of the property to carry out a structural survey and assessment of the condition of the existing first floor structure, which has exhibited long term problems and that are clearly ongoing. The ceiling below has previously suffered collapse and has required extensive repair on three occasions over the last ten years. It has now exhibited further cracking and deformations.

The owner has provided us with a chronology of events since they bought the property in 1991:

- June 2010: Existing cracks within the ceiling of the ground floor rear room (dining room) become significantly worse. Owner engages Conisbee to carry out structural survey and who advise temporary propping of ceiling.
- October 2010 to March 2011: New lath and lime plaster ceiling installed by Thackray Ltd and approved by Hannah Walker of LBCamden.
- October 2011: Further cracking observed within ceiling.
- May 2012: Ceiling contractors return and repair new cracking.
- October 2013: Further cracking appears and further advice sought from Conisbee.
- June 2014: Inspection carried out by Conisbee and Thackray Ltd.
- October 2014: Further repairs and ceiling conservation works carried out by Stevensons of Norwich Ltd.
- May 2019: Further cracking observed and Conisbee make further inspection, who suggest strengthening works using plywood glued and screwed to top of existing timber beam across bay window. Works not carried out.
- June 2021: Owner contacts Barton Engineers. After further survey and assessment work Barton Engineers conclude problem being caused by ongoing creep deformations in overstressed primary floor beam.
- January 2022: Barton Engineers request LB Camden agreement to install steel plates screwed to timber beam strengthening works. LB Camden confirm their

requirement for Listed Building Consent application to be made for the strengthening works.

- January and February 2022: Further measured crack progression occurs (see image).



Our investigations have comprised opening up the first floor from above, carrying out structural and timber dating surveys, and also level surveys of the timber structure within the floor. We have then subsequently carried out structural design checks on the timber elements. We summarise the conclusions of these surveys as follows:

- The timber dating survey, carried out by Dr Andrew Moir at Tree Ring Services, has confirmed that the first floor structure was built during the early 18th Century, and is of imported pine, probably from the Baltic. This conclusion agrees with the building construction dates as set out within the Listing Statement.
- The floor structure of the rear part of the first floor comprises two primary beams that support a series of floor joists, and all timber to timber junctions are made using mortice and tenon joints, secured by timber pegs from above. This document includes photographs taken during our survey.
- The condition of the timber structure is generally reasonable, although the primary beam spanning across the rear bay is of relatively small section size for its span, and has also suffered a significant number of historic notches cut into the top surface, as well as having original mortices cut into both sides. This beam has a measured sagging deformation of 72 millimetres at its mid span point under only dead loading. Given that the span is 3.3 metres this deformation represents a Span/45 deformation ratio, which is far in excess of any sensible limit for structural timber floors (current design maximum limit recommended within BS EN

1991-1-1:2004 is Span/250 under full imposed and dead loading).

- The calculated stress levels within the primary beam are very high, as are the calculated deflections which are consistent with those surveyed. The timber is likely to be a European Whitewood species, such as *Picea Abies*, and its engineering properties will depend how it was grown. Given the age of the building it is reasonable to assume that the timber will be equivalent to contemporary grade C27, as defined by BS EN 338: 2016 Table 1. Therefore its ultimate bending strength is likely to be around 27.0 N/mm² and Young's Modulus to be 11.0 kN/mm². The calculated actual stress level within the floor beam, allowing accurate dead loading and imposed loading given the existing furniture and nature of occupancy (50% of Building Regulations required minimum), is 22.0 N/mm² without any load factors, which means the beam in question has been operating at over 80% of its ultimate strength. The current design code requires the maximum value of stress to be 14.6 N/mm² including applied load or safety factors, meaning that the beam is currently operating at stress levels more twice those permitted by the Building Regulations.
- When loads are applied to structural timber there will be an instantaneous elastic deformation and, if the load is continuously applied over time, a further visco-elastic deformation referred to as creep will also occur. The amount of creep will depend on the level of stress induced and the duration of loading. Provided stress levels are kept below defined limits the creep deflection effectively ceases after a period of time. However, if very high stresses are maintained then creep deformations will keep increasing and even accelerate during what is known as the Tertiary or Failure phase (see graph below taken from a research paper - Granello and Palermo, 2018). It seems clear that deformations within the beam and ceiling below are ongoing and have been for at least the last twelve years, and that creep deformations have or will enter the Failure phase.

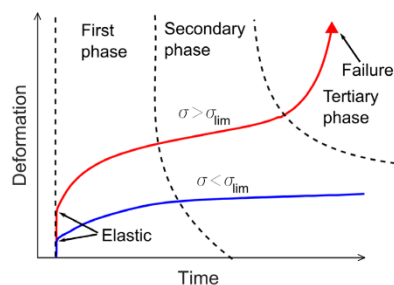


Figure 1: Three phases of creep: 1) primary, 2) secondary and 3) tertiary.

To summarise our conclusions:

- The existing floor beam across the bay is operating at unacceptably high stress levels, and therefore should be considered unsafe.
- Creep deformations are ongoing and very significant, and suggest that the beam could fail completely under the existing applied loading.
- The ceiling fabric is exhibiting ongoing cracking, and further deformations will result in further damage a potential failure of the ceiling fabric.
- Given the above, the existing beam will either need to be replaced or strengthened so as to reduce stress levels and prevent further creep deformation.

Approach to Repairs

Given the above it is our opinion that some form of strengthening is urgently required to this primary timber beam within the first floor. Such strengthening would need to reduce stress levels within the timber significantly so as to prevent further creep deflections occurring. The form of such strengthening works would also need to take account of the heritage significance of the floor structure, given that is part of the original 18th Century construction. It is our opinion that the design of any repairs should take account of the following:

- Be of sufficient strength and stiffness to make the existing structure safe.
- Be reversible, or removable without significant adverse impact on the currently existing structure.
- Not be obtrusive or adversely affect the heritage significance of the existing structure or the spaces above or below the floor.
- Be of sufficient strength and stiffness to prevent further damage to the recently conserved lime plaster ceiling of the room below, which has suffered further significant cracking recently and is likely to fail again if no action is taken urgently.

Using the above principles we have developed a design for strengthening work, and attach our working drawing showing this. We have designed steel plates to be screw fixed to the top surface of this beam. The plates comprise four layers of 4 millimetre thick steel allowing them to be lighter than a single plate, and more easily bowed to fit the curvature of the existing timber beam. They can be simply screwed into the timber, and will act compositely with the timber and so stiffen the beam and reduce timber stresses to relatively low levels. The existing floor boards can then be re-laid over these plates, and with thin furring pieces to support adjacent floor boards.

Listing Statement

Heritage Category: Listed Building

Grade: II

List Entry Number: 1379161

Date first listed: 11-Aug-1950

Statutory Address: PROVIDENCE CORNER AND
CANNON COTTAGE, WELL ROAD

2 semi-detached cottages. Early C18, entrance extensions added 1952. Brown brick with red brick dressings. Slated mansard roofs, Providence Corner with dormer. 2 storeys. 3 windows each. C20 Georgian style doorways with bracketed hoods; panelled doors with overlights. Former doorway of Providence Corner blocked; Cannon Cottage doorway altered to French window. Gauged red brick flat arches to recessed sashes with exposed boxing; Providence Corner ground floor windows with keystones. Parapets. INTERIORS: not inspected. Cannon Cottage was listed on 14/05/74.

Bibliography

A History of the County of Middlesex: Volume 9, Hampstead, Paddington. Originally published by Victoria County History, London, 1989

Daphne Du Maurier; Du Maurier, Daphne and Forster, Margaret; 1994; Cornerstone

Various newspaper articles accessed courtesy of the British Newspaper Archive







Census records accessed courtesy the National Archives

Maps accessed courtesy the National Library of Scotland

Appendix A: Drawings

21053-1.0-P1	
21053-1.1-P1	

Appendix B: Photographs

	
Extract from map circa 1813, cannon hall highlighted in red	Map from 1870, cottages are marked as a single property
	
Map from 1895, cottages have been subdivided	A photo from The Sphere published 1946
	
Overall view of beam area showing	Aerial image from 1921 showing the Duveen room under construction (Historic England)

Appendix C: Design and Access

No design or access changes will be caused by the proposed works to the floor structure.