Proposed Third Floor

No. 23 Denmark Place demolished and replaced with lightweight single storey glass pavilion linking no. 26 and no. 22.



Chapter Two 26 Denmark Street, 23 Denmark Place, 22 Denmark Place and associated basements.

22

Historical Context

Early History of Denmark Street

- · Denmark Street existed since 1680s.
- Hospital of St Giles is 12th Century- then cleared to make way for the street.
- The present church occupies the site of the hospital chapel.

The seventeenth-century houses of Denmark Street

- Denmark Street is remarkable for its rare seventeenth-century houses
- · Includes seven Grade 2 listed buildings
- Very few houses of this age and type survive in central London.
- The houses on Denmark Street have evolved, for example:
 - · timber eaves cornice removed.
 - · dormers inserted.
 - · their front wall extended up as a parapet
 - flush casement windows have been replaced, mostly with sash windows.

Later history of Denmark Street

- During the nineteenth century central London became industrialised.
- Denmark Street developed into a centre of manufacturing with an emphasis on metalwork.
- In the Interwar period it was re-born as a centre of music publishing.
- Post War developed into recording and rehearsal facilities and instrument repair and sales.
- All houses adapted and extended to accommodate these industrial or commercial uses.
- Ground-floor façades have been altered to create showrooms and shopfronts.
- At the rear of the houses, extensions or detached buildings have been erected in the gardens.
- 1. View East along Denmark Street (Current day)
- 2. View West along Denmark Street (1965)
- 3. 26 Denmark Street (1951)





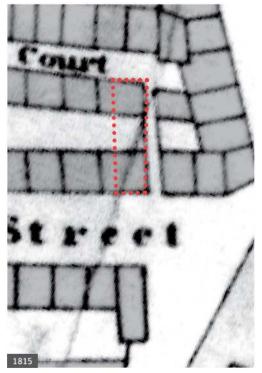


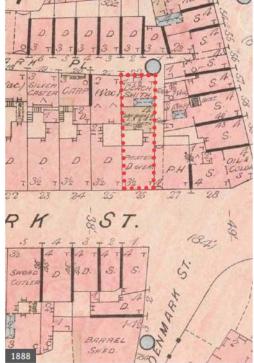
Timeline of site development- parish & goad maps

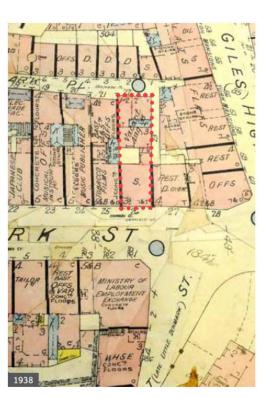
Analysis of archival maps shows that the density of buildings on the site has increased over the last 200 years.

No. 26 Denmark Street was constructed in the 1680's and is one of only eight houses to survive from the construction of the street and was joined in the early nineteenth century by No.22 Denmark Place.

No. 23 Denmark Place has a less illustrious history and evolved from a yard to a timber structure between 1815 and 1888. The current building was constructed in 1908, obscuring the original built form of its more significant neighbours.







Significance drawings

Significance of No. 22 Denmark Place

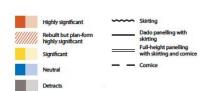
- No. 22 Denmark Place is otherwise known as the Forge or Smithy.
- It appears to be a rare survivor, in the context of central London, of a coach smith's premises
- · It is therefore highly significant.
- The basement vaults have been reconstructed more than once and now lack coherence.
- The basement is therefore less significant than the rest of the building.

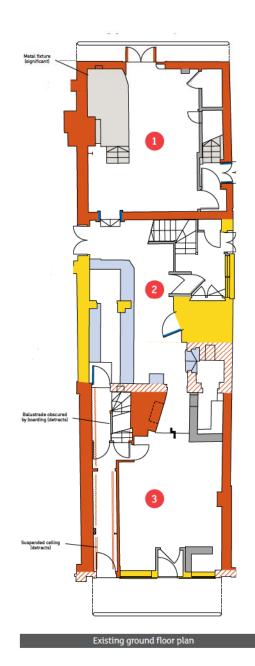
Significance of No. 23 Denmark Place

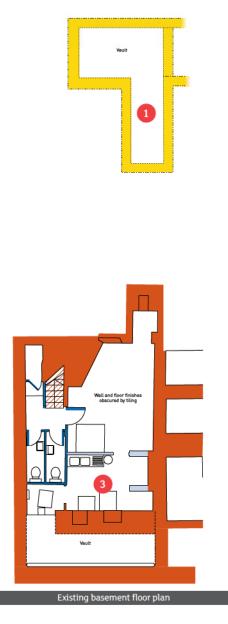
- No. 23 Denmark Place is significant for illustrating the evolution of the site.
- Its architectural interest is modest but has group value.
- · The interiors have been radically altered.
- It neagitivly impacts on the plan form of No. 26 Denmark Street and No.22 Denmark Place

Significance of No. 26 Denmark Street

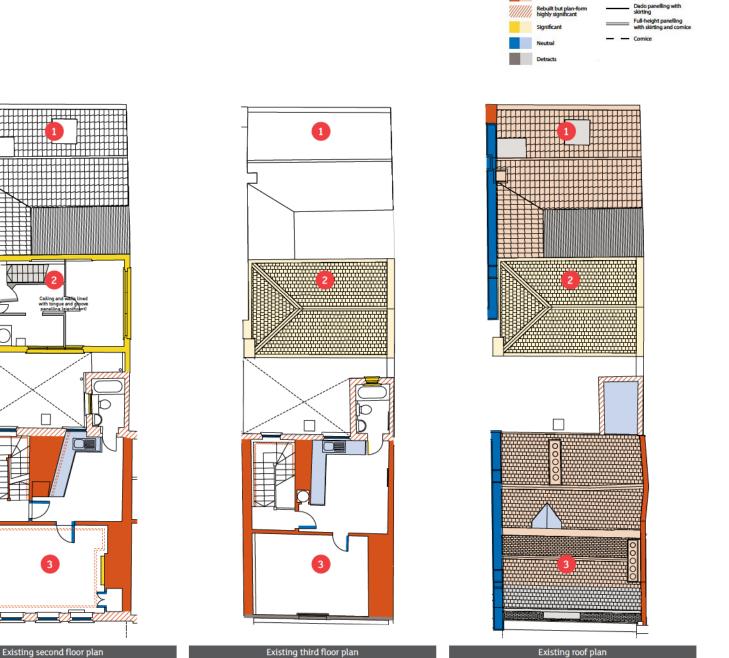
- No. 26 Denmark Street is highly significant as one of the original houses to survive .
- Beyond the staircase, very little historic joinery survives.
- · Original plan-form is largely intact.

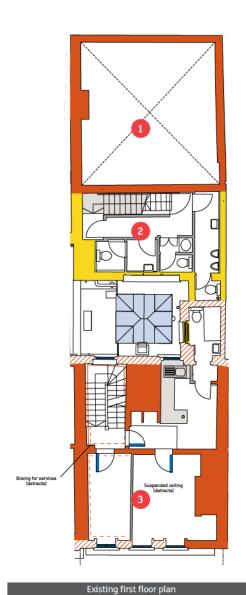


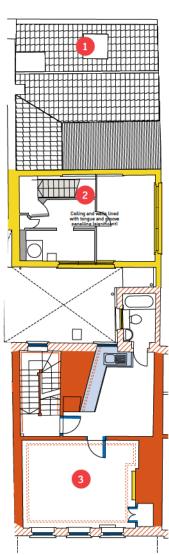




Significance drawings







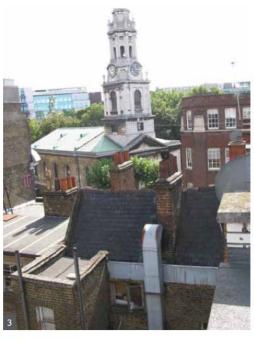
26 Denmark Street

History of construction and alteration

- No. 26 Denmark Street appears to be one of the original houses to survive from the 1680s. The façade differs from the other 1680s houses in its brick type and detailing
- It has crude segmental arches instead of flat heads to the window openings.
- However, the surviving elements of the staircase appear original
- It therefore seems that the façade has been altered or rebuilt.
- The flush casement windows have been inserted since 1951
- Alterations include the removal of the spine wall at basement and ground floor level
- The front wall has been replaced by a timber shop front at ground floor;
- The chimney breast in the front room at ground floor appears to have been removed













- 1. Existing Southern facade to Denmark Street
- 2. Original Staircase to upper floors
- 3. Slate tiled pitched roof and closet wing to rear of No. 26
- 4. Ground floor bar with 20th century fit out
- 5. Second floor rear room with 20th century kitchen
- 6. Basement kitchen space

22 Denmark Place

History of construction and alteration

- · Single-storey building with an irregular roof
- Used during the nineteenth century as a smithy supplying the coach-making trade
- Building's alignment suggests that it postdates the 1680s development of Denmark Street
- The overall form of the building and its large timber roof beams resting on stone corbels suggest a construction date in the eighteenth or nineteenth centuries.
- The surviving hearth and chimney breast have been altered since 1914
- The mezzanine floor and adjoining staircase are likely to have been inserted later in the twentieth century when the Forge became a music venue.
- The roof is deflected and an attempt has been made to prop the sagging purlins
- Steel plates have been fixed to the sides of the purlin to stiffen it
- The basement incorporates brick vaults that show various phases of alteration and now lack coherence
- The crown of the vaults has been rebuilt in contrasting brickwork
- The timber joists over the openings in the vaults appear to be relatively modern

- Tiled roof to No. 22 Denmark Place overclad with roofing felt
- External view to Denmark place with boarded up windows and non original timber and felt tile cladding
- 3. Original pan tiled roof covered in bituminous paint
- 4. Internal view of original blacksmith's fire place.
- Non-original mezzanine structure and timber roof lining











23 Denmark Place

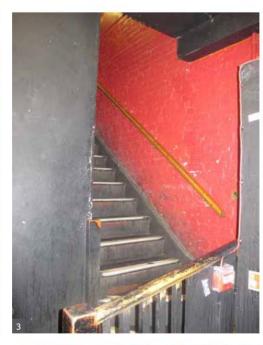
History of construction and alteration

- Three-storey brick building that appears to have been built circa 1900
- The plain elevations with large windows suggest that it was built for an industrial use.
- The ground and first-floor interiors have been radically altered
- Second floor retains tongue-and-groove panelling, possibly original
- The east has been tied back to the floor structure with steel pattress plates at second floor level, suggesting that the floor structures are not adequately tied to the external brickwork.
- Beneath these pattress plates is a steel girder spanning the window opening, presumably in place of a failed brickwork arch.











- 1. View of roof abutment between No. 26 & 23
- 2. Existing Eastern facade to Denmark Place
- 3. Staircase to upper floors
- 4. Norther facade with openings infilled
- 5. Ground floor connection to No. 26

Concept

The proposals are driven by the protect the listed buildings whilst de;livering the consented St. Giles Circus project

01 - Historical Layout

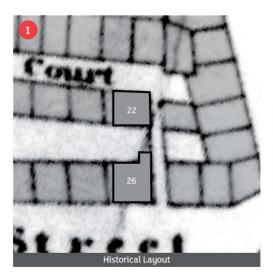
The two most significant buildings, No. 26 Denmark Street and No. 22 Denmark Place were originally unlinked.

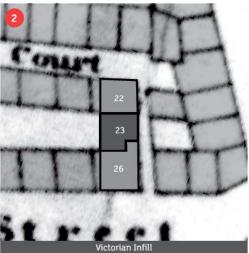
02 - Victorian Infill

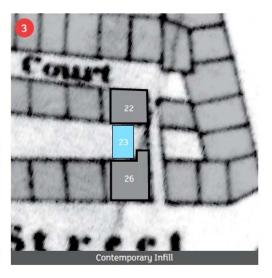
In 1908 an infill building was constructed between these two properties, obscuring the original built forms, crucially the closet wing of No. 26 Denmark Street.

03 - Contemporary Infill

Rather than obscure the two buildings of significance our approach is to try a and replicate as closely as possible the ethos of the historical layout. The proposed contemporary infill is a single storey lightweight glass pavilion that gently sits between No. 26 Denmark Street and No. 22 Denmark Place. This creates a sense of openness and allows the existing buildings to be read in their original forms.



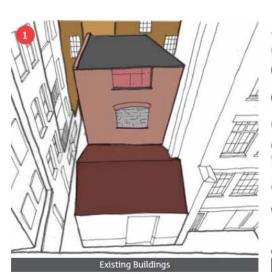




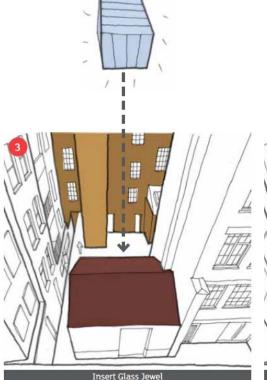
Concept

As outlined previously the 'contemporary infill' approach to the site allows for a greater understanding and appreciation of the significant buildings on site whilst creating a viable bar and music venue that will sustain the music heritage of the site, enhancing the setting and thereby the significance of No. 22 and No. 26.

As illustrated below, No. 23 is demolished, revealing the historic buildings. The new contemporary infill is skilfully and delicately inserted into the restored yard between No. 22 and No. 26. This lightweight 'glass jewel' redefines the character of the significant buildings whilst retaining a pragmatic connection between the buildings and creating a new link to the basement below via a staircase and platform lift. These new basement spaces add additional floor space to the venue and create a practical music venue which will develop and secure the musical heritage of the site.

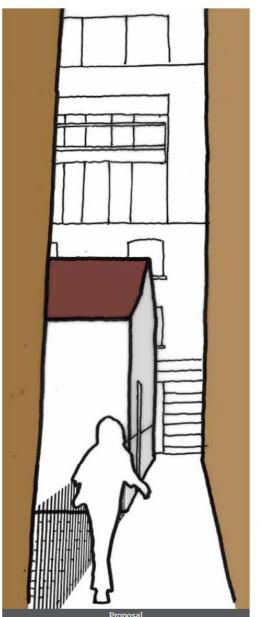














Concept

The character of Denmark Place remains unchanged and it remains unmistakably a traditional alleyway. The sketch views illustrate the new clarity of two separate significant buildings rather than a single wall of brick.

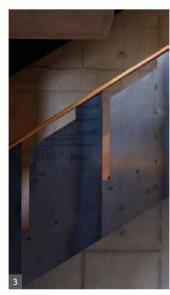
The 'glass jewel' is delicately slotted into the site. It slides behind the closet wing of No. 26 and is separated from the existing buildings by shadow gaps that help to clearly define old and new. Internally the 'external facades' of No. 26 and No. 22 are left exposed, further expressing the plan form of the original buildings.

The plot of No. 23 is defined by the introduction of an architectural metalwork balustrade, referencing the metalworking past of the coach smith's building and matching the scale of its render skirting. The metalwork theme is revisited internally with a feature raw steel staircase and lift. The characteristics described above are illustrated in the adjacent precedents.

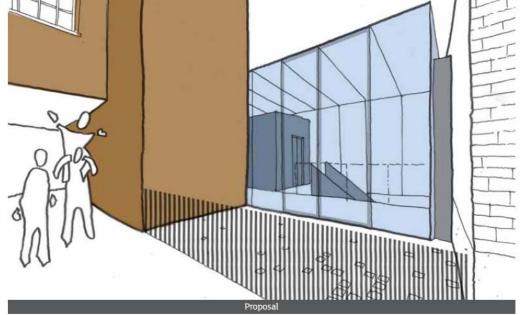
- 1. Government Offices, Castilla y León
- 2. École de Musique Maurice Duruflé, Louviers
- 3. Levring House, London











Process

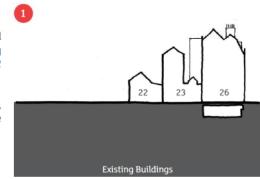
The following illustrated construction sequence will be undertaken in order to safeguard the significant buildings on site and deliver a new viable music venue A detailed methodology of the lift sequence is outlined with additional basement spaces.

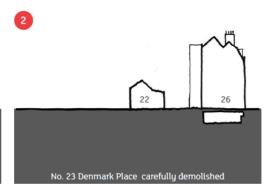
To facilitate the construction of the basement spaces a Denmark Street. raft foundation is installed underneath No. 22 Denmark Street using traditional underpinning techniques. No. 22 Denmark Street is then temporarily relocated to another portion of the site to allow for installation of piles and is then moved back into its original position before the raft foundation is incorporated into the final ground floor slab. This process then enables the

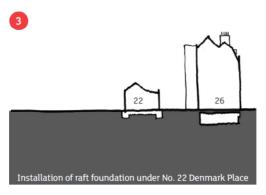
remainder of the works to progress.

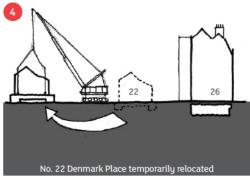
overleaf in a report by the specialist contractor, Abbey Pynford, who will be responsible for moving No. 22

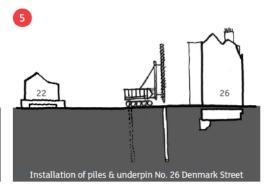
This methodology has a number of public benefits, both from a practical and cultural perspective. These are outlined in the coming pages.

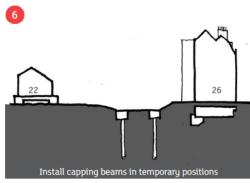


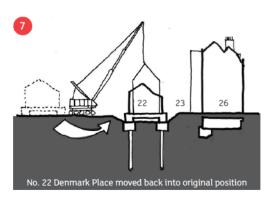


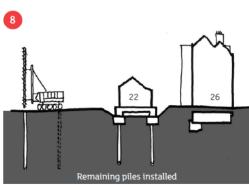


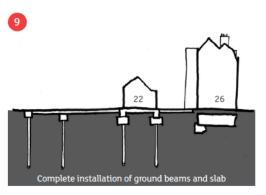


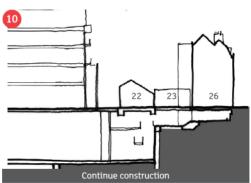












Process



Our Ref: PNJ/GA20986/L8/np

Your Ref:

Date: 5th November 2015

₩13/31 1

H Smith (Engineers) Ltd 1st Floor Offices The Manor Gatehouse Priory Road Dartford Kent DA1 2BJ

For the attention of: Mr. William Hepburn

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Dear Sirs

Re: GA20986 - "The Smithy" 26 Denmark Street, London, WC2H 8NN

Further to your instructions of 21st September 2015 we have completed a feasibility design with respect to the proposed moving of the above building by crane to a temporary new location as indicated on the marked up copy of the Enginuity drawing provided. This drawing suggests that the building needs to be moved a distance of approximately 27m. We understand that the building will in due course be located on a suspended ground floor slab and as such the preferred soffit detail for the slab is as indicated on Enginuity drawing 029-Z1/SK153.

Following extensive discussions since July 2015 with respect to the various possible means of moving the above building we confirm that it is our belief that the best way to minimise damage to the building we be to place it on a new reinforced concrete raft foundation to which the superstructure will be mechanically connected and to lift it onto a new temporary foundation with a large mobile crane.

Our lifting proposals are shown on the attached drawing GA20986/01A. As can be seen the proposed lifting points are inside the building which has the advantage of reducing the lift weight by reducing the amount by which the foundation slab needs to extend beyond the walls of the building and minimising the size and weight of the lifting beams. This will obviously effect the roof of the building which is in very bad condition. Please see below for comments with respect to the roof

Our initial assessment of the temporary lifting condition is that the permanent reinforcement indicated on drawing SK153 is also satisfactory in the temporary condition.

Our assessment of the weight of the building based on the survey information provided is that the total weight to be lifted including the new reinforced concrete raft slab and building encapsulation will be approximately 1500kN to which needs to be added the weight of the crane hook and lifting beams at say an extra 15 tonnes. It is within the capacity of an appropriately counter balanced 1000 tonne mobile crane to move this weight over a radius of at least 13.5m with a reasonable 15% capacity margin in a single lift.



The installation of the reinforced concrete raft foundation will be completed using standard underpinning techniques. The information currently available i.e. trial pits T26-1, 2 & 3 suggests that the existing walls extend well below ground level. The fact that there is an existing basement at number 25 would suggest a similar condition occurs on the wall adjoining number 25. Working on half the building at a time the underpinning raft slab will be installed by forming pockets in the external walls at the appropriate level below ground level, breaking out the brickwork in between, installing a prepared fair face soffit shutter and the appropriate reinforcement and casting the raft slab flooded up to the underside of the existing walls. Once half the building has been provided with a new foundation in this manner the operation will be completed on the other half of the structure. The appropriate lifting points will be installed at 4 locations in the internal corners of the raft slab. In order to provide a fair faced soffit to the foundation slab surface preparation for the raft slab will comprise 2 layers of polythene on hard board on 50mm of sand building installed to levels. The purpose of the polythene will be to debond the structural slab from the material beneath to facilitate the lifting operation.

In order to provide a surface to construct the raft slab on over the whole required area we have allowed for the existing small cellar under the Smithy and a sufficient part of the cellar of No25 being appropriately backfilled to the required level by yourselves. This backfilling will need to be Engineer designed so that stability is maintained to the piling mat on which the mobile crane will stand as the outrigger support pads for the crane will be placed on the piling platform in the gap between the crane and the back wall of the Smithy and therefore well above the existing cellar floor levels

We have allowed to leave all surplus materials generated by our operations on site for clearance by others.

The foundation for the building at its temporary location will comprise a 250mm thick double mesh reinforced, reinforced concrete slab cast in an excavation in the top of the prepared piling platform, so that the top of the foundation is at the same level as the top of the piling platform, and topped off with 50mm of evenly raked sand so that the structure beds down onto the new foundation with no tendency for stress points to be generated by any unevenness of the surface. The level of the temporary foundation is a requirement of the mobile crane hire company as their delivery vehicles will need to be able to drive over it during erection of the crane and it will need to support the crane counterweights before the first lift as will the cellar backfill from which the building is lifted after the first lift.

In order to minimise any relative movement between the building super structure and the reinforced concrete foundation which is being lifted it will be our intention to cast short sacrificial sections of a proprietary shoring system into the raft slab such that subsequent to the foundation slab curing adequately longer sections of shoring can be bolted on so that the walls can be mechanically fixed to the foundation slab. This mechanical fixing must involve bolts or other fixings through the walls. This will be achieved wherever possible by bolting through existing window openings. There will however be walls, for example the wall facing number 25, which have no windows or other openings. In these locations it will be necessary to drill holes in the wall however this will be done on bed joints only and not through bricks. Also in order to make the super structure as rigid as possible we intend to infill window and door openings with block work which must also inevitably involve the removal of the existing door and window frames. We have allowed to carry out the infill block work but not to remove the existing door and window frames or to subsequently remove the block work after the building has been returned to its original position or to refit windows and doors.

Process



With respect to the condition of the existing structure it was noted during the site inspection by our design department that the roof structure is in very poor condition with significant areas of rotten timber, fungal growth, warped timbers and loose connections. As such it will have to be repaired at some stage. We have allowed for this to be done before the move as a sound roof structure must contribute to the overall stability and rigidity of the building. To accommodate the internal lifting point referred to above the lifting cables will need to pass through the roof structure. Therefore it may be appropriate to replace the roof structure only before the lift and not replace the covering until the building is back in its final position. Temporary weatherproofing while the building is in its temporary location would be required which is not allowed for in this offer. This method of work would have the added advantage of further reducing the weight to be lifted. There is apparently a significant period of time available to get this work done before the lift. If the roof is not repaired before the lift holes will have to be made in it to accept the lifting cables and to extend the encapsulation to support the chimney and we will not be prepared to accept responsibility for damage to it during the lifts.

With respect to the lifting operation we have allowed for the piling platform for the large piling machine which is to be used on the site providing an adequate platform for the mobile crane. We are advised by the crane hire company that the advised capacity of the piling platform (414kPa) is adequate for their purposes.

We are advised that each lift is likely to take 3 days comprising 1 day set up, 1 day for the lift and 1 day to dismantle. As stated above we propose to sublet the lifting process as a "contract lift" making it the responsibility of the crane hire company.

We have not allowed to lift the building over any obstacles at ground level. Our offer is to lift the building just sufficiently to provide a reasonable clearance over general ground level.

We understand that the building is to be returned to the same location horizontally and vertically as that from which it was removed. It would be convenient if the prepared soffit from which the building will be lifted could be retained so that we could put it back in the same place and for the purpose if this proposal we have allowed for this to be possible. If this is not possible we will need to construct a second temporary foundation at the original location to return the building to while it is incorporated in the permanent suspended slab. This foundation will eventually need to be removed from under the building during the final dig out and this will need to be considered in the design of this foundation which will no doubt necessitate discussions with the contractor who will have to do the work. WE would request details of the tolerances to which the building needs to be returned to its original position.

We have now based on the latest information available prepared a preliminary estimate as detailed below:-

- Detailed scheme design.
- 2 Install reinforced concrete underpinning raft slab in 2 sections incorporating appropriate lifting points
 - Install temporary framing including 3 month hire period for proprietary shoring equipment
- 3 Frame up existing structure with proprietary shoring including appropriate timber packing fixings etc.
- 4 In fill window and door openings with 100mm thick 7N block work



- 5 Construct temporary foundation
- 6 Attendance on lifting operations x2
- 7 Dismantle temporary framing
- 8 Clear Site
- 9 Lifting operation 2 x £

Total of preliminary estimate

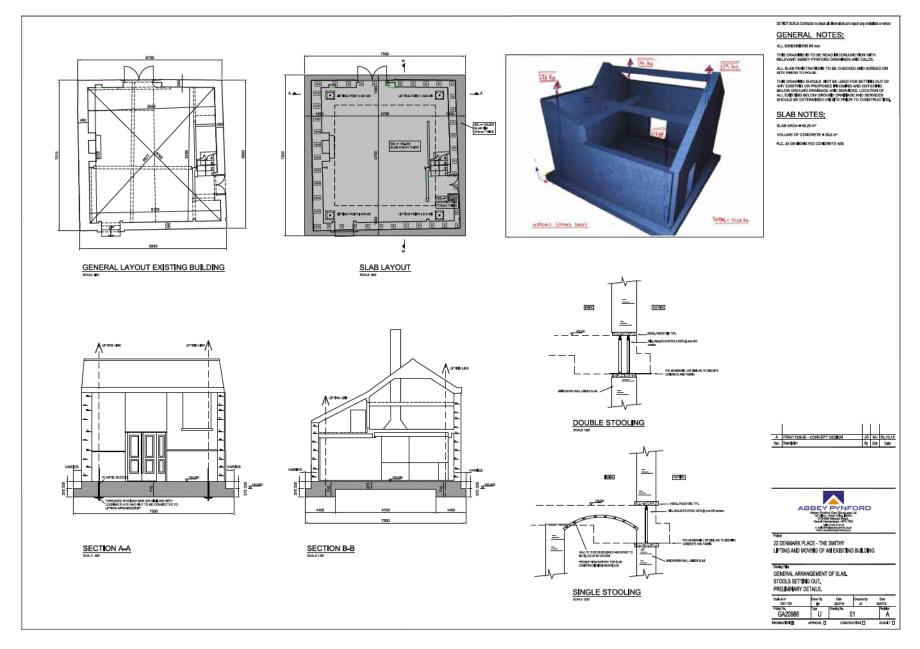
The cost of the lifting operation includes a mark-up for ourselves to reflect our view of the need for us to manage and be responsible for the payment of the crane hire company. We would be entirely happy in the event that you elected to enter into contract with the crane hire company directly in which case no mark-up would apply would apply.

We have consulted our insurance brokers with respect to this project. We are insured with respect to our negligence in carrying out works of this type and the lifting operation itself will be insured as we intend to arrange for the lifting operations to be carried out as "contract lifts". We will require general insurance on the building to be maintained by the owner/ client/ main contract as appropriate and for the insurance situation as a whole to be reviewed before any work commences.

We trust that the above information is of use to you at this stage.

Yours faithfully for Abbey Pynford

P N Jones BSc, C Eng, MICE Business Development Director Underpinning Division



Public Benefits

Both the scheme and the construction methodology create a number of public benefits, from a practical and cultural perspective. These are outlined below.

Consistent Restraint to the Crossrail Tunnel Beneath

The proposed scheme allows a consistent restraint along the length of the Crossrail tunnel using the same tension pile and adit beam technique. The combination of the two effectively forms a staple to hold the Crossrail tunnel down. This technique will simplify the construction sequence and reduce the risk of differential movement to the tunnel beneath compared with the previous scheme. The alternative scheme has been discussed with Crossrail and Crossrail have expressed a preference for the proposed scheme.

Better Protect 22 Denmark Place "The Smithy"

By temporarily moving the Smithy from the construction site we believe the building will be better protected. The planning scheme calls for substantial underpinning of the Smithy with the building in place to create a reduced level platform from which 3no. 2m diameter hand dug caissons will be dug. 2 of the 3 caissons will be directly beneath the walls of the Smithu. Although moving the building is in itself a large intervention, we believe that for a small building this will best protect it compared with the significant work required to keep the building in place and the risk of construction at such close proximity. Additionally, the proposed scheme works on the basis of a "top down" sequence of basement excavation rather than "bottom up". The defining advantage of this is to install the ground slab first, prior to excavation beneath. This is intended to lock the top of the retaining wall piles across the site, thus reducing ground movements and impact on existing buildings.

Better Protect 26 and 27 Denmark Street

The proposed scheme has several advantages over the original in terms of better protecting the existing buildings at 26 and 27 Denmark Street. Firstly, the deep excavation of the basement is pulled back away from the buildings. This physically moves the working area away from the buildings. Secondly, the large diameter piles and caissons are removed from the scheme, thus reducing the vibration and local movements associated with the type of machinery and construction techniques. Lastly the deep underpinning to the rear of No. 26 is removed and replaced with a standard piled retaining wall. Underpinning a wall this deep, though possible, would risk additional lateral and vertical movements.

Safer Means of Excavation and Pile Installation

The removal of the 23 Denmark Place and the moving of the Smithy ultimately provides a safer means of excavation and pile installation for the project. Under CDM regulations, we, as designers, must strive to design out risk where possible. The removal of the hand dug caissons and the deep underpinning in favour of conventional piling from ground level would reduce the risk to the workforce on site.

Support And Develop The Music Industry

The scheme allows for the creation of a viable and practical music venue and bar, securing the musical heritage of the site and retaining an iconic musical space. Our client, Consolidated Group, have worked to create an environment that will be a new centre of music for London. This includes the consented Events gallery music venue as well as the proposed music venue below the Smithy. This will compliment the existing music shops along Denmark Street.

As part of the design process we, along with Consolidated, have met with The Music Venues Trust, The Music Publishing Association and The Greater London Authority to discuss the scheme and take on their advice in the design.

All three of these bodies support the proposals. Letters of support are being prepared and will be issued under separate cover to sit alongside the application documentation.

Heritage Benefit To The Built Environment

The proposals will better reveal the significance of two rare and very important heritage assets, the former coach smith's premises at No. 22 Denmark Place and, crucially, the seventeenth-century house at No. 26 Denmark Street (Grade II).

Conclusion

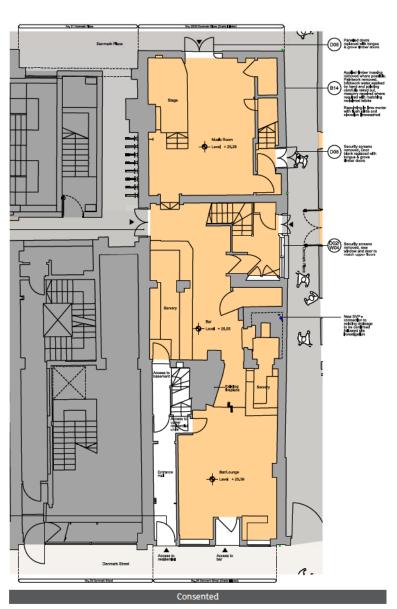
From a structural engineering perspective, the proposed scheme betters the original on almost every front. The proposed scheme will:

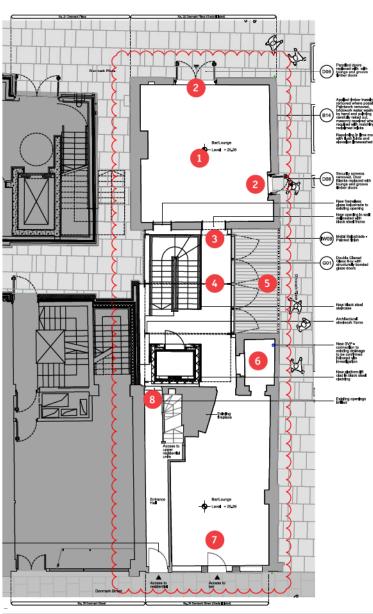
- Better restrain Crossrail with a similar retention system along its length.
- Better protect the historically important Smithy.
- Better protect the listed buildings at 26 and 27 Denmark Street.
- · Be safer to build.

From a cultural perspective, the proposed scheme betters the original on almost every front. The proposed scheme will:

- Secure the music heritage of the site
- Provide a heritage benefit to the site

Ground Floor





Proposal

- 1. No. 22 Denmark Place with existing mezzanine and all non original structure removed.
- 2. New Tounge and Groove timber doors
- New opening in wall delineated with black steel frame.
- 4. Demolition of No. 23 Denmark Place, replaced with new single storey double glazed glass box
- 5. Outdoor Yard / Terrace space
- Dumb Waiter removed from closet wing. Floor reinstated.
- 7. Draft lobby removed.
- 8. Existing opening infilled.