THE GEORGE HOTEL

BOWMAN RILEY | Kirklees COUNCIL

STAGE 2 REPORT

ISSUE DATE: 19th AUGUST 2022

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1.0 EXECUTIVE OVERVIEW

1.1 INTRODUCTION

In August 2020, Kirklees Council purchased the George Hotel to kickstart the redevelopment of the building and the wider regeneration of St. George's Square. The Council commissioned studies to explore the potential end use of the George, focusing on its potential for hotel and leisure use, or other forms of short-term accommodation. The fabric of the building, its state of repair, and the limitations and opportunity of its heritage architecture mean the development is challenging. In November 2021, the Council appointed Queensberry Estates to provide Development support in the redevelopment of the hotel.

Kirklees' aspiration is to restore the Grade 2* Listed George Hotel, and reinstate the George as a thriving, sustainable, hotel and hospitality development. An earlier options analysis, which focused on a 60 room Hotel with a Museum celebrating the Hotel's role as the birthplace of the Rugby League, found that the market for a 60-room hotel was saturated in the town, and that the commercial viability of such a development was uncertain.

The Council is keen to develop the George as a mid to upper scale hotel. One which reflects the historic importance of the building, as well as the importance of the George to their current town centre regeneration plans. To this end, the Council has worked with Queensberry to explore options for development. The ambition is for a 90 plus room development with ancillary hospitality offer. A hotel of this scale and quality is needed to secure a branded hotel operator interest.

This report summarises project progress to date (dictated by programme), within RIBA Stage 2 Concept Design. It has been authored by the design team and each section highlights 'Key Design Principles', 'Limitations/Assumptions' and 'Information Required'. The content within the sub-headings present the current position of the project in relation to Stage 2 which will require completion and sign-off in order to progress into stage 3.

1.2 PURPOSE OF THE REPORT

The purpose of the report is to present a scheme for the future use of The George Hotel site to Kirklees Council that fulfils the key points of the project brief and provides detail sufficient to demonstrate it's viability with due regard to user/operator requirements, costings within budget, and to comply with all relevant statutory and regulatory requirements.

1.3 PROJECT DESIGN TEAM

- Architect, Heritage Consultant and Lead Consultant - Bowman Riley
- Civil and Structural Engineer – Ramboll UK
- Mechanical and Electrical Engineer – Ramboll UK
- Vertical Transport Engineer – Ramboll UK
- Quantity Surveyor – Turner and Townsend
- BREEAM – Mott MacDonald
- Project Management – Queensberry Real Estate
- Fire Consultant – Mott MacDonald

1.4 DESIGN PROPOSALS

The 'Project Brief' has been developed with Kirklees and Queensberry Estates and accordingly confirmed the parameters of project viability.

- Minimum 90 bedroom hotel.
- C. 100 covers banqueting suite.
- C. 70 covers food and beverage offer.
- Budget limitations.
- Design which is sensitive to the listed status of the site.
- Assessment of heritage significance of all aspects of the existing structures on site.
- Statutory and regulatory compliance.
- Considering sustainability in all aspects of design and servicing.

The design has been developed with reference to the above and the following decisions have been deemed required to achieve a viable project:

- Basement levels have been reduced to achieve a usable minimum headroom in the banqueting area (Block C) with associated structural works to underpin walls to John William St (Block A) and the station car park.
- Block B is of low heritage value and is to be demolished, and a new block built to a similar foot-print.
- Block C has heritage value but is in such poor condition structurally, which coupled with the requirement to provide a minimum number of minimum sized bedrooms, and reduce the basement floor level, resulted in a scheme whereby the only way to fulfil the brief was to demolish and rebuild the internal floors and walls.

This report will demonstrate how the project has also developed and how the layout presented fulfils the brief. The layout is co-ordinated with structural, mechanical and electrical Stage 2 level strategies and the fire strategy has been developed to Stage 2 standard with compliance via a risk based assessment to BS 9999.

The Stage 2 designs and reporting are limited by the extent of available information withing the prescribed timescales. Where surveys are pending or unavailable, best approximations and/or estimations have been assumed in order to proceed with design development.

2.0 PROJECT OVERVIEW

2.1 OVERVIEW OF DEVELOPMENT TO DATE

Bowman Riley has provided conservation and architecture services to Kirklees Council on the George Hotel, an elegant Grade II* listed 1851 landmark with an Italianate façade designed by William Walker next to the railway station which was designed to meet the needs of the Victorian traveller. In 2013, the 60-bed hotel closed due to competition from local budget hotels. As an important part of Huddersfield's history, the George was purchased by the Council.

PHASE 1: ASBESTOS REMOVAL

Following the purchase of the building by Kirklees Council, an asbestos survey was undertaken and it was found to be present in the majority of the basement areas. A contractor was appointed to remove the asbestos from the building and encapsulate any remaining fibres to make the building safe.

PHASE 2: CONSERVATION WORKS

Bowman Riley were appointed as Conservation Architects acting on behalf of Kirklees Council to assist the surveying team to identify and specify the external repair works. A high level survey of the building was undertaken and a conservation approach developed for the repairs. These works were tendered and William Birch were appointed as contractor. The following works were identified and undertaken as part of the Phase 2 works which are currently ongoing:

MASONRY

- Consolidation of delaminated stonework
- Indent repairs and stone replacements
- Removal of inappropriate cementitious repairs and re-pointing with lime mortar
- Lime mortar repairs to the holes and voids in the stonework from previous fixings
- Weather proofing to projecting elements with open joints
- Removal and replacement of inappropriate alterations/ferrous fixings to the elevations.

WINDOWS

- Replacement of decayed cills and glazing bars
- Replacement of plywood cills/window surrounds which had subsequently failed resulting in water ingress
- Restoration of inappropriate window replacements with sliding sashes to match existing
- Removal of secondary glazing
- Exposure of internal reveals
- Re-balancing of sliding sashes to bring them back into use
- Re-glazing of windows to replace single glazing with slimline double glazing

ROOF

- Replacement of modern imported slate with welsh slate
- Renewal of roof and mansard with new welsh slate
- Lead flashing replaced
- Repairs to decayed roof timbers
- Parapet gutter re-lined
- Flat roofs coverings replaced
- Rainwater Goods rationalised and replaced

PHASE 3: DEVELOPMENT PHASE

Kirklees Council appointed a development manager, Queensberry Real Estate, to undertake a preliminary assessment of the existing George Hotel. The findings were that the building would need substantial changes in order to attract a reputable hotel chain that would provide a secure long-term future for the building. Bowman Riley worked with Queensberry to prepare a feasibility study which focused on the alterations that would be needed in order to create a 90-100 bed hotel.
It became apparent that substantial changes would need to be made and following a review of the heritage significance of the building it was agreed that the 1930's wing had the most capacity for change, followed by the John William Street Range to the east. The original 1850's building to the south was identified as having the least capacity for change.

Plans were developed that will result in the demolition of the 1930's wing and substantial alterations to the John William Street Range which, in principle achieved the 90 bed offering required.

2.2 STATUTORY CONSULTATION

A meeting was held with Historic England to review the findings of the initial assessment and the scope for removal of the 1930's wing in order to achieve a viable future for the building. Historic England understood the need for change and were keen to see this heritage asset brought back into use as a hotel. Further design development would need to take place and a robust justification for the extensive alterations provided.

2.3 DESIGN DEVELOPMENT

The initial brief was to demolish Block B and rebuild with hotel rooms from first floor upwards due to the location of the retaining wall with ancillary accommodation at ground and basement levels. Blocks A and C would be adapted to create further ancillary accommodation at ground and basement with hotel rooms at first and above. This option required the roof to Block C to be raised in order to create usable space resulting in a scheme with 79 rooms which did not meet the brief. A further option was investigated which removed the roof of Block C completely with the addition of an extra floor creating an additional 6 rooms increasing the total to 85. Again, short of the target figure.

Following discussions with Queensberry, the scheme evolved to include a light well adjacent to the retaining wall allowing the creation of 5 additional rooms at ground floor level and the amalgamation of some rooms within the original hotel Block A which increased the total to 92. Following discussions with various interested operators, 92 rooms was deemed to be an acceptable number with an absolute minimum of 90.

Alongside ensuring that the minimum number of rooms being achieved, the ancillary accommodation for the ground and basement levels were refined to meet the requirements of any prospective operator.

All the initial layout designs for new hotel had been based on historical information prepared by a third party and it became obvious from our site visits that this wasn't 100% accurate therefore throughout this initial design process it was suggested that a full topographical and measured building survey be undertaken so that a realistic proposal could be prepared.

Bowman Riley were formally appointed by Kirklees Council to lead the design team in June 2022 as a result of a formal tender process. Following receipt of the measured building survey, the designs have been further developed.

The main difference between the pre and post survey schemes is that the apex of the site is slightly more constrained than initially thought. The solution has been to revise the arrangement of the central atrium and the floor layouts have been updated following the introduction of additional M and E risers, rationalisation of the bedrooms to accommodate continuous vertical bathroom risers, rationalisation of escape stairs and fire exits, re-introduction of a service lift.

In the process of reviewing the layouts in conjunction with the survey information it became apparent that the existing window locations, internal walls and the rear and northern external walls of Block C were constraining some of the rooms such that the sizes were falling below the required minimum of 20sqm. In order to achieve the target room numbers, different options were investigated including the addition of an extra floor to blocks B and C however the preferred option from a practical and structural perspective was to remove the majority of the internal walls, floors and roof to Block C.

It also became apparent from the survey information that the existing floor to ceiling heights in the basement would be insufficient for the function suite accommodation required in that location. Other locations were looked at as alternatives however these were ruled out due to lack of size. This led us to the current proposal of lowering the basement floor level by approximately 1m in order to create the necessary ceiling height. Retention of both the internal and external walls would have resulted in full scale underpinning of not only walls but concrete pad foundations to existing steelwork which was deemed impractical. As a result the external walls have been retained and the internal walls removed.

The above compromises have been reviewed against the retention of the historic fabric options and the conclusion we have arrived at is that they are required to be implemented in order to make the scheme commercially viable which would save the grade II* listed building and breathe new life into it for years to come.

We are now in a position whereby the Stage 2 layout designs have incorporated the initial design suggestions from the structural M and E and fire consultants and the minimum target number of rooms has been achieved.

Further development of these layouts is required to fully understand the implications of the proposals on the listed building, however given the time constraints of programme. This report should give a good indication that from a design perspective, the requirements of the brief to date can be achieved without any input from the end operator.

Visualisation

3.0 HERITAGE STATEMENT OF SIGNIFICANCE

3.1 HISTORICAL DEVELOPMENT

18TH CENTURY

Like many market towns in the West Riding of Yorkshire, Huddersfield grew exponentially in the 18th and 19th centuries, initially as a centre of the woollen trade and then as a place for manufacturing. The development of both the town of Huddersfield and the George Hotel is linked to the Ramsden family who were almost the sole landlords in Huddersfield and its surrounding area from the 16th century to 1920.

The majority of Huddersfield, including the George Hotel, remained the property of the Ramsden Estate throughout the 19th century and into the 20th century. However, in 1920, after years of deteriorating relations between the town council and the Ramsden family, the council purchased the entire freehold estate from Sir John Frechville Ramsden, the 6th Baronet, via a proxy, earning Huddersfield the epithet of the town that bought itself.

By 1778 the town was expanding southwards with the construction of the Cloth Hall to the south of Westgate. Though much later, the aerial photo of Huddersfield from 1928 shows a block plan of the town, the appearance, massing and location of the Cloth Hall, now demolished.

The George Hotel began life as the George Inn. Constructed by the Ramsden Family in 1726, and named in honour of George I, it was built to serve clothiers and merchants trading in Huddersfield's Market place.

The original George Inn was demolished in 1787 to be rebuilt as a larger inn. The 1787 inn was eventually demolished.

Source: https://historicengland.org.uk/images-books/archive/collections/aerial-photos/record/EPW024369

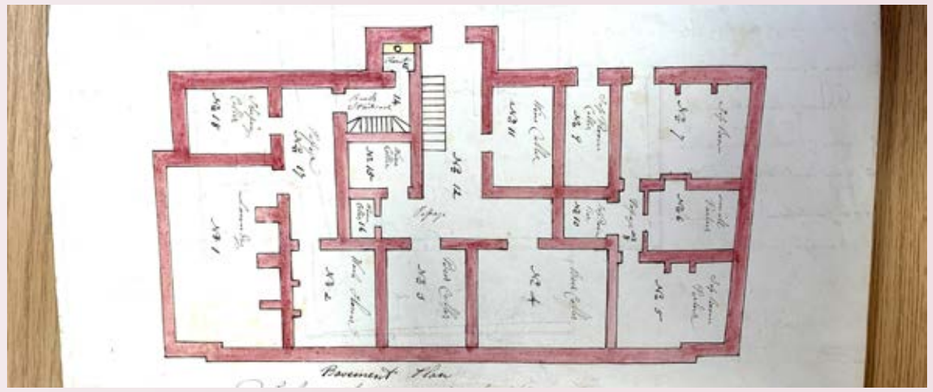
19TH CENTURY

In common with coaching inns in other market towns, the earlier George Inn acted as a commercial and civic hub. Trade directories from 1822 (the earliest found) to 1847 demonstrate that the inn (hotel from 1842) also served as an excise office, posting house, and subscription newsroom.
The construction of the railway station in 1847 brought an opportunity for the Ramsden Estate to capitalise on the expected growth in trade and provided an opportunity to rebuild a larger hotel next to the station, taking advantage of the railway trade.

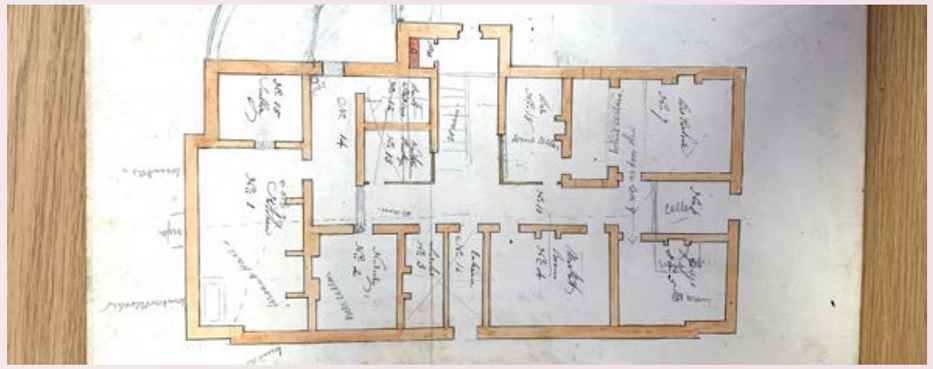
Huddersfield Railway Station was opened in 1847, starting a shift of the 'commercial centre of gravity of the town'. The Ramsden Estate saw this as an opportunity to develop a 'New Town' to the north of Westgate and east of the new station. To achieve this, a new street was required, leading from the marketplace to the new railway station. This necessitated the removal of Huddersfield's principal inn, the George Hotel, which stood at the north end of the marketplace. The existing George Hotel was planned as a replacement for the former inn, and it was deliberately given a prominent site to take advantage of the new railway station.

1850/51

The Main Range (Block A) is the original hotel building and dates from 1850/51. Local archive research has provided a set of drawings showing the plan form of the hotel.

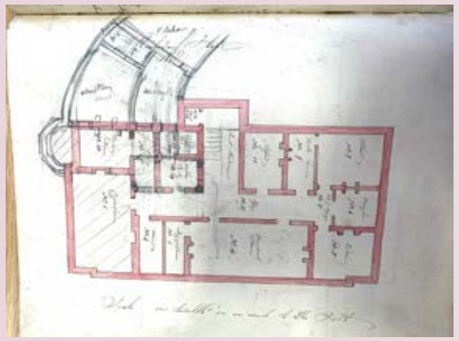


Basement Floor

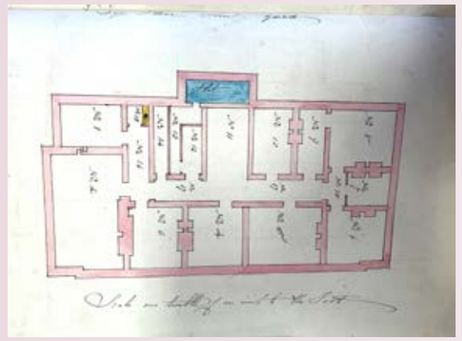


Ground Floor

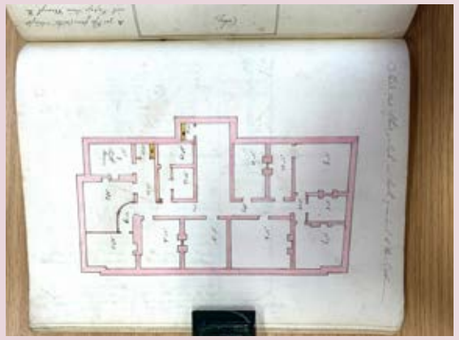
1850/51 CONTINUED



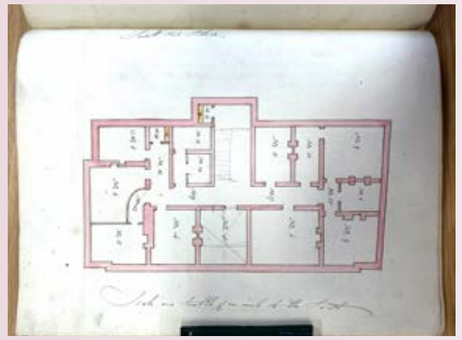
First Floor



Second Floor

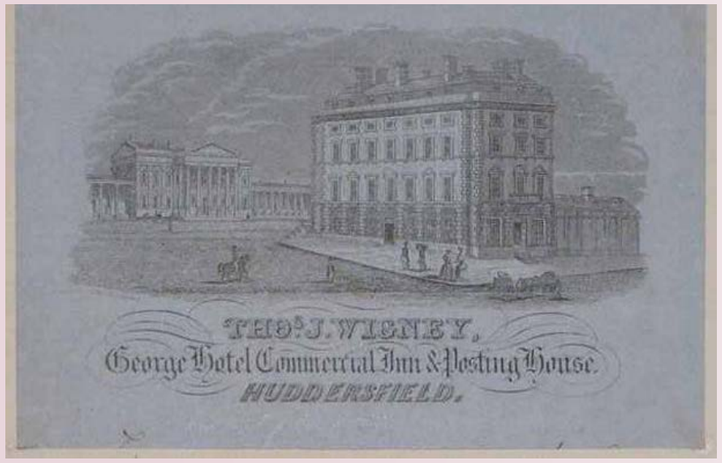


Third Floor



Fourth Floor

The ground floor of the East Wing (Block C) was constructed shortly after and was extant by 1853. An illustration or etching produced for an historic postcard, alongside an overlap of slight evidence from the historic plans gives a fair indication there was a single storey block here which was part of the hotel.

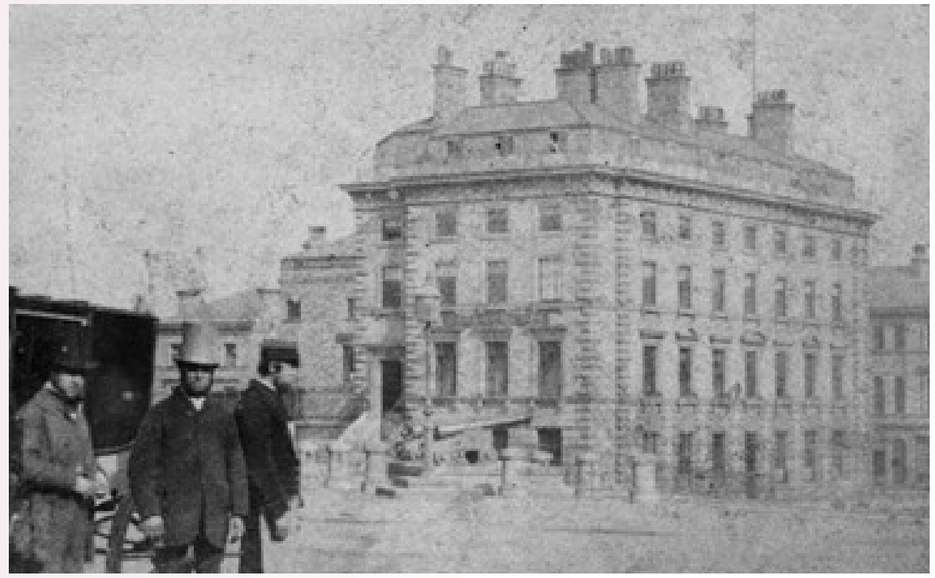


Historic postcard

1874

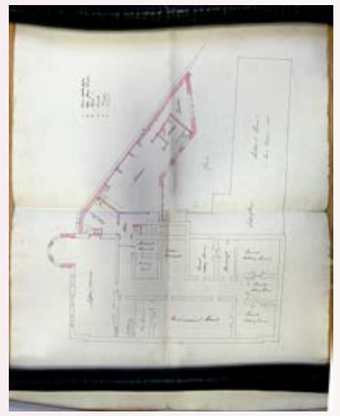
By 1874 the East Wing (Block C) had a ground floor with “Lounge and dining rooms”, First floor with “Billiard Rooms” and a second floor containing “bedrooms”.

A photo from the railway station facing the Main Range (Block A) shows the hotel in context. The photo shows some glimpse of the East Wing (Block C) yet no presence of Block B. The photo shows no bow window on the west elevation of Block A but does show a staircase which was suggested to be a key or main entrance into the hotel from the train station.

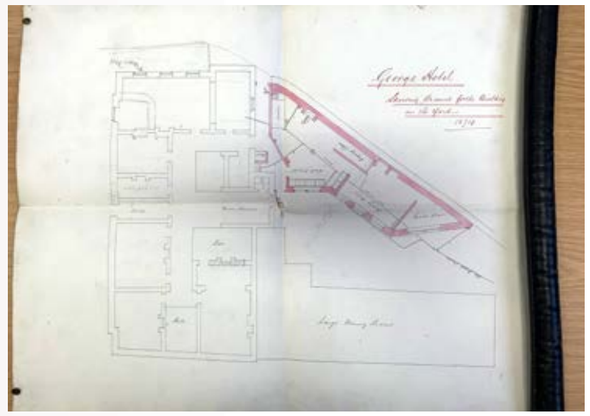


Photograph from railway station showing East Wing

The Ground and First Floor of the West Wing (Block B) was constructed to act as ancillary accommodation to the hotel to house the laundry and the kitchens. The historic plans from 1874 shows the proposed alterations to Block A, adding a bow window, and proposed new extension of the West Wing (Block B).



Historic plans



Historic plans

1889

The 1889 historic layouts for the Ground and First floor show alterations to the Main Range (Block A), with work to the bow window included however unclear on what work. The premise of adjusting the ground floor and opening the central circulation appears as a key principle along with how the building operates and with what facilities.

Historic plans, ground floor

Historic plans, first floor

Rugby League was founded in the George Hotel in 1895. This originated from a divide by around 1890, between largely middle-class teams based in the south of England, who were keen to maintain the amateur nature of the sport, and working-class teams in Yorkshire who needed compensation for work lost when playing games, known as broken time payment. The refusal of the Rugby Football Union to allow broken time payment, and the harsh punishment given to clubs and players who broke the rules, precipitated a crisis that came to a head with a meeting of 22 northern clubs at the George Hotel on 29th August 1895. The meeting saw the creation of the Northern Football Union allowing for the payment of 'bona fide broken time'. This group eventually became the Rugby Football League.

A photo from the late 19th century shows the key elevation of the Main Range (Block A) facing St. George's square and provides some indication of how the space was occupied but also the lack of canopy above what is understood as the main entrance.

Photograph from late 19th century showing main elevation

20TH CENTURY

A photo from 1912 shows the Main Range (Block A) in context with what appears to be a staircase from John William Street into the building. The staircase is shown on the 1889 layouts with indication the entrance is to be transformed. This photo does not show an external canopy on the south elevation.

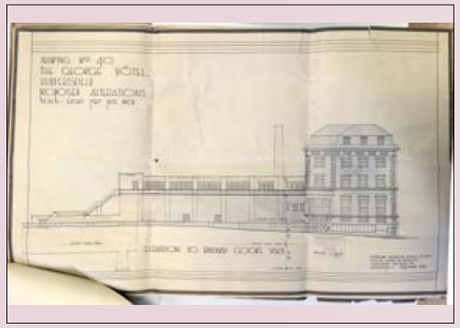
Photograph from 1912 showing Main elevation

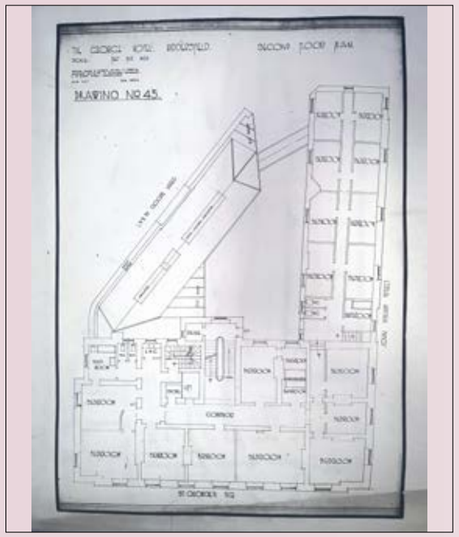
A photo from 1928 shows the appearance and massing of West Wing (Block B) in relation to the Main Range (Block A) and the East wing (Block C). The image also shows what appears to be an external covered area outside Block C and possible link between Block B and C. A series of 1930's drawings, both historic plans and sections, existing and those showing proposed alterations, suggest this is accurate and a fair assumption. This photo does show the external canopy on the south elevation, suggesting it was erected during 1912 and 1928.

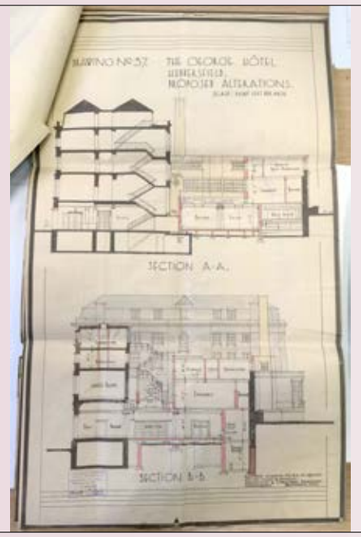
https://historicengland.org.uk/images-books/archive/collections/aerial-photos/record/EPW024367

1930’S

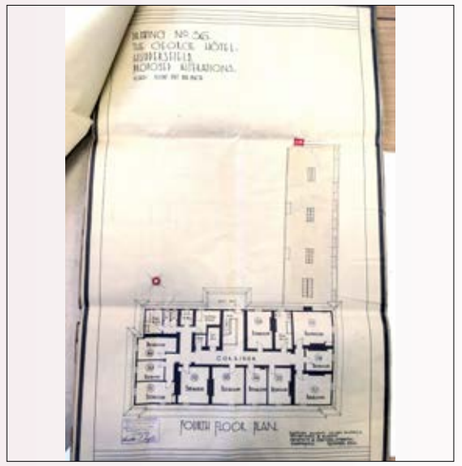
In the 1930s there were a series of major works which involved the remodelling and extension of the West Wing (Block B) to form bedrooms at second floor level and the infill of the central courtyard to form the ballroom. The historic archive research has provided a set of information from various parts of the 1930’s yet most prominent to be true and comprehensive are the 1936 set. There is a degree of inaccuracy such as the interior alterations.

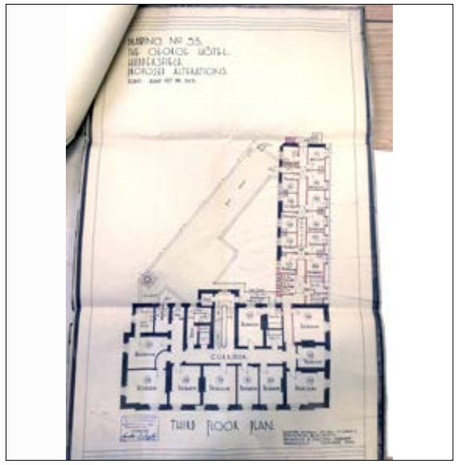


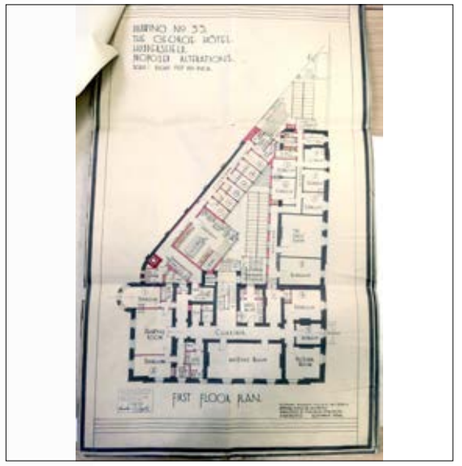


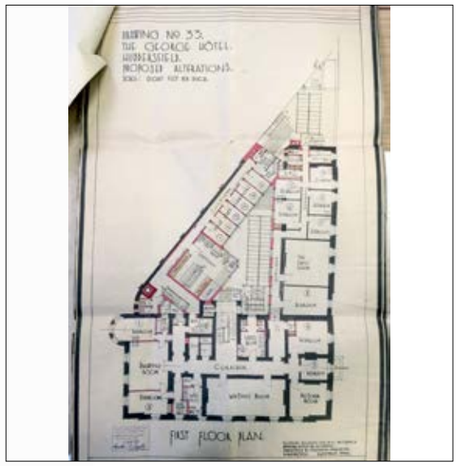


1930’S CONTINUED



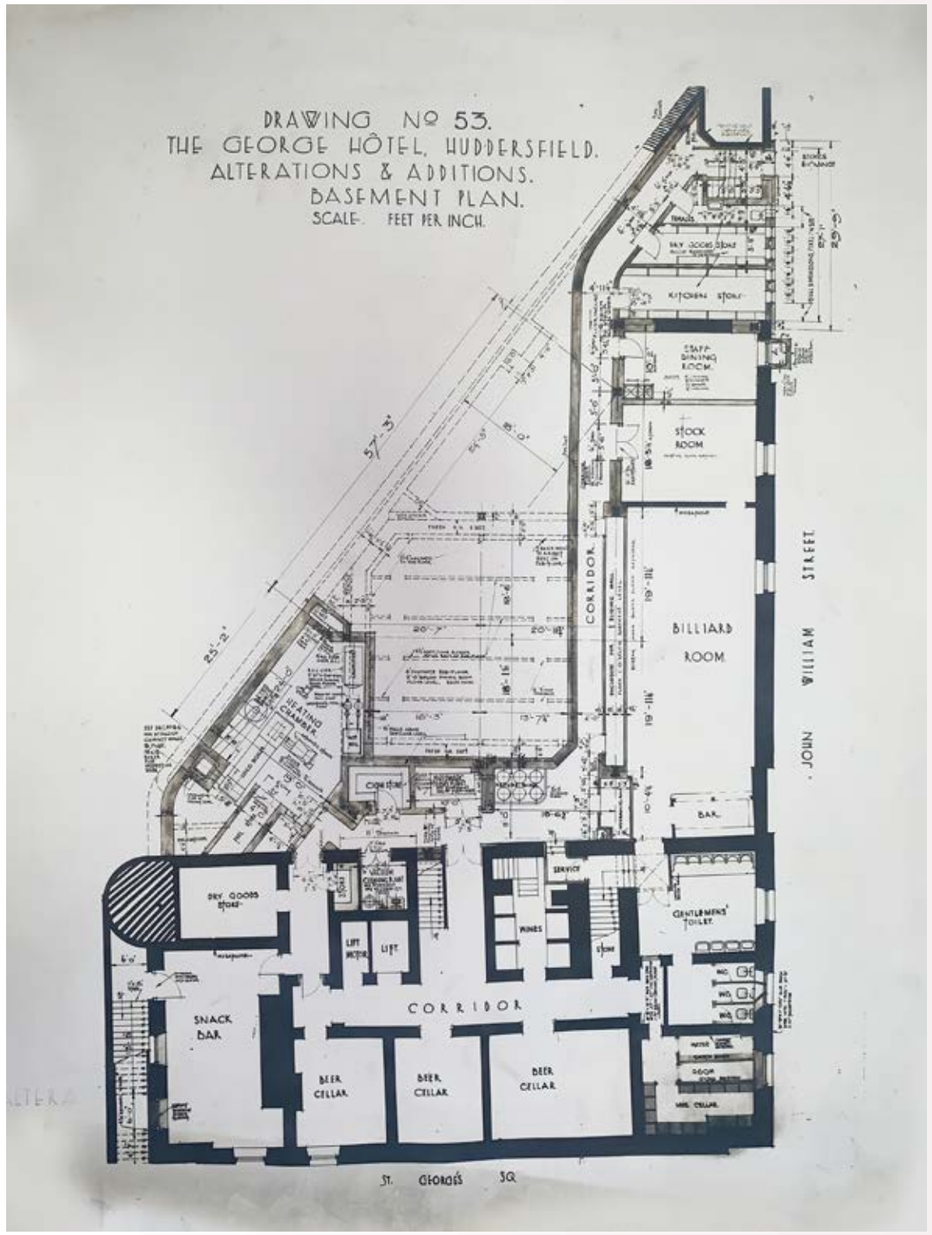






1930'S CONTINUED

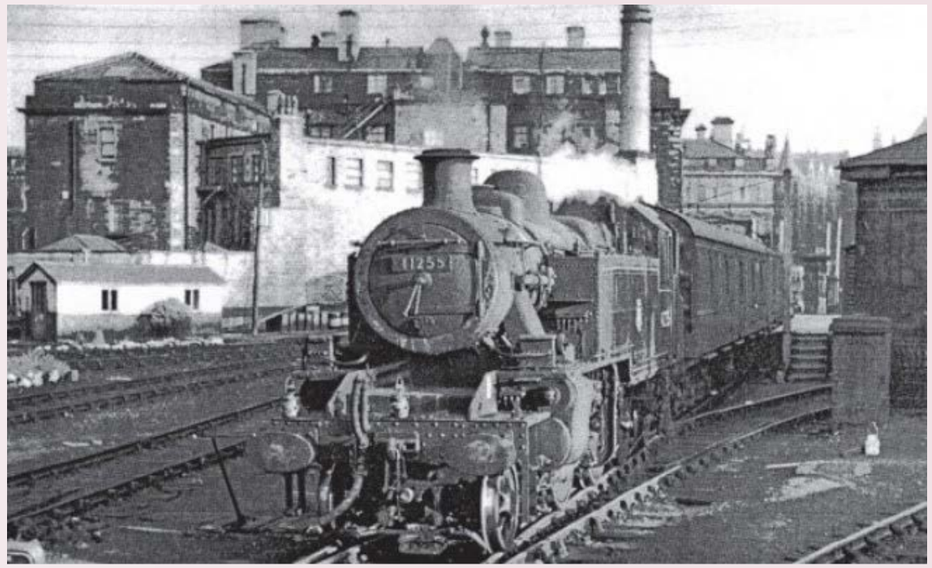
There are drawings from the 1930's which are believed to be structural engineer's details based on the level of detail and information shown. It provides a better understanding of the Basement area of Block B and C, any changes to circulation for the main range (Block A) and shows the function space and facilities on this level in East Wing (Block C).



Basement plan 1936

1960'S

In the late 20th century, the West Wing (Block B) was extended to add a third-floor level to form a final range of bedrooms. The photo from the railway line facing Block B appears different from what there is today and provides supporting evidence this was completed during this time.



Photograph from the railway line facing Block B

1960'S - PRESENT

From the 1960's to present day the hotel has remained in this use but there is physical evidence of alterations to the Main Range (Block A) internally and East Wing (Block C) on the upper floors where work is incomplete. There is no archive information of the 1960's extension, therefore a physical assessment suggests some conclusions, such as layout alterations based on changing operation and en-suites added to rooms are later.

3.2 HISTORIC ENGLAND ASSESSMENT

As part of the Heritage Action Zone grant funding scheme, Historic England undertook an assessment of the significance of the building. In June 2021 Architectural Investigators from Historic England visited the site and the findings were as follows:

AESTHETIC

The George Hotel is undoubtedly of high aesthetic significance, gained through consciously architectural design. The Main Range of the hotel was built as the centre piece of Huddersfield's New Town with grand architectural pretensions in an Italianate style. Externally, the Main Range has undergone few major changes and appears as its architect William Wallen intended. The interior of the Main Range is also of high significance, especially where the original decorative scheme survives in the upper floors and in the high-status first-floor rooms. Although the ground floor has been substantially altered, the 'Charter Suite' and the 1930s lobby, ballroom, and dining room are highly significant.

Externally, the East Wing has moderate aesthetic value to its east elevation, its composition unbalanced compared to the Main Range. The courtyard elevations and those of the West Wing are purely utilitarian. Featuring coursed sandstone and regular Crittalll windows, the elevations do not detract from the building's significance, nor do they offer any. The interiors of the rear wing guest accommodation date mostly to the late 20th century and add little to the aesthetic significance of the building. The West Wing's west elevation is also very utilitarian and is more visible now than in the past. When originally built, it would have only faced railway sidings. Although the large chimney gives the hotel a semi-industrial appearance from certain angles, it is something of a landmark and contributes moderate aesthetic significance to the building.

EVIDENTIAL

The George Hotel is a good example of the developmental link between coaching inns and hotels in the mid-nineteenth century, an area which is poorly understood. Apart from the ground floor, the Main Range retains much of its original layout and decorative scheme, providing evidence of both its own use and of the building type in general. Parts of the original layout and decorative scheme can also be discerned above false ceilings and later finishes which might provide further evidence of the building's original layout, use and circulation patterns if later finishes are removed. The rest of the building has been largely remodeled in the 1960s and contains little evidential value, although original ceilings and moldings survive on the first floor of the east range which provide evidence for its former layout and use.

HISTORICAL

The Hotel has high historical value gained from its strong association with, and central role in, the history of Huddersfield. The building is intrinsically linked to the arrival of the railway in Huddersfield and the Ramsden Estate's development of the 'New Town' planned around it. Taken as a whole, St George's Square and the New Town both are highly historically significant.

The hotel is also strongly associated with the founding of Rugby League, having been founded at a meeting held at the hotel.

COMMUNAL

The public nature of the George Hotel leaves it with a very high communal value. The building occupies a prominent position flanking one of Huddersfield's few open squares, and for millions of railway travellers the hotel has been one of the first buildings they see as they leave the station. The hotel has served innumerable guests, and for most of its history has functioned as a public house and restaurant. Additionally, the hotel has been at the centre of Huddersfield's civic life, hosting auctions, meetings, dances and events. Having only closed its doors in 2013, many residents of Huddersfield and beyond will have strong memories of the George Hotel.

3.3 SUBSEQUENT ASSESSMENT

Following the issue of the draft assessment by Historic England, Bowman Riley queried the relative importance of the aesthetic significance of the 1930's interventions, in particular the entrance foyer as this is a much simpler design when compared to the decorative plasterwork contained within the dining room and the ballroom.

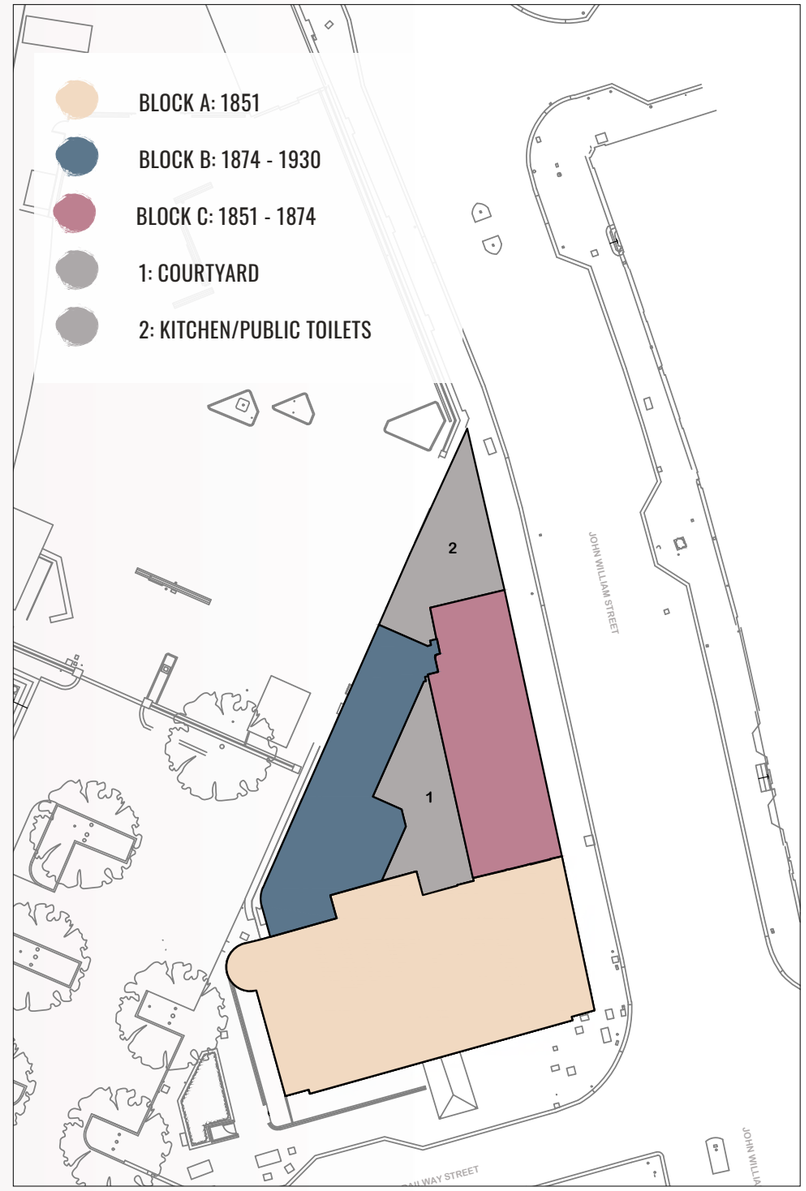
Having reviewed the statement of significance Bowman Riley undertook an assessment of the capacity for change for each of the three "wings" which comprise the building in order to guide the overall development of the feasibility study. It was assessed that the historical association with the 19th century coaching inn, the prolific Ramsden family and the arrival of the railways into Huddersfield were all of considerable significance to the building and as such retaining the original use of the building as a hotel was deemed to be desirable for the retention and ability to interpret this significance. The retention of the building as a hotel also retained the very high communal significance of the building as an entertainment and hospitality venue.

It was also agreed that the aesthetic significance associated with the early phases of the building (i.e. the main wing overlooking St Georges Square and the East wing which runs along John Williams Street) were also of considerable significance as this supported the historic and communal significance of the building as a landmark within the town centre of Huddersfield.

In order to fully understand these phases of development a set of phasing drawings was prepared and the extent of alteration assessed against these plans in order to give an initial indication of impact.

3.4 PHASING PLANS

The decision has been made to best describe the building by block(s) and areas which relate to ranges of historic development. Block A, B and C, Area 1 and 2.



Level 00 ground floor layout block plan

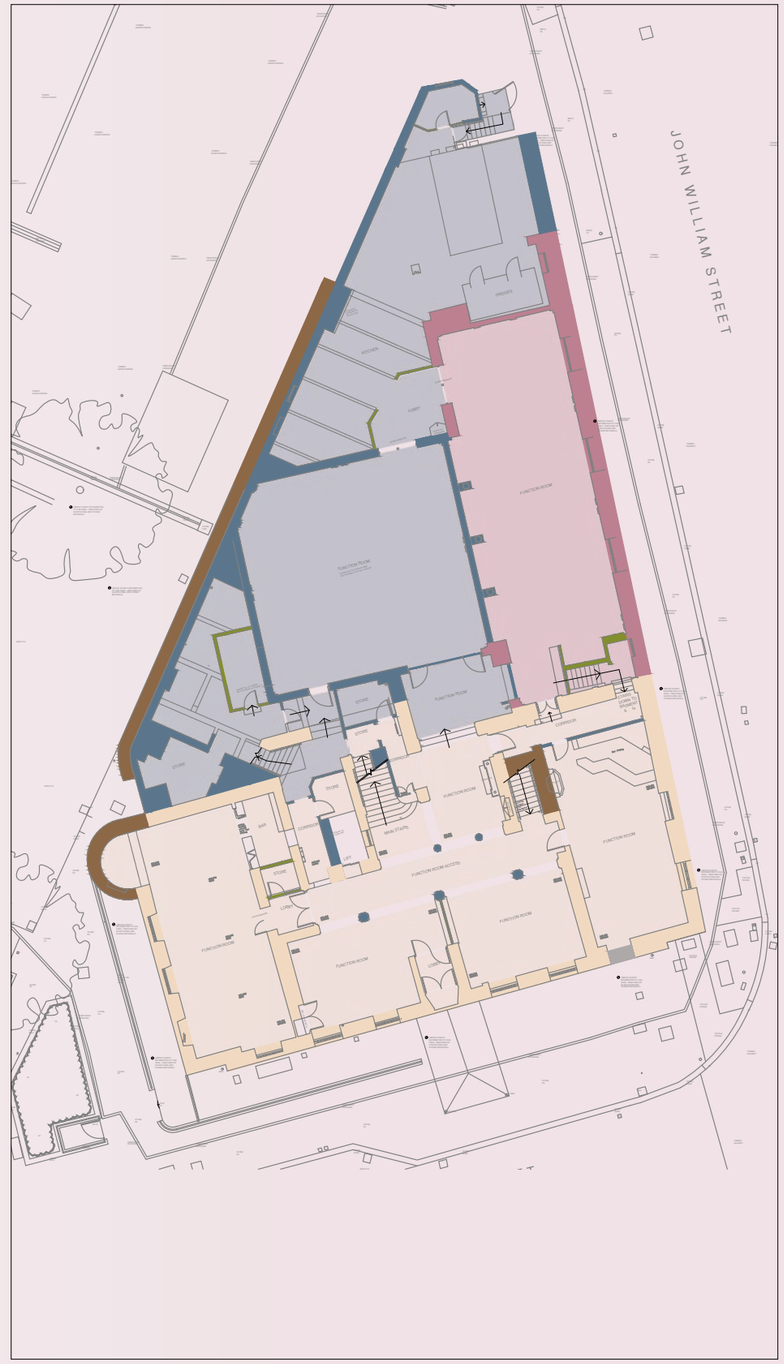
A series of layout diagrams have been produced to demonstrate the phasing of the existing building. The building fabric has been labelled into 5 phases, phase 1 describing the 1851 development, phase 2 covering 1850-1874, phase 3 covering 1874-1930, phase 4 describing the 1930's development, phase 5 describing the 1960's development, with a further category added to note development from the 1960's to the present day.

The diagrams were developed by researching from various sources. This included a combination of historic layouts from the local archives, illustrations, and historic images such as photos. Specific site visits were undertaken with the historic layouts as a tool to generally explore the site. At this stage, the diagrams focus on historic fabric only, therefore comprise an outline assessment and are subject to further site investigation.

The phasing does provide a better understanding from Block A to C. For example, a clearer relationship between the 1851 construction and the 1930's extension and alterations, they identify the partial remaining fabric from the 1851 to 1974 such as the bow window and outer wall to Block B, and shows the later 1960's extension to the upper storeys of Block B.

- PHASE 1: 1851
- PHASE 2: 1851 - 1874
- PHASE 3: 1874 - 1930
- PHASE 4: 1930'S
- PHASE 5: 1960'S
- PHASE 5: TO PRESENT DAY
- PHASE 4: 1930'S
- PHASE 5: 1960'S
- PHASE 5: TO PRESENT DAY

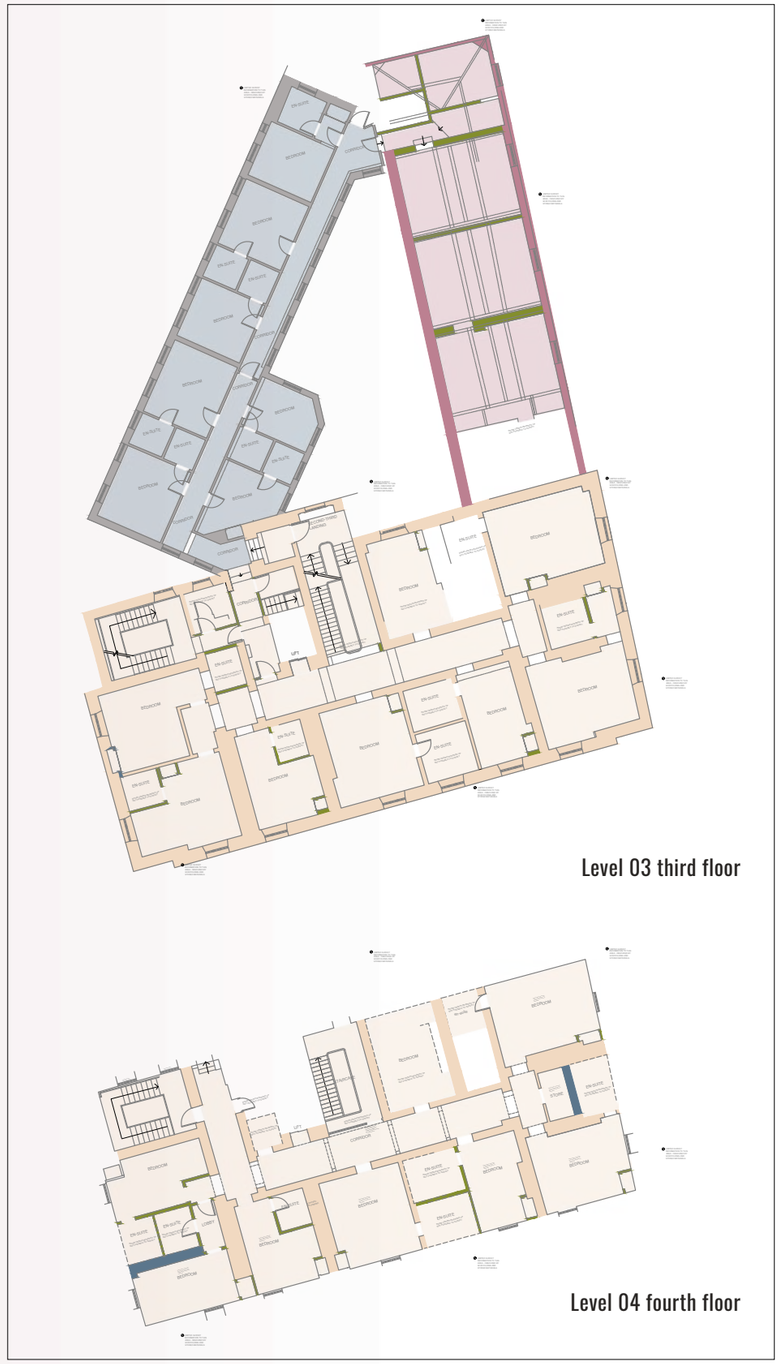
Level -01 basement phasing diagram



Level 00 phasing diagram

Level 01 and 00/01 phasing diagram

Level 02 floor phasing diagram



Level 03 and 04 floor phasing diagram

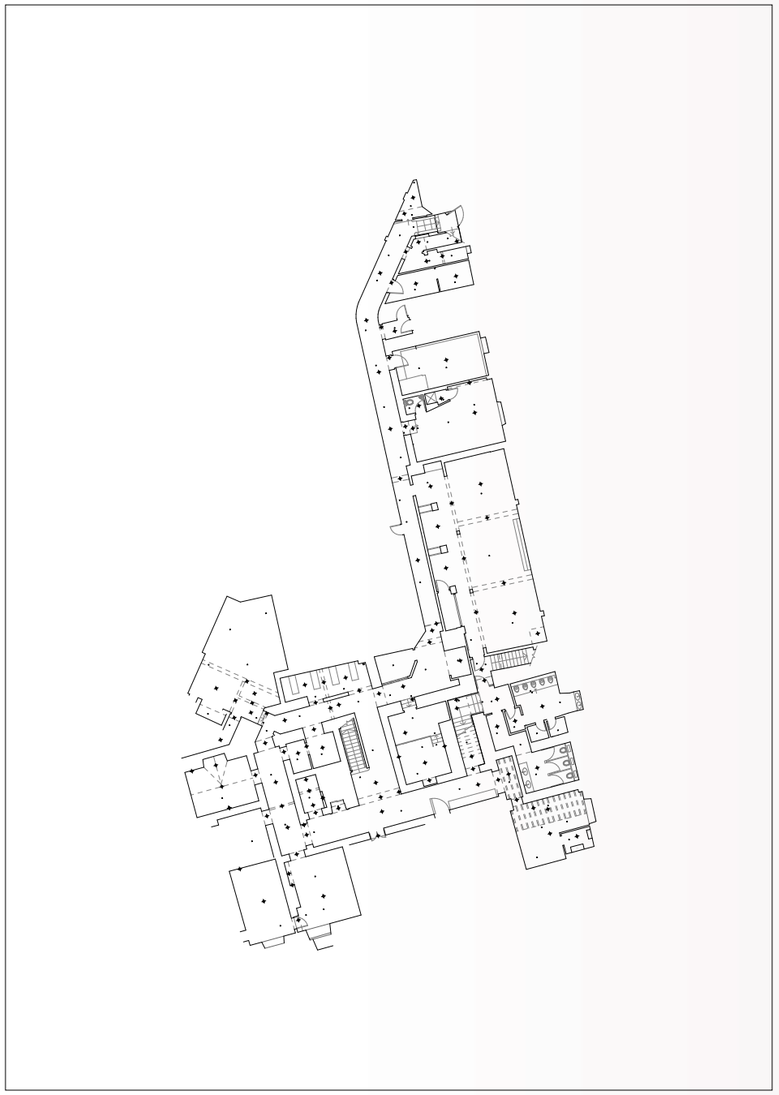
4.0 EXISTING INFORMATION

4.1 PLANS/SECTIONS/ELEVATIONS

The existing information helps demonstrate a building with various stages of historic development. The building has been categorised generally into block(s) A to C. Block A, the main range of the hotel, has four floors and a basement, Block B has three floors and a mezzanine level and a partial basement, Block C has three floors and basement. The ground floor layout connects the three blocks with two further areas, the courtyard, and the kitchen and public toilets.

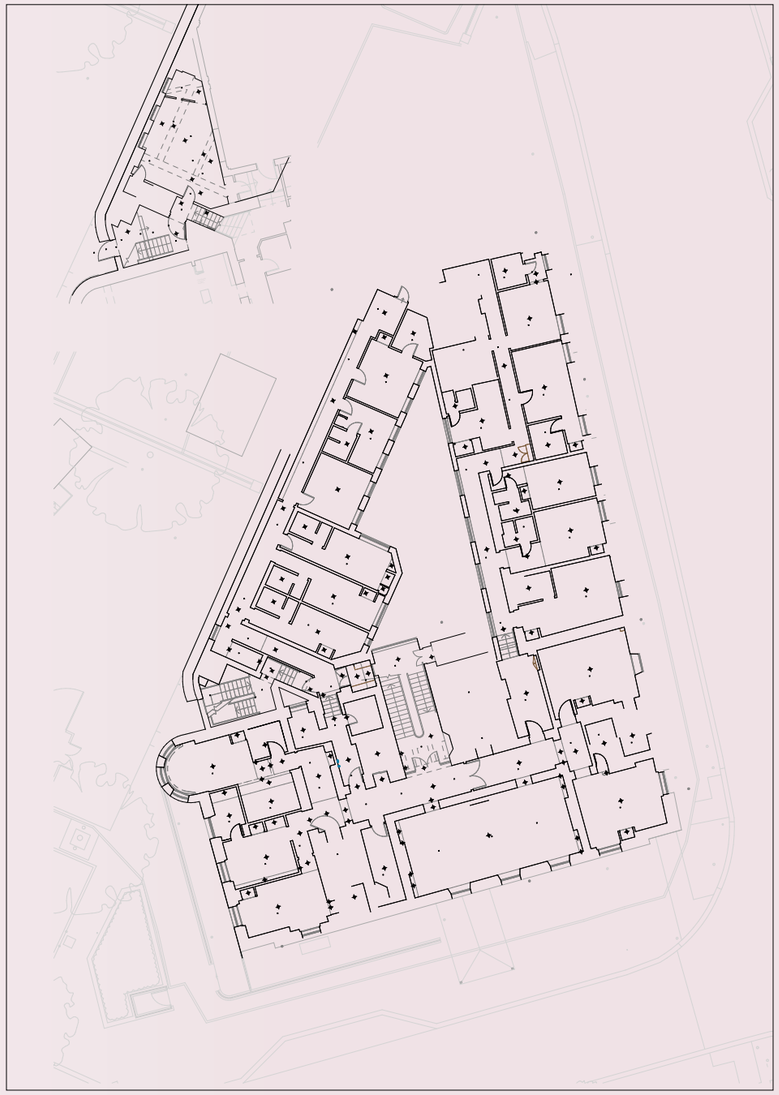
Block A is the most prominent with key elevations facing St. George's square towards the south, the train station and the junction of John William Street, Railway Street to Northumberland Street. Block B is towards the rear facing the railway station. Block C is along John William Street. Block B and C triangulate to the north from the main entrance of Block A.

The building is overall in disrepair or in poor condition which varies across the block(s) and areas, with spaces deemed unsafe and inaccessible. For example, the internal staircase is not fully functional due to excessive dry rot , and Block C has spaces that cannot be entered such as the central former Ballroom at the centre of overall plan. There is currently work being undertaken to address some of the conservation work required to Block A but mostly external repairs.



Level -01 basement layout

Level 00 ground floor layout



Level 01 and 00/01 layouts

Level 02 floor layout

Level 03 floor layout

Level 04 floor layout

4.2 SURVEYS - OVERVIEW HIGHLIGHTING ISSUES

The existing building has had a measured survey to further understand the building. The survey was undertaken on a live building site during the Phase 2 conservation works, with scaffolding erected, hoarding and a site compound. In parallel, the building has spaces with restricted access, deemed unsafe, inaccessible, and/or to be cleared of debris. The condition of the building is therefore an issue. Given this limitation, the measured survey is missing certain elements such as spaces not accessible, elevations due to the scaffolding and roof layout based on current works.

Each consultant in the design team has identified a series of surveys specific to their field appropriate for Stage 2 design development.

4.3 ACCESS AND SITE CONSTRAINTS

The George Hotel is positioned on the junction of John William Street and Railway Street, the hotel's main entrance is on Railway Street, leading upwards to the train station and car parking areas and is opposite St. George's square which is a pedestrianised area. The site triangulates to the north, to the west is car parking and the east is John William Street. To the west, the mezzanine level in Block B on the west elevation provides secondary access from the car park level. To the east, there are two further secondary points of ingress onto John William Street. The is one further point of access into Block A adjacent to the main entrance located into one of the function areas.

There is a significant level change from east to west especially to the north of the site from the car park, and further level change from north to south along John William Street. There are railings around Block A to the west to address the level change and provide light to the ground floor.

The George Hotel is Grade II* listed and there are several listing buildings around the site which contribute to the setting. The railway station (Grade I) and the railings to the station yard (Grade II) are immediately adjacent to the west of the building. The George Hotel and surrounding buildings such as the Lion Buildings (Grade II*) along John William Street and junction of Northumberland Street provide a setting of heritage assets to be taken into consideration as a site constraint.

The car park serving the railway station has a one-way route returning to John William Street and provides access to another car park. There are six number trees dividing the parking spaces. The pedestrian movement around the train station and associated vehicular drop off, St. George's square as a public space, King's Head public house, and the areas for pedestrian access around the perimeter of the building, along with the vehicular traffic is a site constraint. There is a single storey substation Immediately adjacent to the Block B on the west facade.

BLOCK A
BLOCK B
BLOCK C
1. COURTYARD
2. KITCHEN/PUBLIC TOILETS
SIGNIFICANT LAND CHANGE
METAL RAILING
BUILDING ENTRANCE
BUILDING EXIT
EXISTING TREES (ROUTED)
PEDESTRIAN CROSSING
PEDESTRIANISED AREA

A Huddersfield Railway Station
HE ref: 1277385, Grade I Listing

B Railings to Station Yard
HE ref: 1232086, Grade II Listing

C Huddersfield Water Tower
WYHER ref.MWY7473 (Monument)

D Lion Buildings
HE ref: 1134167, Grade II* Listing

E1 64 and 66, John William Street
HE ref: 1288959, Grade II Listing

E2 68, John William Street
HE ref: 1134168, Grade II Listing

E3 70-78, John William Street
HE ref: 1313875, Grade II Listing

F 1 and 3, Northumberland Street
HE ref: 1279067, Grade II Listing

01 Existing Sub Station

02 Short stay parking and drop-off

03 Long stay parking

04 Planting/trees (potted) and street furniture

05 Water feature

06 King's Head Public House

07 Bus stop

Site layout and site constraints

4.4 LAND OWNERSHIP

There are two landowners/leaseholders relevant to the site. Kirklees council own the George Hotel and the streets to the east, south and the area of the car park highlighted to the west.

The railway station is owned by Kirklees council and leased to Network Rail.

Network Rail own the car park area highlighted to the north and have a common boundary with the George Hotel site.

KIRKLEES COUNCIL

KIRKLEES COUNCIL LEASE TO NETWORK RAIL

NETWORK RAIL

00 ground floor layout

4.5 EXISTING BUILDING USES

The George Hotel has been a hotel since the construction of Block A in 1851. The existing building can be categorised into the following uses, function, bedroom, ensuite, facilities, circulation and ancillary and miscellaneous.

Below ground the spaces are mostly ancillary and miscellaneous, with later alterations adding toilet facilities and a function space. On Level 01 there is a further function room in Block A facing St. George's square.

The existing ground floor at Level 00 layout shows the most amalgamation of Block A to C with a large central ballroom or function room. Level 00 is mostly function space, with the relative facilities to serve those spaces such as bars and kitchen. Other spaces include mostly 'back of house' or with limited light into Block B. There is a lift and numerous staircases, the primary staircase is central to Block A, the secondary staircases are to the basement and up into Block B. There are several external fire escape stairs to the north of Block A and within the courtyard.

Across Block A to C, the existing first, second, third and fourth floor on the associated levels are predominantly hotel bedrooms or suites, all with en-suite. The layout of the hotel accommodation does vary between blocks. Where most rooms are positioned facing outwards with circulation either towards the centre of the block or towards the courtyard, there are a number that face inwards towards the courtyard. The circulation throughout the building has access to various ancillary and miscellaneous spaces.

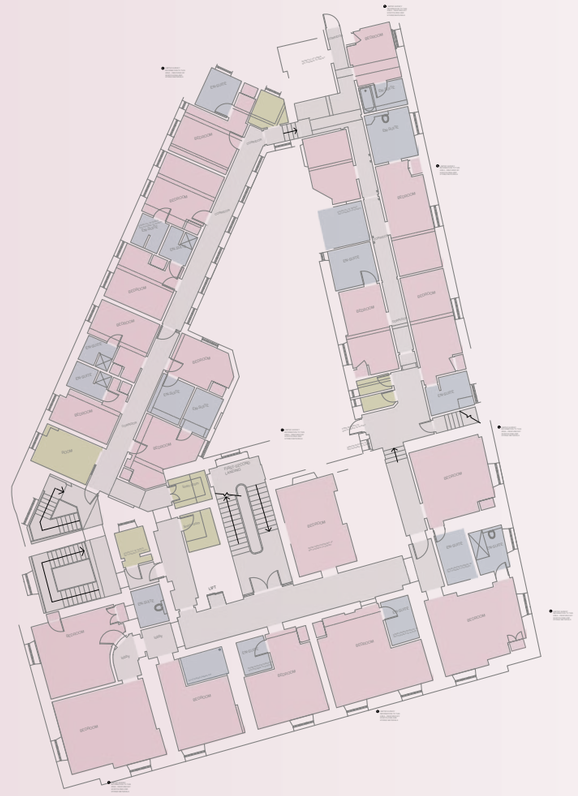
Parts of Block A has been partially renovated internally and on the third floor of Block B, the space has started construction but not completed therefore identified as miscellaneous. This is mostly likely to be built for hotel bedroom accommodation. Under the current condition of the building, the measured survey undertaken was limited therefore not all spaces and their use have been identified.

Building Use level -01

Building Use level 00

- FUNCTION
- BEDROOM
- FACILITIES
- EN-SUITE
- CIRCULATION
- ANCILLARY/MISC.

Building Use level 00_01 and 01



Building Use level 02

Building Use level 03 and 04

5.0 DESIGN PROPOSALS

5.1 KEY PRINCIPLES

- Layouts based on the brief to achieve a minimum 90 bed hotel with rooms sized to a minimum 20m².
- Block A structure retained as per original as far as practical with due regard to compliance.
- Block B entirely new build.
- Block C rebuild internal walls and floors as the only way to achieve 90 rooms of the minimum size.
- Block B and C step back on the upper levels to be subservient to the significant heritage aspects retained (Block A and Block C streetscape).

5.2 LIMITATIONS/ASPIRATIONS

- It should be noted that the design is based on information available at the time. Intrusive surveys have not yet been completed which may impact on the structural design and layout.
- The structural approach to Block C has not been discussed with Historic England and their response may alter the strategic approach to the site (and impact upon project viability).
- The layout requires access through the Network Rail car park for servicing and fire escape purposes. The right to access must be confirmed.
- The layout is based upon assumed requirements of a generic operator and will be subject to detailed review when the operator is known.
- Note 6 no. rooms are undersized due to the constraints of the existing structure retained in Block A.

5.3 INFORMATION REQUIRED

- Outstanding surveys to inform detail design
- Reaction from Historic England of strategic approach to heritage assets
- Confirmation of the right of access through the Network Rail car park
- Operator requirements to inform detail design

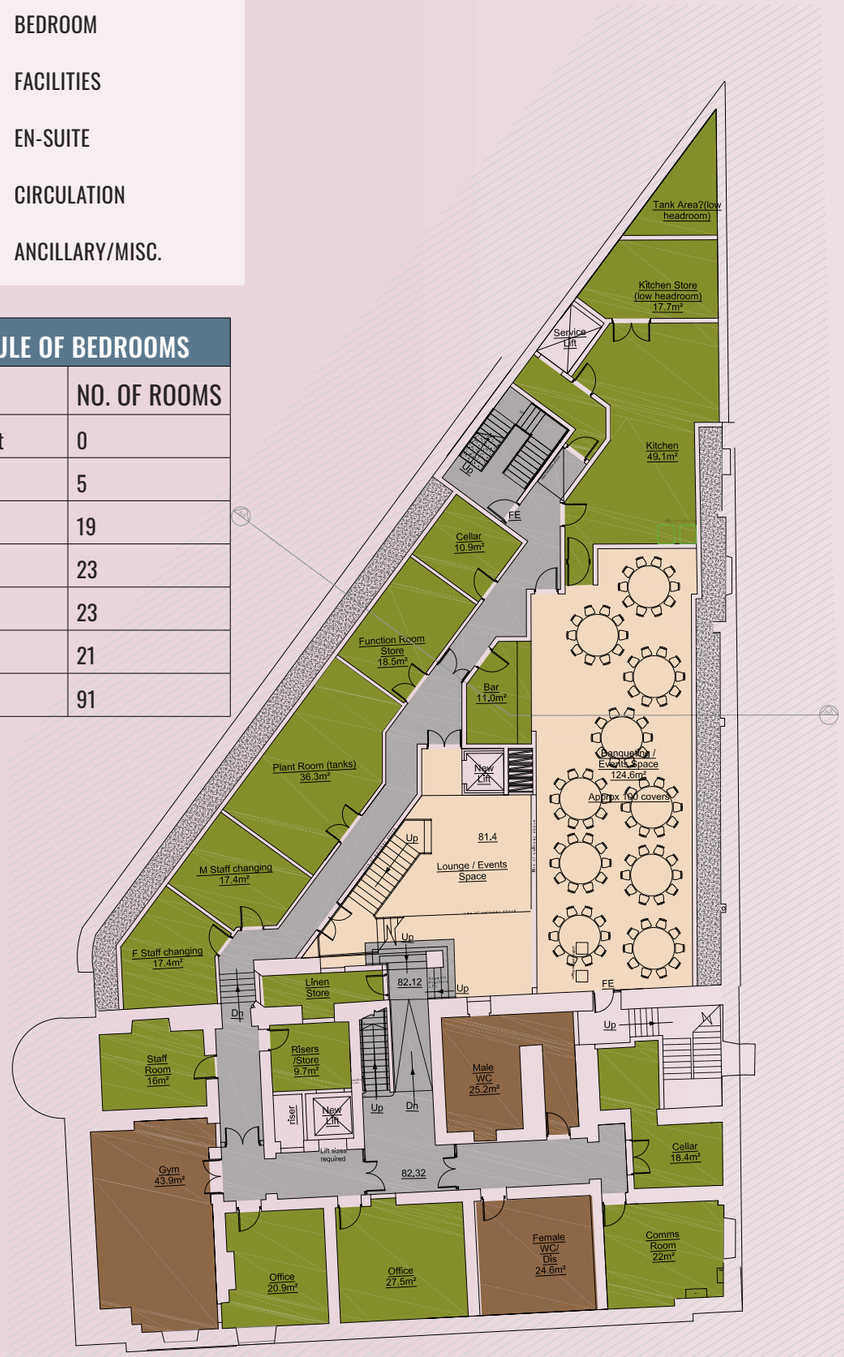
SCHEDULE OF ACCOMMODATION

GROUND FLOOR			FIRST FLOOR			SECOND FLOOR			THIRD FLOOR			FOURTH FLOOR		
0.01	22.4	241.1	1.01	32.9	354.1	2.01	21.2	228.2	3.01	21.5	231.4	4.01	17.9	192.7
0.02	21.3	229.2	1.02	42.5	457.5	2.02	20.2	217.4	3.02	19.8	213.1	4.02	19.5	209.9
0.03	22.3	240.0	1.03	20.4	219.5	2.03	24.2	260.5	3.03	24.4	262.6	4.03	23.5	253.0
0.04	21.0	226.0	1.04	27.2	292.8	2.04	20	215.3	3.04	19	204.5	4.04	19.3	207.7
0.05	20.4	219.6	1.05	29.7	319.7	2.05	24.2	260.5	3.05	27	290.6	4.05	25.3	272.3
			1.06	19.2	206.7	2.06	26.3	283.1	3.06	25.6	275.6	4.06	23.7	255.1
			1.07	22	236.8	2.07	27	290.6	3.07	27.9	300.3	4.07	25.8	277.7
			1.08	22.5	242.2	2.08	23.3	250.8	3.08	23.5	253.0	4.08	21.6	232.5
			1.09	20	215.3	2.09	23.9	257.3	3.09	23.3	250.8	4.09	23.2	249.7
			1.10	20	215.3	2.10	21.3	229.3	3.10	20	215.3	4.10	21.9	235.7
			1.11	23.2	249.7	2.11	21.1	227.1	3.11	20	215.3	4.11	20.2	217.4
			1.12	20	215.3	2.12	20	215.3	3.12	20	215.3	4.12	20.2	217.4
			1.13	20	215.3	2.13	21.7	233.6	3.13	20	215.3	4.13	23.5	252.9
			1.14	20.2	217.4	2.14	21.1	227.1	3.14	20	215.3	4.14	22	236.8
			1.15	22.4	241.1	2.15	20.2	217.4	3.15	20.2	217.4	4.15	28.8	310.0
			1.16	21.3	229.2	2.16	20.9	224.9	3.16	20.9	224.9	4.16	21.2	228.1
			1.17	22.3	240.0	2.17	24.1	259.4	3.17	24.1	259.4	4.17	20	215.2
			1.18	21.0	226.0	2.18	22.9	246.5	3.18	22.9	246.5	4.18	20	215.2
			1.19	20.3	218.5	2.19	21.5	231.4	3.19	21.5	231.4	4.19	20	215.2
						2.20	21.5	231.4	3.20	21.5	231.4	4.20	20	215.2
						2.21	20	215.3	3.21	20	215.3	4.21	21.5	231.4
						2.22	21.5	231.4	3.22	21.5	231.4			
						2.23	20	215.3	3.23	20.1	216.4			
						2.23	20	215.3	3.23	20.1	216.4			
TOTALS														
5	107.5	1157.1	19	443.6	4775	23	504.6	5431.5	23	493.3	5309.9	21	459.7	4948.2
TOTAL NO. ROOMS - 91 (TARGET 90). NOTE - 6 NO. UNDERSIZED HIGHLIGHTED (BLOCK A DUE TO EXISTING STRUCTURE)														

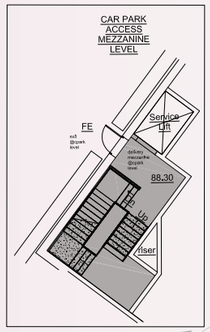
- FUNCTION
- BEDROOM
- FACILITIES
- EN-SUITE
- CIRCULATION
- ANCILLARY/MISC.

SCHEDULE OF BEDROOMS

FLOOR	NO. OF ROOMS
Basement	0
Ground	5
First	19
Second	23
Third	23
Fourth	21
Total	91



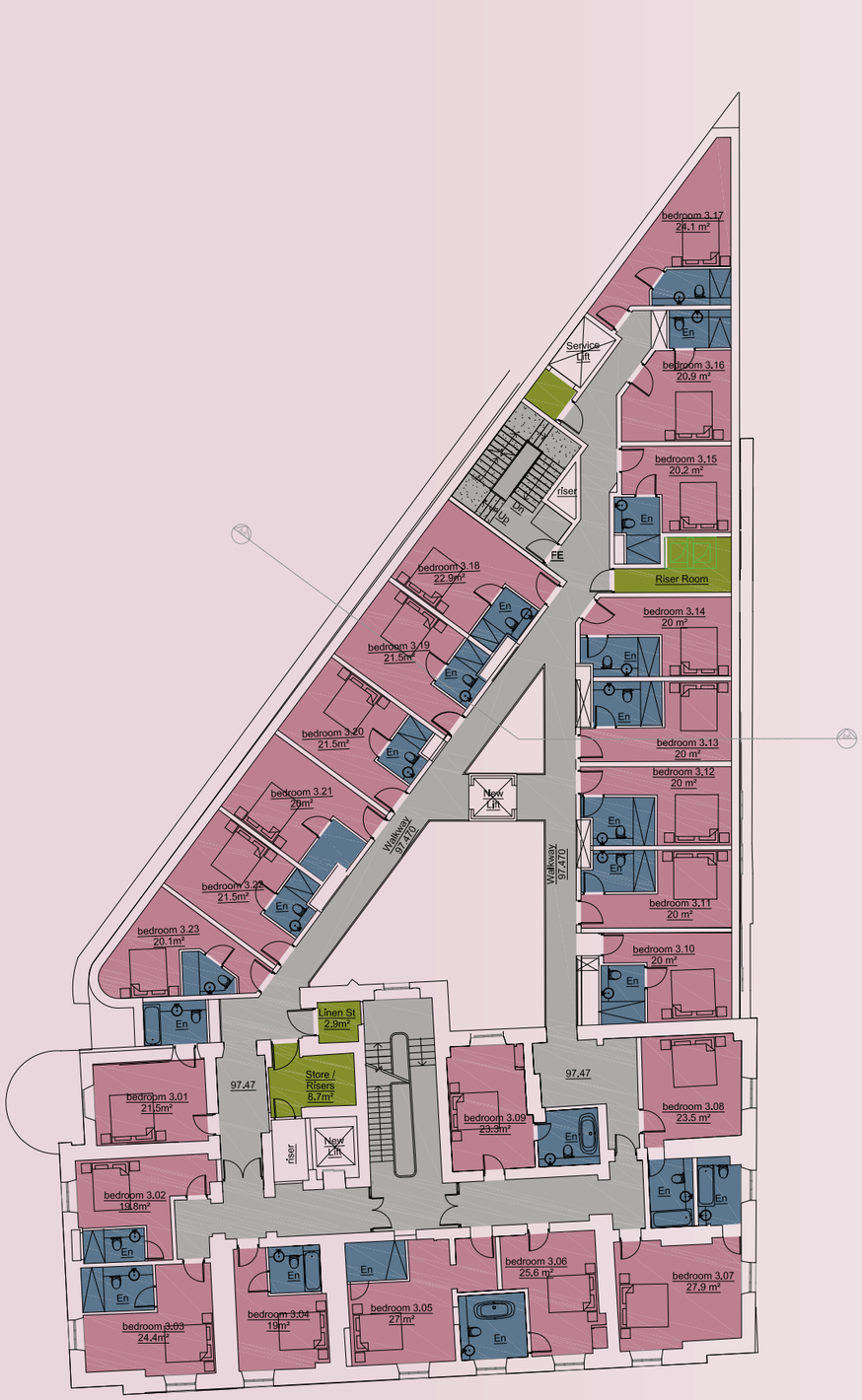
Basement -01



Ground floor 00

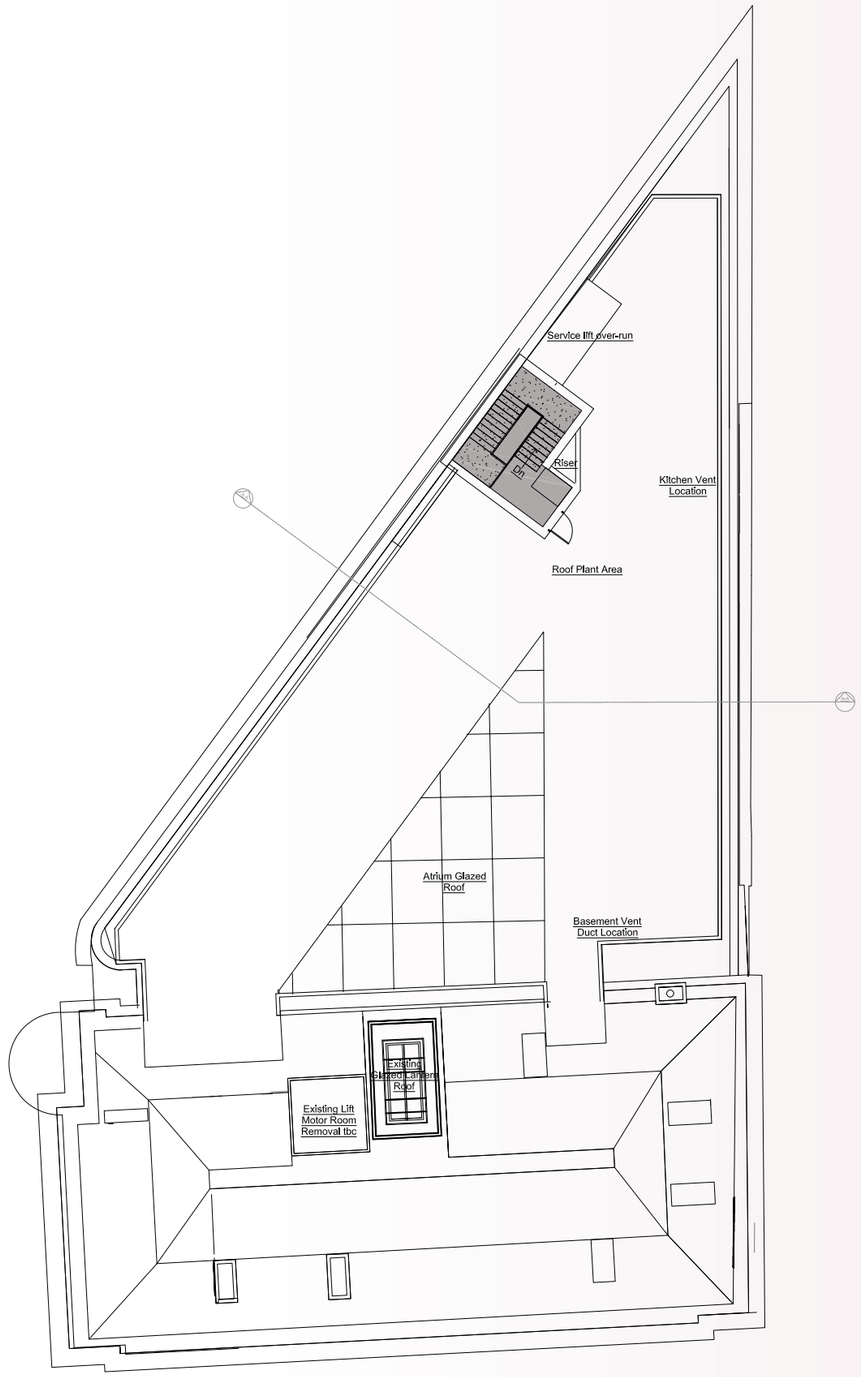
Level 01

Level 02



Level 03

Level 04

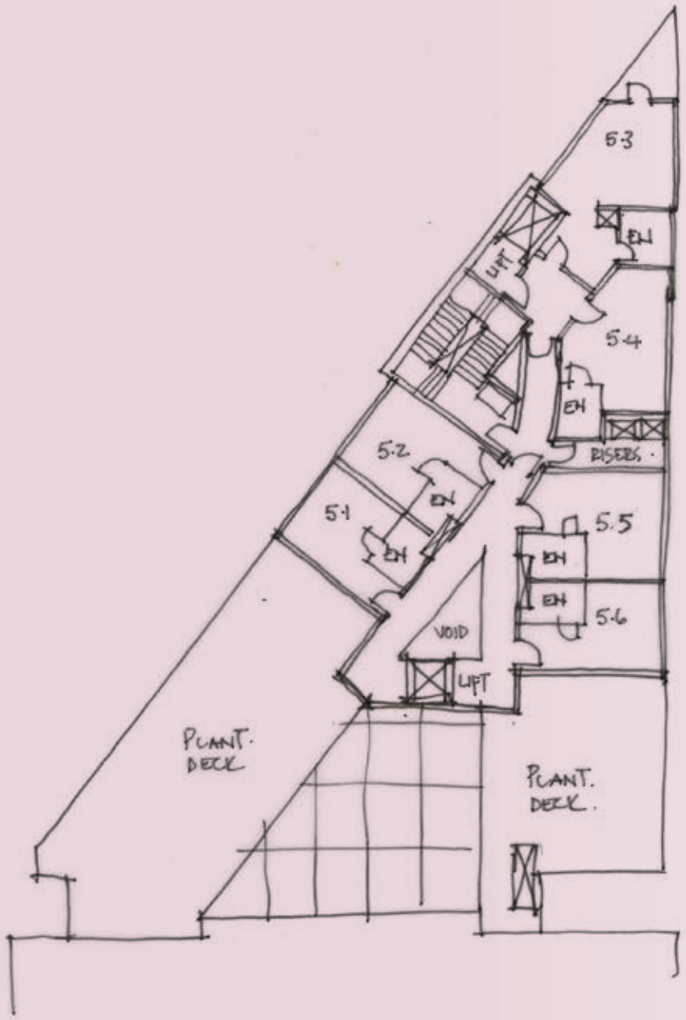


Roof plan

Section AA

5.4 POSSIBLE 5TH FLOOR

- Bowman Riley have been requested to consider the option of adding a 5th floor to the proposals.
- We have assumed the location for the 5th floor would be at the apex of the site at the junction of blocks B and C as this would have the least impact on the primary heritage asset of Block A.
- The layout proposed is limited by there being no alternate means of escape
- The introduction of a 5th floor in this location will take the 5th floor level over 18m and accordingly the fire strategy would be upgraded to suit.
- Note – the addition of a 5th floor was proposed late and the implications have not been considered by the whole design team. We expect material impact on levels 1 - 4 to affect the number of bedrooms on these levels.



Proposed 5th floor layout

6.0 SITE WIDE STRATEGIES

6.1 HERITAGE ASSETS

6.1.1 KEY PRINCIPLES

- The proposal of the existing building ensures to maintain its existing use as a hotel.
- The design process includes an assessment of the existing building to ensure its significance is identified.
- The heritage strategy emphasises to advise and assess accordingly to minimise harm to the heritage asset.
- The heritage strategy emphasises to advise and assess accordingly to retain what is significant.

6.1.2 LIMITATIONS/ASSUMPTIONS

- Though the findings from the archive research have provided strong evidence of historic information suitable to inform an understanding of the buildings phasing, it is not certain if or what works were undertaken from the shown.
- The ability to fully understand the existing building has been limited as parts of the building are deemed unsafe and/or inaccessible.
- The process of assessing the building to indicate its significance has been limited to a visual assessment only and is subject to pending opening-up and further site investigations.
- The information produced by Bowman Riley for this report have been developed within the limits of the measured survey, this includes any assessment of impact of the proposal given what is proposed also makes some assumptions to develop the design.
- The information produced by Bowman Riley for this report is limited to the fabric only and excludes other building components (such as doors and windows) and its condition.
- The heritage strategy assumes moving from Stage 2 to stage 3 that a full assessment of the built fabric following intrusive surveys is to be undertaken.

6.1.3 INFORMATION REQUIRED

- To fully understand the extent of the historic fabric to assess the existing building today, details and outcomes from the intrusive site investigations and opening up scope of work requested by either the design team consultants or highlighted by the BR heritage team, are to be provided (for example, opening up of the modern ceilings to investigate and determine any historic ceilings).
- The heritage strategy requires a coordination with any surveys requested by other consultants.
- The recent measured survey provided is to be completed to include more information which was unavailable at the time of survey, this includes a roof layout, external wall thickness, inaccessible spaces, detail elevations.
- There is an expectation to receive and review design development from all consultants to assess the impact of the proposal and provide any heritage advice and feedback.
- The proposal is subject to the confirmation of the Hotel Operator and their requirements which will inform the design development such as the buildings acoustic performance and fire separation.
- The heritage strategy places an expectation for further advise, input and collaboration with stakeholders such as the planning team from the local authority and other key stakeholders such as Historic England.

6.1.4 SUMMARY

A key objective of the proposal for The George Hotel is to prioritise that it remains as a hotel and find its best course of viability to retain its use moving forward.

Up to Stage 2 and for the purpose of this report, the understanding of the buildings phasing of historic development, the assessment both the buildings significance as a heritage asset and the assessment of impact of the proposal, has been an outline but informed review appropriate for Stage 2. This is subject to further development and site investigation.

For Stage 2, the assessment of impact of the heritage asset based on the current proposal is as follows.

The proposed demolition and alteration of any 1930's and 1960's fabric as shown in plan form, such as Block B, is less than substantial harm. There is sufficient evidence especially given the period of construction to show Block B is predominantly from the 1930's with the potential for the outer external wall to be 1874-1930.

The impact of any proposed alterations or loss of fabric to the 1851-74 phase is minimum or less than substantial harm apart from the loss of fabric located on the Ground Floor dining room which has been shown to be of substantial harm.

The proposed demolition and alteration of any 1850/51 fabric is to be considered substantial harm however the proposal has limited impact being located mostly to the north facing elevation or courtyard, or the proposal has work in areas with potential for alteration of the plan form previously.

In conclusion for up to Stage 2, the assessment of impact of the proposal for the whole building is less than substantial harm.

The heritage strategy identifies that a detailed assessment of a proposal coordinated with all the design team consultants is required. This includes the opportunity for the heritage team to provide advice and feedback to minimise harm of the existing building and retain what is significant and assisting to justify the future viability to continue its use as a hotel.

6.2 ACCESSIBILITY

VERTICAL ACCESS

Compliant level access is achieved throughout the site via lift or ramp. Staircases throughout the retained section of the building (Block A) are rationalised. The existing heritage main stair in Block A is retained and a fire escape stair introduced in the new extension to the northern end of the building. The newly formed central atrium houses a new feature stair to allow access from ground level to the function suite at basement level.

A new accessible lift will be installed within the existing lift shaft in Block A, allowing access to all levels,. In addition to this, a feature glazed lift will allow guest access from basement level to all levels allowing views into the atrium space on ascent.

HORIZONTAL ACCESS

Compliant level access is achieved from Railway St/St George's Square into the main reception of the new hotel. Automatic doors allow access from the front lobby into main reception. The new extension to the building will, where possible have level access from the existing Block A. At ground floor level a level change is unavoidable due to the window locations of the retained façade in Block C, the glazed lift allows horizontal access between blocks B and C at this point. At basement level the new extension floor level is lower than the existing Block A level to achieve the required headroom to function spaces, a combination of a ramp and heritage 'steplift ' platform will allow free movement between the two areas.

SERVICE ACCESS

Bin storage is proposed to the northern apex end of the building at an intermediate level between basement and ground floor. This allows level access to John William Street for bin access out of the building for kerbside collection by the authority. Internal access to the bin storage area is provided by a service lift which can be accessed at each level.

Deliveries to the building are anticipated from the Network Rail car park. Level access is achieved at this level via a mezzanine within the stair enclosure. This also serves as the fire escape from the adjacent stair. The through service lift is lobbied at each level of the building and is sufficient in size to accommodate linen trolley and food/bar deliveries in addition to furniture removal where required .

FIRE ESCAPE EGRESS

Compliant and level access fire escape exits are located direct out onto John William Street, St George's Square and the Network Rail Car Park. Internal refuge points are included at each level adjacent to escape stairs.

6.3 PRINCIPAL DESIGNER, HEATH AND SAFETY

6.3.1 KEY PRINCIPLES

CONFIRMATION OF PRINCIPAL DESIGNER ACTIONS UNDERTAKEN TO DATE:

- Attended initial 'start meeting' via teams for awareness of project team and project particulars.
- Initial site visit undertaken on 9th June 2022 guided by Helen Walker.
- Collating existing pre-construction information in draft.
- Review of existing available pre-construction information, surveys, and drawings.

6.3.2 LIMITATIONS/ASSUMPTIONS

- TBC - full review to be undertaken once all documents are collated.

6.3.3 INFORMATION REQUIRED

- Return of Client signed letter of appointment of the Principal Designer Under the CDM Regulations 2015.
- Copies of all existing and new site information currently being procured to be sent to the Principal Designer soon as received.
- Initial Design Risk Assessments to be provided by all designers.
- Provide information as detailed in the tender pack and below table.

DOCUMENT NAME	AUTHOR
Phase 1 Environment Report	Watts
Building Inspection Report	Watts
Structural Condition Survey	Ramboll
Topographic Survey	MOBCAD
Drainage Survey	Jet Aire Services
Asbestos survey pack	Kirklees and Bradleys Environmental

6.3.4 SUMMARY

The draft Pre-Construction Information pack is prepared, full review of existing and new documents is to be undertaken

6.4 STRUCTURAL ENGINEERING

6.4.1 KEY PRINCIPLES

OPTIONS APPRAISAL

DESIGN CRITERIA

To enable the process of option selection, a series of design criteria for which options could be appraised against was developed. Differentiation between primary and secondary design criteria has been included in the table below.

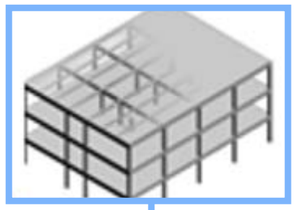
CRITERIA	PRIMARY/ SECONDARY	ADDITIONAL INFORMATION
Sustainability	Primary	Undertake a Life Cycle Assessment (LCA) by providing three options for the substructure/ superstructure to feed into the LCA process
Retention of Listed Façade	Primary	The scheme must enable the retention of the listed façade along John William Street
Enabling achievement of masterplan	Primary	The commercial model for the hotel requires a minimum number of hotel rooms. The structural layout must accommodation this through clear spaces as required
Cost	Primary	Overall project cost a key consideration for the overall commercial model to be a viable proposition
Scope and complexity of permanent/ temporary works	Primary	A key consideration is the complexity of any associated temporary works and the sequencing challenges presented by constructing the permanent scheme
Structural depth	Secondary	Limiting the structural zone to allow level access with the retained building
BREEAM	Secondary	Opportunities for BREEAM credits within the chosen scheme
Modern methods of construction (MMC)	Secondary	Opportunities to adopt MMC in the design
Supply chain and coordination	Secondary	General constraints etc. around the supply chain associated with various construction forms

PRIMARY OPTIONS PROPOSED

Based on the criteria presented above, several options for the primary superstructure were considered as part of the study. Structural options considered applicable were:

- In situ traditional reinforced concrete frame
- Composite steel deck on steel down stand beams
- Glulam and Cross laminated timber slab
- Pre-cast concrete columns with lattice slab
- Modular (prefabricated)
- Met frame structural framing system with composite floors

SCHEME OPTIONS



IN SITU CONCRETE

STEEL FRAME

MODULAR

TIMBER/GLULAM

PRECAST

METFRAME

RECOMMENDATION

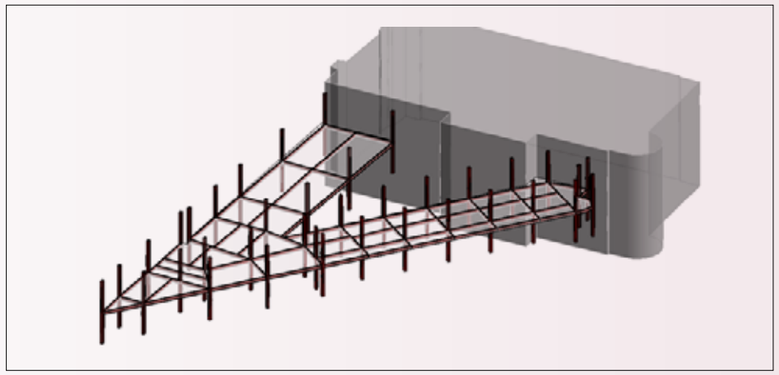
At this stage, following the completion of an option appraisal, a steel frame concept scheme has been presented to allow a cost comparison to be carried out by the cost consultant. Primary reasons for the selection include:

- Flexibility with non-uniform floorplate
- Interface details with listed facade
- Sequencing with façade retention
- Lightweight – minimising substructure loads/sizes
- Efficiency for grid spacing proposed

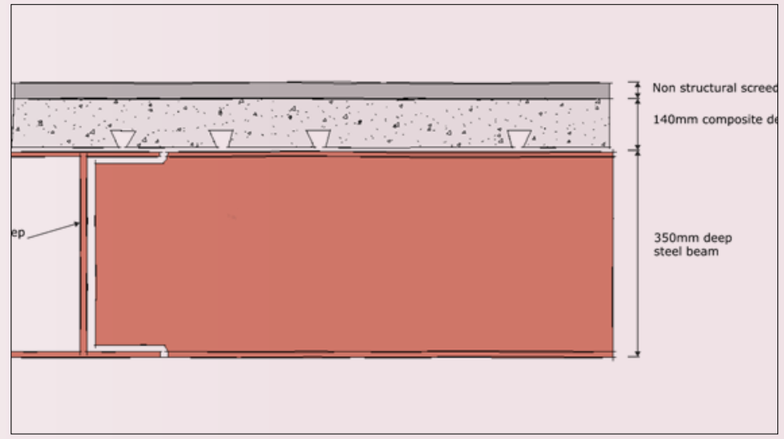
It is recommended that other construction types presented are reviewed in further detail to arrive at a comprehensive RIBA 2 submission prior to progressing to a defined concept into RIBA Stage 3.

PRIMARY SUPERSTRUCTURE

The proposed primary superstructure of the building comprises traditional down stand steel beams with a composite RC slab on a permanent steel deck. The steel grid is typically 6m x 7m. Secondary beams span the long direction and are at approximately 3m centres. Typically, both the secondary beams and primary beams are circa 350mm deep. The edge beams are standard UB 305. The composite deck is composed of a 1mm re-entrant steel profile, and a 140mm thick normal weight concrete slab cast in situ.



Primary Superstructure – typical floor plate



Typical structural configuration

LATERAL STABILITY

Lateral stability is addressed through the provision of vertical braced bays providing stability against wind loads. These would primarily be located around stair cores and wall partitions to coordinate with the architectural proposals. Further coordination is a required to complete RIBA Stage 2.

INTERFACE DETAILS WITH BLOCK A

The new build component will be designed as independent structure in relation to Block A. This will help reduce any issues arising from differential movement between the existing building and new proposed structure.

VIBRATION RESPONSE

Acoustics and vibration are noted as important design criteria due to the proposed usage of the building. Floor accelerations will be limited to provide an appropriate level of comfort to building occupants or if the occupancy requires particular limits to be achieved.

ATRIUM SUPPORT

General Walkways (Parallel to Room Partitions)
The walkways to the central atrium are proposed to cantilever from the steel frame which follows the corridor partition line as indicated in the figure below. This mitigates the need for structural support columns in the main atrium space.

Any interfaces between the cantilevered walkways and potential temporary fire curtains are to be reviewed at a later design stage in terms of additional loading etc.

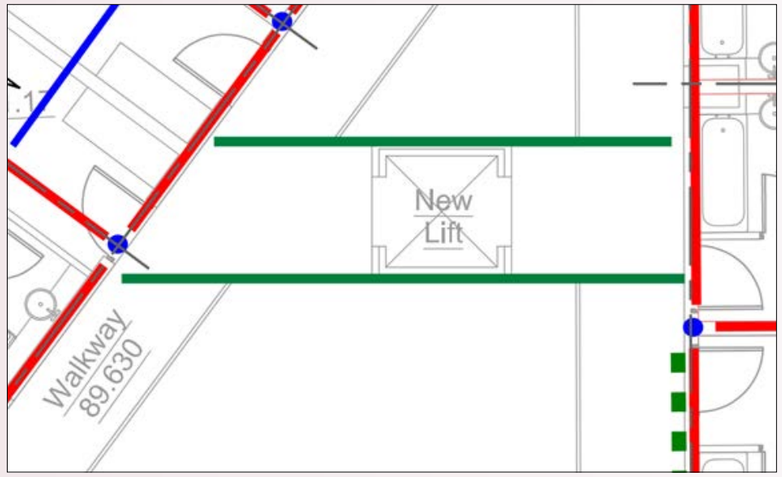
CENTRAL WALKWAY BETWEEN WINGS

To provide the necessary structural support to the central atrium between Block B/C it is proposed to provide structural steelwork as illustrated in the figure below. Additional secondary steel would be included to frame around the lift etc. as required. The structural beam would clear span across void between the two blocks providing a column free space below.

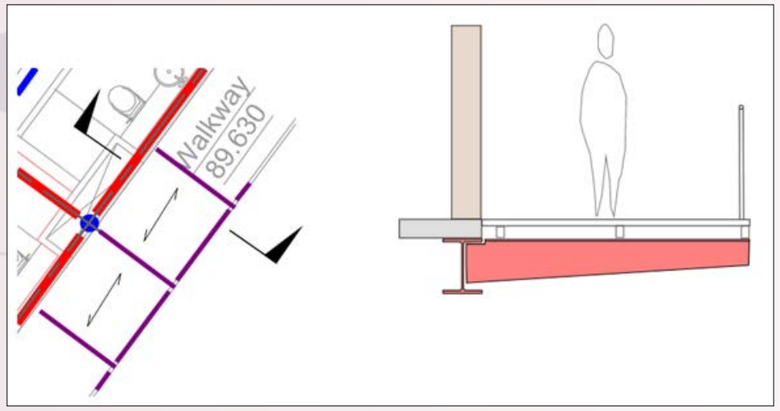
Allowance should be made in the connection design to enable sufficient horizontal movement to accommodate for any differential deflection between the two blocks. This will be reviewed in further detail at a later design stage.

ATRIUM ROOF SUPPORT

At this stage it is assumed that the roof to the atrium is to be a specialist sub-contractor designed item. Therefore, at this stage no allowance has been included for structural support. It is envisaged that the preferred option for the roof form is likely to be a lightweight glazed framing solution. For cost estimation purposes, it is recommended to include for an allowance for structural support if this is introduced at a later design stage.



Central atrium support structure



Typical section through walkway

SUBSTRUCTURE

DESKTOP REVIEW/ANTICIPATED GROUND STRATA

A desktop-based review has been completed of the historical borehole data available from the BGS. The ground conditions are shown to comprise glacial head deposits (clay, silt sand and gravel) overlying bedrock of the Pennine Lower Coal Measures. The Coal Authority show that the site is within a Development High risk Area. The implication of this designation is that a Coal Mining Risk Assessment (CMRA) is likely to be required as part of the planning process. There are exemptions for works associated with listed buildings however discussion with the planners and/or Coal Authority may be worthwhile bearing in mind the proposed demolition works and construction of new structures as part of the development.

The designation is associated with an area of 'probable workings', which is designated for the majority of Huddersfield town centre area. The Coal Authority define 'probable workings' essentially as an area where there are known coal seams that could have been worked in the past, but they have no evidence of any such workings.

SUBSTRUCTURE PROPOSAL

Due to the ground conditions expected at the site, together with the column loads identified during the initial analysis stages, a piled foundation solution has been proposed. Initial estimates of pile capacity have been based on historic geotechnical information available from the British Geological Society for boreholes in close proximity to the site.

Using this information, 450mm diameter piles have been proposed for the new building. The typical layout of these is two or three piles below each typical column (dependant on location and resultant load). A series of ground beams also are provided to act as ties to the two-pile caps and provide the support to the reinforced concrete suspended floor slab.

FAÇADE RETENTION/BASEMENT LEVEL REDUCTION

The retention of the listed building façade along John William Street introduces a number of complexities and sequencing considerations for the project. At this stage, a high-level study has been completed in order to consider possible sequences for the works and understand some of the key considerations and challenges.

Possible methods presented will require significant further coordination with a temporary works specialist/contractor to understand their viability. Options have been developed in the absence of any intrusive survey information on the basement retaining structures, which is critical information to obtain prior to developing any potential scheme.

Two primary retention façade options are presented below.

- Internal Façade Retention
- External Façade Retention

INTERNAL FAÇADE RETENTION

Sequence

- Mini piling rig to install a series of piles at basement level. This is subject to achieving the required access to undertake the piling activities safely. It should be noted that it may not be possible to get a piling rig into the basement to complete these works.
- Partial demolition of existing floor structure to enable the temporary retention structure to be threaded in.
- Installation of complete façade retention structure.
- To minimise any adverse impact on the façade, the listed façade would be restrained to the support steelwork through a clamping detail through the existing windows. This would mitigate the need to use mechanical fixing into the listed façade in the temporary case.
- Methodology to be develop for lowering of the basement by approximately 600-1000mm. We have not currently been able to identify a robust concept for how this would be undertaken with the façade retention in place.

KEY CONSIDERATIONS AND CHALLENGES

- Uncommon approach – Typically any façade retention scheme provides temporary support outside the building envelope. Adoption of an uncommon design approach may result in additional design work/cost. This approach however may be adopted in tight city centre sites which may feature adjacent buildings etc in close proximity.
- Ensuring temporary stability of steel frame during the erection would be challenging.
- Erection of the permanent steelwork scheme – This would be difficult with the presence of the façade retention structure. It may be preferred to design the façade retention structure to become the permanent structure in this area. This would need to be investigated in more detail to understand if viable.
- Issues obtaining required waterproofing classification for basement – Any basement scheme would be more difficult to achieve the required Grade 3 status when compared with a piled wall solution (piled wall acts as a barrier to water ingress on top of drained cavity).
- Retains free pedestrian movement along John William Street.
- Sequencing of the basement reduction – Although both schemes offer challenges with respect to lowering the basement, the temporary works associated in this scenario are likely to be significant and we have not been able to identify a sensible sequence to lower the basement with the temporary works in place.
- Integration of temporary works solution into the permanent scheme – To aid efficient in the design process, it would be recommended to investigate if the temporary retention steelwork and or foundations can be utilised to support the building in the permanent case.
- Overall, with the complexity and challenges presented by this option, it is likely that it would not be a viable solution.

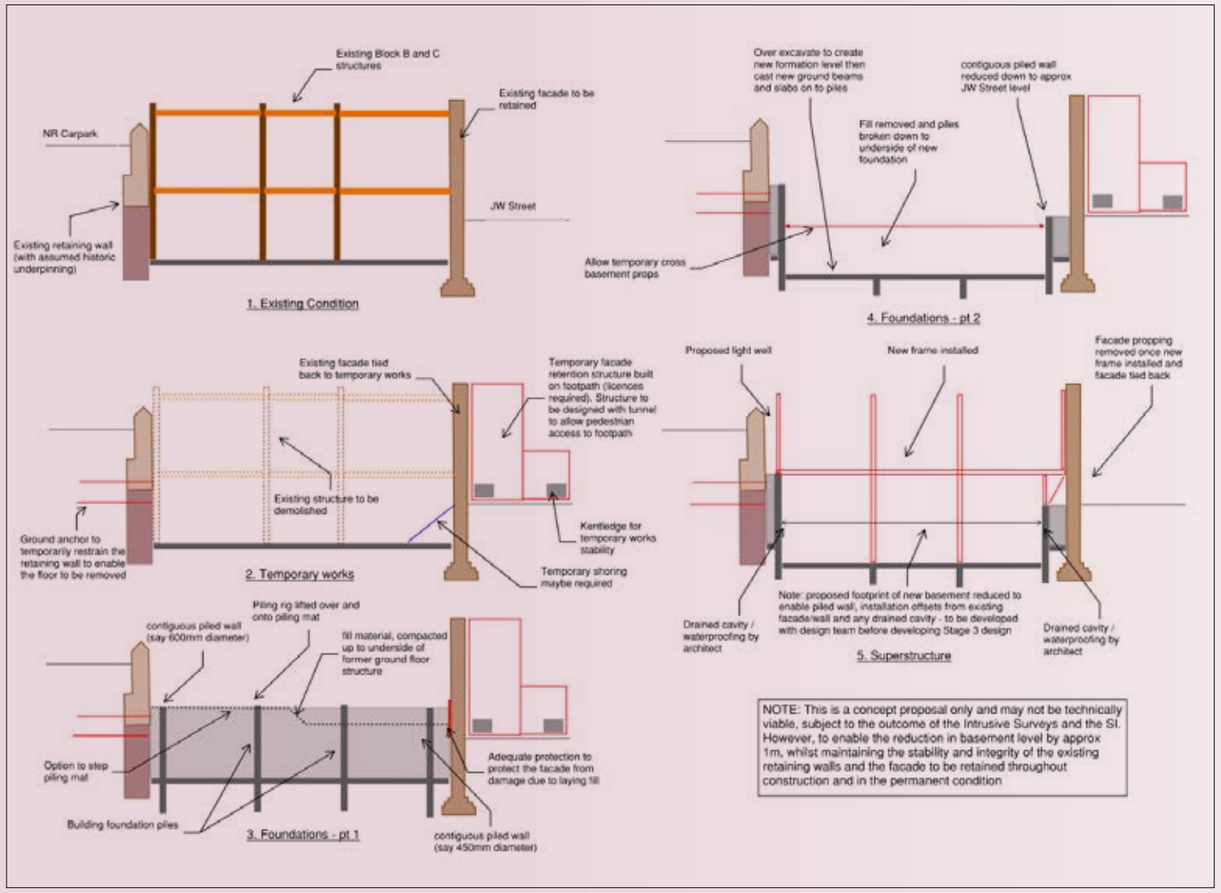
EXTERNAL FAÇADE RETENTION

Sequence

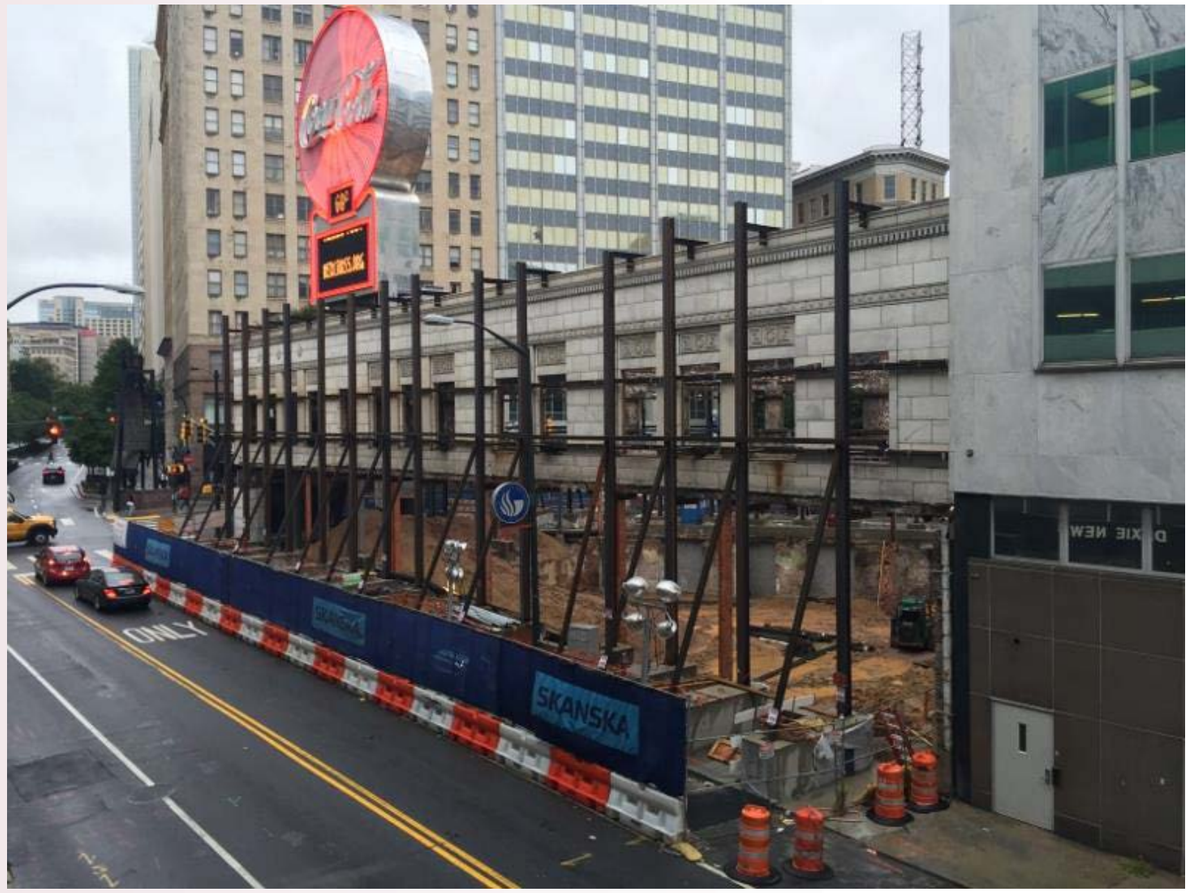
- Installation of ground anchors to western retaining wall to provide lateral restraint to enable removal of floor (floor currently propping wall providing restraint). This would require approvals from the adjacent landowner.
- Installation of temporary façade retention structure in the footway of John William Street (subject to required licenses). Structure would possibly be designed as a tunnel to retain pedestrian movements during the works. It should be noted there may be a level of disruption associated with this and potential temporary closures etc.
- Demolition of existing structure – This existing construction would be removed to enable the new build structure.
- Building footprint backfilled with imported material to create piling mat and provide support to retaining wall. Piling mat level to approximately match existing ground floor level.
- Contiguous piled wall installed along each side of the building (slightly inbound from existing basement walls) to suit piling rig offsets and existing wall foundations.
- Piling rig used to install all piled foundations within building footprint.
- Once all piles installed, over excavate material to create need formation level. Once formation level achieved, cast new ground beams and slabs onto piles. Piles cropped down to suit final cut off levels.
- Construction of new basement slab and in situ RC ground floor.
- Temporary façade retention removed and installation of new steel frame.

KEY CONSIDERATIONS AND CHALLENGES

- Disruption/Potential closure of John William Street – Introduction of a façade retention scheme will result in the site boundary increasing into the footway of John William Street. This introduces the potential for disruption to the footpath whilst the façade retention works are in place. Erection of the retention system made also have a level of disruption to the carriageway.
- Large quantities of material/logistics – In order to create the piling mat, a significant volume of imported material would be required. This would result in a significant volume of construction vehicles arriving at the site to deposit materials. Given the usage of the site, this may create some conflict in particular with the railway station.
- Significant reduction of usable space at basement level – Installation of a contiguous piled wall and associated drained cavity/facing wall would reduce the usable space in the basement.
- Ground Anchors within Network Rail (NR) land – This would require agreement with NR and likely a significant approvals process to achieve sign-off.
- Additional Surcharge loading from façade retention structure – Additional weight from the structure would add additional load to the existing structure, which would need to be carefully considered.
- Protection to façade during backfill process – A level of protection would be required to assure no damage to the listed façade.
- Achieves required basement grade (waterproofing) – This scheme would enable more resilient waterproofing details to be achieved.
- Piling next to existing retaining wall – Requires further understanding of the impact of piling in close proximity to the existing wall with respect to vibration etc.
- Expensive rotary piling may be required dependant on rock strength to achieve adequate socket.
- Protection to Retaining Wall – Due to the unknown condition and construction form for this wall, careful measures would need to be implemented to ensure the stability and condition of this existing wall.



External facade retention - potential sequence



Example facade retention scheme

6.4.2 LIMITATIONS/ASSUMPTIONS

Limitations and assumptions specific to the structural design of the building are included below.

GEOTECHNICAL

- Design is based on limited information on the likely ground conditions. Foundation scheme presented subject to change following detailed ground investigation.
- No information on potential obstructions/buried services which may conflict with the proposed foundation arrangement.
- No information is provided on the potential geo-environmental risks associated with items such as ground gas or ground contamination.

STRUCTURAL DESIGN

- The structural option presented in this report represents an initial level of detail and should be subject to further development prior to progression into RIBA Stage 3.
- Basement level reduction – The high-level scheme presented for the basement level reduction should not be progressed to the next design stage without further coordination and design. It is recommended that a specialist temporary works designer and or contractor is engaged to help understand the viability of the potential scheme presented as part of this report.
- Current framing arrangement based on assumption that basement level architectural layout can be adjusted to suit. Current arrangement provides no transfer structures, however results in columns penetrating room spaces at basement level.
- The scheme assumes the partial closure of John William Street in the temporary case – subject to liaison with the local authority etc.
- No studies have been completed of the embodied carbon for the respective options. Prior to progressing into the next design stage, a complete sustainability assessment should be undertaken.

6.4.3 INFORMATION REQUIRED

With respect to the structural engineering philosophy for the scheme, the following information is required.

- Findings of intrusive surveys and ground investigation to help inform feasibility studies of basement level reduction.
- Coordination with temporary works specialist around the basement level reduction.
- Confirmation on the viability of reducing basement size to accommodate the contiguous piled wall which is required as part of the basement reduction works.

6.4.4 SUMMARY

Initial review of the architectural proposals suggest that the scheme is well suited to a steel frame solution due to the irregular grid and interfaces with the existing building. The proposed basement level reduction and associated façade retention is likely to involve significant temporary works which will need to be reviewed in a high level of detail to understand the complexities involved and the overall viability as part of the full RIBA Stage 2 Report.

6.5 SUSTAINABILITY

6.5.1 KEY PRINCIPLES

We recognise the significant potential impact that the structures that we design can have on the environment, whether that be through global warming potential, resource depletion or water usage. We also see this as a huge opportunity for us to help our clients to find the most pragmatic ways to reduce those impacts. Therefore, it is imperative that sustainability is embedded into the decision-making process at RIBA 2.

A key aspect of the sustainability design philosophy relates to understanding the life of the building, it's materials and components:

- What are the future scenarios? Change of use? New owners?
- What is the design life? And how long can it actually be used for?
- Does it need to be flexible? Adaptable? Reconfigurable? What do these words mean for our client?
- Will it be extended? Down, up, across – do we need to think about this now?
- How will it be de-constructed and re-used? How do we maximise potential re-use?
- How will the MEP systems change, and the façade, does the structure need to consider future changes in other disciplines?

It should be noted that the information presented below reflects an RIBA stage 2 submission. To ensure a comprehensive approach to sustainability is adopted, the following information should be reviewed upon the completion of the RIBA 2 submission.

BREEAM OPPORTUNITIES

It is noted that the project will be looking to achieve BREEAM accreditation and as such the following list of opportunities have been identified:

- Mat 01 – Life Cycle Assessment - Undertake a Life Cycle Assessment (LCA) by providing three options for the substructure and three options for the superstructure to feed into the LCA process.
- 2. Mat 06 – Material efficiency - A number of measures have been considered to optimise the material efficiency of the structure and the impact of the structure on the other design aspects, such as the façade.
- 3. Wst 05 – Adaptation to Climate Change - Carry out a project specific risk assessment relating to the impact of climate change on the building design and how to adapt the design to ensure that it is resilient to the effects of climate change.
- 4. Wst 06 – Design for disassembly and adaptability - Consideration for future disassembly and adaptation. For example, the vast majority of steel frame connections are likely to be simple connections and therefore bolted connections are anticipated. Therefore, the steel frame can be considered for disassembly, and this will be considered further in the following stages.

The initial design discussions and decisions made at RIBA stage 2 will be further developed and clarified during RIBA stage 3.

BREEAM good to very good can generally be achieved by ensuring early adoption of BREEAM focused management methodologies, and stringently adhering to the current building regulations whilst having due regard to the opportunities identified below however the design team will be reviewing the various options in order to maximise the sustainability that can be incorporated into the building. Examples of this could include:-

- Air source heat pumps for heat recovery
- Utilising MVHR systems (Mechanical Ventilation with Heat Recovery)
- Installation of Photovoltaics if deemed meaningful.
- Replacement of existing single glazing within Block A with Insulated glass units (IGUs) Vacuum Glass
- Investigation of use of sustainable materials for the new structural frame
- Consideration of the building fixtures, fittings, material choices and finishes specifications
- Consideration of all mechanical and electrical systems

6.5.2 LIMITATIONS/ASSUMPTIONS

It should be noted that the information presented below reflects what we have been able to collate and review in the prescribed timescale. To ensure a comprehensive approach to sustainability is adopted, the following information should be reviewed prior to commencment of RIBA stage 3.

6.5.3 INFORMATION REQUIRED

- Prepare initial materials estimates (concrete volumes, rebar/steelwork tonnage), review embodied CO2 and environmental impact (life cycle assessment) of key materials used in the superstructure and substructure.
- Choose appropriate structural form and material.
- Optimise grid to reduce material usage.
- Review transfer structures through coordination with other disciplines. Look to minimise transfer structures to aid efficiency.
- Include any sustainability criteria in the Stage 2 specification.
- Review options for modular or off-site construction methods.

6.5.4 SUMMARY

We recognise the significant potential impact that the George Hotel building may have on the environment and as such the importance of understanding the sustainability credentials of any potential structure. This also presents a huge opportunity for us to help to find the most pragmatic ways to reduce environment impacts and strive for a sustainable design solution. Therefore, it is imperative that sustainability is embedded into the decision-making process at RIBA 2 and as previously mentioned should be investigated in further detail prior to progressing into the next design phase.

6.6 CIVIL ENGINEERING

6.6.1 KEY PRINCIPLES

KEY DESIGN DRIVERS

The following key drivers for the design of the proposed development have been identified.

- To develop an efficient drainage solution for the site.
- To re-use (if appropriate) the existing connection to the sewer in John William Street.
- To retain and re-use the existing below ground drainage system where appropriate, depending on the results of the Survey.
- To separate the foul and surface water systems to future proof the design.
- To engineer a sustainable approach to surface water discharge within the limitations of the site.

EXISTING BELOW GROUND DRAINAGE SYSTEM

Currently the below ground drainage within the site is a combined system, taking both surface water and foul water drainage from the hotel. Pending the results of a CCTV Drainage survey, the current intent is to retain the existing below ground drainage system, providing the system is in good condition and suitable for modern day design criteria.

Due to the topography of the site, the basement, and thus the below ground drainage, is situated above the level of the sewer in John William Street. This enables the building in its entirety to be drained by gravity, obviating the need for pumped discharge.

PROPOSED FOUL WATER DRAINAGE SYSTEM

The proposal is to create separate systems within the basement – keeping foul water and surface water separated, combining them externally, prior to the sewer connection. Foul drainage from the building will be collected from the above ground drainage, connecting into drain points, to be conveyed into the sewer in John William Street.

Pending the results of the survey, it is intended to create a new system for the foul water drainage, which if deeper can collect drainage from the new, lowered area of the basement.

PROPOSED SURFACE WATER DRAINAGE SYSTEM

As noted above, the proposal is to create separate foul and surface water drainage systems within the basement, combining them externally, prior to the sewer connection. It is proposed that the scheme be drained in a block-wise manner.

BLOCK A

As Block A is to be retained, at this stage it is not proposed to provide any flow control or attenuation as this is to be a like-for-like system – pending validation via calculations. It is proposed to use the existing system where possible. It should be noted that at present, key stakeholders (Yorkshire Water and Kirklees Council) have not been engaged and as such this element has not been accepted.

BLOCK B

Block B is to be demolished and a new structure built in its place. As such it is likely that surface water from this block will need attenuating to achieve greenfield runoff rates and using the current climate change coefficient of 40%. It is proposed above ground attenuation tanks are used either in the basement or geocrates below the atrium courtyard. The reduced flowrate from the outlet is to connect to the main system to discharge into the Yorkshire Water sewer in John William Street.

BLOCK C

Block C's structure is to be a façade retention scheme, and a new structure built behind. As such, authorities will likely deem this as a new build from a drainage perspective so it is likely that surface water from this block will need attenuating to achieve greenfield runoff rates, and also using the current climate change coefficient of 40%. It is proposed above ground attenuation tanks are used either in the basement or geocrates below the atrium courtyard. The reduced flowrate from the outlet is to connect to the main system to discharge into the Yorkshire Water sewer in John William Street.

6.6.2 LIMITATIONS/ASSUMPTIONS

- At the time of writing, no survey information has been received, the current condition and layout of the existing system is unknown. Historic drainage drawings do show the layout of the below ground system; however it is unknown if this has been modified. As such, no tangible progress can be made on the design of the below ground drainage system, as a key part of the strategy is to retain the existing where possible.
- At present, no formal discussions have been opened with the main stakeholders regarding attenuation requirements, as such it is assumed that the surface water from Blocks B and C are to be attenuated, and Block A is to remain as-is. There is a risk that the stakeholders may require the full site to be attenuated prior to connection to the sewer.

6.6.3 INFORMATION REQUIRED

- Below Ground Drainage CCTV Survey report.
- Complete Above Ground architectural layouts to determine foul and surface water flowrates/areas.
- Outcomes of preliminary discussions between Bowman Riley and Kirklees Council regarding surface water attenuation.

6.6.4 SUMMARY

Overall, the below ground drainage intent is to exit the building at the existing location, with the addition of a new system within the building for foul or surface water pending the outcome of the survey report and architectural layouts. A new demarcation manhole chamber will be required externally prior to the existing sewer connection. It is anticipated that blocks B and C will require attenuated surface water flowrates, therefore requiring storage in a location TBC. There is potential for the storage for both blocks to be combined rather than dedicated storage for blocks B and C. It is assumed that Block A can remain as-is, however this is to be confirmed upon agreement with the stakeholders. At present, the drainage survey information and provisional attenuation agreement with stakeholders is required to progress the design of the below ground drainage.

6.7 ABOVE GROUND FOUL DRAINAGE

6.7.1 KEY PRINCIPLES

- Generally, it is anticipated that the building shall be drained via gravity to connect to drain points within the basement. Where drainage stacks serve over five floors, or as deemed necessary, stub stacks will be introduced to alleviate pressure within the system.
- Grease-laden wastewater from the kitchen shall be collected and conveyed via a dedicated system before pass through a grease trap, located within the basement, prior to connection to the overall foul drainage system.
- All vertical drainage shall remain plumb throughout the building, with no offsets.
- Due to restricted head height within the basement, drainage drops from ground floor to basement shall be such that no offset is required within the basement.
- Pipework shall generally not run within bedrooms, nor shall it offset over them.
- The drainage system shall be a modified primary ventilated system. All drainage pipework shall vent to atmosphere at roof level.
- Within the basement there are proposals for WC's in the Block A basement not in the current position, there are proposed staff changing and a tank room in Block B requiring some drainage within the footprint of the basement.

6.7.2 LIMITATIONS/ASSUMPTIONS

- It is assumed at present that the bedroom risers can run unimpeded throughout the building, and there is ongoing coordination to achieve this.
- At present, no structural 'no-go' zones have been highlighted where drainage penetrations are proposed, however this is ongoing coordination.

6.7.3 INFORMATION REQUIRED

- Roofscape drawings to facilitate and determine the practicality of vent pipe terminations.
- Below ground drainage survey and strategy.
- Complete Above Ground architectural layouts to determine foul flowrates.

6.7.4 SUMMARY

Overall, the above ground foul ground drainage is to be a primary ventilated system, where the intent is to connect to the below ground drainage system similar to the existing system. Above ground, the rainwater and foul drainage shall remain separate. Architectural and MEP coordination with the drainage is ongoing and will continue into Stage 3.

6.8 ABOVE GROUND RAINWATER DRAINAGE

6.8.1 KEY PRINCIPLES

- A dedicated rainwater drainage system shall drain all roof areas of the buildings.
- It is currently anticipated that all existing rainwater drainage in Block A will be stripped out and replaced with new. Where it is exposed, this will be heritage style, subject to architectural approval.
- Where possible, the current strategy is to keep rainwater pipework external to the building, however this is subject to the extent of the basement and the below ground drainage design.
- To maintain an efficient drainage system, it is proposed that roof outlets in unoccupied areas are untrapped.
- All above ground rainwater drainage shall be kept separate from the foul water drainage.
- As there is likely a requirement for surface water from blocks B and C to be attenuated, they too shall be maintained as separate systems prior to any attenuation and flow control.
- Where rainwater drainage runs internally, it shall not pass-through bedroom areas, instead it shall pass through risers in landlord areas associated with bathroom drainage.

6.8.2 LIMITATIONS/ASSUMPTIONS

- At the time of writing, no survey information has been received, the current condition and layout of the existing system is unknown. Historic drainage drawings do show the layouts of the below ground system pup ups for connection; however, it is unknown if this has been modified. As such, no tangible progress has been made on the design of the rainwater drainage system, as a key part of the below ground strategy is to retain the existing where possible.
- At present, no formal discussions have been opened with the main stakeholders regarding attenuation requirements, as such it is assumed that the surface water from Blocks B and C are to be attenuated, and Block A is to remain as-is. There is a risk that the stakeholders may require the full site to be attenuated prior to connection to the sewer.

6.8.3 INFORMATION REQUIRED

- Below Ground Drainage Survey report.
- Complete Above Ground architectural layouts to determine surface water flowrates/areas.
- Outcomes of preliminary discussions between Bowman Riley and Kirklees Council regarding surface water attenuation.

6.8.4 SUMMARY

Overall, the rainwater drainage intent is to drain all roof areas via gravity. Block A shall have the existing stripped out and a new system installed to ensure compliance with current standards and regulations. It is the architectural desire to keep rainwater drainage pipework external, as such the design will be in line with this strategy where possible. Blocks B an C shall have a new rainwater system installed; however, it is likely that the flowrates will be attenuated prior to discharge to the sewer, this is pending discussions with Yorkshire Water and Kirklees Council.

6.9 DOMESTIC COLD WATER SERVICES

6.9.1 KEY PRINCIPLES

- Water shall be taken from the water main located within John William Street. Investigations are underway to determine if the size and capacity is sufficient for the proposed redevelopment.
- The incoming supply shall be metered upon entry to the building and shall be routed to serve a cold-water storage tank located in the basement.
- Water shall be distributed to all areas of the building via a cold-water booster pump set and UV disinfection to prevent proliferation of legionella and other biofilms. Pipework will utilise the bedroom risers to serve the bathrooms on the hotel floors.
- Where category 5 backflow protection is required, this shall be provided by means of packaged tanks and pump sets.
- As the water supply to Huddersfield is soft water, there is no current plan to provide water softening plant and a dedicated softened water supply to the bedrooms.
- Water from the boosted cold water service system will also serve the domestic hot water generation plant at roof level via a water conditioner, to prevent scale formation.

6.9.2 LIMITATIONS/ASSUMPTIONS

- It is assumed at present that the bedroom risers can run unimpeded throughout the building, and there is ongoing coordination to achieve this.
- The daily demands for cold water are taken from IOP guidance for a 4* hotel, however this may be subject to change should a hotel operator require a turnkey development with specific ERs.

6.9.3 INFORMATION REQUIRED

- Engagement with the kitchen specialist is required to determine the equipment to be used.

6.9.4 SUMMARY

- The proposed strategy is to supply the hotel with a boosted cold-water system. Water is to be stored in the basement and boosted to the points of use. Distribution routes shall be coordinated with the architecture and risers where possible. Dead legs shall be kept to a minimum to minimise stagnation and prevent the formation of legionella coliforms and biofilms.

6.10 FIRE SUPPRESSION

6.10.1 KEY PRINCIPLES

- From meeting minutes between Bowman Riley and the Fire Engineer it is not currently proposed to have sprinkler protection within the building. However, this should be confirmed upon receipt of the Fire Engineer's Strategy report.
- The building shall be provided with dry risers in line with BS 9990.
- The dry risers within the building shall be located adjacent to fire protected stairwells and their locations agreed with both Bowman Riley and the local fire brigade.
- Dry riser breeching inlet boxes shall be provided in sensitive locations and agreed with Bowman Riley and the local fire brigade.

6.10.2 LIMITATIONS/ASSUMPTIONS

- Due to the heritage nature of the building, engagement with the relevant historic authorities should be sought when determining the location of the cabinets.

6.10.3 INFORMATION REQUIRED

- BR, Fire Brigade and Heritage England approval.

6.10.4 SUMMARY

At present, the building shall not be sprinkler protected in line with the current fire strategy. However, this should remain an option and open for discussion. The building shall be provided with dry risers for firefighting purposes in accordance with BS 9990.

6.11 FIRE AND FIRE ENGINEERING

6.11.1 KEY PRINCIPLES

- The George Hotel will be designed to meet the functional requirements B1 to B5 of Schedule 1 of the Building Regulations 2010 as well as regulations 6(3), 7(2) and 38; and the Construction (Design and Management) Regulations 2015. In order to meet the functional requirements of Part B of the Building Regulations 2010 (as amended 2018), the building will be designed in accordance with BS 9999:2017 'Fire safety in the design, management and use of buildings – Code of practice'.
- Post construction, the building will be subject to the Regulatory Reform (Fire Safety) Order 2005.
- The proposed development aims to preserve and enhance the George Hotel which is a Grade II Listed Building. The development would secure a viable use for the building and therein maintain the upkeep of the historic building. The design proposals are intended to be sympathetic to the heritage requirements and as such strict compliance with BS 9999 may not be appropriate and alternative methods for compliance are proposed.
- Where BS 9999 is not followed prescriptively, a performance-based design will be offered that will provide at least the same level of safety as a fully code compliant design. Any part of a design that deviates from the recommendations found within BS 9999 (and other appropriate British Standard document) will have to be justified by the designers and approved by Building Control. Demonstrating suitable fire engineering justifications will be achieved by following the framework of BS 7974:2019 - 'Application of fire safety engineering principles to the design of buildings.'
- Property protection shall also be a consideration. It should be noted that the additional provisions required for property protection are not considerable once life safety principles have been established. The detail of the extent of property protection measures can be assessed when we have Operator's requirements and any Insurer's requirements.

B1 - MEANS OF WARNING AND ESCAPE

CHARACTERISTIC	DESIGN PROPOSAL
Smoke detection	A fully addressable smoke detection system is to be installed in all areas, as a Type L1 (and therefore also a P and M) system with manual call points adjacent to each exit. The atria area is to be protected by an aspirating system.
Means of Escape	Means of escape will be via a simultaneous evacuation. The hotel will be provided with two lobby protected stairs. All means of escape including exit widths and stair widths are to be in accordance with BS 9999. Escape signage is to be installed to the BS 5499 suite of standards.
Refuges & PRM	Disabled refuges will be provided at all levels and at all storey exits. It is proposed to include an evacuation lift within the hotel serving all levels. Disabled to be provided with EVC.
Means of Warning	A PA/VA system is to be installed in accordance with BS 5839-8 throughout the hotel. In areas where there is high background noise (e.g. plant rooms), flashing lights (strobes) are to be installed. The George Hotel may consider the use of coded messages as part of an initial management response to an alarm. Guest rooms should have combined detector/sounder devices. The sounder should provide 75 dB at the head of the bed. Consideration of fire alarm warnings for deaf guests will be made when the Operator is determined, using products such as Deaf Alerter (or similar approved).
Emergency Lighting	Emergency lighting will be installed to BS 5266-1 and BS EN 1838 throughout the building.

REQUIREMENT B2 & B3: INTERNAL FIRE SPREAD

CHARACTERISTIC	DESIGN PROPOSAL
Sprinkler Protection	BS 9999 recommends a sprinkler system be installed throughout the hotel as a result of the open balcony atria that is proposed. If the building owner and operator chose to omit sprinkler protection further fire safety engineering analysis is to be undertaken to review the resulting risk (e.g. fire temperatures and smoke spread) in order to provide an alternative to the installation of sprinklers whilst achieving the functional requirements of the Building Regulations.
Structural Fire Resistance	60 minutes fire resisting elements of structure with compartment floors at every level will be provided.

Atrium Smoke Control	By utilising a smoke and temperature control system within the atrium, in combination with glazing and smoke curtains at balcony corridors, a fire engineered solution will be developed to review if the appropriate tenability criteria can be suitably maintained to allow safe evacuation. Glazing to the atrium will be toughened and laminated glass and capable of withstanding the expected temperatures resulting from any fire and smoke in this space. Extract will be at high level, e.g. atrium roof, with supply at the lowest level, e.g. basement level.
Atrium and Basement Interface	Portions of the basement have direct connection to the outside that can be used to vent heat and smoke. Portions of the basement that do not have direct connection to outside will utilise mechanical means or the atrium smoke control system which will mitigate the risk of heat and smoke exiting via stairways. As sprinklers are not currently proposed, those areas that are subject to smoke control will be subject to detailed fire safety engineering calculation in order to determine the design characteristics for these systems. Means of providing make up air into the lower parts of the atrium space requires fire engineering analysis due to the quantities of free area or supply rate required at low level.

REQUIREMENT B4: EXTERNAL FIRE SPREAD

CHARACTERISTIC	DESIGN PROPOSAL
Facade	In accordance with BS 9999, external walls of the building shall adequately resist the spread of fire over the walls and from one building to another. Detailed external fire spread calculations will be undertaken as part for the design. The externals walls will be limited combustibility, and insulation and filler materials used in the construction of the external wall should be class A2-s1, d0 or better as per BS EN 13501-1.
Roof	The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, and have BROOF(t4) classification in accordance with BS EN 13101-5.

REQUIREMENT B5: ACCESS AND FACILITIES FOR THE FIRE SERVICE

CHARACTERISTIC	DESIGN PROPOSAL
Fire Fighting Facilities	Due to the building height and the depth of the basement levels, it is not required or proposed to have a fire fighting lift within the building. Dry risers serving every level of the hotel will be located within all escape stairs/lobbies. A 1.0 m^2 openable vent will be provided at the top of each escape stair to assist with fire fighter operations. Both escape stairs will be lobbied at every level.
Fire Fighting Access	Vehicle access is provided around the majority of the perimeter of the site. Vehicle hardstands are to be located within 18 m (and in sight of) the dry riser inlet. Hardstands are to be in accordance with the requirements within BS 9999 which are considered to be satisfactory due to the roadway construction being proposed. Access and proximity to street hydrants will be received to achieve compliance with BS 9990.

6.11.2 LIMITATIONS/ASSUMPTIONS

- It should be noted that this is the first review and development of the fire safety principles for George Hotel. Formal discussions with the relevant stakeholders and approving authorities have not been undertaken.
- It is assumed that there are no enhancements required for life safety or property protection over and above the Building Regulations specific fire safety requirements apart from that associated with the approvals process in order to satisfy Building Control and English Heritage.
- It is necessary that the hotel Operator and Insurer agree with all principles within the fire strategy and it should be noted that they been contacted at this point in time. Any additional requirements that they may require have not been incorporated.

6.11.3 INFORMATION REQUIRED

- Further discussions should begin to observe if the hotel operator has any other requirements above and beyond those found within the Building Regulations. It will be necessary to liaise with the Operator's Insurer to identify if they will increase premiums for reducing the level of active fire protection (and replacing with passive fire protection).

6.11.4 SUMMARY

The details within this section outline the preliminary fire strategy principles for the George Hotel to satisfy the functional requirements of the Building Regulations. It will be necessary to agree with Building Control on all matters that deviate from the guidance documents, e.g. the currently proposed exclusion of automatic fire suppression. The fire engineering strategy will be evolving as the design is refined, although the key aspects are expected to be as the content of this section.

6.12 MECHANICAL, ELECTRICAL AND PLUMBING

6.12.1 KEY PRINCIPLES

- The MEP services will be fully stripped out and disconnected. Allowing for full refurbishment of Block A, and demolition of blocks B and C (with the Block C façade being retained).
- Full new MEP services will be installed to serve the new and refurbished building.
- The development will progress via a “fabric first” approach, reducing the energy requirements of the building by improving thermal properties, before employing low energy and low carbon energy efficient and sustainable MEP solutions for heating, cooling, and hot water generation.
- To provide an MEP strategy which is non reliant on fossil fuels putting The George Hotel on the pathway to decarbonisation in terms of operational carbon emissions.
- To provide an MEP strategy in accordance with current standards, guidance and in-line with the hotel operators standards and specifications.
- To provide an MEP strategy which is sensitive to the listed status of the building.
- To provide an MEP strategy that contributes to a BREEAM very good certification.

6.12.2 LIMITATIONS/ASSUMPTIONS

- The listed nature of Block A and façade of Block C limits some of the opportunities and routes for plant and equipment.
- As the layouts are not yet fixed, there are some limitations on what is certain to be achievable, but also opportunity to use alternate routings.
- Upgrading of thermal insulation may be limited in certain areas, due to the listed nature of Block A and the façade of Block C.
- Sufficient plant space, riser provision and horizontal distribution can be accommodated within building.
- As all systems are proposed to be new, there are no limitations on existing equipment.

6.12.3 INFORMATION REQUIRED

- Complete architectural layouts, sectional, and elevational proposals.
- Structural proposals.
- Building thermal properties.
- Operator brand standards and specifications.

6.12.4 SUMMARY

ELECTRICAL

The previous electrical consumption of the George Hotel will not align with the electrical consumption required following the refurbishment. Therefore, the current power supply and associated infrastructure will no longer be suitable. An upgrade of the incoming electrical infrastructure will be required in order to allow the scheme to progress as intended and move away from the use of fossil fuels and electrify the hotel.

The new intended supply will enter a dedicated electrical switch room in the basement of Block A, in turn feeding a whole new electrical distribution network and installation throughout the building.

In a similar location, there is also designed space for a comms room. The actual requirements of the systems in the building are as yet unknown, and will be confirmed in following design stages. At this point, capacities are designed on rule-of-thumbs, and space for equipment has been allowed for.

The electrical systems will be designed on low-energy principles, incorporating items such as LED lighting and automatic controls, as well as a Building Energy Management System (BEMS) in order to efficiently control plant and equipment, and reduce overall energy consumption, and therefore carbon emissions.

Electrical requirements on top of those required for the new plant and equipment are based upon rule-of-thumb guidance until the operator’s specifications are available.

GAS

As the scheme is intended to move away from fossil fuels, it is not intended that the gas supply will be utilised or renewed. However, it may be required for some of the kitchen equipment, should this be specified by the operator’s kitchen fit out requirements.

Should gas not be required for the kitchen, the existing gas connection will be disconnected, and the entirety of the building will utilise electricity as the only energy source.

HEATING AND COOLING

The heating and cooling strategy is to condition all bedroom areas utilising fan coil units (FCU). These units will have refrigerant pipework from Air Source Heat Pump(s) (ASHP) located on the roof deck above Block B. This will allow simultaneous heating and cooling of different zones, allowing local control, based on occupant requirements. In areas with central ventilation (see section 1.4.4), the ventilation system will be connected directly to the FCU, bringing fresh air into the back of the unit where it is conditioned to suit the required environmental conditions, before being pushed into the room.

In areas with local mechanical ventilation heat recovery (MVHR) (see section 1.4.4), the MVHR unit and FCU will be a single combined unit, saving both energy and space.

Whilst all areas will have localised environmental control, the systems will be fed back to a central controller and BEMS in order to allow a centralised override and set points of zones to be modified for the entire system, or individual areas as required.

VENTILATION

Multiple ventilation systems are proposed to operate within the building, producing a mixed-mode strategy.

All areas within the building, other than the central atrium, are proposed to be mechanically ventilated.

The atrium is proposed to be naturally ventilated via the use of louvres at the bottom of the light well to allow low level air entry, and louvres at the top, allowing an air path through the area.

At this early stage, it seems unlikely that smoke clearance for this area can be met utilising a natural solution, so a fan for this specific purpose needs to be incorporated at high level. This item will be resolved through further dialogue with the fire consultant, across the coming stages of design.
All mechanical ventilation systems employed in the building will employ heat recovery technology, in order to reduce the heating and cooling demand on areas, and therefore reduce energy requirements. Having a mechanically ventilated building also ensures that all areas are adequately ventilated at all times, and allows for windows to be non-openable, should that be required due to factors such as air quality or noise.

Due the inability to penetrate the façade, the entirety of the basement and Block A, along with the ground, first, and second floors of Block C are going to be connected to central supply and extract systems. Ductwork will rise through the building in different riser locations, which are still being resolved at this stage. All ductwork will rise to roof mounted air handling units. Within the bedrooms, ductwork will be connected directly to the fan coil units, allowing tempering of the air, and control of the room conditions within each area.

Within Block B, and the third and fourth floors of Block C, a slightly different solution is proposed. As the façade is not an issue on these elevations, rather than a centralised system, local mechanical ventilation heat recovery (MVHR) units will be located within the bulkheads. These units will be ducted directly through the external façade. Unlike the central extract system, this will not be connected to the fan coil unit in bedrooms, but rather will be a single unit incorporating the MVHR and the fan coil, saving both energy and space within the void.

WATER

In the basement plant room, the mains cold water (MCW) will enter, and connect to a 12,000 litre break tank. This stored water will then be fed through a booster set, providing boosted cold water (BCW) to all outlets within the building, as well as to feed calorifiers which will be located on the roof deck, next to the ASHP.

An ASHP system will provide the necessary generation to boost the temperature of the BCW system to provide hot water suitable for applications throughout the building, such as washing, and kitchen requirements.

Hot water will be stored in calorifiers on the roof deck, which will then be distributed throughout the entire building via a hot water pump set.

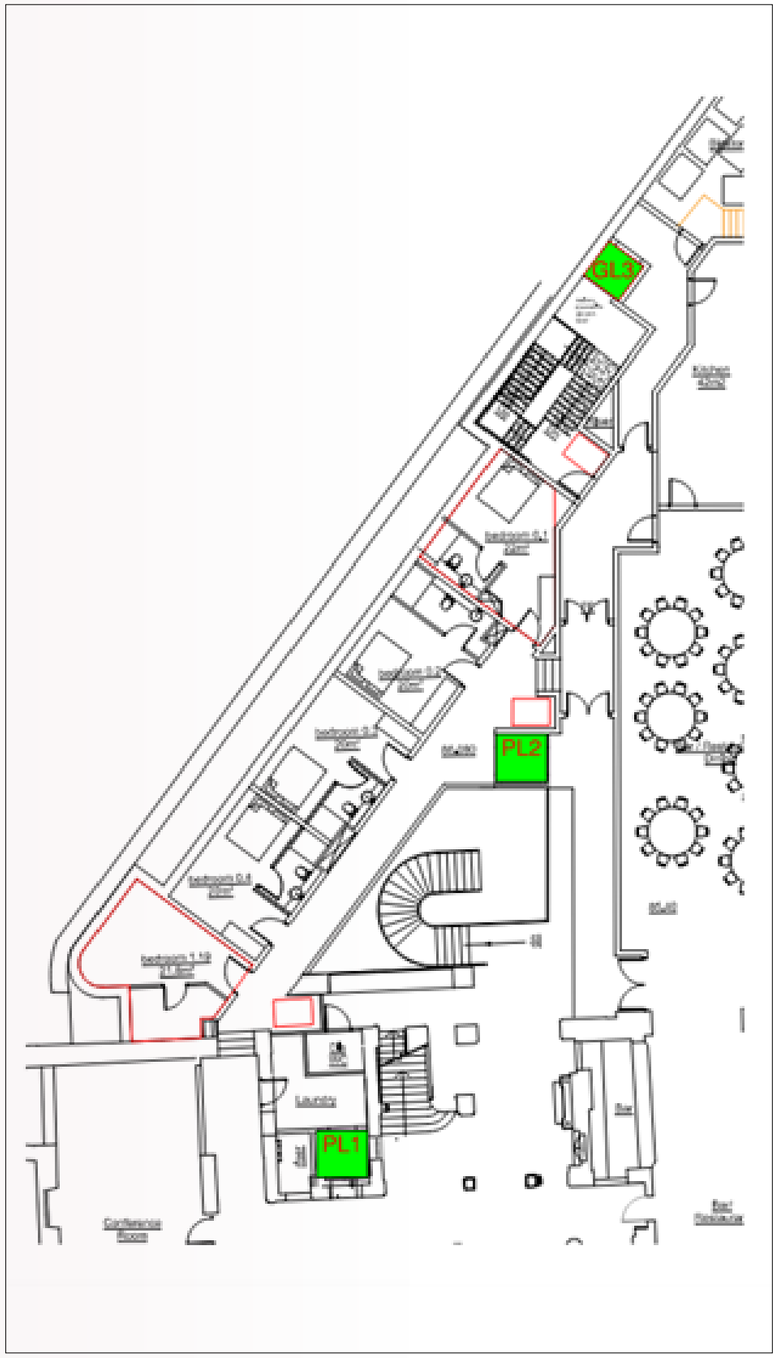
BUILDING ENERGY MANAGEMENT SYSTEM (BEMS)

A centralised BEMS will monitor and control the individual MEP systems, in order to maximise operational performance of the systems and provide feedback to the hotel facilities management team.

6.13 INTERIM VERTICAL TRANSPORTATION

6.13.1 KEY PRINCIPLES

- Analysing the vertical transportation in the George hotel and the proposed three lifts, and the feasibility of utilising the current lift well for a new passenger lift. Ramboll has reviewed the Vertical Transport design requirements and evaluated the lift arrangements shown in the architectural drawings.
- The information available for Stage 2 are from the Bowman Riley architects which is summarised below:
  - BOW – A1-00-DR-0013 P1 Stage 2
  - BOW – A1-00-DR-0014 P1 Stage 2
  - BOW – A1-00-DR-0015 P1 Stage 2
  - BOW – A1-00-DR-0016 P1 Stage 2
  - BOW – A1-00-DR-0017 P1 Stage 2
  - BOW – A1-00-DR-0018 P1 Stage 2
- The analysis has allowed us to review the lift cores and the proposed arrangement of the new lifts, Ramboll attended site on the 28th of July 2022, to survey PL1 which is in an existing lift well.
- In the Stage 2 report the common standards will be considered for lifts in the George Hotel.
- The building has three proposed lift wells in the hotel, as shown in the GA opposite, PL1, PL2 and GL3.



VT image 1 plan

GENERAL CONSIDERATION FOR HOTELS

Hotel lifts are critical for the circulation of guests and hotel staff. The current recommendations are for at least one passenger lift per 100 guests in a medium quality hotel, and one dedicated goods lift when there are two passenger lifts.

The internal circulation in a building should have primary and secondary circulation routes. People should be able to see a clear route to take with good signage.

Consideration should be taken to understand the levels of occupancy to allow free movement of people and goods. To prevent bottlenecks from occurring consideration needs to be given to the use of major open spaces, such as meeting rooms, eateries, and conference rooms for example.

- CIBSE Guide D provide design criteria for hotel buildings. A summary of the key criteria used is provided below:

TYPICAL OCCUPANCY

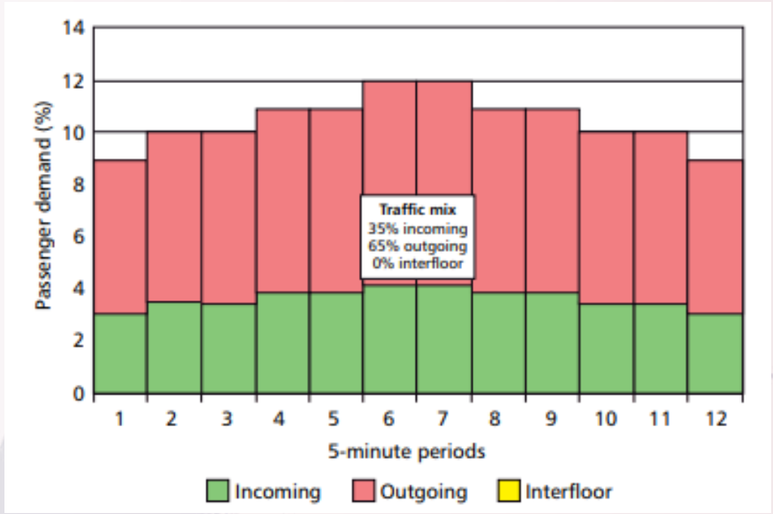
HOTEL TYPE	GUEST PER ROOM
Business (Professional)	1.0
Transit (Short Term, Airport)	1.5
Holiday (Many Days)	2.0

Hotels usually have their own brand standards for estimating guests, once the brand is known this should be checked against their typical occupancy and the design criteria.

TYPICAL DESIGN CRITERIA

BUILDING TYPE	PASSENGER ARRIVAL RATE %	RECOMMENDED INTERVAL
Hotel Uppeak	12	<60

- Traffic templates found within CIBSE Guide D. The passenger demand rises and falls during the defined peak periods and the results for the worst 5 minutes of the simulation should meet the CIBSE Guide D criteria.



CIBSE hotel morning peak traffic template

In addition, CIBSE Guide D makes the following recommendations:

- Allowance 0.4m2 per person per (75kg) person to allow or baggage
- Lifts fill to no more than 80% by area

The traffic calculations will be performed undertaken using Elevate Lift Traffic Analysis software following CIBSE Guide D design criteria, utilising various scenarios with a baseline of the standard recommendations.

6.13.2 LIMITATIONS/ASSUMPTIONS

In the George Hotel is an existing lift and the design is to provide a further two new lifts in new lift wells to serve the guests and staff. The buildings current passenger lift which has been abandoned for many years which currently serves floor levels B, G, 1, 2, 3, 4.

This stage 2 report assumes that it is feasible to utilise the current lift well for a new passenger lift.

GENERAL

The lift was manufactured and installed by Otis in approximately the 1960's and is therefore over 60 years old.

The lift is installed within a brick lift well structure and all entrances are to front the of the lift. The lift has a 'machine above' configuration with the machinery and control equipment located within a dedicated machine room above the lift well, which at the time of survey was not able to be surveyed due to concerns with safety on the roof.

The lift is currently totally redundant, with no power to the building and lift is in a bad state of repair and totally unusable.

Inside lift car

Lift car top

LIFT WELL DATA

The lift well is in a bad state of repair, and a full structural survey is recommended to check the integrity of being used to install a new passenger lift. The construction would seem to be engineering brick with patches of plaster. From the survey, we noted two steel beams at the rear of the lift well which if removed could increase the depth of the well by approx. 250mm.

In the survey, the dimensions on the basement and fourth floor were checked for how plumb the lift well is by measuring the lift guides. From the survey, the shaft was approx. 60mm out on the width and form the centre guides, there is a 260mm difference in the verticality.

Top of lift well

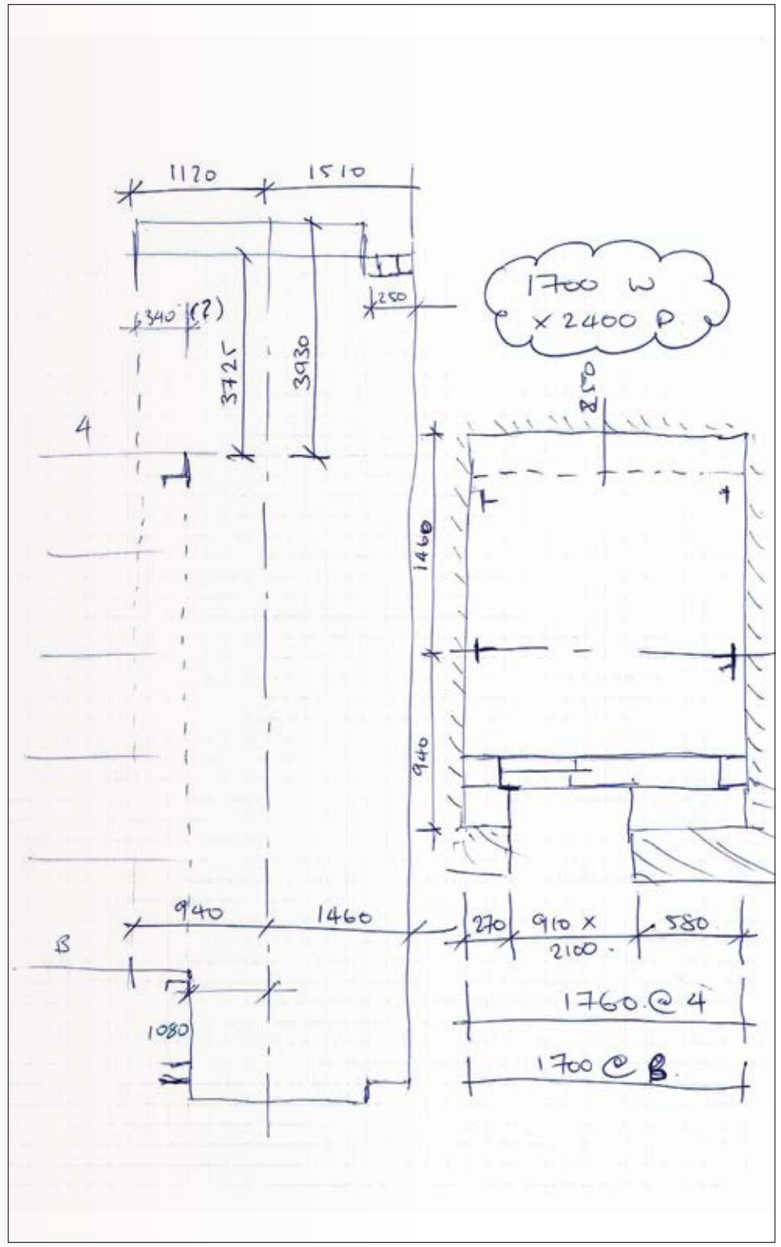
LIFT PL1	
Usage	Passenger
Lift Type	Electric traction Machine Above
Capacity (lbs/per)	N/A
Number of floors	10
Open front/rear (Y/N)	N
Floors served (front)	B, G, 1, 2, 3, 4
Floors served (rear)	LB (Loading Bay)
Approximate travel (m)	TBA
Door width (mm)	900 approx.
Door height (mm)	2100 approx.
Door Configuration	Side Opening
Car width (mm)	Unable to survey
Car depth (mm)	Unable to survey
Car height (mm)	Unable to survey
Well width (mm)	1700
Well depth (mm)	2400
Pit depth (mm)	1080 (Pit Full of Water)
Headroom (mm)	3725 approx.

It was noted during our survey that the lift doors are mounted on a series of brackets and are hanging in the lift well, by approximately 340mm.

VT Image 1 Plan

The lift pit was full of water which needs to be drained to survey the exact depth, using a dip stick we ascertained it was roughly 1080mm.

Lift Pit



Section through existing lift shaft

6.13.3 INFORMATION REQUIRED

- Latest CAD Drawings/Revit Model (if available)
- Brand Standards

6.13.4 SUMMARY

PL1 SUMMARY

From the survey undertook only one option would be available which would be to replace remove and replace the lift.

REPLACEMENT

a. Decommission the lift and remove all redundant materials.
b. Drain the pit, carry out a full structural survey and repair the lift well.
c. Replace the existing installation with a machine-room-less (MRL) type lift installation.

It is possible that a new lift could be installed with the headroom height taken to the underside of the existing ceiling without the need to interfere with the existing building envelope.

The approximate internal dimensions of the replacement lift would be approximately 1100 mm wide x 2000 mm deep which would provide approximately a 12 person lift car, which would be fully complaint with Building Regulations Part M.

Once the current lift is removed a further lift well survey can be carried out, but from initial inspection the lift well is capable to have a new MRL installed which would bring the following benefits:

- All existing obsolete equipment is removed and replaced
- The lift car size/capacity will be maximised within the space available
- Fully automatic power operated doors will be provided
- The building envelope should be relatively unchanged
- The new lift will be fully compliant with modern standards

LIFT/KG	USE	SPEED M/S	CAR WIDTH	CAR DEPTH	CAR HEIGHT	DOOR TYPE	DOOR SIZE	WELL WIDTH	WALL DEPTH	HEADROOM	PIT DEPTH
12p/900	Pass PL1	1.0	1100	2000	2300	Side	900 x 2100	1700	2400	3725	
13p/1000	Pass PL2	1.0	1600	1400	2300	Centre	900 x 2000	2200	2000	4000	
13p/1000	Goods/Pass GL3	1.0	1100	2100	2300	Side	900 x 2000	1700	2500	4000	

NEXT STEPS

- PL2 to be a scenic lift (Glass)
- Movement of goods, correct size of lift
- Plant Replacement, including plant level access
- Considerations of lift car finishes
- Use of the lift for evacuation purposes
- Use of roof as an occupied space
- Lift Lobby sizing, 2100mm depth in front of lift minimum

6.14 ACOUSTICS

Report to follow.

7.0 COST

7.1 KEY PRINCIPALS

COST PLAN AND PROCUREMENT DOCUMENT PRODUCTION TIMESCALES

- In order to provide an accurate and thorough cost plan or pricing document, Turner & Townsend must apply resources to the relevant stage.
- A detailed breakdown of the information expected at this stage from each discipline including Architect, Structural and M&E consultants etc can be found under the detailed cost plan submitted by Turner and Townsend for this Stage 2 element of the scheme.

RIBA STAGE 2 – FORMAL COST PLAN ONE

- Turner & Townsend will require a minimum of three working weeks from receipt of all information to produce formal cost plan one, with a further three working weeks required for review with the design team and value improvement if required.
- Formal cost plan one actualises the baseline by element to give a realistic and challenging target and constraint for value improvement and cost control.

The main objectives of Stage 2 can be summarised as follows:

- To develop the brief within the constraints of the business case.
- To develop the elemental cost plan as a baseline to measure cost performance against.
- To value improve the project where required to ensure the design meets the constraints of the cost plan.
- To further develop the asset appearance, layout, choice of materials and choice of building services technologies.
- To gain client approval of the outline level briefs and designs relative to the overall cost envelop.

7.2 LIMITATIONS/ASSUMPTIONS

- A detailed list of inclusions, exclusions and assumptions can be found in the Turner and Townsend cost plan submission.
- Due to the scheme design still being developed and the list of the below 'Information Required' still under development the current cost plan will be made up with a number of assumptions.
- Block A (the original building) will be maintained and refurbished whilst blocks B and C will be completely demolished with one elevation on John Williams St having facade retention.
- All cost data provided will be taken from similar schemes based on a 3-4 star hotel standard new build for blocks B&C.
- Block A is Grade 2 listed, however it is currently allowed that the internal refurbishment will not be listed status and can be renovated using modern construction methods and materials.
- Contiguous piles will be allowed for two elevations of the new build element of the works.
- The new build elements will be constructed using steel from and concrete floors.
- A nominal value has been allowed for Asbestos removal and ground conditions due to the surveys not being readily available at the current time.
- Assumptions have been allowed for temporary service diversions inclusions.
- Provisional sums have been allowed for external works due to design under development.
- The hotel is currently designed for 91 rooms.

7.3 INFORMATION REQUIRED

Coordinated Building Information Models in line with the requirements of the BIM Execution Plan and agreed Model Production Delivery Table.

Concept design drawings (model extracted where BIM is utilised) to a suitable scale, comprising:

ARCHITECT

- general arrangement plans (for all floors, including basement levels, and roofs)
- general elevations (with materials clearly annotated)
- general sections
- external landscaping – general arrangement plan(s)
- plans of key building functions
- detailed elevations showing construction of external walls, roofs, ground floor construction and upper floor construction
- sketches showing key details/interfaces (e.g. interface between curtain walling system and structure, balconies and the like)
- concept design for rooms and common areas; and site constraints plan

STRUCTURAL ENGINEER

Reports based on desktop studies, including:

- environmental contamination (Phase 1 audit – i.e. to establish the nature of any subsurface contaminated soil and/or groundwater)
- geotechnical properties
- bombs

EMPLOYER

- procurement strategy, including phasing of construction works, temporary access requirements and the like
- contract strategy
- phasing, including requirements relating to decanting, temporary access and the like
- facilitating works, including demolition, preparatory site works, and early infrastructure works (e.g. mains services connections and roadworks)
- treatment of project/design team fees
- insurances
- approach to dealing with other development/project costs (e.g. Section 106 contributions, party wall works and decanting costs)
- planning contribution requirements (e.g. and Section 106 and 278 requirements) required to be incorporated in the building design and/or building works contract(s)
- treatment of employer's risks
- treatment of inflation
- treatment of Value Added Tax (VAT)
- other considerations (e.g. approach to dealing with capital allowances, land remediation allowances and grants)

MEP SERVICES ENGINEER

- general arrangement for each main system
- schematic diagrams for each major system
- plant room layouts, including roof plant layout
- single line diagrams showing primary service routes
- typical layouts of landlord's areas, service areas and cores
- mechanical services
- electrical services
- transportation systems (e.g. lifts, hoists and escalators)
- protective installations
- communication, security and control systems
- special installations
- plant/equipment schedule (for primary plant/equipment)

8.0 RISK AND RISK MANAGEMENT

8.1 PROJECT RISK REGISTER

The project risk register is a live document to track key project risks and highlights the severity and likelihood of the risk to provide a rating. Through periodic review the project leader will assign specific actions required to mitigate the risks identified.

The following is a summary at the time of writing:

THE GEORGE HOTEL Project Risk Register					Job no : 8662			Issue revision - 01	Date 09/08/22
Description					Rating			Proposed Mitigation Action	
Ref	Date Identified	Description of Risk	Risk Category	Status	Potential (1-5) Severity	L'hood	Risk Rating	Design Stage Action to Mitigate Risk	Action By
1	25.07.22	Block C. Historic England objecting to demolition of majority of block C including floors and all internal walls whilst retaining JWS facade	Project viability	open	5	3	15	Full justification of project viability required by design team. BR(Heritage) to lead from heritage team. QRE to lead re. operator requirements.	Heritage / BR
2	25.07.23	Block B - objection by HE to demolition of whole block resulting in retention of some elements ie Chimney	Project viability	open	5	2	10	If chimney required to be retained this would result in loss of bedrooms therefore early justification required with HE	Heritage / BR
3	25.07.22	Inability to service from Network Rail Car Park re. 3rd party land ownership and right of access	Design	open	4	2	8	Alternative access required off John Williams Street	QRE
4	25.07.22	Inability to create fire escape onto Network Rail Car Park. re. 3rd party land ownership and right of access (noted existing fire escape across car park)	Design	open	3	2	6	Alternative access required off John Williams Street	QRE / BR
5	08.08.22	Unknown footings / extent of existing underpinning to retaining walls (NR Carpark and JWS).	Programme / cost	open	3	4	12	Proposal is for new build structure adjacent to retaining walls with reduction in basement level of approx 1m. This may undermine/clash with the existing footings requiring redesign of basement floor. Existing Stage 2 approach is to allow for underpinning but results of intrusive surveys required to assess proposed basement proposals fully	RUK
6	08.08.22	Unknown condition of existing retaining walls - NR retaining wall hidden from view by existing building, may have various phases of construction and may vary in condition. Existing building for demolition may interface / prop the retaining wall	Programme / cost	open	4	4	16	Existing retaining walls may require significant temporary works during construction to enable the safe demolition of the adjacent existing structures. Full assessment of the condition can then be undertaken, but likely some repairs will be required	RUK
7	08.08.22	Unknown condition of existing retaining walls - JWS retaining wall hidden from view by finishes, may have various phases of construction and may vary in condition. Existing building for demolition may interface / prop the retaining wall	Programme / cost	open	4	3	12	Existing retaining walls may require significant temporary works during construction to enable the safe demolition of the adjacent existing structures. Full assessment of the condition can then be undertaken, but likely some repairs will be required	RUK
8	08.08.22	Unknown existing footings to Block A. Proposal is for new build structure adjacent with reduction in basement level of approx 1m	Programme / cost	open	3	3	9	Proposal is for new build structure adjacent to Block A external wall, with reduction in basement level of approx 1m. This may undermine/clash with the existing footings requiring redesign of basement floor. Existing Stage 2 approach is to allow for underpinning but results of intrusive surveys required to assess proposed basement proposals fully	RUK
9	08.08.22	Block A not as structurally sound as anticipated for like for like use	Programme / cost	open	3	4	12	Floor structures have performed as hotel floors previously, however condition is unknown. Phase 1 and 2 intrusive surveys of floor structure required to confirm like for like approach is acceptable.	RUK / Heritage / BR
10	08.08.22	Unknown ground conditions in area of George Hotel (including contamination, UXO's, coal mining)	Programme	open	4	3	12	Current proposals are based on historic information from a BH. It is likely that the ground strata build up will be different around the George Hotel and the risk of contamination is unknown. SI to be undertaken to inform design and allowance for UXO survey and Coal Mining Risk Assessment needs to be made (likely required for planning) Existing footprint of building not unchanged in proposed scheme however piling solution may be impacted if ground report flags up any issues.	RUK
11	08.08.22	Condition / stability of façade to be retained on JWS	Programme / cost	open	3	4	12	Existing façade to be retained may require significant temporary works during construction to enable the safe demolition of the adjacent existing structures. Full assessment of the condition can then be undertaken, but likely some repairs will be required	RUK
12	08.08.22	Available area in the basement for occupancy may not be enough since internal retaining wall/contiguous piled wall with underpinning may be required in front of existing retaining walls to enable basement slab to be lowered. Approx 1.2m zone required to internal basement elevations to JWS and NR carpark wall	Project viability	open	4	4	16	Intrusive surveys will provide information on existing footings (depths / extents) and ground conditions to enable assessment of potential piled wall zone required. Current scheme takes into account additional space required for contiguous piled solution. End users input required into reduction in floor space.	QRE/RUK / BR
13	08.08.22	Incompleteness of measured building survey information as some areas have yet to be surveyed due to scaffolding and inaccessible rooms?	Project viability	open	3	3	9	Design changes may be required if survey information is not accurate. Survey company to return to site once areas are accessible	BR
14	08.08.22	Current below ground drainage strategy has been defined to use current below ground drainage infrastructure where possible. This has been derived with no information on existing condition	Programme / Cost	open	3	4	12	CCTV survey to be complete and design reviewed. This is also to be discussed and reviewed with Yorkshire Water.	RUK

THE GEORGE HOTEL Project Risk Register	Job no : 8662	Issue revision - 01	Date 09/08/22

Description					Rating			Proposed Mitigation Action	
					Potential (1-5)				
Ref	Date Identified	Description of Risk	Risk Category	Status	Severity	L'hood	Risk Rating	Design Stage Action to Mitigate Risk	Action By
15	08.08.22	Current attenuation strategy is assuming that we can incorporate water storage volumes below ground	Programme / Cost	open	3	4	12	Discuss attenuation requirements with Kirklees Council and review viability of attenuation strategy	RUK
16	08.08.22	Unclear if alignment of risers through building is possible. Issues with distribution of services	Project viability	open	3	3	9	Discussion within design team if aligning risers throughout the building is possible, alternatives if not	ALL
17	08.08.22	Head height in basement due to crossing services may render some areas unusable by public		open	2	4	8	Discussion within design team of strategies to enable routing of services away from public areas	ALL
18	08.08.22	Lack of plant space requires plant to be on roof. Ensure building can take weight structurally.	Project viability	open	4	2	8	Most plant is placed on new build section. Ensure detail of weight is passed to structural team	RUK
19	08.08.22	Existing incoming electrical supply insufficient. New supply required. Unknown available power from DNO	cost	open	3	3	9	Engage DNO to request new supply	RUK
20	25.07.23	Requirement from HE to retain wall / floor / ceiling finishes in Block A	Cost	open	2	2	4	Justification statement for removal required	Heritage
21	25.07.24	Requirement from HE to deny removal of internal walls within Block A	Cost & operation	open	3	2	6	Justification statement for removal required	Heritage
22	25.07.25	Requirement from HE to retain plant room at FF stair landing	Cost & operation	open	3	2	6	Would result in loss of a bedroom. Early liaison with HE required	Heritage
23	25.07.26	Inability to create fire lobbies on Block A staircase due to HE requirement to retain features/make no amends	Operation	open	3	3	9	Early liaison with HE required	Heritage
24	25.07.27	Insertion of new risers, horizontal service runs for SVP's etc in block A	Operation	open	4	3	12	Full survey of existing and early liaison with HE required	Heritage
25	09.08.22	Block C. Historic England objecting to inclusion of additional window in retained JWS facade	Project viability	open	5	3	15	Full justification of project viability required by design team. BR(Heritage) to lead from heritage team. QRE to lead re. operator requirements. Possible creation of larger room/suite reduction in room numbers to 90	Heritage
26	09.08.22	New Extension Block- apex bedroom L4 - service duct access required via room	Design	open	2	4	8	Operator to comment. Possible wall realignment will compromise the room layout and size.	QRE/BR
27	09.08.22	Bedroom en-suite access 4.06, 3.08,2.08 through chimney wall	Design/ structural/ heritage	open	4	3	12	Chimney structural survey required.	Heritage /BR
28	09.08.22	Brief is for min 90 rooms @ min 20m2. Current design has 91 rooms although 6 no. are less than the min size. Multiple factors that could result in the loss of rooms	Project viability	open	4	3	12	Risks assessed to date as far as is possible with limited information and with due regard to required building servicing. Keep under review as further information is available. Re. 6 no. rooms below 20m2 these are mostly in block A. To be reviewed with operator	QRE
29	09.08.22	HE response to acoustic and fire separation, associated detail and impact on heritage elements within block A	Design/ heritage	open	3	4	12	Early liaison with HE required. Detail tbc at stage 3	Heritage
30	09.08.22	Fire strategy generally. Risk based fire engineered solution via BS 9999. Requirement for fire brigade and other stakeholders @ Kirklees to accept strategy. Current strategy is based on not exceeding 18m.	Design/ heritage	open	5	3	15	Liaison with fire brigade and other stakeholders following agreement of strategy to be followed.	BR / MM
31	09.08.22	Occupancy numbers to be assessed against existing MOE doors in block A. Potential for doors to be widened. HE reaction tbc	Design/ structural/ heritage	open	3	3	9	Determine occupancy numbers and review against existing. Agree approach with fire brigade and with regard to BS 9999	BR / MM
32	09.08.22	Atrium fire strategy. Multiple potential issues with venting space. Location for suitable ductwork etc	Design	open	3	4	12	Ductwork to run through BOH areas @ high level. Detail design required. Possible back up solution via sprinklers. Stage 2 review to be completed however potential solution being investigated	RUK / MM / BR
33	09.08.22	Unknown use/operational requirements for the kitchens and all other BOH areas	Design	open	3	3	9	Liaison with incoming operator required asap to inform designs. Extract etc based on typical hotel kitchen of this size	BR/RUK/QRE
34	09.08.22	Land registry plans do not align with red-line boundary	Design/ Construction	open	3	3	9	Further enquiries to be made around land ownership and rights for access/ maintenance.	QRE
35	09.08.22	Further discovery of asbestos or other contaminants	Temp works/ Construction	open	3	3	9	Surveys to be completed for outstanding areas and appropriate risk mitigation/ remedial works to be undertaken.	RUK / BR
36	09.08.22	Drain running along north side of St George's Sq would appear to be outside the red-line site boundary	Design/ Construction	open	3	3	9	Further enquiries to be made around land ownership and rights for access/ maintenance.	QRE / RUK

BOW MAN RILEY | Kirklees COUNCIL