1615 - ITALIAN HOSPITAL, GREAT ORMOND STREET HOSPITAL DESIGN AND ACCESS STATEMENT

sonnemanntoon

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Project Introduction

In early 2015 GOSH commissioned Sonnemann Toon Architects to undertake a feasibility study to consider options for redeveloping the Italian Hospital and returning it to clinical use. Various options were explored, the most viable of which was an outpatient facility that would require simpler engineering solutions suitable for lower dependency care.

The Italian Hospital represents an exciting opportunity for GOSH to develop an outstanding clinical environment for outpatient care in an attractive historic building, conveniently located for the main hospital site. The compact nature of the building, the single, well defined point of public entry, the central feature staircase and connection with the external streetscape through the generous windows presents a clarity of orientation that will assist families in navigating the building and finding their destination easily.

Phase 4 of the GOSH redevelopment masterplan will see the site of the current Frontage Building and Paul O'Gorman Building redeveloped to create a new 23,000m2 clinical building. All of the current occupants of the current buildings will have to be moved out in order to facilitate Phase 4 construction between 2019 and 2023. This involves a significant number of outpatient consulting rooms for a variety of services and includes ophthalmology, audiology and cochlear implant, each of which have non-standard requirements for outpatient consulting, investigations and minor treatments. This patient population, with visual and auditory impairment, would Italian Hospital could offer.

The requirement to enable Phase 4 redevelopment and the feasibility it is possible to include in the building. The dependence of all of the of using the Italian Hospital for outpatient facilities presents GOSH with a once-in-a-lifetime opportunity to create a very special environment for a designated group of patients and their families. Therefore, the healthcare planning team are exploring the concept of a 'sight & sound' hospital in the Italian Hospital. We believe that a be temporarily relocated bespoke facility for these services would:

- Facilitate the collocation of services that work together and increase collaboration between teams
- Allow GOSH to create a world-class facility specifically tailored for children with visual and auditory impairment
- Allow GOSH to develop new models of care and alternative patient flows for specific high volume services
- Dramatically enhance the patient and family experience

- Create additional capacity that will enable these services to grow to meet future demand
- Avoid the requirement to 'double decant' departments that require costly engineering and specialist room provision

A complete refurbishment of the Italian Hospital together with the introduction of new digital technology for patient check-in and waiting will result in a very high guality clinical environment and dramatically improved patient experience. The Italian Hospital, although vertically stacked, has a relatively small footprint and will therefore be easier for patients and families to navigate. Equipment, fittings, décor and art commissions can be selected specifically to support children and families with visual and auditory impairment to reduce the stress and discomfort of hospital attendances.

In addition to ophthalmology and audiology, complimentary services that are a good strategic fit for this facility could include:

- ENT
- Cleft Lip and Palate
- Speech and Language Therapy (SLT)

The benefit of collocating these services is that their space and room benefit most from the clinical layouts and ease of wayfinding that the requirements are relatively straightforward and clinics can run mostly in standardised rooms. This provides excellent future flexibility and the opportunity to maximise the use of any generic clinic rooms that proposed services upon additional facilities such as phlebotomy and radiology is low; this will reduce the need for families to visit other GOSH buildings during their visit, which will be a particular benefit during Phase 4 construction when the entrance to the main site will

> In order to meet the required timelines to facilitate Phase 4 enabling, the current occupants need to be relocated from the Italian Hospital by the end of January 2018. This will provide sufficient time to undertake the refurbishment project and open the sight and sound hospital in summer 2019. Phase 4 construction is due to begin on 1 October 2019.

Patient Experience

The Italian Hospital represents an exciting opportunity for GOSH to develop an outstanding clinical environment for outpatient care in an attractive historic building, conveniently located for the main hospital site. The compact and domestic nature of the building, the single, well defined point of public entry, the central feature staircase and connection with the external streetscape through the generous windows presents a clarity of orientation that will assist families in navigating the building and finding their destination easily.

The requirement to enable Phase 4 redevelopment and the feasibility of using the Italian Hospital for outpatient facilities presents GOSH with a once-in-a-lifetime opportunity to create a very special environment for a designated group of patients and their families. The project offers to significantly improve the existing facilities, both spatially and technolgically.

A complete refurbishment of the Italian Hospital together with the introduction of new digital technology for patient check-in and waiting will result in a very high guality clinical environment and dramatically improved patient experience. The Italian Hospital. although vertically stacked, has a relatively small footprint and will therefore be easier for patients and families to navigate. Equipment, fittings, décor and art commissions can be selected specifically to support children and families with visual and auditory impairment to reduce the stress and discomfort of hospital attendances.

Project Overview

Queen Square was formed from the garden of the house of Sir John Cutler baronet (1608-1693). It seems somehow fitting that a garden still remains and that children should be present to enjoy it as would have been the original domestic arrangement. GOSH theme their accommodation and the inspiration for the Italian Hospital is the natural world. The project introduction explains why the Italian Hospital is a fitting and significant addition to GOSH for the treatment of children and this overview seeks to explain why, how and what is proposed for which we seek Camden's permission.

Why this building will be significant and relevant is because it offers a fabulous opportunity to offer outpatient care and treatment to children in a setting less medicalised than an acute hospital and in so doing it returns this building to its original purpose of a hospital in a form closer to how it was first conceived.

How we propose to approach this project is to repair the exterior and undo previous harm (such as barred windows and wired glass) and to respect the principal elements of the existing interior to organise the new layout. The existing stairs and lift shaft are to remain; the three 'compartments' of the plan (front, centre and rear building elements) will be retained and the west facing inner courtyard spaces improved to make best use of them; taking inspiration from the original building that had a roof terrace for amenity use.

The original interior has been much altered in the past, but it is intended to retain as much of what we may discern as original as we can while still achieving an appropriate facility for modern healthcare. A significant challenge is to achieve the integration of new engineering services and with this in mind we propose to use existing attic and basement spaces and locate plant and a new lift overrun where such things exist currently and are not visible from surrounding streets. The rooftop of the southern end of the property at Gage Street, being furthest away from the more architecturally accomplished front, is also being proposed as a location for a new lift overrun and plant enclosure. Addressing access to the property; patients / visitors enter via the front door, staff via an existing door off Boswell Street and goods / servicing via a new door created by the existing fire escape to Gage Street.



Proposed visualisation of corner of Queen Square / Boswell Street

Project Overview, cont.

What is proposed is summarised as follows and drawings of the existing and proposed may be read in conjunction:

- Improvements have been made to the streetscape, by the reintroduction of signage along the front façade to both sides of the central main entrance. The application intends to set the zone, font and materiality derived from referencing historical photos; GOSH have not decided the exact name of the building. Separation of patient, staff and service entrances have been achieved to clarify the flows into and through the facility. It should be noted that the highways improvements shown on the planning pre-application have been omitted in this application on the basis they will form a separate application as part of GOSH Phase 4 proposals.
- Reintroduction of the ground floor front rooms to more closely • match what was once there. A reception desk is proposed to be positioned directly in front of the entrance lobby as a porter's lodge once was. Two small rooms are suggested to be reintroduced to the left and right of the reception desk as they once were, but in this scheme will be for interview / infectious case screening and height / weight measuring instead of matron and dining rooms. The main waiting room is proposed to be where a sitting room and a board room once were and we would like to find a suitable fireplace to reinstate on the chimney breast of the old board room. It seems that the ground floor front always comprised the more formal, public spaces and it is proposed to echo that in this scheme. More of the original fabric to this area has been retained following detailed analysis of chronological plans and feedback from the planning and conservation officer during the pre-planning process.
- Georgian wired glass to windows at ground floor along Boswell Street is proposed to be removed and replaced with clear glass and iron bars to nine windows (mainly at ground floor along Boswell and Gage Street) are proposed to be removed. The front granite boundary wall is proposed to be cleaned and lighting added and the iron railings re-painted black.
- The renewal / overlay of main mastic asphalt flat roof covering



Proposed visualisation of Boswell Street, looking north

Project Overview, cont.

- The replacement of the third floor mansard roof coverings, that are • presently fibre slates to the east face and high pressure laminate panels to the west and around the building perimeter at the Gage Street end, with natural slate. The extent of the increased mansard roof and brickwork walls have been significantly reduced following feedback from Camden and further modelling tests have been carried out to ensure key vistas are unaffected. To the courtyard; we propose to raise the wall clad with natural slate to provide 1100mm edge protection.
- The creation of a new roof plant compound and lift overrun at the ٠ southern end (Gage Street) of the roof over the top floor, which has reduced in scale following feedback during the pre-planning process. It should be noted that, once completed, the building can be considered at a maximum area and volume along with that it has been established it would not be considered suitable for inpatients. The engineering services requirements are therefore not likely to increase. The plant has been suitably sized without significant redundancy built in. It is an ambition of the design team to make the plant compounds as small as possible and therefore each element of the plant and maintenance access has been scrutinised to result in the smallest, workable plant compound.
- The alteration and enlargement of an existing water tank room ٠ to create a plant compound. Modelling tests have been carried out to ensure this is not visible from Queen Square. The Mary Ward side infill proposed has been removed from the application, restricting the area available for the plant compound. The plant selected and maintenance access afforded is considered to be the smallest practicable.
- The alteration of the existing lift overrun to increase its height ٠ by approximately 500mm and the creation of a new lift overrun adjacent



Existing View from Queen Square





Existing View from corner of Queen Square / Boswell Street



Plant compound does not appear to be visible from Queen Square

Proposed View from Queen Square



Proposed View from corner of Queen Square / Boswell Street

Project Overview, cont.

- The infill of a basement lightwell and the partial infill of the ground floor rear courtyard to create new accommodation under a landscaped garden with a green landscaped terrace at level 1 (first floor) in line with the top of the existing boundary wall between the Italian Hospital and the Mary Ward Centre / October Gallery.
- The removal of the balconies at the upper levels facing the courtyard, and infill of the small space between Mary Ward Centre and Italian Hospital at second and third floor. The layout and design of the Mary Ward infill extension has been revisited since the pre-planning application with the intention to retain the legibility of the historic form of the frontage building facing Queen Square. This has been achieved by re-planning the layout so that larger sub-waits are against the boundary wall, and retaining more of the external wall and windows. A void is created between first and second floor against the boundary wall with a glazed lean-to roof to clearly articulate the modern infill. At third floor, the existing step back away from Mary Ward is retained with an external stair access to the roof. After discussions with Camden. an approach to treat the new infill as a modern element has been taken. It has been acknowledged that the courtvard already has a wide material palette, and the material selection does not further complicate this. Inspiration for the new infill has been taken from the relatively new external lift shaft to Mary Ward; in materiality, proportion and vertical emphasis to the fenestration.
- Layout alterations and a full refurbishment internally is proposed. Both existing staircases are proposed to be retained; retaining and repainting the modern handrail and balustrade to the main crescent shaped stair. Two new lifts in addition to the existing lift are proposed; suitably sized, the position of the lifts is crucial to the operational safety and efficiency of the health service. The existing lift is proposed to have a new car large enough to accommodate electrically operated wheelchairs and a patient trolley. New staircases from the second to third floor and from the third floor to the attic plant room are proposed in locations similar to those that once existed. As part of the design development, many more of the existing walls and floors have been retained; including relocating passenger lift 2 which has been positioned in between two existing masonry walls.
- Following Camden's confirmation that the removal of the altar would not be supported, the retention of the altar within the chapel remains a significant issue for GOSH and will largely been unused and unseen as it is overtly Catholic and frustrates GOSH's aim to be inclusive. It limits the ability for the space to be used to its maximum, however it is proposed that the altar is retained, covered and screened.



Proposed visualisation of courtyard, looking north

Project Developments

The key developments since the original application are listed below.

nb. a further proposed elevations drawing has been added to show the party wall between the Italian Hospital and the October Gallery / Mary Ward: 1615-ST-Q1-ZZ-DR-A-5155

Energy Strategy Development - Statement from GOSH

Boiler Change

The original Italian Hospital planning application that was submitted to Camden Council included chillers on the Italian Hospital and boilers on Barclay House, with services connected by a tunnel under Boswell Street.

GOSH requested the design team carry out a feasibility study to develop the notion of a designated energy centre on Weston House Minor Alterations / Barclay House at Great Ormond Street, with both the chillers and boilers in a central location. This was reviewed in great depth by GOSH and it was concluded that due to the chiller footprint and roof loading restriction, along with the impact on the neighbouring buildings, it was not feasible. There would also be financial and programme implications as a separate application would be required • once the scheme design was developed.

It was therefore decided to locate the new boilers for the Italian Hospital within a basement plant room, in the location of the existing • boilers that currently serve the Italian Hospital. This would result in a standalone building in terms of servicing, omitting the need to create a tunnel. This redesign has been achieved within the size and height of the plant compounds that were constraints set out in the original application and therefore reducing the impact to neighbouring properties.

The external brick riser to the sourthern end of the building, between the October Gallery and the Italian Hospital has been moved inboard. A new boiler flue is proposed in the same place as the existing flue, extending 1.5m above the top of the louvred compound to comply with regulations.

- It is proposed to retain more of the dividing wall between the former pub and central building, with masonry nibs and new lintels.
- A second dry riser inlet cabinet to the front lightwell is proposed, as requested by Camden Building Control. A detail drawing is included on the proposed elevations.
- An outward opening door is shown to Boswell Street, as requested by Camden Building Control. No guarding has been allowed for as this was previously rejected by Camden Highways during conversations over the original application.
- It is proposed to retain and paint the existing balustrading to the feature staircase
- It is proposed to relocate the existing Queen Square sign at the corner of Queen Square / Boswell Street from the buildings facade and onto the low-level granite wall
- A lifting beam is proposed fixed to the main roof, above the infill accommodation between the Mary Ward and the Italian Hospital.
- Modifications to the existing windows are no longer proposed: they will be fixed shut and ventilation is to be provided mechanically.
- The existing main roof finish between gridline 6 and 13 is to be retained and an overlay board/sarnafill (approx. 50mm thickness) is to be installed

- Facing brickwork is proposed to the building extension facade facing the lower courtyard (gridline 8)
- The circular rooflights are no longer proposed to the courtyard extension
- The existing vault doors are to be retained
- The extent of the façade remedial works is to be reduced
- The existing staircase between the Italian Hospital and October Gallery is to be retained and the FM entrance is to be relocated to within this space rather than Gage Street. The existing screen to Gage street is to be retained with a new gate is proposed in the same alignment. CCTV and lighting will be provided in the building recess.

Temporary Works During Construction

For the purposes of logistics during construction there are a number of elements that are to be removed, stored in a safe manner and reinstated. These elements are shown in green on the demolition plans and elevations:

- 5no. windows closest to the Mary Ward centre are to be carefully removed, stored in a safe and appropriate manner for reinstating, avoiding any damage to original constructions. Window cills, heads and reveals to be appropriately protected.
- The front wall on west side of main entrance the base stones. wall stones and coping stones from between the stone newels are to be carefully removed, avoiding damage to any stones. The newels and the threshold at the top of the vault façade are to be appropriately protected. Suitable waterproofing of the exposed top of the vault façade will be provided to prevent water incress.

Existing Site Location

Transport Links

The Italian Hospital at Great Ormond Street is located in Central London with excellent transport connections from national rail links, local underground and bus services. The nearest underground station is Russell Square, approximately 5 minutes' walk from the Italian Hospital.





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Existing Site Location

Local Amenities

The site is well served with local amenities; a number of hotels, cultural/retail spaces and green areas are in close proximity. The Italian Hospital faces Queen Square to the North West, providing a green outlook for the building and an amenity for any visiting patients and staff. The Mary Ward Centre and the October Gallery are directly adjacent to the west of the Italian Hospital, accommodation includes a café and gallery.



03 View from Playground, Old Gloucester St









Existing Site Location

Site Approaches

The sites key approaches and vistas are summarised in the diagram.

- From the northern end of Queen Square
- From Great Ormond Street to the east
- From the south-east from Holborn accessed from either Old Gloucester or Boswell Street

It is understood that the majority of those visiting currently visiting GOSH via public transport do so from Russell Square station (which is to the north of Queen Square)







Existing Site Location

Conservation / Listed Building

- The site is part of the Bloomsbury Conservation Area.
- The building was listed Grade II in 1992 and the neighbouring Mary Ward Centre is also Listed. The listing recognises the value of the building to the exterior and acknowledges the interior is 'mostly altered, with a plain chapel'. Refer to the Heritage Appraisal for the full listing description.





Conservation Area Grade II Listed

Grade II* Listed

Existing Building

Description

The building is read externally as three elements, which are connected internally on all levels:

- The frontage building facing Queen Square to the north, connecting to the Mary Ward Centre to the west and returns at the top of Boswell Street to meet the cupula.
- The central building facing Boswell Street, with regular window patterns and the fire escape staircase
- The former pub towards the southern end of Boswell Street which returns along Gage Street. This portion of the building has split-levels and a mezzanine compared with the rest of the building. The surrounding building heights are slightly lower than this section of the building. There is a barrier mid-way along Gage Street restricting vehicular access, but allowing pedestrians to pass along Gage Street between Boswell and Old Gloucester Street

A small space between the Italian Hospital and the Mary Ward Centre along Gage Street is occupied by an external fire escape stair that is shared by both properties.

The building is owned by GOSH Charity and currently accommodates office space, nursery for the children of GOSH staff and temporary accommodation for parents whose children are inpatients at GOSH.

Key

- Of Corner of Queen Square / Boswell St
- **12** Queen Square frontage
- **13** View from Queen Square Garden
- View from St. George's Church
- 05 Cupula
- Corner of Queen Square / Boswell St
- Boswell St windows
- OB Corner of Boswell St / Gage St

- 9 Former pub, Boswell St
- **10** Gage Street facade
- External stairs to basement lightwell
- 12 Courtyard, Italian Hospital balconies
- 13 Italian Hospital/Mary Ward courtard
- Ocurtyard facing shared fire escape stairs
- 15 Cupula
- **16** Former pub entrance along Boswell St



































Existing Building

Historical Timeline

Refer to Planning Statement for full planning history

1860	1884	1898	1910
Giovanni Battista (John) Ortelli built up a formidable business	The Ospedale (from the Latin, 'Hospitalis') Italiano was founded by Giovanni Battista (John) Ortelli who donated two Georgian houses in Queen	New hospital erected by the architect Thomas William Cutler	Hospital extended when two houses behind it were acquired
empire and became a great philanthropist. He carried on the looking glass business, but	Square to provide medical assistance to the area known as 'Little Italy'. He was aware of the language difficulties faced by his compatriots in London hospitals.		Later closed.
he is also described as a merchant and had fingers in several pies, from furniture to banking. His great work, centred on the poor, the sick, the trafficked and the uneducated of the growing Italian Colony in London,	The main wards were in the front of the building, with smaller ones at the back along with single rooms for private patients or cases that needed to be isolated. For infectious cases, there was a separate block at the back of the building, with its own bathroom and kitchen and bedroom for the nurse in attendance. The Hospital chapel was at the top of the main building, with a corridor past it leading to the flat roof, where convalescent patients could play games and enjoy the fresh air. The Hospital had a large passenger lift, as well as a service lift for food to be sent from the kitchen to the wards. The Sisters of St Vincent de Paul, with their distinctive uniforms, provided the nursing care.	Early 20th Century photos	ve d hs
	While preference was given to Italians, the Hospital treated any needy person - almost half its patients were British - and it became a respected medical facility, attracting highly qualified staff. Funds for the Hospital were raised from subscribers in Britain		

View from Queens Square: aside from the new entrance ramp, the front entrance is largely unaltered by the from the new entrance ramp, the time of this photograph





and Italy.

Original houses facing Queen Square













Existing Building

Historical Timeline, cont.

1946	1948	1956	1961/62	1967	1981	1984	Late 1980s
Hospital reopened with	Planning Application	Planning Application	Planning Application	Planning Application	Planning Application	Planning Application	GOSH charitie
48 beds and continued as an independent hospital until it was no	(refer to drawings) - Ground floor additions	(refer to drawings) - Erection of toilet	- Alterations to the Operating Theatre	(refer to drawings) - Formation of a new	- Demolition of a link building and replacing	- Erection of single storey basement extension	acquired the b and have used a number of d
longer sustainable.	- Alterations/construction	addition at ground floor ⁿ at rear end.	Planning Application	waiting room on the 2nd floor fronting Boswell	l with staircase and the provision of an access	to the Queen Square elevation	layouts and fu
	portion of the Nurses' home	- An external flue pipe in an enclosed area	- Construction of two waiting rooms on existing first floor balconies on the Boswell Street frontage	- Two new sun-terraces on the 1st floor at the rear	ramp		capacity.
Mid 20th Century photos							

steps

Suilding name Suilding name

id 20th Century photos

1992

es building ed it for different unctions, cal

Planning Application

(refer to drawings)

- Partial demolition of; rear extensions and infills, balconies on the rear the front entrance steps, elevation at 4th and 5th part of the mansard roof floor.

- Internal alterations

- Formation of a ground floor play area, front entrance ramp and infill structures

Grade II listed status Planning Application - Installation of steel safety railings on top of existing railings surrounding the

2009

Existing Building

Inspiration from the Properties History

Drawings and town planning history have been researched and one can see how the property has developed in three distinct phases. The front building was the first hospital, the centre extends that hospital as a second element and the old pub being then integrated into the whole makes the third element. The proposal respects this clear arrangement; the more formal front is the main arrival location, the centre accommodates the greater body of the facilities and the rear houses a greater proportion of more informal spaces, mainly for staff use.

Records show that the property had a greater number of street level access doors and prominent signs increased the interaction of the street level façade with building users and passers-by; subverting the symmetry of the formal façade and reinforcing the building's street presence for the practical reason of making it easier to identify. The proposal seeks to reintroduce a greater degree of access through the facades that has since been lost and new signs would emphasise that the existing building is in medical use, as the historic signage did previously.

The tall windows comprising both vertical sliding sashes and bottom hung casements that together create an effective convection current. The proposal retains the windows in their original format and seeks to capture the original height of the spaces behind for the enjoyment of the new occupants.

The unseen inner west facing aspect of the property was once comprised of courtyards. Those multiple courtyards have since been lost and one larger one is now in their place. There was also a roof top terrace for amenity purposes. The proposal seeks to reinstate a small courtyard at ground floor directly off the main waiting room for use as an outdoor waiting space and as an echo of once was. This will be in the location of one of the courtyards of the original building. An amenity roof terrace is also proposed to be returned to the property, but at first floor level rather than the very top of the building to afford better access and use. This harks back to the origins of Queen Square as a domestic garden and the fact that the original donation that founded the Italian Hospital was of two houses.

The chapel reflects the time when nuns ran the hospital and the catholic Italian community were the principal recipients of their care. It is proposed to keep all attributes of the chapel save for the altarpiece and to use the room as a staff space; thereby enabling it to house a display of the chapels former appearance without conflict with hygiene standards for patient spaces. It will also remain a place for those that care for the patients.



Early 20th Century, View from Queen Square

Landscape Design / Ecology

Landscape proposals for the two distinct spaces are proposed. A full landscape submission is to be provided to discharge the original application conditions.

- A outdoor waiting area to ground floor mostly hard landscaping with seating and art installations. This space is proposed to have sounds and texture to provide welcome distraction and interest to a patient group who are mainly challenged with sight and hearing difficulties
- A landscaped terrace to first floor softer landscaping with seating providing both an accessible amenity and an outlook into a garden space for children and their relatives / carers harking back to the origins of the Square as a domestic garden and the fact that the original donation that founded the Italian Hospital was of two houses



Landscape Design / Ecology



Key

(i) Ground floor - Outside Waiting Courtyard

Difference First floor - Landscape Terrace

Blue / green roof solution - refer to SuDS statement (p.24)

02

Sustainable Drainage Systems (SuDS)

Implementing sustainable drainage systems on all construction projects whether new builds or refurbishments has become standard across the industry. National Planning Policy Guidance and local plan policies stipulate the requirement of sustainable drainage systems where feasible. The London Plan Policy 5.13 states:

"A Development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy:

1. store rainwater for later use

2. use infiltration techniques, such as porous surfaces in non-clay areas

3. attenuate rainwater in ponds or open water features for gradual release

4. attenuate rainwater by storing in tanks or sealed water features for gradual release

- 5. discharge rainwater direct to a watercourse
- 6. discharge rainwater to a surface water sewer/drain
- 7. discharge rainwater to the combined sewer.

Drainage should be designed and implemented in ways that deliver other policy objectives of this Plan, including water use efficiency and quality, biodiversity, amenity and recreation."

The Proposal

The development consists of the refurbishment of 3094m² plan area / floor existing building and the construction of an additional 336m² / floor extension within the rear courtyard to first floor.

A range of typical SuDS components have potential to be used for this development. Below is an appraisal of various SuDS and the suitability to this development:

SuDS Feature	Environ- mental benefits	Water quality improve ment	Suitability for low permeability soils (k<10-6)	Ground- water recharge	Suitable for small/ confined sites?	Site-specific restrictions	Appropriate for subject site?
Wetlands	V.	1	1	x	×	Insufficient space	No
Retention ponds	~	1	×	x	×	Insufficient space	No
Detention basins	\checkmark	× .	× .	x	х	Insufficient space	No
Infiltration basins	~	1	×	~	x	Insufficient space	No
Soakaways	x	1	×	~	1	Insufficient	No
Underground storage	x	×	×	x	×	Limited space between existing foundations	Yes
Swales	\checkmark	1	1	\checkmark	×	Insufficient space	No
Filter strips	1	1	1	~	×	Insufficient space	No
Rainwater harvesting	x	×	× .	~	×	Insufficient space	No
Permeable paving	x	1	~	\sim	~	Limited space and poor ground conditions	No
Water buffs	V	×	1	x	2	Potentially unsuitable given the nature of the development	Yes
Green / Blue roots	~	1	~	x	~	Limited space for planting due to photo voltaic panels	Yes

Suitability of SuDS

Due to the construction of the existing building, it is deemed unsuitable to implement a blue or green roof system on this area as the building was not designed for the additional load which would occur from implementation of SuDS at roof level. Therefore the design strategy which includes a blue / green roof solution will be implemented on the first floor roof which is situated above the new build structure within the external courtyard. As shown by the blue dotted line on page 23. The Ortelli Garden situated upon the first floor roof is proposed to be used as a roof garden with mixed hard and soft landscaping. The proposed first floor roof build up will include a pro-forma layer which is used within blue roof construction retaining water upon the first floor roof before discharging at a controlled rate through the building to connect into the existing drainage infrastructure.

At the next design stage, detailed modelling of the proposed SuDS solutions will be completed. This will look into the potential of utilising the blue roof system upon the first floor roof to its full potential by the possibility of routing surface water discharge from the upper roofs of the existing building into the blue roof storage system upon the first floor roof before discharge into the surrounding network.

Maintenance Management Plan

The suitable SuDS as mentioned above will require maintenance as set out in the CIRIA SuDS Manual 2007.

Blue Roofs are to be maintained as per manufacturer's details. Remove debris, fallen leaves, weeds and mow grasses (if appropriate) to prevent clogging. To be done six monthly or as required. After severe storms / annually all components including soil substrate, vegetation, drains, irrigation systems, membranes and roof structure should be checked for proper operation, integrity of waterproofing and structural stability. If erosion channels are evident these should be stabilised with additional soil substrate similar to the original material as required. Sources of erosion damage must be identified and controlled.

Conclusions

The site and the neighbouring areas are located in a Flood Zone 1. The site proposal is to discharge surface water at Greenfield Runoff Rates if possible but ensure a reduction in flow from existing whilst incorporating climate change.

The main SuDS proposal is a blue roof system on the new first floor roof (Ortelli Garden), ultimately increasing the overall permeable area and providing storage of rainwater to allow for a reduction in the surface water discharge rate from the development to the surrounding drainage infrastructure.

The flows from the above can be controlled with Flow Controls such as Hydrobrakes, orifice plates, throttling pipes, etc.

Due to the nature of the geology and building footprint there is no potential for the use of infiltration techniques.

Waste Management Plan

Waste is managed by the Soft FM provider within the Trust

Storage

- Clinical areas: all waste is transferred to the designated waste hold area located in outside each ward area adjacent to the lift lobby.
- Offices & Public areas: waste is collected from office areas and taken to a central holding point by the Soft FM staff.

Segregation

All waste must be correctly segregated into the clinical, domestic and recycling waste streams.

- All staff should adhere to the waste hierarchy of reduce, reuse, recycle.
- As part of the Trust's Sustainable waste management programme all clinical and non-clinical areas will be reviewed. Where appropriate a centralised waste recycling collection point will be introduced and all desk side bins will be removed.
- Clinical all clinical waste must be corrected segregated. ٠ Incorrectly segregated clinical wastes are deemed as noncompliant.

Tagging/Labeling

- All clinical and non-clinical waste bags and containers (including cytotoxic, hazardous and offensive) must be tagged using a unique number tag supplied by the Soft FM provider.
- Sharps bins should be labelled with: the location, date of starting • its use and initial of staff. When the sharps bin is full it must be securely closed, tagged and label sign off completed prior to placing in the waste hold for collection.

Confidential Waste

Trust standard secure. lockable confidential waste bins are • located in office areas.

Collection from the Italian Hospital

A internal central disposal is located opposite the new FM entrance, with space for separate bins for the following waste types. A brief statement to how it is intended this waste will be removed from the Italian Hospital has been provided, however a more detailed waste strategy will be submitted to discharge the condition for the original application.

- Recycling and domestic waste euro bins to be moved outside onto Gage Street on collection day by GOSH. Refuse truck to pull up on Boswell St (as per current arrangements, just further down) and collect from Gage Street
- Clinical waste collected from Italian Hospital, either from • Boswell Street or Gage Street if vehicle can fit/reverse down
- Offensive waste collected from Italian Hospital, either from • Boswell Street or Gage Street if vehicle can fit/reverse down
- Confidential waste collected from Italian Hospital, either from • Boswell Street or Gage Street if vehicle can fit/reverse down



The Italian Hospital will not have any dedicated cycle parking spaces but will be part of a shared side-wide facility.

Refer to Transport Assessment, 23164101 / July 2017



Extract from ground floor plan - central disposal

Extract from proposed site plan

Shadow Study

Tests have been carried out for summer / winter conditions at three times of the day for the existing and proposed building model.

Key

- **Of** Existing Summer 9am
- Proposed Summer 9am
- **03** Existing Summer Midday
- 04 Proposed Summer Midday
- **05** Existing Summer 3pm
- Proposed Summer 3pm
- OT Existing Winter 9am
- Proposed Winter 9am
- Sexisting Winter Midday
- Proposed Winter Midday
- Existing Winter 3pm
- Proposed Winter 3pm



















Services Statement

The service strategy for the proposed Italian Hospital redevelopment • Local extract ventilation provided to toilets and ensuite is driven primarily by the requirement to meet the clinical needs of the new occupancy. Audiology, ENT and ophthalmology departments will be based in the building. Accommodation provided • comprises consulting rooms, specialist audiology and ophthalmology rooms as well as support accommodation including staff areas and • patient waiting.

Energy use is also a key consideration with respect to design of building services and completed installations will need to meet requirements of NHS guidance HTM07-EnCO2de as well as the requirements of the building regulations and local planners.

The building is Grade II listed with requirements to maintain existing facades and elevations. Services and fabric enhancements will be designed within the constraints of the listed building status.

Existing Utilities and Incoming Services

The existing building is served with Gas, Water and Electricity directly from the respective utility companies and is independent of the main hospital site networks. Incoming supplies are provided as follows.

- 65mm Natural Gas entering at basement level to serve boiler • plant.
- 50mm Mains Water entering at basement level •
- 400A TP&N Electrical supply adjacent to basement substation.

A UKPN substation is located in the basement. This serves adjacent / nearby building as well as the Italian Hospital.

Overview of Existing Building Services

The existing services within the building are basic in nature serving predominantly residential type accommodation. A brief overview of existing services is as follows.

- Gas fired boiler plant installed in 2008 heating the building via radiators. A number of timed sub circuits are installed to shut down operation to unoccupied areas. A common flue is routed externally to discharge at roof level.
- A water storage break tank is located at roof level serving building via a down service.
- Hot water to the building provided by duplicate calorifiers located in basement plantroom and served from the gas fired boiler plant.

- bathroom areas by small domestic type extract fans.
- Distribution of electrical services via two separate risers.
- Lighting of various types under local on/ off control.
- Emergency lighting typically via maintained fittings with integral • battery packs.
- A redundant small chiller and pumps located at roof level adjacent to the water tank room.

Existing services are unsuitable for adaptation to serve the proposed clinical building and will be stripped out back to incoming services.

Proposed Incoming Services

Incoming services to the building will be provided as follows.

- Existing 400A TP&N electrical supply retained and upgraded to provide primary electrical supply to the building.
- New electrical supply obtained from main site (Weston House substation) and used as a diverse second supply to the existing electrical supply to the building and support essential service requirements including evacuation lifts.
- Voice / Data services from existing hospital infrastructure. ٠
- Existing gas supply retained to serve the new boiler plant proposed within the building.
- Existing water supply retained to serve new water storage and boosted supply to building.

Services derived from main hospital site will be routed through Barclay House to basement vaults and combined underground services route to the Italian Building. Existing cable ducts between the buildings (fire alarm and IT links) will be retained and supplemented with additional ducts for future flexibility as required.

Services Statement, cont.

The existing and new incoming services would enter the building at Lower Ground Floor Level and be extended to serve the new installations.

Main plant installations to serve the building will be provided as follows.

- New gas fired boiler plant located within plant area at lower ground floor level. New flue from boilers to be routed externally in location of existing flue to discharge to atmosphere above new plant screening at roof level. Boilers of condensing and low Nox type.
- Main electrical switchgear located in lower ground floor plant area.
- New chiller plant located at roof level within internal plant area and discharging heat through external condensers within external screened plant area. This will provide a high and low temperature circuit to provide cooling requirements to the building.
- Ventilation plant located internally and externally within screened plant areas at Roof level. Ventilation plant will be located at roof level with vertical distribution at either end of the building.

A brief description of the proposed servicing strategy is as follows.

- Primary heating of building by gas fired boilers located in lower ground floor plant room serving buildings heat emitters, domestic hot water requirements and air handling units.
- Chiller located in internal roof plant area with heat rejection via condensers at roof level to provide cooling and dehumidification to main air handling units with high temperature circuit distributed to local cooling (chilled beams) where required.
- Clinical areas at lower ground floor will be provided with mechanical ventilation from air handling units located at roof level.
- Heating, cooling and ventilation of consulting rooms and admin areas will generally be via active chilled beams.
- Heating to ancillary areas provided by low surface temperature radiators.
- A new cold water storage / break tank (6,000 litres capacity) and booster set in the Lower Ground Floor vaults. This will provide a boosted supply to buildings outlets.

- Hot water will be provided by duplicate calorifiers located within the lower ground floor plantroom.
- Main electrical supply to building will be provided by the existing supply and UKPN substation within the Italian Hospital.
- Second diverse electrical supply derived from Weston House substation to provide for essential services in event of failure on main electrical supply. This will include evacuation lifts, emergency lighting and other critical clinical services.
- LED lighting incorporating absence detection and daylight control where necessary will be provided throughout.
- Emergency lighting will be provided via maintained and nonmaintained fittings as required incorporating integral battery.
- A new server room located within the building. Data / voice distribution will be via dedicated riser within dedicated riser. New Cat 6 wiring and Wi Fi coverage provided throughout.
- Solar PV panels installed on flat roof area between plant compounds to contribute to building energy usage.

There is no requirement for a piped medical gas distribution system with requirements being met by local and portable equipment.

Philosophy

Accessible Facilities

Inclusive design has been at the forefront of the proposals at the Italian Hospital for both those who work and visit the building.

The following design standards have been followed:

- Approved Document B (Fire Safety): Volume 2: Buildings other than dwelling houses (2006 Edition incorporating 2007, 2010 and 2013 amendments)
- Approved Document K Protection from falling, collision and impact (2013 Edition)
- Approved Document M Access to and use of buildings (2015 edition incorporating 2016 amendments)
- BS 8300 (2010): Design of buildings and their approaches to meet the needs of disabled people. Code of practice.

Horizontal & Vertical Circulation

- The introduction of an additional patient lift provides resilience and will improve vertical movement throughout the building.
- The introduction of a staff/goods lift to the portion of the building towards Gage Street (former pub) will ensure all accommodation levels is served by a lift. There is still split levels between the main building and former pub due to the nature of the historic building, and was deemed too intrusive to the building to address this.

- Standardisation of Accessible WCs in waiting/sub-wait areas to minimise travel distances patients and staff.
- Changing Places located on ground level, as per recognised standards
- An accessible WC is provided at basement for staff using the southern building which is on split levels - accessed via the staff/ goods lift

Wayfinding & Communications

This is particularly important for those with sight and hearing challenges. Visual contrasts will be adopted to aid and assist wayfinding, avoid collisions and demarcate communications and control devices. Patient areas will be designed and arranged to allow easy movement and provide space for wheelchairs to manoeuvre without congestion or impairment. Forty percent of patients will be under the age of four and many will be accompanied by their (also young) siblings. It is common for the parents of children who have sight and / or hearing challenges to be similarly challenged. Some will also be assisted by guide dogs.