POSSIBLE BUILDING EXPANSION OPTIONS

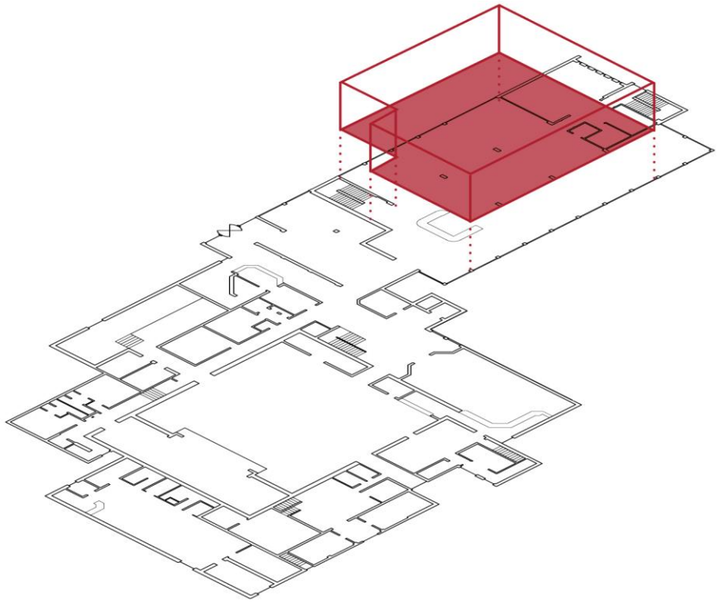
To allow for future growth of The Harlington, the following options highlight possibilities for expansion of the refurbishment works:

Option 1 – looks to provide additional accommodation for The Harlington to allow for future expansion of administration and outreach facilities by relocating to the first floor of the existing adjacent Library. This would carry the least cost implications due to the fact there is no new build works required. The use of the Library can be interrogated at the next stage of design.

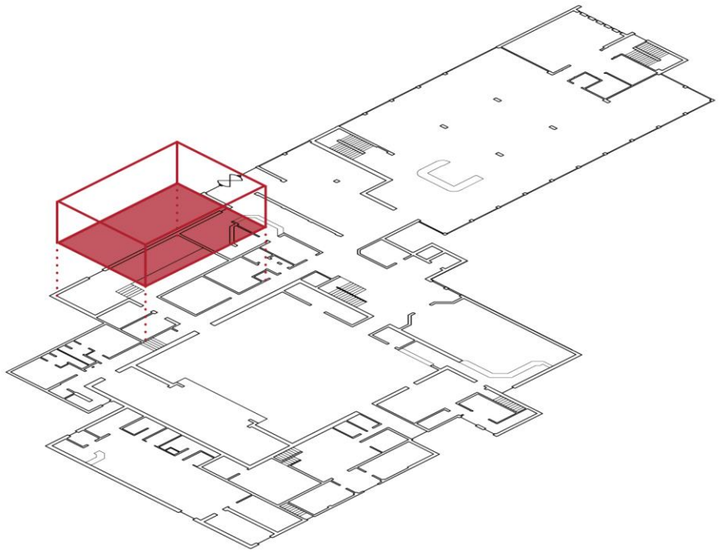
Option 2 – is to provide a minimal new building extension to the south, located above the new Dance Studio, providing additional area for office and front of house facilities.

Option 3 – develops the same principles of option 2, replacing the existing offices with a new second space and stacking the dance studio to the first floor, directly above.
In addition, a new office accommodation is built over the backstage areas to incorporate additional technical support facilities.

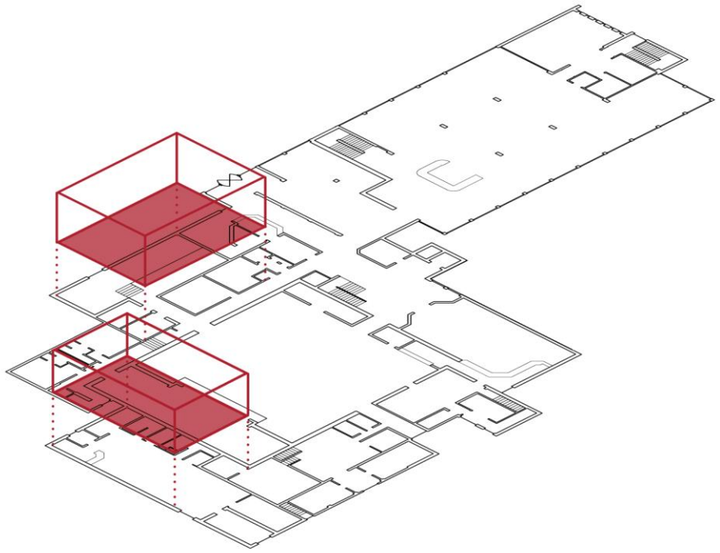
Option 4 – is to see both the Second Space and Dance Studio spaces as future expansion works for The Harlington masterplan, adding to the refurbished facilities and achieving the greatest separation from the main hall. We would propose the addition of a new suite of performance and dance spaces adjacent to the site, allowing for the construction of a purpose-built block to be developed at a time in the future, as and when more funds become available.
We have shown a massing study to propose a possible location for the development, which will require further investigation and studies with the advancement of the overall scheme.



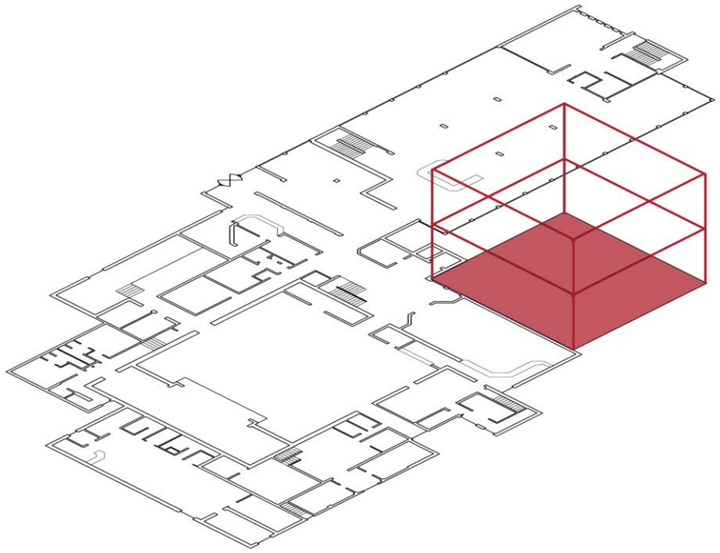
Option 1 Larger offices moved to 1st floor of Library



Option 2 Additional area provided by a minimal extension, above new Dance Studio



Option 3 Second Space replaces Dance Studio, relocated above. Offices moved to new level above backstage area



Option 4 New Second Space and Dance Studio constructed to the side of retained Function Room, maintaining the current office location

5.2 NEW BUILD

In our latter meetings with the client team, discussions focussed on the aspirations for a new building, both from a commercial and spatial standpoint. Together we identified the requirements that would be fundamental to a fully functioning and sustainable theatre.
The following outlines the key elements that are required (in addition to associated support spaces):

- A 350 seat theatre required to support the commercial aspirations for productions
- A 10m x 8m playing space with associated wing space
- A flexible 200max. capacity studio allowing for live music events
- Dance studio with a clear floor area of 140m^2 for rehearsals and classes
- A foyer that functions as a social gathering space serving both food and drinks to audience and the general public - not just a foyer but crucial to the success of a sustainable venue
- Accommodation for the intended staff members on site
- Workshop for productions
- Dressing rooms
- Box office facilities within, but not dominating, the foyer
- Technical facilities that provide safe and accessible equipment for all performance spaces.

This informed an initial area schedule and a proposed building footprint for the scheme. Additional revisions to the schedule were incorporated to reduce the footprint, removing the second performance space and dance studio to determine their feasibility within the development of the site.

Estimated project costs for all options, both refurbishment and new build, and level of project requirements can be found later in this report.

5.2.1 AREA SCHEDULE

Based on our previous experience of similar projects, the following pages represent what we believe to be the areas required for the construction of a new build development for the proposed theatre, together with all the necessary support spaces, to align with the original client briefing document.

	Sqm	Occupancy	Notes
PUBLIC AREAS			
Foyer	210	350	Based on .75m2 per person
Cloakroom	0		
FOH store	10		
Cleaner stores	0		In gross
Pushchair/mobility scooter parking	0		In gross
Toilets			
Toilets (public male)	19	6	Based on a 60:40 percentage audience split
			Male audience 140 WCs 2
			Urinals 4
Toilets (public female)	54	12	Based on a 60:40 percentage audience split
			Female audience 210 Stalls 12
Toilets (accessible)	7	2	Approximate - 1 per audience level
Box office and reception			
Box office/reception desk	10	2	5 sqm per person
Box office manager/cash office	8	1	Adjacent to box office
Catering			
Bar/Cafe seating area	0		In foyer
Bar and servery	20		
Bar stores	10		
Kitchen	25		
Kitchen store	10		
Staff changing	18		
Staff toilets - male	3	1	
Staff toilets - female	5	1	

PUBLIC AREAS 408

	Sqm	Occupancy	Notes
THEATRE			
Auditorium and stage			
Seating area	350	350	Based on 1sqm per person
Main stage	100		Mainstage 10mX10m
Wings	40		2m left and right
Substage/trap	20		
Seating store	20		
Lighting bridges	0		In gross
Overstage bridges	0		In gross
Stage support			
Stage door	0		Box Office
Truck bay - external area	0		Outside site
Scene dock / Back stage	20		
Refuse	8		
Stage kitchen	5		
Assembly area / Quick change	8		
Toilets - male	3	1	
Toilets - female	5	1	
Toilets - accessible	4	1	
FOH technical areas			
Control room	12		

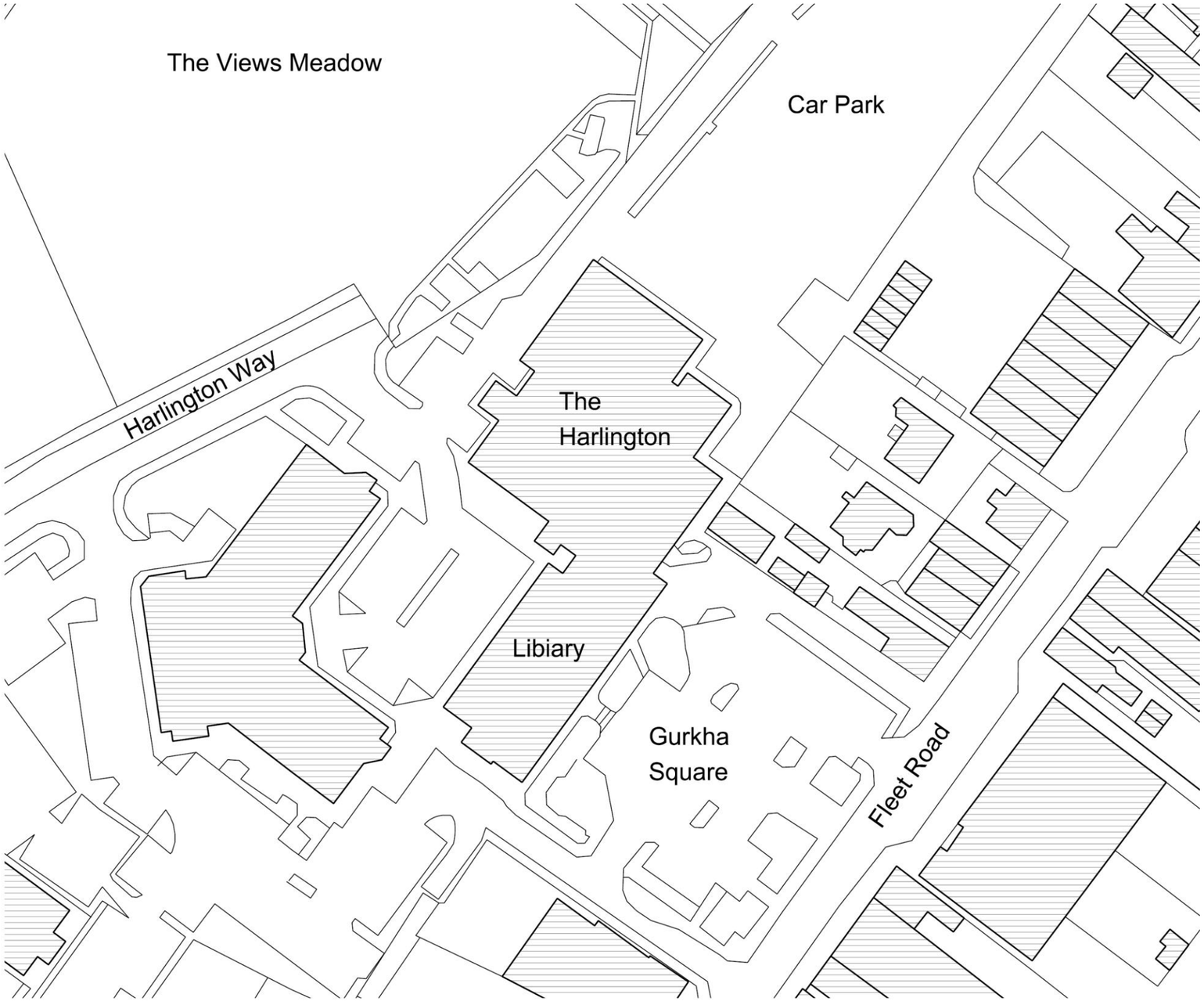
THEATRE 594

	Sqm	Occupancy	Notes
SECOND SPACE			
Second space	100	200	Based on .5sqm per person
Playing space	48		Mainstage 8mX6m
General store	20		
SECOND SPACE	168		
DANCE STUDIO			
Studio	100		
Store	10		
DANCE STUDIO	110		
TECHNICAL AREAS			
Dimmer room	10		
Audio rack room	12		
Workshop /maintenance	80		
Technical office	8		
Cleaners store	0		In gross
Intake room	0		In gross
General store	20		
TECHNICAL AREAS	130		
PERFORMER SUPPORT SPACES			
One/two person dressing room - 1	20	2	With acc. shower, toilet and wash basin in room
One/two person dressing room - 2	15	2	With shower, toilet and wash basin in room
Eight person dressing room - 1	40	8	With shower and wash basin in room
Eight person dressing room - 2	40	8	With shower and wash basin in room
Green room / Crew room	25		
Wardrobe and Laundry	12		
Toilets - male	6	2	
Toilets - female	9	2	
Disabled toilet and shower	7	1	
PERFORMER SUPPORT SPACES	174		
ADMINISTRATION AREAS			
Offices	54	6	
Resources room	12		
Confidential office	0		Within office area
Group meeting store	10		
Kitchenette	0		In gross
Staff toilets	8		
Staff showers	8		
Disabled toilet	4	1	
ADMINISTRATION AREAS	96		

	Sqm	Occupancy	Notes
Total NET usable area	**1,679**		
Plant			
Grossing rate (20%)			
Grossing rate (50%) including plant	50.0		
Gross area	**840**		Includes circulation, plant and technical areas
Total GROSS area	**2,519**		

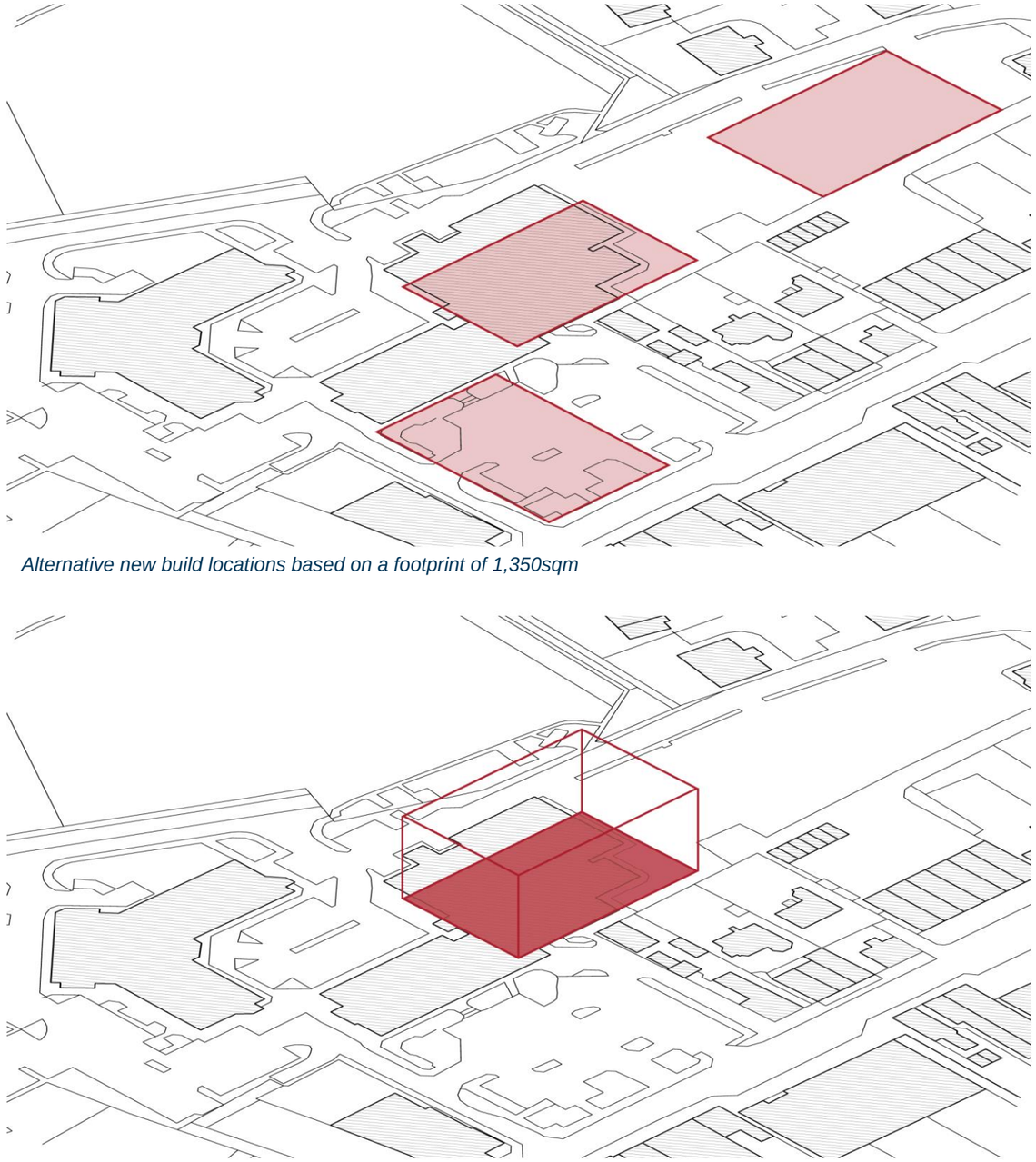
5.2.2 SITE PLANNING

The diagrams that follow represent the possible locations for the required footprint of a new build proposal, based on a maximum three storey building to accommodate the required areas.



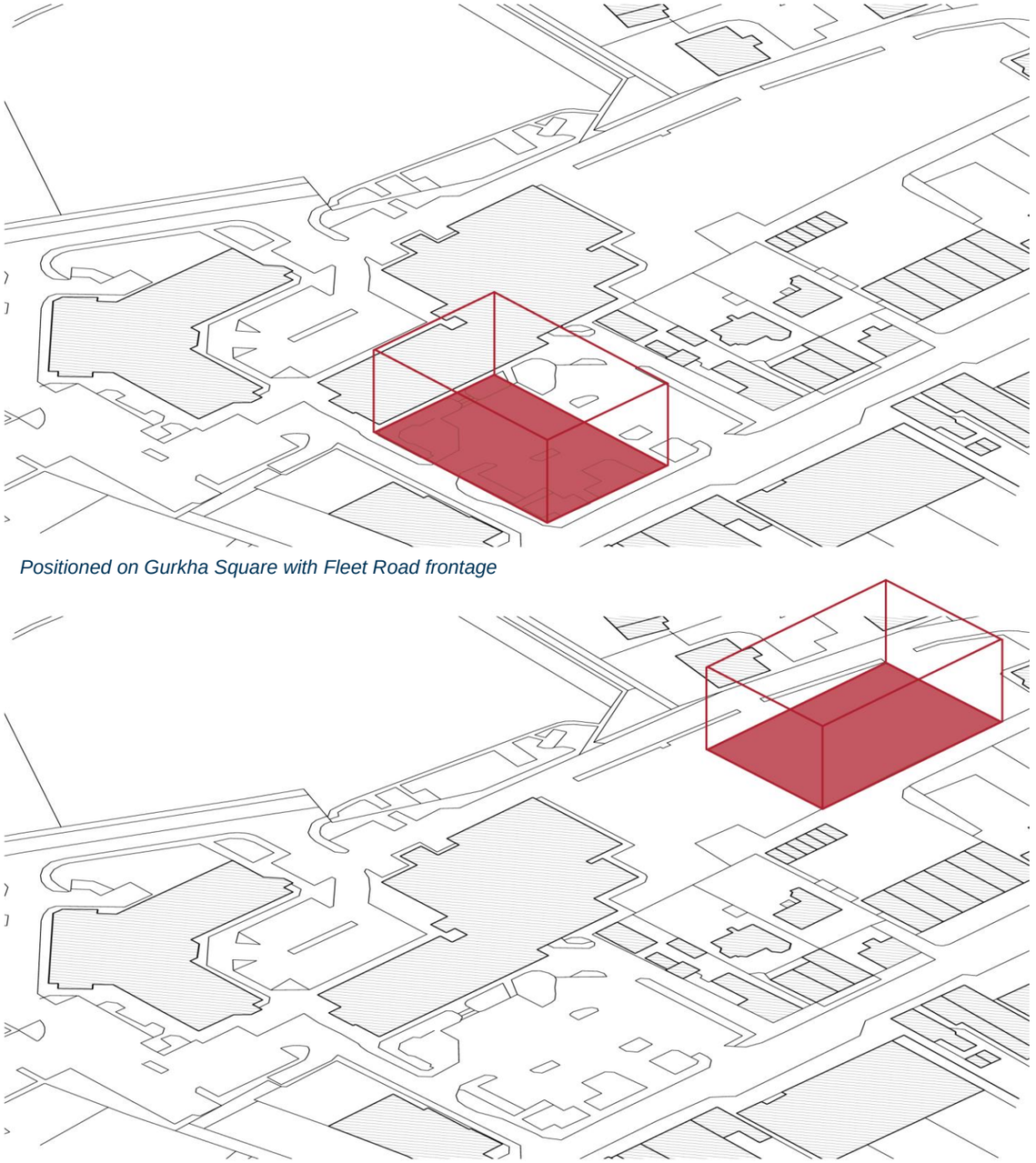
Existing site plan

Alternative new build locations based on a footprint of 1,350sqm



Positioned on existing footprint of The Harlington

Positioned on Gurkha Square with Fleet Road frontage



Positioned in the car park with Victoria Road frontage

6 ACOUSTIC ANALYSIS

The Harlington is being conceived as a multi-function performance venue with an overall seat count of 350. Based on discussions with the client team, it is our understanding that the venue is intended to provide the local community with a performance space suitable for hosting a variety of events, including touring theatre productions. It is our understanding that the following types of events are being considered:

- Unamplified and amplified speech (drama, comedy, book signings, etc.)
- Amplified music concerts including Pop/Rock, Jazz/Blues and Folk
- Conferences and lectures
- Film presentations (not new releases)

The overall acoustic goal for the project is to create a performance space that prioritises clarity and projection, is quiet enough to allow actors' whispers to be heard, and has the appropriate reverberance and adequate early sound reflections to support the actor's projection to the audience, without making the room too 'dry' for music performances.

In the following design stages we will work with the rest of the design team (architect, services and structure) to develop the most appropriate strategy for the acoustic details, in line with the refurbishment proposals

6.1 ROOM ACOUSTICS APPROACH

The overall size of the room is the most significant factor in establishing the acoustic environment. We expect small rooms (and rooms of small seating capacity) to sound different from large rooms. Larger rooms are characterised by more reverberance and reduced loudness—things that should be avoided in intimate drama rooms.

To assist in benchmarking designs, we classify rooms by the volume per occupant. Greater volume per occupant tends to be appropriate for music rooms; smaller volume per occupant tends to be used for rooms for speech. The following list gives common guidelines:

- 14 to 16 m^3/person: Orchestra acoustic for mid-sized rooms
- 12 to 14 m^3/person: Orchestra acoustic for large rooms
- 10 to 12 m^3/person: Chamber music
- 7 to 10 m^3/person: Opera
- 8 to 9 m^3/person: Amplified music
- 6 to 7 m^3/person: Drama, spoken word

As the overall volume will inform the maximum -unoccupied- reverberation time, we suggest between 7 m^3/person and 8 m^3/person as a suitable range for a room that is focused on amplified music, but can also very successfully host drama and spoken word.

Preliminary 3D analysis of the auditorium suggests the current design is approximately 7.3 m^3/person, which is in line with our recommendations for the design intent.

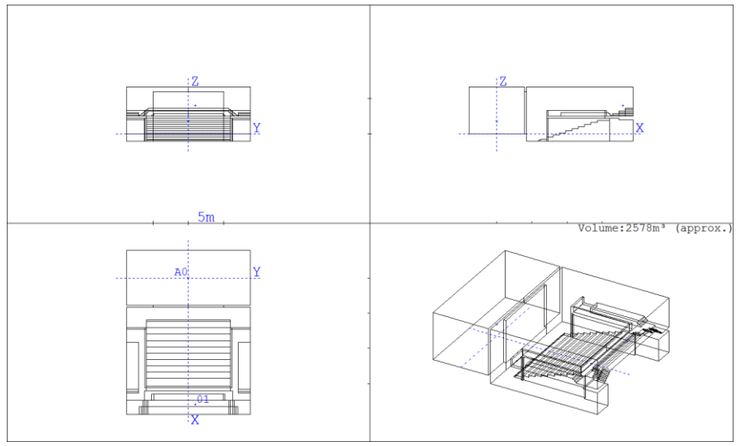


Figure 1: CATT output of plan, section, and isometric view of the Harlington Auditorium.

The mid-frequency unoccupied reverberation time is recommended to vary between 1.3 and 1.5 seconds in most typical conditions, depending on the presence of draperies and masking in the stage area, and the position of variable acoustic curtains and finishes which will help control the reverberation time when hosting amplified music, drama and spoken word. With the provision of theatrical masking (and the variable curtains and occupants) this value may be well below 0.7 seconds, which is regarded as the suitable listening environment for amplified music and speech.

The project planning should assume specialty sound-absorbing and sound-diffusing surfaces within the auditorium, lobbies, and control room. The dimensional allowance for the wall surfaces in these areas should assume 100mm to 150mm of acoustic and architectural interior finish to auditorium walls. The foyer spaces will need to have sound-absorbing finishes sufficient to allow causal conversation at short distance.

6.2 SOUND SEPARATION APPROACH

Successful noise attenuation from the exterior and building services will play a large role in achieving the recommended background noise criteria. Noise from nearby rooms and equipment should not intrude and impact the background sound levels of the performance space. The design goal for intrusive noise is informed by the criteria for continuous background noise. To achieve sufficient sound separation from adjacent areas, some special construction and detailing is expected to be required. This includes noise from mechanical equipment such as air handling units, pumps and associated piping, fans, washers/dryers, and any adjacent amp and dimmer room.

The structural scheme will need to assume that the auditorium design will include an approach that allows a vibration break between auditorium and surrounding structure, depending on adjacencies - a cavity wall construction is expected for direct adjacency of the auditorium to the exterior, while a double-layer roof/ceiling construction is expected in order to provide a high level of airborne and rain-impact noise separation. Critical adjacencies between noise sensitive spaces, especially equipment rooms that may generate airborne noise and vibration, will need to be avoided and may result in some compromises to the most efficient space planning for plant areas.

Acoustic attenuation may also be required for building services equipment (e.g. piping or ductwork) within the footprint of the performance space. Depending on the noise levels of the associated mechanical equipment, the ductwork may require lagging or gypsum enclosures to reduce radiated noise.

NOISE SEPARATION BETWEEN PERFORMANCE SPACES

We understand the client aspiration is the concurrent use of the Auditorium and the proposed new performance space / dance studio. The potential noise separation issues with this aspiration can be classified into two categories: Noise separation between stacked spaces, and noise transfer between adjacent spaces.

Commenting on the design options for the additional performance spaces and the possible building expansion options as they are described in section 5.1.4 of this report, we have identified the following potential issues:

Updating the current Function Room to serve as the second performance space, and locating the new dance studio on the existing offices footprint will guarantee no issues with regards to vertical noise transfer. However, both new spaces will be in close proximity to the Auditorium, and they will be separated from the latter only by means of a corridor (dance studio) and the Auditorium back wall (new performance space). A high degree of noise separation will be required between the Auditorium and the new spaces, which, as the Auditorium envelope will be retained, will need to be achieved by means of substantial wall partitions on the new spaces-side.

With regards to the possible building expansion Options 1, 2 & 3, moving the larger offices to 1st floor of Library / directly above the new dance studio / to new level above backstage area will guarantee no issues with regards to vertical noise transfer, as offices have a high noise tolerance and a fairly low noise activity.

For Option 3, where the second space replaces the dance studio, a vibration isolation strategy will have to be developed to address noise transfer to the new studio space due to dancing activity in the dance studio above, and a floating floor system will likely be necessary between the two stacked spaces.

Option 4, where the new suite of performance and dance spaces will be on a new purpose-built block adjacent to the site, is regarded as the best option in terms of noise transfer between adjacent spaces, as the current Function Room and front-of-house areas will act as a noise buffer zone, allowing the simultaneous use of the Auditorium and the new performance spaces. While stacking the Dance Studio on top of the new Studio space will likely require a similar vibration isolation strategy as the one described above, it is regarded that potential vibration isolation issues can be addressed by locating the Dance Studio on ground level instead.

NOISE EGRESS

Some noise from performances is expected to transfer to the directly adjacent spaces that make up the Harlington site. However, this is not expected to be a concern, as the adjacent spaces to the Auditorium will predominately comprise front-of-house and backstage spaces. Noise egress from building services will also need to be considered so as not to be disruptive to nearby residences and noise sensitive premises.

6.3 BACKGROUND NOISE APPROACH

PRELIMINARY BACKGROUND NOISE CRITERIA

Maximum levels of acceptable continuous background noise are specified using noise criteria rating systems. These systems are used to describe and specify neutral-sounding sound spectra of a given perceived loudness. These criteria ratings systems can be used to meaningfully compare the loudness of sound at different frequencies. Sound spectra that are perceived as neutral-sounding do not have equal decibel values at all frequencies, as the human hearing mechanism does not have equal acuity at all frequencies.

Many different noise criteria rating systems have been developed, each with their own intentions for use and application. These systems are referred to by two- or three-letter acronyms. We suggest using values from both the Preferred Noise Criteria (PNC) and Noise Rating (NR) systems. The recommended criteria (and octave band sound pressure levels) are listed below. From a design perspective, these values will be used as 'not-to-exceed' values for the purposes of calculating anticipated background noise levels due to ventilation and electrical noise.

	SOUND PRESSURE LEVEL (dB, re: 20^{-6} Pa) OCTAVE BAND CENTRE FREQUENCY (Hz)								
NOISE CRITERIA	32	63	125	250	500	1K	2K	4K	8K
PNC-20	59	46	39	32	26	20	15	13	13
PNC-25	60	49	44	37	31	25	20	18	18
NR-30	76	59	48	40	34	30	27	25	23
NR-35	79	63	52	45	39	35	32	30	28
NR-40	83	67	57	49	44	40	37	35	33

The following table includes our recommended background noise levels for the primary spaces in the project.

ROOM NAME	BACKGROUND NOISE CRITERIA
Auditorium	LAeq ≤ 30 dBA; PNC-20
Control Room	LAeq ≤ 34 dBA; PNC-25
Sound and Light Lobbies	LAeq ≤ 34 dBA; PNC-25
Dressing Rooms, Green Room,	LAeq ≤ 40 dBA; NR-30
Production Office, Workshops and Storage	LAeq ≤ 40 dBA; NR-30
Foyer / Reception	LAeq = 45-55 dBA[1]; NR-40
Store, Toilets	LAeq ≤ 50 dBA; NR-40

1 Requirement of BS 8233:2014 Sound insulation and noise reduction for Buildings

Achieving background noise goals will require not only the quiet delivery of ventilation, but also the attenuation of any plant equipment noise that propagates down the duct paths. Sound attenuators and strategic use of internal acoustically lined ductwork should be assumed.

Specialty detailing of building services that cross through the boundary construction of the auditorium and other sound-sensitive spaces should be assumed, as well as the vibration isolation detailing of building services that cross structural separations that are intended for acoustic purposes.

DUCT AND SHAFT SIZING

As reference, the following tables include our criteria for air velocity, to inform preliminary duct and shaft sizes.

RECOMMENDED SUPPLY AIR VELOCITIES BY NOISE CRITERIA

		Branch Duct or Clear Opening	Secondary Duct	Main Duct
Noise Criterion	At Diffuser	Upstream 1.5m	Upstream 1.5 to 3m	Upstream 3m to 6m
PNC-20	1.5 m/s	1.8 m/s	3.0 m/s	5.3 m/s
PNC-25	1.8 m/s	2.1 m/s	3.6 m/s	6.4 m/s
NR-30	2.2 m/s	2.5 m/s	4.3 m/s	7.9 m/s
NR-35	3.3 m/s	4.0 m/s	6.0 m/s	8.3 m/s
NR-40	4.4 m/s	5.0 m/s	7.0 m/s	8.6 m/s

RECOMMENDED RETURN AIR VELOCITIES BY NOISE CRITERIA

		Branch Duct or Clear Opening	Secondary Duct	Main Duct
Noise Criterion	At Grille	Downstream 1.5m	Downstream 1.5 to 3m	Downstream 3m to 6m
PNC-20	1.8 m/s	2.1 m/s	3.0 m/s	5.3 m/s
PNC-25	2.2 m/s	2.5 m/s	3.6 m/s	6.4 m/s
NR-35	2.5 m/s	3.0 m/s	4.3 m/s	7.9 m/s
NR-35	3.3 m/s	4.0 m/s	6.0 m/s	8.3 m/s
NR-40	4.4 m/s	5.0 m/s	7.0 m/s	8.6 m/s

7 TECHNICAL SYSTEMS

The design choices for the theatre technical systems have been informed by our understanding of the client brief, and our assumptions for the buildings' operational requirements by the end user.

All technical equipment and systems will be specifically chosen to maximise the theatre's operational potential, but without over-complicating the design or functionality of the building for the operator.

All equipment proposed can be found in many professional theatres nationwide; specific model types throughout will be determined during the design development stages.

7.1 STAGE ENGINEERING

OVERHEAD SYSTEMS

To complement the flexible performance design of the auditorium and support all possible stage layouts there will be a number of both mechanically assisted and fixed technical equipment systems over the stage and auditorium. The current system of fixed bars rigged from a ladder is not a suitable method of operation today.

FRONT OF HOUSE LIGHTING BARS

Over the auditorium there are to be fixed lighting bars, mounted to the soffit for the rigging of stagelighting and audiovisual equipment.
It is envisaged that the stagelighting fixtures rigged on these bars will be motorised which will obviate the need for focussing and therefore the requirement for working at height and access equipment for such tasks.

In addition to the above there are to be fixed lighting bars on the ends of the balcony fronts, either side of the auditorium.

ONSTAGE LIGHTING BARS

It has been concluded that the most effective route for resolving the current technical issues over stage will be through the use of motorised lighting bars, these allow equipment to be rigged at a safe working height. Focussing of equipment will need to be undertaken at height using suitable access equipment, access equipment is not included in the budget cost below.

These bars are based on a self-contained unit powered by a standard chain hoist, this unit is a good value for money unit that is ideally suited to simple lifting during the fit-up of a show, these bars are not suitable for operation during a show, but do improve on safety and speeding up rigging operations.

To supplement the flown bars, we would propose to intersperse a number of hemp sets for the rigging of static scenic elements, such as masking etc.

PROJECTION SCREEN

An electrically operated roll-down projection screen suitable for front projection is proposed. As this is expected to be used frequently it is to be permanently mounted to the stage house soffit.

FLEXIBLE STALLS ROSTRA

It is proposed that the first three rows of seating are made up of modular rostra, which will allow the stage extent and position to be re-configured, along with the auditorium seating, for different audience formats. We believe a mechanically-assisted system is most appropriate; this will aid turnaround times and can easily be operated by one person, reducing staffing costs.

Tuchler Zoom 1200 rostra

7.2 STAGELIGHTING & AUDIOVISUAL

RIGGING POSITIONS

Stagelighting and audiovisual equipment will be rigged on bars at stage level then flown out for focusing and operation. This approach will mean the amount of work conducted at height will be greatly reduced. It will also significantly reduce rigging time, potentially resulting in considerable cost and time savings. Appropriate high-level access equipment will be required for focussing and any other activities which still need to be carried out at height.

In the auditorium we are proposing fixed bars mounted to the soffit and balcony ends. These positions would be used for rigging lighting equipment, loudspeakers and other items.

CONTROL ROOM

An improved technical control room will be located on the centreline directly above the balcony level. With the current set of proposals, it would be prudent to allow for a platform lift to make this room fully accessible.
An additional temporary control position can be accommodated in the stalls area if required for live sound mixing.

EQUIPMENT

Stagelighting and audiovisual equipment will be proposed and developed in the next design stages alongside the client technical team; for the purposes of this report allowances have been made in the costs for new equipment suitable for a theatre of this size.

WIRING INFRASTRUCTURE

Although a power and wiring infrastructure already exists in the building, user reports suggest that it is inadequate for the productions that are currently staged in the venue.

Therefore, it is recommended that a new ‘fit for purpose’ infrastructure will be installed to meet current working practices and standards, as well as complementing the redevelopment of the building.

A full stagelighting and audiovisual wiring infrastructure, as well as loose equipment that can be rigged and focused to suit each show, is to be provided.

The infrastructure will comprise a dedicated containment system and associated wiring, supplying power, data, audio, video and communications services to custom socket outlet boxes (facilities panels) distributed throughout the space, to allow for systems such as comms, cuelights and show relay etc. Containment and power outlets will form part of the electrical services design as part of the electrical contract. Dedicated power distribution boards will supply power to the theatre technical systems, housed in a new dedicated dimmer and amp room.

Some panels for followspot positions etc. will contain larger 32A power supplies, wired radially from the distribution boards, as well as dedicated supplies for the connection of temporary equipment, brought in for specific show requirements.

The current stage lighting dimmers will be replaced with modular, digital dimmers, and RCD protected. The flexibility of module configuration will obviate the need for a separate power distribution system for moving lights but will allow visiting companies to use a mixture of different sources, i.e. LED, arc and tungsten.

The primary control protocol for the stage lighting will be DMX512A. The DMX wiring will comply with ANSI E1.11-2004, DMX512A-A and ANSI E1.20-2006, Remote Device Management.

Wiring infrastructure will be installed for both DMX and Ethernet outlets at each socket box location - to allow for shows to use a stage lighting control network in the future. The DMX infrastructure will be wired with Ethernet cabling so that it can be converted to use as a network in the future if the use of DMX is phased out.

The control infrastructure will be radially wired from a control equipment rack in the dimmer and amp room.

BUILDINGWIDE - PAGING SYSTEM

A paging and show relay system is proposed as a useful means of communicating calls to key locations in the building. This will be a simple 2-zone system where calls can be made to front of house or backstage areas. The backstage provision will include distribution of a show relay signal from the stage to the dressing rooms, offices, and control room. This system is entirely independent, and in addition to any voice alarm and evacuation system.

HOUSELIGHTING

We recommend an LED solution for the auditorium house lighting system, which dims smoothly all the way to zero intensity. Unfortunately, many LED fittings cannot achieve smooth dimming to zero; however, we have successfully specified LED house lighting systems for many theatres, including Bristol Old Vic, Liverpool Everyman, Dorfman (National Theatre) and Chichester Festival Theatre, giving considerable power and running cost benefits in the long term. These fittings are likely to form part of the electrical services designer’s scope, but we will give advice and co-ordinate on the specification and control of these fittings in the next design stages.

7.4 MECHANICAL & ELECTRICAL IMPLICATIONS

The current power supplies for the theatre technical systems are insufficient for the desired programming. As part of the refurbishment works we would suggest that the current allowances are increased for both stagelighting and AV, as well as supplying a new feed for the stage engineering systems. Exact sizing of these supplies will happen in the following design phases.

At the next stage of design, we will provide a detailed report of the mechanical and electrical implications of our theatre technical systems to assist the electrical services designer with their calculations.
The report will include the anticipated main electrical supply requirements for each of the systems, together with a breakdown of the individual supplies required. Expected mechanical loads (typical heat loads generated etc.) and the diversity considerations that can be made when developing the M&E strategy for the normal expected loads on our systems are also provided.

7.5 COSTS

Our initial cost estimate for the systems described above, based on the technical requirements, can be given as **£560,000** of the total construction budget for a refurbishment (included in the below benchmarked figures).

For a new build we would recommend an allowance of **c.£760,000** for the technical systems, (included in the benchmarked model costs provided below).

8 BASE BUILD COSTS

The scope for this study is not for a costed scheme, it is for an outline understanding of the building costs measured from area and calculated by applying an appropriate square metre rate.
For cost certainty we would recommend the appointment of a cost consultant to solidify our assumptions.

We have split the costs into two sections, that for a refurbishment of the existing building and costs for a new build project (build costs).

We have suggested a range based on a benchmarked rate in order to get a feel for the scale of the project. The rates of course will differ and may be improved upon through detailed design, but provide a useful indication of the scale of project we are dealing with.

In quoting square metre rates it is worth remembering that the cost dramatically changes room to room, some costs are high, for the theatre for instance, others lower, often the backstage, support spaces and offices.

For refurbishment over the two floors of the foyer and auditorium and the single story for the remainder of the side plot, we have calculated an area circa 2,200m^2. The numbers proposed as benchmark costings reflect current industry standards and make an allowance for the following:

- Balcony construction
- Extra £60/m2 for quiet ventilation
- Extra £50/m2 for LED houselighting
- Seating – in the region of £150,000
- Technical theatre systems – detailed in the sections above

The area schedule illustrates a project of 2,519m^2. Notably, these include a grossing factor of 50%, which calculates circulation, plant and technical spaces. Analysis of our previous projects indicate theatre spaces have a grossing element of between 50% - 55%.

8.1 REFURBISHMENT

8.1.1 BASE BUILD

Typical cost per square metre is considered across a range, £1,900/m^2 being the lowest, £2,550/m^2 being the typical and industry standard benchmarked cost, with up to £3,000/m^2 being the higher end.

Low model - cost rate at £1,900/m^2

TOTAL - £4.18m

Benchmark model - cost rate at £2,550/m^2

TOTAL - £5.6m

High model - cost rate at £3,200/m^2

TOTAL - £7m

8.1.2 ALTERNATIVE OPTIONS FOR EXPANSION OF REDEVELOPMENT

There will be additional costs for the development of the site to allow for supplementary accommodation as set out on page 14 of this report. These will be in line with the above area rates for refurbishment and new build extension.

8.2 NEW BUILD

8.2.1 BASE BUILD

Typical cost per square metre is considered across a range, £2,500/m^2 being the lowest, £3,000/m^2 being the typical and industry standard benchmarked cost, with up to £4,000/m^2 being the higher end.

Low model - cost rate at £2,500/m^2

TOTAL - £6.3m

Benchmark model - cost rate at £3,000/m^2

TOTAL - £7.6m

High model - cost rate at £4,000/m^2

TOTAL - £10.1m

9 PROJECT COSTS - EXCLUDING VAT

In addition to the construction costs outlined above, a design team will need to be commissioned to carry out the design work. The likely fees to be expected, along with other project costs such as surveys, etc., should be in the region of an additional 25% - 40%. Based on the above benchmark model costs:

		Refurbishment	New Build (incl. Second Space & Dance Studio)
Construction Cost		£5.6m	£7.6m
Other Project Costs	25%	£1.4m	£1.9m
Other Project Costs	32.5%	£1.8m	£2.5m
Other Project Costs	40.0%	£2.2m	£3m
Project Cost		**£7m to £7.8m**	**£9.5m to £10.6m**

It is possible that further fees would be required for services such as legal fees, access consultant, project manager, development / fundraising officer, closure costs, marketing campaign.

We believe the benchmark model costs set out in this report are realistic, based on our previous experience of similar buildings and AECOM's 2013 'Cost Model: Performing Arts' publication:

'Building that house the performing arts can be very expensive. Often they have innovative design, so they do not benefit from the use of well-tried construction techniques, or the economies of scale, that are available to commercial schemes of a similar values.
Indicative construction costs per square metre are:

- *Mid-range theatre (regional standard) £2,500-£4,000*

One challenge is that costs are mainly driven by the auditorium, stage and foyer areas, so there is little flexibility once the size of the performance space and character and quality of the building has been determined. Furthermore, there is no simple set of cost drivers that can be addressed to make savings without drastically affecting the character and quality of a scheme.'

All of these costs assume that all work can be carried out concurrently and that any potential phasing required by the project may add cost to the development of the scheme.
A decision will need to be taken about any continued operation during the construction works. Rather than simply closing The Harlington, it may be advisable to take over rented accommodation during the construction period, to maintain the audience and build a sense of anticipation towards the reopening. There are many precedents for different approaches to this; we have not included any costs for temporary operations within this report.

10 NEXT STEPS

Following this initial feasibility study, our intention is to assist Fleet Town Council with the architect selection process, this will include:

- Providing a long list of suitable architects
- Assisting with shortlisting to a maximum of 5 architects for interview
- Further shortlisting to a maximum of 3 for final selection
- Organising competition packs and selection interviews
- Attending architect interviews alongside the Council and Harlington teams.
- Providing an assessment of each bid and make a recommendation

Swiftly after this appointment, we would envisage engaging with the rest of the design team (MEP, structures) to commence the design and detail a suitable design programme.

. /end

END OF THEATRE CONSULTANT'S FEASIBILITY STUDY
16021 – THE HARLINGTON, FLEET