

<b>Committee(s):</b>	<b>Date(s):</b>	<b>Item no.</b>
Community & Children's Services Finance Court of Common Council	14 May 2010 25 May 2010 10 June 2010	
<b>Subject:</b> <b>GOLDEN LANE ESTATE - GREAT ARTHUR HOUSE:</b> <b>CURTAIN WALLING/ WINDOWS/ OTHER WORKS: EVALUATION REPORT</b>	<b>Public</b>	
<b>Report of:</b> The City Surveyor and the Director of Community and Children's Services	<b>For Decision</b>	
<p><b><u>Summary</u></b></p> <p>a) This report sets out options for the refurbishment/ replacement of the original curtain walling of Great Arthur House (a Grade II Listed Building), i.e. do nothing, refurbishment or replacement, and seeks approval to proceed with the recommended option of complete replacement.</p> <p>b) The replacement option for the curtain walling would ensure longevity and warrantability, provide value for money, whole-life-cost advantage and a good level of comfort for the occupants. It would meet the City's landlord repair obligations and would comply with the Government's Decent Homes Standard policy and the Building Regulations. However, because Great Arthur House is a Grade II Listed Building, the replacement option is subject to both Planning and Listed Building consents, hence its development needs to be sensitively handled to minimise its potential to alter the appearance of the building and to affect its special interest.</p> <p>c) The proposed curtain walling works are necessary due to the age and poor condition of the façade elements of Great Arthur House which are over 50 years old and for which the City has statutory repair obligations, and to effect a lasting solution to the shortcomings of the curtain walling.</p> <p>d) The normal deadline for compliance with Government's Decent Homes Standard is 2010. Following an application to the Government Office for London (GOL), an extension was granted in September 2007 until</p>		

31 March 2013 for completing the works.

- e) The works themselves will be relatively costly as they will be logistically challenging, due to the fact that they will be undertaken with residents in occupation, and will need to be implemented in a piecemeal and incremental fashion. The potential for relocating all residents, whilst the proposed works are undertaken, has been considered; however, this is considered not to be practical for several reasons primarily the difficulty of locating suitable alternative accommodation. Another major potential cost element is the extensive structural strengthening of the edges of the existing floor slabs which may be required as there is virtually no spare capacity to support additional loading. A replacement curtain walling system with double-glazing may impose greater loads on the structure than the existing lighter weight façade which is single-glazed.
- f) The overall estimated cost provided in this report reflects the complexities of the project. Following the Evaluation stage, one of the principal aims in the development of the technical design of the curtain walling will be to adopt where possible measures that would obviate the need for structural strengthening. It is proposed that at a future date a progress report is submitted to confirm whether structural strengthening will be required and any revision to budget requirements.

The main financial implications of this report (in paragraph 24, 25 and 56) are:-

- The overall estimated cost of the Project (Essential Works) is £4,669,000 (at February 2010 prices), comprising £3,891,000 for works and £778,000 for fees and staff costs, based on the preferred option to replace the curtain walling. The overall estimated cost includes an estimated £1,102,000 for potential structural strengthening the need for which is subject to further design development. It is, therefore, proposed that the approved budget being sought is subject to review in a future report, when it is possible to confirm whether structural strengthening will be required.
- The estimated total project cost of £4,669,000, will be funded from the Housing Revenue Account (HRA) £2,879,000 and leaseholders' contributions £1,790,000 (approximately £39,000 per leaseholder), and provision for the former this has been taken into account in the latest forecast for the HRA's Major Repairs Reserve.
- Essential cyclical external repairs and redecoration works, which are due from 2010, at an estimated £200,000 at February 2010 prices

(including £20,000 staff costs and fees) are also recommended to be undertaken while the windows scaffold is in place. These works will be included in the Revenue programme for the year of the capital works, and will be funded from the HRA (£123,000), and leaseholders' contributions (£77,000 - approximately £1,600 per leaseholder).

### **Recommendations**

It is recommended that your Committee:-

- Approve the recommended Option (d) to replace the existing curtain walling and approve all the Essential Works at an estimated cost of £4,669,000 (at February 2010 prices), comprising £3,891,000 for works (inclusive of structural strengthening) and £778,000 for fees and staff costs, subject to the submission of a future report to both your committee and the Finance Committee confirming the estimated project cost when the need for structural strengthening has been determined.
- Approve the inclusion of the next cyclical cycle of revenue funded repairs and redecoration within the works contract to replace the curtain walling. The estimated cost of these works is 200,000 at February 2010 prices, comprising £180,000 for works and £20,000 for staff costs and fees.
- Seek the concurrence of the Finance Committee and the Court of Common Council.

## **Main Report**

### **Background**

1. Great Arthur House, which is a Grade II Listed Building (listed in December 1997) comprising 120 flats on 15 storeys, was constructed in 1957. The main east and west elevations comprise an aluminium curtain wall system of single glazed sliding windows with glazed fanlights above and yellow coloured glass panels below window cill level.
2. The north and south end elevations have small, single glazed aluminium sliding windows set within a solid concrete wall. There are also recessed balconies to the main elevations. The bathroom and kitchen windows which give onto the balconies are of timber construction and are single glazed.
3. Residents have reported that the curtain walling on the main elevations has suffered from water penetration and air infiltration since the time of construction. Whilst various investigative studies have been undertaken and pilot repairs attempted over time, remedial works have not proved successful in dealing with the problem.

4. Financial provision to prepare an evaluation report for window improvements to Great Arthur House was first included in the Capital Programme in 1998/1999. In June 2000 the Housing & Sports Development Committee received a Progress Report which indicated that the estimated cost of the works was in excess of £1m, based upon the repair of the existing curtain wall system/windows. The Committee approved the Progress Report and the commissioning of consultant engineers to undertake a structural survey of the building's facade, the structural integrity of the curtain wall and condition of the building structure.
5. A project update and Capital Bid Report was presented to your Committee in February 2008. The report highlighted:-
  - i. The development of the project, since the June 2000 progress report.
  - ii. The 2002 structural engineer's report findings (covered in Evidence of Need below).
  - iii. The findings of the 2003/04 Decent Homes stock condition survey by Rand Associates - essentially that the windows forming part of the curtain walling on the east and west elevations fail the Decent Homes Standards in terms of :-
    - a reasonable state of repair, (i.e. the amount of repairs necessary).
    - providing a reasonable degree of thermal comfort (i.e. poor insulation).
  - iv. A potential project cost of some £5m, based upon replacement of the existing curtain wall system/windows.
  - v. The 2004 report from the Building Research Establishment indicating that the repairs to the curtain walling are unlikely to be considered rectifying a structural defect.
  - vi. The adoption of the Listed Building Management Guidelines for the Golden Lane Estate in 2007 which details the historical and architectural interest for all the blocks including Great Arthur House.
  - vii. Approval in September 2007 from the Government Office for London to extending the Decent Homes Deadline for completing the works at Great Arthur House beyond 2010 until 31 March 2013, in view of the lead time for the various consultations with residents, the planning and heritage bodies and District Surveyor, and design development.

6. Consequently approval was received in February 2008 to the financial provision of £20,000 to progress the scheme as a new project to Evaluation Report stage (the cost to prepare the present Evaluation Report has been contained within the approved provision).
7. It should be noted that provision is included within the HRA repairs and maintenance budget to continue with any maintenance required and the annual monitoring of the structural integrity of the façade.

### **Evidence of Need and Current Position**

8. The 2002 report of structural engineer Jenkins and Potter (J&P) confirmed that the aluminium curtain wall system and its integral timber sub-frame make very limited allowance for differential movement (expansion and contraction of different materials relative to one another). This has had the effect of allowing water to penetrate through joints, loosening fixings of the yellow glass panels and causing joints in the timber sub-frame to split and move. Water penetration has caused rot in some structural timber members.
9. J&P stated that flaws in the once “state of the art” system have allowed rainwater to penetrate into the property. The system is over 50 years old and, in J&P’s opinion, has come to the end of its useful life.
10. Based on their 2007 external inspection, J&P estimate that in terms of structural integrity the curtain walling has a remaining life of 7-10 years - although there would be no guarantees that localised failures would not occur and have to be dealt with during that time. J&P’s observations are made notwithstanding the fact that, in its current state, the curtain walling does not meet the City’s repair obligations and the Decent Homes Standard.
11. The original single-glazed aluminium sliding windows on the north and south elevations are in the majority of cases in poor condition.
12. The original single-glazed timber balcony doors form an integral part of the external envelope of the individual flats and are contiguous with the curtain walling. In order not to negate the benefits of any upgrade/ replacement of the curtain walling, and to avoid increased condensation risks, the balcony doors should be upgraded to an equivalent extent (e.g. draught-proofing and double-glazing).
13. J&P’s October 2008 inspection from the interior of 25% of the flats found no further structural defects, but ongoing damage to internal finishes was observed.
14. In October 2009 J&P undertook a further internal inspection. Leakage was observed in all but two of the 35 flats surveyed. Some of the flats which

were inspected in 2008 and at the time showed no evidence of leakage, were, at the time of this inspection, leaking.

15. Between 2007 and 2008 £24,000 has been incurred for the survey and inspections. A further £24,000 is anticipated between 2009/10 and 2011/12 (£8,000 annually). The costs are met from the HRA's annual cyclical maintenance budgets.
16. Energy and Sustainability issues - one of the themes of The City's Sustainable Community Strategy: "The City Together", is to protect, promote & enhance our environment, particularly to ensure high standards of energy and resource efficiency in the design and implementation of the built environment and to encourage reduced carbon emissions across all sectors. The design of the recommended replacement curtain wall system will have regard to this.
17. Rand's 2003/04 condition survey rated Great Arthur House at a SAP rating of 69 (out of 100). The Standard Assessment Procedure or SAP rating is a calculation of the energy efficiency of a building having regard principally to a building's construction/insulation/means of heating/hot water, and is a useful indicator of carbon emissions and fuel poverty. A SAP rating of 65 or below is a likely indicator of fuel poverty based on Government guidance that fuel poverty is likely to occur when, in order to heat its home to an adequate standard of warmth, a household needs to spend more than 10% of its disposable income on total fuel use (including lighting and appliances). There is therefore scope to increase the building's SAP rating with the design of the recommended replacement curtain wall system in terms of double-glazing and insulation so that less fuel is used and carbon emissions are reduced.

### **Double-Glazing and Structural Strengthening**

18. J&P have advised that the existing structure at the edges of the building has virtually no spare capacity to support additional loading. The existing curtain walling is single-glazed. If standard double-glazing were to be installed to improve thermal performance, greater loads would be imposed on the structure because of the additional weight of glass. Extensive and costly structural strengthening would be required as a consequence.
19. Advanced slim-line weight-saving double-glazing technologies are now available which, if suitable for this project, may well assist in avoiding the need for structural strengthening. However, these products, and other weight-saving measures, must be thoroughly appraised in conjunction with the overall design development of this project to satisfy a range of other technical criteria before they can be specified.

20. It is proposed that a future progress report is submitted to your Committee and the Finance Committee to advise whether structural strengthening will be required. It is estimated that some £250,000 in post-evaluation fees and staff costs will have been expended in the design development by the time the progress report is presented.

### **Essential Works Options**

21. A number of potential options for the remedial works to the Great Arthur House curtain walling have been evaluated, as set out below:-

a) **Do Nothing** - effectively a continuation of the annual inspections and repairs. This will not meet the City's landlord repair obligations or comply with the Decent Homes Standard. This option would not alter the external appearance of the building, but would not eliminate ongoing maintenance liability and potential failure of the curtain walling in certain areas. The energy efficiency of the building would be unaltered and the present SAP rating of 69 would remain. This option is detrimental to the longevity of the building and disadvantageous to residents. **This Option is not recommended.**

#### **b) Basic Curtain Wall Refurbishment**

##### (i) Description

Carefully remove the existing system by disassembling all components. Undertake repairs to the timber sub-frame. Refurbish all components, replace any damaged sections and re-install system. Overhaul and service windows. Replace yellow coloured panels to match existing.

##### (ii) Advantages

- Retains original appearance.
- Retains most of the original components as far as possible (subject to replacement of any defective or damaged sections).
- Rebuild of low internal walls (backing the coloured panels) will allow installation of some insulation below windows, but achieving only very limited improvement to thermal efficiency.

##### (iii) Disadvantages

- No improvement to thermal properties of windows. Leaves thermal standard of the windows as it was in 1957 which is far inferior to current Building Regulations requirements with potential fuel poverty issues (see paragraph 17).
- Continued risk of condensation.

- Severe disruption to residents. Interior of dwellings exposed to external conditions for a considerable period (estimated at 6 weeks).
- Relatively high cost with little additional benefit to residents.
- Does not accommodate differential movement.
- **Maintenance liability** - The overall life of the system will depend on that of the mastic sealant which could be expected to be no more than say 10 years. At that point it would not be possible to replace mastic within joints as it could only be applied externally (unless the system is taken down again). Unworkable option.
- Reliability & longevity issues.
- Relies on high quality workmanship on site.
- Warranty issues - obtaining unqualified guarantees for the work involving original design and components would be difficult.

The total estimated cost of this option is approximately £2.9m at February 2010 prices and includes the other Essential Works (renewal of windows on north and south elevations and upgrade of balcony doors) described later in this report. This is an unrealistic option and should be dismissed. **This option is not recommended.**

### c) **Advanced Curtain Wall Refurbishment**

#### (i) Description

The aluminium framework would be removed piecemeal and be prefabricated offsite into modular panels which will accommodate differential movement. The panels below the windows would be insulated. The current aluminium framing cannot accommodate conventional double-glazing. Even to accommodate advanced slim-line double-glazing would require considerable alteration or component replacement. On initial investigation it is doubtful whether the modification to install double-glazing would be successful and a workable result achieved for this option (or, for that matter, Option b).

#### (ii) Advantages

- Retains some original components.
- Retains, with some variation (subject to design), the original appearance.
- Accommodates differential movement and reduces, to some extent, frequency of maintenance.
- Some improvement in thermal performance of the panels below the windows.

(iii) Disadvantages

- High initial cost comparable with that of a replacement option.
- No improvement to thermal properties of windows. Leaves thermal standard for the windows as it was in 1957 which is far inferior to current Building Regulations requirements. (Although secondary glazing could be introduced to improve the thermal performance of the windows, this would increase weight and structural strengthening would be required. It is also worth noting that a previous pilot study undertaken in the 1990's to fit secondary glazing did not prove successful).
- Continued risk of condensation.
- Severe disruption to residents. Interior of dwellings exposed to external conditions for a considerable period (estimated at 6 weeks).
- **Maintenance liability despite high cost** - The overall life of the system before first advanced refurbishment could be say 20 years, an improvement over the basic refurbishment option but more frequent than for a replacement system.
- May not completely address future concerns over fuel poverty (see paragraph 17).
- Reliability & longevity issues.
- Warranty issues - obtaining unqualified guarantees for the work involving some original design and components may be difficult.
- **Value for money issues\*** - see comments in last sub-paragraph of this section regarding comparative Life Cycle Costing exercise.

The total estimated cost of this option is approximately £3.3m at February 2010 prices and includes the other Essential Works (renewal of aluminium windows on north and south elevations and upgrade to balcony doors) described later in this report. **This option is not recommended.**

d) **Replacement Curtain Wall System**

(i) Description

This will involve the replacement of the existing curtain walling and provision of double-glazing and insulated panels, and will need to comply with current Building Regulations but within the Listed Building constraints. It may be possible to incorporate advanced weight-saving measures to avoid structural strengthening, subject to technical assessment of their suitability as discussed earlier in this report. Due to the need to achieve Listed Building listed consent there are a limited number of options available in terms of the replacement system.

(ii) Advantages

- Purpose-designed system using latest technologies.
- Accommodates differential movement.
- Significant improvement in thermal performance and comfort for resident. It is estimated that the existing SAP rating of 69 would increase by approximately 10% to 76). There could be some energy savings which would primarily accrue to residents, although these are unlikely to be substantial.
- Obligations under Decent Homes Standard and Building Regulations would be easily met.
- Significantly addresses future concerns over fuel poverty.
- Reduced disruption to residents, as new prefabricated curtain walling panels will be installed as soon as practicable (estimated at 2-3 weeks) after removal of the existing curtain walling panels and completion of the structural strengthening works (if applicable - see disadvantages below).
- Low dependence on site workmanship.
- Warranty readily available.
- **Low maintenance** with significant life before first replacement (up to 40 years).
- Long-term reliability.
- **Value for money\*** - see comments in last sub-paragraph of this section regarding comparative Life Cycle Costing exercise.

(iii) Disadvantages

- High initial cost, though there may be the potential to reduce this very significantly if the need for structural strengthening (to support additional load of the system) could be eliminated, e.g. by using advanced light-weight double-glazing. In that event, the initial capital cost of the replacement option would be in the order of £300,000 higher than Option (c) but with far greater benefits.
- Potential to alter the appearance of the façade to some extent. The aim would be to minimise this effect through careful design which would require agreement of City Planning Officer and English Heritage.

The total estimated cost of this option is approximately £3.6m without structural strengthening, and approximately £4.7m with structural strengthening, at February 2010 prices including the other Essential Works (renewal of windows on north and south elevations and upgrade of balcony doors and fanlights) described later in this report. **This Option is recommended.**

\*A comparative Life Cycle Costing exercise has been undertaken in respect of the Advanced Refurbishment Option (c) and Replacement Option (d) on the basis of an anticipated building life of 80 years, estimated lifespans for the refurbished/ replacement curtain walling of 20 years and 40 years respectively and using discount rates of either 2% or 3%. The Life Cycle Costing exercise ranks replacement Option (d), with and without structural strengthening, ahead of Advanced Refurbishment Option (c) in terms of value for money. It should also be noted that Option (d) has better thermal performance (e.g. double-glazing) than option (c); however any energy savings, which would primarily accrue to residents, are unlikely to be substantial and have not been accounted for in the life cycle costing exercise.

22. It is proposed that the Project will also include the following Essential Works:-

- a) Replacement of the existing aluminium sliding windows on the north and south end elevations with double glazed windows at a total estimated cost of approximately £61,000 at February 2010 prices. These windows which are over 50 years old are in the majority of cases in poor condition.
- b) Upgrade of the timber balcony doors and fanlights at a total estimated cost of approximately £127,000 at February 2010 prices to compliment the thermal improvements and draught-proofing of the adjacent curtain walling. The work would involve replacing the single-glazed door leaves with double-glazed doors. The fanlights above the doors would be modified so that they are openable and upgraded with double-glazing.

### **Other Works (Advisable and Desirable)**

23. Other advisable and desirable works that have been considered for inclusion in the project principally to improve the building's insulation and maintenance, and discussed with residents but which are not recommended at this time are:-

- a) Refurbishing with double-glazing the Kitchen and Bathroom Windows (advisable) - although the single glazed windows, are 53 years old, they are still serviceable and the insulation improvement is marginal. They will therefore be redecorated as part of the cyclical painting at an estimated £12,000. The re-painting estimate is included in the Revenue budget for the block's external repairs and redecoration as set out later in this report.
- b) Improvement of Thermal Insulation to North and South Concrete Flank Walls (advisable) - There is potential to further improve the thermal

performance of Great Arthur House when the proposed works to the curtain walling/windows are undertaken, making shared use of access equipment, by insulating the solid concrete end walls. However, as the works are not mandatory under the Building Regulations, and the thermal comfort criteria will still be met by means of the improvements brought about by the installation of the new curtain wall mentioned above, **this work is excluded.**

- c) Permanent Cradle System (desirable) - Presently a temporary cradle support installation is erected as required for window cleaning, inspections and minor repairs. This was agreed when the issue of a permanent cradle was considered (but rejected) when the new roof coverings project was approved in 1999 and implemented in 2000/01. For Great Arthur House, a new cradle access system to be of beneficial use would need to run on a continuous track around the perimeter of the roof. In this form it would potentially have significant visual impact on the appearance of Great Arthur House and least likely to be granted Listed Building consent. Consequently these works are **not recommended for inclusion.**

### **Other Works - Cyclical External Repairs and Redecoration (Essential)**

24. The external repairs and redecoration is classified as essential maintenance work. The next cycle of external repairs and redecoration is due from 2010/11 when the gloss and masonry painting is undertaken. The painting can be undertaken utilising the scaffold/access equipment for the curtain wall works. The estimated cost of the repairs and redecoration is £200,000 (including £20,000 for staff costs & fees). This includes the £12,000 for the kitchen and bathroom windows repainting mentioned above, and would be funded from the Revenue Programme. It is therefore recommended that these works are included in the project though treated as revenue funded.

### **Financial Implications**

25. The total estimated project cost is £4.669m (at February 2010 prices) which comprises the works with recommended replacement option including structural strengthening. The estimated cost is summarised below and a more detailed break-down and expenditure phasing can be found at Appendix A:-

£

#### Essential Works

- Estimated works cost 3,891,000

- Staff costs, consultants' fees, other fees 778,000
- Total **4,669,000**

26. The works cost estimate includes £1.102m for structural strengthening (£918,000 works, £184,000 staff costs and fees). If design development of the project establishes that structural strengthening is not required, this would reduce the total estimated cost of the works to £3.567m (£4.669m less £1.102m). As noted earlier, the outcome of the further investigations into the need for structural strengthening will be detailed in a future report.
27. The estimated total project cost of the works of £4.669m will be funded from the Housing Revenue Account (HRA) and leaseholders' contributions. Leaseholders' contributions are estimated at £1.79M leaving approximately £2.879m to be funded from the HRA (see paragraph 56). Provision for this amount is included in the latest forecast for the HRA's Major Repairs Reserve.
28. The overall estimated project cost of £4,669,000 (at February 2010 prices), is £269,000 lower than the overall project cost of £4,938,000 which appeared in the February 2008 Bid Report. However, the Bid Report estimate included the cost of work to the kitchen and bathroom windows which is excluded from present figures.
29. For information, the estimated overall cost of the proposed capital and revenue funded works (as detailed in paragraph 24) is £4.869m (£4.669m + £0.200m).

### **Programme and Phasing of Expenditure**

30. The key dates for the scheme as a whole are anticipated to be as follows:-

Evaluation Report CCS 14/05/10, Finance 25/05/10, Court 10/06/10	May - June 2010
Out to Tender EU (Consultants)	Oct/Nov 2010
Appoint Consultants (EU)/Start Main Design Stage	Feb 2011
Progress Report	June 2011
Submit for Listed Building Consent*	July 2011
Receive Listed Building Consent*	Oct 2011
Out to Tender (Works)*	Nov 2011

Appoint Contractor*	May 2012
Commencement on Site*	Aug 2012
Completion*	Nov 2013

\*Dates shown may vary depending on how quickly design development, consultations and technical solutions, which may require further site investigations and sample panels, proceed.

31. In the above programme it is assumed that production information and tender documentation proceed concurrently with the period awaiting Planning/Listed Building consent. This aspect will be kept under review and, if necessary, work on the project could be temporarily put on hold until the outcome is known. In that event, the date for the commencement on site indicated above would be delayed by an estimated 3-4 months.
32. The programme allocates a time period for various consultations that will be necessary with residents, the planning and building control authorities together with English Heritage and 20<sup>th</sup> Century Society. The aim will be that these consultations will conclude with a scheme that will achieve Listed Building consent and satisfy technical requirements under the Building Regulations.

### **Statutory Considerations**

#### **33. Listed Building Requirements and English Heritage**

As previously stated, Great Arthur House was given Grade II listing status by the Department of Culture, Media and Sport on 4 December 1997. As a consequence, work to be undertaken to the building will require Listed Building consent.

34. The Great Arthur House curtain walling is one of the principal features and special interest elements of the Golden Lane Estate:-

“Any remedial work to the façade therefore needs to preserve its particular characteristics.....Where original details or material specifications have failed, there may be a need to reconsider and develop a new and improved design. The solutions proposed should, however, respect the key visual intentions and character of the original design.” *Golden Lane Listed Building Management Guidelines: June 2007.*

35. Standard modern curtain walling/window systems do not, in general, possess the visual refinement and delicacy of the original single glazed curtain walling. More substantial framing members and ancillary elements

are used. With judicious design and selection it will be possible to mitigate the extent of change in appearance of a replacement system.

36. Achieving a remedial solution both sympathetic to the special interest of Great Arthur House and yet in harmony with all the other conflicting demands and constraints (Building Regulations, Decent Homes Standard, long-term reliability, whole life costs and residents' interests) is the primary challenge of this project.

37. The City Planning Officer, in his capacity to process both Planning and Listed Building applications for the project, has been involved in initial consultations on the various options mentioned and has indicated that the renewal option for the curtain walling can be considered. It is intended that a consultation regime with the City Planning Officer is established at the early stages of the design development of the proposals.

38. Building Regulations

The work falls within the remit of the Building Regulations and will be subject to compliance in particular with Part A (structure), Part B (fire safety), Part E (resistance to passage of sound), Part F (ventilation), Part L (conservation of fuel and power) and Part N (glazing). Inevitably, conflicts are expected to arise between these requirements and those of the Listing, and a balance acceptable to the relevant authorities will need to be struck.

39. Decent Homes Standard

In order to meet the Decent Homes standard, the curtain walling, which is defined as a 'key building component', is required to be upgraded.

## **EU Procurement Legislation**

40. In accordance with Standing Orders and current European Union tendering procedures, the services of consultants and the works themselves must be notified in the Official Journal of the European Union (OJEU) and tendered accordingly as their respective estimated values exceed specified EU financial thresholds. The estimated period of time from the first placing of a notice in the OJEU to the appointment of a consultant is approximately 6-7 months, and 9-10 months for a contractor.

## **Revenue Implications**

41. The following are the revenue implications:-

- a. Maintenance - the new curtain walling and windows will require cyclical servicing of opening mechanisms and the like. This would be undertaken as part of the external redecoration every 8 years or so, at an estimated cost of £30,000 (at February 2010 prices), or

approximately £4,000 per annum. The existing curtain wall is being inspected annually by the structural engineer as indicated above. The approximate cost is £4,200 per annum. Immediate (or response) repairs to items like defective fasteners and draught strips are undertaken by the Repairs contractor. It is not possible to indicate the present amount of immediate repairs as they are not identified separately.

- b. Rents - The scope for increases is limited by the Government's rent restructuring policy for social housing rents whereby rents for similar properties in similar areas move towards a common "formula rent" over time. The Government's priority is that local authority rents should be fair and affordable, and this has determined the level of increases rather than aiming towards a particular date of convergence.

This formula includes elements for property values as at a January 1999 base date, average earnings and size of property together with a system of caps and limits. As an additional safeguard to protect tenants from large annual rent rises, no individual tenant's rent increase will be above  $RPI + \frac{1}{2}\% + £2$  per week in any year.

Where substantial major works are carried out they can be taken into account in calculating rents. However, as other aspects of the formula have a mitigating impact, any increase in property value from improvements will have a minimal effect, if any, in respect of the rents that can be charged.

## **Disturbance to Residents**

42. The works are intended to be undertaken with tenants in occupation. The potential for relocating all residents, whilst the proposed works are undertaken, has been considered; however, this is considered not to be practical for several reasons, primarily the difficulty of locating suitable alternative accommodation. It is proposed to install a full storey height temporary screen (incorporating two openable windows) within each flat to run across the living room and bedroom. Services such as heating radiators and power points will be temporarily relocated. Upon completion of the work the screen will be removed and all services reconnected. Any consequential damage to the interior finishes of the flats will be made good. These costs are included in the estimates above.
43. It is planned that the works would be implemented on a continuous rolling programme to minimise the number of dwellings affected at any one time and the period of time each flat would be disturbed by the works (estimated at approximately 4-6 weeks to complete the work to each flat). If structural

strengthening can be avoided, as discussed earlier in this report, disruption will be reduced. While the works are to be undertaken with residents in occupation, some respite facilities, such as utilising the estate's guest flats, will be considered should particularly vulnerable residents wish to avoid instances of disturbance during the day. The contractor will be required to have a full time, site-based, Residents Liaison officer (RLO) to manage the works with the residents in occupation. As a result of these measures it is not envisaged that any compensation will be payable.

44. The sequencing and planning of the site works will determine the design of scaffolding and the scheme for temporary works.

### **Stakeholder Engagement**

45. A key aspect of this project will be effective consultation with and securing the support of the various stakeholders - tenants' and leaseholders' groups, residents' association, City Planning Officer, English Heritage, 20<sup>th</sup> Century Society and District Surveyor. In view of the high profile of the building and the heritage sensitivities involved, this needs to be carefully planned and co-ordinated.

### **Community Strategy and Other Significant Implications**

46. Project Category and Priority - The curtain walling/window works are categorised as **Type 1 (Health and Safety) with priority E (Essential)**. This is because it is widely acknowledged that affordable and decent housing has an impact upon health and wellbeing for both adults and children.

47. Sustainable Communities Strategy - The City Together

This objective supports the **Sustainable Community Strategy Themes of "The City Together - Supporting our Communities** (To promote appropriate provision of housing and community facilities), plus, **Protection, Promotion & Enhancement of our Environment** (To ensure high standards of energy and resource efficiency in the design and implementation of the built environment and to encourage reduced carbon emissions across all sectors), and supports **the City of London Corporation's Corporate Plan Strategic aim of: Providing excellent services for our communities (by providing residential housing within the City (and in six other London Boroughs))**. The project will contribute to achieving best value indicator in the **Corporation's Policy Plan for best value performance indicator V184a: reducing the proportion of local authority homes which are non-decent**.

#### 48. Department Business Plan

Ensuring that all homes managed by the City of London Corporation under the HRA meet the decent homes standard was a key component of the Departmental Objectives in the 2008-11 Community & Children's Services Plan.

49. The primary objectives of the scheme are i) to achieve a remedial solution to the shortcomings of the existing curtain walling; and ii) to develop a scheme which meets both the decent homes standard and the City's repair obligations.
50. The success in achieving the scheme's key objectives, to be reviewed in a post completion outcome report, would be measured by:-
- a) Relevant testing of the installed curtain walling to ensure that existing problems with water penetration and air infiltration have been rectified.
  - b) A sample of dwellings energy usage will be measured over a relevant period prior to the implementation of the works, and will be compared to the energy usage post project completion, to ascertain the level of energy savings which have been achieved by the project.
  - c) Whether confirmation can be given to Members that the curtain walling meets the Decent Homes standards and the City's repair obligations.

#### **Residents Consultations**

51. A meeting of tenants' and leaseholders' representatives (the Great Arthur House Cladding Group) and City Corporation officers was convened in December 2008 to discuss the Evaluation Report. Key issues such as City Corporation procedures, timescales, EU procurement, Listed Building consent, Building Regulations requirements, works in occupation, disruption to residents, sequencing of the works, site safety, security, service charge options for leaseholders and project risks were discussed. A January 2009 newsletter to all residents followed this meeting, and included the anticipated options, project key dates and information for long leaseholders of the likely high service charges to be planned for.
52. Following publication of a first draft of the Evaluation Report in May 2009 there has been extensive discussions with the Great Arthur House Cladding Group, which has also involved local councillors, about the details of the options, the investigative information described above and the estimated costs. The Group has agreed with officers that the curtain walling renewal option is the best option. However, Group members representing long lessees are not in agreement that any of the Advisable works (mentioned above) should be undertaken as part of this project.

53. A March 2010 project newsletter and questionnaire (agreed with the Great Arthur House Cladding Group) has been circulated to all residents. It summarised the options, estimated costs, the preferred (replacement) option, the project timescales and whether or not the advisable works should be included. Residents views were requested.
54. Of the 120 flats, 74 are rented and 46 sold (62% and 38% respectively) - 64 responses were received (a 53% response rate).
- i. Of the 64 respondents, 50 are tenants and 14 long lessees, which means that 68% of tenants and 31% of long lessees responded respectively.
  - ii. Concerning the recommendation to renew the cladding, of the 64 respondents, 57 agree with the renewal option (46 tenants and 11 long lessees respectively), 3 disagree and 4 don't know. One tenant and two long lessees disagreed. Three tenants and one long lessee don't know.
  - iii. Concerning the Advisable Works (upgrade of the kitchen and bathroom windows, and thermal insulation), of the 64 respondents, 58 are in favour of including and 6 against.

The consultation indicates a majority view from those that participated in favour of renewing the cladding and also including the Advisable Works of upgrading the kitchen and bathroom windows and installing insulation to the flank walls. However, there were comments concerning the very high estimated costs and difficulties long lessees will face in making their contributions. The latter matter is dealt with below.

55. The Great Arthur House Cladding Group will be included in future project meetings to develop the recommended option.

### **Long Leaseholder Contributions**

56. 46 of the 120 dwellings (or 38%) have been sold to date. Leaseholders of all these dwellings will be required to contribute towards the works. The estimated contributions for the Capital and Revenue works are as follows:-

CAPITAL WORKS	Total Costs	Total HRA Contribution £	Total Long Lessees Contribution £	Per Long Leaseholder £
Essential Works (A)	4,669,000	2,879,217	1,789,783	38,908
REVENUE WORKS				

External Redecoration (B)	200,000	123,333	76,667	1,667
GRAND TOTALS (A+B)	4,869,000	3,002,550	1,866,450	40,575

57. If structural strengthening, at a total cost of £1,102,000, included in the works are not necessary, then the total estimated costs per long leaseholder will reduce to approximately £31,390.

58. As noted earlier, the City of London has obtained an independent report from the Building Research Establishment stating that there is no structural defect in the building and the repairs required are due to the age, condition and end of the life expectancy of the curtain walling.

59. Payment options and assistance for long leaseholders

It is clear that long leaseholders will be faced with very high contributions towards the proposed works. The City currently offers three payment options to long leaseholders:-

a) Outright Payment in the September following the end of the financial year the costs are incurred.

b) Service Charge Loans in respect of major works. The current maximum which can be loaned, including any previous loans is £37,300.

c) Where former tenants can demonstrate hardship, the City will consider buying back the property. The buy-back price would be the lower of the original cost of the property, or current value.

60. In consultation with the Chamberlain, the Director of Community and Children's Services is in the process of considering the implications of introducing revised repayment options which would allow the City to offer a wider range of support to leaseholders facing major works bills, particularly in the current financial climate. This would accord with Government policy reflected in legislation introduced during 2009 to give social landlords increased flexibility to provide assistance to their leaseholders to pay service charges. It is intended to submit a further report on this subject to a future meeting which, if agreed, will be then submitted to the Finance Committee for its consideration.

61. Leaseholders can of course arrange for their own loans or mortgages and they may also be entitled to help from the Department of Work and

Pensions with regard to interest that accrues on any loans or mortgages they take out to pay for major works.

### **Consultees**

62. The City Planning Officer has been consulted in the preparation of this report.
63. The District Surveyor has been consulted in the preparation of this report.
64. The Chamberlain has been consulted in the preparation of this report.
65. The Comptroller & City Solicitor has been consulted in the preparation of this report.

### **Corporate Property Implications**

66. The proposed improvements outlined in this report are needed to retain the structural integrity of the building and to comply with statutory requirements. There may be modest improvements for the tenants' enjoyment, such as new double-glazing. There are likely to be cyclical maintenance costs arising from future window maintenance, but these are regarded as being largely unavoidable.

### **Legal Implications**

67. Long Leaseholders have a contractual obligation (subject to statutory consultation and issues of reasonableness) to contribute towards specified repairs. These are defined in the standard form of long lease as repairs to keep the structure and exterior of the flat and building in repair.
68. Although the cost of replacing the curtain walling and any necessary structural strengthening is high, a proportion of those costs should be recoverable from Long Leaseholders.

### **Conclusion**

69. There are complex issues associated with the renewal of the curtain wall system of Great Arthur House. Foremost amongst these is the need to prepare a scheme that will secure Listed Building consent and Building Regulation approval and meet the Decent Homes standard. For these reasons the project will not be completed to comply with the Government's Decent Homes deadline of 2010. In recognition of this, consent for an extension of time to complete the works by 2013 was granted by the Government Office for London.

70. Adopting the recommended option of completely replacing the existing curtain walling will need to be sensitively handled because of its potential to alter the external appearance of Great Arthur House.
71. At a future date a report will be prepared to confirm whether structural strengthening will be required to deal with a possible increase in loading imposed on the structure by the replacement curtain wall system.
72. Cyclical revenue external repairs and redecoration works are recommended for inclusion in the project (though still treated as revenue funded) to take advantage of scaffolding for the curtain walling work.
73. In the meantime, however, an inspection regime to mitigate the risk of localised failure of the existing curtain wall system has been put in place for the period leading up to the anticipated start of the permanent works.

### **Background Papers**

74. Golden Lane Listed Building  
Management Guidelines

June 2007

Bid Report

8 February 2008

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## APPENDIX A: FINANCIAL ANALYSIS

### Financial Analysis

1. The total estimated project cost in respect of the recommended replacement option comprising the Essential Works with structural strengthening is £4,669,000 (at February 2010 prices), comprising £3,891,000 for works (including preliminaries) and £778,000 for fees and staff costs. The analysis of the total cost figure of £4,669,000 is as follows:-

	£	£	£
<u>Essential Works</u>			
• Curtain Wall Replacement	1,737,000		
• Replace Internal Spandrel Walls	98,000		
• Replace Windows on North & South Elevations	46,000		
• Upgrade Timber Balcony Doors & Fanlights	96,000		
• Structural Strengthening of Floors (potentially may be avoided, see earlier in report)	835,000		
• Temporary Screens to Flats	92,000		
• Scaffolding	302,000		
• Risk of Asbestos	138,000		
• Making Good to Flats	138,000		
• Opening-up, Site Investigations & Mock-ups	55,000		
	Sub-total	3,537,000	
• Contingency (10%)	354,000	3,891,000	
<u>Staff Costs, fees &amp; expenses</u>			
• Staff Costs & Consultants Fees		778,000	4,669,000

Total

4,669,000

2. As the risk elements associated with the various options outlined above have yet to be addressed, the confidence limits for this project have been set at + or - 25%. The confidence limits have been set at a high level as:-
- a) the scheme is at an early stage and the design will be difficult to resolve
  - b) a method of works is required that will enable residents to remain in occupation during the works
  - c) the uncertainties of the construction market make cost forecasts difficult for a project not due on site until 2012. A more accurate costing will be provided in a future report when these risk issues will have been explored in some detail.
3. The estimated phasing of the post-evaluation capital expenditure (at February 2010 prices) for the Essential Works is set out below:-

	<b>TOTAL £000s</b>	<b>2010/11 £000s</b>	<b>2011/12 £000s</b>	<b>2012/13 £000s</b>	<b>2013/14 £000s</b>
<b>Works</b>	3,891	60*		2,043	1,788
<b>Staff Costs</b>	147	46	46	32	23
<b>Consultants' Fees</b>	612	138	230	138	106
<b>Other</b>	19	4	15		
<b>TOTAL</b>	<b>4,669</b>	<b>248</b>	<b>291</b>	<b>2,213</b>	<b>1,917</b>

\* This figure relates to opening up and mock-up works estimated at £55,000 plus a contingency of approximately 10%

4. As the programme extends several years into the future (beyond available cost forecast indices), and because of the current fluctuating state of the market, it is difficult to provide a meaningful likely out-turn cost figure at this stage. It is therefore suggested that an out-turn cost forecast is held over for a future report, when a more coherent financial picture may be expected to emerge.

#### **Staff Costs and Consultants Fees**

5. The total estimated staff costs and consultants fees, based on the recommended replacement option with an estimated works cost of £3,891,000 (at February 2010 prices) is £778,000 as detailed below. The

estimated fees reflect the technical and logistical complexities of project as well as the extensive stakeholder consultations that will be required. However, all fees will be tendered, thereby ensuring value for money is obtained:-

	£
• Staff Costs (City Surveyor's Dept.)*	95,000
• Staff Costs (Community & Children's Services Dept.)**	39,000
• Architectural Services	247,000
• Structural Engineering Services	78,000
• Mechanical & Electrical Engineering Services	22,000
• Quantity Surveying Services	97,000
• CDM Co-ordination Services	8,000
• Surveys and Façade Specialist's Fees	25,000
• Clerk of Works	79,000
• Planning, Building Regulations, Printing & Other Fees	<u>17,000</u>
	Sub-total 707,000
• Contingency (10% approx.)	<u>71,000</u>
	Staff Costs & Fees Total 778,000

\* Project Management/Liaison/Reporting role; \*\* Client sponsor - briefing, monitoring & reporting, residents' involvement and housing administration.