Committees:	**Dates:**	
Housing Management and Almshouses Sub Committee Projects Sub Committee	16 May 2017 10 May 2017	
Subject: Concrete repairs to Cullum Welch House	**Gateway 4** **Detailed Options Appraisal(Complex)**	**Public**
Report of: Director of Community & Children's Services **Report Author:** David Downing		**For Decision**

Summary

Project status	Green
Project risk	Green – Low
Programme status	Pending approval of Gateway 4 – Detailed Options Appraisal
Timeline	Listed Buildings Consent granted – January 2015 Project restructure – July 2016 Complete investigative work – December 2016 Gateway 4 / detailed options appraisal – May 2017 Complete design work/specification – July 2017 Procurement – September 2017 Gateway 5 – October 2017 Works start – February 2018
Expenditure to date Total:	Concrete testing and make safe: £9,980 Concrete corrosion consultancy fees: £7,800 Architectural fees: £36,150 Structural engineer fees: £18,125 Budget cost plan: £1,950 Investigative work to south elevation: £25,099 Staff costs: £2,000 £101,104
Budget approved to current Gateway	£102,005
Estimated works cost at last Gateway	£900,000 - £1,800,000
Current works estimate	£900,000 - £1,000,000
Current total project budget estimate	£1,100,000 - £1,200,000

Last Gateway approved
An Issues Report was approved by Committee (DCCS Grand Committee 08/07/2016 and Projects Sub Committee 07/09/2016) to separate out these concrete repair works to the Grade II Listed Cullum Welch House from the wider Golden Lane and Middlesex Street Estate concrete repairs project due to the specialist design work required to replace the balustrades on the north elevation of the building. Whilst the remedial works required for these deteriorated concrete balustrades and further patch repairs to the staircases of Cullum Welch House were known at the time of this earlier report, approval was sought and granted to commission further intrusive investigative work to the pre-cast concrete planters and pot holders on the south elevation to determine if a repair in-situ was a feasible option or whether a wholesale replacement of these concrete elements would be required as well. As detailed in the Issues Report, any replacement of these elements would necessarily entail the removal of the south facing windows which sit directly upon these elements and the temporary partition of residences whilst the works were carried out. Photographs of the pre-cast units in question are presented in Appendix 1.

Progress to date including resources expended
The investigative work to the south elevation is now complete at a cost of £25,099. Our concrete corrosion consultant, Dr John Broomfield, has produced his report which identifies the causes of the deterioration - likely a mix of chlorides being cast into the concrete as a set accelerator (as was common practice at the time of manufacture), chloride build up in the soil as the small background salt levels present in water, soil and fertilisers are deposited as water evaporates, and an increased risk of carbonation due to continual wetting and drying as plants are watered – and sets out his recommendations for remedial actions.

Overview of options - North Elevation, Staircases, Beams & Ends

With regard to the north elevation balustrades, stairwells, exposed beams and slab ends, and as previously reported to Committee, Dr Broomfield has recommended the following course of action:

(i) The concrete balustrades on the north elevation have reached the end of their safe, useful life and require like-for-like replacement in full. The patch repair of these elements is not possible; the only option for these balustrades is replacement.

(ii) Stairwells, exposed beams and slab ends suffering from a few localised areas of cracking and spalling should be patch repaired to restore the concrete surface.

Listed Buildings consent has already been obtained for these works. For these elements of the work there is no other practicable option. As such, the options for the south elevation as presented below would need to proceed in conjunction with the above.

Overview of options - South Elevation

Following the further investigative work detailed above, Dr Broomfield has identified the following potential solutions as technically feasible for the pre-cast planters and pot holders on south elevation:

Option 1) Remove all planters and pot holders on the south elevation and replace with new ones built to current standards for the environment.

This option would be technically difficult and costly as existing planters and pot holders are structurally fixed into the walls. Furthermore, wholesale removal of these elements would necessarily entail the temporary removal of the south facing windows which sit directly upon the concrete entailing in turn the temporary partition of residences via the construction of temporary walls while the works are carried out. All flats in Cullum Welch House are bedsits and the impact of any reduction of living space for residents whilst works were ongoing would be significant. Should window removal be required to facilitate the concrete works, it is likely to be necessary – due to the age and condition of these units, particularly as they may not be able to be removed intact – to renew them. An additional application for Listed Buildings consent would also be required if windows were to be replaced. This option would allow for the replacement of the aging concrete units with purpose built modern equivalents (to the satisfaction of Listed Building constraints) but would be costly, technically challenging and hugely disruptive for residents and is therefore not recommended.

Option 2) Remove all protective coatings, patch repair as required, recoat with suitable protective coatings.

This option is the lowest cost and least disruptive option for residents (although some noise, dust and vibrations are unavoidable). Repaired concrete with a suitable protective coating will restore the appearance of the building, and in conjunction with a suitable maintenance regime (periodic inspection with a re-application of coatings every 10-20 years as required) provide a good life extension for these units. Planning officers have confirmed that these works would be covered by the existing Listed Buildings consent. This is the recommended option.

There is no option to do nothing owing to the risks, both physical and reputational, that are posed by allowing the continued deterioration of the concrete elements.

Proposed way forward

It is recommended to proceed with Option 2. This is the most cost effective and least disruptive option and will restore the units to a satisfactory condition and extend the lifespan of the concrete elements significantly. The requirement for ongoing maintenance can be rolled into existing cyclical concrete testing or external redecoration programmes as appropriate.

It is also proposed that, due to the lowering of the risk status of the project and a greater confidence in the cost estimates presented following determination of the recommended option for the south elevation, the project be moved from the Complex approval track onto the Regular track as befits these current risk and cost assessments.

Procurement Approach

City Procurement have recommended that these works are advertised as an open, below OJEU tender on the City of London's Capital eSourcing portal. An assessment of quality will form an essential part of the tender process; this is particularly important due to the Grade II Listed status of the building.

Financial Implications

Estimated costs as notified to Committee as per the preceding Issues Report:

Previous estimate notified to Committee	
Estimated works costs	£900,000 - £1,800,000
Estimated fees and staff costs	£150,000 - £250,000
Total	**£1,050,000 - £2,050,000**

Revised estimated costs at Gateway 4:

Description	**Option 1**	**Option 2**
Estimated works costs	£1,500,000 - £1,800,000	£900,000 - £1,000,000
Estimated fees & staff costs	£270,000	£200,000
Total	**£1,770,000 - £2,070,000**	**£1,100,000 - £1,200,000**
Funding Strategy: Housing Revenue Account (HRA); circa 47% of costs recoverable from long leaseholders.		

Recommendations

1. That Option 2, replacement of the concrete balustrades to the north elevation, patch repairs to concrete staircases, beams, slab ends and patch repair and recoating of the pre-cast concrete planters and pot holders on the south elevation, is approved for proceeding to Procurement and Gateway 5.
2. That the estimated total project budget range of £1,100,000 - £1,200,000 is noted.
3. That a budget of £25,000 is approved to reach the next Gateway.
4. That the project is transferred from the complex approval track to the regular approval track.

Options Appraisal Matrix

See attached.

Appendices

Appendix 1	Schedule of Photographs
Appendix 2	PT 4 Procurement form

Contact

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Options Appraisal Matrix

	Option 1	***Option 2***
1. Brief description	Replace balustrades on north elevation, patch repairs to staircases, beams and slab ends plus: Remove all planters and pot holders on the south elevation and replace with new ones built to current standards for the environment, renew windows to the south elevation as required.	Replace balustrades on north elevation, patch repairs to staircases, beams and slab ends plus: Remove all protective coatings from planters and pot holders on the south elevation, patch repair as required, & recoat all with suitable protective coatings.
2. Scope and exclusions	Scope: Replace north elevation balustrades, patch repair staircases, beams and slab ends, replace south elevation planters and pot holders, renew windows to south elevation. Exclusions: Windows to north elevation.	Scope: Replace north elevation balustrades, patch repair staircases, beams and slab ends, repair and apply protective coatings to south elevation planters and pot holders. Exclusions: All windows.
Project Planning		
3. Programme and key dates	Gateway 4 – May 2017 Complete design work – September 2017 Procurement – December 2017 Gateway 5 – January 2017 Works start – Spring 2018	Gateway 4 – May 2017 Complete design work – July 2017 Procurement – September 2017 Gateway 5 – October 2017 Works start – February 2018

4. Risk implications	The project is currently low risk. • Patches of deteriorated concrete have been identified, removed and made safe as part of the now completed testing contract. Protective netting is in place. • Following the testing process, the extent of repairs is well known and the associated costs can be predicted with a higher degree of accuracy. • Further Listed Buildings consent required to replace windows. • Concrete repairs are weather dependant, can only be done when surface temperatures are above 5° C. • Vulnerable residents may need to be decanted whilst works are carried out.	The project is currently low risk. • Patches of deteriorated concrete have been identified, removed and made safe as part of the now completed testing contract. Protective netting is in place. • Following the testing process, the extent of repairs is well known and the associated costs can be predicted with a higher degree of accuracy. • Concrete repairs are weather dependant, can only be done when surface temperatures are above 5° C.
5. Benefits and disbenefits	Benefits: • The safety of the buildings will be confirmed and any further deterioration will be prevented. • The intervention now will prevent more major repairs in future. • Appearance of the building will be restored. • Replacement units will require minimal short term maintenance.	Benefits: • The safety of the buildings will be confirmed and any further deterioration will be prevented. • The intervention now will prevent more major repairs in future. • Appearance of the building will be restored. • Low cost option. • Least disruptive option for residents.

	Disbenefits: • High cost option. • Highly disruptive for residences. • Further Listed Buildings consent required for window replacement.	Disbenefits: • Planters & pot holders will become a periodic maintenance item.
6. Stakeholders and consultees	• Residents, including leaseholders through Section 20 consultation where they stand to incur service charges. • Departments of City Surveyor's, Town Clerks, Planning and Chamberlain's (including City Procurement). • Members and Ward Members.	
Resource Implications		
7. Total Estimated cost	£1,770,000 - £2,070,000 The project costs included in this report are shown at current prices (03/2017 price base). As a consequence no uplift has been included for inflation.	£1,100,000 - £1,200,000 The project costs included in this report are shown at current prices (03/2017 price base). As a consequence no uplift has been included for inflation.
8. Funding strategy	Housing Revenue Account (HRA); circa 47% of costs recoverable from long leaseholders.	
9. Estimated capital value/return	N/A	
10. Ongoing revenue implications	Once works complete, concrete elements will become a periodic maintenance item.	

11. Investment appraisal	N/A	
12. Affordability	The works have been factored into the HRA Asset Management Plan.	
13. Procurement Strategy	See attached PT4 report. It is recommended that these works are advertised as an open, below OJEU tender on the City of London's Capital eSourcing portal.	
14. Legal implications	Maintaining the assets in a compliant way discharges the City's legal and statutory obligations.	
15. Corporate property implications	It is essential that the City's assets remain in good, safe and statutory compliant condition. Therefore all necessary action should be taken to ensure that assets are kept as such throughout their lifetime.	
16. Traffic implications	This would be discussed and agreed with appointed contractors where the works have any impact on roads/highways although in this case any impacts are expected to be minimal.	
17. Sustainability and energy implications	N/A	
18. IS implications	N/A	
19. Equality Impact Assessment	The proposed works will not have an impact on equality or protected characteristics. The delivery phase of the works will be carefully planned and implemented in conjunction with residents to ensure no adverse impacts.	
20. Recommendation	Not recommended	Recommended

<table>
<tr><td>21. Next Gateway</td><td>Gateway 5 - Authority to Start Work</td><td>Gateway 5 - Authority to Start Work</td></tr>
<tr><td>22. Resource requirements to reach next Gateway</td><td colspan="2">For the recommended option:
<table>
<tr><th>Item</th><th>Reason</th><th>Cost (£)</th><th>Funding Source</th></tr>
<tr><td>Concrete Corrosion Consultant</td><td>Draft formal specification for tender; advise on tender returns</td><td>£6,000</td><td>HRA (including proportional recovery from long leaseholders)</td></tr>
<tr><td>Design Fees</td><td>A sample section of balustrade is required to be removed in full to determine the fixings to the rest of the structure. This information is required to meet conditions of Listed Buildings consent prior to works commencing.</td><td>£10,000</td><td>HRA (including proportional recovery from long leaseholders)</td></tr>
<tr><td>Quantity Surveyor</td><td>Verify cost data & advise on tender returns</td><td>£5,000</td><td>HRA (including proportional recovery from long leaseholders)</td></tr>
<tr><td>Staff Costs</td><td>Staff time – specification, tender and contract preparation.</td><td>£4,000</td><td>HRA (including proportional recovery from long leaseholders)</td></tr>
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