Public Document Pack

Corporate Asset Sub (Finance) Committee (Appendices Pack)

Date: **WEDNESDAY, 28 APRIL 2021**

Time: 11.00 am

Venue: **VIRTUAL PUBLIC MEETING (ACCESSIBLE REMOTELY)**

Enquiries: **Chris Rumbles**
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John Barradell
Town Clerk and Chief Executive

AGENDA

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7. **2020/21 ENERGY PERFORMANCE Q3 UPDATE**

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8. **BUSINESS PLAN 2020-25 QUARTER 3 2020/21**

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City of London Corporation

Climate Action Strategy

NZ1 Corporate Property and Housing Landlord Areas

Project Plan

Version 1.1
Date: 15.04.2021

Author: Mark Phelpstead (AECOM)
Approval: Paul Wilkinson / Simi Shah

Contents

Project Introduction

Project Aims

In support of the Climate Action Strategy (CAS), commencing implementation from April 2021, this Project Plan details how action will be accelerated to deliver carbon reductions and energy efficiency improvements for the owned and operated buildings portfolio (Operation Property Portfolio). This includes all Scope 1 and 2 emissions under operational control as defined by the Greenhouse Gas Protocol including landlord areas in housing.

This will support achievement of the following net zero vision and goals:

NET ZERO VISION: The City Corporation is responsible for some of Central London's most historic, landmark buildings. The net zero future will prepare them for the next one hundred years, reducing emissions and costs, while improving occupant comfort and productivity.

NET ZERO GOALS: City of London Corporation scope 1 and 2 emissions are net zero by 2027 and scope 3 emissions are net zero by 2040.

Introduction

Modelling completed by Arup in August 2020 identified 2018 baseline Scope 1 and 2 emissions (GHG Protocol operational control) as 36.4 $ktCO_2e$. This encompasses all of the Operational Property Portfolio, housing landlord-areas, a small amount of fleet emissions (0.4 $ktCO_2e$) and fifteen investment properties (2.3 tCO_2e). The last two of these sources are addressed under other Project Plans. A breakdown of the Operational Property Portfolio is provided in Appendix 5 which, as per the Arup model, assessed 59 assets, with a total floor area of 829,711m^2, believed to cover 95% of carbon emissions. This was then scaled up to represent 100% of the portfolio. This also included an assessment of the leakage of refrigerant gases. There is some uncertainty around this data and so this will be investigated in Year 1 as this could potentially become a future action area to address.

The Arup model determined that to achieve net zero by 2027, emissions need to reduce to at least 16.0 $ktCO_2e$ (a 55% reduction), at which point residual emissions will be sequestered by planned natural capital projects.

Existing planned projects, building stock changes (market consolidation and Fleet Street Estate) and decarbonisation of the UK grid presented in the Arup model predict that the Operational Property Portfolio will reach 14.7 $ktCO_2e$ by the end of financial year 2026/27 (blue line in Figure 1).

However, this modelling is heavily reliant on the grid decarbonising from 2020 at the pace identified by the Government Green Book. At present, this is considered optimistic when compared to annual figures of average grid emissions as published by the Department for Business, Energy and Industrial Strategy (BEIS) (Figure 2). The latter suggests that, in 2020, grid electricity carbon intensity was 42% more than Green Book emissions factors.

Assuming that grid emissions factors are 42% above the Green Book figures for the period 2020 to 2027, existing planned projects, building stock changes and decarbonisation will result in the Operational Property Portfolio reaching 17.3 $ktCO_2e$ by the end of financial year 2026/27 (black line in Figure 1). As grid decarbonisation is largely out of the control of The Corporation, this identifies that additional energy efficiency and carbon reduction interventions are needed to mitigate the risk that the grid does not decarbonise quickly. Therefore, a focus of this Project Plan is to deliver carbon reduction interventions within the control of The Corporation to ensure achievement of CAS targets.

A second assumption in the Arup modelling is that the current project pipeline is funded and implemented to contribute towards the 2027 target. Whilst these projects have been identified, focus will need to be maintained on these to ensure they are delivered as intended. This is considered a lower risk then grid decarbonisation as some of these projects have already been delivered, some have funding approved in principle, and others are now included as part of the Salix Public Sector Decarbonisation Scheme (PSDS) £9.5 million grant funding that has been awarded to The Corporation. It should be noted that the PSDS grant funding will support implementation of existing identified, planned projects. The outcomes, data, benefits reporting and delivery approaches from this will be used to inform the future capital programme as outlined in this Project Plan. In order to achieve the 2027 target further projects, which are yet to be identified, will have to be implemented. This is addressed by Task 1a (see Table 1).

The top-down modelling approach completed to date does not provide detail on specific interventions to be implemented on a building/system level. In order to mobilise capital funding, it is critical that additional interventions are identified quickly to deliver projects in the short term. In parallel, whilst quick win projects deemed deliverable now are completed, action is required to identify longer term interventions that mitigate any significant risk of as well as building a platform for achieving the 2040 target.

Against this background, this Project Plan identifies Tasks that have been developed to address the following three aims:

- **Deliverable** – tasks can be completed within the identified timescales;
- **Affordable –** projects can be accommodated within The Corporation's current and future budget constraints**;** and
- **Impactful** – actions make expected carbon reductions towards both the 2027 and 2040 targets.

To achieve these aims the following high-level actions will be implemented, and these are split it into individual Tasks in Table 1.

Year 1-2

- Selection of buildings for carbon reduction interventions;
- Identification of specific interventions at selected buildings;
- Dovetailing of identified interventions into existing estates/asset strategy;
- Completion of feasibility studies to enable future capital works;
- Onboarding of resources to deliver Tasks and implement quick wins.

Year 2+

- Focused procurement and delivery of capital works to achieve carbon reduction targets.

How to use this document

This document outlines the costs, benefits and overall approach to reducing emissions across the Operational Property Portfolio to support delivery of the Climate Action Strategy. It is to be used as a baseline against which to monitor progress. It will be kept as a live document and will be updated periodically subject to the Change Control Procedure.

Figure 1 – Carbon Reduction Trajectories (Total Scope 1 & 2 emissions) – Arup model August 2020

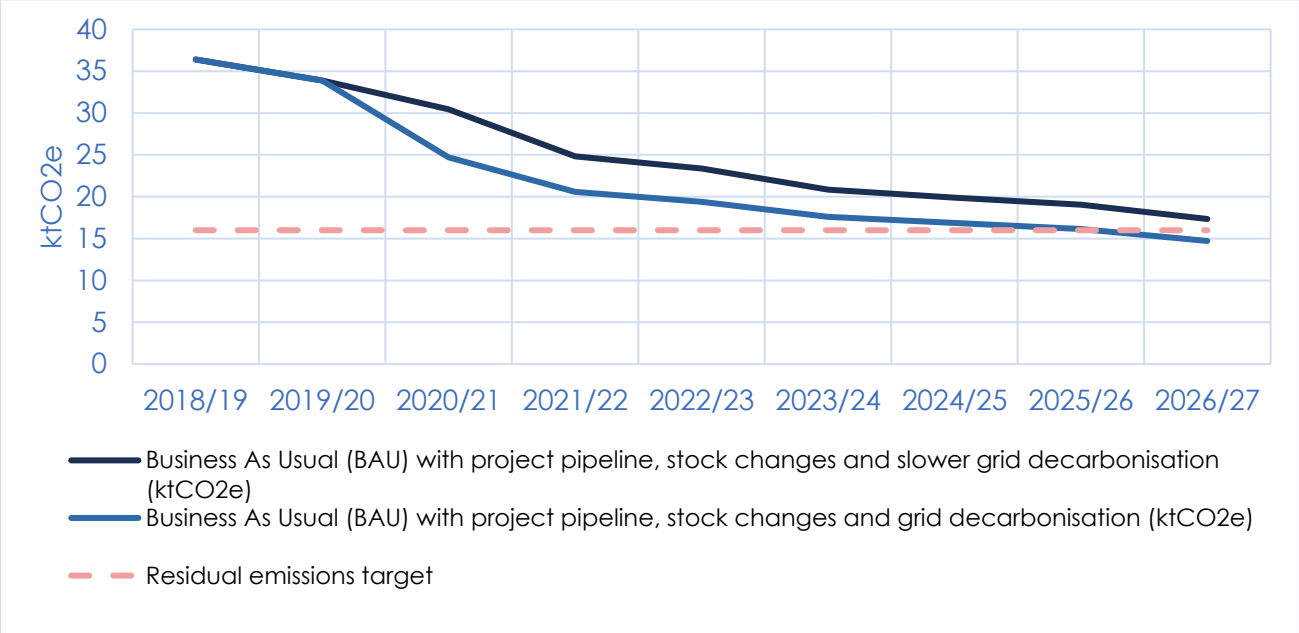
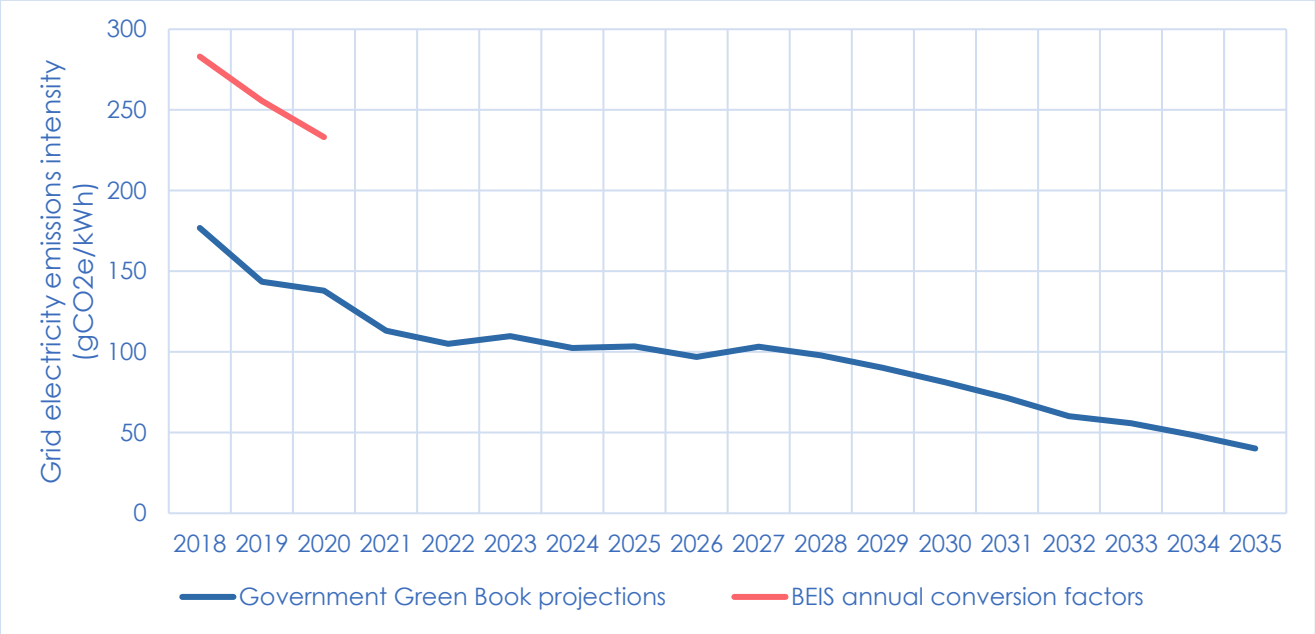


Figure 2 – Comparison of UK grid electricity factors



Project Objectives

The Project Objectives for this Project Plan are:

- Improve building energy efficiency of the Operational Property Portfolio (commercial and housing – landlord areas);
- Improve cost efficiency and functional performance; and
- Use the Operational Property Portfolio to act as an exemplar to other portfolios in the Square Mile.

The table below details key Tasks that will be completed to achieve the Project Objectives. Further detail on each project can be found in Appendix 1. The focus of the 2021/22 plan will be to mobilise resource to identify and implement interventions in the short term, whilst allowing longer term action to be unlocked through relevant feasibility studies. This will be measured as per the KPIs as identified in Table 8.

It is vital that these Tasks interface with outcomes from the design standard and resilience Action Areas. This will make sure synergies to improve energy efficiency and reduce carbon (e.g. during energy audits) are consistent with the outcomes from these CAS activities. The role of the Sustainability Lead (detailed below) will be to co-ordinate across Action Areas to facilitate this.

Table 1 – Tasks and project objectives

Theme	Ref	Task	Rationale	Outcome	Key Actions in 21/22	Lead	Lead support
Building energy surveys	1a	Commission rolling programme of building energy surveys and feasibility – Operational Property Portfolio commercial assets	Requirement for specific asset-level interventions including quick wins.	Production of a detailed opportunities pipeline with a breakdown of costs and savings by asset. Integration of action into estates and asset management strategy.	• Procurement of Energy Auditor • Completion of Investment Grade energy audits in fifteen most energy intensive assets	Corporate Property Group Director	Energy Projects Lead
	1b	Commission building energy surveys and feasibility – Operational Property Portfolio housing assets	Requirement for specific interventions including quick wins.	Identification of pilot schemes and funding opportunities in housing assets.	• Procurement of consultancy support • Identification of funding opportunities for housing • Identification of pilot schemes to test funding opportunities.	Assistant Director for Barbican and Property Services	Energy Projects Lead
Building controls	2	Develop building controls management strategy and increase delivery capability	Identification and implementation of quick win demand reduction projects.	Production of BMS development strategy. Increased delivery of building controls related interventions.	• Resourcing of 2 x FTE specialist technical resources	Operations Group Director	Energy Projects Lead
Monitoring and targeting	3	Roll-out monitoring and targeting programme as a platform for occupier engagement	Need to engage building occupiers. Allows progress to be reported.	Enhancement and expansion of the current capabilities and effectiveness of the monitoring and targeting system. Received	• Resourcing of 1 x FTE specialist technical resources	Operations Group Director	Energy & Carbon Manager

Theme	Ref	Task	Rationale	Outcome	Key Actions in 21/22	Lead	Lead support
			Verification of interventions is required to ensure they are performing as planned.				
Decarbonisation of heat	4a	Commission study for decarbonisation of heat: CitiGen	Arup model assumes decarbonisation of CitiGen. This needs to take place to achieve 2027 target.	Identification of a pathway for decarbonising the CitiGen heat network.	• Completion of HNDU feasibility study (in progress)	Operations Group Director	Energy Projects Lead
	4b	Commission study for decarbonisation of heat: Decentralised systems (Commercial)	Gas consumption (non-CitiGen) is 29% of baseline energy consumption.	Identification of a pathway for decarbonising decentralised heating systems. Understanding of the local grid constraints and the impact of electrifying heating systems. Smart grid feasibility study for one site.	• Procurement of consultancy support • Completion of feasibility study for decarbonisation of heat.	Corporate Property Group Director	Energy Projects Lead
	4c	Commission study for decarbonisation of heat: Housing	Gas consumption (non-CitiGen) is 29% of baseline energy consumption.	Identification of a pathway for decarbonising communal housing heating systems. Understanding of the local grid constraints and the impact of electrifying heating systems.	• Procurement of consultancy support • Completion of feasibility study for decarbonisation of heat.	Assistant Director for Barbican and Property Services	Energy Projects Lead
Deep retrofit	5	Commission study for deep fabric retrofit pilot – Operational Property Group commercial asset	Building fabric improvements are required to support low carbon heat technologies e.g. heat pumps	Pilot study for deep fabric retrofit. Understanding costs of deep retrofit	• Identify asset with planned refurbishment/major upgrade suitable for this pilot. • Completion of study.	Corporate Property Group Director	Energy Projects Lead
Staff resource	6	Appoint additional energy specialist resources	Consultancy activities identified above will need to be managed. Recommendation from previous workstreams need to be implemented.	Recruitment of 3 x FTE Energy Project Managers to support delivery	• Resourcing of 3 x FTE specialist technical resources	Corporate Property Group Director	Energy Projects Lead

Theme	Ref	Task	Rationale	Outcome	Key Actions in 21/22	Lead	Lead support
Delivery	**7**	Capital programme roll-out	Interventions identified in previous Task will need to be implemented across the Operational Property Portfolio.	Delivery of tangible energy and carbon reduction interventions informed by previous workstreams.	• Implementation of projects identified in Tasks 1-6 with a focus on securing quick wins	Corporate Property Group Director	Energy Projects Lead

Team structure

The Teams involved in the delivery of this Project Plan are shown in Figure 3. How this integrates within the wider delivery approach and Buildings Centre of Excellence is explained in more detail in the Delivery Approach Section.

How additional resources are managed within the City Surveyors Department is shown in

Figure 4.

The colour coding is as follows:

- Yellow boxes indicate areas of current activity that support the CAS;
- Green boxes show those additional activities required by this Plan that will be unlocked through additional resources;
- The grey boxes indicate additional staff resources either through outsourced team members (e.g. secondments) or third party flexible resource to be employed according to delivery need. As indicated by the legend this is not necessarily permanent employees.

The Team Structure has been developed to focus on the Year 1 and 2 priorities of identifying interventions, completing feasibility studies, specifying and delivering procurement solutions and delivering quick wins. This will likely change as the programme progresses depending on identified procurement routes and service outcomes. For example, outsourced roles could be delivered as part of contracted services, with specific output requirements as part of the service (e.g. as part of an Energy Performance Contract). To make sure that the Team Structure remains fit for purpose, the Senior Responsible Officers and Buildings Chief Officer Group will review and manage resource requirements instilling a flexible approach that allows the market to innovate and deliver The Corporation’s requirements efficiently.

Figure 3 – Delivery Teams - NZ1 Corporate Property and Landlord Areas

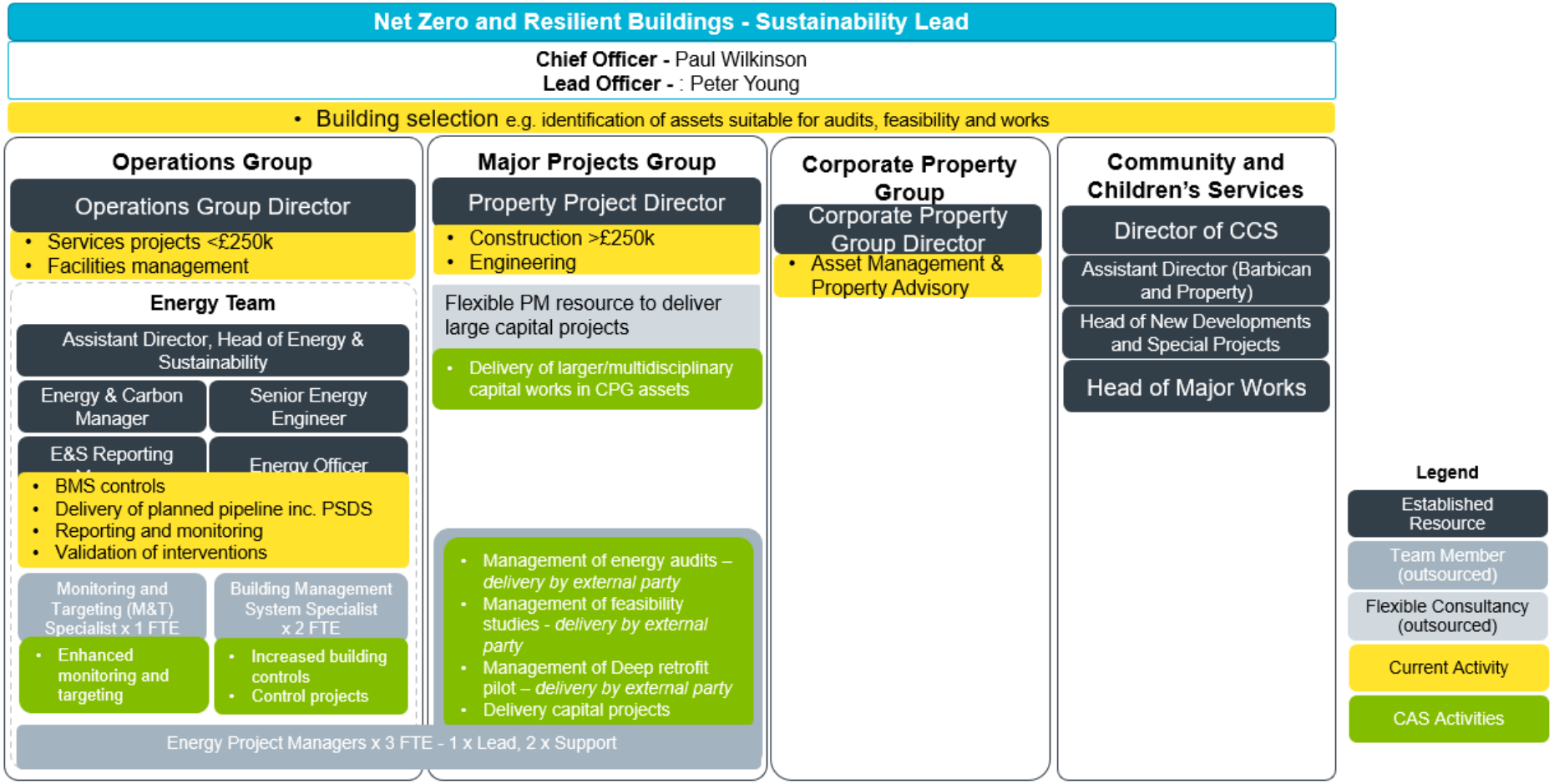
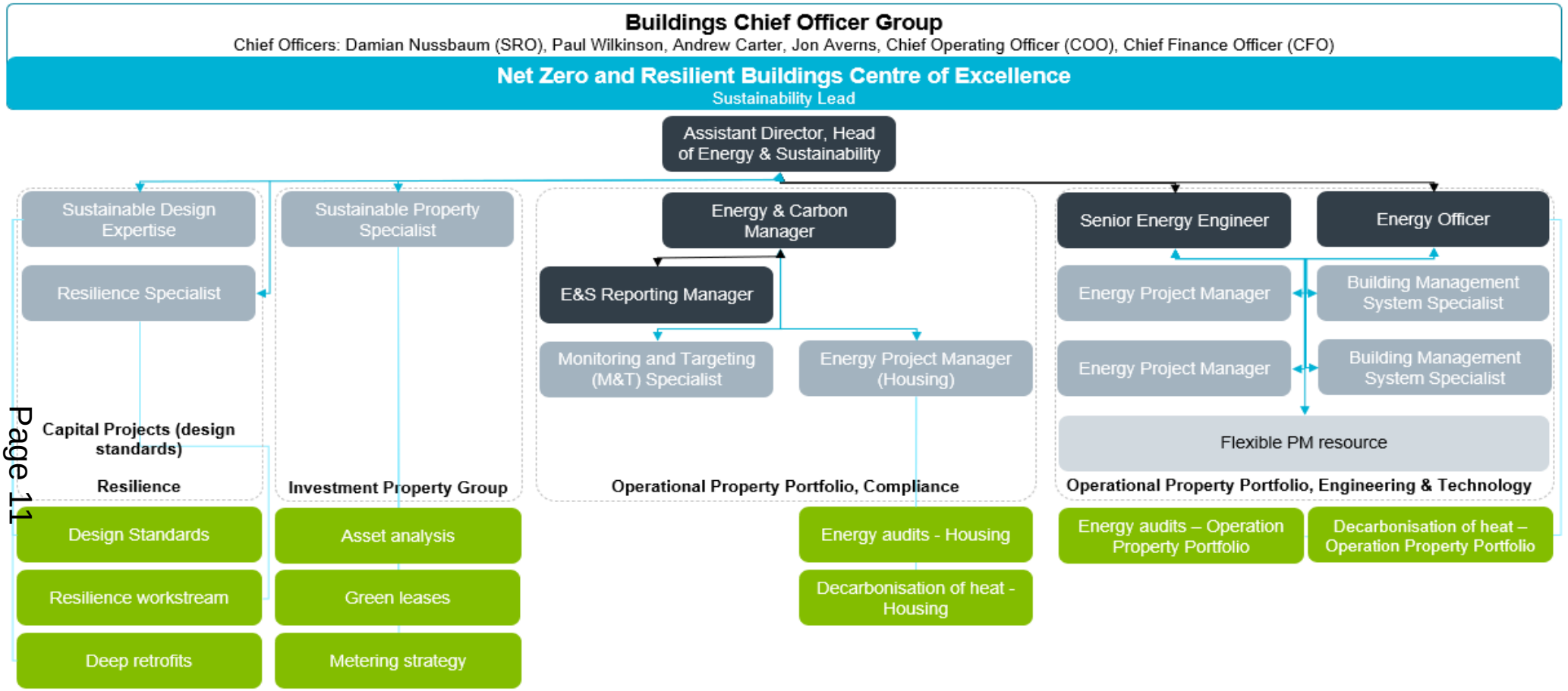


Figure 4 - Team structure - NZ1 Corporate Property and Landlord Areas



Project Schedule & Gantt Chart

Delivery Plan (Gantt chart)

Task Number	Task Detail	Responsible	Completion (%)	FY 21/22				FY 22/23				FY 23/24				FY 24/25				FY 25/26				FY 26/27			
				Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar
Net Zero and Resilient Buildings Centre of Excellence																											
CoE-1	Establishment of Net Zero and Resilient Buildings Centre of Excellence	Director of Innovation & Growth, City Surveyor	0%																								
CoE-2	Establish energy targets and intensity metrics where data gaps	Director of Innovation & Growth, City Surveyor	0%																								
NZ1 Corporate Property and Landlord Areas																											
	Selection of buildings for workstreams CPG-1a and CPG-1b	Corporate Property Group Director	0%																								
CPG-1a	Commission building energy surveys – Operational Property Portfolio commercial assets	Corporate Property Group Director	0%																								
CPG-1b	Commission building energy surveys – Operational Property Portfolio housing assets	Corporate Property Group Director	0%																								
CPG-2	Develop building controls management strategy	Corporate Property Group Director	0%																								
CPG-3	Roll-out monitoring and targeting programme	Corporate Property Group Director	0%																								
CPG-4a	Decarbonisation of heat: CitiGen	Corporate Property Group Director	0%																								
CPG-4b	Decarbonisation of heat: Decentralised systems (Commercial)	Corporate Property Group Director	0%																								
CPG-4c	Decarbonisation of heat: Housing	Corporate Property Group Director	0%																								
CPG-5	Deep fabric retrofit pilot – Operational Property Group commercial asset	Corporate Property Group Director	0%																								
CPG-6	Additional energy specialist resources	Corporate Property Group Director	0%																								
CPG-7	Capital programme roll-out	Corporate Property Group Director	0%																								

Project Business Case

Project Costs

Total project costs have been ascertained based on a model developed by Arup. This shows that, in addition to planned lifecycle works, a CAPEX envelope of ~£21 million (excluding VAT) is required over the next six years to help achieve net zero carbon for the Operational Property Portfolio. It is important to note that this cost was based on 2018 prices and discounted in line with the Government Green Book Guidance. With the discounting removed, this cost would be significantly more, however, a budget of ~£21 million has been approved for work to be delivered under this CAS Activity. This budget is not index linked to allow for inflation.

These costs do not account for enabling works e.g. local grid reinforcement, rewiring or asbestos removal and therefore funding will have to be identified from separate budgets where required (these have yet to be identified and agreed but could come from CWP, major project bids or local risk). It is also important to note that all costs for resource have been capitalised and therefore come out of this budget. In addition, inflation has not been applied. It is assumed that funding will be available to support workstreams to be mobilised in line with the Project Schedule.

To ensure quick wins/projects deemed deliverable now are completed in the short term, whilst also completing action to unlock longer term interventions, the Tasks and outcomes detailed in Table 1 have been identified. The costs associated with these are presented in Table 2 and Figure 5 below.

As Figure 5 demonstrates, an initial amount of project consultancy support will be required during the earlier years to unlock capital spend in subsequent years by identifying buildings and subsequent interventions in these buildings.

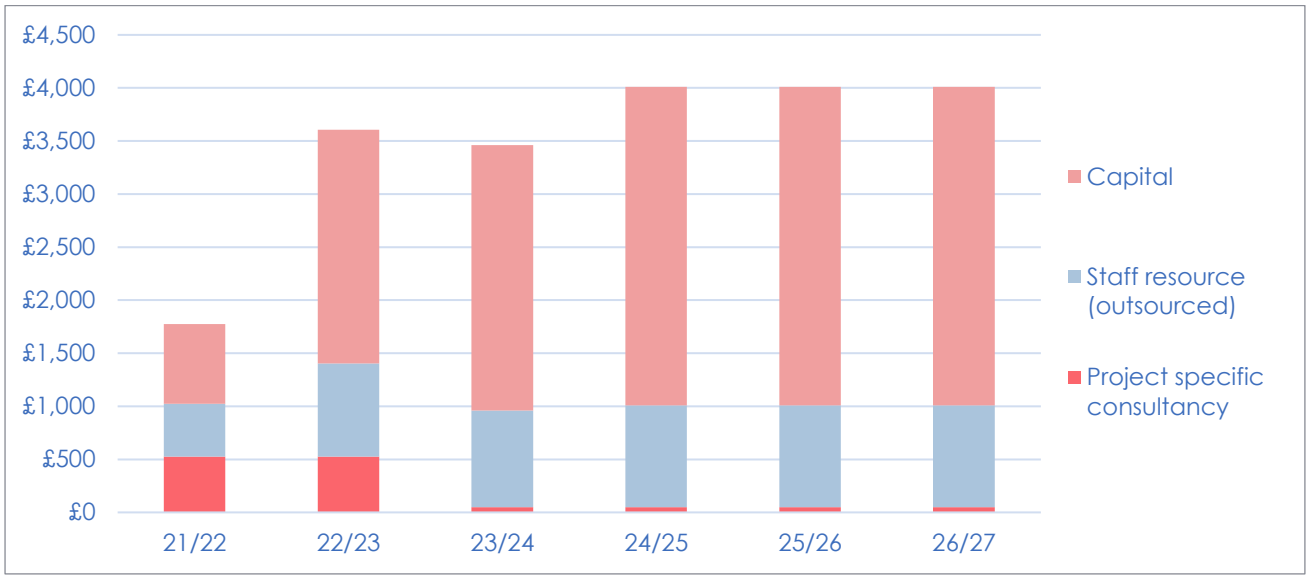
Table 2 – Costs by Task - costs in 2018 prices in line with Arup model and excludes VAT[1]

Tasks	Category	Costs per year (£k/annum)					
		21/22	22/23	23/24	24/25	25/26	26/27
1a - Commission building energy surveys – Operational Property Portfolio commercial assets	Project specific consultancy	*£250*	*£50*	*£50*	*£50*	*£50*	*£50*
1b - Commission building energy surveys – Operational Property Portfolio housing assets	Project specific consultancy	*£100*	£75	Capital funding dependant			
2 - Develop building controls management strategy	Staff resource (outsourced)	*£150*	*£220*	*£220*	*£220*	*£220*	*£220*
3 - Roll-out monitoring and targeting programme	*Staff resource (outsourced)*	*£55*	*£110*	*£110*	*£110*	*£110*	*£110*
4a - Decarbonisation of heat: CitiGen	Project specific consultancy	-	*£100*	Capital funding dependant			
4b - Decarbonisation of heat: Decentralised systems (Commercial)	Project specific consultancy	*£50*	*£120*	-	-	-	-
4c - Decarbonisation of heat: Housing	Project specific consultancy	*£50*	*£80*	-	-	-	-
5 - Deep fabric retrofit pilot – Operational Property Group commercial asset	Project specific consultancy	*£75*	*£100*	-	-	-	-
6 - Additional energy specialist resources	Staff resource (outsourced)	*£220*	*£330*	*£330*	*£330*	*£330*	*£330*
7 - Capital programme roll-out	Staff resource (outsourced)	*£75*	*£220*	*£250*	*£300*	*£300*	*£300*
	Capital	*£750*	*£2,200*	*£2,500*	*£3,000*	*£3,000*	*£3,000*
Total	**Project specific consultancy**	**£525**	**£525**	**£50**	**£50**	**£50**	**£50**
	Staff resource (outsourced)	**£500**	**£880**	**£910**	**£960**	**£960**	**£960**
	Capital	**£750**	**£2,200**	**£2,500**	**£3,000**	**£3,000**	**£3,000**

[1] At present the budget is not index linked. Capital and resource budgets shown in future years will be less in real terms due to inflation.

Total	**£1,775**	**£3,605**	**£3,460**	**£4,010**	**£4,010**	**£4,010**

Figure 5 - Costs breakdown by Category (£k/annum)



Project Benefits

The main quantitive project benefits are expected to be cost and carbon savings. A breakdown of each is provided over the following Section.

Cost savings

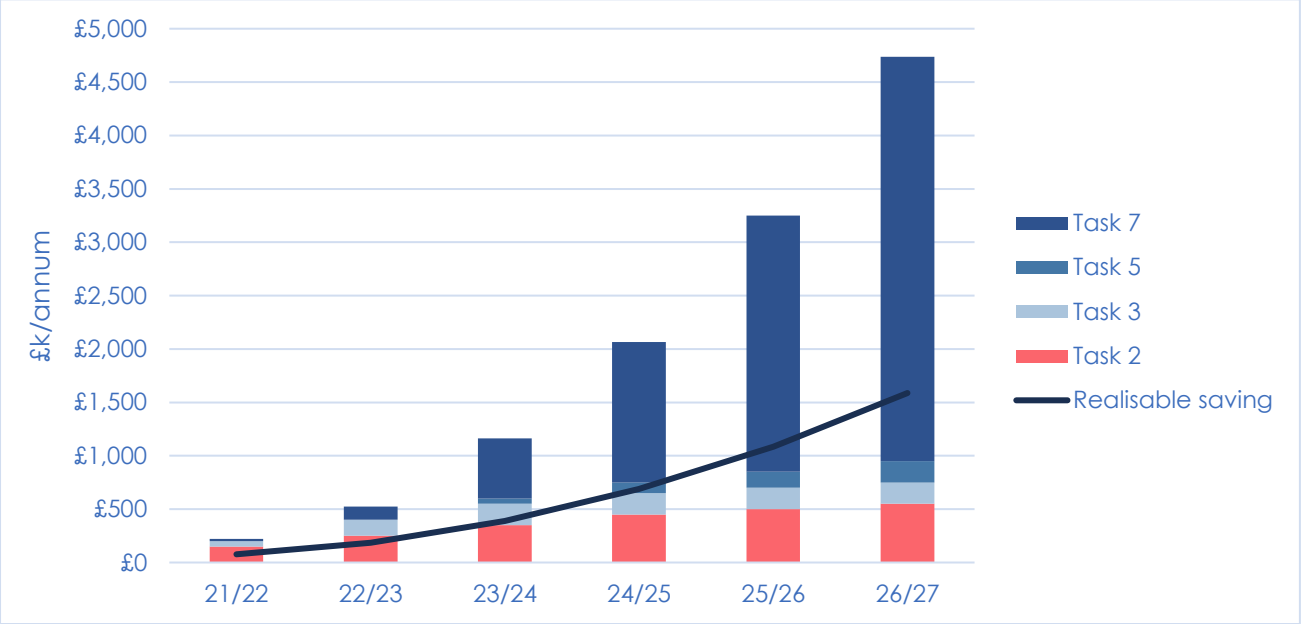
Cost savings have been established by the Energy Team based on the relationship between predicted capital expenditure and increasing intervention paybacks year-on-year as quick wins are achieved and projects with longer paybacks are required in order to achieve the 2027 net zero target.

This analysis was undertaken based on 2018 energy prices. Therefore, they are in line with the base year used in the Arup model. Like project costs, inflation has not been applied.

Table 3 – Total annual cost savings by year by Task (£k/annum), in 2018 prices

	Year					
Tasks	21/22	22/23	23/24	24/25	25/26	26/27
1a - Commission building energy surveys – Operational Property Portfolio commercial assets	*Enabling action*					
1b - Commission building energy surveys – Operational Property Portfolio housing assets	*Enabling action*					
2 - Develop building controls management strategy	*£150*	*£250*	*£350*	*£450*	*£500*	*£550*
3 - Roll-out monitoring and targeting programme	*£50*	*£150*	*£200*	*£200*	*£200*	*£200*
4a - Decarbonisation of heat: CitiGen	*Enabling action*					
4b - Decarbonisation of heat: Decentralised systems (Commercial)	*Enabling action*					
4c - Decarbonisation of heat: Housing	*Enabling action*					
5 - Deep fabric retrofit pilot – Operational Property Group commercial asset	-	-	*£50*	*£100*	*£150*	*£200*
6 - Additional energy specialist resources	*Enabling action*					
7 - Capital programme roll-out	*£20*	*£125*	*£564*	*£1,316*	*£2,401*	*£3,786*
Total	**£220**	**£525**	**£1,114**	**£1,966**	**£3,101**	**£4,536**
Realisable cost savings	**£77**	**£184**	**£390**	**£688**	**£1,085**	**£1,588**

Figure 6 – Annual cost savings by Task (£k/annum)



Cost savings realisable to The Corporation

Due to the nature of energy supply arrangements there are instances where reducing energy consumption may not necessarily result in cost savings realisable back to The Corporation. This is where The Corporation does not directly operate and occupy the asset and where tenants are responsible for energy supplies. Examples of this include:

- Markets - stallholders are sub-metered and pay based on their own usage for their area;
- Schools - The Corporation owns the building(s) but schools have their own supply arrangements; and
- Housing - tenants receive the benefit of reduced energy bills when changes are made to communal systems.

In order to account for this, the Energy Team have completed analysis based on actual costs for each Operation Property Portfolio asset between November 2019 and October 2020 to identify, under current arrangements, what proportion of energy spend could potentially be returned to The Corporation. This was found to be, on average, 35% across the whole portfolio. A breakdown of this analysis can be found in Appendix 6. At present this divided into CPG and non-CPG spend only, further work will be undertaken to provide more detail on this including dividing this by building type e.g. schools, housing etc.

In recognition of this, a factor of 35% has been used to illustrate average realisable savings to The Corporation should interventions be implemented across the whole portfolio in

Figure 6 and Table 3.

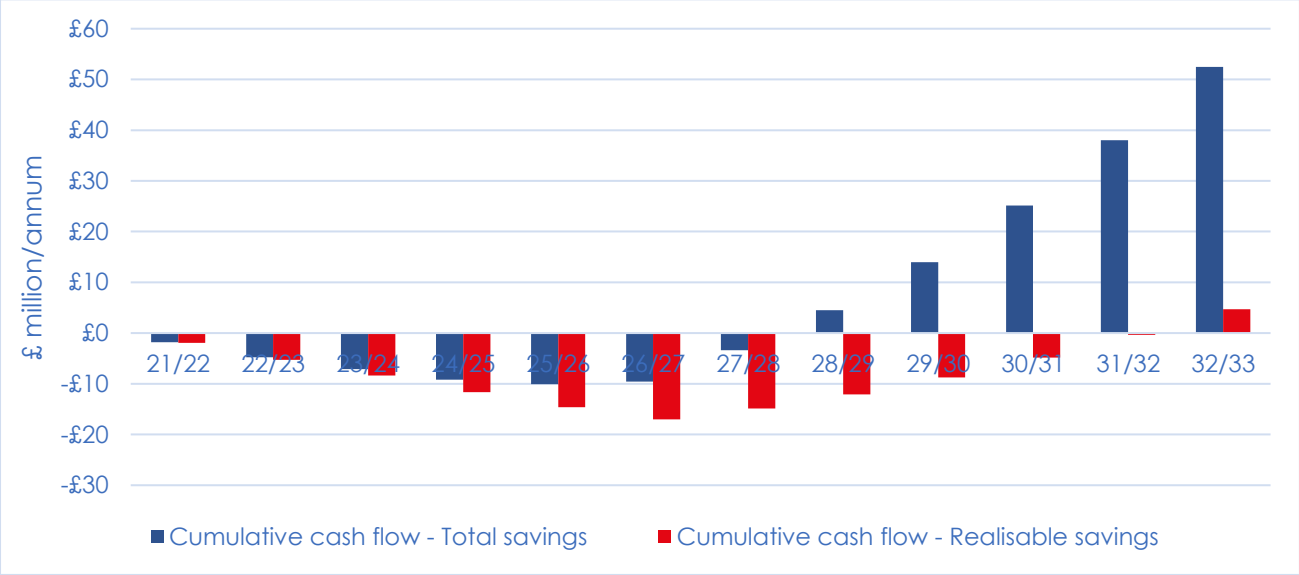
To ensure that potential energy savings are realised back to The Corporation, the initial years of implementation will focus on assets where savings can be returned to the centre. This will be enabled through developing a process for selecting buildings for carbon reduction interventions of which this will be a key factor (see Appendix 7).

For future years, work to identify mechanisms where savings could (in full or part) be returned to The Corporation will be undertaken. This would include looking at savings share agreements, Energy Performance Contracts or supporting stakeholders to secure external funding (e.g. Salix Energy Efficiency Loans could be suitable in schools).

Cashflow

Based on the costs and savings presented above, Figure 7 shows an indicative cashflow for this Project Plan. Based on total savings, this could give a positive return in 2028/29. Using average realisable savings, this could give a positive return in 2032/33[2].

Figure 7 – Cumulative cashflow graph (£ million/annum), in 2018 prices, excluding VAT – Negative figures represent net expenditure



Carbon savings

Using expected cost savings, the Energy Team have modelled carbon savings based on the result of implementing the Tasks identified in this Project Plan (figures provided in Table 3). Figure 8 and Figure 9 show this under two scenarios; grid decarbonisation as per emission factors in the Government Green Book, and slower grid decarbonisation assuming a rate 42% above the Government Green Book (see Introduction).

Table 4 – Annual carbon savings from Tasks identified in this plan as established by Energy Team.

	Year					
Tasks	21/22	22/23	23/24	24/25	25/26	26/27
Annual Carbon Savings ($ktCO_2e$) – Green Book factors	0.32	0.49	1.27	1.59	1.77	2.14
Annual Carbon Savings ($ktCO_2e$) – 42% above Green Book emissions factors	0.39	0.59	1.45	1.82	2.08	2.49

[2] This does not account for rises in energy costs that may be caused by electrifying heat provision. It also does not take into account any cost of enabling works.

Figure 8 illustrates the additional impact of carbon savings identified in this Project Plan against the BAU Scenario in the Arup model using Green Book decarbonisation factors. This estimates that carbon emissions in 2026/27 would be 12.6 $ktCO_2e$. This is 3.4 $ktCO_2e$ below the 16 $ktCO_2e$ target.

Figure 9 shows the additional impact of carbon savings identified in this Project Plan against the BAU Scenario in the Arup model under slower grid decarbonisation. This estimates that in 2026/27 carbon emissions would be 14.9 $ktCO_2e$. This is 1.1 $ktCO_2e$ below the 16 $ktCO_2e$ target and provides assurance that if the grid does not decarbonise as quickly as modelled by Arup, the target is achievable based on the actions identified in this Project Plan.

Figure 8 - Carbon Reduction Trajectories (Scope 1&2) – Green Book Scenario

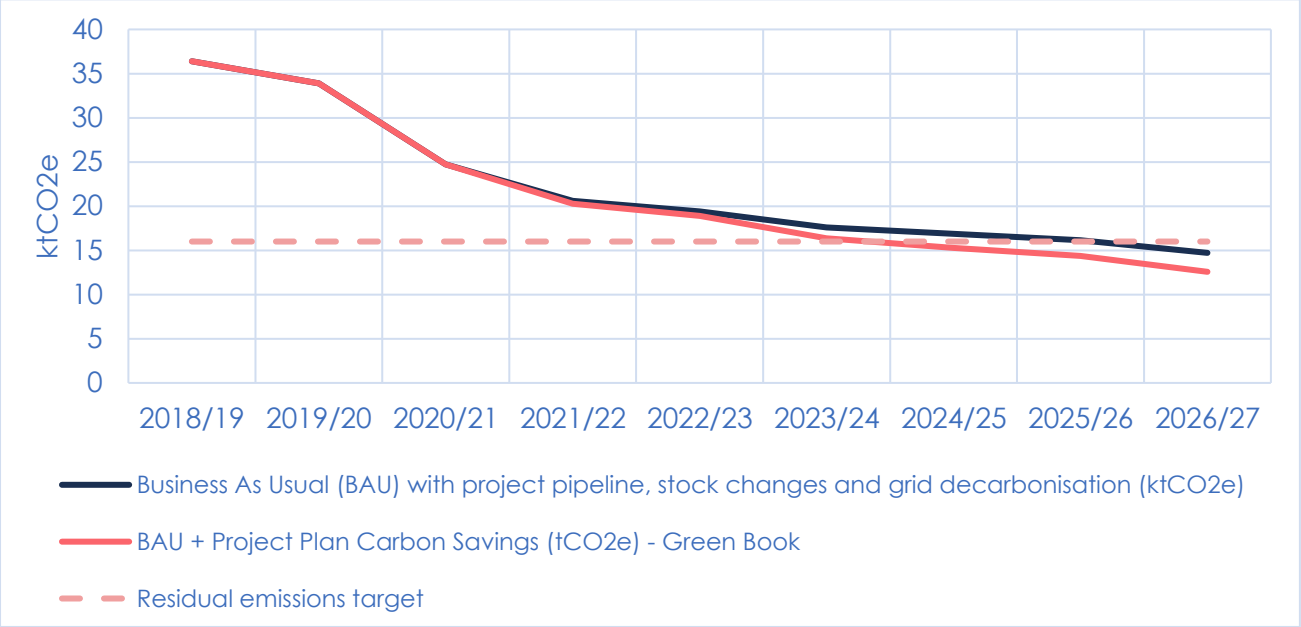
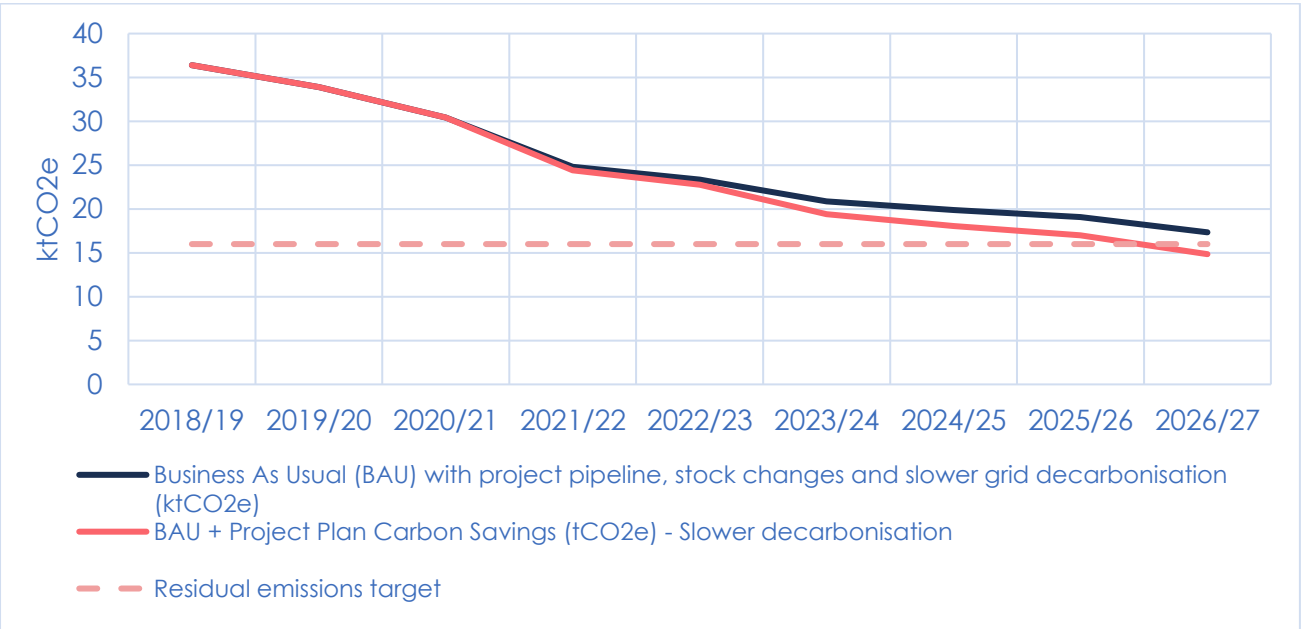


Figure 9 - Carbon Reduction Trajectories (Scope 1&2) – Slower decarbonisation (42% above Green Book figures from 2021)



Summary of project benefits

In summary, the following benefits are expected to be achieved from implementing this plan:

- Cost savings
  - Total energy savings - positive cumulative cashflow of £52.4 million (in 2018 prices) in 2032/33.
  - 35% realisable savings - positive cumulative cashflow of £4.6 million (in 2018 prices) in 2032/33.

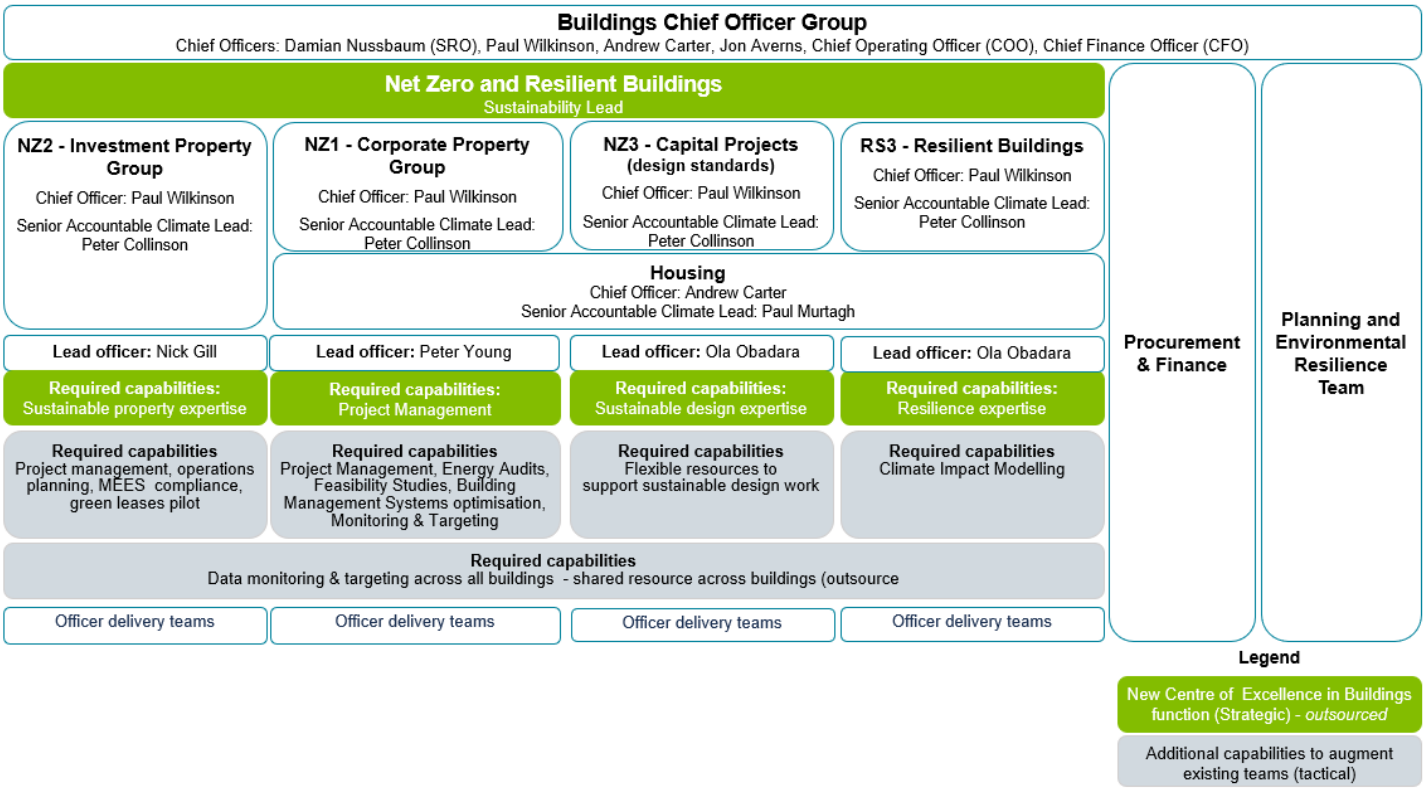
- Carbon savings
  - Achievement of residual emissions element of net zero target in 2026/27

  - Projected carbon emissions of 12.6 $ktCO_2e$ against 16.0 $ktCO_2e$ residual emissions target (3.4 $ktCO_2e$ under) using current Treasury Green Book emissions factors.
  - Projected carbon emissions of 14.9 $ktCO_2e$ against 16.0 $ktCO_2e$ residual emissions target (1.1 $ktCO_2e$ under) using a slower gird decarbonisation scenario.

- Additional, non-quantifiable savings (at this stage)
  - Improved access to energy data and a deeper understanding of energy performance at each building (support by BMS and Monitoring Target resources);
  - Improved air quality where gas boilers are avoided or removed;
  - Understanding and positioning for innovative and emerging technologies;
  - Implementation of “no regrets” heat and electricity demand reduction solutions that facilitate future implementation of low carbon heat pump solutions;
  - Understanding of the role that deep retrofit can play in decarbonisation;
  - Improved occupant comfort and internal environment.

Delivery Approach

Figure 10 – Net Zero and Resilient Buildings Centre of Excellence, Delivery Model



To drive and direct leadership, best practice, research, support and training to all areas of building decarbonisation and resilience work to deliver the CAS, a Net Zero and Resilient Buildings Centre of Excellence will be established. This will sit outside of the regular reporting structure to drive strategic level targets into mobilisation and delivery across departments. Through this approach it will provide a view across all Tasks and Project Plans to control and package up service requirements based on the outputs of feasibility studies, energy audits etc. maximising value from the market based on clear desired outcomes and programme level view.

Its role will include concentrating knowledge from across all activity areas to attain and sustain high performance and value, capture lessons learnt and provide a feedback loop for continuous improvement.

The benefits of this approach will be:

- Member-buy in and confidence;
- Limiting “single points of failure”;
- Development of a cross-discipline team;
- Share resources and learning across workstreams;
- Ability to flex staff resource to meet need;
- Ability to draw in a wide range of expertise and experience from the private sector.

Net Zero and Resilient Buildings Sustainability Lead

To manage and lead the Net Zero and Resilience Buildings Centre of Excellence, a Sustainability Lead will be resourced who will report to the Buildings Chief Officer Group Senior Responsible Officers. This will allow The Corporation to utilise the third party expertise of someone with extensive experience of delivering large, complex programmes across net zero, resilience and energy in buildings to drive delivery across the four buildings workstreams.

Their role will comprise:

- Managing and leading the Net Zero and Resilience Buildings Centre of Excellence;
- Reporting progress to CAS Senior Responsible Officers;
- Coordinating and identifying synergies between workstreams;
- Aligning strategy and policy with delivery;
- Managing the transition from project definition to mobilisation and implementation;
- Facilitating reach back to private sector expertise and best practice.

Delivery model

The delivery model for the Net Zero and Resilient Buildings Centre of Excellence is illustrated in Figure 10. This shows how all four workstreams across buildings will come together, identifies the key officers and illustrates the role of additional resource capabilities to support existing teams.

For this Project Plan the key resources are:

- Net Zero and Resilient Buildings Centre of Excellence Sustainability Lead
- Chief Officer – Paul Wilkinson
- Senior Accountable Climate Lead – Peter Collinson
- Lead Officer – Peter Young

The team structure for the Corporate Property Group Action Area is detailed above.

Approach to staff resourcing

The diagram above shows how the proposed Net Zero and Resilient Buildings Centre of Excellence Sustainability Lead would relate to the four workstreams, including this one.

Whilst this plan identifies staff resource requirements, it is not expected that this will be delivered through new internal hires. This will be delivered through project specific consultancy, outsourced staff and/or flexible project management resources allowing The Corporation to drive value from the supply chain through competitiveness, contractual measures to secure outcomes, flexibility, reach back support and market innovation. This will also inform plans under the current Target Operating Model update. This is expected to be managed as laid out in Figure 3 and Figure 4.

At present, staff resourcing has been developed to address the initial need to identify interventions, complete feasibility studies, deliver quick wins and identify, specify and deliver procurement solutions. As the CAS progresses (informed by Year 1) a key review point will be to evaluate resourcing requirements as this may change depending on the identified procurements routes and service outcomes. For example, procurement of an Energy Performance Contract for items requiring significant investment would potentially require less energy engineering and more contract management expertise. This review will be managed and guided by the Senior Responsible Officers and the Buildings Chief Officer Group.

Approach to selecting buildings

When determining which buildings should be taken forward for the identification and implementation of carbon reduction interventions there are a number of criteria that need to be considered. These are broadly divided into two categories:

Pre-survey

- Does the building offer sufficient scale (in terms of energy use) to warrant intervention?
- Is there sufficient data and metering infrastructure to support the identification and implementation of interventions?

- Are there existing planned activities in the near term (e.g. next 3 years) that offer the opportunity to integrate carbon reduction interventions e.g. major upgrades, lease breaks, refurbishments?
- Are there existing planned refurbishments, reconfigurations or divestments that would make any survey redundant in the near term?
- Is the building of sufficient importance that it is considered meritorious to implement works here?
- How much of the savings could be returned back to The Corporation rather than to tenants?

Post survey

Achievability

- Are interventions considered technically and financially viable?
- Are there potential procurement routes available?
- Are there any heritage implications?
- Can the works be scheduled and sequenced with any other planned works in a realistic timeframe?

Affordability

- What is the scale of the investment?
- Are the commercial outcomes acceptable to The Corporation?

Benefits optimisation

- What is the scale of potential carbon savings and when are they achieved?
- Are cost savings realisable to The Corporation?

In order to select which buildings are to be taken forward for energy audits as per Tasks 1a and 1b and subsequent capital works as per Task 7, a set of selection criteria have been developed to assess buildings both pre and post survey to ascertain those which are suitable for taking forward to implementation. This is provided in Appendix 7.

Risk Management

Table 5 illustrates the key risks identified for this Project Plan. It is recognised that some of these will be universal across the four building Action Areas. Therefore, it is important that mitigations and solutions are matched up to ensure they are addressed at the programme level.

It is expected that the role of the Sustainability Lead will be to manage these risks across the four Action Areas so that comparative risk analysis can be completed, risks can be stress tested to quantify their impact on meeting carbon targets and mitigations aligned to ensure a holistic approach.

Table 5 – Risk Management, RAID analysis

Ref:	Description	Type (RAID)	Criticality	Proposed mitigation
R-1	Delays in Governance and sign off result in carbon savings being realised later than planned.	Risk	Critical	• Stakeholder Engagement approach detailed below. • Internal Governance requirements to be mapped for Tasks at mobilisation. • Reporting cycles to be mapped for Tasks on mobilisation.
R-2	Interventions are not developed and organised into a deliverable programme which when presented to committees result in delays to action and slippage in the Project Schedule.	Risk	Critical	• Links to Risk 1. • Project Schedule developed (see above). • This Project Plan is the Framework against which interventions will be delivered and presented as a whole programme. • Mobilisation Phase to support organisation of a deliverable programme.
R-3	Planned stock changes, particularly building rationalisation, do not happen by 2027.	Risk	Critical	• Tasks identified in the plan are expected to overdeliver on the reduction target. • Ongoing risk management approach to be incorporated in Delivery Approach. • The impact of slippage to planned stock changes to be modelled in order to understand the potential impact.
R-4	Discounted, non-index linked costs as detailed in the existing Arup model, totalling ~£21 million are insufficient to deliver net zero across Operational Property Portfolio assets over the next six years.	Risk	High	• Opportunities for grant funding to be pursued where available. • The option of ring-fencing cost savings to fund future interventions to be explored.
R-5	Current procurement routes are too slow causing project delay.	Risk	Medium	• Procurement routes to be considered at mobilisation: this could include Frameworks and existing arrangements. • Delivery approach to consider delegated authority allowing rapid release of budget where needed to support rapid procurement.
R-6	Refrigerant emissions may be higher than assumptions in the Arup model. This will not decarbonise without specific interventions.	Risk	Medium	• Refrigerant emissions to be reviewed and validated on mobilisation to check data.
R-7	CitiGen decarbonisation is not complete in line with timescales as of Arup model. In addition, if the grid decarbonises rapidly this may become a carbon source.	Risk	Medium	• Work underway via HNDU feasibility study. • Decarbonisation of CitiGen included as a specific Task. • Further analysis of Arup model to understand assumptions made around CitiGen carbon content of district heat and cooling.

Ref:	Description	Type (RAID)	Criticality	Proposed mitigation
A-1	£21 million funding represents the additional costs of achieving net zero e.g. costs exclude enabling works (e.g. grid reinforcement), asbestos removal, rewiring, etc.	Assumption	High	• Stakeholder Engagement approach detailed below – it is important this includes Internal Departments where funding for this may have already been allocated. • Early engagement with DNO to be included under decarbonisation of heat activities.
A-2	Of the current ~£21 million for delivery of net zero carbon (see point 2) this is for both capitalised resource and capital works costs. This is split as follows: • Capital works - ~£14.5 million • Resource (capitalised) ~ £6.5 million	Assumption	Medium	
A-3	Funding model assumes an average realisable saving to The Corporation of 35% of total energy savings. This will vary depending on which buildings interventions are completed in.	Assumption	Medium	• To be monitored as part of Benefits Realisation • Buildings scoped for energy audits will consider where cost savings can be best realised to The Corporation. • Options around savings share agreements to be explored.
A-4	Only landlord areas are included with housing under Scope 1 and 2 emissions.	Assumption	Low	• Tenant areas to be considered under 2040 target.
D-1	Grid decarbonisation occurs at a sufficient pace to achieve net zero target.	Dependency	Critical	• Tasks identified in the plan are expected to overdeliver on the reduction target. • Grid decarbonisation to be tracked by Energy Team. • Ongoing risk management approach to be incorporated in Delivery Approach.
D-2	Stock changes result in carbon savings as included in Arup model.	Dependency	High	• Design Standards Action Area to address the performance of new developments and refurbishment works.
D-3	Lifecycle works up to 2027 will support achievement of the net zero carbon target e.g. life expired system will be replaced with energy efficient/low carbon alternatives	Dependency	Medium	• Mitigated through actions in Design Standards Action Area.

Stakeholder Engagement

The following table outlines the key stakeholders, how and when we intend to interact with them and what channels will be used.

Table 6 – Stakeholder engagement

Category:	Department / Who	Message	Channels	When
Internal Stakeholders - Department	Chamberlains (Financial) Chamberlains (Procurement) PMO City Surveyors (Chief Officer, CPG, PPG, Energy, Resilience, Climate Team, Building Services Engineers Team and Technical Advisory Group Team) Legal Possibly DBE	Engage, Inform, Consult, Validate	Tried and tested Climate Chats Interviews Team meetings 1:1 meetings	Needs minimum 6 week lead in time before referring to Committee. Internal liaison through programme and project lifecycles
Internal Stakeholders - Committees	Corporate Project Board Project Sub Committee P&R Committee RASC Court (where complex) Proposed Extraordinary Board Cyclical Works Board Housing Board	Seek Approval	Tried and tested Committees Meetings	Gateways 1, 2, combined 3 & 4 (4b where relevant), 5 and 6
External	Funders	Seek Offers, Inform	Regular partnership meetings Funding opportunities	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6
External	Residents Building Users	Engage, Inform, collaborate	Consultation surveys Interviews Meetings Website Social media	(At required times in RIBA stage 3 and 4 and 5) At required times gateways 3-5
External	Building Managers Facilities Managers	Engage, Seek information, validate, Inform	Interviews 1:1 meetings	(At required times in RIBA stage 2, 3 and 4) At required times gateways 3-6
External	Supply Chains	Engage, seek information, Inform	Consultation 1:1 meetings	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 2-6
External	External Consultants (design) and Contractors (surveys, design and works)	Engage, Seek Information, collaborate, commission	Consultation Partnership meetings	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 1-6
External	Distribution Network Operator	Engage, Consult, Collaborate	Regular partnership meetings	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6

			Engaged through decarbonisation of heat Tasks.	

Reporting cycle

It is assumed that projects will evolve from the master programme of works. It is envisaged that projects will, in the majority, follow the 'regular' project route but some may fall under the 'complex' route. The table below identifies reporting envisaged along with intended reporting benefits:

Table 7 – Reporting cycle

Category:	When	Benefit Realised
Internal Stakeholders (Internal Departments)	Throughout project lifecycle, Gateways	Obtaining advice and feedback. Output monitoring Governance Checks
Internal Stakeholders (Buildings Chief Officer Group (BCOG))	Throughout project lifecycle, Gateways via the Programme Function and progress to KPIs via the CAS Dashboard	Commitment 2: To support the creation of a consistent format and content for effective progress reporting at monthly Chief Officer Group and quarterly Committee meetings from 1 April 2021.
Internal Stakeholders (Committees)	Gateways 1, 2, combined 3 & 4 (4b where relevant), 5 and 6	Tracking and monitoring of project outputs and objectives. Escalation of issue management. Seeking project direction required. Governance Checks
External (Funding)	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6	Known funding outcomes. Progress reporting against funding elements incl. tracking of progress Lessons learned from other projects or best practice
External (Residents & Users)	(At required times in RIBA stage 3 and 4 and 5) At required times gateways 3-5	Keeping all informed and engaged Informing of methodologies and outputs intended – Involving residents and user's ideas Informing of methodologies and outputs intended – Involving residents and users by allowing people to voice their views Informing of methodologies and outputs intended – how people can play their part. Positive reputational image
External (Building Managers and FM)	(At required times in RIBA stage 2, 3 and 4) At required times gateways 3-6	In-depth knowledge sharing Lessons learning – what works and what works less than envisaged Watch Points sharing - Specific building usage / information that could help or hinder projects.
External (Supply chains)	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 2-6	Gathering market intelligence and information Complying with Statutory consents
External (Consultants & Contractors)	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 1-6	Obtaining advice. Receiving specialist design knowledge and sharing. Specific technological information and expertise. Additional resource to assist existing teams.
External (Distribution Network Operator)	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6	Identify the viability of proposed interventions and any required enabling works. Understanding of impact on project timescales and costs. Specific technological information and expertise.

Project Controls

The following Key Performance Indicators (KPIs) will be defined and tracked by this Project in order to judge its overall delivery success. Each will be tracked on a quarterly basis for qualitative (initially) and move toward quantitative progress reporting and will be reported formally in the Annual Report each year starting FY22/23.

Project-level Key Performance Indicators (KPIs)

The below table sets out the principal KPIs that will track the delivery of the four CAS headline targets listed below. A trajectory and set of milestone target dates are to be developed for each.

1. Net zero by 2027 in the City Corporation's operations
2. Net zero by 2040 across the City Corporation's full value chain
3. Net zero by 2040 in the Square Mile
4. Climate resilience in our buildings, public spaces and infrastructure

Reporting KPIs are intended to be refreshed as part of the annual cycle of baseline re-assessment work beginning in FY22/23. The Management KPIs will be refreshed more regularly and will be reported via the Climate Performance Dashboard to committees from FY21/22.

Table 8 – Key performance indicators (KPI)

Theme	KPI name	Definition	Relevant CAS target	Regularity of reporting
Carbon	Scope 1 & 2 emissions	Reduction in Scope 1 & 2 emissions GHG Protocol operational control	Net zero by 2027 in the City Corporation's operations Net zero by 2040 in the City Corporation's operations	Quarterly
Energy	Energy consumption kwh/m^2 floor area*	Energy use in kilowatt hours per gross internal floor area	Net zero by 2027 in the City Corporation's operations Net zero by 2040 in the City Corporation's operations	Quarterly
	Energy Performance Certificates (EPC)*	Weighted average EPC for whole portfolio	Net zero by 2027 in the City Corporation's operations Net zero by 2040 in the City Corporation's operations	Annually

*Once reporting processes have been established for these KPIs it is intended that additional targets will be developed to help drive improvement. Where possible this will be split out by building archetype/use to provide more focused targets where needed. Responsibility for this is expected to fall under the role of the Sustainability Lead who will manage a data maturity strategy (see below).

Key data and information

Documentation and process controls will be improved to allow for future audit and quality assurance measures such as alignment to best practice international standards on climate reporting.

The Sustainability Lead will develop a data maturity strategy to increase data accuracy and completeness, ensure integration of key data across key workstreams and provide clear data governance and performance management going forward. This will also include data and information requirements that will extend to any outsourced work to provide assurance on quality. For example, this could include that energy audits are aligned against ISO 50002:2014/ BS EN 16247-1:2012 standards.

As this project progresses data will be generated as to the effectiveness of carbon reduction interventions. Further KPIs and targets may be periodically linked to the efficacy of measures and their overall contribution to the CAS. This will be subject to the Change Control Procedure.

The data generated by this project will be collated and displayed through Power BI dashboards to improve accessibility and understanding for a range of audiences.

Internal Governance

- Net Zero and Resilient Buildings Centre of Excellence to report to Buildings Chief Officer Group;
- Action Area Chief Officers and Senior Accountable Climate Leads to report to Buildings Centre of Excellence;
- Lead officers to report to Action Area Chief Officer and Senior Accountable Climate Lead;
- Proposed Project Board (Extraordinary Board) where required for cost and progress updates under the holistic Capex cost allowance;
- Internal Stakeholders (all gateway reports) - informal project updates and formal gateways reports ahead of submission to Committees.

APPENDIX 1

Task breakdowns

Task	**1a - Commission building energy surveys and feasibility – Operational Property Portfolio commercial assets**
Outcome	Production of a detailed opportunities pipeline with a breakdown of costs and savings by asset.
Responsible officer	Corporate Property Group Director
Description	A detailed list of project and resource driven opportunities is required to mobilise investment (Task 8). This will supplement the current top-down approach in the existing Arup model by detailing specific interventions by asset, with a breakdown of costs and savings, enabling specification to enable prioritisation and procurement mobilisation. It is assumed that this will be focused on demand reduction as decarbonisation of heat will be picked up by Tasks 4. This Task will use technical consultancy to identify specific interventions, on the building level, across Operational Property Portfolio assets to produce investment grade-level energy audits. This will include detailed survey work, analysis and production of business cases for individual plant and systems. It is expected that all audits will be completed in a standardised fashion, e.g. aligned against ISO 50002:2014/ BS EN 16247-1:2012, to allow outcomes to be compared across Tasks and Project Plans. This should also include a standardised, consolidated table of all interventions to provide a portfolio-wide view which will inform potential procurement and commercialisation approaches. Outputs will also need to identify how interventions can be dovetailed into existing estate and asset strategies to make sure that works are programmed in a coordinated manner. Surveys will also capture data and address any data gaps in refrigerant losses/ top up. If there are assets with significant refrigerant losses or refrigerants with high greenhouse warming potentials this will need to be identified and addressed within the capital works programme. A matrix for selecting buildings has been developed to help identify which will be taken forward for the initial phases of this work (see Appendix 7).
Timescales	**Year 1** – The Energy Team have selected the fifteen most energy intensive assets where the carbon and benefit and potential are most material for survey and feasibility in Year 1. **Year 2-6** – Rolling programme of energy surveys and feasibility. Assets will be selected annually based on energy performance, asset lifetime, planned refurbishment dates and potential value of savings. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> None.

Costs (2018 prices, excl. VAT)		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	*£250*	*£50*	*£50*	*£50*	*£50*	*£50*
	Staff resource (outsourced)	-	-	-	-	-	-
	Resource	**£250**	**£50**	**£50**	**£50**	**£50**	**£50**
	Capital	-	-	-	-	-	-
	TOTAL	**£250**	**£50**	**£50**	**£50**	**£50**	**£50**

Benefits	Identification of specific interventions for selected assets, supplementing existing top-down approach in Arup model. Enabling action for savings realised in Task 7.
Assumptions	• Survey costs identified by the Energy Team. • Costs are higher in Year 1 due to the size and complexity of the plant and systems in the fifteen most energy intensive assets.

Task	**1b - Commission building energy surveys – Operational Property Portfolio housing assets**
Outcome	Identification of pilot schemes and funding opportunities in housing assets.
Responsible officer	Corporate Property Group Director
Description	The existing Arup decarbonisation model considers carbon emissions from landlord areas only. In order to reach net zero, The Corporation will need to address housing emissions, including that of social housing tenants and private residents. To enable this, it is expected that Year 1 and 2 will focus on identifying interventions, funding opportunities and pilot studies to test solutions which will unlock action in future years. This Task will use technical consultancy to identify specific interventions, on the asset level, across housing assets to produce an action plan. This will include a desktop review, survey work, analysis and production of net zero operating plan, particularly for landlord areas. Given the immediate focus on net zero for Scope 1 and 2 emissions by 2026/27 this is expected to focus on communal areas but can be flexible to align with external funding opportunities. Where emissions are under the control of landlords, reducing energy in housing may also lead to additional benefits for tenants e.g. through reduced heating bills where communal systems exist. Outputs will also need to identify how interventions can be dovetailed into existing estate and asset strategies to make sure that works are programmed in a coordinated manner. In addition, opportunities for financing options such as those identified by the Green Finance Initiative should be identified to support future delivery. It is expected that all audits will be completed in a standardised fashion, e.g. aligned against ISO 50002:2014/ BS EN 16247-1:2012, to allow outcomes to be compared across Tasks and Project Plans. This should also include a standardised, consolidated table of all interventions to provide a portfolio-wide view which will inform potential procurement and commercialisation approaches. A matrix for selecting buildings has been developed to help identify which will be taken forward for the initial phases of this work (see Appendix 7). It is recognised that ongoing work from Savills is looking at EPCs across the housing stock. This will be used to feed into the building selection of housing assets.
Timescales	**Year 1-2** – Identification of pilot schemes and funding opportunities. **Year 3-6** – Capital funding dependent. For further breakdown see Gantt Chart (Project Schedule). Key dependencies None.

Costs (2018 prices, excl. VAT)

	Year					
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
Project specific consultancy	£100	£75	*Capital funding dependant*			
Staff resource (outsourced)	-	-	-	-	-	-
Resource	**£100**	**£75**	**Capital funding dependant**			
Capital	-	-	-	-	-	-
TOTAL	**£100**	**£75**	**Capital funding dependant**			

Benefits	Enabling action for savings realised in Task 7.
Assumptions	• This work will be informed by the desk-based portfolio study currently underway.

Task	**2 – Develop building controls management strategy and increase delivery capability**
Outcome	Production of Building Management Strategy (BMS) development strategy. Increased delivery of buildings' controls related interventions.

Responsible officer	Corporate Property Group Director
Description	Additional expert resource is required to identify, deliver and maintain the Building Management Software and associated hardware. Building controls are a key component of any energy management strategy and often provide a quick return on investments compared to other intervention types. The Energy Team have already made c. £0.5 million in energy related cost savings between 2018 and 2020 from this, and it is expected that increased and sustained resource will further increase and maintain these savings going forward. This Task will support and be supported by the energy audits in Task 1 and lead to the identification of quick wins for implementation in Year 1. See: APPENDIX 2 - Job role – Building Management System (BMS) Specialist.
Timescales	**Year 1** – Employment of 2 x FTE specialist technical resources. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> None.

Costs (2018 prices, excl. VAT)		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-
	Staff resource (outsourced)	*£150*	*£220*	*£220*	*£220*	*£220*	*£220*
	Resource	**£150**	**£220**	**£220**	**£220**	**£220**	**£220**
	Capital	-	-	-	-	-	-
	TOTAL	**£150**	**£220**	**£220**	**£220**	**£220**	**£220**

Benefits							
	Enabling action for identifying and managing future capital and operational projects e.g. automated demand response. Benefits expected to meet or exceed costs from Year 1.						
		21/22	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Annual energy cost savings - £k	£150	£250	£350	£450	£500	£550

Assumptions	
	• Assumed average cost of £110k/annum/FTE for this resource level. • Resources to start four months into Year 1, hence costs of £150k.

Task	**3 – Roll-out monitoring and targeting programme as a platform for occupier engagement**
Outcome	Enhancement and expansion of the current capabilities and effectiveness of the monitoring and targeting system.
Responsible officer	Corporate Property Group Director
Description	Roll-out monitoring and targeting programme as a platform for occupier engagement. This includes development of an energy database with associated dashboard(s) to support stakeholder communications. See: APPENDIX 3 – Job Role - Monitoring and Targeting (M&T) Specialist.
Timescales	**Year 1** – Employment of 1 x FTE specialist technical resources. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> None.

		Year					
Costs (2018 prices, excl. VAT)	**Cost - £k**	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-
	Staff resource (outsourced)	*£55*	*£110*	*£110*	*£110*	*£110*	*£110*
	Resource	**£55**	**£110**	**£110**	**£110**	**£110**	**£110**
	Capital	-	-	-	-	-	-
	TOTAL	**£55**	**£110**	**£110**	**£110**	**£110**	**£110**
Benefits	Enabling action for tenant communications and engagement. Identification of quick win interventions. Improved access to data and identification of anomalies as they occur. Benefits expected to meet or exceed costs from Year 1 (based on total savings).						
		21/22	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Annual energy cost savings - £k	£50	£150	£200	£200	£200	£200
Assumptions	• Assumed average cost of £110k/annum/FTE for this resource level. • Resources to start six months into Year 1, hence costs of £50k.						

Task	**4a - Commission study for decarbonisation of heat: CitiGen**
Outcome	Identification of a pathway for decarbonising the CitiGen heat network, moving away from gas fired CHP to low carbon heat sources.
Responsible officer	Corporate Property Group Director
Description	Fossil fuel carbon contribution is a significant part of The Corporation's carbon footprint. This will remain static and become a larger proportion of total emissions as decarbonisation of the grid progresses. Therefore, decarbonisation of heat feasibility studies are required to identify alternative low carbon heat sources, highlight potential costs and savings and enable specification to support prioritisation and procurement mobilisation. For this Task, the feasibility study should consider both extension to the current CitiGen network (and connection of additional loads) as well as the decarbonisation of the energy centre. This will include identifying new technologies, moving away from gas CHP as soon as practicable, and options to utilise waste heat. Whilst CitiGen is owned and managed by EON, The Corporation will work with them as the core customer and in accordance with the co-operation agreement to work in partnership to deliver a solution. It is understood that CitiGen are progressing plans to install water-source heat pumps at the existing energy centre, using boreholes. This work is fully funded by EON, at zero capital cost to The Corporation. In addition, a Heat Networks Delivery Unit (HNDU) study is currently underway to look at extending the network. This is expected to be completed in early 2021. This can then be developed into further feasibility and a commercial proposition.
Timescales	**Year 1** – Completion of HNDU feasibility study (£16.5k contribution by The Corporation committed) **Year 2 –** Further feasibility after HNDU study. Future studies may include different opportunities dependent on the result of the HNDU study. This could include Borough-wide masterplanning, specific area masterplanning, feasibility for specific heat recovery opportunities and energy centre development, more detailed study on system transformation to ambient loop (including on-site heat pumps), customer secondary side temperature optimisation.

Year 3-6 – Detailed Project Development and Commercialisation – Capital funding dependant

For further breakdown see Gantt Chart (Project Schedule).

Key dependencies

Existing HDU feasibility study.

Costs (2018 prices, excl. VAT)

	Year					
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
Project specific consultancy	-	*£80*	*Capital funding dependant*			
Staff resource (outsourced)	-	-	-	-	-	-
Resource	**-**	**£80**	**Capital funding dependant**			
Capital	-	-	-	-	-	-
TOTAL	-	**£80**	**Capital funding dependant**			

Benefits

Use of HNDU funding in Year 1.

Improved air quality where gas boilers are avoided or removed.

Removal of fossil fuels from heat systems.

Opportunity to position for future funding e.g. Heat Networks Investment Project (HNIP), upcoming Green Heat Networks Fund.

Assumptions

Task	**4b - Commission study for decarbonisation of heat : Decentralised systems (Commercial)**
Outcome	Identification of a pathway for decarbonising decentralised heating systems, moving away from gas fired boilers to low carbon heat sources.
Responsible officer	Corporate Property Group Director
Description	Fossil fuel carbon contribution is a significant part of The Corporation's carbon footprint. This will remain static and become a larger proportion of total emissions as decarbonisation of the grid progresses. Therefore, decarbonisation of heat feasibility studies are required to identify alternative low carbon heat sources, highlight potential costs and savings and enable specification to support prioritisation and procurement mobilisation. For this Task, the feasibility study should review Operational Property Portfolio assets (commercial) to identify the opportunities to decarbonise existing gas fired boiler systems with low carbon alternatives when current installations reach their end of life. Based on the Arup Operational Report (August 2020) this is likely to comprise replacing gas fired boilers with either: • Low temperature heat pumps - where fabric and terminal devices are suitable for low flow/return temperatures or where fabric retrofits and terminal device retrofits have taken place. • High temperature heat pump - this may be a preferred option when a deep retrofit of the building is not possible and terminal devices cannot be altered for reasons such as cost and/or planning - likely for many older, listed buildings. Feasibility studies will need to consider key constraints including space requirements, planning (noise, visual impact), existing electrical infrastructure and existing lifecycle plans. Given that the large scale move towards electrification of heating systems, particularly via heat pumps, will require additional connections to the distribution network, the impact of this will need to be assessed to determine if there is available capacity or if local upgrades will be necessary. Once projects have been identified, early engagement with the District Network Operator (DNO) will confirm whether the proposed location has adequate capacity to meet the new demand or whether upgrades and reinforcement is required to increase capacity for existing transformers, distribution lines and cables, etc. As costs for any grid network investments will vary depending on the local situation,

work will be required to ascertain costs (where required) and the impact on project viability and timescales.

Smart grid feasibility

As the UK increases the amount of low-carbon but intermittent renewable generation and the electrification of heat and transport, smart grid technologies including battery storage and automated demand response can to help balance supply and demand across the energy system. Furthermore, coupling this with time of use tariffs (current example in the Domestic sector includes the Octopus Agile tariff) means that there may be financial savings by using electricity at the cheaper times of day, and not during hours of peak demand.

This Task will include identification of one commercial asset to review the viability of Smart Grid solutions to explore how it can support the shaving of peak demand and provide stability to the grid. This will be linked to a site with known local grid constraints as identified in activities above.

Timescales

Year 1-2 – Completion of feasibility study for decarbonisation of heat.

For further breakdown see Gantt Chart (Project Schedule).

Key dependencies

Informed by Task 1

Costs (2018 prices, excl. VAT)

	Year					
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
Project specific consultancy	*£50*	*£50*	-	-	-	-
Staff resource (outsourced)	-	-	-	-	-	-
Resource	**£50**	**£50**	**-**	**-**	**-**	**-**
Capital	-	-	-	-	-	-
TOTAL	**£50**	**£50**	**-**	**-**	**-**	**-**

Benefits

Improved air quality where gas boilers are avoided or removed.

Removal of fossil fuels from heat systems.

Enabling action for savings realised in Task 7.

Early identification of additional project costs and risks.

Understanding and positioning for innovative and emerging technologies.

Assumptions

- To be informed by Task 1, Year 1 outputs
- Site monitoring and targeting (Task 3) will be sufficient to allow analysis for Smart Grid project.

Task	**4c - Commission study for decarbonisation of heat : Housing**
Outcome	Identification of a pathway for decarbonising housing communal heating systems, moving away from gas fired boiler to low carbon heat sources.
Responsible officer	Corporate Property Group Director
Description	Fossil fuel carbon contribution is a significant part of The Corporation's carbon footprint. This will remain static and become a larger proportion of total emissions as decarbonisation of the grid progresses. Therefore, decarbonisation of heat feasibility studies are required to identify alternative low carbon heat sources, highlight potential costs and savings and enable specification to support prioritisation and procurement mobilisation. For this Task, the feasibility study should review Housing assets to identify the opportunities to decarbonise existing heating systems with low carbon alternatives when current installations reach their end of life. It is expected that this will include identifying whether existing decentralised systems are suitable for connection to heat networks (see 4a) or can be swapped with low carbon alternatives. Feasibility studies will need to consider key constraints including space requirements, planning (noise, visual impact), existing electrical infrastructure and existing lifecycle plans as well as tenant engagement.

Given that the largescale move towards electrification of heating systems, particularly via heat pumps, will require additional connections to the distribution network. The impact of this will need to be assessed to determine if there is available capacity or if local upgrades will be necessary.

Once projects have been identified, early engagement with the District Network Operator (DNO) will confirm whether the proposed location has adequate capacity to meet the new demand or whether upgrades and reinforcement is required to increase capacity for existing transformers, distribution lines and cables etc. As costs for any grid network investments will vary depending on the local situation, work will be required to ascertain costs (where required) and the impact on project viability and timescales.

It is recognised that a sperate piece of work is looking at the major refurbishment of the Barbican Residential Estate (electrically heated). Therefore, this Task may not look at this property to avoid duplication. This will be ascertained early in the Task mobilisation to avoid unnecessary delays to this study commencing.

Whilst this plan focuses on Scope 1 and 2 emissions (non-tenant emissions), reducing energy in housing may also lead to additional benefits for tenants e.g. through reduced heating bills where communal systems exist. Furthermore, where opportunities exist to align with external funding opportunities which may cover tenant areas, this will be considered under this task.

Timescales

Year 1 – Completion of feasibility study.

For further breakdown see Gantt Chart (Project Schedule).

Key dependencies

Costs (2018 prices, excl. VAT)

	Year					
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
Project specific consultancy	*£50*	*£50*	-	-	-	-
Staff resource (outsourced)	-	-	-	-	-	-
Resource	**£50**	**£50**	**-**	**-**	**-**	**-**
Capital	-	-	-	-	-	-
TOTAL	**£50**	**£50**	**-**	**-**	**-**	**-**

Benefits

Improved air quality where gas boilers are avoided or removed.

Removal of fossil fuels from heat systems.

Enabling action for savings realised in Task 7.

Assumptions

- In the majority of cases tenants are responsible for their energy bills. Therefore, work to decarbonise heat in Housing may not result in cost savings directly realisable to The Corporation unless the systems are already in the control of the landlord and/or paid through a service charge e.g. electric underfloor heating at the Barbican Estate

Task	**5 - Commission study for deep fabric retrofit pilot - Operational Property Group commercial asset**
Outcome	Pilot study for deep fabric retrofit, providing insight into capital costs, identification of its role in achieving net zero carbon and opportunities for lessons learnt.
Responsible officer	Corporate Property Group Director
Description	Initial progress toward decarbonising Operational Property Portfolio assets will likely be achieved through improvements in monitoring (Task 3), controls (Task 2) and replacement of equipment (Task 1). However, to achieve net zero carbon, deeper fabric retrofits are likely to be required to enable the implementation of low temperature heat systems. This will involve additional measures from relatively low-cost, “quick-win” interventions such as draught proofing, loft insulation and cavity wall insulation to the more difficult double/triple or secondary glazing, floor insulation (underfloor or solid floor) and solid wall insulation.

	An initial study at a pilot site will be completed to identify interventions, associated capital costs and savings, related specification(s) and business case for broader roll-out. This will include a review of industry sources to build on existing work and identification potential funding support (e.g. Retrofit Accelerator – Homes).
Timescales	**Year 1** – Identification of existing/planned projects to complete study on. **Year 2 –** Take learnings from Year 1 to complete deep retrofit project. For further breakdown see Gantt Chart (Project Schedule). Key dependencies None.

Costs (2018 prices, excl. VAT)		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	*£75*	*£100*	-	-	-	-
	Staff resource (outsourced)	-	-	-	-	-	-
	Resource	**£75**	**£100**	**-**	**-**	**-**	**-**
	Capital	-	-	-	-	-	-
	TOTAL	**£75**	**£100**	**-**	**-**	**-**	**-**

Benefits							
	Enabling action for roll out of deep retrofit and spending of Capital as per Task 8. Insight into the capital and carbon costs/savings of a deep retrofit project. Benefits expected to exceed costs from Year 5.						
		21/22	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Annual energy cost savings - £k	-	-	£50	£100	£150	£200
Assumptions	• Study to be completed in Year 1 and 2 to unlock savings from Year 3. • Capital budget for deep retrofit works to be identified and approved following the study.						

Task	**6 – Appoint additional energy specialist resources**
Outcome	Recruitment of 3 FTE Energy Project Managers
Responsible officer	Corporate Property Group Director
Description	Recruitment of additional energy specialists will form the core of the extended team to lead Tasks identified above, co-ordinate consultancy activity and support departments in the delivery of carbon reduction interventions See: APPENDIX 4: Job Role – Energy Project Managers.
Timescales	**Year 1** – Employment of 3 x FTE specialist technical resources. Key dependencies None.

Costs (2018 prices, excl. VAT)		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-
	Staff resource (outsourced)	*£220*	*£330*	*£330*	*£330*	*£330*	*£330*
	Resource	**£220**	**£330**	**£330**	**£330**	**£330**	**£330**
	Capital	-	-	-	-	-	-

	TOTAL	**£220**	**£330**	**£330**	**£330**	**£330**	**£330**
Benefits	Enabling action for identifying and managing future capital and operational projects. Enabling action for savings realised in Task 7.						
Assumptions	• Assumed average cost of £110k/annum/FTE for this resource level. • Resources to start four months into Year 1, hence costs of £220k.						

Task	**7 – Capital programme roll-out (including flexible project management resource)**						
Outcome	Delivery of tangible energy and carbon reduction interventions informed by previous workstreams. Project gateway dashboard monitoring progress						
Responsible officer	Corporate Property Group Director						
Description	Following on from delivery of the Tasks identified above, this Task will involve the deployment of carbon reduction interventions across the Operational Property Portfolio. This includes provision for a Project Management (PM) resource at 10% of capital cost, resourced flexibly from a third party. Part of the PM role will be to produce and manage a Project Gateway Dashboard, displaying key performance indicators pertaining to specific Tasks and projects as well as overall performance, milestone and resource tracking and risks and issues. Following the identification of interventions and completion of feasibility assessments, the opportunity to accelerate delivery and bring capital spend will be considered to maximise carbon and costs savings.						
Timescales	**Year 1** – Employment of PM resource and implementation of projects identified in Tasks 1-7. **Year 2-6** – Rolling capital programme of interventions based on Tasks 1-7. <u>Key dependencies</u> Findings and outputs from Tasks 1-7.						
Costs (2018 prices, excl. VAT)		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-
	Staff resource (outsourced)	£75	£220	£250	£300	*£300*	*£300*
	Resource	**£75**	**£220**	**£250**	**£300**	**£300**	**£300**
	Capital	£750	£2,200	£2,500	£3,000	£3,000	£3,000
	TOTAL	**£825**	**£2,420**	**£2,750**	**£3,300**	**£3,300**	**£3,300**
Benefits	Carbon savings Cost savings Visibility on progress to net zero by 2027.						
		21/22	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Energy cost savings - £million	£0.02	£0.13	£0.56	£1.3	£2.4	£3.8
Assumptions	• Costs run up to Year 6 only. • £750k in Year 1 (Capital) is likely to be spent at the end of the year following identification of quick wins during Task 1. • PM resource at 10% of total capital cost • Total costs up to Year 6 are £21 million as taken from the Arup Model. This is CAPEX only. The Energy Team have capitalised some of the £21 million for non-capital activities (e.g. resource time for energy audits, BMS specialist etc.). This is partly due to the budget for resource not being approved. Any budget remaining after the identified resource tasks has been assigned to the capital programme roll out Capital figure. • All costs and savings exclude VAT and are in 2018 prices.						

APPENDIX 2 - Job role – Building Management System (BMS) Specialist

Job purpose

The role of the BMS Specialist is to ensure the effective operation of The Corporation's Building Management Systems, providing expert knowledge, guidance and support in its future development and to ensure the safe and timely completion of planned and reactive maintenance. This includes the deployment of cost-effective energy management initiatives to drive environmental improvement, energy reduction and operational excellence.

The post holder will work closely with the Energy Team, engineers and building managers to deliver continued support of building services, ensuring minimum down time, increased efficiency and end user satisfaction.

Main duties and responsibilities

- Provide expert knowledge, guidance and leadership in the development of the BMS.
- Lead and direct internal staff and contractors in the planned, preventative and reactive maintenance of the BMS and any system or software upgrades.
- Complete fault diagnosis and rectification on the whole range of BMS equipment.
- Identify potential systems software and hardware issues that may lead to unnecessary failure of services, thereby minimising risk, disruption and inconvenience to building users.
- Keep abreast of technical developments particularly associated with new technology in building engineering services and building management and in all aspects of the mechanical and electrical disciplines and to contribute to departmental engineering policies.
- Train Maintenance Teams, Heating Engineers, trades and other staff in the operation and use of the BMS and metering systems.
- Respond to and resolve Helpdesk work requests.
- Escalate issues found during maintenance requiring capital investment, e.g. replacement items following repeat maintenance visits.
- Coordinate, track and manage the optimisation and repairs of systems controlled by the BMS.
- Identify, evaluate and support the deployment of energy management initiatives.

Qualifications

- Have completed a recognised engineering building services apprenticeship/training programme in an HVAC or Electrical discipline.
- Qualified to at least Level 3 NVQ Diploma in Building Services related discipline.
- Member of CIBSE or equivalent (desirable)

Experience

- Demonstrable post training experience in the maintenance, repair, installation and fitting of BMS/ automated controls.
- Experience of safely working on a variety of installations, appliances and equipment.
- Suitable/relevant IT skills in Building Management Systems
- Practical knowledge of building related Health and Safety legislation applicable to electrical services (i.e. COSHH, PUWER Electricity at Work Regulations).
- Practical experience of identifying and implementing energy conservation/carbon reduction interventions.

APPENDIX 3 – Job Role - Monitoring and Targeting (M&T) Specialist

Job purpose

The role of the Monitoring and Targeting (M&T) Specialist is to enhance and expand the current capabilities and effectiveness of the monitoring and targeting system. This includes monitoring utility use and associated costs, development of an energy database with associated dashboard(s) and supporting stakeholder communications thereby reducing The Corporation's environmental impact.

Main duties and responsibilities

- Performance targets and reporting:
  - Undertake regular reporting against performance targets with issues flagged to the Energy Team.
  - Develop internal reporting processes and ensure that data is available to engage stakeholders in energy conservation.
  - Provide regular reports of use / cost against forecast with appropriate graphs / commentary.
- Benchmarking
  - Work to ensure Display Energy Certificates (DEC's) are up to date and use data that reflects actual energy use within a building.
  - Undertake benchmarking of buildings against internal and industry standards with data normalised to cost per m^2.
- Metering and exceptions:
  - Ensure that a meter list is maintained, and that all meters are functioning.
  - Identify anomalies in energy use from energy profiles and log issues.
- Projects
  - Produce reports on viability and progress of energy saving measures.
  - Maintain an up to date list of projects affecting energy use and flag any issues to the Energy Team.
  - Manage small environmental projects (such as metering programmes).

Qualifications

- Evidence of strong numerical and statistical analysis skills.
- A degree level qualification in a relevant discipline and evidence of continuing professional development, or experience and evidence of professional development where no degree is held.
- Certified Measurement & Verification Professional (CMVP) (desirable).

Experience

- Experience of managing an Energy Bureau or other energy monitoring and targeting software for the purposes of bill validation and energy monitoring / targeting.
- Experience of energy forecasting, monitoring and exception reporting combined with proactive analytical / investigation skills.
- Understanding / experience of ISO 50001 Energy Management Systems, CIBSE TM39 Building Energy Metering and a working knowledge of Building Management Systems (BMS).
- Understanding of Measurement and Verification techniques, particularly The International Performance Measurement and Verification Protocol (IPMVP).

APPENDIX 4: Job Role – Energy Project Managers

Job purpose

The role of the Energy Project Managers will be to lead on, and support, activities to deliver carbon reduction across The Corporation's Operational Property Portfolio. They will provide technical expertise to inform work programmes, co-ordinate consultancy activity, procure and deliver minor works and work closely with management and officers within The Corporation's directorates, providing specialist expertise in the operational application of energy/carbon reduction interventions.

Main duties and responsibilities

- Support delivery of the Climate Action Strategy.
- Initiate, develop, manage and support design and delivery of projects which enable decarbonisation of The Corporation's energy and buildings.
- Provide climate change and sustainability technical support on buildings and energy projects to other officers across The Corporation's directorates.
- Project manage the development and implementation of specific project work packages, adopting project management practices and engaging with internal and external partners and stakeholders as required.
- Set up and maintain systems for controlling and updating project and programme documentation, ensuring information is up to date and can be readily retrieved.
- Ensure project and programme management information is produced in a clear, concise and timely fashion for internal and external bodies.
- Monitor and control expenditure, employing financial systems to monitor spend for projects leading on.
- Work with the Energy Team, partners and internal stakeholders to share data and insight that enables others to act on the Climate Action Strategy.
- Build relationships, awareness and support for energy and buildings decarbonisation initiatives, projects, and campaigns within The Corporation and with key external stakeholders.

Qualifications

- A degree level qualification in a relevant discipline and evidence of continuing professional development, or experience and evidence of professional development where no degree is held.
- Member of appropriate professional body e.g. IMEA, Energy Institute (desirable).

Experience

- Experience of producing and implementing technical solutions to decarbonise buildings, improve energy efficiency and install renewables.
- Experience of working within a project team to implement defined projects to agreed outputs and agreed deadlines.
- Experience of using project and programme management techniques.
- Experience of managing external consultant and contractor teams to deliver projects.
- Good interpersonal skills with experience of working with a wide range of organisations and stakeholders.

APPENDIX 5 – Operational Property Portfolio – 2018 baseline

Building ID:	Floor Area / m^2	Property Use
Guildhall Complex	64,352	Non-residential Institutions – Others
Barbican Arts Centre	70,292	Assembly and Leisure
London Central Market (Smithfield)	75,035	Wholesale Markets
Central Criminal Court	38,553	Non-residential Institutions – Others
Streetlighting	-	Streetlighting
City of London Freemen's School	24,410	Non-residential Institutions – Education
Avondale Square Estate	36,497	Residential Institutions - Gas Heating
Middlesex Street Housing Estate	23,678	Residential Institutions - Gas Heating
Billingsgate Market	14,399	Wholesale Markets
Golden Lane Leisure Centre & Crescent House	2,689	Assembly and Leisure
York Way Housing Estate	17,166	Residential Institutions - Gas Heating
Bishopsgate Police Station	10,864	Non-residential Institutions – Others
City of London School	19,745	Non-residential Institutions – Education
GSMD - Milton Court	18,106	Non-residential Institutions – Education
BEO Shakespeare Tower	17,762	Residential Institutions - Electric Heating
BEO Lauderdale Tower	18,415	Residential Institutions - Electric Heating
BEO Ben Johnson	21,728	Residential Institutions - Electric Heating
City of London School For Girls	10,653	Non-residential Institutions – Education
BEO Cromwell Tower	17,504	Residential Institutions - Electric Heating
City of London Crematorium	12,884	Non-residential Institutions – Others
BEO Andrews House	15,377	Residential Institutions - Electric Heating
BEO Defoe House	15,800	Residential Institutions - Electric Heating
GSMD	10,796	Non-residential Institutions – Education
BEO Willoughby	14,134	Residential Institutions - Electric Heating
Tower Bridge	1,686	Assembly and Leisure
Mansion House	8,236	Assembly and Leisure
Wood Street Police Station - *sold and vacating June 2021*	11,075	Non-residential Institutions – Others
BEO Thomas More	13,198	Residential Institutions - Electric Heating
21 New Street - *short term leasehold*	8,282	Business
Walbrook Wharf Cleansing Depot	13,718	Non-residential Institutions – Others
New Spitalfields Market (Landlords)	36,217	Wholesale Markets
BEO Speed House	9,977	Residential Institutions - Electric Heating
BEO Seddon House	8,267	Residential Institutions - Electric Heating
London Metropolitan Archives	14,467	Assembly and Leisure
BEO Gilbert House Switchroom	9,187	Residential Institutions - Electric Heating
BEO John Trundle Court	6,477	Residential Institutions - Electric Heating
Open Spaces Epping Forest	17,207	Open Spaces
Open Spaces Hampstead Heath Leisure	2,051	Open Spaces
BEO Mountjoy House	7,054	Residential Institutions - Electric Heating
GSMD - Sundial Court	4,724	Assembly and Leisure
BEO Breton House	6,109	Residential Institutions - Electric Heating
BEO Bunyan Court	6,050	Residential Institutions - Electric Heating
Snowhill Police Station - *sold in 2020*	3,731	Non-residential Institutions – Others

Building ID:	Floor Area / m^2	Property Use
Animal Reception Centre	1,487	Business
Tower Hill Coach & Car Park	7,978	Car Park
Sydenham Hill Estate	11,702	Residential Institutions - Gas Heating
Sir John Cass Foundation School	3,077	Non-residential Institutions – Education
BEO Wallside & Postern	1,849	Residential Institutions - Electric Heating
Barbican Estate - Frobisher	293	Residential Institutions - Gas Heating
BEO Bryer Court	2,856	Residential Institutions - Electric Heating
Upper Thames Street Tunnel Lighting	n/a	Streetlighting
BEO Brandon Mews	2,386	Residential Institutions - Electric Heating
Minories Car Park	11,668	Car Park
Open Spaces Golders Hill & Extension	2,660	Open Spaces
London Wall Car Park	9,322	Car Park
Open Spaces East Heath & Kenwood	3,882	Open Spaces
Horace Jones House	9,148	Residential Institutions - Electric Heating
Mayor's Court	1,600	Non-residential Institutions – Others
BEO Lauderdale Place (Barbican Estate Office)	1,251	Business

APPENDIX 6 – Calculation for realisable savings

Energy type	Spend Type	Total energy spend (Nov 19-Oct 20)
Electricity (NHH + HH)	CPG spend (i.e. Guildhall, Police, Barbican)	£3,730,682
	Non-CPG spend (i.e. CCC, Schools, Markets, Housing)	£8,721,094
Gas	CPG spend (i.e. Guildhall, Police, Barbican)	£387,881
	Non-CPG spend (i.e. CCC, Schools, Markets, Housing)	£800,702
CitiGen	CPG spend (i.e. Guildhall, Barbican)	£1,175,377
	Non-CPG spend (i.e. CCC, Schools, Markets, Housing)	£397,264
TOTAL	CPG spend (i.e. Guildhall, Police, Barbican)	£5,293,940
	Non-CPG spend (i.e. CCC, Schools, Markets, Housing)	£9,919,060
	Total	**£15,213,000**
% split	CPG spend (i.e. Guildhall, Police, Barbican)	**35%**
	Non-CPG spend (i.e. CCC, Schools, Markets, Housing)	**65%**
	Total	**100%**

APPENDIX 7 – Building Scoring Criteria

20210409_BuildingScoringCriteria.xlsx

City of London Corporation

Climate Action Strategy

NZ3 – Capital Projects (Design Standards)

Project Plan

Version 1.1
Date: 15.04.2021

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Contents

Project Introduction

In support of the Climate Action Strategy (CAS), commencing implementation from April 2021, this Project Plan details how action will be accelerated to ensure all future capital projects (refurbishments and new build) meet the highest commercially viable standards for sustainable and low carbon design, incorporating whole life cycle cost and carbon analysis and modern methods of construction, whilst accommodating for the unique and historic characteristics of the City of London assets and heritage and future resilience needs.

This will support achievement of the following net zero vision and goals:

NET ZERO VISION:

- The City Corporation is responsible for some of Central London's most historic, landmark buildings. The net zero future will prepare them for the next one hundred years, reducing emissions and costs, while improving occupant comfort and productivity.
- A future where all construction materials have a second life and innovation and best practices drive the adoption of low-impact materials and design efficiencies. Where all organisations are competing to rent the lowest carbon and circular buildings and where empty existing buildings are immediately re-purposed.

NET ZERO GOALS:

- City of London Corporation scope 1 and 2 emissions are net zero by 2027 and scope 3 emissions are net zero by 2040.
- Climate resilience in our buildings.

Introduction

Modelling completed by Arup in August 2020 identified the 2018 baseline Scope 1 and 2 emissions (GHG Protocol operational control) as 36.4 $ktCO_2e$. In order to achieve net zero by 2027, emissions need to reduce to at least 16.0 $ktCO_2e$ (a 55% reduction), at which point residual emissions will be sequestered by planned natural capital projects.

Existing planned projects, building stock changes and decarbonisation of the UK grid presented in the Arup model predicted that Scope 1 and 2 emissions will reach 14.7 $ktCO_2e$ by the end of financial year 2026/27.

A fundamental assumption of this is that planned lifecycle works and modelled stock changes support this trajectory. Therefore, the implementation of robust design standards across both the Corporate and Investment Property Groups will be an essential mechanism to ensure that any works support the achievement of CAS targets, mitigate any risks of underperformance and embed net zero behaviours when delivering new buildings, planned refurbishments and/or replacing plant and systems at end of life. This is particularly important for both the markets consolidation programme, which is planned in 2026 and assumes a new build energy reduction of 50% from existing levels, and the Fleet Street estate programme which is planned in 2025 and is expected to perform as per LETI Guidance for Commercial offices.

Design standards that take into account net zero aspirations will also ensure that any works completed in the short term will actively support the achievement of net zero by 2040, mitigating the need to go back to assets at a later date to complete additional retrofit activities. This is timely as both the new Part L of the Building Regulations (expected at the end of 2021) and the new London Plan will require review and update of design standards in the short term. In addition, new net zero standards will support the integration of whole life cycle carbon and cost analysis, low-impact materials and circular economy principles in to the day-to-day activities of The Corporation.

Furthermore, the implementation of this Action Area has strong links with the CAS resilience workstreams helping to anticipate, prepare for and respond to hazardous events, trends and disturbances related to climate change. Robust design standards will provide the opportunity to embed resilience measures into upgrade plans, again mitigating the need to go back to assets at a later date to complete additional retrofit activities.

It is important to note that the standards alone are no guarantee of quality and their implementation. Therefore, they must be underpinned by robust long-term management helping to safeguard that the best design intentions are delivered on the ground.

Against this background, this Project Plan identifies Tasks that have been developed to address the following three aims:

- **Deliverable** – tasks can be completed within the identified timescales;
- **Affordable –** projects can be accommodated within The Corporation's current and future budget constraints**;** and
- **Impactful** – actions make expected carbon reductions towards both the 2027 and 2040 targets.

To achieve these aims the following high-level actions will be implemented, and these are split into individual Tasks in Table 1.

Year 1-2

- Onboarding of resources to deliver Tasks;
- Whole life cycle emissions footprint and cost analysis;
- Development of Net Zero Technology Standards;
- Development of Net Zero Design Standards;
- Development of soft landings/ post occupancy approach;
- Coordinate with Buildings Resilience Action Area.

Year 2+

- Circular construction / low-embodied emissions pathfinder project;
- Ongoing update of design standards;
- Ongoing embedding, management and training.

How to use this document

This document outlines the costs, benefits and overall approach to reducing emissions through new net zero and resilience design standards to support delivery of the Climate Action Strategy. It is to be used as a baseline against which to monitor progress. It will be kept as a live document and will be updated periodically subject to the Change Control Procedure.

Project Objectives

The Project Objectives for this Project Plan are:

- Develop new net zero technology and design standards;
- Embed use of whole life cycle carbon and cost analysis;
- Embed consideration of low-impact materials and circular economy principles;
- Evaluate commercial viability on a live project.

The table below details the key Tasks that will be completed to achieve the Project Aims. Further detail on each Task can be found in Appendix 1. The focus of the 2021/22 plan will be to mobilise and develop new standards in the short term that, when successfully embedded into ways of working, will support achievement of longer term targets. This will be measured as per the KPIs as identified in Table 6.

It is vital that these Tasks interface with outcomes from the resilience and supplementary planning guidance Action Areas. This will make sure synergies to improve energy efficiency and reduce carbon are consistent with the outcomes from these CAS activities. The role of the Sustainability Lead (detailed below) will be to co-ordinate across Action Areas to facilitate this.

Table 1 - Tasks and project objectives

Theme	Ref.	Task	Rationale	Outcome	Key Actions in 21/22	Team Lead	Lead support
Whole life analysis	1	Whole life cycle emissions footprint and cost analysis	• Address the (incorrect) perception that current standards are sufficient to achieve net zero. • Identify gaps where action should be targeted. • Enabling task for input into future workstream.	Assessment of how current Coporation standards support net zero. Assessment of cost and carbon impact of potential interventions on capital projects. Toolkit for training purposes.	• Procurement of consultancy support. • Review and assessment of existing standards. • Gap analysis for achieving net zero to inform proposed guidelines. • Life cycle emissions and cost analysis. • Produce toolkit for training.	Property Project Director	Sustainable Design Expertise
Net Zero Technology Standards	2a	Development of Net Zero Technology Standards	• Planned refurbishments and/or replacing plant and systems at end of life need to positively contribute to net zero carbon without the need for retrofit at a later date. • Whole life cycle carbon emissions and cost need to be incorporated into corporate policies and procedures.	Suite of technical specifications for main technologies during refurbishment. Integration of standards into minor works specifications and processes.	• Procurement of consultancy support. • Generate suite of technical specifications for main technology areas e.g. lighting, heating systems, air conditioning and refrigerant gas (moving away from like-for-like replacements). • Address any gaps as identified by Task 1.	Property Project Director	Sustainable Design Expertise

Theme	Ref.	Task	Rationale	Outcome	Key Actions in 21/22	Team Lead	Lead support
Net Zero Design Standards	2b	Development of Net Zero Design Standards for new developments and major refurbishments.	• New builds need to be net zero ready. • Planned stock changes need to perform as per Arup model to contribute to net zero targets. • Whole life cycle carbon emissions and cost need to be incorporated into corporate policies and procedures.	Suite of design standards for new developments including low-impact materials and design efficiencies	• Procurement of consultancy support. • Assess the cost and carbon impact of potential interventions in new developments. • Assess and quantify low-impact materials specifications. • Generate a suite of standards to which new developments can be designed, constructed and operated to. This includes whole life cycle emissions, sustainable and circular economy principles and low-impact material specifications. • Provision of a toolkit for training purposes.	Property Project Director	Sustainable Design Expertise
Performance of new design standards	2c	Assess performance of new design standards	• Assure any new capital works design standards, material specifications and operational implications work in the current commercial marketplace. • Assurance that standards are up to date and fit for purpose.	Assurance that design standards are performing as expected.	• Assess performance of new design standards to ensure they are performing as expected on live projects. • Checking of compliance with standards and enforcing them where needed.	Property Project Director	Sustainable Design Expertise
Soft landings/ post occupancy evaluation	3	Develop approach to soft landings and post occupancy review	• Designs need to operate as intended.	Approach to soft landings and post occupancy review developed.	• *Planned for 22/23 as requires input from other Tasks – see Project Schedule. If the opportunity to incorporate this in to a live project arises beforehand, the options to bring this Task forward will be explored*.	Operations Group Director	Sustainable Design Expertise

Theme	Ref.	Task	Rationale	Outcome	Key Actions in 21/22	Team Lead	Lead support
Pathfinder project	4	Circular construction / low-embodied emissions pathfinder project	• Testing the outputs of the previous Tasks. • Gathering lessons learnt. • Feedback loop to inform future design standards. • Tackling the refurbishment of a "hard to treat" building.	Refurbishment of a historic building utilising best practise, low carbon interventions.	• *Planned for commencement in year 22/23 as dependent on other workstreams – see Project Schedule*	Property Project Director	Sustainable Design Expertise
Staff resource	5	Appoint specialist resource	• Activities identified above will need to be managed. • Design standards will need ongoing management, updating and embedding. • Design standards will need to link with resilience workstreams.	Resourcing of Sustainable Design Specialist.	• Resourcing of Sustainable Design Specialist.	Property Project Director	Sustainable Design Expertise

Team structure

The Teams involved in the delivery of this Project Plan are shown in Figure 1. How this integrates within the wider Buildings Centre of Excellence is explained in more detail in the Delivery Approach Section.

How additional resources are managed within the City Surveyors Department is shown in

Figure 2.

The colour coding is as follows:

- Yellow boxes indicate areas of current activity that support the CAS;
- Green boxes show those additional activities required by this Plan that will be unlocked through additional resources;
- The grey boxes indicate additional staff resources either through outsourced team members (e.g. secondments) or third party flexible resource to be employed according to delivery need. As indicated by the legend this is not necessarily permanent employees.

This structure identifies the role of a Sustainable Design Specialist. Working across departments, the role will initially be to lead and manage development of new design standards. This will then switch to focus on and championing sustainable design in new builds and embedding standards within the processes of the Operational Group. To successfully achieve these outcomes, it is important that there is organisational reach back to a wider pool of specialisms e.g. architecture, BREEAM, circular economy, embodied carbon, soft landings, MEP, structural, sustainable materials, etc. to encompass the breadth of expertise required for this action area. Therefore, the procurement approach for this role should reflect that this role may not be a specific individual but could be an organisation (or combination of the two).

The Team Structure has been developed to focus on the Year 1 and 2 priorities of completing whole life cycle emissions footprint and cost analysis, developing new design standards and development of an approach to soft landings/ post occupancy evaluation. This will likely change as the programme progresses depending on service outcomes. For example, the role of the Sustainable Design Specialist will change from the development of new standards to their management and embedding over time. To make sure that the Team Structure remains fit for purpose, the Senior Responsible Officers and Buildings Chief Officer Group will review and manage resource requirements instilling a flexible approach that allows the market to innovate and deliver The Corporation's requirements efficiently.

Figure 1 – Delivery Teams - NZ3 – Capital Projects (Design Standards)

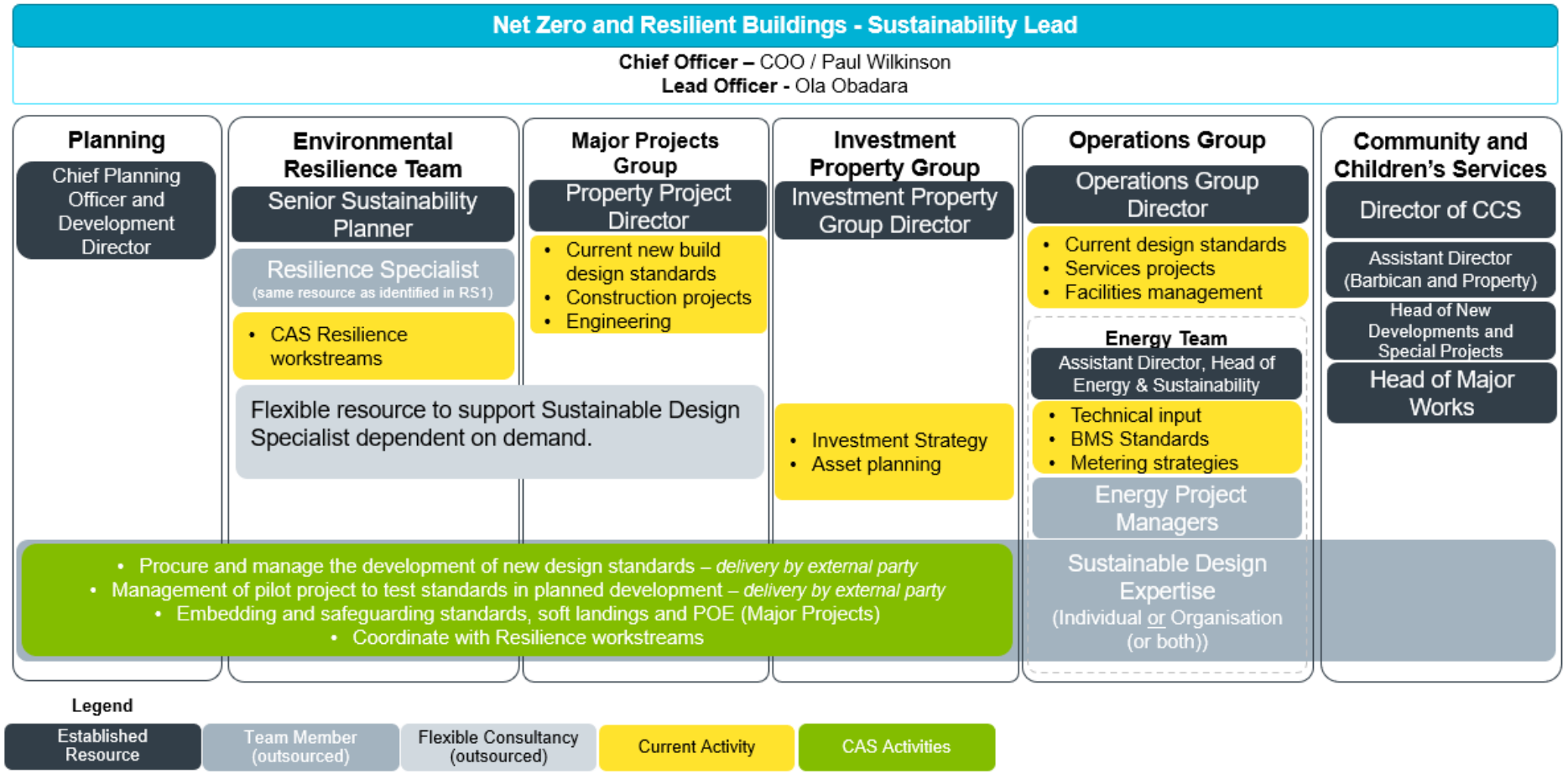
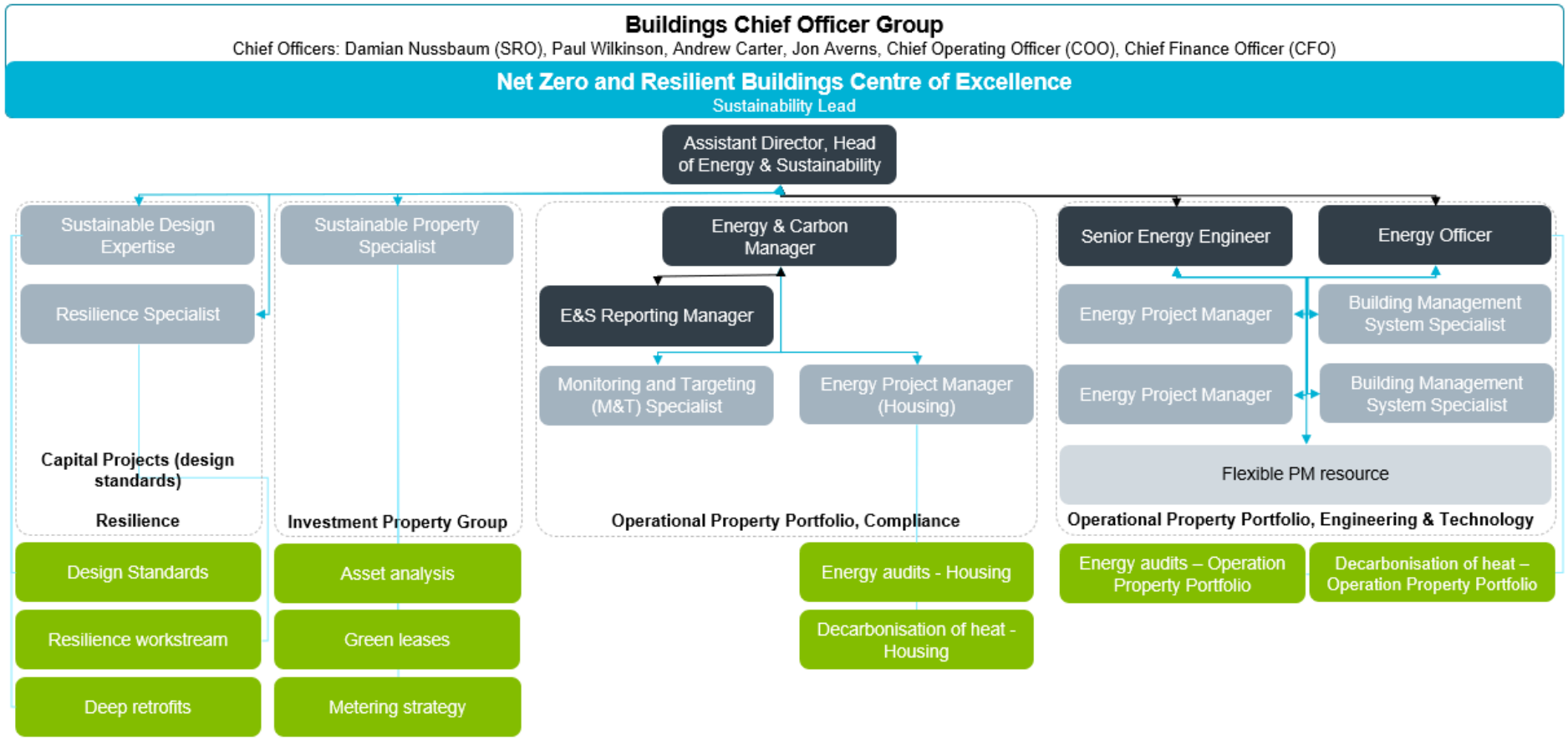


Figure 2 - Team structure - Capital Projects (Design Standards)



Project Schedule & Gantt Chart

The attached Project Schedule has been developed to accelerate and optimised delivery from the 1st April 2021.

Delivery Plan (Gantt chart)

Task Number	Task Detail	Responsible	Completion (%)	FY 21/22				FY 22/23				FY 23/24				FY 24/25			
				Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar
Net Zero and Resilient Buildings Centre of Excellence																			
CoE-1	Establishment of Net Zero and Resilient Buildings Centre of Excellence	Director of Innovation & Growth, City Surveyor	0%																
CoE-2	Establish energy targets and intensity metrics where data gaps	Director of Innovation & Growth, City Surveyor	0%																
NZ3 – Capital Projects (Design Standards)																			
DS-1	Review of existing Design Standards to assess how they address net zero objectives and identify any gaps	Property Project Director	0%																
DS-2a	Development of Net Zero Technology Standards	Property Project Director	0%																
DS-2b	Development of Net Zero Design Standards for new developments and major refurbishments.	Property Project Director	0%																
DS-2c	Assess performance of new design standards	Property Project Director	0%																
DS-3	Develop approach to soft landings and post occupancy review	Operations Group Director	0%																
DS-4	Circular construction / low-embodied emissions pathfinder project	Property Project Director	0%																
DS-5	Appoint specialist resource	Property Project Director	0%																

Project Business Case

Project costs

Total project costs of £1.4 million have been identified in the Project Initiation Document by the Climate Action Strategy Team. The costs for individual tasks have been ascertained by the Energy Team. This budget is not index linked to allow for inflation. These costs include resource time which is to be capitalised and therefore come out of this budget. In addition, inflation has not been applied. It is assumed that funding will be available to support workstreams to be mobilised in line with the Project Schedule.

As Table 2 demonstrates, project costs are made up of capitalised resource time with an initial period of focused project consultancy in Year 1 to establish the new standards. This will be supported by additional resource, to manage, embed and safeguard the standards, ensuring design intentions are delivered on the ground (see Team Structure above.

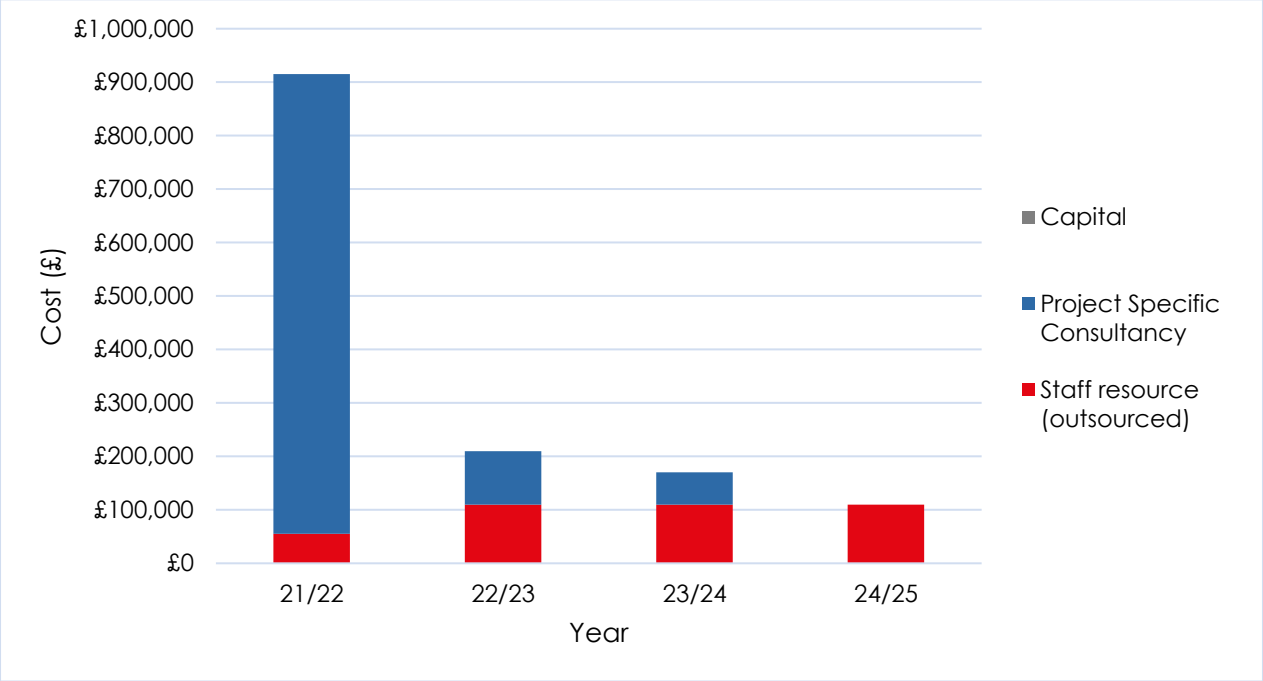
Budget has been identified in 2023/24 to allow for the update of the design standards in response to new industry guidance where required and to incorporate feedback for assessing the standards in operation, including the pathfinder project.

Existing Project Initiation Document assumes £400,000 for sustainable design standards (new build and refurb), and £300,000 for low-impact material specifications. This has been spread evenly across both Tasks 2a and 2b.

Table 2 – Costs by Task

		Costs per year (£k/annum)			
Tasks	Category	21/22	22/23	23/24	24/25
1 - Whole life cycle emissions footprint and cost analysis	*Project specific consultancy*	*£160*	-	-	-
2a - Development of Net Zero Technology Standards	*Project specific consultancy*	*£350*	-	*£30*	-
2b - Development of Net Zero Design Standards for new developments and major refurbishments	*Project specific consultancy*	*£350*	-	*£30*	-
2c - Assess performance of new design standards	*Staff resource (outsourced)*	*Outsourced resource as identified in Task 5*			
3 - Develop approach to soft landings and post occupancy review	*Project specific consultancy*	-	*£100*	-	-
4 - Circular construction / low-embodied emissions pathfinder project	*Capital*	-	*Capital funding dependent*		
5 - Sustainable Design Specialist	*Staff resource (outsourced)*	*£55*	*£110*	*£110*	*£110*
Total	**Project specific consultancy**	**£860**	**£100**	**£60**	**-**
	Staff resource (outsourced)	**£55**	**£110**	**£110**	**£110**
	Capital	**-**	**-**	**-**	**-**
	Total	**£915**	**£210**	**£170**	**£110**

Figure 3 - Costs breakdown by Category[1]



[1] Project Specific Consultancy refers to a discrete pieces of outsourced consultancy work with a predetermined scope and defined start and end dates linked to appropriate Tasks as identified in Appendix 1.

Project Benefits

There are a number of quantitive benefits that will be achieved from this Project Plan. These will be measured and reported as per the KPIs in Table 6.

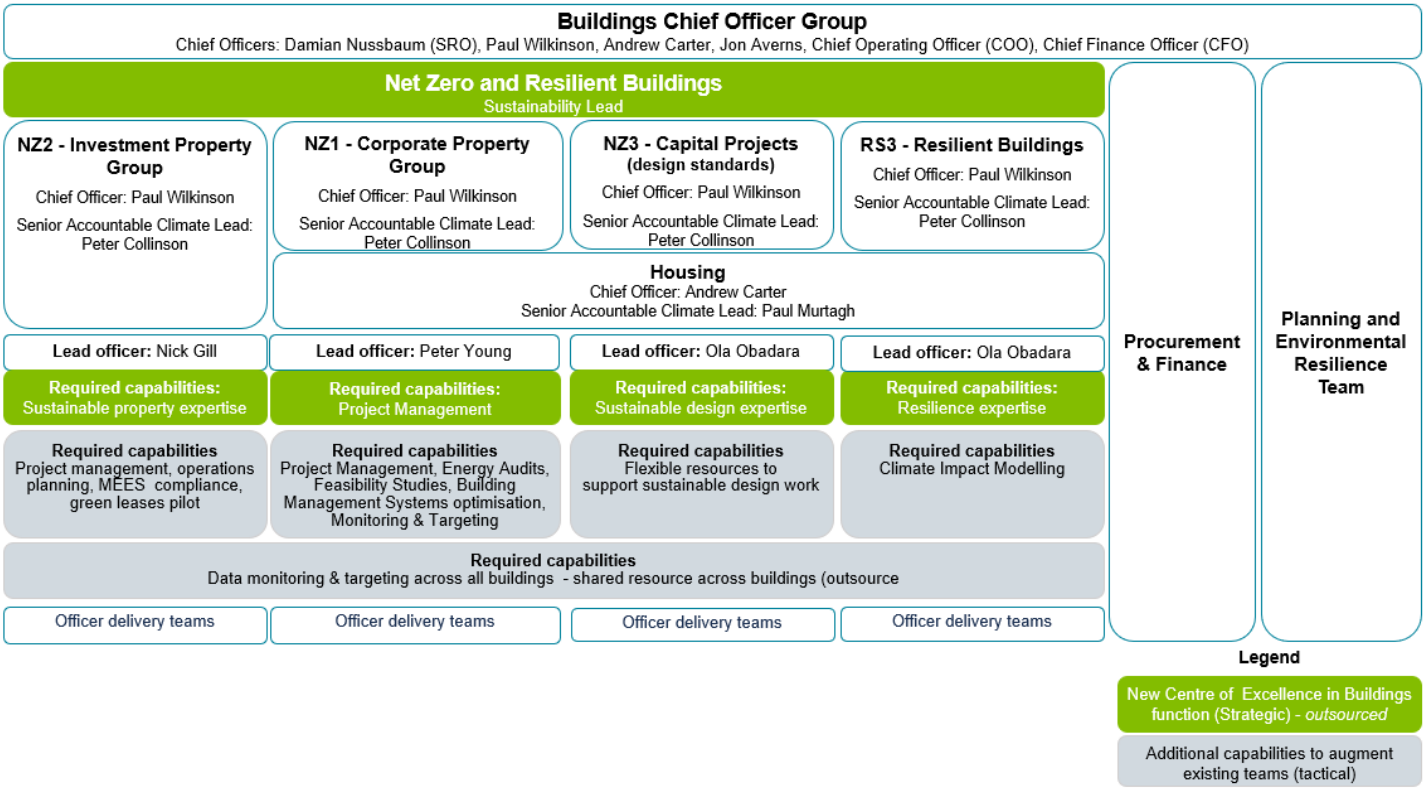
- Reduced operational energy consumption and associated carbon emissions and costs;
- Reduced levels of embodied carbon in materials;
- Increased uptake of low impact materials;
- Design out of waste;
- Recycling and reuse of products and materials;
- Improved occupant comfort;
- Improved resilience to climate events;
- Reducing cost of compliance with London Plan, emerging Part L and BREEAM (or other environmental assessment schemes) requirements;
- Greater co-ordination and collaboration between operational and capital projects teams of The Corporation, reducing the maintenance and management burden on FM teams.

Potential additional, non-quantifiable savings will also include:

- Improved commissioning and operational performance;
- Understanding and positioning for innovative and emerging technologies;
- Improved occupant comfort and internal environment;
- Future proofing of projects, avoiding the need to complete additional works at a later date;
- Support delivery of the RS1 – Resilient buildings to achieve a climate ready City Corporation avoiding disruption to services from climate risks and preparing the Square Mile to adapt to future climate projections.
- Support The Corporation's aspiration to sign up to the C40 Clean Construction declaration. This declaration acts as a commitment to reduce embodied carbon emissions by at least 50% for all new buildings and major retrofits by 2030.

Delivery Approach

Figure 4 - Net Zero and Resilience Buildings Centre of Excellence, Delivery Model



To drive and direct leadership, best practice, research, support and training to all areas of building decarbonisation and resilience work to deliver the CAS, a Net Zero and Resilient Buildings Centre of Excellence will be established. This will sit outside of the regular reporting structure to drive strategic level targets into mobilisation and delivery across departments. Through this approach it will provide a view across all Tasks and Project Plans to control and package up service requirements based on the outputs of feasibility studies etc. maximising value from the market based on clear desired outcomes and a programme level view.

Its role will include concentrating knowledge from across all activity areas to attain and sustain high performance and value, capture lessons learnt and provide a feedback loop for continuous improvement.

The benefits of this approach will be:

- Member-buy in and confidence;
- Limiting “single points of failure”;
- Development of a cross-discipline team;
- Share resources and learning across workstreams;
- Ability to flex staff resource to meet need;
- Ability to draw in a wide range of expertise and experience from the private sector.

Net Zero and Resilient Buildings Sustainability Lead

To manage and lead the Net Zero and Resilience Buildings Centre of Excellence, a Sustainability Lead will be resourced. This will allow The Corporation to utilise the third party expertise of someone with extensive experience of delivering large, complex programmes across net zero, resilience and energy in buildings to drive delivery across the four buildings workstreams.

Their role will comprise:

- Managing and leading the Net Zero and Resilience Buildings Centre of Excellence;
- Reporting progress to CAS Senior Responsible Officers;
- Coordinating and identifying synergies between workstreams;
- Aligning strategy and policy with delivery;
- Managing the transition from project definition to mobilisation and implementation;
- Facilitating reach back to private sector expertise and best practice.

Delivery model

The delivery model for the Net Zero and Resilient Buildings Centre of Excellence is illustrated in **Error! Reference source not found.**. This shows how all four workstreams across the buildings Action Areas will come together, identifies the key officers and illustrates the role of additional resource capabilities to support existing teams.

For this Project Plan the key resources are:

- Net Zero and Resilient Buildings Centre of Excellence Sustainability Lead
- Chief Officer – Paul Wilkinson
- Senior Accountable Climate Lead – Peter Collison
- Lead Officer – Ola Obadara

The team structure for the Capital Projects (Design Standards) Action Area is detailed above.

Approach to staff resourcing

The diagram above shows how the proposed Net Zero and Resilient Buildings Centre of Excellence Sustainability Lead would relate to the four workstreams, including this one.

Whilst this plan identifies staff resource requirements, it is not expected that this will be delivered through new internal hires. This will be delivered through project specific consultancy, outsourced staff and/or flexible project management resources allowing The Corporation to drive value from the supply chain through competitiveness, contractual measures to secure outcomes, flexibility, reach back support and market innovation. This will also inform plans under the current Target Operating Model update. This is particularly relevant to the resourcing of a Sustainable Design Specialist where this may not be a specific individual but could be an organisation (or combination of the two).

At present, staff resourcing has been developed to address the initial need to complete climate impact modelling and develop a buildings Resilience Action Plan. As the CAS progresses (informed by Year 1) a key review point will be to evaluate resourcing requirements as this may change depending on service outcomes. This review will be managed and guided by the Senior Responsible Officers and the Buildings Chief Officer Group.

Risk Management

Table 3 illustrates the key risks identified for this Project Plan. It is recognised that some of these will be universal across the four building Action Areas. Therefore, it is important that mitigations and solutions are matched up to ensure they are addressed at the programme level.

It is expected that the role of the Sustainability Lead will be to manage these risks across the four Action Areas so that comparative risk analysis can be completed, risks can be stress tested to quantify their impact on meeting carbon targets and mitigations aligned to ensure a holistic approach.

Table 3 - Risk Management, RAID analysis

Ref:	Description	Type	Criticality	Proposed mitigation
R-1	Delays in Governance and sign off result in carbon savings being realised later than planned.	Risk	Critical	• Programme Management Approach to be considered. • Stakeholder Engagement approach detailed below. • Internal Governance requirements to be mapped for Tasks at mobilisation. • Reporting cycles to be mapped for each Task on mobilisation.
R-2	Planned stock changes, need to perform at least as predicted by the Arup model.	Risk	Critical	• Ongoing risk management approach to be incorporated in Delivery Approach. • Mitigated by implementing Design Standards quickly.
R-3	Design standards are not successfully embedded and implemented into The Corporation's processes and procedures.	Risk	Critical	• Dedicated staff resource identified. • Stakeholder Engagement approach detailed below. • Soft landings and Post Occupancy Evaluation to be employed.
R-4	Delays during mobilisation mean Design Standards are implemented later than planned.	Risk	High	• Delivery Approach identified above. • Programme Management Approach to be considered. • Stakeholder Engagement approach detailed below.
R-5	Project Teams may be resistant to results of Post Occupancy Evaluation where buildings may not have performed well in operational energy terms or other operational outcomes.	Risk	Medium	• Stakeholder engagement to create a culture POE results can be openly discussed and acknowledged.
R-6	The emerging Part L and London Plan may result in activity being completed in parallel or work overtaking this Action Area.	Risk	Medium	• Project Schedule to be reflective of these updates (where known). • Sustainability Lead to work with relevant departments to draw activity together.
A-1	Lifecycle costs come out of existing budgets; not additional funding as identified in CPG.	Assumption	High	• Delivery Approach needs to consider how gap funding requirements will be addressed.
I-1	Benefits aren't quantified at present.	Issue	Medium	• Staff resource to establish process for benefits quantification.
D-1	Lifecycle works are completed at sufficient scale and pace to allow the design standards to take effect e.g. assets are not "sweated".	Dependency	High	• Stakeholder Engagement approach detailed below. • Staff resource identified to manage this Project Plan. •

D-2	Lifecycle works up to 2027 will support achievement of the net zero carbon target e.g. life expired system will be replaced with energy efficient/low carbon alternatives.	Dependency	Medium	• Mitigated by Design Standards.
D-3	Dependant tasks must be completed on time. Year 1 tasks must be complete on time to action tasks from year 2 onwards.	Dependency	Medium	• Robust Project Schedule developed. • Project Controls in place (see below). • Ensure sufficient staff resource and budget in place to complete Year 1 tasks

Stakeholder Engagement

The following table outlines the key stakeholders, how and when we intend to interact with them and what channels will be used.

Table 4- Stakeholder engagement

Category:	Department / Who	Message	Channels	When
Internal Stakeholders - Department	Chamberlains (Financial) Chamberlains (Procurement) City Surveyors (Chief Officer, CPG, PPG, Energy, Resilience, Climate Team, Environmental Resilience Team, CAS Programme Team.) Legal Possibly DBE Building control Development management	Engage, Inform, Consult, Validate	Tried and tested Climate Chats Interviews Team meetings 1:1 meetings	Needs minimum 6 week lead in time before referring to Committee. Internal liaison through programme and project lifecycles
Internal Stakeholders - Committees	Corporate Project Board Project Sub Committee P&R Committee RASC Court (where complex) Buildings Chief Officer Group Cyclical Works Board Housing Board	Seek Approval	Tried and tested Presentations at regular meetings Committees	Gateways 1, 2, combined 3 & 4 (4b where relevant), 5 and 6
External	Funders	Seek Offers, Inform	Regular partnership meetings Funding opportunities	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6
External	Residents Building Users	Engage, Inform, Collaborate	Consultation surveys Interviews Meetings Website Social media	(At required times in RIBA stage 3, 4, 5 and 7) At required times gateways 3-5
External	Building Managers Facilities Managers	Engage, Seek information, Validate, Inform	Consultation 1:1 meetings	(At required times in RIBA stage 2, 3, 4 and 7) At required times gateways 3-6
External	Supply Chains	Engage, Seek information, Inform	Consultation 1:1 meetings Link with CAS project plan for Purchased Goods and Services	RIBA Stage 1, 2, 3, 4, 5, 6 and 7 At required times gateways 2-6
External	External Consultants (design) and Contractors (surveys, design and works)	Engage, Seek Information, Collaborate, Commission	Consultation Partnership meetings	RIBA Stage 1, 2, 3, 4, 5, 6 and 7 At required times gateways 1-6

External	Major Contractors	Engage, Seek Information, Collaborate, Commission	Consultation	RIBA Stage 4 and 5 At required times gateways 4 and 5

Reporting cycle

It is assumed that projects will evolve from the master programme of works. It is envisaged that projects will, in the majority, follow the 'regular' project route but some may fall under the 'complex' route. The table below identifies reporting envisaged along with intended reporting benefits:

Table 5 – Reporting cycle

Category:	When	Benefit Realised
Internal Stakeholders (Internal Departments)	Throughout project lifecycle, Gateways	• Obtaining advice and feedback. • Output monitoring • Governance checks
Internal Stakeholders (Buildings Chief Officer Group (BCOG))	Throughout project lifecycle, Gateways via the Programme Function and progress to KPIs via the CAS Dashboard	• Commitment 2: To support the creation of a consistent format and content for effective progress reporting at monthly Chief Officer Group and quarterly Committee meetings from 1 April 2021.
Internal Stakeholders (Committees)	Gateways 1, 2, combined 3 & 4 (4b where relevant), 5 and 6	• Tracking and monitoring of project outputs and objectives. • Escalation of issue management. • Seeking project direction required. • Governance checks
External (Funding)	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6	• Known funding outcomes. • Progress reporting against funding elements incl. tracking of progress • Lessons learned from other projects or best practice
External (Residents & Users)	(At required times in RIBA stage 3, 4, and 7) At required times gateways 3-5	• Keeping all informed and engaged • Informing of methodologies and outputs intended – Involving residents and user's ideas • Informing of methodologies and outputs intended – Involving residents and users by allowing people to voice their views • Informing of methodologies and outputs intended – how people can play their part. • Positive reputational image
External (Building Managers and FM)	(At required times in RIBA stage 2, 3, 4 and 7) At required times gateways 3-6	• In-depth knowledge sharing • Lessons learning – what works and what works less than envisaged • Watch Points sharing - Specific building usage / information that could help or hinder projects.
External (Supply chains)	RIBA Stage 1, 2, 3, 4, 5, 6 and 7. At required times gateways 2-6	• Gathering market intelligence and information • Complying with Statutory consents
External (Consultants & Contractors)	RIBA Stage 1, 2, 3, 4, 5, 6 and 7 At required times gateways 1-6	• Obtaining advice. • Receiving specialist design knowledge and sharing • Specific technological information and expertise • Additional resource to assist existing teams

External (Major contractors)	RIBA Stage 4 and 5 At required times gateways 4 and 5	• Obtaining advice. • Receiving specialist design knowledge and sharing • Specific technological information and expertise • Additional resource to assist existing teams

Project Controls

The following Key Performance Indicators (KPIs) will be defined and tracked by this Project in order to judge its overall delivery success. Each will be tracked on a quarterly basis for qualitative (initially) and move toward quantitative progress reporting and will be reported formally in the Annual Report each year starting FY22/23.

Project-level Key Performance Indicators (KPIs)

The below table sets out the principal KPIs that will track the delivery of the four CAS headline targets listed below. A trajectory and set of milestone target dates are to be developed for each.

1. Net zero by 2027 in the City Corporation's operations
2. Net zero by 2040 across the City Corporation's full value chain
3. Net zero by 2040 in the Square Mile
4. Climate resilience in our buildings, public spaces and infrastructure

Reporting KPIs are intended to be refreshed as part of the annual cycle of baseline re-assessment work beginning in FY22/23. The Management KPIs will be refreshed more regularly and will be reported via the Climate Performance Dashboard to committees from FY21/22.

Table 6 – Reporting KPIs

KPI name	Definition	Relevant CAS target	Regularity of reporting
IPG Scope 3 emissions	• Reduction in Scope 3 emissions.	Net zero by 2040 across the City Corporation's full value chain	IPG Scope 3 emissions
Achievement of net zero technology standards	• Percentage of projects achieving net zero technology standards.	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2	Annually
Post occupancy evaluation	• Number of Post Occupancy Evaluations complete	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2. Climate resilience in our buildings, public spaces and infrastructure	Annually
Achievement of standards	• Percentage of new buildings achieving design standards.	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2 Climate resilience in our buildings, public spaces and infrastructure	Annually
	• Percentage of refurbishments achieving design standards	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2 Climate resilience in our buildings, public spaces and infrastructure	Annually
	• Percentage of minor works projects where technology standards have been applied	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2	Annually

		Climate resilience in our buildings, public spaces and infrastructure	
Lifetime embodied carbon	• The total lifetime embodied carbon in new buildings (CO_2e embodied / m^3).	Net zero by 2040 across the City Corporation's full value chain Net zero by 2040 in the Square Mile	Annually
	• Total lifetime embodied carbon against industry benchmark. Guidance on methodology has been published by GLA (WLC)[2], LETI[3] and UKGBC[4]. (an appropriate benchmark is to be identified).	Net zero by 2040 across the City Corporation's full value chain Net zero by 2040 in the Square Mile	Annually
Energy	• Weighted average EPC for CPG • Weighted average EPC for IPG	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2	Annually
Materials circularity indicator	• Material from circular sources: recycled content or renewable content according to source e.g. reused material, remanufacture material etc. Expressed as a percentage (%) of total material.	Net zero by 2040 across the City Corporation's full value chain Net zero by 2040 in the Square Mile	Annually
Soft landings	• Percentage of projects using a soft landings approach.	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2	Annually
Post Occupancy Evaluation	• Average occupant satisfaction score following POE	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2	Annually
	• Percentage of actions implemented following identification of opportunities for improvement	Net zero by 2027 in the City Corporation's operations – Scope 1 and 2	Annually

Key Data and Information

Documentation and process controls will be improved to allow for future audit and quality assurance measures such as alignment to best practice international standards on climate reporting.

The Sustainability Lead will develop a data maturity strategy to increase data accuracy and completeness, ensure integration of key data across key workstreams and provide clear data governance and performance management going forward. This will also include data and information requirements that will extend to any outsourced work to provide assurance on quality. For example, this could include that all reporting is aligned against industry standards such as the Bath Inventory of Carbon and Energy (ICE).

As this project progresses data will be generated as to the effectiveness of interventions. Further KPIs and targets may be periodically linked to the efficacy of measures and their overall contribution to the CAS. This will be subject to the Change Control Procedure.

The data generated by this project will be collated and displayed through Power BI dashboards to improve accessibility and understanding for a range of audiences.

Internal Governance

- Net Zero and Resilient Buildings Centre of Excellence to report to Buildings Chief Officer Group;

[2] https://www.london.gov.uk/sites/default/files/wlc_guidance_april_2020.pdf
[3] https://www.leti.london/ec-workstream
[4] https://www.ukgbc.org/wp-content/uploads/2017/09/UK-GBC-EC-Developing-Client-Brief.pdf

- Action Area Chief Officers and Senior Accountable Climate Leads to report to Buildings Centre of Excellence;
- Lead officers to report to Action Area Chief Officer and Senior Accountable Climate Lead;
- Proposed Project Board (Extraordinary Board) where required for cost and progress updates under the holistic Capex cost allowance;
- Internal Stakeholders (all gateway reports) - informal project updates and formal gateways reports ahead of submission to Committees;
- Internal Stakeholders (all gateway reports) - informal project updates and formal gateways reports ahead of submission to Committees.
- Gateways 1, 2, combined 3 & 4, 5 and 6 submitted to Corporate Project Board, Project Sub Committee and P&R, RASC.
- Gateway 4b (where relevant) Court of Common Council.

APPENDIX 1: Task Breakdowns

Task	**1 - Whole life cycle emissions footprint and cost analysis**
Outcome	Assessment of how current standards support net zero. Assessment of cost and carbon impact of potential interventions in capital projects. Toolkit for training purposes.
Responsible officer	Property Project Director
Description	Analysis of industry standard life cycle emissions footprint and cost is a key enabling task to allow for future planning of cyclical asset replacement and for use in the development of design standards. To support long term financial savings, life cycle cost analysis will be completed and built into key decisions relating to the purchase and construction of future assets such as lease vs. buy, quality, performance, future proofing, durability and emissions. This will be incorporated into Corporation Policy, CHB financial decision making and departmental budget decisions and planning. This task will develop an assessment of cost and carbon impact of potential interventions in capital projects as well as an associated toolkit for training purposes. This task will provide the base for building the Net Zero Design Standards (new build) and the Net Zero Carbon Refurbishment Standards (see below). In addition, at present, there is a perception that current standards (e.g. BREEAM) are sufficient to achieve net zero. This is not necessarily the case and therefore this Task will address any gaps to make to make sure life cycle emissions and life cycle costs associated with construction and asset replacement are identified and addressed.
Timescales	**Year 1** – Procurement of consultancy support, review and assessment of existing standards, gap analysis for achieving net zero, life cycle emissions and cost analysis and production of a toolkit for training. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> None.

		Year			
Costs	**Cost - £k**	**21/22**	**22/23**	**23/24**	**24/25**
	Project specific consultancy	*£160*	-	-	-
	Staff resource (outsourced)	-	-	-	-
	Resource	**£160**	-	-	-
	Capital	-	-	-	-
	TOTAL	**£160**	-	-	-

Benefits	Enabling action for input into Tasks 2a, 2b and 2c
Assumptions	

Task	**2a- Development of net zero technology standards**
Outcome	Generate a suite of technical specifications for main technology areas to be used during maintenance, planned lifecycle and refurbishment works.
Responsible officer	Property Project Director

Description

It is essential that planned refurbishments and the replacement of plant and systems at end of life positively contribute to net zero carbon and resilience requirements without the need for retrofit at a later date.

This Task will generate a suite of technical specifications which common minor works and capital project types (e.g. commercial, retail and historic buildings) can utilise during retrofit and cyclical asset replacement. They will focus on the 2027 and 2040 net zero carbon targets and will incorporate the following necessary areas as follows:

- Whole life cycle emissions footprint;
- Cost analysis;
- Low-impact materials specifications;
- Circular construction;
- Commercial and operational viability of new design standards.

This Task will be informed by the Industry Standard review of life cycle carbon and cost analysis undertaken in Task 1 along with WELL Health and Well-being Standards. The Standards will be incorporated into corporate policies and procedures (procurement etc.) and used to determine strategic decisions in relation to the approach to asset investment via departmental budgets, capital bids and MTFS.

The suite of documents developed should be flexible enough for use during full-scale retrofit as well as for use as individual standards across the wide range of building types and heritage status of assets owned by The Corporation. For example, a minimum benchmark shall be set for standards in lighting, space heating, water heating, air conditioning, etc. These benchmarks will act as a baseline with superior benchmarks set for use in buildings where they can be successfully implemented. The overall goal of these benchmarks will be towards cumulative savings of cost and carbon emissions across the set of buildings upon which the standards have been implemented.

This task will also align with buying standards to ensure economies of scale.

Outputs of this Task will direct project managers and suppliers to the optimum technology in terms of lifetime carbon. This could consider both embodied and operational carbon. The suite of standards will be accompanied by a training programme and gateway review to embed knowledge and process.

The standards will be aligned with the principles of The Corporation's overarching Circular Economy Strategy, and will provide detail on circular design, procurement, construction and refurbishment.

This task will be internally managed by an additional technical specialist (see Task 6).

Timescales

Year 1 – Procurement of consultancy support, generate a suite of technical specifications for main technology areas addressing any gaps as identified by Task 1, development of toolkit and associated training.

Year 3 – Update of standards to incorporate user feedback and any changes in industry standards.

For further breakdown see Gantt Chart (Project Schedule).

<u>Key dependencies</u>

Task 1.

Costs

	Year			
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**
Project specific consultancy	£350	-	£30	-
Staff resource (outsourced)	-	-	-	-
Resource	**£350**	-	**£30**	-
Capital	**-**	**-**	**-**	**-**
TOTAL	**£350**	**-**	**£30**	**-**

Benefits

Addresses any gaps as identified by Task 1.

Identification of innovation and best practice to drive the adoption of low-impact materials and design efficiencies.

Planned refurbishments and/or replacing plant and systems at end of life positively contribute to net zero carbon without the need for retrofit at a later date.

	Whole life cycle carbon emissions and cost are incorporated into corporate policies and procedures.
Assumptions	• Existing Project Initiation Document assumes £400,000 for sustainable design standards (new build and refurb), and £300,000 for low-impact material specifications. This has been spread evenly across both Tasks 2a and 2b.

Task	**2b - Development of net zero design standards for new developments and major refurbishments[5]**
Outcome	A suite of design standards to which new developments and major refurbishments can be designed, constructed and operated to. This includes whole life cycle emissions, sustainable and circular economy principles and low-impact material specifications.
Responsible officer	Property Project Director
Description	New developments and major refurbishments need to positively contribute to net zero carbon and resilience requirements without the need for retrofit at a later date. This Task will generate a suite of design standards, covering the array of different building types operated by The Coporation, that will focus on the 2027 and 2040 net zero carbon targets and will incorporate the following areas as follows: • Assessment of the cost and carbon impact of potential interventions in new developments; • Assessment and quantification of low-impact materials specifications; • Generation of a suite of technical specifications to which new developments can be designed, constructed and operated to (including relevant envionrmental assessment criteria such as BREEAM, LEED etc.); • Incorporate whole life cycle emissions, sustainable and circular design standards and low-impact material specifications; • Incoporate Modern Methods of Construction; • Provide a toolkit for training purposes. This Task will be informed by the Industry Standard review of life cycle carbon and cost analysis undertaken in Task 1 along with WELL Health and Well-being Standards. These Standards will be integrated into corporate policies and procedures (procurement, etc.) and used to determine strategic decisions in relation to the approach to asset investment via departmental budgets, capital bids and MTFS. Outputs will direct project managers and suppliers to the optimum technology and design outcomes in terms of lifetime carbon and could consider both embodied and operational carbon. They will be accompanied by a training programme and gateway review to embed knowledge and process. This task will also align with buying standards to ensure economies of scale. The standards will be aligned with the principles of The Corporation's overarching Circular Economy Strategy, and will provide detail on circular design, procurement, construction and refurbishment. This task will be internally managed by an additional technical specialist (see Task 6). It is noted that Community and Children's Services have recently developed design standards for housing. Whilst these will need to be amended to reflect outcomes from this and the resilience workstreams, it is expected that the focus will not be on this building type although these will be reviewed to ensure standards are aligned. Furthermore, the Sustainable Design Expertise will gather any learnings from the current use of new housing standards on the Sydenham Hill Estate development to provide feedback into this Task.

[5] For the purposes of the design standards, major refurbishment is defined as construction that results in the fundamental remodeling or adaptation of existing elements of the building envelope, structure and renewal of key building services. And where, on completion of the works, such remodelling/renewal will materially impact on the performance of the building.
The term 'elements' includes:
- Structural/building envelope elements including walls (including glazing), roofs (including rooflights) and floors.
- Building services elements including lighting (artificial and daylighting), heating, mechanical ventilation/cooling plant and ductwork, water/drainage systems.

Note:

Timescales

Year 1 – Procurement of consultancy support, generate design standards addressing any gaps as identified by Task 1, development of toolkit and associated training.

Years 3 – Update of standards to incorporate user feedback and any changes in industry standards.

For further breakdown see Gantt Chart (Project Schedule).

Key dependencies

Task 1.

Costs

	Year			
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**
Project specific consultancy	£350	-	-	-
Staff resource (outsourced)	-	-	-	-
Resource	**£350**	**-**	**-**	**-**
Capital	-	-	-	-
TOTAL	**£350**	**-**	**-**	**-**

Benefits

Addresses any gaps as identified by Task 1.

Identification of innovation and best practice to drive the adoption of low-impact materials and design efficiencies.

Planned new developments positively contribute to net zero carbon without the need for retrofit at a later date.

Whole life cycle carbon emissions and cost are incorporated into corporate policies and procedures.

Assumptions

- Existing Project Initiation Document assumes £400,000 for sustainable design standards (new build and refurb), and £300,000 for low-impact material specifications. This has been spread evenly across both Tasks 2a and 2b.

Task	**2c - Assess performance of design and technology standards**
Outcome	Assurance that Design Standards are performing as expected. Assurance that standards are fit for purpose. Update of standards where required.
Responsible officer	Property Project Director
Description	It will be critical to ensure any new design standards, material specifications and operational implications perform as expected and work in the current commercial marketplace. Therefore, this Task will include the review and assessment of the net zero technology standards and design standards as developed in Tasks 2a and 2b to ensure they are fit for purpose. This review will enable the successful implementation of the strategies across the identified assets in the Corporate and Investment Property Groups.

<table>
<tr><td>Timescales</td><td>Synergies between the design standards and other buildings aspects of the CAS (particularly resilience) will be crucial to ensure successful development and deployment of these standards including the assessment of how they are performing. The Delivery Approach proposed above outlines how these areas will be coordinated.

Year 2-4 – Assess performance of new design standards.

For further breakdown see Gantt Chart (Project Schedule).

<u>Key dependencies</u>

Task 2a and 2b.</td></tr>
<tr><td>Costs</td><td>
<table>
<tr><td></td><td colspan="4">Year</td></tr>
<tr><td>Cost - £k</td><td>21/22</td><td>22/23</td><td>23/24</td><td>24/25</td></tr>
<tr><td>Project specific consultancy</td><td>-</td><td>-</td><td>--</td><td>-</td></tr>
<tr><td>Staff resource (outsourced)</td><td colspan="4">Outsourced resource as per Task 6</td></tr>
<tr><td>Resource</td><td colspan="4">Outsourced resource as per Task 6</td></tr>
<tr><td>Capital</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>TOTAL</td><td colspan="4">Outsourced resource as per Task 6</td></tr>
</table>
</td></tr>
<tr><td>Benefits</td><td>Feedback loop for future standards.

Verification that standards are performing as expected.

Maximising of savings through optimising the approach.</td></tr>
<tr><td>Assumptions</td><td>This Task will be part of the remit of the Sustainable Design Specialist (Task 5).</td></tr>
</table>

Task	**3 – Develop approach to Soft Landings and Post Occupancy Evaluation**
Outcome	Development approach to soft landings and post occupancy review.
Responsible officer	Operations Group Director
Description	There is a broad consensus that buildings in operation often do not perform to the level as designed. This is particularly true for the "performance gap" where there is a frequent disparity between predicted energy use and carbon emissions in the design stage and the actual energy use of assets in operation. This is often exacerbated by a separation between the construction and operation phases of a project. By developing a soft landing approach, The Corporation will be able to ensure a smooth transition from implementation to operation, ensuring performance is optimised. This Task will work to identify how a soft landings approach can be embedded within project stages (not just at handover) so that an appropriate resources can be allocated and that outcomes and requirements are defined. Linking this with Post Occupancy Evaluation (POE) will provide a standardised approach across the estate to enable stakeholders to identify and evaluate critical aspects of building performance following implementation. This will allow the identification and addressing of any problem areas, provide feedback on interventions and support a loop for continual improvement on which to develop future design standards and criteria for future phases of work.
Timescales	**Year 2 -** Planned for 2022/23 as requires input from other Tasks. However, if the opportunity to incorporate soft landings/POE in to a live project arises beforehand, the options to bring this Task forward will be explored. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> Task 2a and 2b.

		Year			
Costs	**Cost - £k**	**21/22**	**22/23**	**23/24**	**24/25**
	Project specific consultancy	-	£100	-	-
	Staff resource (outsourced)	-	-	-	-
	Resource	-	**£100**	-	-
	Capital	-	-	-	-
	TOTAL	-	**£100**	-	-
Benefits	Development of an embedded process for soft landings throughout project lifecycle. Optimised savings through thorough commissioning and handover. Addresses the "performance gap" where there is a frequent disparity between predicted energy use and carbon emissions in the design stage and the actual energy use of those assets in operation Feedback loop for future Design Standards.				
Assumptions					

Task	**4 - Circular construction / low-embodied emissions pathfinder project**				
Outcome	Delivery of circular construction / low-embodied emissions project				
Responsible officer	Property Project Director				
Description	Using the outcomes from the previous Tasks, this pathfinder project will provide a test bed to implement a circular construction, low-embodied emissions project, demonstrating best practice towards achievement of the CAS targets. By conducting this pathfinder project, it is expected that The Corporation will be able to gather lessons learnt through physical implementation of the standards to provide feedback prior to full roll-out. To support this a current planned project will be identified to ensure there is no lag on delivery and implementation can be dovetailed into existing plans. It is expected that this task would be managed by additional technical specialist (see Task 6).				
Timescales	**Years 2 - 4 -** Circular construction / low-embodied emissions pathfinder project. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> Task 1 to 3.				
		Year			
Costs	**Cost - £k**	**21/22**	**22/23**	**23/24**	**24/25**
	Project specific consultancy	-	-	-	-
	Staff resource (outsourced)	-	-	-	-
	Resource	-	**-**	-	-
	Capital	-	**Capital funding dependent**		
	TOTAL	-	**Capital funding dependent**		
Benefits	Opportunity to testing design standards and soft landings/POE approach Gathering of lessons learnt. Provision of a feedback loop to inform future updates. Opportunity to tackle a "hard to treat" and/or historic building.				
Assumptions	Assumes capital will be covered by the new development / refurbishment budget as The Corporation sees this not as an additional task but one that needs to be embedded into standard ways of working.				

Task	**6 – Appoint specialist resource**
Outcome	Resourcing of Sustainable Design Specialist
Responsible officer	Property Project Director
Description	Recruitment of sustainable design expertise to form the core of the extended team to lead Tasks identified above, co-ordinate consultancy activity and supporting departments in the delivery of carbon reduction interventions. To successfully achieve the Task outcomes, it is important that there is organisational reach back to a wider pool of specialisms e.g. architecture, BREEAM, circular economy, embodied carbon, MEP, structural, sustainable materials etc to encompass the breadth of expertise required for this action area. Therefore, the procurement approach for this role should reflect that this may not be a specific individual but could be an organisation (or combination of the two).
Timescales	**Year 1** – Resourcing of Sustainable design specialist <u>Key dependencies</u> None.

Costs		**Year**			
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**
	Project specific consultancy	-	-	-	-
	Staff resource (outsourced)	*£55*	*£110*	*£110*	*£110*
	Resource	**£55**	**£110**	**£110**	**£110**
	Capital	-	-	-	-
	TOTAL	**£55**	**£110**	**£110**	**£110**

Benefits	Enabling action for identifying and managing Tasks above. Ongoing management, updating and embedding of design standards. Coordination and linking of design standards with resilience workstreams.
Assumptions	• Assumed average cost of £110k/annum/FTE for this resource level. • Resources to start six months into Year 1, hence costs of £55k.

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City of London Corporation

Climate Action Strategy

RS3 Resilient Buildings

Project Plan
Version 1.1
Date: 15.04.2021

Author: Mark Phelpstead (AECOM)
Approval: Paul Wilkinson / Simi Shah

Contents

Project Introduction

Project Aims

In support of the Climate Action Strategy (CAS), commencing implementation from April 2021, this Project Plan details how action will be accelerated to deliver the roll out of retrofit measures for residential and non-residential properties throughout the Square Mile and for those assets that The Corporation are responsible, ensuring they are resilient to changing weather conditions and environmental patterns.

This will support achievement of the following net zero vision and goals:

NET ZERO VISION: A future where the Square Mile's built environment and infrastructure is adapted to meet the challenges of hotter, drier summers; warmer, wetter winters; stronger winds; more frequent weather extremes and sea level rise.

NET ZERO GOALS: Climate resilience in our buildings, public spaces and infrastructure.

Introduction

A climate risk assessment has been carried out by Buro Happold for the Square Mile. As part of this, analysis of the Met Office Climate Projections (2018) was undertaken which identified climatic trends for the area. A risk assessment was then completed based on these which focused on the 'top six areas of inter-related climate change risks for the UK' as identified by the UK Climate Risk Assessment 2017, namely:

- Flooding and coastal change risks to communities, businesses and infrastructure;
- Risks to health, well-being and productivity from high temperatures;
- Risk of shortages in the public water supply, and for agriculture, energy generation and industry;
- Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity;
- Risks to domestic and international food production and trade; and
- New and emerging pests and diseases, and invasive non-native species, affecting people, plants and animals.

In all cases the risks were found to be pressing. This is largely due to the diversity of the occupants and users of these spaces, the scale and importance of the green spaces run by The Corporation and its dependence on international trade and its role as a centre for the insurance sector.

The report identified that one of the resilience measures to mitigate these risks was the recommendation for a programme of resilience-enhancing retrofits for residential and non-residential properties throughout the Square Mile and assets under the responsibility of The Corporation. This would focus on ensuring assets are resilient to changing weather conditions and environmental patterns and that their influence on, and risk from, climatic changes is reduced.

Against this background, this Project Plan identifies Tasks that have been developed to address the following three aims:

- **Deliverable** – tasks can be completed within the identified timescales;
- **Affordable** – projects can be accommodated within The Corporation's current and future budget constraints; and
- **Impactful** – actions improve building resilience and mitigate climate change risk.

To achieve these aims the following high-level actions will be implemented, these are split it into individual Tasks in Table 1.

Year 1-2

- Identification of resilience risks and constraints to implementation for The Corporation's physical assets;
- Development of Buildings Resilience Action Plan;
- Dovetailing of identified interventions into existing estates/asset strategy;
- Coordinate with Design Standards Action Area.

Year 2+

- Delivery of pilot project, gathering lessons learnt and quantification of benefits;
- Full roll out of Buildings Resilience Action Plan;
- Reporting and monitoring of risk mitigation.

How to use this document

This document outlines the costs, benefits and overall approach to implementing resilience measures across The Corporation's building assets to support delivery of the Climate Action Strategy. It is to be used as a baseline against which to monitor progress. It will be kept as a live document and will be updated periodically subject to the Change Control Procedure.

Project Objectives

The Project Objectives for this Project Plan are:

- Identify resilience risks to The Corporation's buildings;
- Assign resilience measures to planned works where possible;
- Implement and monitor resultant risk mitigation; and
- Inform Design Standards workstream.

The table below details key Tasks that will be completed to achieve the Project Objectives. Further detail on each project can be found in Appendix 1. The focus of the 2021/22 plan will be to mobilise resource to complete impact modelling for CPG and IPG assets, identify resilience risks and develop a Resilience Action Plan. This includes co-ordinating with the other resilience workstreams to provide a unified approach across action areas.

Table 1 – Tasks and project objectives

Theme	Ref	Task	Rationale	Outcome	Key Actions in 21/22	Team Lead	Lead Support
Climate change impact modelling	1	Delivery of climate impact modelling for CPG and IPG assets.	Identification of resilience risks and constraints to implementation for The Corporation's physical assets.	• Phase 1 – Modelling to identify assets with heightened risk and the need for enhanced resilience measures to be implemented. • Phase 2 – Model the impact of specific resilience measures on key assets, providing insight into the scope and specification of interventions to be adopted and implemented.	• Procurement of consultancy support. • Collation of data to feed into modelling exercise (Phase 1). • Phase 1 modelling. • Phase 2 intervention identification and modelling.	Property Project Director	Buildings Resilience Specialist
Development of Resilience Action Plan	2	Development of detailed action plan covering resilience project roll out that meets the needs of the Climate Action Strategy.	Resilience measures need to be assigned to planned works including being embedded into 5-year plan upgrade plans for IPG and CPG properties. Key assets, critical building infrastructure and sensitive equipment in flood zones need to be protected.	• Identification and quantification of specific resilience projects. • Prioritised action to mitigate resilience risks. • Integration of actions into existing planned works and 5-year plans. • Engagement plan for tenants and occupiers.	• Procurement of consultancy support. • Development of Resilience Action Plan (continues into 2022/23). • Input from Design Standards workstream.	Property Project Director	Buildings Resilience Specialist

Theme	Ref	Task	Rationale	Outcome	Key Actions in 21/22	Team Lead	Lead Support
			Pilot projects on Corporate and Investment Property Group assets need to be identified.				
Resilience Action Plan – Pilot Project Delivery	3	Based on previous Tasks, this will identify, specify, procure and deliver pilot projects to improve the resilience of CPG and IPG assets.	Ensure that knowledge and information is obtained from pilot projects to understand any issues and impacts and gather lessons learned.	• Delivery of resilience pilot projects. • Gathering of lessons learned. • Identification of procurement routes. • Quantification of potential benefits. • Implementation and monitoring of risk mitigation.	*Planned for 22/23 as dependent on other workstreams – see Project Schedule*	Property Project Director	Buildings Resilience Specialist
Resilience Action Plan – Full roll out	4	Roll out of phased Resilience Action Plan.	Using knowledge and learning from previous Tasks to roll out the Resilience Action Plan. Embed resilience measures into 5-year plan upgrade plans for IPG and CPG properties.	• Mitigation of climate change related risk and resilience of built assets. • Implementation and monitoring of risk mitigation. • Engagement with stakeholders including tenants and occupiers on resilience.	*Planned for 22/23 as dependent on other workstreams – see Project Schedule*	Property Project Director	Buildings Resilience Specialist
Staff resource	5	Appoint specialist resource	Activities identified above will need to be managed. Development of Resilience Action Plan. Management of pilot project. Link with other resilience Action Areas e.g. RS2 and RS4. Link with Design Standards work.	• Resourcing of Buildings Resilience Specialist.	Resourcing of Sustainable Design Specialist.	Property Project Director	Senior Accountable Climate Lead: Resilience

Team structure

The Teams involved in the delivery of this Project Plan are shown in Figure 1. How this integrates within the wider delivery approach and Buildings Centre of Excellence is explained in more detail in the Delivery Approach Section.

How additional resources are managed within the City Surveyors Department is shown in **Error! Reference source not found.**.

The colour coding is as follows:

- Yellow boxes indicate areas of current activity that support the CAS;
- Green boxes show those additional activities required by this Plan that will be unlocked through additional resources;
- The grey boxes indicate additional staff resources either through outsourced team members (e.g. secondments) or third party flexible resource to be employed according to delivery need. As indicated by the legend this is not necessarily permanent employees.

This structure identifies the role of a Buildings Resilience Specialist. Working across departments, this role will initially be to lead and manage climate change impact modelling and development of the Resilience Action Plan. This will then switch to focus on delivery of resilience projects and reporting and monitoring of subsequent risk mitigation. To successfully achieve these outcomes, it is important that there is organisational reach back to a wider pool of specialisms e.g. architecture, MEP, structural, sustainable materials, etc. to encompass the breadth of expertise required for this action area. Therefore, the procurement approach for this role should reflect that this role may not be a specific individual but could be an organisation (or combination of the two).

The Team Structure has been developed to focus on the Year 1 priorities of completing climate change impact modelling and development of the Resilience Action Plan. This will likely change as the programme progresses depending on service outcomes. For example, the role of the Buildings Resilience Specialist will change towards the delivery of resilience projects over time. To make sure that the Team Structure remains fit for purpose, the Senior Responsible Officers and Buildings Chief Officer Group will review and manage resource requirements instilling a flexible approach that allows the market to innovate and deliver The Corporation's requirements efficiently.

Figure 1 – Delivery Teams - RS3 Resilient Buildings

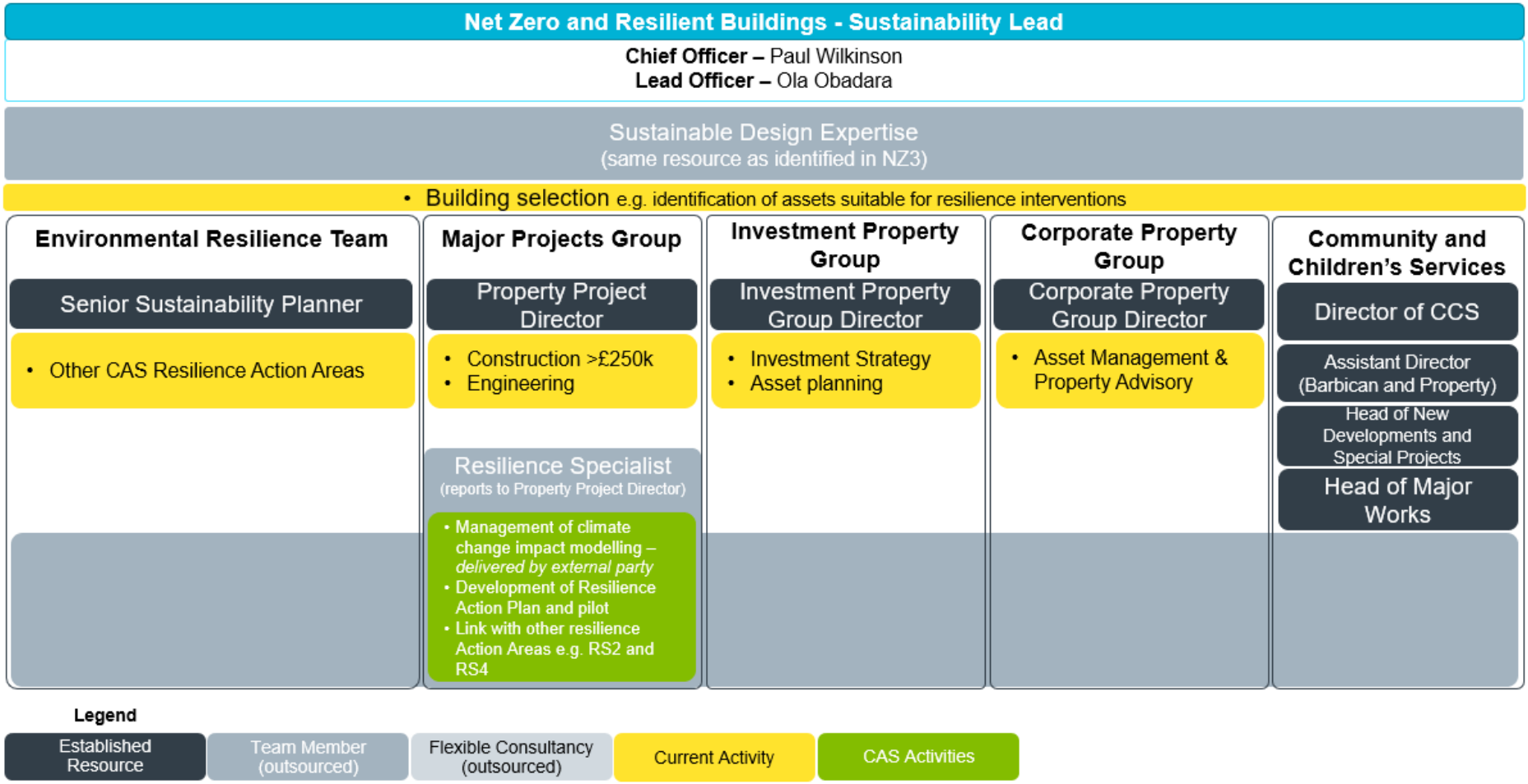
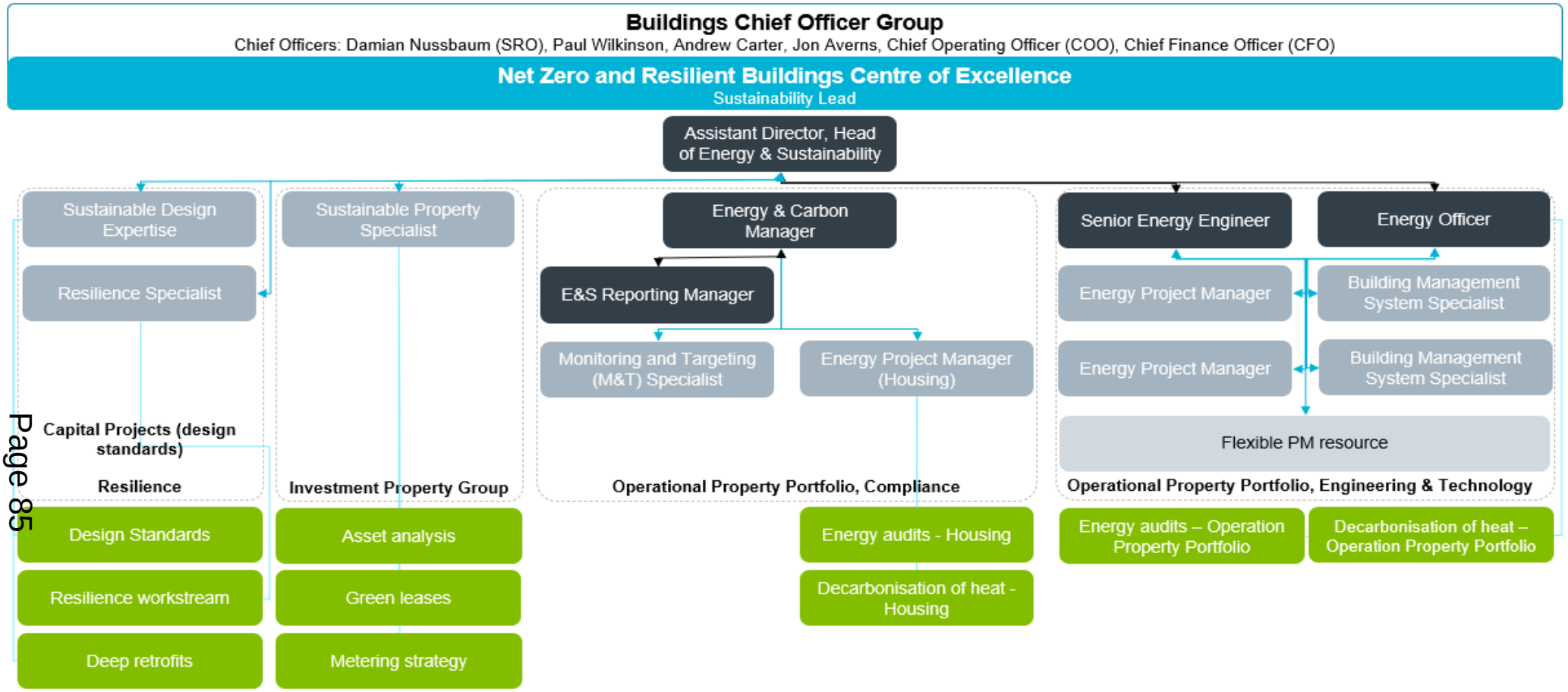


Figure 2 – Team Structure - RS3 Resilient Buildings



Project Schedule & Gantt Chart

Delivery Plan (Gantt chart)

Task Number	Task Detail	Responsible	Completion (%)	FY 21/22				FY 22/23				FY 23/24				FY 24/25				FY 25/26				FY 26/27			
				Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar
Net Zero and Resilient Buildings Centre of Excellence																											
CoE-1	Establishment of Net Zero and Resilient Buildings Centre of Excellence	Director of Innovation & Growth, City Surveyor	0%																								
CoE-2	Establish energy targets and intensity metrics where data gaps	Director of Innovation & Growth, City Surveyor	0%																								
RS3 Resilient Buildings																											
R-1	Delivery of climate impact modelling for CPG and IPG assets	Property Project Director	0%																								
R-2	Development of Resilience Action Plan	Property Project Director	0%																								
R-3	Resilience Action Plan - Pilot Project Delivery	Property Project Director	0%																								
R-4	Resilience Action Plan - Full roll out	Property Project Director	0%																								
R-5	Appoint specialist resource	Property Project Director	0%																								

Project Business Case

Project Costs

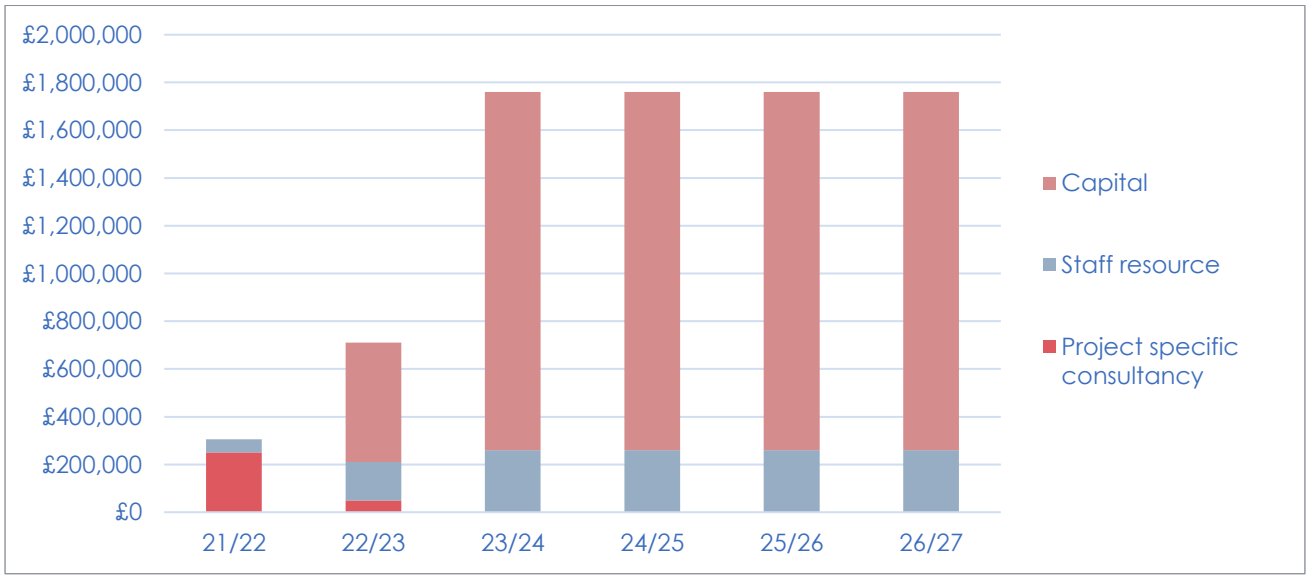
Total project costs of £8 million have been identified in the Project Initiation Document by the Climate Action Strategy Team. At present this budget is not index linked to allow for inflation and it is unclear if this includes VAT. These costs include resource time which is to be capitalised and therefore come out of this budget. In addition, inflation has not been applied. It is assumed that funding will be available to support workstreams to be mobilised in line with the Project Schedule.

As Table 2 demonstrates, this has been broken down into an initial focused period of project consultancy in Years 1 and 2 to complete modelling and develop the Resilience Action Plan. This will identify pilot projects that will be implemented from Year 2 and following this the full roll out of actions in the Resilience Action Plan.

Table 2 – Costs by Task

		Costs per year (£k/annum)					
Tasks	Category	21/22	22/23	23/24	24/25	25/26	26/27
1 - Climate change impact modelling	Project specific consultancy	£200	-	-	-	-	-
2 - Development of Resilience Action Plan	Project specific consultancy	£50	£50	-	-	-	-
3 - Resilience Action Plan – Pilot Project Delivery	Staff resource (outsourced)	-	£50	-	-	-	-
	Capital	-	£500	-	-	-	-
4 - Resilience Action Plan – Full roll out	Staff resource (outsourced)	-	-	£150	£150	£150	£150
	Capital	-	-	£1,500	£1,500	£1,500	£1,500
5 – Buildings Resilience Specialist	Staff resource (outsourced)	£55	£110	£110	£110	£110	£110
Total	**Project specific consultancy**	**£250**	**£50**	**£0**	**£0**	**£0**	**£0**
	Staff resource (outsourced)	**£55**	**£160**	**£260**	**£260**	**£260**	**£260**
	Capital	**£0**	**£500**	**£1,500**	**£1,500**	**£1,500**	**£1,500**
	Total	**£305**	**£710**	**£1,760**	**£1,760**	**£1,760**	**£1,760**

Figure 3 - Costs breakdown by Category (£/annum)



Project Benefits

There are a number of quantitive benefits that will be achieved from this Project Plan. These will be measured and reported as per the KPIs in Table 6.

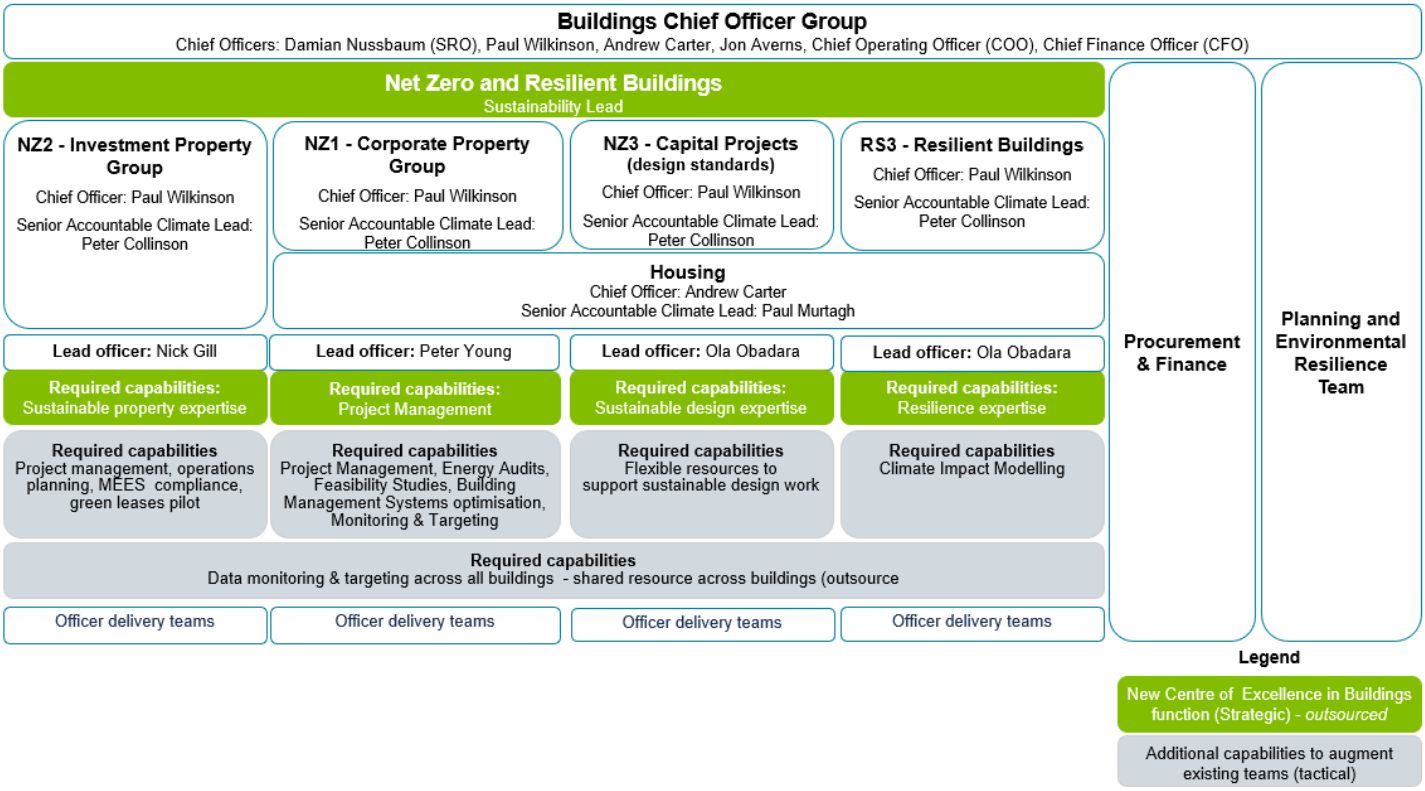
The main benefit of this Project Plan is that it will achieve a climate ready City Corporation avoiding disruption to services from climate risks and preparing the Square Mile to adapt to future climate projections.

In addition, the following benefits are expected to be achieved:

- A Resilience Action Plan for CPG and IPG assets;
- Delivery of tangible actions to address risks as identified in the Buro Happold, Adaptive Pathways Study;
- Identification and delivery of pilot studies to test solutions and gather lessons learnt;
- Active engagement with tenant and occupiers on resilience issues;
- Mitigation of health impacts where overheating may be an issue;
- Improved occupant comfort and internal environment;
- A climate aware workforce with the knowledge and skills to adapt operations and services to the changing climate;
- A reputation as a forward thinking organisation leading other authorities and public bodies in climate resilience.

Delivery Approach

Figure 4 - Net Zero and Resilient Buildings Centre of Excellence, Delivery Model



To drive and direct leadership, best practice, research, support and training to all areas of building decarbonisation and resilience work to deliver the CAS, a Net Zero and Resilient Buildings Centre of Excellence will be established. This will sit outside of the regular reporting structure to drive strategic level targets into mobilisation and delivery across departments. Through this approach it

will provide a view across all Tasks and Project Plans to control and package up service requirements based on the outputs of feasibility studies, climate impact modelling etc. maximising value from the market based on clear desired outcomes and programme level view.

Its role will include concentrating knowledge from across all activity areas to attain and sustain high performance and value, capture lessons learnt and provide a feedback loop for continuous improvement.

The benefits of this approach will be:

- Member-buy in and confidence;
- Limiting “single points of failure”;
- Development of a cross-discipline team;
- Share resources and learning across workstreams;
- Ability to flex staff resource to meet need;
- Ability to draw in a wide range of expertise and experience from the private sector.

Net Zero and Resilient Buildings Sustainability Lead

To manage and lead the Net Zero and Resilient Buildings Centre of Excellence, a Sustainability Lead will be resourced. This will allow The Corporation to utilise the third party expertise of someone with extensive experience of delivering large, complex programmes across net zero, resilience and energy in buildings to drive delivery across the four buildings workstreams.

Their role will comprise:

- Managing and leading the Net Zero and Resilient Buildings Centre of Excellence;
- Reporting progress to CAS Senior Responsible Officers;
- Coordinating and identifying synergies between workstreams;
- Aligning strategy and policy with delivery;
- Managing the transition from project definition to mobilisation and implementation;
- Facilitating reach back to private sector expertise and best practice.

Delivery model

The delivery model for the Net Zero and Resilient Buildings Centre of Excellence is illustrated in **Error! Reference source not found.**. This shows how all four workstreams across the buildings Action Areas will come together, identifies the key officers and illustrates the role of additional resource capabilities to support existing teams.

For this Project Plan the key resources are:

- Net Zero and Resilient Buildings Centre of Excellence Sustainability Lead
- Chief Officer – Paul Wilkinson
- Senior Accountable Climate Lead – Peter Collison
- Lead Officer - Ola Obadara

The team structure for the Resilient Buildings Action Area is detailed above.

Approach to staff resourcing

The diagram above shows how the proposed Net Zero and Resilient Buildings Centre of Excellence Sustainability Lead would relate to the four workstreams, including this one.

Whilst this plan identifies staff resource requirements, it is not expected that this will be delivered through new internal hires. This will be delivered through project specific consultancy, outsourced

staff and/or flexible project management resources allowing The Corporation to drive value from the supply chain through competitiveness, contractual measures to secure outcomes, flexibility, reach back support and market innovation. This will also inform plans under the current Target Operating Model update. This is particularly relevant to the resourcing of a Buildings Resilience Specialist where this may not be a specific individual but could be an organisation (or combination of the two).

At present, staff resourcing has been developed to address the initial need to complete climate impact modelling and develop a buildings Resilience Action Plan. As the CAS progresses (informed by Year 1) a key review point will be to evaluate resourcing requirements as this may change depending on service outcomes. This review will be managed and guided by the Senior Responsible Officers and the Buildings Chief Officer Group.

Linking with complementary CAS workstreams

There are a number of CAS workstreams underway that link to the work to be completed under this Action Area, notably Mainstreaming Resilience (RS4) and Cool Streets and Greening (RS1). Resilient actions taken here, such as greening (for example), could increase solar shading, reducing the need for air conditioning and thus reducing carbon emissions and ultimately adding value to the overall CAS.

It is also important that outputs from the Design Standards Action Area relate and feed-into the Resilience Action Area and vice versa. For example, the review and development of design standards will support and recognise future resilience requirements, while the Resilience Action Plan will give direction to the focus of design standards.

There is also the opportunity to incorporate resilience thinking into proposed Corporate and Investment Property Group work. For example, energy audits could also encompass water efficiency, review of cooling provision and/or additional BMS upgrades to track internal temperature levels.

By establishing the Buildings Centre of Excellence, working across all these areas, it will facilitate and manage workstreams to make sure action is not duplicated, activity is streamlined and that lessons learnt are shared.

In addition, the Project Schedule for all Action Areas has been developed to account for dependencies from each. This will allow sufficient time for feedback to be shared and incorporated into outputs.

Risk Management

Table 3 illustrates the key risks identified for this Project Plan. It is recognised that some of these will be universal across the four building Action Areas. Therefore, it is important that mitigations and solutions are matched up to ensure they are addressed at the programme level.

It is expected that the role of the Sustainability Lead will be to manage these risks across the four Action Areas so that comparative risk analysis can be completed, risks can be stress tested to quantify their impact on meeting carbon targets and mitigations aligned to ensure a holistic approach.

Table 3 – Risk Management, RAID analysis

Ref:	Description	Type (RAID)	Criticality	Proposed mitigation
R-1	Delays in Governance and sign off result in carbon savings being realised later than planned.	Risk	Critical	• Programme Management Approach to be considered. • Stakeholder Engagement approach detailed below. • Internal Governance requirements to be mapped for Tasks at mobilisation. • Reporting cycles to be mapped for each Task on mobilisation.
R-2	Capital for implementing the Resilience Action Plan from Year 3 onwards has yet to be identified.	Risk	High	• Resilience Action Plan to identify likely capital requirements. • Pilot projects will provide an indication of capital requirements to inform future years. • Mainstreaming resilience workstream seeks to embed resilience work as not additional but BAU costs. The Resilience Action Plan will align with the outputs from this work. • External funding to be sought where possible. • Role of private sector funding to be considered and incorporated.
R-3	Current procurement routes are too slow causing project delay.	Risk	Medium	• Delivery approach to consider delegated authority allowing rapid release of budget where needed to support rapid procurement. • Officer Steering Group (like Flood Risk) could be used to oversee duties. • Pilot projects to identify and test potential procurement routes. • Gain feedback from current Cool Streets and Greening Project
R-4	Innovation may pose a risk in terms of untested technologies, unintended consequences and knowledge/awareness gaps.	Risk	Medium	• Pilot projects to test innovative technologies and approaches. • Use of project specific consultancy to leverage market expertise.
I-1	Benefits aren't quantified at present.	Issue	Medium	• Pilot projects to support identification of likely benefits including establishing a process for benefits quantification. • Benefits realisation and feedback loop to be included in all projects.
D-1	Resilience measures are embedded into 5-year plan upgrade plans for IPG and CPG properties.	Dependency	Medium	• Mitigated through actions in Design Standards • Mainstreaming Resilience Project Plan. • Resilience Action Plan to include actions to embed behaviours

D-2	Tenants and occupiers are willing to engage with the programme.	Dependency	High	• Dedicated tenant engagement workstream to be developed (see Stakeholder Engagement). This should link with the IPG tenant engagement for a co-ordinated approach.
D-3	Dependant tasks must be completed on time. Year 1 tasks must be complete on time to action tasks from year 2 onwards etc.	Dependency	Medium	• Robust Project Schedule developed. • Project Controls in place (see below).
D-4	Needs to link to other Resilience workstreams	Dependency	Medium	• Team members to sit on other relevant project plan/steering group meetings for continuity. • Stakeholder engagement approach (see below).

Stakeholder Engagement

The following table outlines the key stakeholders, how and when we intend to interact with them and what channels will be used.

Table 4 – Stakeholder engagement

Category:	Department / Who	Message	Channels	When
Internal Stakeholders - Department	Chamberlains (Financial) Chamberlains (Procurement) PPG City Surveyors (Chief Officer, CPG, PPG, Energy, Climate Team) Comp Controller Possibly DBE Business Continuity Environmental Resilience Team, Open Spaces	Engage, Inform, Consult, Validate	Tried and tested Climate Chats Interviews Team meetings 1:1 meetings	Needs minimum 6 week lead in time before referring to Committee. Internal liaison through programme and project lifecycles
Internal Stakeholders - Committees	Corporate Project Board Project Sub Committee PIB CASC RASC Court (where complex) Buildings Chief Officer Group	Seek Approval	Tried and tested Committees Meetings	Gateways 1, 2, combined 3 & 4 (4b where relevant), 5 and 6
External	Funders	Seek Offers, Inform	Regular partnership meetings Funding opportunities	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6
External	Environment Agency	Engage, Inform, collaborate	Consultation Regular partnership meetings Funding opportunities	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 1-6
External	Wider businesses within the Square Mile Residents Building Users Tenants	Engage, Inform, collaborate	Consultation surveys Interviews Meetings Website Social media	(At required times in RIBA stage 3 and 4 and 5) At required times gateways 3-5
External	Building Managers Facilities Managers	Engage, Seek information, validate, Inform	Interviews 1:1 meetings	(At required times in RIBA stage 2, 3 and 4) At required times gateways 3-6
External	Supply Chains	Engage, seek information, Inform	Consultation 1:1 meetings	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 2-6
External	External Consultants (design) and Contractors (surveys, design and works)	Engage, Seek Information, collaborate, commission	Consultation Partnership meetings	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 1-6

Reporting cycle

It is assumed that projects will evolve from the master programme of works. It is envisaged that projects will, in the majority, follow the 'regular' route but some may fall under the 'complex' route. The table below identifies reporting envisaged along with stakeholder category.

Table 5 – Reporting cycle

Category:	When	Benefit Realised
Internal Stakeholders (Internal Departments)	Throughout project lifecycle, Gateways	Obtaining advice and feedback. Output monitoring Governance Checks
Internal Stakeholders (Buildings Chief Officer Group (BCOG))	Throughout project lifecycle, Gateways via the Programme Function and progress to KPIs via the CAS Dashboard	Commitment 2: To support the creation of a consistent format and content for effective progress reporting at monthly Chief Officer Group and quarterly Committee meetings from 1 April 2021.
Internal Stakeholders (Committees)	Gateways 1, 2, combined 3 & 4 (4b where relevant), 5 and 6	Tracking and monitoring of project outputs and objectives. Escalation of issue management. Seeking project direction required. Governance Checks
External (Funding)	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6	Known funding outcomes. Progress reporting against funding elements incl. tracking of progress Lessons learned from other projects or best practice
External (Environment Agency)	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 1-6	Obtaining advice and feedback. Complying with Statutory consents. Specific technological information and expertise. Opportunities to link with planned EA works.
External (Residents, Users and Tenants)	(At required times in RIBA stage 3 and 4 and 5) At required times gateways 3-5	Keeping all informed and engaged Informing of methodologies and outputs intended – Involving residents and user's ideas Informing of methodologies and outputs intended – Involving residents and users by allowing people to voice their views Informing of methodologies and outputs intended – how people can play their part. Positive reputational image
External (Building Managers and FM)	(At required times in RIBA stage 2, 3 and 4) At required times gateways 3-6	In-depth knowledge sharing Lessons learning – what works and what works less than envisaged Watch Points sharing - Specific building usage / information that could help or hinder projects.
External (Supply chains)	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 2-6	Gathering market intelligence and information Complying with Statutory consents
External (Consultants & Contractors)	RIBA Stage 1, 2, 3, 4, 5 and 6 At required times gateways 1-6	Obtaining advice. Receiving specialist design knowledge and sharing. Specific technological information and expertise. Additional resource to assist existing teams.
External (Distribution Network Operator)	Concurrent with gateway 4 (RIBA Stage 2, 3, 4, 5 & 6) At required times gateway 2-6	Identify the viability of proposed interventions and any required enabling works. Understanding of impact on project timescales and costs. Specific technological information and expertise.

Project Controls

The following Key Performance Indicators (KPIs) will be defined and tracked by this Project in order to judge its overall delivery success. Each will be tracked on a quarterly basis for qualitative (initially) and move toward quantitative progress reporting and will be reported formally in the Annual Report each year starting FY22/23.

Project-level Key Performance Indicators (KPIs)

The below table sets out the principal KPIs that will track the delivery of the four CAS headline targets listed below. A trajectory and set of milestone target dates are to be developed for each.

1. Net zero by 2027 in the City Corporation's operations
2. Net zero by 2040 across the City Corporation's full value chain
3. Net zero by 2040 in the Square Mile
4. Climate resilience in our buildings, public spaces and infrastructure

Reporting KPIs are intended to be refreshed as part of the annual cycle of baseline re-assessment work beginning in FY22/23. The Management KPIs will be refreshed more regularly and will be reported via the Climate Performance Dashboard to committees from FY21/22.

Table 6 - Key performance indicators (KPI)

KPI name		Definition	Relevant CAS target	Regularity of reporting
Resilience actions taken by department		Number of resilience actions taken by service departments.	• Climate resilience in our buildings, public spaces and infrastructure	Rolling total on a real time dashboard
Resilience actions influence on carbon reduction		Tonnes of CO_2e reduced by implementation of resilience actions	• Net Zero by 2027 in the City Corporation's operations • Net zero by 2040 across the City Corporation's full value chain • Net zero by 2040 in the Square Mile • Climate resilience in our buildings, public spaces and infrastructure	Annually
Resilience risk	Total % of resilience risks addressed	Percentage of identified resilience risks addressed	• Climate resilience in our buildings, public spaces and infrastructure	Annually
	% of critical resilience projects delivered	Percentage of identified critical resilience projects delivered	• Climate resilience in our buildings, public spaces and infrastructure	Annually
	% of sub-critical resilience projects delivered	Percentage of identified sub-critical resilience projects delivered	• Climate resilience in our buildings, public spaces and infrastructure	Annually
	% of non-critical resilience projects delivered	Percentage of identified non-critical resilience projects delivered	• Climate resilience in our buildings, public spaces and infrastructure	Annually
	Residual risk	Number of identified business critical, sub-critical and non-critical risk outstanding	• Climate resilience in our buildings, public spaces and infrastructure	Annually

Key Data and Information

Documentation and process controls will be improved to allow for future audit and quality assurance measures such as alignment to best practice international standards on climate reporting.

Where data governance gaps exist, the Sustainability Lead will develop a data maturity strategy to increase data accuracy and completeness, ensure integration of key data across key workstreams and provide clear governance and performance management going forward. This will also include data and information requirements that will extend to any outsourced work to provide assurance on quality.

As this project progresses data will be generated as to the effectiveness of resilience interventions. Further KPIs and targets may be periodically linked to the efficacy of measures and their overall contribution to the CAS. This will be subject to the Change Control Procedure.

The data generated by this project will be collated and displayed through Power BI dashboards to improve accessibility and understanding for a range of audiences.

Internal Governance

- Net Zero and Resilient Buildings Centre of Excellence to report to Buildings Chief Officer Group;
- Action Area Chief Officers and Senior Accountable Climate Leads to report to Buildings Centre of Excellence;
- Lead officers to report to Action Area Chief Officer and Senior Accountable Climate Lead;
- Proposed Project Board (Extraordinary Board) where required for cost and progress updates under the holistic Capex cost allowance;
- Internal Stakeholders (all gateway reports) - informal project updates and formal gateways reports ahead of submission to Committees.

APPENDIX 1

Task breakdowns

Task	**1 - Climate change impact modelling and risk assessment**
Outcome	Delivery of climate impact modelling for CPG and IPG assets.
Responsible officer	Property Project Director
Description	Modelling and risk assessment exercise to identify resilience risks and constraints to implementation for The Corporation's physical assets. It will identify key risks both natural and man-made and specify the likely interventions necessary to provide protection to the users of the buildings. By identifying the climate resilience assets already in place (e.g. green roofs and flood resilience), this modelling will also allow for greater efforts and impact towards strengthened buildings' resilience. The output will provide a strong, data-led approach allowing for a deeper understanding of climate related risks and will support the CAS goal of mitigating these risks within the first six years of CAS implementation. This is expected to be split across two phases: Phase 1 - Identification of areas with heightened risk (e.g. flooding, temperature increases) and the need for enhanced resilience measures to be implemented. Phase 2 – Model the impact of specific adaptation and resilience measures on key assets, providing insight into the scope and specification of interventions to be adopted and implemented.
Timescales	**Year 1** – Commissioning and delivery of climate change impact modelling and risk assessment For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> None.

Costs

	Year					
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
Project specific consultancy	£200	-	-	-	-	-
Staff resource (outsourced)	-	-	-	-	-	-
Resource	**£200**	**-**	**-**	**-**	**-**	**-**
Capital	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL	**£200**	**-**	**-**	**-**	**-**	**-**

Benefits	Identify resilience risks, and constraints to implementation. Data-led approach allowing for a deeper understanding of climate related risks. Identification of pilot projects in the Corporate and Investment Property Estates.
Assumptions	

Task	**2 - Development of Resilience Action Plan**
Outcome	Development of detailed action plan covering resilience project roll out.
Responsible officer	Property Project Director

Description

Following the completion of Task 1, and co-ordinating with outcomes from the Design Standards Project Plan, a Resilience Action Plan will be developed to provide a roadmap for delivery across the CPG and IPG estates to mitigate risks such as flooding, temperature increases and energy security.

This will reference and build upon the Resilience Pathways work completed by Buro Happold, identifying how key assets, critical infrastructure and sensitive equipment will be protected.

This Action Plan will identify the timescales for action, key risks and specific interventions. Importantly this will also identify how specific interventions can be aligned with planned works (including 5-year plans) and establish a framework for measuring and monitoring resultant risk mitigation.

It is expected that interventions will be divided into three broad categories:

- **Critical resilience projects**
- **Sub-critical resilience projects -** measures that are important to business continuity, but less critical in nature.
- **Non-Critical resilience projects**

For each intervention, detail in relation to the scope, specification, engagement process, governance and timescales will be provided. It will also identify a reporting process and metrics designed to manage progress to ensure identified outcomes are deliverable.

An overview of measures that may be adopted as part of a building retrofit programme to manage the impacts of a changing climate were shared by Buro Happold. This is provided in Appendix 2 for reference.

Timescales

Year 1 – Commissioning and development of Resilience Action Plan.

Year 2 – Finalise Resilience Action Plan

For further breakdown see Gantt Chart (Project Schedule).

Key dependencies

Task 1 and Design Standards Action Area.

Costs

	Year					
Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
Project specific consultancy	£50	£50	-	-	-	-
Staff resource (outsourced)	*As identified in Task 5*					
Resource	**£50**	**£50**	**-**	**-**	**-**	**-**
Capital	-	-	-	-	-	-
TOTAL	**£50**	**£50**	**-**	**-**	**-**	**-**

Benefits

Prioritised action plan to mitigate resilience risks.

Integration of actions into existing planned works and 5-year plans.

Protection of key assets, critical buildings and sensitive equipment.

Identification of pilot projects on the Corporate and Investment Property estates.

Identification and quantification of specific resilience projects.

Assumptions

Task	**3 - Resilience Action Plan – Pilot Project Delivery**
Outcome	Identify, specify, procure and deliver at least one pilot project to improve the resilience of CPG and IPG assets.
Responsible officer	Property Project Director

Description	Based on previous Tasks, this will identify, specify, procure and deliver pilot projects to improve the resilience of CPG and IPG assets on a small scale before full roll out. This could include Sustainable Urban Drainage Systems, grey water recycling measures, thermal mass inclusion within buildings and/or green roof retrofit. The pilot phase is expected to incorporate a higher level of data gathering and measurement and verification to ensure interventions can be assessed in terms of their effectiveness and appropriateness before being taken forward at a greater scale. This will capture lessons learnt and provide feedback to inform future phases. It is expected this task could be delivered in collaboration with other resilience actions e.g. Cool Streets and Greening to allow a coordinated approach. An overview of measures that may be adopted as part of a building retrofit programme to manage the impacts of a changing climate were shared by Buro Happold. This is provided in Appendix 2 for reference.
Timescales	**Year 2** – Delivery of pilot project(s) informed by the Resilience Action Plan. For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> Task 1 and 2.

Costs		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-
	Staff resource (outsourced)	-	*£50*	-	-	-	-
	Resource	**-**	**£50**	**-**	**-**	**-**	**-**
	Capital	**-**	**£500**	**-**	**-**	**-**	**-**
	TOTAL	**-**	**£550**	**-**	**-**	**-**	**-**

Benefits	Delivery of resilience pilot projects. Gathering of feedback and lessons learned. Identification of potential procurement routes. Quantification of potential benefits and process for measuring these going forward. Implementation and monitoring of risk mitigation.
Assumptions	• Flexible PM resource at 10% of total capital cost.

Task	**4 - Resilience Action Plan – Full roll out**
Outcome	Roll out of Resilience Action Plan.
Responsible officer	Property Project Director
Description	Using knowledge and learning from the previous Tasks this will include the implementation of capital projects to roll out the Resilience Action Plan. This will likely be broken down into the following phases (subject to finalised Resilience Action Plan). **Phase 1: Critical resilience projects** Focuses on the implementation and delivery of critical resilience measures across the estate. **Phase 2: Sub-critical resilience projects** Focuses on the implementation and delivery of measures that are important to business continuity, but less critical in nature. **Phase 3: Non-Critical resilience projects**

	Focuses on the implementation of measures that are not critical to business continuity, but merit investment to safeguard future opportunity or need. It is envisaged these projects will be delivered towards the end of the Project Plan term. An overview of measures that may be adopted as part of a building retrofit programme to manage the impacts of a changing climate were shared by Buro Happold. This is provided in Appendix 2 for reference.
Timescales	**Year 2** – Roll out of projects identified in the Resilience Action Plan For further breakdown see Gantt Chart (Project Schedule). <u>Key dependencies</u> Task 1, 2 and 3.

Costs		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-
	Staff resource (outsourced)	-	-	*£150*	*£150*	*£150*	*£150*
	Resource	**-**	**-**	**£150**	**£150**	**£150**	**£150**
	Capital	**-**	**-**	**£1,500**	**£1,500**	**£1,500**	**£1,500**
	TOTAL	-	-	**£1,650**	**£1,650**	**£1,650**	**£1,650**

Benefits	Protection of Built Environment against adverse climatic events. Asset value maintained and enhanced. Business continuity secured. Growth and development protected. Comfort & Wellness for building users.
Assumptions	• Costs run up to Year 6 (2026/27) only. • Flexible PM resource at 10% of total capital cost. • Capital funding identified as the remaining budget from the £8 million envelope secured for this Action Area.

Task	**5 – Appoint specialist resource**
Outcome	Resourcing of Buildings Resilience Specialist
Responsible officer	Property Project Director
Description	Recruitment of resilience expertise to form the core of the extended team to lead Tasks identified above, co-ordinate consultancy activity and support departments in the delivery of carbon reduction interventions. To successfully achieve the Task outcomes, it is important that there is organisational reach back to a wider pool of specialisms e.g. architecture, MEP, structural, sustainable materials, etc. to encompass the breadth of expertise required for this action area. Therefore, the procurement approach for this role should reflect that this may not be a specific individual but could be an organisation (or combination of the two).
Timescales	**Year 1** – Resourcing of Buildings Resilience Specialist <u>Key dependencies</u> None.

Costs		**Year**					
	Cost - £k	**21/22**	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**
	Project specific consultancy	-	-	-	-	-	-

	Staff resource (outsourced)	*£55*	*£110*	*£110*	*£110*	*£110*	*£110*
	Resource	**£55**	**£110**	**£110**	**£110**	**£110**	**£110**
	Capital	-	-	-	-	-	-
	TOTAL	**£55**	**£110**	**£110**	**£110**	**£110**	**£110**
Benefits	Enabling action for identifying and managing Tasks above. Coordination and linking of Resilience with Design Standards workstreams. Link and coordinate with other resilience Action Areas e.g. RS2 and RS4.						
Assumptions	• Assumed average cost of £110k/annum/FTE for this resource level. • Resources to start six months into Year 1, hence costs of £55k.						

APPENDIX 2 - Typical building resilience measures

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Appendix. 1: Top 30 Site Energy Performance & Bottom 5 Performance Overview

Performance comparison by top 30 sites: Q3 2020/21 with Q3 2019/20

	Weather corrected rolling 12 month comparison: 12 months to Dec-20 compared to 12 months to Dec-19			
	Values			
Site Name	Sum of Dec-19	Sum of Dec-20	Diff. kWh	Diff. %
Animal Reception Centre	700,796	785,276	84,480	12.1%
Barbican Arts Centre	18,392,319	15,389,946	-3,002,373	-16.3%
Billingsgate Mkt (LL & tenant)	3,823,144	3,438,748	-384,396	-10.1%
Bishopsgate Police Station	3,340,106	3,127,286	-212,821	-6.4%
Central Criminal Court	7,273,167	6,208,101	-1,065,067	-14.6%
City of London Crematorium	2,829,542	2,687,872	-141,670	-5.0%
CoL Freemen's School	4,521,211	4,152,470	-368,741	-8.2%
City of London School	2,972,551	2,950,968	-21,583	-0.7%
CoL School for Girls	2,284,709	2,265,887	-18,823	-0.8%
GSMD – Silk St.	2,243,468	1,713,383	-530,085	-23.6%
GSMD - Milton Court	3,283,278	2,547,057	-736,221	-22.4%
GSMD - Sundial Court	1,796,794	1,464,392	-332,402	-18.5%
Guildhall Complex	17,380,631	15,202,156	-2,178,475	-12.5%
Smithfield Mkt (LL & tenant)	15,118,674	10,761,844	-4,356,830	-28.8%
LMA	1,241,560	1,271,775	30,215	2.4%
Mansion House	2,136,057	1,757,808	-378,249	-17.7%
Minories Car Park	239,882	184,695	-55,187	-23.0%
New Spitalfields Mkt (LL & Tenant)	6,739,688	6,088,609	-651,079	-9.7%
OS Epping Forest	612,979	654,197	41,218	6.7%
OS Golders Hill & Extension	316,411	311,190	-5,221	-1.7%
OS Hampstead Heath	694,374	587,038	-107,335	-15.5%
OS Parliament Hill	263,365	304,933	41,568	15.8%
Snowhill Police Station	761,672	505,535	-256,137	-33.6%
Streetlighting	3,575,693	3,110,360	-465,333	-13.0%
Tower Bridge	2,384,342	1,958,395	-425,947	-17.9%
Tower Hill Coach & Car Park	551,307	495,338	-55,969	-10.2%
Upper Thames St. Tunnel Ltg	236,781	185,277	-51,504	-21.8%
Walbrook Wharf	1,657,364	1,924,723	267,359	16.1%
Wood Street Police Station	1,476,289	908,724	-567,565	-38.4%
New Street (21)	1,813,859	1,867,491	53,632	3.0%
Total	110,662,015	94,811,476	-15,850,539	-14.3%

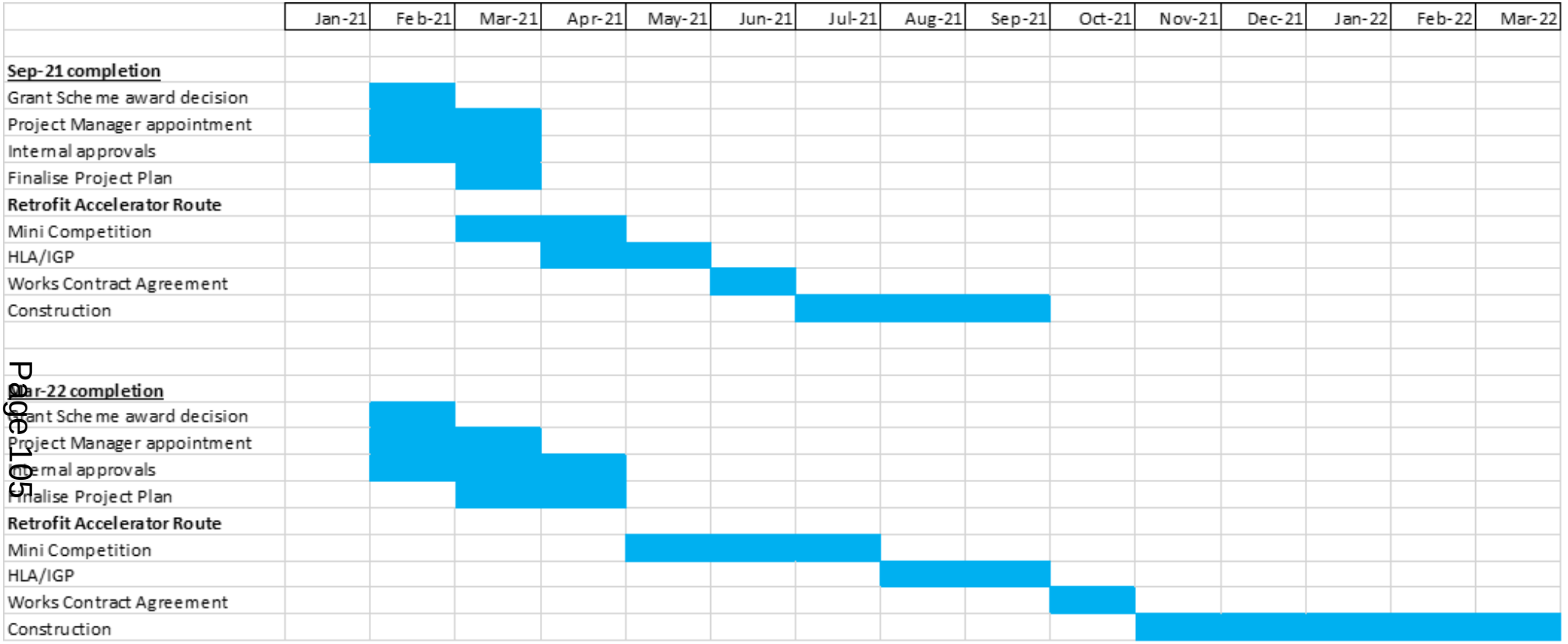
Bottom 5	Performance Overview
Walbrook Wharf	Changes in Occupancy & repair of garage heaters.
Animal Reception	Possible increase in heating and domestic hot water use due to Covid-19.
21 New Street	Metering reconciliation.
Open Spaces Parliament Hill	Increased gas consumption from Staff Yard boiler - Team investigating
Open Spaces Epping Forest	The View gas consumption increase – Team investigating

Appendix. 2: PSDS project descriptions

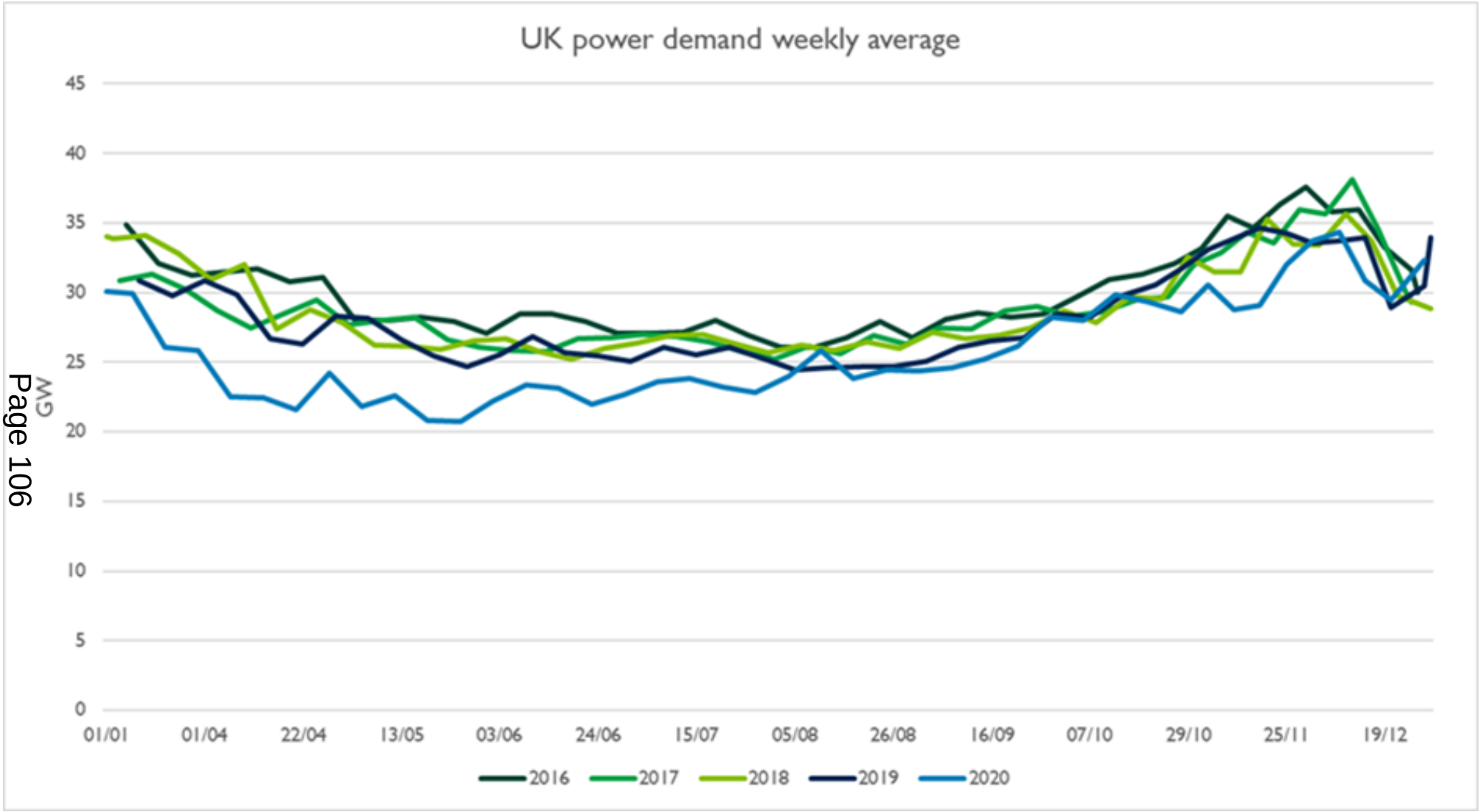
Project Names	Energy Cost savings (£/yr)	Carbon savings (tCO2e/yr)
Cross-cutting		
Energy Management Software	£0	0
Building Energy Analyser	£0	0
Sub-Total	**£0**	**0**
London Metropolitan Archives		
LMA EC Fans	£10,001	8
Sub-Total	**£10,001**	**8**
Guildhall Complex		
Guildhall EC Fans	£205,413	144
Guildhall Humidifiers	£39,195	370
Guildhall: Cooling Stage 1 Migration Works	£22,477	17
Guildhall Metering	£0	0
Guildhall - Lighting	£74,832	39
Sub-Total	**£341,917**	**570**
Barbican Art Centre		
BAC Insulation Upgrades	£4,227	51
BAC Damper Works	£49,192	259
BAC Valve Works	£35,433	78
BAC EC Fan upgrades	£39,155	21
BAC BMS recommission/ upgrades	£4,568	14
Barbican Arts Centre Metering	£0	0
BAC - Lighting	£179,241	94
Sub-Total	**£311,815**	**516**
GSMD		
GSMD Insulation Upgrades	£1,812	22
GSMD Damper Works	£14,282	75
GSMD Valve Works	£32,615	254
GSMD Milton AHU's control and upgrade	£6,335	3
GSMD BMS recommission/ upgrades	£6,769	20
GSMD Milton - Cooling Mods	£25,755	17
Silk St metering	£0	0
Milton Court Metering	£0	0
GSMD Milton - Lighting	£45,244	23
GSMD Silk - Lighting	£32,714	18
GSMD Sundial - Lighting	£45,498	24
Sub-Total	**£211,023**	**456**
Total	**£874,756**	**1,549**

Please note that some projects have zero savings directly associated with them as they are enablers to the other projects listed. Their savings are captured within those other projects.

APPENDIX 3: PSDS Programme for project delivery



Appendix 4: UK weekly Power Demand: 2016 - 2020



CITY SURVEYORS DEPARTMENT - BUDGET MONITORING STATEMENT						Appendix A	
LOCAL RISK BUDGET Quarter 3 as at 27th December 2020	Latest Approved Budget £000	Quarter 3 Profile £000	Quarter 3 Total Expenditure £000	Under / (Over) Spend for Period £000	Quarter 3 Projected Outturn £000	Under / (Over) Spend for 2020-21 £000	
CITY SURVEYOR							
City Fund							
City Fund Estate & Leadenhall	(2,110)	(1,185)	(1,243)	(58)	(2,110)	0	1
CPAT & City Centre	(551)	(446)	(349)	97	(476)	75	2
Walbrook Wharf	(1,001)	(788)	(730)	58	(980)	21	3
Mayor's & City of London Court	(23)	(17)	(24)	(7)	(28)	(5)	
Recoverable Projects	0	0	0	0	0	0	
Lower Thames St Roman Bath	(8)	(6)	(9)	(3)	(10)	(2)	
R&M & MI Work for other departments	(1,441)	(1,134)	(1,065)	69	(1,405)	36	4
Corporate FM cleaning & security	(110)	(87)	(88)	(1)	(123)	(13)	
	(5,244)	(3,663)	(3,508)	155	(5,132)	112	
City's Cash							
City's Cash Estate	(3,713)	(2,044)	(2,034)	10	(3,713)	0	
Departmental	(9,510)	(7,213)	(7,832)	(619)	(10,311)	(801)	5
Mayoralty & Shrievalty	(93)	(81)	(33)	48	(58)	35	
R&M & MI Work for other departments	(2,173)	(1,704)	(1,451)	253	(1,977)	196	6
Corporate FM cleaning & security	(632)	(513)	(498)	15	(675)	(43)	7
	(16,121)	(11,555)	(11,848)	(293)	(16,734)	(613)	
Bridge House Estates							
Bridge House Estates	(2,442)	(1,451)	(1,467)	(16)	(2,442)	0	
Tower Bridge Corporate FM cleaning	(262)	(196)	(168)	28	(249)	13	
	(2,704)	(1,647)	(1,635)	12	(2,691)	13	
Guildhall Administration							
Guildhall Complex	(8,481)	(6,378)	(5,962)	416	(8,248)	233	8
	(8,481)	(6,378)	(5,962)	416	(8,248)	233	
Total City Surveyor Local Risk	**(32,550)**	**(23,243)**	**(22,953)**	**290**	**(32,805)**	**(255)**	

Notes

1. Professional fees spend running ahead of profile but anticipated to be on budget by year-end.

2. Saving due to cancellation of MIPIM conference.

3. The underspend at the end of December is principally due to reduced expenditure on repairs and maintenance. This margin will reduce by year-end.

4. Reduced reactive spend due to lower usage in pandemic.

5. Overspend comprises additional salary cost mainly due to fundamental review facilities management reorganisation on hold due to the target operating model; reduced professional fee income due to the pandemic; and inclusion of the overspend from 2019/20.

6. Reduced reactive spend due to lower usage in pandemic.

7. Overspend at year-end due to additional cleaning costs and Mansion House security costs.

8. Savings due to reduced usage of the complex due to the pandemic. Spend has reduced across energy, cleaning and staffing. This is in part offset by additional repairs and maintenance spend to make the complex Covid-19 compliant.

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Key Performance Indicators

Ref	Title	Target	Group	Committee	Q1 Actual	Q1 RAG	Q2 Actual	Q2 RAG	Q3 Actual	Q3 RAG	Q4 Actual	Q4 RAG
KPI. 1	Asset Realisation and additional income	£3.1m	CPG	CASC	off target	amber	off target	amber	off target	amber		
KPI. 2	Energy Consumption***	Min 4%	OG	CASC	7.00%	green	11.40%	green	13.50%	green		
KPI. 3	Space Utilisation	£3,620	CPG	CASC	off target	amber	off target	amber	off target	amber		
KPI. 4	Property contract Performance Compliance	> 90%	OG	CASC	92.59%	green	92.54%	green	92.59%	green		
KPI. 5	Adherence to Budgetary Spend Profiles	95% to 10	All	PIB; CASC	off target	amber	37.62%	amber	46.30%	amber		
KPI. 6	Capital Project - Delivery - defects on completion*	< 20%	PPG	PIB; CASC	n/a	n/a	6.00%	green	n/a	n/a		
KPI. 7	Capital Project - Project Status	< 20%	PPG	PIB; CASC	14.00%	green	16.00%	green	13.00%	green		
KPI. 8	Capital Project- Health & Safety*	80%	PPG	PIB; CASC	n/a	n/a	80.00%	green	n/a	n/a		
KPI. 9	Capital Project- Gateway Reports	> 70%	PPG	PIB; CASC	57.00%	amber	75.00%	green	77.00%	green		
KPI. 10	Capital Project - Site sustainability waste management	> 90%	PPG	PIB; CASC	100.00%	green	99.00%	green	99.00%	green		
KPI. 11	Rental Forecasts ****	tbc	IPG	PIB	tbc	****	tbc	****	tbc			
KPI. 12	Minimise Arrears ****	tbc	IPG	PIB	24.87%	****	11.11%	****	12.91%	****		
KPI. 13	Minimise voids (*) ****	tbc	IPG	PIB	2.94%	****	n/a	****	2.52%	****		
KPI. 14	Outperform MSCI**	exceed bc	IPG	PIB	tbc	tbc	tbc	tbc	tbc	tbc		
KPI. 15	Customer satisfaction survey**	> -32	All	CASC	tbc	tbc	tbc	tbc	tbc	tbc		
KPI. 16	Delivery of Strategic utility infrastructure	on schedu	CPAT	PIB; CASC	off target	green	on target	green	on target	amber		
KPI. 17	Supporting the retention and inward investment of businesses	on schedu	CPAT	PIB; CASC	on target	green	on target	green	on target	amber		

*reported bi annually

** reported annually

*** reported a quarter in arrears

**** RAG currently suspended

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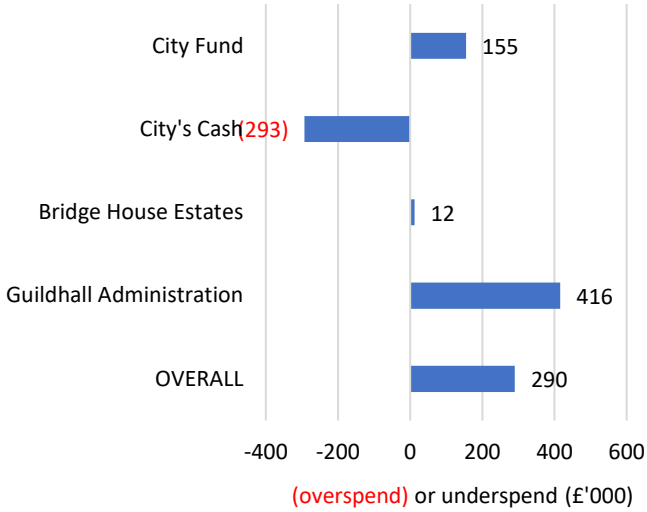

Figure 1 Variance against profiled local risk budget – (overspend) or underspend

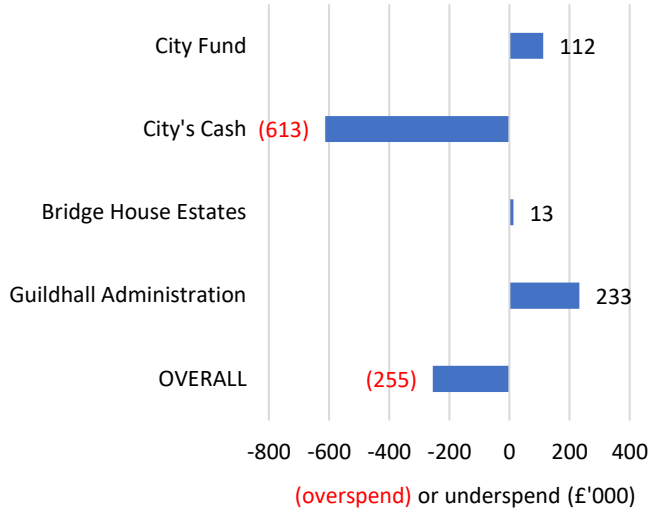

Figure 2 Projected year-end variance of the local risk budget – (overspend) or underspend

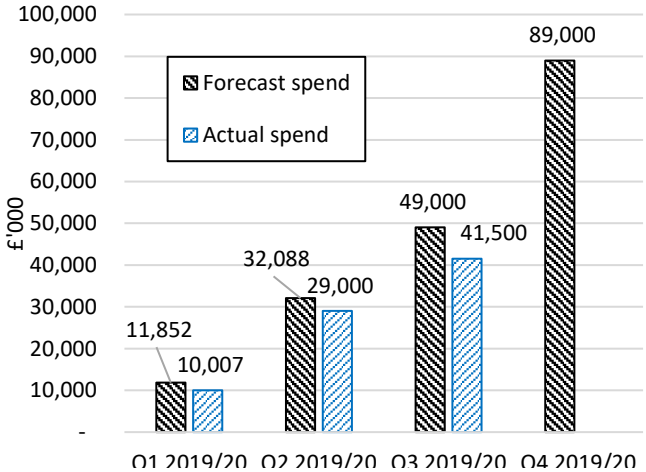

Figure 3 All project spend, forecast v actual

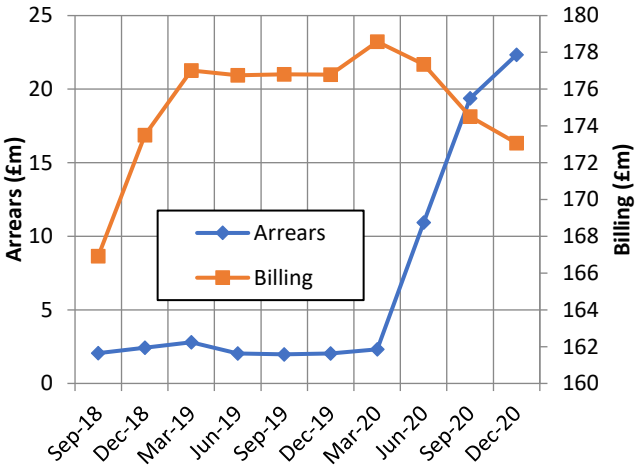

Figure 4 (Investment Properties) Commercial tenants' arrears compared to annual rolling billing run.

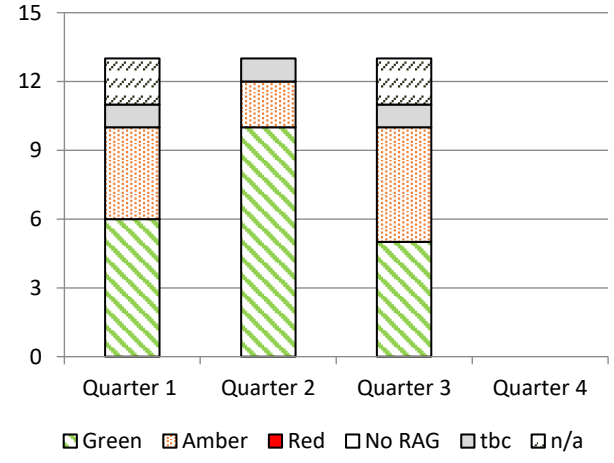

Figure 5 Performance of KPIs linked to Corporate Property (Corporate Asset Sub Committee)

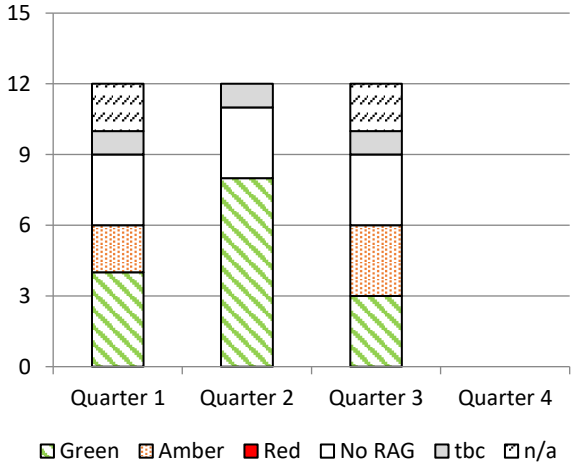

Figure 6 Performance of KPIs linked to Investment Property (Property Investment Board)

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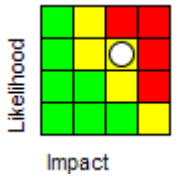
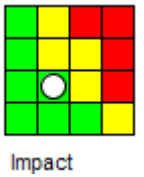
Appendix 1 – Departmental Risk Register

SUR Departmental risks - detailed report EXCLUDING COMPLETED ACTIONS for committee

Report Author: Faith Bowman
Generated on: 15 March 2021

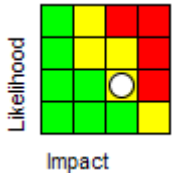
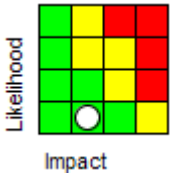
Rows are sorted by Risk Score

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR SMT 002 Insufficient budget to meet user and asset demand at Guildhall	**Cause:** Insufficient budget and accessibility due to the increase/intensification of use at Guildhall Complex. Insufficient funding being made available for Major Works, Cyclical Works and Day to Day Maintenance Budget to manage the repair demands on the Guildhall Complex. **Event:** Insufficient asset funding and lack of accessibility to complete all works due to increase/intensification of use at Guildhall Complex **Impact**: The standard of the Guildhall Complex will start to deteriorate, resulting in; poorer working environments leading to increased dissatisfaction and lower employee productivity and potential increase in breakdowns and reactive costs as the basic infrastructure of the Complex becomes beyond economic repair.		**12**	This risk captures the longer-term risks associated with funding for the Guildhall. Risks relating to the current Coronavirus situation (CVD19 SG PROP 05) are covered in a separate appendix. The principal mitigation actions are related to forecasting and monitoring the allocation of financial and human resources. It has been identified that elements of the West Wing mechanical and electrical systems, and plan equipment, are at an increased risk of failure. Additional inspections have been instituted Some parts of the general infrastructure of the Guildhall		**4**	31-Mar-2022	

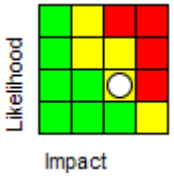
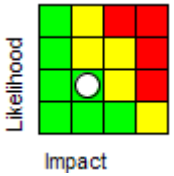
27-Feb-2015 Peter Young				Complex are becoming beyond economic life, resulting in main Mechanical/Electrical Plant and Fabric failing across the Complex. The Guildhall Masterplan considers a complete refurbishment of some parts of the general infrastructure and has been proposed as part of the Fundamental Review. Due to increasing likelihood of breakdowns of life-expired elements of mechanical and electrical or plant and equipment, increased inspection regime has been instituted for the West Wing. The increase in air circulation (Covid-19 response) is also placing greater pressure on certain M&E elements. **15 Mar 2021**				Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR SMT 002e	Fundamental Review of the Guildhall Complex	A wholesale review of the North Wing and West Wing was presented as an option to Members for consideration as part of the Fundamental Review. An annual bid for fees in 2021/22 was approved and this will be progressed to Gateway 2 stage in the coming year.	Paul Wilkinson; Peter Young	15-Mar-2021	31-Mar-2022
SUR SMT 002f	Cross departmental working	Single point of contact for Profit and Loss to be created within the Remembrancer's. Department. This activity has been agreed by CASC and a more detailed report, noting the key figures, will be presented to Members later in the year. The possibility of a sinking fund for the site has been explored and agreed by CASC. CSD will provide a facilities event-related operating business plan with the Remembrancer's Department, detailing the funding, management and operating arrangements including the funding sources. This action has been delayed due to current events (Covid-19) and this will be	Remembrancer; Peter Collinson	15-Feb-2021	30-Sep-2021

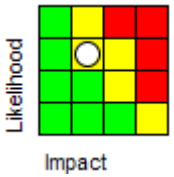
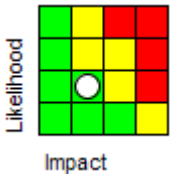
		revisited shortly, taking account of any changes as proposed by the Target Operating Model (TOM).			
SUR SMT 002g	Maintenance management	The department continues to work with Skanska, our Building Repairs and Maintenance Contractor, to review and improve the correct Planned Preventative Maintenance (PPM) regime. The Corporate Property Asset Management Strategy (CPAMS) 2020-25 was presented and approved by CAsC and Finance. The overall condition standard for properties (good) remains consistent with previous strategies.	Peter Collinson	15-Mar-2021	30-Jun-2021
SUR SMT 002h	Prioritisation review	The department reviewed the prioritisation of major projects in light of covid-19 and the financial circumstances. This also considered the Guildhall Masterplan and how this may impact projects. This review has been approved by CAsC, and some bids have been approved by Resource Allocation Sub-Committee for funding in 2021/22	Peter Collinson; Peter Young	15-Mar-2021	31-Jul-2021
SUR SMT 002j	Budget adjustment	The department is identifying how to maintain services across the complex in light of lower budget allocations for 2021-22 and on-going Covid-19 conditions. The team is working through options and a report will be presented to CAsC in April. This will identify areas where savings are being made and any changes in service to align to the new budget.	Peter Collinson; Peter Young	15-Mar-2021	30-Apr-2021

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR SMT 010 Unable to meet the Carbon Decent Plan for 2026 13-Dec-2018 Peter Collinson	**Cause:** Lack of resources – people and funds across organisation to deliver energy efficiency projects **Event**: Failure to reach Carbon Descent Plan Targets (40% reduction in 2008 energy consumption by 2026) **Effect:** Environmental damage, Failure to reduce expenditure, Reputational damage, Failure to achieve vision of the department, unable to meet ambition of the Corporate Plan.		**8**	The Carbon Descent Plan will be integrated into the Climate Action Strategy (CAS). The department has recently (end February) held meetings with colleagues in Town Clerks, Chamberlain's and Built Environment. This is to ensure that the new risk will directly align and support the draft Climate Action corporate risk (CR30). The City Surveyor's Department is responsible for the delivery of a programme of works across operational and investment portfolios. Work on developing this risk is on-going and it was not possible for the department to finalise the draft in time for the March and April Committee cycle. In terms of the existing Carbon Descent Plan 2026, consumption has reduced significantly from the 2008 baseline year, and the trajectory would meet the CDP targets. **25 Feb 2021**		**2**	31-Mar-2026	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR SMT 010c	Funding source and route for capital programme	Agreed delivery model and costs Phase 1 and 2 submitted for funding as part of the annual capital bid programme. (Phase 1 provisionally approved). Further funding opportunities discussions have been undertaken with colleagues in the Chamberlain's Department, particularly in regards to Salix funding.	Peter Collinson	15-Mar-2021	31-Mar-2022
SUR SMT 010d	Better utilisation of the building management system (BMS)	Improved use of the BMS system to result in better energy use at the Guildhall Complex. The BMS expert has been secured for an additional 12 months. They will be working on a detailed BMS strategy, including for the Guildhall complex.	Peter Collinson	15-Mar-2021	31-Mar-2022
SUR SMT 010e	Project identification	The upcoming challenge will be to identify deliverable projects under the CAS – particularly where this relates to occupied properties. Initial scoping work is underway.	Peter Collinson	15-Mar-2021	31-Mar-2022

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR SMT 014 Backlog maintenance 04-Nov-2019 Peter Collinson	**Cause**: Insufficient funds to manage the repair demands at operational properties (Budget available does not match the annual Cyclical Works Programme Bid List of requirements) **Event:** Maintenance demands for operational properties exceeds available funding. **Impact**: Reactive repairs budget used to meet maintenance demands, loss of income from events spaces, reputational impacts, long-term properties may cease to meet operational requirements (Reduced rental income, reduced capital value, increased breakdown of M&E services, reduced customer satisfaction, poor building use and efficiency)		**8**	The Cyclical Works Programme (CWP) bid for 20/21 has a reserve list of unfunded works of £26m, these works are essential to keep the operational properties in a good standard. This unfunded works will result in an increase in the backlog of maintenance. CWP report has been presented to CAsC. This shows a gradual rise in deferred maintenance from c£80m to c£130m over the next five years. The Fundamental Review has proposed the reduction in the funds available to the CWP for 2020/21 by £1m, which will impact this risk. The CWP process has been reviewed to focus more clearly on asset need rather than on available funds. This will rely upon intelligent information from our CAFM (Computer Aided Facilities Management) system Major projects will be subject to the Capital Bid process. To deliver additional projects, savings from the capital budget will need to be made (ie, a new project will result in the de-prioritisation of an existing project). **15 Mar 2021**		**4**	31-Mar-2022	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR SMT 014b	Additional funding report may be required	The CWP bid list for 2022/23 has been supported. This list is broken down into three functional areas to aid tracking and transparency.	Alison Bunn	15-Feb-2021	31-May-2021
SUR SMT 014g	Next generation CAFM system	The department is looking to procure a 'next generation' CAFM (Computer Aided Facilities Management) system. This will enhance the department's capacity to plan forward maintenance on asset condition and result in a more accurate determination of outstanding and upcoming repairs and maintenance. This procurement activity is currently on track.	Peter Collinson	15-Feb-2021	31-Oct-2021
SUR SMT 014h	Ring fenced budgets	CSD is communicating with ring fenced property departments to identify appropriate building maintenance requirements and spend (forward maintenance). These department occupiers allocate funds for the maintenance of the built assets. Whilst the City Surveyor's Department recommends work to be undertaken, it is the occupying department who holds the budget responsibility and thus has final control over activity. There is an on-going internal audit in this area. Ideally this will recommend more transparency on decisions and impacts, and how these are communicated corporately to CAsC. The City Surveyor's Department will implement the audit recommendations.	Peter Collinson	15-Mar-2021	31-Jul-2021
SUR SMT 014i	Special Structures 'includes both building and non-building assets'.	An inventory of special structures is being developed, following which time surveys will be undertaken. A gap analysis will be undertaken to consider the current vs desired condition. A funding bid may be required, depending on the results of the above analysis.	Peter Collinson; Peter Young	15-Feb-2021	31-Mar-2022

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR SMT 016 Health and Wellbeing of Staff 16-Jun-2020 Paul Wilkinson	**Cause:** Extended period of working away from colleagues due to Covid-19 exacerbating stress levels, or individuals home working conditions are not optimal. **Event**: Health and wellbeing of staff deteriorates **Impact:** Negative impact on staff morale, higher levels of absenteeism and turnover, impact on productivity		**6**	This risk considers the health and wellbeing of departmental staff. This is exacerbated under the current second lockdown as a result of COVID-19 and the effect of home schooling etc. Uncertainty pertaining to the TOM, and restrictions on recruitment are also placing strains on some employees. This is being mitigated through engagement and communication. The management team is being pro-active in its engagement with staff, and working closely with corporate colleagues (HR) to mitigate impacts. Practically this includes guidance on remote-managing/motivating. **15 Feb 2021**		**4**	31-Mar-2022	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR SMT 016a	Communications	All directors are having regular meetings with key staff and encouraging regular interaction at all levels throughout the department. The City Surveyor is holding bi-weekly meetings with all departmental staff through Teams. Electronic staff newsletter is being distributed quarterly. Each of these activities is focussed around ensuring that there is a common sense of purpose, issues can be identified early, and appropriate signposting can be made to ensure that at risk	Matt Porpiglia; Peter Collinson; Nicholas	15-Feb-2021	31-Mar-2022

		staff are able to access appropriate services.	Gill; Ola Obadara; Peter Young		
SUR SMT 016b	Flexible working	Flexibility with returning to the office is being considered. This will enable those who feel their work is best undertaken at the office to work from this location to do so, together with the option for greater flexibility for remote working for those who work optimally away from their desks. Ultimately this will provide a variety of work environments for employees. To reach this situation, infrastructure constraints will need to be overcome. This includes DSE and internet connectivity issues which continue to impact a minority of staff. There is anxiety from some staff about returning to the office in the short-term. The government's second and third lockdowns have impacted employee's mental health, and efforts are being made to ensure that managers are aware of this, and pro-actively encouraging staff to take time away from their home office environment.	Paul Wilkinson	15-Feb-2021	31-Mar-2022

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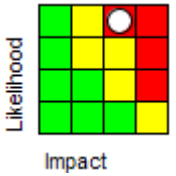
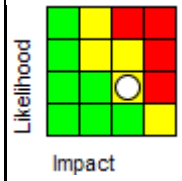
Appendix 2 – Covid-19 Thematic Risk Register

Copy of SUR COVID-19 - detailed report EXCLUDING COMPLETED ACTIONS

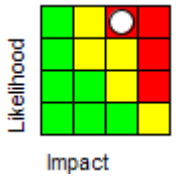
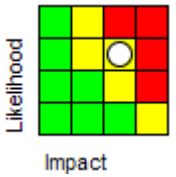
Report Author: Faith Bowman
Generated on: 15 March 2021

Rows are sorted by Risk Score

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
CVD19 SG PROP 01 Impact on investment portfolio (SUR)	**Cause:** The spread of COVID 19 has continued to escalate affecting business and trade. . Lack of trade . Lower investment transactions . Lower lettings transactions . Longer development and refurbishment timelines . Longer and less accurate valuations **Event**: The spread of COVID 19 impacts on the City Surveyors business, namely collection of rental income **Effects**: Through the spread of COVID 19 tenants are not able to pay their rental payments leading to rent arrears or forfeit leases on managed/FR&I tenants, confidence in the City of London Corporation and the City of London is damaged		**16**	A proposal was agreed at PIB and RASC in November in connection with turnover rents focussing on 'at risk' tenants. This is for a one-year period with a five-year period for Leadenhall Market tenants. The moratorium on enforcement action has been extended to 30 June. Thereby making rent collection difficult. **Note** that there was a £4.3m cap for 'at risk' tenants for the June quarter. This was agreed by RASC. The Chamberlain and RASC have noted that this should be drawn down first before moving to the £4.624m identified for the September quarter. For Bridge House Estates properties, decisions are made in the best		**8**	30-Sep-2021	

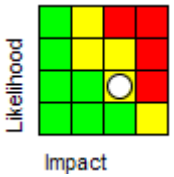
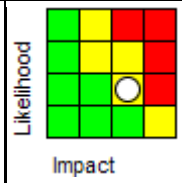
01-Apr-2020 Nicholas Gill				interests of the charity. **15 Mar 2021**				Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
CVD19 SG PROP 01b	Monthly Payments	Move to monthly rent collections (March to September Quarters) for all directly managed and FR&I tenants (this does not apply to ground rents) where requested.	Nicholas Gill	15-Mar-2021	30-Sep-2021
CVD19 SG PROP 01h	Members Paper	Paper agreed at PIB and other relevant Committees dealing with rent concessions for December quarter onwards. Monitoring our peer group to consider the appropriate course of action for the March quarter.	Nicholas Gill	15-Mar-2021	30-Sep-2021
CVD19 SG PROP 01i	Rent Arrears	Being reviewed on a regular basis, and updates are being provided to Members. The government have extended the landlord restraint on legal action against tenants for non-payment of rent until 30/06/2021. As a result arrears are likely to increase.	Nicholas Gill	15-Mar-2021	30-Sep-2021
CVD19 SG PROP 01j	Monitor Impact	IPG to Monitor the impact on; . Lack of trade . Capacity of our tenants' ability to pay their rent . Investment transactions . Letting transactions . Refurbishments and Developments	Nicholas Gill	15-Mar-2021	30-Sep-2021
CVD19 SG PROP 01k	Snapshot reporting	With the assistance of Chamberlain's Department, a regular snapshot of rental collection (deferrals and rent frees) is being produced and monitored.	Nicholas Gill; John James	15-Mar-2021	30-Sep-2021

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
CVD19 SG PROP 02 Property Projects (SUR) 15-Apr-2020 Ola Obadara	**Cause:** The spread of COVID 19 has continued to escalate affecting the Capital Projects which are currently underway. **Event**: The restrictions as a result of COVID-19 impacts on the delivery of Capital Projects for the City of London Corporation. **Effects:** Due to the restrictions as a result of COVID-19 Capital Projects by the Property Project Group will be affected resulting in project delays and financial consequences. (this can include shortages in labour or materials, or slowing of work due to PHE H&S guidance)		**16**	PHE continue to update their guidance for contractors and workers on site. The City will continue to monitor these updates for any impact on project delivery. The CoL will shortly have tenders being returned, and it is anticipated that Covid-19 may impact the cost quoted in these returns. The returns received to this point have actually been below budget, which is a positive result for the City. There are isolated incidents with some contractors not adhering to guidance, and this is being dealt with where appropriate. We have been informed by some statutory undertakers that they will only be attending critical projects. If this policy persists this will impact project delivery. **12 Mar 2021**		**12**	30-Jun-2021	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
CV19 SG PROP 02h	Contractor may request additional fees, additional statutory authority fees	Reduced prelims valued to the contractor if there is reduced resource on site; ask parties to demonstrate what additional costs are for, and which contractual clause it relates to; negotiate additional fees upfront ahead of agreeing start on site. Contractors have recently experienced	Ola Obadara	12-Mar-2021	30-Jun-2021

		issues obtaining insurance and these costs may be passed along to the CoL. Whilst initial results seem to be positive for the City, this will continue to be monitored.			
CV19 SG PROP 02i	Material and components	It is the contractor's responsibility for managing materials on site. There has been a potential issue with regards to the availability of materials and components when projects are on-site – particularly related to long lead items and those from abroad. Property Project Group is monitoring for impact, although this appears to be easing currently.	Ola Obadara	12-Mar-2021	30-Jun-2021

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
CVD19 SG PROP 03 Property Projects - Site Closure (SUR) 28-May-2020 Ola Obadara	**Cause:** COVID 19 and current or future PHE guidance. **Event**: Site cannot comply with current, or potential future PHE guidance and social distancing requirements **Effects:** Site shutdown until a point where social distancing requirements and PHE guidance allows a return to work.		**8**	This risk reflects the fact that it will not be possible to recommence work at some sites due to current PHE and HSE guidance – particularly in relation to social distancing. Potential future PHE guidance may also mean further site closures. New guidance is being released by Construction Leadership Council (CLC) which may limited the number of workers onsite. The City is monitoring these updates. As contractors have returned to site, progress is being made across the piece, but some sites may need to shut in the future. Some contractors are undertaking their own risk assessments and instituting site rules above PHE guidance. **12 Mar 2021**		**8**	30-Jun-2021	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
CVD19 SG PROP 03a	Contractual risks	The responsibility for delays, disruption and commercial risks are typically spelled out in construction contracts and appropriately allocated to the party in the best position to mitigate such risks. Delays caused by COVID-19 impacts may be covered under a force majeure or similar clause of the contract. Contractors will argue that COVID-19 related delays were wholly unforeseeable and outside of the contractor's control, and therefore the contractor should not be held responsible. Under these circumstances, many contracts entitle the contractor to a time extension of the project completion date, and some contracts also allow for	Ola Obadara	12-Mar-2021	30-Jun-2021

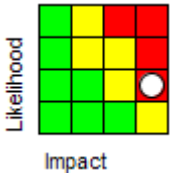
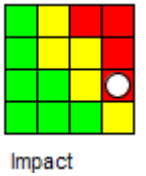
		the contractor's recovery of increased performance costs. For new contracts, these will account for Covid-19 and these 'contractual risks' will be built into the price and timeframes – although it should be noted that Covid-19 remains a fluid challenge, and future changes to SOPs may result in increased risk.			
CVD19 SG PROP 03b	Health and Safety.	Guidance from Government and Construction Leadership Council (CLC) is regularly monitored with the Principal Designer, updated RAMS have been received from the contractor. Guidance to continue being reviewed. Ensure contractor is following CDM duties and providing plenty of welfare. Reviewing method statements to ensure alignment and compliance with PHE/HSE guidance.	Ola Obadara	12-Mar-2021	30-Jun-2021

Appendix 3 – City Bridge Torp Risks

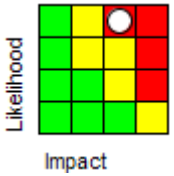
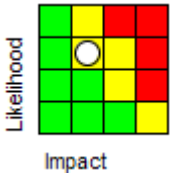
SUR City Bridges - detailed report EXCLUDING COMPLETED ACTIONS for committee

Report Author: Faith Bowman
Generated on: 16 February 2021

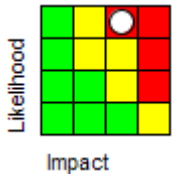
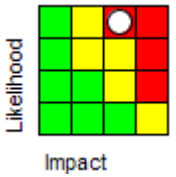
Rows are sorted by Risk Score

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR CB 003 City Bridges: - Substantial vessel strikes 01-Nov-2018 Paul Wilkinson	**Cause:** Substantial Vessel strike **Event:** Structural damage to bridge **Impact:** Instability in bridge structure leading to possible collapse. Death / injury, disruption of traffic, reputational damage, additional costs to repair / replace		**16**	No vessel strikes have been reported in the previous period. Court of Common Council have recently (March 2021) agreed to create a Bridge House Estates Board. This forum will provide a clear mandate for long-term operational changes, including risk ownership. This risk is 'on-going' and, as such, the target date for the risk can be considered as a 'review date'. **12 Mar 2021**		**16**	31-Mar-2022	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR CB 003a	Navigation controls	Navigation is controlled by the Port of London Authority and navigation lights fixed to bridges. Paul Monaghan is an on-going member of the River Crossings Liaison Group. Paul Monaghan updates CSD at the quarterly meetings as to any actions, activities, or change in the risk status of this item.	Nicholas Gill; Peter Young	16-Feb-2021	31-Mar-2022

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR CB 006 City Bridges: - Wanton Damage / Terrorism 01-Nov-2018 Paul Wilkinson	**Cause:** Wanton Damage / Terrorism **Event:** Structural damage to bridge/s **Impact: I**nstability in bridge structure, **r**eputational damage, disruption to traffic, additional costs to repair / replac**e**		**16**	The inquest into the events on London Bridge recently concluded. The City of London was an interested party in this inquest and provided support relating to correspondence and information. The Coroner has made a number of recommendations, some of which relate to the installation of hostile vehicle mitigation. The Coroner did not apportion responsibility for the installation of HVM but noted that he expected all parties to work together to deliver such measures. This is being dealt with by Town Clerk's Department. As of 08/01/2021 the UK terror threat level has reduced from "severe" to "substantial". Whilst this reduction is positive, it still means that a terrorist attack is "likely". Court of Common Council have recently (March 2021) agreed to create a Bridge House Estates Board. This forum will provide a clear mandate for long-term operational changes, including risk ownership **12 Mar 2021**		**6**	31-Mar-2022	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR CB 006a	Counter Terrorism	TFL and DBE, the City Police and the MET Police continue to engage with respect to the threat assessments for the bridges. TFL will be taking the lead in terms of the response. When TFL assess the overall risk, they applied a higher risk impact than the City currently assesses. However, this relates to the overall risk, rather than the element for which the City of London Corporation, and the City Surveyor's Department, is responsible. Temporary mitigation by the Metropolitan Police remains in place, but this is not full Hostile Vehicle Mitigation.	Nicholas Gill; Paul Monaghan; Peter Young	16-Feb-2021	31-Mar-2022
SUR CB 006b	Policing	The City of London Police receive funding from Bridge House Estates to provide policing to the City Bridges.	Nicholas Gill; Paul Monaghan; Peter Young	16-Feb-2021	31-Mar-2022

Risk no, title, creation date, owner	Risk Description (Cause, Event, Impact)	Current Risk Rating & Score		Risk Update and date of update	Target Risk Rating & Score		Target Date	Current Risk score change indicator
SUR CB 007 City Bridges: - Tunnelling for the Thames Tideway Tunnel 01-Nov-2018 Paul Wilkinson	**Cause:** Tunnelling for the Thames Tideway Tunnel effects bridge structures **Event:** Bridge/s become inoperable or have reduced operability **Impact:** Closure, reputational damage, disruption to traffic, additional costs to repair / replace		**16**	Whilst the tunnelling is substantively complete there has been delays caused by Covid-19. Contractors are now back on-site, but the Tideway programme has been delayed. Tunnelling is approaching completion near Tower Bridge. Monitoring will follow for a considerable time following to allow time for any settlement issues to materialise. This risk is expected to dissipate should this risk not materialise. The risk scoring is being kept at the current level in the short term until the City Corporation is satisfied that the risk score can be reduced. Court of Common Council have recently (March 2021) agreed to create a Bridge House Estates Board. This forum will provide a clear mandate for long-term operational changes, including risk ownership. **12 Mar 2021**		**16**	31-Mar-2022	Constant

Action no	Action description	Latest Note	Action owner	Latest Note Date	Due Date
SUR CB 007d	Tideway Tunnelling	The City's Engineer, Paul Monaghan is working with the Comptroller and City Solicitor through the Development Consent Order and negotiated protection for the river crossings and, in the case of Tower Bridge, reduced face loss. He and the engineering team are working with the planning lead, Ted Rayment, to ensure that these requirements are being met. Regular weekly, monthly and quarterly meetings take place with the respective parts of TTT. For support they have the existing commission with an external engineering consultant appointed for the inspection of river crossings. Note that liaison between the City of London Corporation at the TTT are continuing throughout this period of Covid-19.	Nicholas Gill; Peter Young	16-Feb-2021	31-Mar-2022
SUR CB 007e	Monitoring & Works	Monitoring is on-going on the bridge sites to ensure that risks are managed. Monitoring at Tower Bridge has been in place for circa three years. Millennium Bridge may need its tensioning adjusted to account for any movement.	Nicholas Gill; Paul Monaghan; Peter Young	16-Feb-2021	31-Mar-2022

Appendix 1 – Summary of Guildhall Local and Central Risk Reductions

	2020/21 Approved Budget	2021/22 Approved Budget	Variance		Variation *Increase ▲* *Decrease▼*	Brief Explanation
LOCAL RISK	£	£	£	%		
TOTAL Employees	**3,680,000**	**3,391,000**	**-289,000**	**-8.5%**	▼	A reduction in FM and Security Agency costs due to significant reduction of events
Total Building, Repairs and Maintenance	2,422,000	2,351,000	-71,000	-3%	▼	BRM reduction arising from negotiated savings with the contractor
Total Energy Costs	1,855,000	1,634,000	-221,000	-13.5%	▼	Improvements to the BMS system project lower energy requirements
Total Water Costs	70,000	65,000	-5,000	8%	▼	Small reduction projected due to less requirement
Total Cleaning Costs	664,000	538,000	-126,000	-23%	▼	Cleaning reduction due negotiated saving with the contractor and reduced office capacity after the Covid-19 pandemic.
TOTAL Premises Expenses	**5,035,000**	**4,612,000**	**-423,000**	**-9.2%**	▼	Full reduction of all FM costs for 20/21 Aldermanbury as a result of lease of these premises to Newflex
TOTAL Supplies and Services	**526,000**	**518,000**	**-8,000**	**-1.5%**	▼	Transfer to lighting energy project.
TOTAL Expenditure	**9,241,000**	**8,521,000**	**-720,000**	**-8.4%**	▼	
TOTAL Income	**-575,000**	**-575,000**	**0**	**0**	◄►	
TOTAL LOCAL RISK	**8,666,000**	**7,946,000**	**-720,000**	**-9.1%**	▼	
CENTRAL RISK						
Rates	**4,221,000**	**3,883,000**	**-338,000**	**-8.7%**	▼	Reduction of 20/21 Aldermanbury rates – transfer to leasing operator - Newflex
Catering	**135,000**	**0**	**-135,000**	**-100%**	▼	Gild Catering service discontinued. New service to be reviewed Post Covid and once staff start to return to offices.
TOTAL CENTRAL RISK	**4,356,000**	**3,883,000**	**-473,000**	**-12.2%**	▼	
TOTAL CWP	**2,871,000**	**1,995,000**	**-876,000**	**-44%**	▼	Rephasing of the cyclical works programme over a four-year period to smooth expenditure.
TOTAL CENTRAL, LOCAL RISK & CWP	**15,893,000**	**13,824,000**	**-2,069,000**	**-15%**	▼	

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Appendix 2 – Summary of Walbrook Wharf Local and Central Risk Reductions

	2020/21 Approved Budget	2021-22 Approved Budget	Variance		Variation *Increase* ▲ *Decrease* ▼	Brief Explanation
	£	£	£	%		
LOCAL RISK						
TOTAL Employees	**61,000**	**61,000**			◄►	
TOTAL Premises Expenses	**663,000**	**591,000**	**-72,000**	**-12%**	▼	Reduction of Office Building Repairs & Maintenance contract costs
TOTAL Supplies and Services	**427,000**	**427,000**	**0**	**0**	◄►	
TOTAL Expenditure	**1,151,000**	**1,079,000**	**-72,000**	**-7%**	▼	
TOTAL Income	**-150,000**	**-150,000**	**0**	**0**	◄►	
TOTAL LOCAL RISK	**1,001,000**	**929,000**	**-72,000**	**-8%**	▼	
CENTRAL RISK						
Rates	**816,000**	**514,000**	**-302,000**	**-59%**	▼	Reduction of rates due to lease of office floors 2 to 5
TOTAL CENTRAL RISK	**816,000**	**514,000**	**-302,000**	**-59%**	▼	
TOTAL CWP	**595,000**	**350,000**	**-245,000**	**-70%**	▼	Rephasing of the CWP over a four-year period to smooth expenditure
TOTAL CENTRAL, LOCAL RISK & CWP	**2,412,000**	**1,793,000**	**-619,000**	**-34.5%**	▼	

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Heritage Estate Update CASC 28th April 2021
Appendices

Appendix 1 – Objectives and Outcomes

Objective – HE staff and budgetary resources utilised effectively and appropriately
Outcomes: -

- Improved Heritage Estate infrastructure through new comprehensive database that enables full visibility of portfolio and accessible data access leading to improved portfolio management.
- CoL service colleagues access key survey data to make local low risk judgements on repairs without requiring Heritage Estate officer input.
- Reduced staff time spent on repeat procurement exercises of inspections/surveys/works
- Improved competitiveness process resulting in reduced expenditure.
- Activities that do not fit with heritage asset management moved out of the service to ensure limited staff resource is focused on service remit.
- Approval processes with third parties re Historic England and Diocese of London streamlined to reduce officer time on repeat processes.

Objective – Heritage Estate assets, building and non building structures are maintained to mitigate H&S risks and mitigate impacts due to climate change
Outcomes

- The heritage estate is proactively managed to minimise risk of H&S issues
- Surveys are undertaken in a timely manner as appropriate to the nature of the asset
- Responsibilities between service for inspecting, surveying and works is clarified
- Additional funds are secured to address known H&S matters
- H&S works are successfully undertaken and where possibly heritage value of an asset is enhanced at the same time

Objective – Heritage Estate assets are removed and or not added to HAAR
Outcomes

- Assets which are wholly owned by CoL are removed from the list where financially achievable
- Action plans for those identified as at risk are put in place and acted upon, again subject to funding

Objective – Improve understanding and awareness of CoL Heritage estate and its significance as within the top 5 prominent UK Heritage asset owners
Outcomes

- CASC Members improved understanding of Heritage Estate portfolio
- Member support approach to securing additional resources

APPENDIX 2 – Heritage Asset Types

	No. of assets
The Lord Mayor's State Coach and Semi-State Carriages	5
Bridges & Viaducts	8
Heritage Buildings	120
Heritage Landscapes	19
Heritage Monuments, including the remains of the City Wall	35
Heritage Public Statuary, Fountains and Plaques (non-blue)	142
City Gardens & Churchyards	54
Coal & Wine Tax Posts	218
Blue Plaques	186
Bunhill Fields Burial Ground	76
City of London Cemetery & Crematorium Listed Assets	11
	874

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Addendum to Paper ‘PSDS Project Approval and Governance’

P&R delegated authority at its meeting of 11th March 2021 for consideration of the two papers:

- Report of the City Surveyor – PSDS Project Approval and Governance
- Report of the City Surveyor – PSDS Gateway 2 Project Proposal

Comments were received at P&R regarding alignment with the Climate Action Strategy, and to address this an amendment was agreed (following discussion between the City Surveyor and Innovation and Growth) to recommendation 6 which provides for an additional safeguard, as agreed between the City Surveyor and the Director of Innovation & Growth, to respond to that concern.

Please note the below summary report received by P&R and the revised wording for recommendation 6.

Approval of the revised papers was confirmed on 15th March 2021 (via e-mail) from:

- Assistant Town Clerk and Director of Members Services
- Chairman of the Policy & Resources Committee
- Deputy Chairman of the Policy & Resources Committee

POLICY AND RESOURCES COMMITTEE - REQUEST FOR DECISION UNDER DELEGATED AUTHORITY – STANDING ORDER 41(B)

SUBJECT: Public Sector De-carbonisation Scheme (PSDS) – Project Approval & Governance and Gateway 2 Project Proposal

BACKGROUND: In February 2021, the Policy & Resources Committee agreed (under urgency procedures) to accept a grant from the Department for Business, Energy and Industrial Strategy (BEIS), which had launched the £1b Public Sector Decarbonisation Scheme for public sector bodies to apply for capital funding towards carbon reduction projects for non-domestic buildings. The City Corporation had applied for £9.46m of grant funding to cover projects to upgrade M&E building services (heating, cooling, ventilation, and lighting) and improve building controls and energy metering across the Guildhall Complex, Barbican Arts Centre, GSMD, and London Metropolitan Archives. It was estimated that the projects would deliver savings of 1.5 ktCO2 (1.5 kilotonnes or 1500 tonnes of CO2) each year, and £875,000 each year.

In approving the grant receipt, it was noted that this provided an excellent opportunity to advance the aims of the Climate Action Strategy without increasing capital burden on the City Corporation's finances. However, it was also observed that this would require wide senior sponsorship, delegated authority, and additional resources to unlock this significant opportunity within challenging timeframes. The projects would need to target completion by 30th September 2021, although it was likely that an extension could be granted to 31st March 2022 following mobilisation. Any funding unspent by the agreed end date, 31st March 2022 at the latest, would need to be returned to BEIS. Consequently, it was noted that a further report, seeking approval to a more streamlined governance process for this project (together with drawdown from the grant for the appropriate budget to initiate the scheme) was likely to need quick turnaround.

At the subsequent meeting of the Policy & Resources Committee, in March 2021, Members were advised that this further report was now being finalised and was expected to be completed imminently. In view of the extremely tight deadlines, it was not possible to wait for the next meeting for approval for the aforementioned governance processes and project initiation elements; therefore, the Committee resolved to delegate authority to the Town Clerk, in consultation with the Chair and Deputy Chairman, to consider the relevant reports. In so doing, Members stressed the importance of ensuring the governance arrangements integrated with the wider Climate Action Strategy (CAS) governance.

The Director of Innovation & Growth and the City Surveyor have since discussed and confirmed that the time-limited PSDS Project will align with the wider multi-year CAS programme so that the design of its output is integrated. As an added safeguard to satisfy Member concerns at the meeting, an addition to the recommendations set out the attached report has since been made such that, whilst delegated authority for spend will be given to the Surveyor, this will now be shared with the Chair of the Climate Action Strategy Buildings Chief Officers Group (CAS BCOG) so as to ensure this alignment. The PSDS Project Board will include a set of key stakeholders and enablers from across the Corporation. Its work is managed by the same delivery model as CAS and included as part of the Y1 Plan. In practice, the Director of Innovation & Growth (as chair of BCOG) would only intervene by exception so that delivery timescales are uninhibited, but the ability to exercise this effective veto power in relation to spend will provide a safeguard in ensuring that alignment with the CAS is maintained.

In order to give effect to the establishment of the project and meet the required timescale conditions of the grant, you are now asked to consider and approve proposals set out within the two accompanying background reports.

The first, details proposals for the creation of a project board and accompanying project approval process (through which, delegated authority will be given to the City Surveyor to make decisions for all further gateway papers and issue reports, in consultation with the PSDS Project Board, as well as the Chair of CAS BCOG on matters of spend). All further gateway papers and issue reports will be issued to the relevant committees for information only to ensure Members are kept informed of actions and provide for scrutiny, whilst still enabling quick decision-making as necessary.

The second report seeks approval to establish formally the project within the City's project gateway processes and to progress it to the next stage, drawing-down £500k from the available grant funding for the procurement of consultancy services to mobilise and support the PSDS Project.

REASON FOR DECISION PRIOR TO NEXT MEETING: In accordance with the grant conditions, the project must be approved and commence before 31st March 2021. The next meeting of the Committee is not until 8th April 2021 and so delegated authority was granted.

RECOMMENDATIONS: That:-

(i) Project Approval and Governance

1. The PSDS Project be authorised, at an estimated cost of £9.445m wholly funded by a Government Grant, with scope defined by the *Grant Offer Letter* and *MoU* (attached to the accompanying background report).
2. The formation of a new 'PSDS Project Board' be approved, to provide governance, leadership, and sponsorship to the PSDS Project in accordance with the draft *PSDS Board Terms of Reference* (set out in the accompanying background report).
3. The PSDS Project Board be instructed to hold its first meeting no later than 31st March 2021 and meet at least fortnightly thereafter, and that at each meeting receive details from the Senior Responsible Officer of the progress of works committed to date, the spend incurred, any further proposed commitments, and early warning of any delays or other issues.
4. The draft *PSDS Board Terms of Reference* be noted with the PSDS Project Board Chairman authorised to finalise these and report back for confirmation.
5. It be agreed that any revenue savings arising from this project should be credited to the Build Back Better Funds in either City's Cash or City Fund as appropriate, so that Members can target savings to fund specific priorities (with the Chamberlain authorised to adjust departments' budget according).
6. Authority be delegated to the City Surveyor to make all decisions related to the gateway approval process, including future gateway and other project reports related to the PSDS Project, in consultation with the PSDS Project Board and (where spend is involved) subject to the concurrence of the Chair of CAS BCOG.
7. The potential overlap with the City's wider Climate Action programme be noted and the Board be instructed to coordinate activities with the wider team to ensure there is no duplication and the City achieves value for money.

(ii) Gateway 2 Project Proposal

1. The total estimated cost £9,445,943 for the PSDS Project, which is funded from the PSDS grant awarded, be noted.
2. Approval to proceed to the next Gateway stage be granted.

3. Approval to proceed to the next stage for engaging with the Retrofit Accelerator framework be granted.
4. A budget allocation of £500k from the available PSDS grant funding, for the procurement of consultancy services to mobilise and support the PSDS Project, be approved.

BACKGROUND PAPERS (ATTACHED):

- Report of the City Surveyor – PSDS Project Approval and Governance
- Report of the City Surveyor – PSDS Gateway 2 Project Proposal

Appendix 1. PSDS Projects

Project Names	Energy Cost savings (£/yr)	Carbon savings (tCO2e/yr)
Cross-cutting		
Energy Management Software	£0	0
Building Energy Analyser	£0	0
Sub-Total	**£0**	**0**
London Metropolitan Archives		
LMA EC Fans	£10,001	8
Sub-Total	**£10,001**	**8**
Guildhall Complex		
Guildhall EC Fans	£205,413	144
Guildhall Humidifiers	£39,195	370
Guildhall: Cooling Stage 1 Migration Works	£22,477	17
Guildhall Metering	£0	0
Guildhall - Lighting	£74,832	39
Sub-Total	**£341,917**	**570**
Barbican Art Centre		
BAC Insulation Upgrades	£4,227	51
BAC Damper Works	£49,192	259
BAC Valve Works	£35,433	78
BAC EC Fan upgrades	£39,155	21
BAC BMS recommission/ upgrades	£4,568	14
Barbican Arts Centre Metering	£0	0
BAC - Lighting	£179,241	94
Sub-Total	**£311,815**	**516**
GSMD		
GSMD Insulation Upgrades	£1,812	22
GSMD Damper Works	£14,282	75
GSMD Valve Works	£32,615	254
GSMD Milton AHU's control and upgrade	£6,335	3
GSMD BMS recommission/ upgrades	£6,769	20
GSMD Milton - Cooling Mods	£25,755	17
Silk St metering	£0	0
Milton Court Metering	£0	0
GSMD Milton - Lighting	£45,244	23
GSMD Silk - Lighting	£32,714	18
GSMD Sundial - Lighting	£45,498	24
Sub-Total	**£211,023**	**456**
Total	**£874,756**	**1,549**

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PUBLIC SECTOR DECARBONISATION SCHEME GRANT OFFER LETTER

Peter Kane
City of London
Guildhall
PO Box 270
London
EC2P 2EJ

22 February 2021

Dear Peter Kane,

GRANT OFFER LETTER

1. The Secretary of State for Business, Energy and Industrial Strategy (the **Secretary of State**) has made funding available to provide you (the "**Recipient**") with a grant of £9,445,944 to assist you in carrying out Projects to support City of London energy decarbonisation programme.

2. I am writing to acknowledge receipt of your application for the Grant, a copy of which is attached at Schedule 5, and, on behalf of the Secretary of State, to provide you with an offer of grant funding. Terms defined in this Grant Offer Letter have the same meanings as defined in the attached Memorandum of Understanding.

3. The key details of the Grant are as follows:

Name of Recipient	City of London
Amount of Grant	£9,445,944
Project Name	City of London energy decarbonisation programme
Project ID/Reference Number	CCIT01G16989V02/16989
Low Carbon Skills Fund Grant ID/Reference Number (if applicable)	17750
Description of Project	This project runs across the Barbican arts centre, London Metropolitan archives, Guildhall complex and the Guildhall school of music and drama. Resulting in large parts the City of London's estate

	evolving to use less carbon. Improvements to HVAC systems and controls will be enabled and enhanced through upgrades to electrical infrastrucutre and metering. Further energy reductions will be provided through lighting upgrades.
Project Start Date	22/02/2021
Grant Payment Date	No later than 31st March 2021

4. You must appoint a person (the "**Accountable Officer**") who will be responsible for ensuring that you use the Grant in compliance with the attached Grant Determination Letter and Memorandum of Understanding.

5. The Grant will be paid to you by the Secretary of State in full on the Grant Payment Date, subject to various conditions which are set out in the attached Grant Determination Letter and Memorandum of Understanding.

6. The signature of the Accountable Officer is to be inserted at Schedule 6.

7. In communicating with us, your contact is Kate MacDonald, kate.macdonald@salixfinance.co.uk.

8. The provision of the Grant is subject to the terms and conditions set out in this Grant Offer Letter, the attached Grant Determination Letter, Memorandum of Understanding, and schedules. The Grant is being provided to you in consideration for you agreeing to deliver the Project and agreeing to comply with the terms and conditions set out in this Grant Offer Letter and the attached schedules, Grant Determination Letter, and Memorandum of Understanding.

If you wish to accept the offer of grant funding upon the terms set out in this Grant Offer Letter and the attached schedules, Grant Determination Letter, and Memorandum of Understanding, please countersign this letter within 10 Business Days of the date of this letter and return the original to Salix Finance Ltd. If you fail to countersign and return this letter within 10 Business Days of the date of this letter, the offer of grant funding shall expire.

……

Katherine Wright, Deputy Director, Public Sector and Local Energy, Department for Business, Energy and Industrial Strategy

Authorised Signatory

For and on behalf of the Secretary of State

We hereby accept the offer of grant funding upon the terms set out in this Grant Offer Letter and the attached schedules.

DocuSigned by:
4A995317F8F7486...

26-Feb-21 | 9:29 AM GMT

…… ……

Authorised Signatory Date

For and on behalf of City of London

Schedule 1: Specific Conditions

- Schedule 2 must be completed and returned to Salix Finance by 1st April 2021 including contingency plan.
- Counter fraud document must be signed and returned by 26th February.
- Risk Register - Full risk register to be provided. COVID impact to be included.
- Data Sheets - To be provided once contractor on board and product specifications and manufacturers confirmed.
- Firm Pricing - Quotations for all of the technologies must be provided from the appointed contractor(s) to confirm final pricing for each technology. This should be broken-down into equipment, installation and any other costs.
- Energy Saving Calculations - Any changes to the proposed savings must be communicated once contractor(s) on board and final product selected.
- Updated Application Form post tender must be provided to Salix with any changes.
- Board/councillors approval - Board approval to be obtained and confirm to Salix.

Schedule 2: Delivery Programme

To be completed and returned to Salix Finance by 1st April 2021.

1. **Name of Project with URN** City of London energy decarbonisation programme CCIT01G16989V02/16989

2. **Summary Description of Project** This project runs across the Barbican arts centre, London Metropolitan archives, Guildhall complex and the Guildhall school of music and drama. Resulting in large parts the City of London's estate evolving to use less carbon. Improvements to HVAC systems and controls will be enabled and enhanced through upgrades to electrical infrastrucutre and metering. Further energy reductions will be provided through lighting upgrades.
   CCIT01G16989V02/16989

1. **List of Measures and the cost of each Measure**

2. **Detailed Timetable:**

Steps Taken/To be Taken	**Process**	**Dates**	**Status e.g. RAG status/Complete**	**Estimated Spend Profile**
Internal Governance				
Project Approval	Estates/Finance approval			
	Board/Council approval			
Confirmation that any Grant conditions have been satisfied e.g. provision of risk register				
Return Grant Offer Letter				
Status of Project				
Procurement/Tender	Final design/specification			
	Project out to tender			
	Contract awarded			

	Cool off period			
Order	Order placed			
Equipment	Equipment delivered/on site			
Project on Site	Commencement			
	Key milestones			
	Project complete onsite			
	Final commissioning/Completion Certificate			
Project Completion	Submit final invoices			
	Send Completion Certificate to Salix			

3. Key/High Level Risks with mitigation measures

4. Estimated Number of Jobs generated by the project

5. Provide the following details for every building a measure is taking place:

(further lines can be added if necessary)

#	Building name	Building Unique Property Reference Number	Postcode
1			
2			
3			
4			

Schedule 3: Monitoring Reports

Monitoring reports are to be provided by the 5th of each month to Salix Finance and should contain the following information:

1. **Internal governance/project approvals update**
   Including - progress update on any conditions within GOL that have been satisfied.

1. **Status of project**
   Highlighting comparison to Project Programme outlined in Schedule 2 e.g. project out to tender; updated details of procurement route used or awards made to contractors; order placed; equipment on site; completed on site; final commissioning, payment(s) required etc. Provide an updated Schedule 2 including detailed timetable if there have been any updates or changes.

2. **Actual project spend to date (£)**

3. **Risks impacting on project delivery (changes to risk register only)** [these should be reported by exception from month 2 onwards]
   e.g. supply chain delays to receiving some equipment

4. **Update on jobs being supported** – looking for evidence

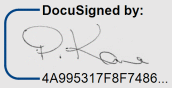
5. **(Applicable for Category 2(c) and 3(c) projects only) Status of Heat Decarbonisation Plan**
   Highlighting progress made on the development of a Heat Decarbonisation Plan

6. **Any other relevant information**
   Highlighting any changes in Authorising Official and key personnel

In the event that the below scenarios arise, you need to report by exception within 3 business days:

- Changes in cost > 10%
- Changes in scope (technologies)
- Delayed > 3 months
- Project no longer able to proceed, detailing any reasons for the decision

Schedule 4: Specimen Signature

Name of Accountable Officer:	Peter Kane
Position in Organisation:	Chamberlain
Signature:	DocuSigned by:  4A995317F8F7486...

Schedule 5: Grant Application

Public Sector Decarbonisation Scheme 2020/2021

MEMORANDUM OF UNDERSTANDING
Between the

SECRETARY OF STATE FOR BUSINESS, ENERGY & INDUSTRIAL STRATEGY

And
City of London

This Memorandum of Understanding (**MoU**) governs the relationship between the Secretary of State for Business Energy & Industrial Strategy (the **Secretary of State**), which will provide the Grant, Salix Finance Limited, a company incorporated in England and Wales with company number 05068355 and whose registered office is at 6th Floor, 25 Farringdon Street, London, EC4A 4AB (**Salix**), which will administer the Grant on behalf of the Secretary of State, and the Grant Recipient in connection with the provision of the Public Sector Decarbonisation Scheme (**PSDS**) Grant by the Secretary of State to the Recipient.

This MoU shall apply to and be incorporated into the Grant Offer Letter and should be read in conjunction with the Grant Offer Letter and the Grant Determination Letter. This MoU, the Grant Offer Letter and its schedules shall together constitute the **Agreement**.

This MoU and the Agreement are not intended to be legally binding and no legal obligations or right shall arise between the Secretary of State, Salix, and the Recipient from the provisions of either this MoU or the Agreement. The parties enter into the MoU and the Agreement intending to honour all of their obligations.]

Definitions and interpretation

1.1 In this MoU, the following terms shall have the following meanings:

Accountable Officer: the person appointed by the Recipient, and whose identity is approved by Salix, who is responsible for ensuring that the Recipient uses the Grant in compliance with the Agreement.

Bribery Act: the Bribery Act 2010 and any subordinate legislation made under that Act from time to time together with any guidance or codes of practice issued by the relevant government department concerning the legislation.

Building Contract: the contract to design and/or complete the design of and build the Project.

Business Day: a day (other than a Saturday, Sunday or public holiday) on which commercial banks are open for general business in London.

Change of Control: means the sale of all or substantially all the assets of a party to the Agreement; any merger, consolidation or acquisition of a party to the Agreement with, by or into another corporation, entity or person, or any change in the ownership of more than fifty percent (50%) of the voting capital stock of a party to the Agreement in one or more related transactions.

Dangerous Substance: any radioactive emission, noise or natural or artificial substance (whether in the form of a solid, liquid, gas or vapour, including any controlled, special, hazardous, toxic, radioactive or dangerous substance or waste), the generation, transportation, storage, treatment, use or disposal of which (whether alone or in combination with any other substance) gives rise to a risk of causing harm to any living organism or damaging the Environment or public health or welfare.

Data Protection Legislation: all applicable data protection legislation and privacy legislation in force from time to time in the UK including the GDPR; the Data Protection Act 2018; the Privacy and Electronic Communications Directive 2002/58/EC (as updated by Directive 2009/136/EC) and the Privacy and Electronic Communications Regulations 2003 (SI 2003/2426); any other directly applicable European Union regulation relating to privacy; and all other legislation and regulatory requirements in force from time to time which apply to a party relating to the use of Personal Data and the privacy of electronic communications.

Deleterious Material: any material, equipment, product or kit that is generally accepted, or generally suspected, in the construction industry at the relevant time as:

(a) posing a threat to the health and safety of any person;

(b) posing a threat to the structural stability, performance or physical integrity of the Project, or any part or component of the Project;

(c) reducing, or possibly reducing, the normal life expectancy of the Project or any part or component of the Project; or

(d) not being in accordance with any relevant British standard, relevant code of practice or good building practice.

Eligible Expenditure: the expenditure incurred, or to be incurred, by the Recipient during the period prior to Practical Completion for the purposes of delivering the Project in accordance with the Project Programme, Grant Application and the Agreement, and which comply in all respects with the eligibility rules set out in Clause 5 of this MoU.

Environment: the natural and man-made environment including all or any of the following media, namely air, water and land (including air within buildings and other natural or man-made structures above or below the ground) and any living organisms (including man) or systems supported by those media.

Environmental Law: all applicable laws, statutes, regulations, secondary legislation, bye-laws, common law, directives, treaties and other measures, judgments and decisions of any court or tribunal, codes of practice and guidance notes insofar as they relate to or apply to the Environment.

Evidence of Need: such evidence requested by Salix which Salix considers, in its absolute discretion, provides it with a sufficient level of assurance to demonstrate that the Grant will be used for Eligible Expenditure.

GDPR: General Data Protection Regulation ((EU) 2016/679).

Governing Body: the governing body of the Recipient including its directors or trustees.

Grant: the sum specified in the Grant Offer Letter, to be paid to the Recipient in accordance with the Agreement.

Grant Application: the application for the Grant, submitted by the Recipient to Salix, which incorporates the Grant Application Support Notes, a copy of which is attached at Schedule 5 to the Grant Offer Letter.

Grant Application Support Notes: any notes or documentation supporting the Recipient's application for the Grant.

Grant Offer Letter: the letter from Salix, on behalf of the Secretary of State, to the Recipient, setting out the basis upon which the Grant will be provided to the Recipient.

Grant Determination Letter: the Department for Business Energy and Industrial Strategy Public Sector Decarbonisation Scheme Grant Determination (2020/2021) Letter issued in accordance with section 31 of the Local Government Act 2003.

Grant Payment Date: the date referred to as the 'Grant Payment Date' in the Grant Offer Letter.

Intellectual Property Rights: all patents, copyrights and design rights (whether registered or not) and all applications for any of the foregoing and all rights of confidence and Know-How however arising for their full term and any renewals and extensions.

Know-How: information, data, know-how or experience whether patentable or not and including but not limited to any technical and commercial information relating to research, design, development, manufacture, use or sale.

Measures: the individual items of design, construction or other building works which are necessary to achieve Practical Completion, as contained within the Project Programme.

MoU: this Memorandum of Understanding.

Necessary Consents: any planning permission required for the Project, any environmental licences and any other authorisation under any other statute, bye-law or regulation of any competent authority that is reasonably necessary to enable the works on the Project to be lawfully commenced, carried out or completed.

Personal Data: shall have the same meaning as set out in the Data Protection Legislation.

Practical Completion: the date on which the certificate of practical completion (or the equivalent evidence of practical completion of works) of the Project is properly issued in accordance with the

terms of the Building Contract. This date shall be no later than 30 September 2021.

Procurement Regulations: the Public Contracts Regulations 2015, Concession Contracts Regulations 2016, Defence Security Public Contracts Regulations 2011 and the Utilities and Contracts Regulations 2016 together with their amendments, updates and replacements from time to time.

Prohibited Act:

(a) offering, giving or agreeing to give to any servant of the Crown any gift or consideration of any kind as an inducement or reward for:

(i) doing or not doing (or for having done or not having done) any act in relation to the obtaining or performance of the Agreement or any other contract with the Crown; or

(ii) showing or not showing favour or disfavour to any person in relation to the Agreement or any other contract with the Crown;

(b) committing any offence:

(i) under the Bribery Act;

(ii) under legislation creating offences in respect of fraudulent acts; or

(iii) at common law in respect of fraudulent acts in relation to the Agreement or any other contract with the Crown; or

(iv) defrauding or attempting to defraud or conspiring to defraud the Crown.

Project: the project or projects operated by the Recipient to assist in the reduction of energy use or the switch to, or enabling works in preparation for, a cleaner heat source, as set out in the Grant Application and as described in the Grant Offer Letter.

Project Start Date: the date upon which works on the Project are to commence, as specified in the Grant Offer Letter.

Project Programme: the detailed timetable for delivery and completion of the Project including a breakdown of the Measures and the cost of such Measures, as set out in Schedule 2 (*Project Programme*) to the Grant Offer Letter.

Public Sector Body: a local authority within the definition in section 33(1) of the Local Government Act 2003.

Recipient: the person named as such in the Grant Offer Letter.

The Secretary of State: the Secretary of State for Business, Energy and Industrial Strategy (and its successors, assigns and transferees).

Specific Conditions: any specific conditions set out at Schedule 1 (*Specific Conditions*) to the Grant Offer Letter.

VAT: value added tax payable by virtue of the Value Added Tax Act 1994 and any similar tax from time to time in addition to it, replacing it or performing a similar fiscal function.

1.2 In the event of any inconsistency between the Grant Offer Letter and this MoU, the provisions of the Grant Offer Letter shall prevail. In the event of any inconsistency between this MoU and any Specific Conditions, the provisions of the Specific Conditions shall prevail.

1.3 Headings do not affect the interpretation of this MoU.

1.4 Any reference to Salix in this MoU includes references to its successors, transferees or assigns.

1.5 A reference to a law is a reference to it as it is in force for the time being taking account of any amendment, extension, application or re-enactment and includes any subordinate legislation for the time being in force made under it.

1.6 A person includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).

1.7 A reference to a Clause is a reference to a clause of this MoU.

1.8 Unless the context otherwise requires, words in the singular shall include the plural and in the plural include the singular.

1.9 Unless the context otherwise requires, a reference to one gender shall include a reference to the other genders.

2 Purpose of Grant

2.1 The Recipient shall use the Grant only for the delivery of the Project in accordance with the Project Programme, the Grant Application and the Agreement. The Grant shall not be used for any other purpose without the prior written agreement of Salix.

2.2 The Recipient shall not make any significant change to the Project or the Project Programme without Salix's prior written agreement.

2.3 The Grant is being provided to the Recipient in consideration for the Recipient agreeing to deliver the Project and agreeing to comply with the Agreement.

3 Payment of the Grant

3.1 [Subject to Clause 17 of this MoU, the Secretary of State shall pay an amount not exceeding the Grant to the Recipient in a single amount on the Grant Payment Date, subject to:

3.1.1 the Recipient providing Salix with Evidence of Need;

3.1.2 Salix receiving all documents and information which it may, in its absolute discretion, request from the Recipient;

3.1.3 the Recipient complying with any Specific Conditions; and

3.1.4 the further conditions precedent that on the Grant Payment Date:

(a) Salix is satisfied, in its absolute discretion and subject to Clause 3.5 below, that the Grant to be provided is sufficient to meet the costs required for delivery of the Project in accordance with the Project Programme.

(b) Salix is satisfied, in its absolute discretion, that the Project has been initiated or will be initiated prior to 1 April 2021

3.2 No Grant shall be paid unless and until Salix is satisfied that such payment will be used for Eligible Expenditure.]

3.3 In the event of any overspend by the Recipient in its delivery of the Project outside of the sums set out in the Project Programme, the amount of such overspend shall be met by the Recipient from its own funds unless:

3.3.1 the Secretary of State, in its absolute discretion agrees to increase the Grant by an amount equal to the overspend; or

3.3.2 Salix, in its absolute discretion, agrees to adjust the Project Programme and/or reduce the Measures so as to ensure that the remaining Grant is sufficient to meet the remaining costs required for delivery of the Project.

3.4 The Grant shall be paid into a bank account in the name of the Recipient, which must be an ordinary UK business bank account. If it is necessary for Salix to request the details of the bank account, these shall be notified to Salix within 3 business days of the Recipient receiving the request..

3.5 The Recipient shall not transfer any part of the Grant to bank accounts which are not ordinary business accounts within the clearing bank system, without the prior written consent of the Secretary of State.

3.6 The Recipient shall promptly repay to the Secretary of State any money incorrectly paid to it either as a result of an administrative error or otherwise. This includes (without limitation) situations where either an incorrect sum of money has been paid or where

Grant monies have been paid in error before all conditions attaching to the Grant have been complied with by the Recipient.

4 Use of the Grant

4.1 The Grant shall be used by the Recipient for the delivery of the Project in accordance with the Project Programme, the Grant Application, the Grant Determination Letter and in accordance with the Agreement. For the avoidance of doubt, the amount of the Grant that the Recipient may spend on any item of Eligible Expenditure listed in the Project Programme shall not exceed the forecasted amounts as listed in the Project Programme (without prior written agreement of Salix).

4.2 The Recipient shall not use the Grant to:

4.2.1 make any payment to members of its Governing Body;

4.2.2 purchase buildings or land; or

4.2.3 pay for any expenditure commitments of the Recipient entered into before the Grant Payment Date,

unless this has been approved in writing by the Secretary of State.

4.3 The Recipient shall not spend any part of the Grant on the delivery of the Project after the date of Practical Completion.

4.4 Should any part of the Grant remain unspent at the date of Practical Completion, or should any part of the Grant be provided for items of Eligible Expenditure which subsequently cost less than forecasted in the Project Programme, the Recipient shall, unless otherwise agreed in writing by the Secretary of State, ensure that any unspent monies are returned to the Secretary of State.

4.5 Where the Recipient enters into a contract with a third party in connection with the Project, the Recipient will remain responsible for paying that third party. Neither the Secretary of State nor Salix has responsibility for paying the invoices of third parties.

4.6 Onward payment of the Grant and the use of sub-contractors shall not relieve the Recipient of any of its obligations under the Agreement.

4.7 Any liabilities arising at the end of the Project and which are not otherwise incorporated within the Project Programme, including but not limited to any redundancy liabilities for staff employed by the Recipient to deliver the Project, must be managed and paid for by the Recipient using other resources of the Recipient and not using the Grant. There will be no additional funding available from the Secretary of State for this purpose.

5 Eligibility Rules

5.1 The Secretary of State will only pay the Grant in respect of Eligible Expenditure incurred by the Recipient to deliver the Project and the Recipient will use the Grant solely for delivery of the Project in accordance with the Project Programme.

5.2 The only costs/payments that will be classified as Eligible Expenditure are those specific items of expenditure set out in the Project Programme.

5.3 Notwithstanding any items of expenditure set out in the Project Programme, the Recipient may not use the Grant to meet any of the following payments:

5.3.1 paid for lobbying, which means using the Grant to fund lobbying (via an external firm or in-house staff) in order to undertake activities intended to influence or attempt to influence Parliament, government or political activity; or attempting to influence legislative or regulatory action;

5.3.2 using the Grant to directly enable one part of government to challenge another on topics unrelated to the agreed purpose of the Grant;

5.3.3 using the Grant to petition for additional funding;

5.3.4 expenses such as for entertaining, specifically aimed at exerting undue influence to change government policy;

5.3.5 input VAT reclaimable by the Recipient from HMRC;

5.3.6 payments for activities of a political or exclusively religious nature;

5.3.7 contributions in kind;

5.3.8 interest payments or service charge payments for finance leases;

5.3.9 gifts;

5.3.10 entertaining (meaning anything that would be a taxable benefit to the person being entertained, according to current UK tax regulations);

5.3.11 statutory fines, criminal fines or penalties, civil penalties, damages or any associated legal costs;

5.3.12 costs incurred in giving evidence to Parliamentary Select Committees;

5.3.13 costs incurred in attending meetings with government ministers or civil servants to discuss the progress of the Project;

5.3.14 costs incurred in responding to public consultations or costs incurred in lobbying other people to respond to any such consultation;

5.3.15 costs incurred in providing independent evidence based advice to local or national government as part of the general policy debate;

5.3.16 payments for works or activities which the Recipient has a statutory duty to undertake, or that are fully funded by other sources;

5.3.17 bad debts to related parties;

5.3.18 payments for unfair dismissal or other compensation;

5.3.19 depreciation, amortisation or impairment of assets owned by the Grant Recipient; and/or

5.3.20 liabilities incurred before the Grant Payment Date unless expressly included in the Project Programme.

6 Accountable Officer

6.1 The Recipient must appoint an Accountable Officer who is responsible for ensuring that the Recipient uses the Grant in compliance with the Agreement.

6.2 The identity of the Accountable Officer must be approved by Salix prior to the commencement of the Project, and the identity of such person shall not change during the period prior to Practical Completion without the prior written consent of Salix.

6.3 The Accountable Officer must:

6.3.1 maintain oversight of the Recipient's use of the Grant and safeguard, control and ensure the efficient, economical and effective management of the Grant;

6.3.2 advise the Recipient on the discharge of the Recipient's responsibilities under the Agreement;

6.3.3 ensure that principles of probity, robust governance, transparency and value for money are maintained at all times in relation to the utilisation of the Grant; and

6.3.4 ensure that conflicts of interest are avoided.

7 Covenants

7.1 In consideration of the Grant being given, the Recipient undertakes to the Secretary of State and to Salix:

7.1.1 not to use the Grant otherwise than in respect of the Project, not to use the Grant to subsidise any economic activity, and in particular not to use the Grant to generate

revenue or capital gain, or to make any of the payments set out in Clause 3.1;

7.1.2 that it will respond fully, promptly and truthfully (to the best of its knowledge) to any enquiries that the Secretary of State or Salix (and any party authorised by the Secretary of State) may make about the Project and/or use of the Grant;

7.1.3 to ensure that the works on the Project are completed, and the design, construction and development of the Project is undertaken, in a proper and workmanlike manner, using materials of good quality which are fit for their respective purposes, and in accordance with:

(a) the Project Programme and Grant Application;

(b) the Necessary Consents and all applicable authorisations and laws;

(c) the Building Contract and any other contracts and agreements relating to the completion of the Project.

7.1.4 that it shall properly and diligently monitor the work on the Project during the period prior to Practical Completion, and for such period after Practical Completion as Salix shall reasonably specify, to ensure that the Grant is being used appropriately and the Project continues to produce, or will in the future produce, the energy savings and CO2 reductions envisaged and agreed with Salix;

7.1.5 that it shall keep a full, accurate and proper auditable record of the progress of the Project, including all Eligible Expenditure and other costs incurred in relation to the Project and the present and future effectiveness of the Project in delivering energy savings and CO2 reductions, and shall provide such information, evidence and assistance as is reasonably required, and in such form as specified, by Salix or the Secretary of State including, but not limited to, any information relating to the amount of CO2 savings and cost effectiveness of such savings expected to be attained during and after Practical Completion of the Project.

7.1.6 where reasonably specified by Salix or the Secretary of State, it shall ensure that any information or evidence provided under the Agreement is audited by an identified and independent reporting accountant or otherwise confirmed or verified by a person of such other relevant expertise;

7.1.7 that it shall not create, or permit to subsist any mortgage, charge (whether floating or specific), pledge, lien or other security interest on any of its undertaking, property or assets comprised or utilised in the Project without the prior written consent of Salix;

7.1.8 that it will ensure at all times that it has appropriate auditing arrangements in place in relation to the Grant and its use, which shall include, but shall not be limited to, keeping and maintaining full and accurate records and evidence of the use of the Grant, including expenses defrayed, and of any third parties indirectly benefitting from the Grant, in particular contractors, manufacturers and installers of equipment installed as part of the Project;

7.1.9 that it will ensure that no Dangerous Substance has been deposited, disposed of, kept, treated, processed, manufactured, used, collected, sorted or produced at any time, or is present in the Environment, in connection with the Project in circumstances that are likely to result in a breach of Environmental Law;

7.1.10 that it will ensure that no professional engaged on the Project has specified or used anything in the work on the Project that, at the time of specification or use, was a Deleterious Material;

7.1.11 that it will retain the records maintained under Clause 7.1.5 for a period of not less than six years from the date of Practical Completion and shall allow the Secretary of State and Salix access to such records;

7.1.12 that it will provide Salix and, if requested, the Secretary of State with any updated information and documentation relating to the cost of delivering the Project, the expected energy savings and CO2 reduction and any expected or anticipated changes required to the Measures or Project Programme, as soon as it becomes aware of the same;

7.1.13 that all estimates, forecasts and projections provided by the Recipient, or on its behalf, to Salix or the Secretary of State in connection with the Project or the Project Programme have been prepared with due care and skill, are based on information known to it and reasonably expected to be relevant, and are subject only to such assumptions and qualifications as are expressly made;

7.1.14 to cause Practical Completion to occur in accordance with the Project Programme and Grant Application;

7.1.15 that it will comply with any Specific Conditions;

7.1.16 that it will maintain or cause to be maintained in full force and effect adequate insurances in respect of all its assets comprised or utilised in the Project against all risks and contingencies;

7.1.17 that it will ensure that all professional consultants and/or contractors involved in carrying out works on the Project hold and maintain appropriate professional indemnity insurance cover in relation to the services carried out or to be carried out and that the Recipient obtains copies of the relevant certificates.

8 Accounts and records

8.1 The Recipient shall keep accurate and up-to-date accounts and records of the receipt and expenditure of the Grant monies received by it.

8.2 The Recipient shall keep all invoices, receipts and accounts and any other relevant documents relating to the Project and the expenditure of the Grant for a period of at least six years following the date of Practical Completion. Salix and the Secretary of State (and any party authorised by Salix or the Secretary of State) shall have the right to review, at Salix's or the Secretary of State's request, the Recipient's accounts and records that relate to the Project and the expenditure of the Grant and shall have the right to take copies of such accounts and records.

8.3 The Recipient shall ensure that all its sub-contractors retain each record, item of data and document relating to the Project for a period of at least six years from the date of Practical Completion.

8.4 The Recipient shall comply and facilitate the Secretary of State's and Salix's compliance with all statutory requirements as regards accounts, audit or examination of accounts, annual reports and annual returns applicable to itself, the Secretary of State, and Salix.

9 Monitoring and reporting

9.1 The Recipient shall closely monitor the delivery and success of the Project throughout the period prior to Practical Completion to ensure that the Agreement is being adhered to.

9.2 The Recipient acknowledges that Salix and the Secretary of State, and any party authorised by Salix or the Secretary of State, may monitor the Project to ensure that the Project fulfils all requirements specified by Salix and/or the Secretary of State, including providing the energy savings and CO2 reductions envisaged and agreed with Salix at the outset of the Project.

9.3 On or before the date falling 5 Business Days after the first day of each calendar month during the period prior to Practical Completion, the Recipient shall provide Salix with a report, signed by the Accountable Officer, containing the information set out in Schedule 3 of the Grant Offer Letter (*Monitoring Reports*) in respect of the previous calendar month, together with copies of all invoices or other evidence of the total costs and expenses incurred in that calendar month.

9.4 Where the Recipient has obtained funding from a third party for its delivery of part of the Project, the Recipient shall include the

amount of such funding in the reports provided pursuant to Clause 9.3 together with details of what that funding has been used for.

9.5 Along with its first report provided pursuant to Clause 9.3, the Recipient shall provide Salix with a risk register and insurance review in the format requested by Salix. The Recipient shall address the health and safety of its staff in the risk register.

9.6 The Recipient shall on request provide Salix (or any party authorised by Salix) with such further information, explanations and documents as Salix (or such party authorised by Salix) may reasonably require in order for it to establish that the Grant has been used properly in accordance with the Agreement.

9.7 The Recipient shall permit any person authorised by Salix or the Secretary of State such reasonable access to its employees, agents, premises, facilities and records, for the purpose of discussing, monitoring and evaluating the Recipient's fulfilment of the conditions of the Agreement and shall, if so required, provide appropriate oral or written explanations to them.

9.8 The Recipient shall, if so requested by Salix or the Secretary of State, permit any person authorised by Salix or the Secretary of State for the purpose to visit the Recipient once every quarter to monitor the delivery of the Project. Where, in its reasonable opinion, Salix or, as applicable, the Secretary of State, considers that additional visits are necessary to monitor the Project, either party shall be entitled to authorise any person to make such visits on its behalf.

9.9 The Recipient shall provide Salix with a final report on Practical Completion which shall confirm whether the Project has been successfully and properly completed and which shall contain the information set out in Schedule 3 of the Grant Offer Letter (*Monitoring Reports*).

9.10 On each of the first three years following Practical Completion, the Recipient shall provide Salix with a report outlining the effectiveness of the Project in delivering energy savings and CO2 reductions, and containing such other information and evidence as is reasonably requested by Salix in relation to the Project.

9.11 The Recipient represents and undertakes (and shall repeat such representations on delivery of the relevant report or information):

9.11.1 that the reports and information it gives pursuant to this Clause 9 are accurate;

9.11.2 that it has diligently made full and proper enquiry of the matter pertaining to the reports and information given; and

9.11.3 that any data it provided pursuant to the Grant Application may be shared within the powers conferred by legislation with other organisations for the purpose of preventing or detecting crime.

10 Receipt of other funding sources

10.1 The Recipient is prohibited from accepting any other public sector or European funding in relation to the Project without first obtaining the prior written consent of Salix or the Secretary of State and the Recipient shall not claim or use any part of the Grant for any purpose other than the delivery of the Project.

10.2 The Recipient shall comply with the subsidy control rules applicable in the United Kingdom in relation to the delivery of the Project at the time this Grant Offer Letter is signed.

10.3 The Recipient is required to obtain and retain all declarations and information as may be required to enable both the Recipient and the Secretary of State to comply with the relevant subsidy control rules which apply in domestic UK law from 1 January 2021, and to provide copies of such declarations and information to the Secretary of State when required to do so.

10.4 The Secretary of State may, if required to do so by any other Governmental body, recover from the Recipient, on demand, any Grant, plus interest, made in contravention of the applicable subsidy control rules.

10.5 The Recipient shall, if requested by the Secretary of State or any Governmental body, repay to the Secretary of State or, as applicable, such Governmental body, any Grant, plus interest, made in contravention of the applicable subsidy control rules.

10.6 The Recipient accepts that the Secretary of State may exercise the options referred to in paragraphs 10.4 and 10.5 where the Secretary of State:

10.6.1 is required to cease grant funding or to recover all, or any proportion, of the Grant or any other amount by virtue of a decision of a court or any equivalent body as a result of the relevant subsidy control rules which apply in domestic UK law from 1 January 2021; or

10.6.2 has reasonable grounds to consider that the payment of the Grant, or the Recipient's use of it, contravenes any requirement of law, in particular (but without limitation) the relevant subsidy control rules which apply in domestic UK law from 1 January 2021.

11 Acknowledgment and publicity

11.1 The Recipient shall not publish any material referring to the Project, the Secretary of State or Salix without the prior written agreement of the Secretary of State or Salix. The Recipient shall acknowledge the support of the Secretary of State in any materials that refer to the Project and in any written or spoken public presentations about the Project. Such acknowledgements (where appropriate or as requested by Salix or the Secretary of State) shall include the Secretary of State 's name and logo (or any future name or logo adopted by the Secretary of State) using the templates provided by the Secretary of State from time to time.

11.2 In using the Secretary of State 's name and logo, the Recipient shall comply with all reasonable branding guidelines issued by the Secretary of State from time to time.

11.3 The Recipient agrees to participate in and co-operate with promotional activities relating to the Project that may be instigated and/or organised by Salix or the Secretary of State.

11.4 Salix or the Secretary of State may acknowledge the Recipient's involvement in the Project as appropriate without prior notice.

11.5 The Recipient shall comply with all reasonable requests from the Secretary of State or Salix to facilitate visits, provide reports, statistics, photographs and case studies that will assist the Secretary of State or Salix, as the case may be, in its promotional and fundraising activities relating to the Project.

12 Intellectual Property Rights

12.1 The Secretary of State, Salix and the Recipient agree that all rights, title and interest in or to any information, data, reports, documents, procedures, forecasts, technology, Know-How and any other Intellectual Property Rights whatsoever owned by either the Secretary of State, Salix or the Recipient before the Grant Payment Date or developed by any party during the period prior to Practical Completion, shall remain the property of that party.

12.2 Where the Secretary of State or Salix has provided the Recipient with any of its Intellectual Property Rights for use in connection with the Project (including without limitation its name and logo), the Recipient shall, on termination of the Agreement, cease to use such Intellectual Property Rights immediately and shall either return or destroy such Intellectual Property Rights as requested by Salix or the Secretary of State, as appropriate.

13 Confidentiality

13.1 Subject to Clause 14 (Freedom of Information), each party shall during the term of the Agreement and thereafter keep secret and confidential all Intellectual Property Rights or Know-How or other business, technical or commercial information disclosed to it as a result of the Agreement and shall not disclose the same to any person save to the extent necessary to perform its obligations in accordance with the terms of the Agreement or save as expressly authorised in writing by the other party.

13.2 The obligation of confidentiality contained in this clause shall not apply or shall cease to apply to any Intellectual Property Rights, Know-How or other business, technical or commercial information which:

13.2.1 at the time of its disclosure by the disclosing party is already in the public domain or which subsequently enters the public domain other than by breach of the terms of the Agreement by the receiving party;

13.2.2 is already known to the receiving party as evidenced by written records at the time of its disclosure by the disclosing party and was not otherwise acquired by the receiving party from the disclosing party under any obligations of confidence; or

13.2.3 is at any time after the date of the Agreement acquired by the receiving party from a third party having the right to disclose the same to the receiving party without breach of the obligations owed by that party to the disclosing party.

14 Freedom of information

14.1 The Recipient acknowledges that the Secretary of State and Salix are subject to the requirements of the Freedom of Information Act 2000 (FOIA) and the Environmental Information Regulations 2004 (EIRs).

14.2 The Recipient shall:

14.2.1 provide all necessary assistance and cooperation as reasonably requested by the Secretary of State or Salix, as the case may be, to enable the Secretary of State and/or Salix to comply with their obligations under the FOIA and EIRs;

14.2.2 transfer to Salix all requests for information relating to the Agreement that it receives as soon as practicable and in any event within 2 working days of receipt;

14.2.3 provide Salix with a copy of all information belonging to Salix requested in the request for information which is in its possession or control in the form that Salix requires within 5 working days (or such other period as Salix may reasonably specify) of Salix's request for such information; and

14.2.4 provide the Secretary of State with a copy of all information belonging to the Secretary of State requested in the request for information which is in its possession or control in the form that the Secretary of State requires within 5 working days (or such other period as the Secretary of State may reasonably specify) of the Secretary of State 's request for such information; and

14.2.5 not respond directly to a request for information unless authorised in writing to do so by Salix.

14.3 The Recipient acknowledges that Salix and the Secretary of State may be required under the FOIA and EIRs to disclose information without consulting or obtaining consent from the Recipient. Salix or the Secretary of State, as applicable, shall take reasonable steps to notify the Recipient of a request for information (in accordance with the Secretary of State's section 45 Code of Practice on the Discharge of the Functions of Public Authorities under Part 1 of the FOIA) to the extent that it is permissible and reasonably practical for it to do so but (notwithstanding any other provision in the Agreement) Salix or the Secretary of State, as the case may be, shall be responsible for determining in their absolute discretion whether any information is exempt from disclosure in accordance with the FOIA and/or the EIRs.

15 Data protection

15.1 All Parties will comply with all applicable requirements of and all their obligations under the Data Protection Legislation which arise in connection with the Agreement.

16 Procurement of Capital Equipment, Goods and Services

16.1 The procurement of all works, equipment, goods and services required to deliver the Project must be carried out in accordance with the Recipient's internal procurement guidelines and financial regulations, and with all applicable laws including the Procurement Regulations. The Secretary of State shall not be liable for the Recipient's failure to comply with its obligations under such guidelines, regulations or laws.

17 Withholding, suspending and repayment of Grant

17.1 The Secretary of State's intention is that the Grant will be paid to the Recipient in full. However, without prejudice to the Secretary of State's or Salix's other rights and remedies, the Secretary of State may at their discretion reduce, withhold or suspend payment of all or any part of the Grant and/or require repayment of all or part of the Grant if:

17.1.1 the Recipient has used, or intends to use, all or any part of the Grant for purposes other than those for which the Grant has been awarded;

17.1.2 the delivery of the Project does not start within 6 weeks of the Project Start Date and the Recipient has failed to provide Salix with a reasonable explanation for the delay;

17.1.3 the Secretary of State or Salix, acting reasonably, considers that the Recipient has not made satisfactory progress with the delivery of the Project;

17.1.4 the Recipient is, in the reasonable opinion of the Secretary of State or Salix, delivering the Project in a negligent manner and/or not in accordance with the Project Programme or Grant Application;

17.1.5 the Recipient obtains duplicate funding from a third party for the Project;

17.1.6 the Recipient obtains funding from a third party without prior written consent of the Secretary of State or Salix, such consent not to be unreasonably withheld;

17.1.7 the Recipient provides Salix or the Secretary of State with any materially misleading or inaccurate information and/or any of the information provided in the Grant Application or in any subsequent correspondence is found to be incorrect or incomplete to an extent that the Secretary of State or Salix considers to be significant;

17.1.8 the Recipient commits or committed a Prohibited Act or fails to report a Prohibited Act to the Secretary of State or Salix, whether committed by the Recipient or a third party, as soon as they become aware of it;

17.1.9 any member of the Governing Body, employee or volunteer of the Recipient has (a) acted dishonestly or negligently at any time and directly or indirectly to the detriment of the Project or (b) taken any actions which, in the reasonable opinion of Salix or the Secretary of State, bring or are likely to bring Salix's name or reputation or the Secretary of State's name or reputation into disrepute (and actions include omissions in this context) or (c) transferred, assigned or novated the Grant to a third party or (d) failed to act in accordance with all applicable laws;

17.1.10 the Recipient ceases to operate for any reason, or it passes a resolution (or any court of competent jurisdiction makes an order) that it be wound up or dissolved (other than for the purpose of a bona fide and solvent reconstruction or amalgamation);

17.1.11 the Recipient becomes insolvent, or it is declared bankrupt, or it is placed into receivership, administration or liquidation, or a petition has been presented for its winding up, or it enters into any arrangement or composition for the benefit of its creditors, or it is unable to pay its debts as they fall due;

17.1.12 in the sole opinion of Salix or the Secretary of State, the Grant has been used as an unlawful subsidy;

17.1.13 in the sole opinion of Her Majesty's Revenue & Customs, the Recipient engages in tax evasion or aggressive tax avoidance;

17.1.14 in the sole opinion of Salix, there is a financial irregularity within the Recipient which is not rectified within the timescale provided by Salix;

17.1.15 the Recipient undergoes a Change of Control which Salix, acting reasonably, considers:

17.1.16 will be materially detrimental to the completion of the Project and/or;

17.1.17 causes, or would cause, the Recipient to be in breach of the Agreement;

17.1.18 would raise national security concerns; or

17.1.19 the Recipient fails to comply with the Agreement and fails to rectify any such failure within 30 days of receiving written notice detailing the failure; or

17.1.20 Salix gives at least 2 months' notice in writing to the Recipient.

17.2 The Secretary of State may retain or set off any sums owed to it by the Recipient which have fallen due and payable against any sums due to the Recipient under the Agreement or any other agreement pursuant to which the Recipient provides goods or services to the Secretary of State .

17.3 The Recipient shall make any payments due to the Secretary of State without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise.

17.4 Should the Recipient be subject to financial or other difficulties which are capable of having a material impact on its effective delivery of the Project or compliance with the Agreement it will notify Salix as soon as possible so that, if possible, and without creating any legal obligation, Salix will have an opportunity to provide assistance in resolving the problem or to take action to protect Salix, the Secretary of State, and the Grant monies.

18 Anti-discrimination

18.1 The Recipient shall not unlawfully discriminate within the meaning and scope of any law, enactment, order, or regulation relating to discrimination (whether in race, gender, religion, disability, sexual orientation, age or otherwise) in employment.

18.2 The Recipient shall take all reasonable steps to secure the observance of Clause 18.1 by all servants, employees or agents of the Recipient and all suppliers and sub-contractors engaged on the Project.

19 Human rights

19.1 The Recipient shall (and shall use its reasonable endeavours to procure that its staff shall) at all times comply with the provisions of the Human Rights Act 1998 in the performance of the Agreement as if the Recipient were a public body (as defined in the Human Rights Act 1998).

19.2 The Recipient shall undertake, or refrain from undertaking, such acts as Salix or the Secretary of State requests so as to enable Salix and the Secretary of State to comply with their obligations under the Human Rights Act 1998.

20 Financial Management and Prevention of Bribery, Corruption, Fraud and Other Irregularity

20.1 The Recipient will at all times comply with all applicable Laws, statutes and regulations relating to anti-bribery and anti-corruption, including but not limited to the Bribery Act.

20.2 The Recipient must have a sound administration and audit process, including internal financial controls to safeguard against fraud, theft, money laundering, counter terrorist financing or any other impropriety, or mismanagement in connection with the administration of the Grant. Salix or the Secretary of State may require that the Recipient's internal/external auditors report on the adequacy or otherwise of those processed.

20.3 All cases of fraud, theft or other financial irregularity (whether proven or suspected) relating to the Project and/or use of the Grant must be notified to Salix as soon as they are identified. The Recipient shall explain to Salix what steps are being taken to investigate the fraud, theft or financial irregularity and shall keep Salix informed about the progress of any such investigation. Salix may however request that the matter is referred to external auditors or other third parties for investigation as required.

20.4 Salix and the Secretary of State will have the right, at their absolute discretion, to insist that the Recipient addresses any actual or suspected fraud, theft or other financial irregularity and/or to suspend future payment of the Grant to the Recipient. Any grounds for suspecting fraud, theft or financial irregularity includes what the Recipient, acting with due care, should have suspected as well as what is actually proven.

20.5 For the purposes of this Clause 20, "financial irregularity" includes (but is not limited to) potential fraud or other impropriety, mismanagement, and the use of the Grant for any purpose other than those stipulated in the Agreement. The Recipient may be required to provide statements and evidence to Salix or the appropriate organisation as part of pursuing sanctions, criminal or civil proceedings.

21 Limitation of liability

21.1 Salix and the Secretary of State accept no liability for any consequences, whether direct or indirect, that may come about from the Recipient running the Project, the use of the Grant or from withdrawal of the Grant. The Recipient shall indemnify and hold harmless Salix and the Secretary of State, and their employees, agents, officers or sub-contractors with respect to all claims, demands, actions, costs, expenses, losses, damages and all other liabilities arising from or incurred by reason of the actions and/or omissions of the Recipient in relation to the Project, the non-fulfilment of obligations of the Recipient under the Agreement or its obligations to third parties.

22 Warranties

22.1 The Recipient warrants, undertakes and agrees that:

22.1.1 it is a Public Sector Body;

22.1.2 it has all necessary resources and expertise to deliver the Project (assuming due receipt of the Grant);

22.1.3 it has not committed, nor shall it commit, any Prohibited Act;

22.1.4 it shall at all times comply with all relevant legislation and all applicable codes of practice and other similar codes or recommendations, and shall notify Salix immediately of any significant departure from such legislation, codes or recommendations;

22.1.5 it shall comply with the requirements of the Health and Safety at Work etc. Act 1974 and any other acts, orders, regulations and codes of practice relating to health and safety, which may apply to employees and other persons working on the Project;

22.1.6 it has and shall keep in place adequate procedures for dealing with any conflicts of interest;

22.1.7 it has and shall keep in place systems to deal with the prevention of fraud and/or administrative malfunction;

22.1.8 all financial and other information concerning the Recipient which has been disclosed to Salix or the Secretary of State is to the best of its knowledge and belief, true and accurate;

22.1.9 it is not subject to any contractual or other restriction imposed by its own or any other organisation's rules or regulations or otherwise which may prevent or materially impede it from meeting its obligations in connection with the Grant;

22.1.10 it is not aware of anything in its own affairs, which it has not disclosed to Salix, any of Salix's advisers, the Secretary of State, or any of the Secretary of State's advisers, which might reasonably have influenced the decision of the Secretary of State to make the Grant on the terms contained in the Agreement; and

22.1.11 since the date of its last accounts there has been no material change in its financial position or prospects which

would, in the reasonable opinion of Salix, adversely affect the Recipient's ability to deliver the Project in accordance with the Project Programme, the Grant Application and the Agreement.

23 Change of Control

23.1 The Recipient shall notify Salix immediately in writing and as soon as the Recipient is aware (or ought reasonably to be aware) that it is anticipating, undergoing, undergoes or has undergone a Change of Control, provided such notification does not contravene any law.

23.2 The Recipient shall ensure that any notification made pursuant to Clause 23.1 shall set out full details of the Change of Control including the circumstances suggesting and/or explaining the Change of Control.

23.3 Where the Grant has been awarded to a consortium and the Recipient has entered into a collaboration agreement, the notification required under Clause 23.1 shall include any changes to the consortium members as well as the Recipient.

23.4 Following notification of a Change of Control, and unless Salix gave prior consent to the Change of Control, Salix shall be entitled to exercise its rights under Clause 17.1.15 by providing the Recipient with notification of its proposed action in writing within three (3) months of:

23.4.1 being notified in writing that a Change of Control is anticipated or is in contemplation or has occurred; or

23.4.2 where no notification has been made, the date that Salix becomes aware that a Change of Control is anticipated or is in contemplation or has occurred.

24 Duration

24.1 Except where otherwise specified, the terms of the Agreement shall apply from the Grant Payment Date until the anniversary of expiry of Practical Completion or for so long as any Grant monies remain unspent by the Recipient, whichever is longer.

24.2 Any obligations under the Agreement that remain unfulfilled following the expiry or termination of the Agreement shall survive such expiry or termination and continue in full force and effect until they have been fulfilled.

25 Assignment

25.1 The Recipient may not, without the prior written consent of the Secretary of State, assign, transfer, sub-contract, or in any other way make over to any third party the benefit and/or the burden of the Agreement or, except as contemplated as part of the Project, transfer or pay to any other person any part of the Grant.

26 Waiver

26.1 No failure or delay by either party to exercise any right or remedy under the Agreement shall be construed as a waiver of any other right or remedy.

27 Notices

27.1 All notices and other communications in relation to the Agreement shall be in writing and shall be deemed to have been duly given if personally delivered or mailed (first class postage prepaid) to the address of the relevant party, as referred to above or otherwise notified in writing. If personally delivered all such communications shall be deemed to have been given when received (except that if received on a non-working day or after 5.00 pm on any working day they shall be deemed received on the next working day) and if mailed all such communications shall be deemed to have been given and received on the second working day following such mailing.

28 No partnership or agency

28.1 The Agreement shall not create any partnership or joint venture between (1) the Secretary of State or Salix and (2) the Recipient, nor any relationship of principal and agent, nor authorise any party to make or enter into any commitments for or on behalf of the other party.

29 Joint and several liability

29.1 Where the Recipient is not a company nor an incorporated entity with a distinct legal personality of its own, the individuals who enter into and sign the Agreement on behalf of the Recipient shall be jointly and severally liable for the Recipient's obligations and liabilities arising under the Agreement.

BEIS PUBLIC SECTOR DECARBONISATION SCHEME GRANT DETERMINATION (2020/2021): No 31/5353.

The Secretary of State for Business, Energy and Industrial Strategy ("the Minister of State"), in exercise of the powers conferred by Section 31 of the Local Government Act 2003, makes the following determination:

Citation

1) This determination may be cited as the BEIS Public Sector Decarbonisation Scheme Grant Determination (2020/2021): No 31/5353.

Purpose of the grant

2) The purpose of the grant is to provide support to local authorities in England towards expenditure lawfully incurred or to be incurred by them.

Determination

3) The Minister of State determines as the authorities to which grant is to be paid and the amount of grant to be paid, the authorities and the amounts set out in Annex A.

Grant conditions

4) Pursuant to section 31(4) of the Local Government Act 2003, the Minister of State determines that the grant will be paid subject to the conditions in Annex B.

Treasury consent

5) Before making this determination in relation to local authorities in England, the Minister of State obtained the consent of the Treasury.

Signed by authority of the Minister of State for Business, Energy and Industrial Strategy

Katherine Wright
Deputy Director, Public Sector and Local Energy, Department for Business Energy and Industrial Strategy

08 February 2021

ANNEX A

Please note full details of all grants, including Local Authorities and grant amounts will be published on www.gov.uk after all applications have been assessed and all grants have been determined.

ANNEX B

1. Grant paid to a local authority under this determination may be used only for the purposes that a capital receipt may be used for in accordance with regulations made under section 11 of the Local Government Act 2003.

2. The Chief Executive and Chief Internal Auditor of each of the recipient authorities are required to sign and return to the team leader of the Public Sector and Local Division of the Department for Business Energy and Industrial Strategy a declaration, to be received no later than 31 October 2021, in the following terms:

“To the best of our knowledge and belief, and having carried out appropriate investigations and checks, in our opinion, in all significant respects, the conditions attached to the Public Sector Decarbonisation Scheme Grant Determination (2020/2021): No 31/5353 have been complied with”.

This declaration can be sent to the following email address: documents.psds@beis.gov.uk.

3. If an authority fails to comply with any of the conditions and requirements of paragraphs 1 and 2, the Minister of State may-

a) reduce, suspend or withhold grant; or

b) by notification in writing to the authority, require the repayment of the whole or any part of the grant.

4. Any sum notified by the Minister of State under paragraph 3(b) shall immediately become repayable to the Minister.

Public Sector Decarbonisation Scheme: Application Form - Guidance Notes

The following section is designed to give some clear guidance on how to fill out the Application Form for the Public Sector Decarbonisation Scheme. Any questions regarding the below please contact grants@salixfinance.co.uk.

Please Enable Editing in order for this Tool to fully function. This is a standard requirement when downloading excel files.

Index:

1. Steps for completing the Application Form

Step 1 Project Introduction
- Introduction details to your Grant Application.

Step 2 Support Tool
- Tool to input savings for each measure & check compliance (See *2. Completing Support Tool*)

Step 3 Business Case
- Business case questions to support your Grant Application.

Step 4 Category Details
- Each category of project has specific criteria for eligibility for this fund. (See 3. *Funding Criteria)*

Step 5 Upload & Submission

2. Completing 'Step 2 Support Tool'

Enter project details as shown in the example below.

Start Date	Completion Date	Site Life	Project Description
M1/20	M5/21	30	Building improvements and energy efficiency works

For Category 1,2 & 4 (any projects directly saving carbon), enter information for each work type required for the project in the first table. Up to 10 work types may be entered here. Contact technical@salixfinance.co.uk if more measures are to be applied for.

Description of Work	Energy Type	Current p/kWh	Category	Project Type	Technology - Work Type	Annual kWhrs Pre-Project	Annual kWhrs Post-Project	Annual kWh savings	% kWh savings	Project Value
Building Fabric	Gas	2.80	2	Insulation - building fabric	Cavity wall insulation	1,000,000	850,000	150,000	15%	£50,000.00

The cells to the right show the calculated values for each work type.

Annual Financial Savings	Payback in Years	tCO_2e pa	£/tCO2e LT
£4,200	11.90	27.58	60.43

Missing information for a work type will be flagged up in the 'Data Entry Check' column. The compliance check cannot be completed until all information is entered.

Payback in Years	tCO_2e pa	£/tCO2e LT	Data Entry Check
11.90			Check all fields completed correctly
7.14	183.87	86.74	OK

Once all of the required information has been entered correctly, the cells at the top will show the final project figures and whether or not the project is compliant.

	Total Salix Funding Requested	Total Project Value	Payback in Years	Total Financial Savings	Total tCO_2e pa	£/tCO_2e LT	Compliance
Category 1,2 & 4	£850,000.00	£850,000	15.69	£54,189	255.83	177.27	Compliant
Category 3	£6,000.00	£6,000	Total Project Value	£856,000.00	Total Grant Value	£856,000.00	

If you have a technology that is affecting more than one fuel, please enter each fuel into a separate line in the Compliance Tool.

	Description of Work	Energy Type	Fuel Cost p/kWh	Category	Project Type	Technology - Work Type	Annual kWhrs Pre-Project	Annual kWhrs Post-Project	Annual kWh savings	% kWh savings	Project Value
1	Boiler to Heat pump	Gas	2.80	1	Heating	Air Source Heat Pump (air to water)	1,000,000	0	1,000,000	100%	£200,000.00
2	Boiler to Heat pump	Electricity	11.00	1	Heating	Air Source Heat Pump (air to water)	0	300,000	-300,000	0%	£0.00

For Category 3 (enabling works), please provide a detailed description of the project and technology each work type is enabling. Please include the number of the project being enabled, this can be found in the far right column of the support tool table. Up to 10 work types may be entered here.

Description of Work	Project Type	Technology - Work Type	Details of Projects Enabled	Project Number	Project Value	Data Entry Check
Sub-metering	Metering	Flow Meters	Low carbon heating	1	£1,000.00	OK
Battery to support solar array	Battery Storage	Battery in combination with renewable	Solar Array	4	£5,000.00	OK

3. Completing 'Step 4 Category Details'

Completion of 'Step 4 Category Details' will depend on which category your project(s) fall into:

Technology Categories:

Category 1:

Technologies that directly contribute to the heat decarbonisation of a building by installation of low carbon heating.

Category 2:

Technologies that do not directly contribute to the heat decarbonisation of a building but reduce overall energy demand so will support future heat decarbonisation.

Category 3:

Technologies that do not reduce carbon emissions but enable future heat decarbonisation projects to take place - these technologies are exempt from the requirement to meet £500/tCO2e lifetime savings.

Category 4:

Technologies that are only permitted if:
(a) they are used to replace coal-fuelled heating systems or oil-fuelled heating systems, AND
(b) if, in Salix's reasonable opinion, it has been demonstrated that it is not viable for a low-carbon heating system to be installed within the building as a replacement for the coal or oil-fuelled heating system.
Projects that fall into Category 2 and Category 3 must meet either one of criteria **A**, **B** or **C** as outlined below. Supporting commentary and evidence is needed to demonstrate each Category 2 and 3 project meets any one of the criteria. The criteria are outlined below, including advice on supporting information required.

Category 2 and Category 3 Projects

Criteria A: Category 2 and 3 measures are combined with measures in Category 1:
In this section, provide an overview of how each Category 2 and 3 measure facilitates the implementation of the Category 1 project.

Criteria B: Category 2 and 3 measures are for buildings that already use low-carbon heating for all their heating requirements:
In this section, provide a detailed description of these buildings including their heating systems and requirements.

Criteria C: A written commitment is made to future heat decarbonisation for the buildings in which measures are installed, which includes all of the following:

(i) A commitment to produce and submit to Salix, a Heat Decarbonisation Plan by **30th September 2021**.

(ii) An explanation within the Heat Decarbonisation Plan setting out how the building(s') fossil fuel heating systems will be replaced by low carbon heating when the fossil fuel system(s) reach the end of their natural lifetime. It is important to consider what will happen when your current heating plant has reached the end of its life and suitable upgrades have not been made to your building to manage this. The type or types of low carbon heating systems, and the likely timescale for this, must be identified. A template for this Heat Decarbonisation Plan is provided if there isn't an existing document, and this can be used to help create this plan if support is needed.

(iii) The Heat Decarbonisation Plan must include details of how it has been approved by their public body, how this plan is going to be implemented, and that there is a commitment to apply for and utilise funding where available to deliver the Heat Decarbonisation Plan.
The Heat Decarbonisation Plan will enable public bodies to plan their approach to decarbonisation and their contribution to meeting the 2050 net zero target.

Step 1: Project Introduction

Project Title:	City of London energy decarbonisation project
Applicant:	City of London Corporation
Submission date:	11 January 2021
Will you need further use of the Low Carbon Skills Fund?	Yes
Please provide an estimate of how many jobs will be supported by these projects.	378
Grant value requested (£)	£9,445,943.76
Is the project dependent on any other funding streams?	No

Low Carbon Skills Fund

If the project is dependent on any other funding stream, please provide details below.

Please answer yes/no to the following questions, if any require additional commentary please include this in the box provided:

1. Have you or your team worked with Salix before?	Yes
2. Can you confirm your organisation owns the buildings where you wish to undertake these measures?	Yes
3. Can you confirm that your organisation pays the energy bills for these buildings?	Yes
4. Can you confirm that the proposed measures have not yet started?	Yes
5. Upon award of funding, do you have access to frameworks to procure the measures against?	Yes
5a. If no, are you in a position to place orders having gone through a procurement process in line with financial regulations?	N/A
6. Does the project require planning consent?	No
7. Have you secured all necessary internal sign off for this project proposal?	No

If no, please provide detail below

The City of London (CoL) have been developing an Energy Reduction Programme over the last 12-months and internal approval has been granted to develop phase 1 and phase 2 of this programme which constitutes a number of the project proposed in this application. CoL were awarded LCSF funding when has been used to further develop opportunities already identified and build on this with additional projects. In October 2020 CoL approved a new Climate Action Strategy which sets an ambitious target for net zero carbon of our own estate by 2027. Achieving this target is dependent on accelerating our current reduction programme and increasing its scope - and therefore the PSDS Grant Scheme is an ideal opportunity to achieve our already well-established corporate objectives.

Approval of the City of London Corporation's programme of projects is the responsibility of the Policy and Resources Committee through its Projects Sub- Committee,

8. Does the project include any Private Finance Initiative (PFI) buildings, if yes please provide detail below.	No

Additional Commentary

We have included some commentary for the basis of the estimated jobs supported figure state above, in the supporting document: Project Cost Breakdown.xls
Please note: all buildings are owned by City of London apart from the London Metropolitan Archives, which is under long lease.
The City of London have been awarded with Salix load funding previously, though it was some year ago. The City of London have recently liaised with Salix in regards to considering an application for the loan scheme, but none have been recently made as yet.

Applicant:	City of London Corporation
Project Phase	Pre-tender
Compliance Criteria:	£500 /tCO_2e LT

Step 2: Support Tool

Version 1.5

salix

	Total Grant Funding Requested	Total Project Value	Payback in Years	Total Financial Savings	Total tCO_2e pa	£/tCO_2e LT	Compliance
Category 1,2 & 4	£7,937,900.47	£7,937,900.47	9.03	£879,198	1,542.58	290.25	Check Work Type Details
Category 3	£1,508,043.29	£1,508,043.29	Total Project Value	£9,445,943.76	Total Grant Value	£9,445,943.76	

Planned Start Date	Planned Completion Date	Site Life	Project Description
1/4/21	29/9/21	30	Projects to support heat decarbonisation through improvements to HVAC systems and controls, enabled and enhanced through upgrades to electrical infrastrucutre and metering, and further energy reduction provided by lighting upgrades.

Category 1,2 and 4 projects

	Description of Work	Energy Type	Fuel Cost p/kWh	Category	Project Type	Technology - Work Type	Annual kWhrs Pre-Project	Annual kWhrs Post-Project	Annual kWh savings	% kWh savings	Project Value	Annual Financial Savings	Payback in Years	tCO_2e pa	£/tCO2e LT	Data Entry Check
1	BAC Damper Upgrades (On-site savings)	Electricity	13.50	2	Ventilation	Ventilation - distribution	864,000	648,000	216,000	25%	£10,278.63	£29,160	0.35	13.83	24.77	OK
2	BAC Damper Upgrades (Citigen chiller savings)	Electricity	18.18	2	Ventilation	Ventilation - distribution	301,191	256,012	45,179	15%	£2,149.88	£8,215	0.26	2.89	24.77	OK
3	BAC Damper Upgrades (Citigen gas savings)	Gas	1.34	2	Ventilation	Ventilation - distribution	12,991,452	11,042,735	1,948,718	15%	£266,313.39	£26,099	10.20	358.31	24.77	OK
4	BAC Damper Upgrades (CHP non-displaced electricity)	Electricity	0.00	2	Ventilation	Ventilation - distribution	0	672,772	- 672,772	0%	£0.00	£0	-	43.07	-	OK
5	BAC&GSMD Insulation Upgrades (Citigen gas savings)	Gas	1.34	2	Insulation - pipework	Heating pipework insulation (internal)	10,080,000	9,629,088	450,912	4%	£84,900.22	£6,039	14.06	82.91	45.51	OK
6	BAC&GSMD Insulation Upgrades (CHP non-displaced electricity)	Electricity	0.00	2	Insulation - pipework	Heating pipework insulation (internal)	0	155,672	- 155,672	0%	£0.00	£0	-	11.47	-	OK
7	BAC EC fan upgrades (on-site savings)	Electricity	13.50	2	Ventilation	Fans - air handling unit	1,450,176	1,160,141	290,035	20%	£297,198.00	£39,155	7.59	20.92	598.28	OK
8	GSMD Milton AHU's control and upgrade (On-site savings)	Electricity	13.50	2	Ventilation	Ventilation - distribution	226,640	179,712	46,928	21%	£266,720.00	£6,335	42.10	3.00	2,959.06	OK
9	BAC&GSMD BMS recommission/ upgrades (On-site	Electricity	13.50	2	Building management systems	BEMS - bureau remotely managed	1,630,080	1,565,529	64,551	4%	£110,873.92	£8,714	12.72	6.96	1,770.77	OK
10	BAC&GSMD BMS BMS recommission/ upgrades (Citigen	Electricity	18.18	2	Building management systems	BEMS - bureau remotely managed	58,032	56,871	1,161	2%	£1,993.53	£211	9.45	0.13	1,770.77	OK
11	BAC&GSMD BMS BMS recommission/ upgrades	Gas	1.34	2	Building management systems	BEMS - bureau remotely managed	4,547,008	4,366,947	180,062	4%	£527,638.11	£2,412	218.80	33.11	1,770.77	OK
12	BAC&GSMD BMS BMS recommission/ upgrades (CHP non-	Electricity	0.00	2	Building management systems	BEMS - bureau remotely managed	0	62,164	- 62,164	0%	£0.00	£0	-	6.70	-	OK
13	BAC Pneumatic Valve upgrades/ replacements (On-site	Electricity	13.50	2	Heating	Heating - distribution pipework improvements	823,680	617,760	205,920	25%	£512,943.21	£27,799	18.45	18.24	1,849.88	OK
14	BAC&GSMD Standard Valve upgrades/ replacements (Onsite	Electricity	13.50	2	Heating	Heating - distribution pipework improvements	823,680	798,970	24,710	3%	£831.41	£3,336	0.25	2.19	24.99	OK
15	BAC&GSMD Standard Valve upgrades/ replacements (Citigen	Electricity	18.18	2	Heating	Heating - distribution pipework improvements	837,000	778,968	58,032	7%	£1,952.56	£10,552	0.19	5.14	24.99	OK
16	BAC&GSMD Standard Valve upgrades/ replacements (Citigen	Gas	1.34	2	Heating	Heating - distribution pipework improvements	21,840,000	19,871,715	1,968,285	9%	£137,452.72	£26,361	5.21	361.91	24.99	OK
17	BAC&GSMD Standard Valve upgrades/ replacements (CHP	Electricity	0.00	2	Heating	Heating - distribution pipework improvements	0	679,527	- 679,527	0%	£0.00	£0	-	60.20	-	OK
18	Guildhall E. Wing Art Gallery/Amp. AHUs (On-site savings)	Electricity	13.00	2	Ventilation	Fans - high efficiency	2,196,558	852,806	1,343,752	61%	£372,680.00	£174,688	2.13	123.38	211.97	OK
19	Guildhall E. Wing Offices AHUs (On-site savings)	Electricity	13.00	2	Ventilation	Fans - high efficiency	212,162	96,998	115,164	54%	£116,373.00	£14,971	7.77	10.57	772.30	OK
20	Guildhall West Wing AHU (On-site savings)	Electricity	15.10	2	Ventilation	Fans - high efficiency	179,580	75,248	104,332	58%	£36,560.00	£15,754	2.32	9.58	267.82	OK
21	LMA AHU Upgrade	Electricity	12.20	2	Ventilation	Fans - high efficiency	158,118	76,146	81,972	52%	£97,252.00	£10,001	9.72	7.53	906.74	OK
22	Guildhall East/West Wing Humidifiers (On-site savings)	Gas	2.30	2	Ventilation	Ultrasonic Humidifiers	2,048,394	0	2,048,394	100%	£311,544.00	£47,113	6.61	376.64	114.57	OK
23	Guildhall East/West Wing Humidifiers (new consumption)	Electricity	13.00	2	Ventilation	Ultrasonic Humidifiers	0	60,911	- 60,911	0%	£0.00	-£7,918	-	6.64	-	OK
24	Guildhal: Cooling Stage 1 Migration Works	Electricity	14.00	2	Cooling	Cooling - plant replacement/upgrade	532,378	371,827	160,551	30%	£123,500.00	£22,477	5.49	17.30	869.55	OK
25	GSMD Milton - Cooling Mods (On-site savings)	Electricity	13.50	2	Cooling	Cooling - plant replacement/upgrade	28,333	10,000	18,333	65%	£16,551.94	£2,475	6.69	1.98	1,020.58	OK
26	GSMD Milton - Cooling Mods (Citigen chiller savings)	Electricity	18.18	2	Cooling	Cooling - plant replacement/upgrade	306,258	153,796	152,462	50%	£137,648.06	£27,722	4.97	16.43	1,020.58	OK
27	Guildhall - Lighting (new fitting)	Electricity	14.50	2	LED lighting	LED - new fitting	752,923	338,283	414,640	55%	£998,769.44	£60,123	16.61	29.29	1,364.20	OK
28	Guildhall - Lighting (same fitting & controls work)	Electricity	14.50	2	LED lighting	LED - same fitting	141,466	40,025	101,441	72%	£374,001.92	£14,709	25.43	9.93	2,896.12	OK

29	GSMD Milton - Lighting	Electricity	14.00	2	LED lighting	LED - new fitting	591,117	277,980	313,138	53%	£1,095,970.73	£43,839	25.00	22.12	1,982.20	OK
30	GSMD Milton - Lighting	Electricity	14.00	2	LED lighting	LED - same fitting	23,329	13,297	10,033	43%	£59,697.50	£1,405	42.50	0.98	4,674.15	OK
31	GSMD Silk - Lighting	Electricity	13.13	2	LED lighting	LED - new fitting	353,784	112,972	240,812	68%	£285,941.17	£31,619	9.04	17.01	672.48	OK
32	GSMD Silk - Lighting	Electricity	13.13	2	LED lighting	LED - same fitting	16,989	8,650	8,339	49%	£4,105.44	£1,095	3.75	0.82	386.71	OK
33	BAC - Lighting	Electricity	13.50	2	LED lighting	LED - new fitting	1,924,330	596,620	1,327,710	69%	£1,447,141.23	£179,241	8.07	93.77	617.29	OK
34	GSMD Sundial - Lighting	Electricity	13.50	2	LED lighting	LED - new fitting	407,999	70,980	337,019	83%	£238,918.44	£45,498	5.25	23.80	401.49	OK
35										0%						
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49										0%						
50										0%						
51										0%						

If you have more than 10 projects you wish to apply for, please contact: grants@salixfinance.co.uk

Category 3 projects

	Description of Work	Project Type	Technology - Work Type	Details of Projects Enabled	Project Number	Project Value	Data Entry Check
1	Control cabling for pneumatic & other valves	Electrical Infrastructure	Electrical Distribution	PN Valve upgrades	2	£365,000.00	OK
2	Barbican Arts Centre Metering	Metering	Metering Other	Damper/EC Fan/Valve upgrades	2	£359,251.70	OK
3	Silk St metering	Metering	Metering Other	Damper/EC Fan/Valve upgrades	2	£203,823.55	OK
4	Milton Court Metering	Metering	Metering Other	Damper/EC Fan/Valve/AHU upgrades	2	£240,384.63	OK
5	Guildhall Metering	Metering	Metering Other	Guildhall AHU upgrades	2	£150,644.41	OK
6	Energy Management Software	Metering	Metering Software	Upgrade of current software to provide enhanced M&T functionality to support all projects listed	2	£50,000.00	OK
7	Building Energy Analyser	Metering	Metering Software	Enhanced energy data analysis (live stream) and HVAC operations which supports all HVAC projects: lines 1-26	2	£138,939.00	OK
8							
9							
10							

Step 3

Category 1 | Category 3

Category 2 | Category 4

Please click on the links above to get a comprehensive list of all technologies included as part of each category

Step 3: Business Case

1. Project Cost Breakdown

If pre-tender please provide cost estimates, and final costs to be provided when available.

Design and engineering costs (£)	£641,940.05	7%
Main equipment capital costs (£)	£3,909,806.82	41%
Installation & commissioning costs (£)	£3,007,362.59	32%
Project delivery costs (£)	£635,551.45	7%
Contingency costs (£)	£1,026,991.05	11%
Other project costs (£)	£224,296.22	2%
Total projects costs	£9,445,943.76	**100%**

2. Cost Breakdown

Please provide commentary on the project cost breakdown. Salix appreciates that at this stage these costs may not be firm. Please provide commentary around how the costs have been estimated.

Please first refer to the background to the projects set out in section 3 below.
Cost estimates have been provided by experienced consultants for each of the energy saving measures proposed as set out in the Support Tool sheet.
Where there are multiple lines in the Support Tool for savings relating to a single project, we have apportioned the total project cost between these lines based on the carbon savings, so the LT CO2 savings figure for the specific project can be clearly distinguished.
The above Project Cost Breakdown has been provided through collating costs provided by the consultants, with a few minor adjustments, as set out in the supporting spreadsheet: Project_Cost_Breakdown.xls.

Within the individual consultant reports, referenced in the below 'Project Details', the consultants have provided summary details on how the costs have been estimated and

3. Project Details

Project background - please give detail on how this project was selected compared to alternative low carbon solutions.

The proposed project is for category 2 and 3 measures for the following 5 sites:
- Guildhall Complex (GHC): the administrative headquarters for the CoL, incorporating public venues, art gallery, London's Roman amphitheatre, and a public library.
- Barbican Art Centre (BAC): a performing arts centre in the Barbican Estate of the City of London and the largest of its kind in Europe. The centre hosts classical and contemporary music concerts, theatre performances, film screenings and art exhibitions. It also houses a library, three restaurants, and a conservatory.
- Guildhall School of Music and Drama (GSMD) (https://www.gsmd.ac.uk/): a conservatoire and drama school offering undergraduate and postgraduate training in all aspects of classical music and jazz along with drama and production arts.
- London Metropolitan Archives (LMA) (https://www.cityoflondon.gov.uk/things-to-do/history-and-heritage/london-metropolitan-archives): the principal local government archive repository for the Greater London area, including the City of London; it is the largest county record office in the United Kingdom.

4. Details of Project Energy Saving Calculations

Describe how the programme energy and carbon savings have been calculated, detailing any assumptions. Please attach savings calculations and product specifications alongside your application.

Calculations specific to the items set out in the Support Tool are summarised within the documents referenced in the above 'Project Details' and contained within separate supporting spreadsheets.
The general approach can be summarised as:
1. Baseline energy data has been derived from a combination of top down metering data and bottom up analysis based on site-surveys to verify equipment operational loads and supplemented by O&M documentation.
2. Where required, energy consumption has been estimated based on sampling, and benchmarking techniques were used such as CIBSE and British Standards.
3. Building Management System values and logging data has been used to verify HVAC operations and assumptions.
4. New energy consumption has been informed by manufacturers technical data where an outline specification is possible, or conservative estimations.

5. Energy and Carbon Monitoring Plan Post-completion

- Post-completion do you have plans in place for monitoring your projects?
- Do you agree that you will participate and cooperate with those people who are assessing this project from BEIS?

A post-completion verification exercise will be carried out by the CoL Energy Team. Energy consumption will be monitored through main or sub-meters (where available) and supplemented by BEMS logging of plant operations and spot checks of power loads. The level of monitoring will be greatly enhanced through the category 3 metering and software projects proposed in this application. Monitoring will be carried out at intervals of: 1-month, 3-months, 6-months and 12-months, and 3-years post installation to verify the energy savings and the installation is meeting design expectations. The Energy Team will provide assessment updates at these intervals with a final report at 12-months post-completion of each project which will evaluate the project energy savings, capital costs and building service performance. The assessment will also take into account other variables in order to determine the impact of the actual energy saving project, including: weather, site changes (occupancy hours, occupied area), site HVAC changes (including control and physical changes). The project will also be carried out in accordance with CoL project governance procedures which requires a formal report 6 months post completion. To confirm, CoL agrees to participate and cooperate with those people who are assessing this project from BEIS.

6. Project Governance

Please define the project team and their roles in the delivery of the project (e.g. consultants, contractors, senior manager etc.).
- Please outline the organisation structure in terms of who has the authority to approve the project and any changes.
- Has a Project Execution Plan been drawn up to state exactly how the project will be managed?
- Please provide commentary to demonstrate how the teams overseeing the works are appropriately trained and skilled for the proposed technologies.
- Please attach a copy of your internal project plan.

We have set out our route for internal approval in Step 1, section 7. The Town Clerk's Programme Office monitors the progress of projects from start to finish and programme officers are required to provide monthly update reports. If the programme costs are subsequently projected to exceed the approved budget then internal approval must be sought before proceeding, and this process depends on the value and percentage variation. Any significant changes to the project that are not related to cost (e.g. programme, risk and specification) must be agreed by the Committee(s) which consider the progress reports for the project.

Following approval, a Project Board will be established who are responsible for the development and delivery of the project within the parameters agreed by Members and the Chief Officer. The Project Board will ensure the project is delivered in accordance with the agreed programme, specification and budget and is responsible for ensuring any actual or forecast deviation from the parameters agreed by Members is reported. James Rooke, Assistant Director and Head of Energy & Sustainability would be the overall Project

7. Previous Experience

Describe any previous experience that you may have with the proposed energy efficiency measure.
- Please also outline the experience members of the project team have with managing projects of a similar scale, including that of any third-party support.

The programme is governed within the City Surveyor's Department of the City of London Corporation. The department are responsible for maintaining the City's Investment and Corporate portfolios over 1000 buildings (value of ~£5.6 billion) extending to 6.25 million sq ft of space and delivering construction projects (worth about £200m). The project will be managed by the Corporate Energy Team who are part of the Operations Group within the City Surveyor's Department. The Operations Group, who consist of 170 in-house staff, are responsible for directly managing all property and services for 100+ buildings and delivering over 1000 projects annual of a total value of £20m. The Energy Project Programme would be managed in parallel to the Operations Group Cyclical Works Programme which invests ~£3.5m/yr in essential building works.

The project will be directly managed by the existing 6-person Corporate Energy Team, within the City Surveyor's department, with support from the wider department who have significant experience in programmes of this nature and scale. The energy team manage the £17m annual corporate energy procurement and provide energy management

8. Procurement process

What are your plans for procuring the services needed for this project?

Due to the delivery timescale and the funding amount we propose to utilise existing frameworks and where appropriate package the work by specialisms (e.g. lighting, meter) to achieve best value. The primary options being explored are:

1. Existing City of London frameworks, including:
   a) Major Works framework: consists of two frameworks in which 6 suppliers can compete for works between £1,000,000 and £15 million.
   b) Intermediate Works framework: for M&E works between £250k and £1 million.
   c) Minor Works framework: for M&E works up to £250k.

2. Re:FiT: energy performance contracting framework.

9. Project Risks & Mitigation

If you have an existing risk register for this project please share this with Salix. If a risk register is not available at this time please provide a provisional date for when you will share a copy with us. Risks and mitigations associated with project timescales will be required due to the importance of projects completing on time.

Do you have a risk register for this project? (Yes/No)	No

If "No" please confirm when you expect this will be available.

Provisional Date	07/02/2021

10. Mitigating Fraud

Please provide detail on the checks in place to mitigate fraud, including checks to ensure false representation and failure to disclose information is mitigated against. Please declare any conflicts of interest as part of this application. To confirm that there has been no abuse of position in the application process or selection of suppliers, please sign on supporting Signature Document which will be sent to you after Application.

The City of London Corporation takes a robust approach to tackling fraud and corruption. It has a dedicated unit as part of the Chamberlain's Internal Audit section tasked with the prevention, detection and investigation of allegations of fraud and corruption originating both internally and externally. Chief Officers, or their representatives are responsible for reporting any irregularity, or suspicion of an irregularity, affecting money or property or any other aspect of the City's business, immediately to the Head of Audit & Risk Management, as detailed in the City of London's Financial Regulations.

All projects involve procurement activity and contract letting which must be carried out in accordance with the City's agreed Procurement Regulations. The City of London Procurement Code constitutes the rules that must be followed when any procurement is undertaken by the Corporation and are designed to ensure that risks are minimised and procurement complies with the Public Contracts Regulations 2015 and other relevant legislation.

Step 4: Grant Funding Criteria

For further guidance on individual category criteria please see: Guidance Notes tab

Please complete Sections 1 to 2 unless otherwise specified.

1. Category 1 Projects - *If you have not applied for Category 1 projects, please move on to section 2*

Provide detailed commentary and supporting evidence for how the proposed work(s) fit into the estate wide decarbonisation strategy. Can you comment on how the site(s) will be made compatible for the low carbon heating system(s)?

The London Metropolitan Archives (LMA) and Walbrook Wharf, which are not connected to Citigen, are also included in this project proposal for measures to improve ventilation efficiency and metering. These sites are currently supplied with heat from on-site gas boilers. The measures proposed will aim in reducing the existing energy consumption to facilitate more efficient future heat network connection or alternative low carbon on-site heat supply.

Alongside the grant application we will be applying to the LCSF for funding towards Heat Decarbonisation Plans for all these five sites. This will allow consultancy work to be commissioned to provide detailed surveys, analysis and recommendations for optimising site temperature regimes, and identifying options for low carbon heat supplies for the LMA and Walbrook Wharf.

2. Category 2 or 3 projects - *If you have not applied for Category 2 or 3 projects, please move on to Step 5.*

These technologies will only be eligible for funding where one of the following criteria (A,B or C) applies:

		Please input details below for the option where **yes** is selected.
Criteria A: Do you have both Category 1 and Category 2/3 measures in your application **AND** do the Category 2/3 measures support measures in Category 1? If yes, please provide an overview outlining how each Category 2/3 project relates to and facilitates the implementation of Category 1 measure.	No	
Criteria B: Are the Category 2/3 measures for buildings that already use low-carbon heating? If yes, please provide a detailed description of these buildings including their heating systems and requirements.	Yes	The Guildhall, Barbican Art Centre, and GSMD are already connected to the Citigen network, which supplies low carbon heat generated by a central gas-CHP energy centre. The proposed projects are designed to not only reduce the demand for heat, but also to improve the efficiency of it's supply by addressing HVAC issues causing high return temperatures and low flow/return temperature differentials. The City of London are in a long-term partnership with Citigen (owned by E.ON) to develop the network, both extending to connect to more
Criteria C: If you have answered no to Criteria A and B, please provide your heat decarbonisation plan for all buildings involved in category 2/3 projects. Select Yes to confirm that this heat decarbonisation plan has been provided with your application.	No	If No is selected, please sign the Signature Document (which will be sent to you after Application) as a written commitment to produce and submit to Salix, a Heat Decarbonisation Plan by 30 September 2021.

3. Category 3 Projects - *If you have not applied for just Category 3 projects, please move onto Step 5*

Please provide commentary on why low carbon heating measures cannot be implemented on site presently.

Step 5 Submit Application

You can upload the completed Public Sector Decarbonisation Scheme Application Form and any further supporting documentation to the Salix online application portal:

Application Portal

Category List

Project Type	Work Type	Persistence Factor	Status/Comments
Category 1			
Heating	Air Source Heat Pump (air to water)	**12.54**	Use a separate line for each fuel type
	Ground Source Heat Pump	**16.72**	Use a separate line for each fuel type
	Water Source Heat Pump	**16.72**	Use a separate line for each fuel type
	Connect to existing district heating	**28.50**	
	Heating - Electric Heating	**9.50**	
Category 2			
Building management systems	BEMS - bureau remotely managed	**9.00**	
	BEMS - not remotely managed	**6.84**	
	BEMS - remotely managed	**8.42**	
Compressor	Compressed Air: air compressor upgrade	**14.44**	
Computers & IT solutions	CRT to LED monitors	**7.20**	
	Energy Efficient File Storage Replacement	**9.00**	
	Energy Efficient Server Replacement	**9.00**	
	Evaporative cooling for ICT	**13.68**	
	Free Cooling for ICT	**13.68**	
	Hot aisle/cold aisle containment	**10.83**	
	LED monitors instead of LCD (cost difference)	**7.20**	
	Multi Functional Devices	**4.50**	
	Network PC power management	**4.00**	
	Thin client	**9.00**	
	Uninterruptible Power Supplies	**18.00**	
	Virtualisation	**9.00**	
Cooling	Cooling - control system	**6.84**	
	Cooling - plant replacement/upgrade	**8.21**	
	Energy Efficient Chillers	**14.44**	
	Free cooling	**13.68**	
	Replacement of air conditioning with evaporative cooling	**13.68**	
Energy from waste	Anaerobic digestion	**15.20**	
	Incineration	**15.20**	Use a separate line for each fuel type
Hand Dryers	Hand Dryers - replacement to more efficient type	**8.21**	
Heating	Heat recovery	**10.83**	Use a separate line for each fuel type
	Heating - discrete controls	**6.84**	
	Heating - distribution pipework improvements	**15.20**	
	Heating - TRVs	**6.84**	
	Heating - zone control valves	**11.88**	
	Replace steam calorifier with plate heat exchanger	**28.50**	
	Steam trap replacements	**15.20**	
	Thermal Stores	**18.00**	
Hot water	Flow restrictors	**14.00**	
	Hot Water - chlorine dioxide dosing and biocide treatment	**9.50**	
	Hot Water - distribution improvements	**18.00**	
	Hot Water - Efficient taps	**11.00**	
	Hot Water - point of use heaters	**9.50**	
Industrial kitchen equipment	Energy efficient combi-oven	**8.10**	
	Energy efficient convection-oven	**10.30**	
	Steriliser to dishwasher replacement	**10.80**	
Insulation - building fabric	Cavity wall insulation	**30.00**	
	Double glazing with metal or plastic frames	**28.00**	
	Dry wall lining	**30.00**	
	Loft insulation	**27.00**	
	Floor Insulation - suspended timber floor	**27.00**	
	Floor Insulation - solid floor or other type	**30.00**	
	Roof insulation	**30.00**	
	Secondary glazing	**7.92**	
Insulation - draught proofing	Insulation - draught proofing	**29.25**	
Insulation - other	Air Curtains - ambient	**11.40**	
	Air Curtains - heated	**10.83**	
	Automatic speed doors	**8.45**	

	Automatic/revolving doors	**8.45**	
	Draught Lobby (external)	**29.25**	
	Draught Lobby (internal)	**29.25**	
	Radiator reflective foil (external walls)	**8.00**	
Insulation - pipework	Heating pipework insulation (external)	**9.00**	
	Heating pipework insulation (internal)	**22.50**	
Lab Upgrades	Diode pumped solid state lasers	**6.80**	
	Energy Efficient Drying Cabinets	**12.80**	
	Energy Efficient Freezers (-25°C)	**12.83**	
	Energy Efficient Freezers (-86°C)	**8.55**	
	Energy Efficient Fume Cupboards	**16.25**	
	Energy Efficient Growth Cabinets	**10.80**	
	Energy Efficient X-Ray Generator	**10.00**	
	Fume Cupboards - Auto Sash Closing + PIR	**6.84**	
	Fume Cupboards - VAV Controls + Inverter Drives	**10.26**	
	Heat Recovery on Extract System	**10.83**	
LED lighting	LED - new fitting	**25.00**	
	LED - same fitting	**13.00**	
Lighting controls	Lighting - discrete controls	**8.89**	
	Lighting control system centralised	**10.26**	
Motor controls	Fixed speed motor controls	**11.40**	
	Motors - flat belt drives	**11.40**	
	Variable speed drives	**10.26**	
Motor replacement	Motors - high efficiency	**15.00**	
Office equipment	Office equipment improvements for non-ICT	**3.00**	
Renewable energy	Small Hydropower	**22.80**	Use a separate line for each fuel type
	Solar PV	**22.50**	
	Solar Thermal	**17.10**	
Time switches	Time switches	**6.84**	
Transformers	Low loss	**30.00**	
	Low loss (cost difference)	**30.00**	
	Low loss+voltage management	**30.00**	
	Low loss+voltage management(cost difference)	**30.00**	
	Transformer tapping change	**30.00**	
Ventilation	Fans - air handling unit	**23.75**	
	Fans - high efficiency	**14.25**	
	Phase change material	**23.75**	
	Ultrasonic Humidifiers	**7.22**	
	Ventilation - distribution	**30.00**	
	Ventilation - presence controls	**6.84**	
Category 3			
Battery Storage	Battery in combination with renewable	**N/A**	
	Standalone Batteries	**N/A**	
	Upgrade uninterruptible power supply	**N/A**	
Electrical Infrastructure	Capacity Improvements	**N/A**	
	Electrical Distribution	**N/A**	
	Incoming Electricity Provision	**N/A**	
Metering	Flow Meters	**N/A**	
	Heat Meters	**N/A**	
	Metering Other	**N/A**	
	Metering Software	**N/A**	
Category 4			
Boilers	Boilers - control systems	**6.84**	
	Boilers - replacement combination	**7.22**	
	Boilers - replacement condensing	**14.44**	
	Boilers - replacement modular	**10.83**	
	Boilers - retrofit economiser	**10.83**	
Combined heat & power	CHP Private Wire Connection	**30.00**	
	Gas Turbine	**11.40**	
	Gas Engine CHP	**15.20**	
Heating	Oil to Gas - boiler fuel switching	**7.92**	Use a separate line for each fuel type

Salix Finance: Terms of Use for Salix Application Form

Intellectual property rights

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Public Sector Decarbonisation Scheme
Assessment and Feedback

Applicant:	City of London Corporation

Salix Commentary

Step 1: Project Introduction

Supporting Employment		Score Green for High Quality, Amber for OK and Red for Requires Improvement 409 reasonable given size of the project Project expected to run from 01/04/2021 to 29/09/2021

Step 2: Support Tool

Technical Feasibility & Future Resilience		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Improvements to several City of London buildings, including: Damper Upgrade, Insulation - pipework, EC fan upgrades, AHU's control and upgrade, BMS recommission/ upgrades, Pneumatic Valve upgrades/ replacement, Fans - high efficiency, Ultrasonic Humidifiers, Cooling - plant replacement/upgrade and LED lighting Pre-tender application, so final contractors not selected. project team and contractors have extensive building energy experience
Project Cost Savings Calculations with particular reference to the fuel prices being considered		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Price for electricity are generally typical, however the below are quite high: BAC Damper Upgrades (Citigen chiller savings) 18.18 p/kWh Elec BAC&GSMD BMS BMS recommission/ upgrades (Citigen chiller savings) 18.18 p/kWh Elec BAC&GSMD Standard Valve upgrades/ replacements (Citigen chiller savings) 18.18 p/kWh Elec Guildhall West Wing AHU (On-site savings) 15.1 p/kWh Elec GSMD Milton - Cooling Mods (Citigen chiller savings) 18.18 p/kWh Elec Applicant has confirmed these electricity prices over email, based on bills. Some electricity costs shown as 0p - this is to account for the gas savings from the plant (CHP and boilers) and also
Is cost of carbon in line with similar projects		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Cost of carbon within compliancy limit for overall project. Payback time is reasonable. Surveys carried out by consultant for each project and will need to be confirmed post-tender.

Step 3: Business Case

1.1 Design & Engineering Costs		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement
1.2 Main Equipment Costs		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement
1.3 Installation and Commissioning Costs		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement
1.4 Project Delivery Costs		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement
Comments on Project Costs (1.1-1.4):		no quotes obtained, estimations by consultant Breakdown of project costs are reasonable
2. Evidence of Firm Pricing or close budgets having been received		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Costs are given to a good degree of certainty pre tender. Paybacks are as expected for these technologies. Revised costs are to be provided with evidence post tender.
3. Project Description including any background material		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement project description is very clear. Works at this site include Damper Upgrade, Insulation - pipework, EC fan upgrades, AHU's control and upgrade, BMS recommission/ upgrades, Pneumatic Valve upgrades/ replacement, Fans - high efficiency, Ultrasonic Humidifiers, Cooling - plant replacement/upgrade and LED lighting
4. Energy/Carbon Savings Calculations		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Several surveys have been completed for Damper Upgrade, Insulation - pipework, EC fan upgrades, AHU's control and upgrade, BMS recommission/ upgrades, Pneumatic Valve upgrades/ replacement, Fans - high efficiency, Ultrasonic Humidifiers, Cooling - plant replacement/upgrade and LED lighting Energy and costs savings should be reassessed/confirmed post-tender when exact equipment to be installed is finalised.
5. Energy/Carbon Monitoring Plan		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement

		A post-completion verification exercise will be carried out by the CoL Energy Team. Energy consumption will be monitored through main or sub-meters
6. Is the project governance sufficient for the size and complexity of the work to be completed?		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement The Town Clerk's Programme Office monitors the progress of projects from start to finish and programme officers are required to provide monthly update reports. Any significant changes to the project that are not related to cost (e.g. programme, risk and specification) must be agreed by the Committee(s) which consider the progress reports for the project.
7. Applicant/Contractors' previous experience capability		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Pre-tender, contractor not selected. The project will be directly managed by the existing 6-person Corporate Energy Team, within the City Surveyor's department, with support from the wider department who have significant experience in programmes of this nature and scale
8. Has a robust procurement policy been demonstrated?		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement 1. Existing City of London frameworks, including: a) Major Works framework: consists of two frameworks in which 6 suppliers can compete for works between £1,000,000 and £15 million. b) Intermediate Works framework: for M&E works between £250k and £1 million. c) Minor Works framework: for M&E works up to £250k.
9. & 10. Project Risks & Mitigations including Fraud		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement It has a dedicated unit as part of the Chamberlain's Internal Audit section tasked with the prevention, detection and investigation of allegations of fraud and corruption originating both internally and externally risk register not provided with application
Step 4: Category Details		
Category Criteria		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Category 2 measures include reducing electricity consumption and energy consumption (heating and cooling) Damper Upgrade, Insulation - pipework, EC fan upgrades, AHU's control and upgrade, BMS recommission/ upgrades, Pneumatic Valve upgrades/ replacement, Fans - high efficiency, Ultrasonic Humidifiers, Cooling - plant replacement/upgrade and LED lighting
From Supporting Information		
Material provided on the technology, has the final product been chosen?		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Pre-tender application. Final product specifications required once tender process is complete.
Project Implementation / Schedule - Timings included; for example key milestones for installation and commissioning		Score Green for High Quality, Amber for With Conditions and Red for Requires Improvement Project plan provided, very high level, Expected completion date is 29/09/2021, within the required timescale to deliver within final deadline.
Board/councillors approval?	**No**	we will seek to expedite the approval process through Where a decision is required rapidly and must be done outside of the regu
Assessor review and recommendations		
Based on the overall score achieved, the business case for this project is:		Green = Passed Amber = Passed with conditions Red = Requires improvement
Based on evidence provided, is project completion realistic and feasible:		Green = Passed Amber = Passed with conditions Red = Requires improvement
Assessor Opinion - Consider this project for funding:	Passed with Conditions	Assessor's confirmation of scoring outcome or over-ride if assessor has reservations over scoring. Normally a Not Sound outcome from the scoring will result in further information being required or a recommendation that the project is not taken any further.
Assessor summary including improvement points:		
Funding has been requested for upgrades to the heating and cooling system in several City of London buildings. Category 2 measures include reducing electricity consumption and energy consumption (heating and cooling) Damper Upgrade, Insulation - pipework, EC fan upgrades, AHU's control and upgrade, BMS recommission/ upgrades, Pneumatic Valve upgrades/ replacement, Fans - high efficiency, Ultrasonic Humidifiers, Cooling - plant replacement/upgrade and LED lighting Site surveys have been complete for all works		
Conditions (if any further information required) for passing business case:		

Conditions of funding:

Provide project programme including contingency plan.
Risk Register - Full risk register to be provided. COVID impact to be included.
Data Sheets - To be provided once contractor on board and product specifications and manufacturers confirmed.
Firm Pricing - Quotations for all of the technologies must be provided from the appointed contractor(s) to confirm final pricing for each technology. This should be broken-down into equipment, installation and any other costs.
Energy Saving Calculations - Any changes to the proposed savings must be communicated once contractor(s) on board and final product selected.
Updated Application Form post tender must be provided to Salix with any changes.
Board/councillors approval - Board approval to be obtained and confirm to Salix.

Project Completion Commentary:

Applicants expected completion date is 29/09/2021, which is within the required timescale to deliver within final deadline.

Technologies are established, but the project is large in scale. A structured procurement process is to be used to tender for the work.

Risk register has not been provided - this must be considered properly by the applicant to understand its risks to delivery by end of September 2021.

Disclaimer

This assessment is made on the information as provided by the applicant. Whilst reasonable steps have been taken to ensure that the information provided within this assessment is correct, Salix, the assessor, and the Government give no warranty and make no representation as to its accuracy and accept no liability for any errors or omissions.

To be completed by Salix/Technical Contractor Assessor

Project reference	16989	
Time Allocated	15.00	hours
Assessor	Jeremy Pye	

QA

Approved by	Pete Edwards
Date	17 February 2021

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Committees:	**Dates:**
Policy & Resources Committee under for DECISION under DELEGATED AUTHORITY	11 Mar 2021
CASC for Information	28 Apr 2021
Project-Sub (Finance) for Information	24 Mar 2021
Procurement-Sub (Finance) for Information	12 Apr 2021
Corporate Projects Board for Information	10 Mar 2021
Subject: Gateway 2 Report: PSDS Project Proposal **Unique Project Identifier:** TBC	**Gateway 2: Project Proposal** Complex
Report of: City Surveyor **Report Author:** James Rooke	**For Decision**
PUBLIC	

Recommendations

1. Next steps and requested decisions	**Project Description:** the City of London have been awarded c.£9.4m of grant funding through the government's Public Sector Decarbonisation Scheme (PSDS) to deliver projects to achieve carbon savings through upgrading building services (heating, cooling, ventilation, and lighting) and improve building controls and energy metering across the following four sites: Guildhall, Barbican Arts Centre, Guildhall School of Music and Drama (GSMD), and the London Metropolitan Archives (LMA). **Funding Source:** A grant under s.31 Local Government Act 2003 from the Department for Business, Energy and Industrial Strategy (BEIS) to cover 100% of the project costs set out in the approved City of London application to the PSDS. **Next Gateway:** Gateway 3 - Outline Options Appraisal (Complex) for the bulk of the PSDS projects and Gateway 3/4 - Options Appraisal (Regular) for some of the PSDS projects. **Next Steps:** Commence the PSDS Project before 31st March 2021. Present either a Gateway 3 and Gateway 3/4 papers under urgency, or in accordance with alternative approved arrangements. Commission consultancy services to support project development and delivery. **Requested Decisions:** 1. Note the total estimated cost £9,445,943 for the PSDS Project, which is funded from the PSDS grant awarded. 2. Approval to proceed to the next Gateway stage.

<table>
<tr><td></td><td>3. Approval to proceed to the next stage for engaging with the Retrofit Accelerator framework.
4. Approval for a budget allocation of £500k, from the available PSDS grant funding, for the procurement of consultancy services to mobilise and support the PSDS Project.</td></tr>
<tr><td>2. Resource requirements to reach next Gateway</td><td>
<table>
<tr><th>Item</th><th>Reason</th><th>Funds/ Source of Funding</th><th>Cost (£)</th></tr>
<tr><td>Consultancy services and technical surveys</td><td>To mobilise the PSDS Project</td><td>Awarded PSDS grant funding</td><td>£500,000</td></tr>
<tr><td>Total</td><td></td><td></td><td>£500,000</td></tr>
</table>
The project costs as set out in the approved grant application includes an estimated budget of £1.28m for the costs of design, engineering and project delivery. Of these costs we have budgeted for £595k for client-side project management and engineering consultancy support. This additional resource is required to support City Surveyor's to deliver the project due to the scope of works and challenging deadline.

Costed Risk Provision requested for this Gateway: £95,000
For expenditure on additional consultancy services as required to support reaching the next gateway.</td></tr>
<tr><td>3. Governance arrangements</td><td>The governance arrangements and recommendations are set out in a separate committee paper, titled 'PSDS Project Approval and Governance', see Appendix 1. This separate paper recommends a Project Board is established, responsible for the development and delivery of the project, in line with City of London guidance, to provide leadership, governance and risk management, communication and support. The proposed membership includes senior officer and stakeholder representation, with Member oversight to provide governance, and sponsorship for the development and delivery of the projects. The paper also recommends an expediated project approval process through either delegated authority or urgency.</td></tr>
</table>

Project Summary

4. Context	4.1 The City of London is committed to targets for reducing energy consumption and, in support of its Climate Action Strategy, achieving net zero carbon emissions for its operational properties by 2027. 4.2 The Department for Business, Energy and Industrial Strategy (BEIS) launched the £1b Public Sector Decarbonisation Scheme in October 2020, open to public sector bodies to apply for capital funding towards carbon reduction projects for non-domestic buildings. The scheme is administered by Salix: https://www.salixfinance.co.uk/PSDS. 4.3 The City of London applied to the Grant Scheme on 11th January 2021 and on 26th February accepted an offer for £9,445,944 of grant funding

	to cover 100% of the anticipated costs for the projects set out in our application. 4.4 The conditions of the grant funding are set out in the *Grant Offer Letter* and *Memorandum of Understanding,* copies of which are included in Appendix 1.
5. Brief description of project	5.1 The PSDS project includes works (26 sub-projects) to upgrade M&E building services (heating, cooling, ventilation, and lighting) and improve building controls and energy metering across the following four sites: Guildhall, Barbican Art Centre, GSMD, and the LMA. We estimate the projects will deliver carbon savings of c.1.5 ktCO2e/yr and energy cost savings of c.£875k/yr. 5.2 Financial savings that are made will accrue back to the City as a contribution to the Build Back Better Fund held in City Fund or City's Cash as appropriate. As a consequent departmental local risk budgets will be adjusted accordingly. The PSDS Project Board will need to receive a regular report on these savings to allow appropriate budget adjustments to be made 5.3 These projects have been developed over the last few months by the Energy Team (in consultation with Facilities Management) through fully grant funded consultancy support. 5.4 The below table provides a summary of the key project figures relating to each site, and further details on the specific projects are provided in Appendix 2. Note: N/A relates to software packages to support metering/control across all sites.
6. Consequences if project not approved	6.1 A specific condition of the grant funding is that the project is approved and commenced before 31st March 2021. Approval of the gateway 2 Project Proposal would support meeting this condition. 6.2 Without approval to commence the project and the recommendations set out in this paper there is a high risk that the awarded funding will need to be returned to BEIS. The PSDS grant represents a significant opportunity to accelerate the delivery of energy and carbon reduction projects through grant funding, hence reducing the burden on the City's finances if such projects were to be financed locally. 6.3 The majority of the projects include the replacement/refurbishment of existing building services which would currently require cyclical replacement, and hence investment, within 5-10 years. 6.4 Missed opportunity to reduce the carbon emissions of the City of London Corporation by c.1.5ktCO2e/yr which represents a significant proportion of the reduction requirements to meet the City of London's net zero carbon target.

Site	Total Project Cost	Energy Cost savings (£/yr)	Carbon savings (tCO2e/yr)
BAC	£3,545,957	£311,815	516
GSMD	£3,129,723	£211,023	456
GHC	£2,484,072	£341,917	570
LMA	£97,257	£10,001	8
N/A	£188,939	£0	0
Grand Total	**£9,445,948**	**£874,756**	**1,549**

	6.5 Missed opportunity to reduce the energy costs to the City of London Corporation by c.£875k/yr.
7. SMART project objectives	7.1 The project commences before 31st March 2021. 7.2 The project (and all associated works/sub-projects) are complete by 30th September 2021, unless an extension is agreed by Salix. 7.3 Each project achieves specified performance and design parameters. 7.4 Each project achieves high levels of stakeholder and user satisfaction. 7.5 Minimise disruption to the site's occupants and services. 7.6 Energy cost savings of c.£875k/year. 7.7 Carbon emission savings of c.1.5ktCO2e/yr.
8. Key benefits	8.1 Compliant and high-quality building services which satisfies needs. 8.2 Lower energy and maintenance costs for the City of London Corporation. 8.3 Energy and carbon emission savings contribute towards City of London Corporation targets.
9. Project category	7a. Asset enhancement/improvement (capital)
10. Project priority	B. Advisable
11. Notable exclusions	None.

Options Appraisal

12. Overview of options	12.1 The initial scope of the PSDS project is set out in our approved application. The scope is limited to four sites: Guildhall, Barbican Arts Centre, GSMD, and the LMA. The PSDS project represents a programme of works which includes 26 individual projects as set out in Appendix 2. 12.2 As the projects are developed in consultation with stakeholders, and through the tendering process, the scope and budget of the individual projects within the four sites will be refined to meet the project objectives, grant conditions, while maximising value-for-money. 12.3 Significant changes to the scope and outcomes from any individual projects would need to be agreed with Salix. It is a requirement for an updated application form, post tender, to be provided to Salix.

Project Planning

13. Delivery period and key dates	**Overall project:** Mar-21: Project Board established Mar-21: Mobilisation and support resources procured. Apr-21: Procurement started for Principal Contractor Jun-21: Contract award

	Jul-21: Commencement of work on-site Sep-21: Project completion (primary target date) Mar-22: Project completion (fall-back latest possible date) **Key dates:** Project commence before 31st March 2021, Procurement start before 30th April 2021, main construction contract start by 30th June 2021, works completed and paid for by 30th September 2021 (unless an extension is approved by Salix). **Other works dates to coordinate:** None.
14. Risk implications	**Overall project risk:** Medium 14.1 The Risk Register is presented in Appendix 3. A costed risk register, and hence the estimation of the costed risk post-mitigation, will be produced at the next Gateway, informed by further project development work undertaken by the requested consultancy resource. 14.2 There is a high risk to achieving completion by 30th September 2021 through the standard project approval and procurement routes. In addition, the current level of internal staff resource is insufficient to mobilise and support the project delivery. a) a request to Salix for an extension. We propose that our tender return for the works would require a programme attached to it, and prior to awarding we will verify with Salix that the programme is acceptable, including any need for an extension; and b) curtailing spend commitments beyond the agreed completion date. 14.3 Even if an extension is approved by Salix there would remain a medium/high risk of programme slippage beyond this date. To mitigate this risk we propose: a) the formation of a new Project Board (see box 3). b) procurement of additional project management and technical consultancy services, wholly funded through the PSDS grant, to accelerate project delivery (see box 2). c) That the PSDS Board meet at least fortnightly, or more frequently if appropriate, and at each meeting receive details from the Senior Responsible Officer of the progress of works committed to date, the spend incurred, any further proposed commitments, and early warning of any delays or other issues. 14.4 The PSDS grant funding awarded is anticipated to cover for 100% of the project costs. At this pre-tender stage there is a risk that the actual project costs could exceed the available grant funding. To mitigate this risk, the application included a contingency cost of c.£1m (c.11% of the total application value). A costed risk register will be developed to ensure sufficient contingency funds are held in reserve throughout the project delivery to manage any known risks (such as asbestos management) as they rise. 14.5 In the event of any anticipated overspend beyond this contingency, Salix will be consulted to explore (in line with the terms of the MoU) whether to: request an increase to the Grant, or agree an adjustment to the project scope to be within budget. If neither is agreed, then one or more of the individual 26 projects will need to be cancelled and the grant funding returned for those specific projects.

15. Stakeholders and consultees	Chamberlains: Finance	John James, Sonia Virdee Hazel Lerigo, Dianne Merrifield
	Chamberlains: Procurement	James Carter, Michael Harrington
	IT	TBC
	HR	TBC
	Communications	TBC
	Corporate Property	Pete Collinson, Alison Bunn, Richard Chamberlain, Jonathan Cooper, Paul Friend
	Property specific stakeholders	See Appendix 4.

Resource Implications

16. Total estimated cost

Likely cost range (excluding risk): £8,418,953

The PSDS grant funding awarded is anticipated to cover for 100% of the project costs. At this pre-tender stage there is a risk that the actual project costs could exceed the available grant funding. To mitigate this risk, the application included a contingency cost of c.£1m (c.11% of the total application value). A costed risk register will be developed to ensure sufficient contingency funds are held in reserve throughout the project delivery to manage any known risks (such as asbestos management) as they rise.

The Senior Responsible Officer will develop for the PSDS Project Board a strategy to utilise the funds earmarked for the costed risk towards the end of the project should the costed risk items not ultimately be required, in agreement with Salix and the conditions of the grant funding.

Likely cost range (including risk): £8,418,953 - £9,445,943

17. Funding strategy

Choose 1:	Choose 1:
All funding fully guaranteed	External - Funded wholly by contributions from external third parties

Funds/Sources of Funding	**Cost (£)**
Public Sector Decarbonisation Scheme grant	£9.46m
Total	**£9.46m**

On 19th February we were informed that our application to the PSDS had passed the technical assessment and the City of London were offered the full applied for value of £9.46m which covers 100% of the anticipated project costs to deliver the PSDS projects in accordance with the terms set out in the *Grant Offer Letter* and *Memorandum of Understanding*. The funding was offered in the form of a section 31 grant from BEIS, which was signed by the authorising officer (section 151 officer) on 25th February 2020. The funding is to be received by the City of London no later than 31st March 2021. A condition of the grant is for the funding to be spent by 30th

	September 2021 unless an extension is agreed. Any unspent funding is to be returned to BEIS. Risks associated with the funding are detailed in box 14.
18. Investment appraisal	18.1 The projects are to be funded 100% through external grant funding in accordance with our PSDS application. The application sets out the estimated capital costs, anticipated energy cost savings, and project life-time carbon savings. Compliance with the grant funding requires most of the projects collectively achieve a life-time carbon cost of under £500/tCO2e, and the application sets out a target for achieving £290/tCO2e. 18.2 It is not a condition of the grant funding to achieve particular financial savings or a particular payback period, but these are estimated to be c.£875k/year with an overall payback of 9-10 years. 18.3 The Chamberlain have recommended (see appendix 1) that financial savings that are made will accrue back to the City as a contribution to the Build Back Better Fund held in City Fund or City's Cash as appropriate. As a consequent departmental local risk budgets will be adjusted accordingly. The PSDS Project Board will need to receive a regular report on these savings to allow appropriate budget adjustments to be made 18.4 The majority of projects are for the repair and replacement of existing building services with more energy efficient equivalents, such as LED lighting. This will result in a reduction in the outstanding maintenance liabilities and future cyclical replacement costs to the City of London. 18.5 As the PSDS project develops we shall seek to maximise the cost benefit alongside the carbon benefit and achieving value-for-money. 18.6 The estimated costs and savings set out in our application will be regularly reviewed and reported throughout the project. A post-project verification exercise will be carried out, aided by the additional metering equipment and software upgrades included within the project. Energy and carbon savings will be monitored for a period of at least 3-years post-completion, as per the grant conditions.
19. Procurement strategy/route to market	19.1 The total value of the design and build works is c.£9.5m which consists of c.£600k design/engineer costs, and c.£8.8m build (supply & install) costs (including contingency). 19.2 PT4 Committee Procurement Report has been completed in consultation with Procurement, see Appendix 5. This recommends a procurement through the Retrofit Accelerator framework through the framework's partner approach. 19.3 We anticipate the bulk of the works will be procured through this framework, which includes for a degree of the design element. Alongside this, we anticipate some of the works will be procured through existing CoL frameworks or incorporated into existing contracts of planned procurements where desired. 19.4 The Greater London Authority's (GLA) Retrofit Accelerator framework should allow for these works to meet the tight timescale required for project completion and also has the following advantages: • A single contract which can deliver the bulk of the projects as required. This simplifies the required procurement activity, and associated contract management.

	• Designed for delivering these types of projects. • Well established framework with successful record. • Combined design and build contract. • Schedule of rates ensures fair value. • Provides an energy performance guarantee. 19.5 We have signed a non-binding partnership agreement with the Retrofit Accelerator programme and are completing the preparation stage of the tender process. The following sets out how approval will be requested at the different gateways for this procurement route: • GW2: approval for: o Mini competition conducted, and framework partner (supplier) selected. o Partner conducts high level appraisal (short process) to verify their interest in delivering the proposed PSDS projects. • GW3/4: approval for: o Partner conducts Investment Grade Proposal (IGP). o Based on a satisfactory IGP, a works contract is drawn up. • GW5: approval for: o Enter works contract with partner. o Partner proceeds to deliver the projects (supply, install etc.). 19.6 We recommend approval is given to proceed to the next stage, which includes a mini-competition and selection of framework supplier, followed by a high-level appraisal by the supplier of the proposed PSDS projects.
20. Legal implications	20.1 The grant has offered under the conditions set out in the *Grant Determination Letter*, *Grant Offer Letter*, and *Memorandum of Understanding*. 20.2 We have consulted with legal on the use of the Retrofit Accelerator framework and due diligence has been mostly completed, with two remaining actions under enquiry.
21. Corporate property implications	21.1 The PSDS projects represent a significant scope of works within the Barbican Arts Centre, GSMD, and Guildhall (the works at the LMA are of a lower scope). 21.2 All stages of these projects will require close consultation with: Facilities Management, site management, and managing/occupying departments. Works to building services need to meet service performance needs and meet occupant satisfaction. Installation needs to be carefully managed to minimise the disruption which will be caused to an acceptable level. 21.3 PSDS projects will need to be aligned with other planned building work project to avoid duplication or increased disruption. 21.4 PSDS projects will need to be informed by potential changes to buildings to provide confidence that the installed works will persist for the foreseeable future. 21.5 Planning approval and listed building consent may be required for some of the works, especially the lighting at Barbican Arts Centre and GSMD Silk Street.

22. Traffic implications	22.1 The proposed PSDS project for the replacement of the Guildhall East Wing office ventilation fans/motors which are located at roof level, are is likely to require cranage and a traffic management plan to be approved well in advance.
23. Sustainability and energy implications	23.1 The main aims of these projects are to improve energy efficiency as set out in the Project Summary above.
24. IS implications	24.1 None.
25. Equality Impact Assessment	An equality impact assessment will be undertaken.
26. Data Protection Impact Assessment	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken.

Appendices

Appendix 1	Committee Paper: PSDS Project Approval and Governance
Appendix 2	PSDS Projects
Appendix 3	Risk Register
Appendix 4	PSDS Stakeholders RACI
Appendix 5	PT4 – PSDS Project

Contact

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PSDS Project Board
Terms of Reference

Introduction

It was agreed at the meeting of _____ that the PSDS Project Board be formed under the following Terms of Reference.

Background

- The City of London have been awarded grant funding, to the value of value: £9,445,944 to deliver our application to the Public Sector Decarbonisation Scheme (PSDS). The conditions of this award are set out in the supporting documentation: Grant Offer Letter, Memorandum of Understanding.
- The application includes 26 individual projects to upgrade M&E building services (heating, cooling, ventilation, and lighting) and improve building controls and energy metering across the following sites: Guildhall, Barbican Arts Centre, Guildhall School of Music and Drama (GSMD), and the London Metropolitan Archives (LMA).
- The grant covers 100% of the estimated capital costs for the projects set out in the application, including a contingency allowance.
- The project is estimated to deliver carbon savings of c.1,5 ktCO2e/yr and energy cost savings of c.£875k/yr.

Membership and roles

The initial membership is set out in the following table. It is proposed that the following are required as a minimum for the first board meeting, at which a decision could be made on expanding the membership.

Post in City of London	Project role
Chairman of Corporate Asset Sub-Committee	Chairman*
Deputy Chairman of Corporate Asset Sub-Committee	Deputy Chairman*
City Surveyor, City Surveyors	Project Sponsor
Head of Energy & Sustainability, City Surveyors	Senior Responsible Officer*
New external hire (TBC), within City Surveyors	PSDS Programme Manager*
Head of Facilities Management, City Surveyors	Key Stakeholder
Project Director, City Surveyors	Key Stakeholder
Assistant Director Strategic Finance, Chamberlains' Department	Advice over financial matters
(TBC), Chamberlains' Department (Procurement)	Advice over procurement matters
Director of Operations and Buildings (Barbican)	Key stakeholder: Barbican Arts Centre, GSMD
Guildhall Manager, City Surveyors	Key stakeholder: Guildhall

*see Appendix A for details of specific duties for this role.

Note: other attendees and external stakeholders will only be invited to join the Project Board meeting when appropriate. Appendix B sets out officer posts and teams who will be expected to regularly attend board meetings to contribute when asked to do so.

Note: only a single smaller scale project is proposed for the LMA, and therefore this is expected to be delivered through standard project arrangements – hence no representation of LMA stakeholders is proposed for the board.

Terms of reference

i. The scope of the remit and decision-making for the Project Board is limited to the delivery of the PSDS Project.

ii. The PSDS Project Board will be dissolved once the PSDS Project is concluded or as agreed by a decision of Project-Subcommittee.

The Project Board is also responsible for ensuring the following items specific to the PSDS Project:

iii. That the PSDS Project is delivered in accordance with the grant conditions set out in the Grant Offer Letter and Memorandum of Understanding.

iv. That the Project commences before 31st March 2021.

v. That the project is delivered by 30th September 2021, or a later date (up to 31st March 2022) as agreed with Salix.

The Project Board is also responsible for ensuring the following standard items:

vi. That the business need or opportunity has been identified correctly and is supported by robust information

vii. That all elements of the Project Proposal and subsequent Project Initiation Document (PID) and the project success criteria are clearly defined and agreed with the client

viii. The solution meets the brief set out in the PID, is consistent with the Corporate Plan, makes sense commercially and provides best value for money

ix. All project risks are identified, owned and mitigation actions managed. In particular the project board will focus its attention on the progress of works and expenditure to ensure not works are undertaken after the cut off deadline for funding.

x. The project board will agree on the recommendation of City Procurement a procurement strategy and will review progress against this strategy at each meeting.

xi. That health and safety is paramount, and the Project Board is executing its duties as 'client' under CDM regulations (separate guidance on these responsibilities is available on the intranet)

xii. All stakeholders are consulted and appropriate buy-in achieved

xiii. The design and method of execution is best value for money and reflects the likely availability of resources, both in terms of the initial investment and any ongoing resource requirements

xiv. The project follows the City's agreed Project Procedure, or alternative arrangements where they have been approved

xv. Project controls are in place

xvi. The solution is successfully delivered and integrated seamlessly in to use

xvii. That benefits are achieved, and learning is captured and shared with the Town Clerk's Programme Office

Delegated authority

The committee paper 'PSDS Project Approval and Governance' recommend delegated authority to expedite the project approval process. This section of the ToR should explicitly detail these arrangements if approved.

This authority was approved at the meeting of _____.

Project Board meetings

The PSDS Project Board shall meet at least fortnightly and more frequency at the discretion of the Chairman, it is anticipated that the board may need to meet frequently at sometimes due to the tight timeframe of the project delivery.

Minutes for all meetings will be recorded and issued to the relevant committees and boards for information.

Reporting

The PSDS Project Board will receive at each meeting details from the Senior Responsible Officer of the progress of works committed to date, the spend incurred, and any further proposed commitments, together with early warning of any delays or other issues.

The PSDS Project Board will be responsible for all reporting to the grant funding administrator, Salix, and any other reporting as required under the *Grant Offer Letter* and *Memorandum of Understanding*. The Senior Responsible Officer shall keep the board informed, on a timely basis, of all correspondence received from Salix and advise any concerns that Salix may have raised.

The Senior responsible Officer will provide details of all monitoring returns that have been submitted to Salix on a timely basis so the board can have oversight of the returns being made

Key Project Board activities and collective responsibilities

The key activities of the Project Board are divided in to three areas and will include the activities set out in Appendix C:

- Leadership
- Governance & Risk Management
- Communication & Support

Appendix A.

Role	*Duties*
Chairman	Provide leadership and direction to the board.
Senior Responsible Officer	The Senior Responsible Officer is responsible for the project. He or she is accountable to the Chief Officer of the client department for the project who, in turn, is accountable to the Spending Committee for the Project. The Senior Responsible Officer's role is to ensure that the project is focused throughout its life on achieving its objectives and delivering a product that will achieve the forecast benefits. The Senior Responsible Officer has to ensure that the project gives value for money, ensuring a cost-conscious approach to the project, balancing the demands of the business, user and supplier. In addition to the Project Board's collective responsibilities, the Senior Responsible Officer will: • Design and appoint the project management team in conjunction with the Chief Officers of the other departments affected and the Town Clerk's Programme Office • Oversee the development of the project documentation and reports, ensuring that the project is aligned with corporate strategies • Secure the funding for the project • Monitor and control the progress of the project at a strategic level • Escalate issues/risks to corporate/programme management if project tolerance is forecast to be exceeded • Ensure that risks are identified, assessed and controlled • Make decisions on escalated issues, with particular focus on continued business justification • Organise and Chairman Project Board reviews • Ensure overall business assurance of the project – that it remains on target to deliver the expected business benefits, and that the project will be completed within its agreed tolerances.
Programme Manager	The Programme Manager has the authority to run the project on a day-to-day basis on behalf of the Senior Responsible Officer and the Project Board within the constraints laid down by them. The Programme Manager's prime responsibility is to ensure that the project is delivered within the specified tolerances of time, cost, quality, scope, risk and benefits. The Programme Manager is also responsible for the project producing a result capable of achieving the defined benefits. Acts as the Project Board's representative throughout the project, providing reports and information to the Project Board and ensuring the outputs and action points are effectively recorded and actioned. The Programme Manager is responsible for the safe and efficient delivery of the chosen solution. **The Programme Manager's responsibilities include the following:** • Prepare the relevant project documentation and agree them with the Senior Responsible Officer and the Project Board • Prepare all reports required for Member and Officer level groups • Maintain and update the required information on Project Vision • Liaise with the Town Clerk's Programme Office and the local programme office if there is one to ensure that work is neither overlooked nor duplicated by related projects • Liaise with any external suppliers or account managers • Lead and motivate the project management team

	• Ensure that behavioural expectations of team members are established • Manage the information flows between directing and delivering levels of the project • Manage the delivery of the project, taking responsibility for overall progress and use of resources and initiating corrective action where necessary • Establish and manage the procedures relating to: risk, issue and change control, communication and stakeholder engagement • Establish and manage the project controls – monitoring and reporting • Advise the Senior Responsible Officer and the Project Board of any deviations from the plan

Appendix B.

Position in organisation	Project role
Operations Group Director, City Surveyors	
Head of Building Surveying, City Surveyors	
Assistant Property Facilities Manager (Barbican)	Key stakeholder: Barbican Arts Centre, GSMD
Guildhall Complex Building and Hospitality Manager	Key stakeholder: Guildhall
Senior Principal Project Manager, Major Projects Team	
Climate Action Strategy Project Manager, Town Clerks	
Senior Energy Engineer, Energy Team, City Surveyors	Energy Team Account Lead for BAC & GSMD
Energy Manager, Energy Team, City Surveyors	
Energy Officer, Energy Team, City Surveyors	
BEMS Energy Engineer, Energy Team, City Surveyors	Energy Team Account Lead for Guildhall
Assistant Director (London Metropolitan Archives)	Stakeholder

Appendix C.

Leadership

Guidance	• Holding the vision, directing the strategy and priorities for the project • Ensuring that clear and measurable objectives are set for the project, including cost, time and quality and championing the project • Creating an environment for success, innovation and opportunity
Challenge	• Constantly and constructively challenging information about the project from a commercial, business and stakeholder perspective • Balancing requirements and priorities of stakeholders with those of the City Corporation's services
Decision-making	• Using sound judgment to ensure that decisions are based on improving value to the City Corporation • Timely decision-making for project critical issues • Ensuring the Project Board has the right information to ensure an effective decision can be taken • Dealing with major issues and removing barriers to progress as they arise or are foreseen

Governance and Risk Management

Direction	• Ensuring the project is developed and delivered within the City Corporation's Project Procedure, or alternative arrangements where they have been approved • Ensuring the required financial approvals are achieved at each stage • Ensuring that appropriate resources are being allocated to achieve project milestones/ deliverables in the timescales required • Ensuring that the project is effectively managed and reviewed in terms of cost, time and quality and regularly monitoring performance against the brief as set out in the PID • Initiating reviews, ensuring corrective action is taken when necessary • Ensuring that effective change control procedures and reporting are in place • Ensuring exceptional issues are reported in accordance with the Project Procedure
Managing Risk and Opportunity	• Understanding the level of all aspects of risk – business, operational and project – and ensuring that it is effectively managed and that key risks that cannot be managed are reported at the appropriate time • Ensuring that opportunities are identified, recorded and actively pursued where appropriate
Health, Safety and Environment	• Demonstrating the appropriate commitment to safety and the environment
Benefits delivery and learning	• Ensuring that best practice is developed and continually refreshed from learning during each project • Ensuring that pre-defined success criteria and benefits of the project are delivered • Ensuring, on completion, that a formal Post Project Evaluation is conducted so that achievements, benefits, and lessons learnt are captured and reported

Communication and Support

Communication	• Visibly demonstrating commitment to the project and ensuring the project is actively promoted • Ensuring that the right people know about the project at the right time • Ensuring that the right people are consulted and invited to contribute at the right time, that their views are listened to, acted upon and appropriate responses given • Managing the flow of information relating to the project internally and externally
Support	• Providing support to the Project Manager • Ensuring that additional expertise is brought in when needed to facilitate effective decision-making

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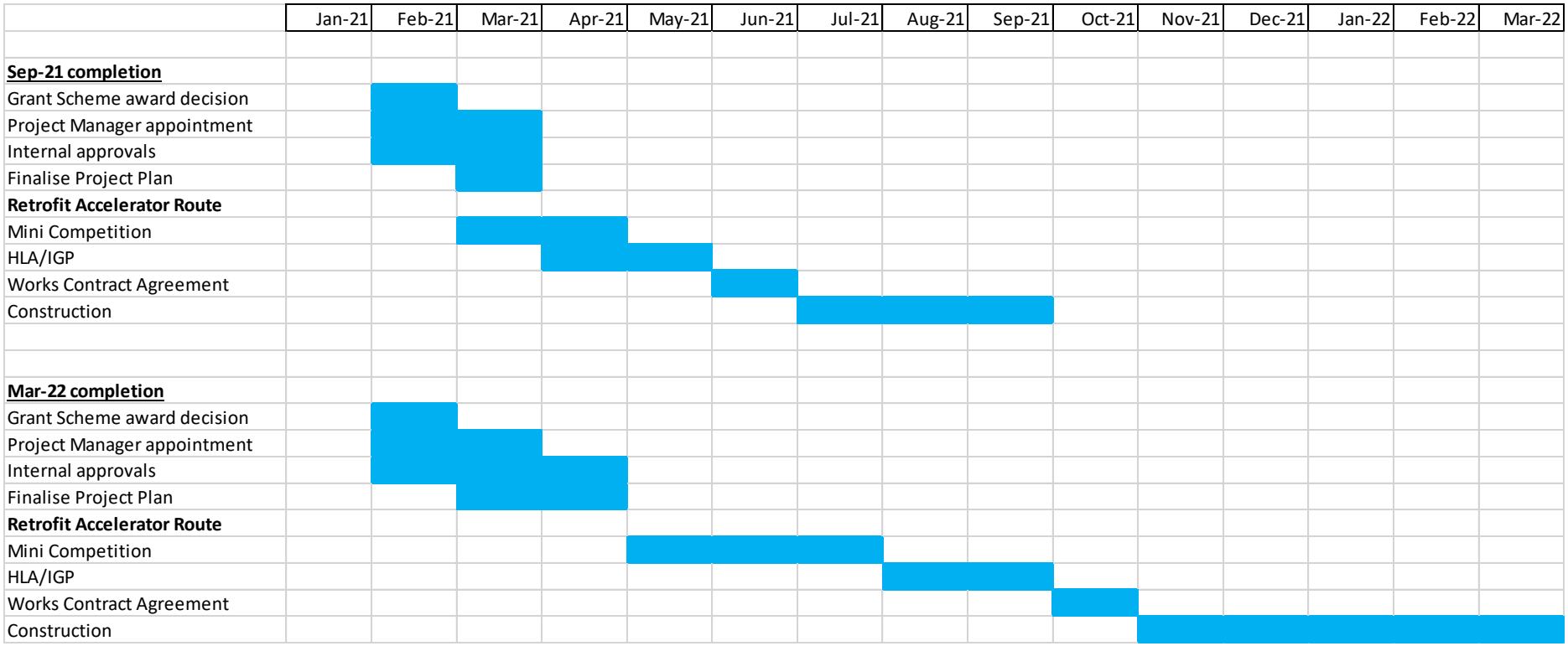
Appendix 6. High-level programme via Retrofit Accelerator framework procurement route



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Appendix 7. Gateway approval timeline

	8-Mar-21	15-Mar-21	22-Mar-21	29-Mar-21	5-Apr-21	12-Apr-21	19-Apr-21	26-Apr-21	3-May-21	10-May-21	17-May-21	24-May-21	31-May-21	7-Jun-21	14-Jun-21	21-Jun-21	28-Jun-21	5-Jul-21	12-Jul-21	19-Jul-21
Committees/Boards meeting dates																				
CPB				31 Mar					04 May					09 Jun					14 Jul	
CASC								28 Apr								22 Jun				
Project-Sub (PjS)			24 Mar			14 Apr				TBC				TBC					TBC	
P&R	11 Mar				08 Apr					TBC				TBC					TBC	
Court of Common Council						15 Apr					TBC				TBC					TBC
Barbican Centre Board			24 Mar								19 May									
Board of Governors (GSMD)											17 May									
Timeline under normal Project Procedure																				
GW2 - under URGENCY	CPB/Proj-Sub/CASC/P&R																			
GW3						PjS		CASC												
GW4														PjS		CASC				
G4b																				CCC
Project Procedure under URGENCY																				
GW2 - under URGENCY	CPB/Proj-Sub/CASC/P&R																			
GW3 - under URGENCY			PjS/CASC																	
GW4 - under URGENCY					PjS/CASC															
G4b - under Urgency							CCC													
Delegated authority to City Surveyor in consultation with PSDS Project Board																				
GW2 - under URGENCY	CPB/Proj-Sub/CASC/P&R																			
GW3		Project Board: at first meeting																		
GW4		Project Board: at first or second meeting																		
G4b		Project Board: at second meeting																		

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Appendix 1: Committee Paper – PSDS Project Approval and Governance

Committee(s)	**Dated:**
Policy & Resources Committee for DECISION under DELEGATED AUTHORITY CASC for Information Project-Sub (Finance) for Information Procurement-Sub (Finance) for Information	11 Mar 2021 28 Apr 2021 24 Mar 2021 12 Apr 2021
Subject: PSDS Project Approval and Governance	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**Climate Action Strategy**
Does this proposal require extra revenue and/or capital spending?	**Yes**
If so, how much?	**£9.445m**
What is the source of Funding?	**Government Grant**
Has this Funding Source been agreed with the Chamberlain's Department?	**Yes**
Report of: The City Surveyor	**For decision**
Report author: James Rooke	

Summary

The City of London have been awarded c.£9.445m in government grant funding toward carbon saving projects at a few sites. This report presents the basis for establishing the Public Sector Decarbonisation Scheme (PSDS) Project to deliver these projects, and the project governance arrangements.

Recommendations

Members are asked to:

1. Authorise the PSDS Project, at an estimated cost of £9.445m wholly funded by a Government Grant, whose scope is defined by the *Grant Offer Letter* and *MoU*, attached to this report.
2. Note the separate paper, 'Gateway 2 Report: PSDS Project Proposal' and separate recommendations.
3. Approve the formation of a new 'PSDS Project Board' to provide governance, leadership, and sponsorship to the PSDS Project in accordance with the draft *PSDS Board Terms of Reference*.
4. Instruct that the PSDS Project Board to first meet no later than 31st March 2021.
5. The PSDS Project Board meets at least fortnightly, or more frequently if appropriate thereafter, and that at each meeting receive details from the Senior Responsible Officer of the progress of works committed to date, the spend incurred, any further proposed commitments, and early warning of any delays or other issues.
6. Note the draft *PSDS Board Terms of Reference* and approve authority for the PSDS Project Board Chairman to finalise these and report back for confirmation.
7. Agree that any revenue savings arising from this project should be credited to the Build Back Better Funds in either City's Cash or City Fund as appropriate, so that Members can target savings to fund specific priorities and authorises the Chamberlain to adjust departments' budget according.
8. Authority to be delegated to the City Surveyor to make all decisions related to the gateway approval process, including future gateway and other project reports related to the PSDS Project, in consultation with the PSDS Project Board.

9. Notes the potential overlap with the City's wider Climate Action programme and instructs the board to coordinate activities with the wider team to ensure there is no duplication and the City achieves value for money.

Main Report

Background

1. The UK government wishes to inject significant financial stimulation and associated job generation into the UK economy through green re-growth in advance of Conference of the Parties (COP) 26. There is therefore a desire for extreme pace on releasing funds for carbon reduction projects in the public sector, with the goal to create economic activity in the near term. The Department for Business, Energy and Industrial Strategy (BEIS) launched the £1b Public Sector Decarbonisation Scheme (referred to as the Grant Scheme) in October 2020, open to public sector bodies to apply for capital funding towards carbon reduction projects for non-domestic buildings. The scheme is administered by Salix: https://www.salixfinance.co.uk/PSDS.

Securing the grant funding

2. We applied to the Grant Scheme on 11th January 2021 for £9.445m. Our application covers projects to upgrade M&E building services (heating, cooling, ventilation, and lighting) and improve building controls and energy metering across the following sites: Guildhall, Barbican Art Centre, GSMD, and the LMA. We estimate the projects will deliver savings of c.1,5 ktCO2e/yr and c.£875k/yr. These projects have been developed over the last few months by the Energy Team, with external grant funded consultancy support, and in consultation with Facilities Management. Further details on the specific projects are provided in Appendix 1.
3. We were initially informed the scheme was over-subscribed, however on 4th of Feb 2021 we were advised that funding could be awarded but only in the form of a Section 31 grant. On 19th February we were informed that our application (value: £9,445,944) had passed the technical assessment, in accordance with the *Grant Offer Letter* (Appendix 2) and *Memorandum of Understanding* (Appendix 3).
4. Following consultation with senior officers it was agreed that the City of London could accept the full section 31 grant funding for all the projects and sites applied for and the Grant Officer Letter was signed and issued to the Salix on 26th February.
5. All grant funding (£9.445m) must be received by CoL no later than 31st March 2021.
6. It is recommended that any revenue savings arising from this project should be credited to the Build Back Better Funds in either City's Cash or City Fund. This will allow members then allow Members to allocate these savings to fund particular projects or priorities.

Approving the project

7. In accordance with the grant conditions, the project must be approved by City of London and commence before 31st March 2021. Commencing the project can be demonstrated by having an agreed procurement plan and kick-off project board meeting.
8. We recommend the proposed 'PSDS Project' is formally approved, in accordance with the Project Proposal which is set out in Appendix 4.

Delivering project

9. This is an excellent opportunity to advance the aims of the Climate Action Strategy without increasing capital burden on the City's finances. It will, however, require wide senior sponsorship, delegated authority and additional resources to unlock this significant opportunity within challenging timeframes.
10. A condition of the funding award is to commit to completion by 30th September 2021 and as part of the application process we have set out a very ambitious project programme to meet this deadline, see Appendix B. Salix have informed us that where reasonable justification can be made, they are able to consider an extension. Any funding unspent by the agreed end date would need to be returned to BEIS and they would not be liable for any costs for works or

services delivered after this date. This represents a significant financial risk for the City which will need to be carefully managed.

11. Given the scope of this project there is a high risk to achieving completion by 30th September 2021 through the standard project approval and procurement routes. This can be mitigated by:
    a) a request to Salix for an extension, and;
    b) curtailing spend commitments beyond the agreed completion date. We propose that our tender return for the works would require a programme attached to it, and prior to awarding we will verify with Salix that the programme is acceptable, including any need for an extension. We will also seek to transfer the risk of any delay onto the contractor under the contract.
12. Even if an extension is approved by Salix there would remain a high risk of programme slippage beyond this date. To further mitigate this risk we propose:
    a) a Gateway 2 Project Proposal for the PSDS Project is received under Delegated authority (see Appendix 4).
    b) a new Project Board specifically to support the delivery of the PSDS project (see below); and
    c) an expedient gateway approval progress (see below).

Project Governance

13. We recommend a Project Board is established, responsible for the development and delivery of the project, in line with City of London guidance, to provide leadership, governance and risk management, communication and support.
14. The draft *Terms of Reference* for the Project Board are presented in Appendix 5. It is recommended that these are approved in principle, and that delegated authority is provided to the Chair of the PSDS Project Board to finalise them and report back.
15. The scope of the remit for the Project Board is limited to the PSDS Project. The proposed membership includes senior officer and stakeholder representation with Member oversight to provide governance, and sponsorship for the development and delivery of the projects.
16. We recommend the Project Board first meets mid-March to both expediate the project mobilisation and to meet the grant condition requirement for the project to commence prior to 31st March 2021.
10. We recommend the PSDS Project Board meets at least fortnightly, or more frequently if appropriate, and at each meeting receive details from the Senior Responsible Officer of the progress of works committed to date, the spend incurred, any further proposed commitments, and early warning of any delays or other issues.
11. There is the possibility of overlap with the City's wider Climate Action programme and therefore the PSDS Project Board will need to work closely with the wider Climate Action team to ensure there is no duplication and to ensure that the City achieves value for money.

Project approval process

17. We have developed a project programme (see Appendix 6) which shows that approval to start the tender process needs to begin in March-21 to meet a Sep-21 completion deadline, or latest by the end of Apr-21 to meet an extended Mar-22 deadline.
18. The PSDS Project represents a large programme of works, which although not technically complex, do cover multiple sites and due to the overall value would be classified as a 'Complex' project under the Project Procedure requiring approval of the Court of Common Council. Under the normal sequence of gateway approvals this would mean approval to go out to tender would not be granted until a Court of Common Council meeting in Jul-21. This would mean completion by Sep-21 is not possible, and even if an extension was granted completion by Mar-22 would still be at high risk.

19. The Project Procedure states (paragraph 23) the following, and therefore the circumstances of this external grant funding may warrant a deviation from the normal project approval procedure.

    "*To allow projects to proceed at the appropriate speed and to ensure that the City Corporation is able to take advantage of circumstances as they arise, Standing Orders authorise the Town Clerk, in consultation with the Projects Sub- Committee, or the Chairman and Deputy Chairman thereof as appropriate, to vary the Gateway Approval Process in relation to individual projects in cases when it is deemed appropriate to do so (e.g. to take advantage of external funding sources).*"

20. We have identified two options which could expedite the process:

    a. Not recommended: some or all further gateway papers to be taken under urgency where required.

    b. Recommended: delegated authority given to the City Surveyor to make decisions for all further gateway papers and issue reports, but only in consultation with the PSDS Project Board. All further gateway papers and issue reports to be issued to the relevant committees for information only.

21. Appendix 7 presents the relevant committee and board dates and the timelines for the normal project procedure, under urgency, and via delegated authority in consultation with the Project Board.

22. We recommend option b, but alternatives can be discussed on Member request. This could allow for approval to go out to tender be achieved in Mar-21. We believe under the circumstances; this option could provide effective scrutiny over the approval process while allowing decision making to take place at the pace required of these specific grant conditions. The PSDS Project Board meetings would provide a forum for a range of members, senior officers and key stakeholders to discuss any concerns and provide informed recommendations on which the City Surveyor can make decisions. We recommend the recorded minutes along with regular progress reports are produced by the PSDS Project Board and presented to the relevant committees on a timely basis, for information.

Conclusion

23. This is an excellent opportunity to advance the aims of the Climate Action Strategy without increasing capital burden on the City's finances. It will, however, require wide senior sponsorship and delegated authority to streamline the approval process to realise this significant opportunity within challenging timeframes.

Background papers:

- Appendix 1. PSDS Projects
- Appendix 2. Grant Offer Letter
- Appendix 3. Memorandum of Understanding
- Appendix 4. Gateway 2 Report: PSDS Project Proposal
- Appendix 5. PSDS Project Board ToR
- Appendix 6. High-level programme via Retrofit Accelerator framework procurement route
- Appendix 7. Gateway approval timeline

Report author

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City of London: Projects Procedure Corporate Risks Register

Project name: *PSDS Project*
Unique project identifier: *TBC*
Total est cost (exc risk) *£1000000*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**12.9**
Avg risk post-mitigation	**6.1**
Red risks (open)	**7**
Amber risks (open)	**7**
Green risks (open)	**0**

Corporate Risk Matrix score table

	Minor impact	Serious impact	Major impact	Extreme impact
Likely	4	8	16	32
Possible	3	6	12	24
Unlikely	2	4	8	16
Rare	1	2	4	8

Costed risks identified (All)	£1,000,000.00	100%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£1,000,000.00	100%	" "
Costed risk post-mitigation (open)	£0.00	0%	" "
Costed Risk Provision requested	£100,000.00	10%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	1	6.0	£0.00	0	1	0
(2) Financial	8	13.8	£1,000,000.00	5	3	0
(3) Reputation	1	12.0	£0.00	0	1	0
(4) Contractual/Partnership	2	6.0	£0.00	0	2	0
(5) H&S/Wellbeing	2	20.0	£0.00	2	0	0
(6) Safeguarding	0	0.0	£0.00	0	0	0
(7) Innovation	0	0.0	£0.00	0	0	0
(8) Technology	0	0.0	£0.00	0	0	0
(9) Environmental	0	0.0	£0.00	0	0	0
(10) Physical	0	0.0	£0.00	0	0	0

		Extreme	Major	Serious	Minor
Issues (open)	0	**Open Issues**	0	0	0	0
All Issues	0	**All Issues**	0	0	0	0

Cost to resolve all issues (on completion)	£0.00	**Total CRP used to date**	£0.00

Appendix 3 Risk Register

City of London: Projects Procedure Corporate Risks Register

Project Name:	PSDS Project	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 100,000	**Average unmitigated risk**	12.9	**Open Risks**	14
Unique project identifier:	TBC	**Total estimated cost (exc risk):**	£ 1,000,000	**Total CRP used to date**	£ -	**Average mitigated risk score**	6.1	**Closed Risks**	0

General risk classification											Mitigation actions								Ownership & Action				
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk score	CRP used to date	Use of CRP	Date raised	Named Departmental Risk Manager/ Coordinator	Risk owner (Named Officer or External Party)	Date Closed OR/ Realised & moved to Issues	Comment(s)
R1	2	(2) Financial	Programme delivery deadline at risk from duration of standard project procedure approval route	If projects not delivered by agreed grant conditions deadline then the funding would have to be returned.	Likely	Major	16	£0.00	N	C – Uncomfortable	Streamline gateway process, through either urgency or delegated authority.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R2	2	(2) Financial	Programme delivery deadline at risk from duration of standard procurement process	If projects not delivered by agreed grant conditions deadline then the funding would have to be returned.	Likely	Major	16	£0.00	N	C – Uncomfortable	Utilise GLA's Retrofit Accelerator framework for bulk of procurement	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R3	2	(2) Financial	Procured consultancy services are insufficient to support the project, resulting in delays to delivery.	If projects not delivered by agreed grant conditions deadline then the funding would have to be returned.	Likely	Major	16	£1,000,000.00	Y - for costed impact post-mitigation	C – Uncomfortable	Procure additional project management consultancy services	£100,000.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R4	3	(2) Financial	Projected project costs estimated to exceed grant funding, including contingency funding	CoL liable for any costs incurred above agreed grant funding level.	Possible	Major	12	£0.00	N	C – Uncomfortable	Seek best-value through competitive procurement and value-engineer where necessary without compromising agreed outcomes. If risk still materialises, request from Salix either: increased in the grant amount to meet existing scope, a change in project scope to deliver within awarded funding, or to cancel one or more projects and return the remaining funding associated with them.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R5	5	(2) Financial	Works underway and in contract are not completed before the agreed grant completion date, beyond which the grant funding can't be used to pay for works.	CoL liable for any costs incurred beyond the grant funding deadline.	Likely	Major	16	£0.00	N	C – Uncomfortable	Only enter into contracts where they set out a confident completion date which occurs comfortably before the grant deadline. Ensure contracts have break-clauses to enable them to be cancelled if required. Request an extension from Salix.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R6	2	(2) Financial	Covid-19 results in site restrictions which delay the project programme.	If projects not delivered by agreed grant conditions deadline then the funding would have to be returned.	Possible	Serious	6	£0.00	N	C – Uncomfortable	Ensure contractors operate in accordance with covid guidance. Develop contingency plans with contractors. Ask Salix for an extension.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R7	2	(2) Financial	Key stakeholders are unable to support the project due to capacity constraints and other priorities, resulting in delays to the programme	If projects not delivered by agreed grant conditions deadline then the funding would have to be returned.	Likely	Major	16	£0.00	N	C – Uncomfortable	Establish good project governance with senior sponsorship. Provide supporting consultancy services.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R8	5	(3) Reputation	Installation of project works results in disruption to site occupants and services, such as: noise, movement of materials, works requiring access to be limited to some areas.	Project delays as unplanned disruption is addressed. Increased project costs to mitigate disruption. Loss of income to CoL from cancelled or curtailed activities. Loss of productivity from staff due to noise and other potential issues.	Possible	Major	12	£0.00	N	C – Uncomfortable	Early and careful consultation of the installation with key stakeholders and in detail with the contractor. Timing of works to minimise disruption. Development of contingency plans where residual risks identified. Close monitoring of contractor installation to address any issues early.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		
R9	5	(5) H&S/Wellbeing	Presence of asbestos containing material which requires management prior to surveys/works being undertaken	Additional project costs and time delays	Likely	Major	16	£0.00	N	C – Uncomfortable	Survey to reduce uncertainty (cost included in project budget), add in float time to account for potential delays. If risk provision is insufficient then review impact on project costs and consider whether to either descope to exclude areas of higher management cost or to request additional funding from Salix.	£0.00	Likely	Minor	£0.00	4	£0.00		05/03/21	City Surveyors	James rooke		
R10	5	(1) Compliance/Regulatory	Planning permission not gained or approval process leading to project delays	Projects awarded funding may need to be changed in scope or cancelled. If projects not delivered by agreed grant conditions deadline then the funding would have to be returned.	Possible	Serious	6	£0.00	N	C – Uncomfortable	Early consultation with planning authority and English Heritage. Support from specialist consultancy services with expertise in listed buildings. Agree with Salix either a change in scope or to cancel the particular project and return the grant funding.	£0.00	Possible	Serious	£0.00	6	£0.00		05/03/21	City Surveyors	James rooke		

Appendix 3 Risk Register

R11	6	(4) Contractual/Partnership	Projects do not deliver the required performance requirements of the particular building services.	Performance impacts on occupants/services.	Possible	Serious	6	£0.00	N	C – Uncomfortable	Specify high quality products, with appropriate warranties, and procure the supply and installation from a reputable contractor. Ensure contract incentivises good design and verification. Careful contract management and good control in place to verify the installation meets specification and design requirements. Ensure snagging and defects period address and post-installation issue.	£0.00	Unlikely	Serious	£0.00	4	£0.00		05/03/21	City Surveyors	James rooke		
R12	6	(4) Contractual/Partnership	Anticipated carbon savings, as set out in the grant funding application, are not achieved	Requirement of the grant funding application.	Possible	Serious	6	£0.00	N	C – Uncomfortable	Require contractor to include savings guarantees in their contract which meets the grant application targets and require post-installation verification and rectification. Where contractor guarantees can meet the application target - discuss with Salix and agree changes as required.	£0.00	Unlikely	Serious	£0.00	4	£0.00		05/03/21	City Surveyors	James rooke		
R13	6	(5) H&S/Wellbeing	Injury to persons or property due to the installation works	Depends on the nature of the injury, but potentially: project delays, legal action/costs, and reputational damage.	Possible	Extreme	24	£0.00	N	C – Uncomfortable	Ensure compliance with H&S Policies through careful procurement and contract management, with client project management in place to ensure excellent consultation between site and contractor.	£0.00	Unlikely	Extreme	£0.00	16	£0.00		05/03/21	City Surveyors	James rooke		
R14	6	(2) Financial	Site changes result in early redundancy of installed assets	Anticipated savings on installed assets are not achieved.	Possible	Major	12	£0.00	N	B – Fairly Confident	Consult with corporate property stakeholders to ensure alignment with existing asset and building plans. Where there is a significant risk of assets becoming redundant before their anticipated life as stated in the grant application - this will need to be discussed with Salix and an agreement made to proceed or reduce the scope, or cancel the project.	£0.00	Unlikely	Serious	£0.00	4	£0.00		05/03/21	City Surveyors	James rooke		
R15																							
R16																							
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R99								£0.00				£0.00			£0.00		£0.00						
R100								£0.00				£0.00			£0.00		£0.00						

RACI MATRIX - PSDS STAKEHOLDERS

	Comments	RACI
Committees/Boards		
Policy and Resources Committee	Members (decisions)	Accountable
CASC Committee	Members (decisions)	Responsible
Procurement Sub Committee	Members (decisions)	Responsible
Project Sub Committee	Members (decisions)	Responsible
Finance Committee	Members (inform)	Inform
Barbican Committee		Consult
Board of Governors for the Guildhall School		Consult
Members - Climate Action Sherpas	Members (Advisory)	Inform
Key Senior Officers		
City Surveyor	Engineering / Surveying	Accountable
Chamberlain	Salix 'Authorised Officer'	Responsible
Managing Director and Chief Officer	MD Barbican	Responsible
Prinicipal GSMD	GSMD Principal	Responsible
Buildings and Ops Director	Barbican Centre	Responsible
Key Teams		
City Surveyors - Ops Team	Operations / FM	Responsible
Energy & Sustainability Team	Energy	Responsible
Barbican Management Team	Barbican Operations	Responsible
Comms team	Communications	Consult
Other individuals officer posts		
Operations Director	City Surveyor	Responsible
Assitant Property Facilities Manager	Barbican	Consult
Head of Finance - Property Services	Chamberlains	Consult
Senior Category Manager	Chamberlains	Consult
Deputy IT Director	Chamberlains	Consult
Lead Architect - IT	City of London / Police	Consult
Asset Management	City Surveyor	Consult
Head of FM	City Surveyor	Responsible
Director of Corporate Property	City Surveyor	Consult
Guildhall Manager	City Surveyor	Responsible
Guildhall Complex And Hospitality Manager	City Surveyor	Consult
Group Building Surveyor	City Surveyor	Consult
Property Projects Director	City Surveyor	Consult
Principal Surveyor	City Surveyor	Consult
Energy and Controls Engineer	City Surveyor	Consult
Energy Reporting Manager	City Surveyor	Consult
Head of Energy and Sustainability	City Surveyor	Responsible
Energy Officer	City Surveyor	Consult
Senior Energy Engineer	City Surveyor	Consult
Energy and Carbon Manager	City Surveyor	Consult
Assistant Director - Development Management Historic Environment	Conservation Team - DBE	Consult

RACI MATRIX - PSDS STAKEHOLDERS

	Comments	RACI
District Surveyor and Environmental Resilience Director	DBE	Consult
Health and Safety Property Manager	H&S City Surveyor	Consult
Fire Safety Advisor	H&S City Surveyor	Consult
Assistant Highways Director	Highways	Consult
Project Director	Innovation and Growth	Inform
Assistant Town Clerk	Town Clerk	Inform
Corporate Programme Manager	Town Clerk	Consult

PT4 - Committee Procurement Report

This document is to be used to identify the Procurement Strategy and Purchasing Routes associated with a project and only considers the option recommended on the associated Gateway report.

Introduction

City Procurement Project Reference:	Not Been Allocated Yet – Due to urgency.		
Project / Contract Title:	PSDS Project		
Project Lead & Contract Manager:	**James Rooke**	**Lead Department:**	**City Surveyors**
Category Manager:	**TBC**	**Other Contact:**	**Edmund Tran**
Total Contract Value (excluding VAT and inc. extension options):	**£9,455,948**	**Contract Duration (inc. extension options):**	**7 Months**
Budget approved Capital/Revenue:	No Capital	**Capital Project reference (if applicable):**	

Gateway Approval Process

- **Is this project subject to the Gateway process?** Yes

- **If so, what was the last Gateway report, and date of approval, and what is the next Gateway report and scheduled date for recommendation for approval?**
  None so far due to the urgency.

Opportunity for Inter-City Collaboration (is there another site/department that could benefit from this project)?
This is a cross departmental approach considering decarbonisation across the City Estate.

Procurement Strategy Recommendation

City Procurement team recommended option
The proposed approach is a partnering approach. This has been suggested due to the unforeseen within our current stock. A partner role will be to assess, report and deliver on the approved options for each of the sites proposed.

Route to Market Recommendation

City Procurement team recommended option
The recommended route proposed is a Mini Competition via the Retrofit Accelerator framework. The relevant investigations have been completed and seems to be a viable option. However, due to the urgency and the critical delivery date to meet grant funding. This seems to be the only viable option in this climate. This framework does have different engagement routes and the Partnering approach is the best method based on the work required to propose another route.

Specification and Evaluation Overview

Summary of the main requirements:
A package of energy efficiency measures to reduce the energy consumption at Barbican Arts Centre, GSMD and Guildhall. Includes LED lighting upgrades, valve replacements, metering, HVAC works, fans, sensor replacements, BMS works & optimisation, energy management software, design & engineering work, project management, contingencies. Also see attached project breakdown.

Technical and Pricing evaluation ratio
This is to be determined. Only after an expression of interest stage, will we have further clarity on the best economic vs Technical approach

Overview of the key Evaluation areas (if known at this stage):

- What extras do we got for our investment? The grant must not be exceeded.
- This is an opportunity for a supplier to lead us in certain approaches. What can the provide as the best viable option?

Does contract delivery involve a higher than usual level of Health & Safety, Insurance, or Business risk to be allowed in the procurement strategy?

- Enhanced level of health and safety because of works

Are there any accompanying documents with this report? *e.g. PT0/outlined project plan identifying roles and responsibilities as appropriate* **If yes, please include information in the appendices section below.**	**Yes ☐ No ☒**

Will this project require the winning supplier(s) to process personal data on our behalf?	**Yes ☐ No ☒**
Is there a requirement for a Performance Bond on this Project and if so, on what grounds? No	
Will the procurement process require a financial assessment? Yes ☐ No ☒ **If yes, please indicate recommended assessment: Finance Check ☐ Financial Appraisal ☐** **Please indicate reasons for this recommendation** (please include in this section information on project being rated low/not low)**:** A financial assessment has not bee recommended for this project as the framework suppliers will have had to pre qualified to sit on the framework.	
If yes, please make sure you've defined roles and responsibilities within your project specification. For more information visit Designing Specifications under GDPR. You may include your Privacy Impact Assessment or other relevant report as an appendix to this PT form when submitting to category board (for information).	
Evaluation Panel – Please enter Names and Departments below (if known)	
Edward Tran	**James Rooke**

Procurement Strategy Options *This could include inter-departmental usage, external collaborative opportunities, existing contracts integrated once expired or adding it to an existing contract. Options for Make (In-house delivery) versus Buy (Outsource) decision to be considered; also indicate any discarded or radical options.*

Option 1: Traditional – Client Led
Advantages to this Option: • Fully Completed Design approach • City has full control of the Design approach. • Allows for clear pricing options.
Disadvantages to this Option: • If unsure of the design approach, would not be suitable as variations would be costly. • The City has less control over changes that maybe required. • Traditional is an approach used more for standardised approaches.
Please highlight any possible risks associated with this option: The Use of traditional could result in many different design changes across the different sites and cause programme issues.
Option 2: Partnering
Advantages to this Option: • Allows more experiences providers to help guide the City to get the best option for the delivery. • Provides a design element that will allow to be implemented along the course of the delivery. • A more partnering approach allows for a more transparent programme and sharing of information.
Disadvantages to this Option: • Costs can be increased. • As there is only one supplier, if performance is poor the only option is to cancel the contract.
Please highlight any possible risks associated with this option: Increased costs but caveated with investment in an inexperienced client us).

Route to Market Options: *Route to market is the way in which the City will invite suppliers to bid for the procurement.*

Option 1: Find a Tender - Open
Advantages to this Option: • Allows us to engage with the Market as a Whole • Open Tender process allows for specialist tenderers to make an impact.
Disadvantages to this Option: • Resources could be strained because of the large number of suppliers received. • Longer tender period to cater for all suppliers.
Please highlight any possible risks associated with this option: An already strain team could delay the award and allocation of funds risks the delivery of the programme.
Option 3: Internal Framework
Advantages to this Option: • City Owns and manages this approach and documentation. • We have established relationships with the suppliers which site on it. • The Framework has set Rates
Disadvantages to this Option:

Please highlight any possible risks associated with this option:
Option 4: External Framework - Retrofit Accelerator
Advantages to this Option: • Retrofit Accelerator are specialists in this area and have existing relationships with the suppliers. • Part of their delivery to to aid and advise new clients on the best approach to take. • The Framework has set Rates
Disadvantages to this Option: • We are not using our own standard documents. • This does not engage with the market as a whole.
Please highlight any possible risks associated with this option: If no tenderers come back, we are unable to deliver the project. Due to time restrictions on the funds, we have not been able to research the market properly and a recommendation has come from the department to delivery via this route.

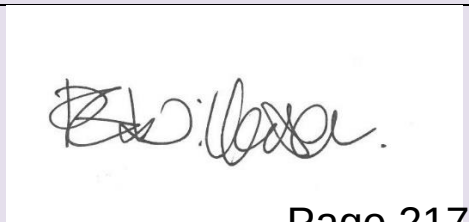
Price Mechanism

Option 1: Partnering Bid
Advantages to this Option: • Allows for a joined-up approach to the delivery. • Allows us to set minimum performance KPI requirements to deliver the contract. • Allows us to set 'in addition to' standards where the suppliers can provide us services in addition to our existing.
Disadvantages to this Option: • This is an untested approach and unable to market test the requirements.
Please highlight benefits and possible risks associated with this option relative to the specifics of the project: Unsure if the services for the awarded tenderer is value for money or not.
Option 2: Fixed price - schedule of rates/bill of quantities
Advantages to this Option: • Gives us the best opportunity to cost certainty. • Give a clear deliverable plan
Disadvantages to this Option: • As we have not conducted surveys yet, we are unsure what the requirements are and could result in costly variations. • Surveys have not been completed, so the possibility of unforeseen is high and could result in variations.
Please highlight benefits and possible risks associated with this option relative to the specifics of the project: Without a defined specification the Fixed Price approach is unrealistic.
Option 4: Target cost
Advantages to this Option: • This is a good approach for a client who is able to properly define the condition of their stock and relevant achievable. • Can give our members and stakeholders clear fees that can be achieved.
Disadvantages to this Option: Without a defined scope, we are unable to set target costs and could be unrealistic and be unattractive to the tenderers.
Please highlight benefits and possible risks associated with this option relative to the specifics of the project: The unknown of the scope and the ambiguity around the potential return of investment can result in an unrealistic contract with a supplier.

Outline of appendices

- Please list appendices here or mark 'Not applicable' if there is none.
- Items to consider appending:
  - PT0 (Project Plan with Roles and Responsibilities)
  - Data Protection Impact Assessment
  - **risk matrix here**

Report Sign-offs

Senior Category Manager Chamberlain's Department	Michael Harrington	**Date**	**04/03/2021**
Departmental Stakeholder		**Date**	**08/03/2021**

Appendix 2. PSDS Projects

Project Names	Energy Cost savings (£/yr)	Carbon savings (tCO2e/yr)
Cross-cutting		
Energy Management Software	£0	0
Building Energy Analyser	£0	0
Sub-Total	**£0**	**0**
London Metropolitan Archives		
LMA EC Fans	£10,001	8
Sub-Total	**£10,001**	**8**
Guildhall Complex		
Guildhall EC Fans	£205,413	144
Guildhall Humidifiers	£39,195	370
Guildhall: Cooling Stage 1 Migration Works	£22,477	17
Guildhall Metering	£0	0
Guildhall - Lighting	£74,832	39
Sub-Total	**£341,917**	**570**
Barbican Art Centre		
BAC Insulation Upgrades	£4,227	51
BAC Damper Works	£49,192	259
BAC Valve Works	£35,433	78
BAC EC Fan upgrades	£39,155	21
BAC BMS recommission/ upgrades	£4,568	14
Barbican Arts Centre Metering	£0	0
BAC - Lighting	£179,241	94
Sub-Total	**£311,815**	**516**
GSMD		
GSMD Insulation Upgrades	£1,812	22
GSMD Damper Works	£14,282	75
GSMD Valve Works	£32,615	254
GSMD Milton AHU's control and upgrade	£6,335	3
GSMD BMS recommission/ upgrades	£6,769	20
GSMD Milton - Cooling Mods	£25,755	17
Silk St metering	£0	0
Milton Court Metering	£0	0
GSMD Milton - Lighting	£45,244	23
GSMD Silk - Lighting	£32,714	18
GSMD Sundial - Lighting	£45,498	24
Sub-Total	**£211,023**	**456**
Total	**£874,756**	**1,549**

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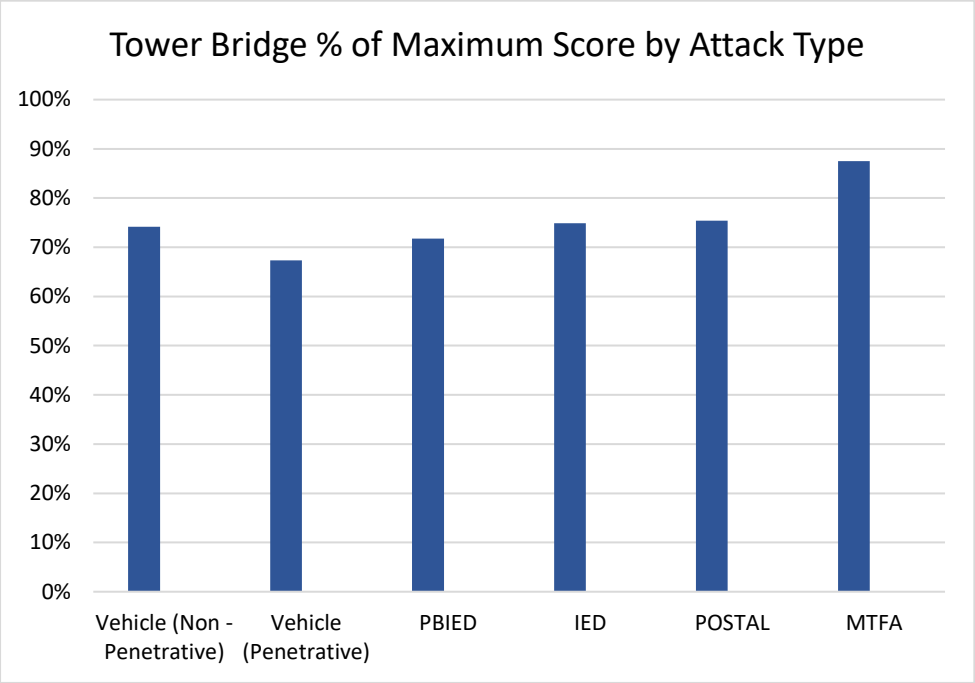
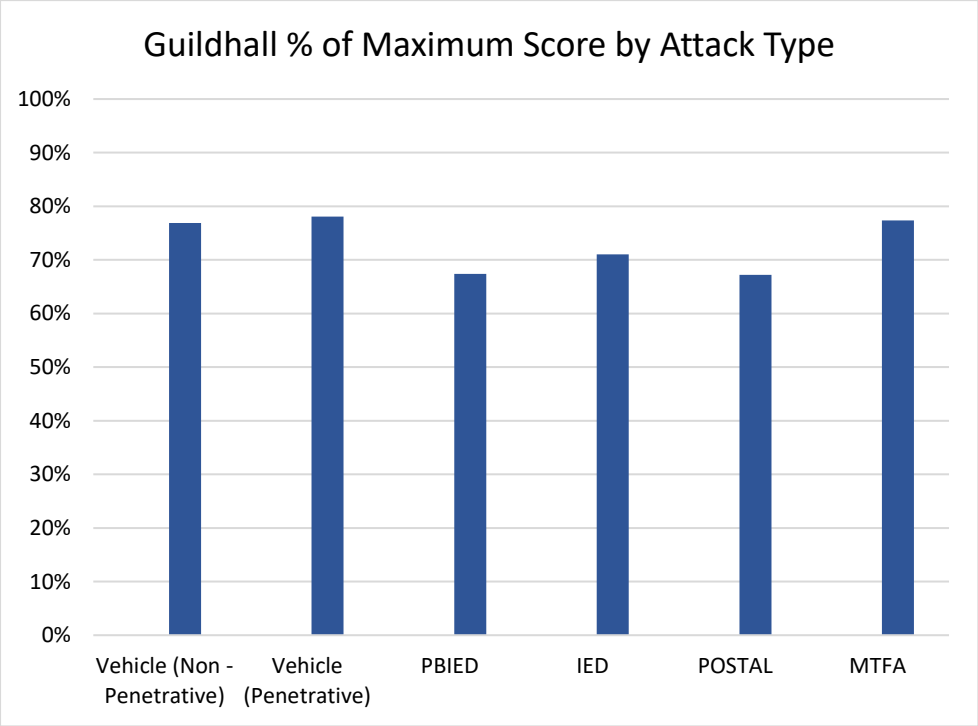
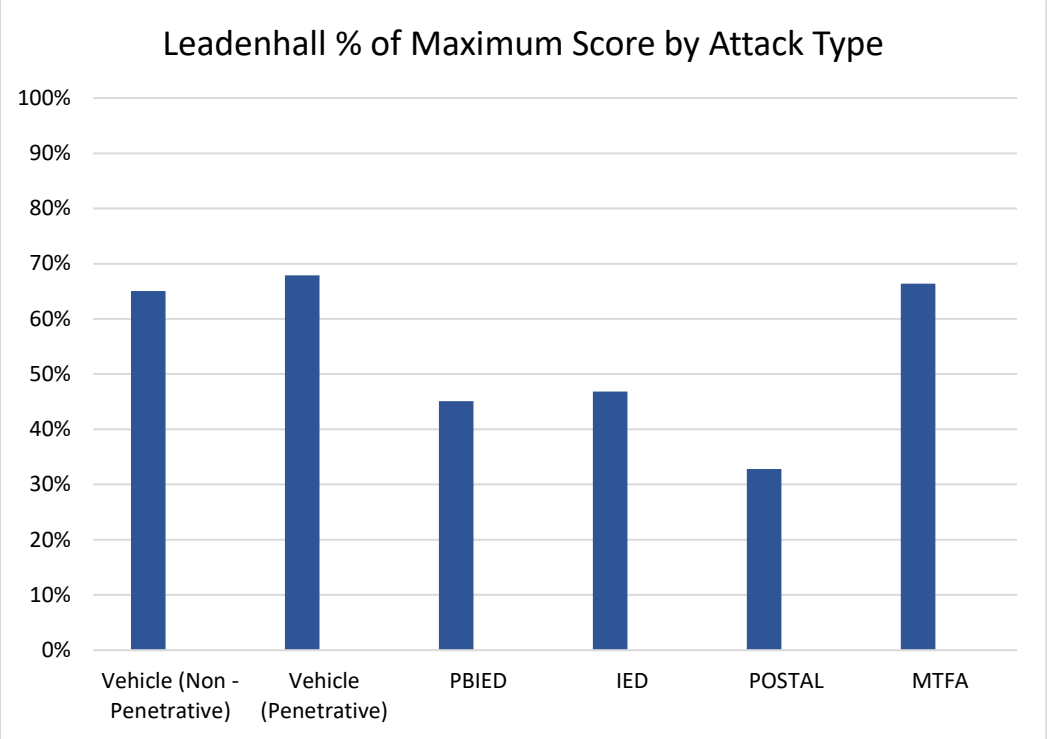
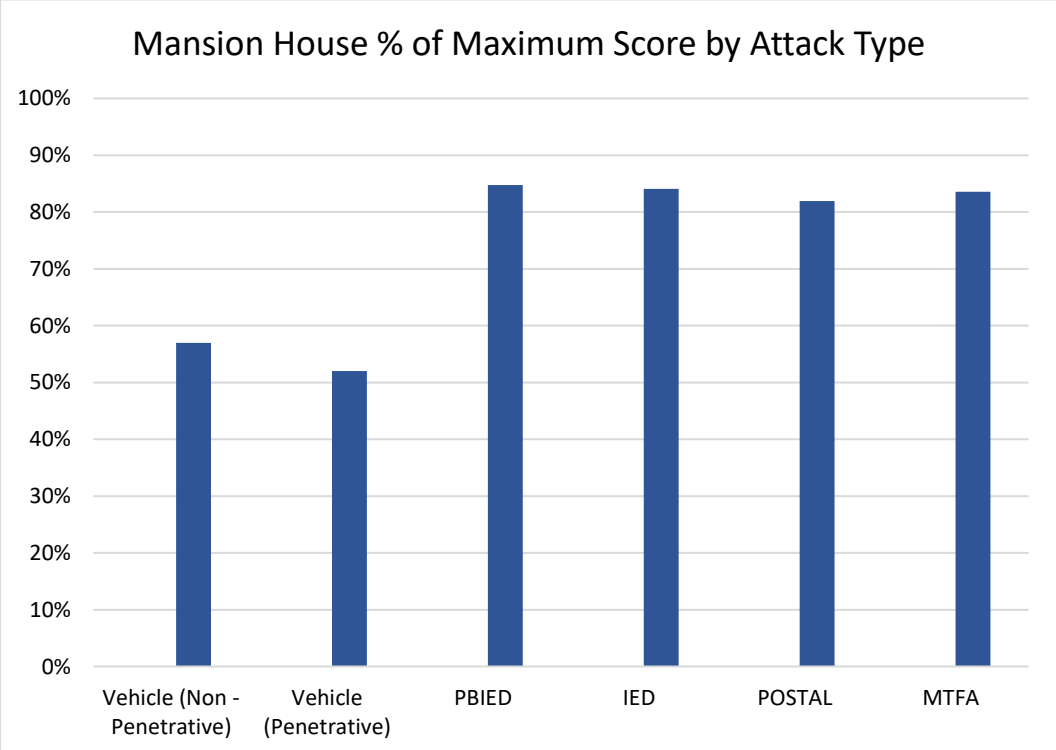
Security Update Appendices

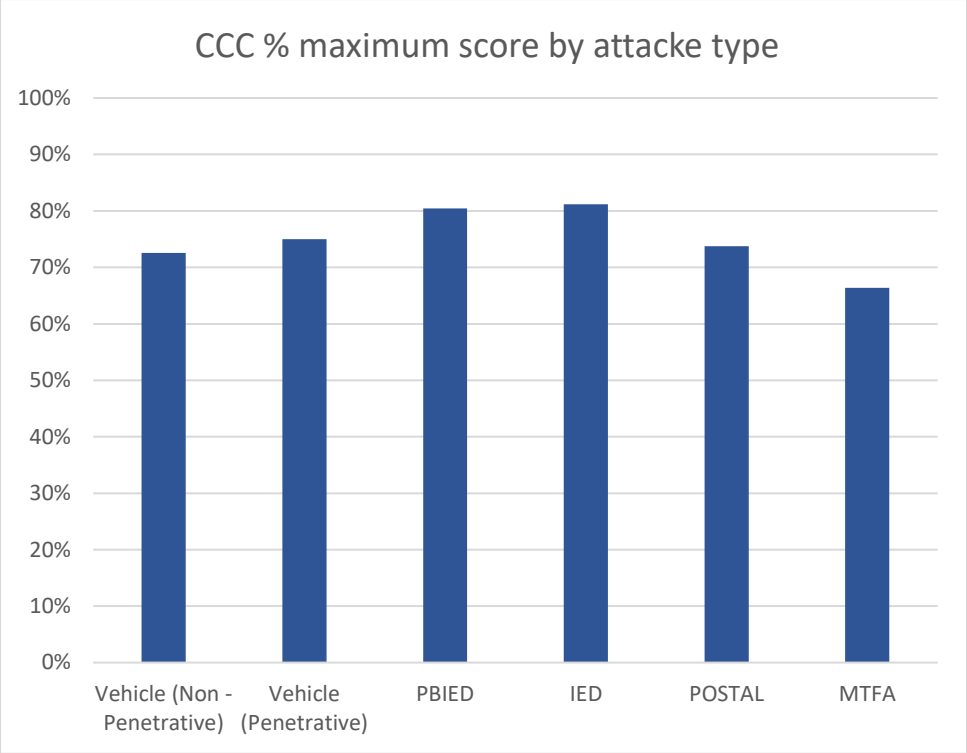
Appendix 1: Protective security summary (no CoLC site can achieve a 100% score without introducing a wholly disproportionate security regime that would prevent its business objective)






Leadenhall % of Maximum Score by Attack Type
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Vehicle (Non - Penetrative)
Vehicle (Penetrative)
PBIED
IED
POSTAL
MTFA


Mansion House % of Maximum Score by Attack Type
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Vehicle (Non - Penetrative)
Vehicle (Penetrative)
PBIED
IED
POSTAL
MTFA



Appendix 2: Protective Security Improvement Action Plan (summarised version)

Location	Improvement Activity	Status
Guildhall	Installation of PAVA	Ongoing
Guildhall	SCaN CCTV training	Agreed by police - awaits start
Guildhall	Search & screen of vehicles training	Agreed by police - awaits start
Tower Bridge	No actions	
Leadenhall Market	No actions	
CCC	SCaN CCTV training	Agreed by police - awaits start
Mansion House	No actions	

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Project Coversheet

[1] Ownership & Status

UPI: 11520
Core Project Name: Tower Bridge HV Replacement & Increased Resilience
Programme Affiliation (if applicable): Bridge House Estate 50-Year Plan
Project Manager: Navdeep Bhal
Definition of need: Existing infrastructure is not compliant and is at high risk of failure due to age and condition. The backup power supply is also at high risk of failure due to age and condition and does not provide enough capacity for the Bridge to maintain operations as usual. This impacts on revenue, bridge operations and reduces the ability to complete bridge lifts as required under the Corporation of London (Tower Bridge) Act 1885.
Key measures of success:

1. Achieve statutory compliancy of segregation of HV and LV switchgear
2. Reduce likelihood of power failure due to age and condition of existing electrical infrastructure.
3. Increase power resilience in the event of a power outage
4. Maintain power and bridge operations during works

Expected timeframe for the project delivery:
Original Timescales:
GW 1 – 2: Oct 2015,
GW 3 – 4: Jan 2016,
GW 5: Apr 2016.
No completion date was provided in the GW1-2

Gateway 3 Timescales:
GW 1 – 2: Oct 2015,
GW 3: Sept 2019
GW 4: May 2020
GW 5: Dec 2020
Completion: Dec 2021

Gateway 4c Timescales:
GW 1 – 2: Oct 2015,
GW 3: Sept 2019
GW 4c: Nov 2020
GW 5: May 2021
Completion: Dec 2021

Current Timescales:
GW 1 – 2: Oct 2015,
GW 3: Sept 2019
GW 4c: Nov 2020
GW 5: July 2021
Completion: Feb 2022

Key Milestones:
Gateway 3 Timescales:
Surveys & Procure Consultants: Oct-Dec 2019

Develop designs: Jan - May 2020
GW4: May 2020
Utility and planning applications: May - Aug 2020
Tender contractor: Sept - Nov 2020
GW5: Dec 2020
Start on site: Jan 2021
Complete: Dec 2021

Gateway 4c Timescales:
Surveys & Procure Consultants: Jan - Jun 2020
Develop designs: Jun - Oct 2020
GW4c: Nov 2020
Utility and planning applications: Sept 2020 – Feb 2021
Tender contractor: Jan – May 2021
GW5: May 2021
Start on site: May 2021
Complete: Dec 2021

Current Timescales:
Surveys & Procure Consultants: Jan - Jun 2020
Develop designs: Jun - Oct 2020
GW4c: Nov 2020
Utility and planning applications: Sept 2020 – March 2021
Tender contractor: March – July 2021
GW5: July 2021
Start on site: July 2021
Complete: February 2022

Are we on track for completing the project against the expected timeframe for project delivery?

At GW3 there was a 41 months slippage to the original programme due to the project being put on hold after the officer responsible for the project left the department and allocation of a new internal resource. An additional 3 months of additional work to the feasibility report was needed to explore construction logistics to arrive at a more robust project programme, cost and risk assessment.

Since then the programme has slipped a further 6 weeks due to the inclusion of the partial integration of the existing and new SCADA systems into the project.

Has this project generated public or media impact and response which the City of London has needed to manage or is managing?
No public or media impact.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes: Committees approved the decision to explore the feasibility of 5 options proposed by City of London Engineers to fulfil the requirements of this project with the appointment of a consultant team. These options were discounted as non-workable solutions so then two alternative viable proposals were

discussed. Of these two alternatives, Option B was recommended and approved by committee. Option B remains the preferred solution following further design development.

'Project Briefing' G1 report (as approved by Chief Officer in Jan 2016):

- Total Estimated Cost (excluding risk): £500,000 – £5,000,000
- Costed Risk Against the Project: none reported
- Estimated Programme Dates: (reported in initial GW1 - 2 report in Sept 2015)
  - GW 3 – 4: Jan 2016
  - Start on site: May 2016

Scope/Design Change and Impact:

'Project Proposal' G2 report (as above):

- Total Estimated Cost (excluding risk): as above
- Resources to reach next Gateway (excluding risk): £35,000
- Spend to date: none reported
- Costed Risk Against the Project: none reported
- CRP Requested: none reported
- CRP Drawn Down: none reported
- Estimated Programme Dates: as above

Scope/Design Change and Impact:

'Options Appraisal and Design' G3 report (as approved in October 2019):

- Total Estimated Cost (excluding risk): £5,800,000
- Resources to reach next Gateway (excluding risk): £303,000
- Spend to date: £26,059
- Costed Risk Against the Project: £2,600,000
- CRP Requested: £0
- CRP Drawn Down: £0
- Estimated Programme Dates:
  - GW4: May 2020
  - GW5: Dec 2020
  - Start on site: Jan 2021
  - Completion: Dec 2021

Scope/Design Change and Impact:

'Options Appraisal and Design' G3 issues report (approved by Project Subs on 21/10/20 and to be approved by Planning & Transportation on 27.10.20 and then Court of Common Council under urgency):

- Total Estimated Cost (excluding risk): £5,800,000
- Resources to reach next Gateway (excluding risk): £554,210
- Spend to date: £95,000
- Costed Risk Against the Project: £2,600,000
- CRP Requested: £0
- CRP Drawn Down: £0
- Estimated Programme Dates:
  - GW4: Nov 2020
  - GW5: May 2021
  - Start on site: May 2021*

- Completion: Dec 2021*

*Note that the duration of the design periods and construction period were unknown at previous gateway, however since involving the design team better estimates has been provided. It was recognised that design would require more time and construction less.

Scope/Design Change and Impact:

'Detailed Design' G4c (approved by committees in November 2020):

- Total Estimated Cost (excluding risk): £5,687,003
- Resources to reach next Gateway (excluding risk): £128,115
- Spend to date: £152,000
- Costed Risk Against the Project: £2,205,000
- CRP Requested: £0
- CRP Drawn Down: £0
- Estimated Programme Dates:
  - GW4: Nov 2020
  - GW5: May 2021
  - Start on site: May 2021
  - Completion: Dec 2021

Scope/Design Change and Impact:

Current G4 Issues (to be approved by committees in April 2021):

- Total Estimated Cost (excluding risk): £5,730,293
- Resources to reach next Gateway (excluding risk): £0
- Spend to date: £505,000
- Costed Risk Against the Project: £2,161,710
- CRP Requested: £0
- CRP Drawn Down: £43,290
- Estimated Programme Dates:
  - GW4: Nov 2020
  - GW5: July 2021
  - Start on site: July 2021
  - Completion: Feb 2022

Scope/Design Change and Impact:

- Partial integration of the existing bridge lifting and new HV supervisory control and data acquisition (SCADA) systems – increase of 6 weeks to the project programme for additional design work required.

'Authority to start Work' G5 report (as approved by PSC xx/yy/zz):

- Total Estimated Cost (excluding risk):
- Resources to reach next Gateway (excluding risk
- Spend to date:
- Costed Risk Against the Project:
- CRP Requested:
- CRP Drawn Down:
- Estimated Programme Dates:

Scope/Design Change and Impact:
Total anticipated on-going commitment post-delivery [£]:<Current Range> **Programme Affiliation [£]:**<(If applicable) What is the estimated total programme cost including this project:>

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CITY OF LONDON CORPORATION

CITY SURVEYORS DEPARTMENT

PROPERTY PROJECTS GROUP - COST BOOK

Project No.	72800014	**PM**			
Project name	Tower Bridge HV Electrical Infrastructure Upgrade				
Project Type	HV/LV				
Period	2020 - 2021	**Site**			

Financial Summary

	Element	GATEWAY CASHFLOW Gateway 1 - 2 Budget	Gateway 3 Budget	Gateway 3 Issues	Gateway 4c Budget	Gateway 5 Budget	Gateway 6 Budget	Total CapEX	CRP Alloc - GW2	CRP Alloc - GW3	CRP Alloc - GW4
	Construction	**0**	**0**	**180,000**	**0**	**4,993,000**	**0**	**5,173,000**	**0**	**0**	**0**
1.1	Enabling Works	0	0	0	0	0	0	0			
1.2	Main Contractor	0	0	0	0	4,993,000	0	4,993,000			
1.3	Direct Package	0	0	0	0	0	0	0			
1.4	UKPN Connection	0	0	180,000	0	0	0	180,000			
1.5	Landscape	0	0	0	0	0	0	0			
1.6	Fittings and Equipment	0	0	0	0	0	0	0			
	Professional Fees	**23,060**	**164,500**	**176,095**	**108,115**	**97,084**	**32,649**	**644,793**	**0**	**0**	**43,290**
2.1	Architect	0	16,500	26,139	8,488	14,900	400	66,427			
2.2	Interior Designer	0	0	0	0	0	0	0			
2.3	Cost Consultant	0	18,298	28,359	9,411	1,650	1,933	64,151			4,500
2.4	Mechanical and Electrical	10,000	40,948	16,520	25,540	23,320	12,160	163,048			34,560
2.5	Structural Engineer	0	25,000	9,912	15,324	13,992	7,296	71,524			
2.6	Principal Designer	6,000	20,000	6,608	10,216	9,328	4,864	57,016			
2.7	Planning Consultant	0	1,692	11,324	4,824	4,500	400	22,740			
2.8	Building Control	0	0	20,000	0	0	0	20,000			
2.9	Project Management	7,060	30,263	20,033	8,312	6,394	1,596	77,888			4,230
3	Fire Risk Assessment	0	11,800	7,200	6,000	13,000	4,000	42,000			
3.1	Catering Consultant	0	0	0	0	0	0	0			
3.2	Acoustics Consultant	0	0	0	0	0	0	0			
3.3	AV Consultant	0	0	0	0	0	0	0			
3.4	Lighting Consultant	0	0	0	0	0	0	0			
3.5	CDMA	0	0	0	0	0	0	0			
3.6	Sustainablitty	0	0	0	0	0	0	0			
3.7	CGI	0	0	0	0	0	0	0			
3.8	RoL	0	0	0	0	0	0	0			
3.9	Early Contractor Involvement	0	0	0	0	0	0	0			
3.10	Transport Consultant	0	0	15,000	10,000	0	0	25,000			
3.11	Communications Consultant	0	0	0	0	0	0	0			
3.12	Other Consultant	0	0	15,000	10,000	10,000	0	35,000			
	Consequential Fees	**0**	**115,500**	**60,000**	**15,000**	**0**	**0**	**190,500**	**0**	**0**	**0**
4.1	Construction Legal Fees	0	0	0	0	0	0	0			
4.2	Consents - RoL	0	5,000	0	0	0	0	5,000			
4.3	Agents	0	0	0	0	0	0	0			
4.4	Marketing	0	0	0	0	0	0	0			
4.5	Stamp Duty	0	0	0	0	0	0	0			
4.6	Relocation	0	0	0	0	0	0	0			
4.7	Planning Fees	0	5,000	10,000	0	0	0	15,000			
4.8	FF&E (furntiure, AV, FM)	0	0	0	0	0	0	0			
4.9	Utilities Companies	0	5,000	0	0	0	0	5,000			

4.10	Building Control Authority	0	5,000	5,000	0	0	0	10,000			
4.11	Surveys	0	95,500	45,000	15,000	0	0	155,500			
	City of London Staff	**3,000**	**23,000**	**15,000**	**5,000**	**19,000**	**3,000**	**68,000**	**0**	**0**	**0**
5.1	IT Costs	0	0	0	0	0	0	0			
5.2	DBE	0	0	0	0	0	0	0			
5.3	Legal Costs	0	5,000	5,000	0	5,000	1,000	16,000			
5.4	Other	0	0	0	0	0	0	0			
5.5	Staff Costs	3,000	18,000	10,000	5,000	14,000	2,000	52,000			
	SUB TOTAL	**26,060**	**303,000**	**431,095**	**128,115**	**5,109,084**	**35,649**	**6,076,293**	**0**	**0**	**43,290**
	Risk Register	**0**	**0**	**355,000**	**335,000**	**1,870,000**	**0**	**2,161,710**	**0**	**0**	**43,290**
6.1	Compliance/Regulatory (i.e Planning)	0	0	65,000	150,000	225,000	0	375,000			
6.2	Financial (i.e inflation)	0	0	0	0	45,000	0	45,000			
6.3	Reputation (Client Changes)	0	0	0	0	0	0	0			
6.4	Contractual/Partnership (Contracts)	0	0	0	0	0	0	0			
6.5	H&S/Wellbeing (i.e Design Compliance)	0	0	0	0	0	0	0			
6.6	Safeguarding (i.e Site Attendance)	0	0	0	0	0	0	0			
6.7	Innovation (i.e Design Development)	0	0	0	0	0	0	0			
6.8	Technology (BIM/ Sustainablity)	0	0	0	0	0	0	0			
6.9	Environmental (Site Constraints)	0	0	100,000	0	60,000	0	60,000			
6.10	Physical (building Constraints)	0	0	190,000	185,000	1,540,000	0	1,725,000			
6.11	Blank	0	0	0	0	0	0	0			
6.12	Blank	0	0	0	0	0	0	0			
6.13	Blank	0	0	0	0	0	0	0			
6.14	Blank	0	0	0	0	0	0	0			
7	GRAND TOTAL	26,060	303,000	786,095	463,115	6,979,084	35,649	8,238,003			
	CapEx- Actuals& Committed										
	CapEx-Variance	**26,060**	**303,000**	**786,095**	**463,115**	**6,979,084**	**35,649**	**8,238,003**			

NOTES	
EXCLUSIONS	
Costs prepared by:	
Costs verified by:	
Date:	

Change Control Notice

City of London Corporation, City of London Police

To be completed when the scope of a project / programme is going to change which will result in a change to outcomes, cost, timescales.

Title:	Tower Bridge HV Project

CCN Ref No.	2	**Date Raised**	10.03.2021
Type of Change	Project Scope	**Needed by**	TBC
Senior Responsible Officer	Ola Obadara	**Author**	Leadenhall Project Management Ltd (Steve McConaghy)

Reason for Change

Client Request	~~Contractors Request~~	~~Designer Request~~	~~PM Proposal~~
~~Other (Please Specify)~~			

Description of the proposed change

Describe what change is required.

Summary of Change

At feasibility stage, a local Supervisory Control and Data Acquisition (SCADA) system was proposed to facilitate automatic and remote control of HV and LV circuit breakers, monitor demand and automate change-overs and monitor electrical meters for consumption data and power quality analysis only (Feasibility Report 3.1). This CCN (CCN02) relates to additional construction costs associated by SCADA Option 03.

Background

Following discussions with the Tower Bridge Operations team and the incumbent SCADA contractor that installed the controls system for bridge lifting, an opportunity was identified to enhance the bridge lifting operation network resilience in line with the current electrical infrastructure proposals. There was also an opportunity to future proof the existing SCADA system for planned hardware works, as it currently contains multiple point of failures due to the age of the infrastructure.

The City of London Corporation requested that AECOM carry out a feasibility study to investigate the potential options for the SCADA upgrade as part of the electrical infrastructure project. The feasibility study TBR-ACM-XXXX-TN-EL-00-4001 identified “Option 3 - Partial Integration of SCADA Control Systems” as the preferred option. The Tower Bridge Operations team and Project Board have confirmed that SCADA Option 3 offers the best approach with increased resilience.

The information below sets out the requirement for the change control notice to deliver the additional scope and funding required.

Scope of Work

This CCN (CCN02) relates to additional construction costs associated with the supply and installation of the partly integrated SCADA system.

In summary:

Both the North and South LV switchboards will permit integrated SCADA controls and monitoring.
All SCADA interfaces will utilise the same application via the SCADA server.
SCADA redundancy will be achieved via a dual redundant server with two independent server rack cabinets containing a universal power source (UPS) and bypass switches.
Energy monitoring, trends and information will be provided by a dedicated energy monitoring software application, installed on the dedicated server.
An Ethernet network will provide connection to all devices including connections to the bridge lift programmable logic controller (PLC) system.

Additional outcome of the change

What benefit, outcome or mitigation will this change provide

This change would in affect provide a single SCADA controls system for Tower Bridge. This change will mitigate any SCADA interface risks associated with the integration of 2no SCADA systems.

What will happen if the change isn't approved

Explain the impact and outcomes if the change isn't approved

If this change is not approved, it is anticipated that the Tower Bridge operations team may not approve the installation of an independent SCADA system to facilitate automatic and remote control of HV and LV circuit breakers, monitor demand and automate change-overs and monitor electrical meters for consumption data and power quality analysis. It is also noted that the remaining SCADA system will require future update to provide a single site SCADA system and resilience.

Project/Programme Impact

Append any additional information such as breakdown of costs or revised project plans etc.

Cost / Resources	Timescales	Outcomes
Pre-Construction Programme Impact: No impact refer to CCN 01.		
Pre-Construction Cost Impact: No impact refer to CCN 01.		
Construction Programme Impact: It is understood that this CCN shall not affect the estimated construction period.		
Construction Cost Impact: It is estimated that this CCN shall increase construction costs by: **£346,000** which includes; sub-contractor OHP, Testing & Commissioning, BWIC, NPO, Combined Prelims, MC OHP, for Scada Option 3. This change will increase the overall project budget from £5,730,293 to £6,076,293 and will be funded from the Bridge House Estates Trust 50 Year Maintenance Fund for 2021 / 22.		

Project/Programme Review

Will this change impact any of the following and therefore need to be updated

Opportunity Outline	Organisational Impact Assessment	Change Impact Assessment	PID
N/A			

Risk Assessment

Type = Project, Service, Corporate, Regulatory
Likelihood = High, Medium, Low
Impact = High, Medium, Low
Mitigating Plan = Proposed options to address the risk

Description of Risk	Type	Likelihood	Impact	Mitigation Plan

Project Approval Levels

~~< £500~~	~~< £5,000~~	> £5,000

Funded By (Select as appropriate)

~~Costed Risk~~	Additional Funds - Bridge House Estates Repairs Designated Fund	~~No Financial Impact~~	~~Local Budget~~
~~Other (Please Specify)~~			

Cost Estimate

Cost Consultant (Apply +/- 10% Tolerance)		**Contractor**	
Work Cost	N/A	Construction Costs	£346,000
Fee's	N/A	Professional Fee's	N/A
Total OMIT/ADD £	N/A	Total Cost (ex VAT)	£346,000

Proposed Fee	Drawing	Design/Time
Architectural Comments: N/A - No implication on architectural design.		

Proposed Fee	Drawing	Design/Time
M&E Comments:		

Proposed Fee	Drawing	Design/Time
Project Management Comments: No additional design fees are applicable to the this CCN. Refer to CCN01 for SCADA Option 3 project team design development fees. The current SCADA design proposals align with SCADA Option 03 design proposals and quotation approved under CCN01. SCADA Construction costs associated with this CCN have been market tested and confirmed by Currie & Brown as part of the project Pre-Tender Estimate process.		

Proposed Fee	Drawing	Design/Time
Cost Consultant Comments:		

Authorisation		
Name	**Role**	**Date Approved**
NAVDEEP BHAL	Project Manager	11/03/21
OLA OBADARA	PPG Director	22/03/21
	SRO/Project Board	
Jamie Bottono	Tower Bridge Operations Manager	22/03/21

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City of London: Projects Procedure Corporate Risks Register

Project name: *Tower Bridge HV Replacement and Increasing Resillience*

Unique project identifier: *11520*

Total est cost (exc risk) *£6076293*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**9.0**
Avg risk post-mitigation	**4.8**
Red risks (open)	**4**
Amber risks (open)	**44**
Green risks (open)	**7**

Corporate Risk Matrix score table

	Minor impact	Serious impact	Major impact	Extreme impact
Likely	4	8	16	32
Possible	3	6	12	24
Unlikely	2	4	8	16
Rare	1	2	4	8

Costed risks identified (All)	£10,625,000.00	175%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£10,625,000.00	175%	*" "*
Costed risk post-mitigation (open)	£2,161,710.00	36%	*" "*
Costed Risk Provision requested	£2,161,710.00	36%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	11	**10.2**	£1,670,000.00	0	10	1
(2) Financial	2	**9.0**	£845,000.00	0	2	0
(3) Reputation	6	**8.3**	£170,000.00	1	4	1
(4) Contractual/Partnership	1	**4.0**	£150,000.00	0	0	1
(5) H&S/Wellbeing	2	**14.0**	£250,000.00	1	1	0
(6) Safeguarding	0	**0.0**	£0.00	0	0	0
(7) Innovation	0	**0.0**	£0.00	0	0	0
(8) Technology	0	**0.0**	£0.00	0	0	0
(9) Environmental	3	**8.0**	£700,000.00	0	3	0
(10) Physical	30	**8.7**	£5,750,000.00	2	24	4

		Extreme	Major	Serious	Minor
Issues (open)	**0**	**Open Issues**	0	0	0	0
All Issues	**0**	**All Issues**	0	0	0	0

Cost to resolve all issues (on completion)	£0.00	**Total CRP used to date**	£43,290.00

City of London: Projects Procedure Corporate Risks Register

Project Name:	Tower Bridge HV Replacement and Increasing Resilie	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 335,000	**Average unmitigated risk score**	9.0	**Open Risks**	55
Unique project identifier:	11520	**Total estimated cost (exc risk):**	£ 6,076,293	**Total CRP used to date**	£ 43,290	**Average mitigated risk score**	4.8	**Closed Risks**	6

General risk classification											Mitigation actions								Ownership & Action					
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk	CRP used to date	Use of CRP	Date raised	Named Departmental Risk Manager/	Risk owner (Named Officer or External Party)	Date Closed OR/ Realised &	Action dependencies	Comment(s)
R1	5	(10) Physical	Terrorism	Terrorist attack affecting site, ability to get to site, affecting planned or completed works. Risk of 4-6 weeks delay. Cost of works, prelims, damage, restarting.	Possible	Extreme	24	£150,000.00	N	D – Very Uncomfortable	Bridge forms part of existing CoL counter terrorism policy. Site security requirements to be reviewed during deign development. Specific hording requirements to be specified within ITT documents and pricing.	£0.00	Possible	Major	£0.00	12	£0.00		17/08/20		COLC(NB)			
R5	5	(1) Compliance/Regulatory	Reliance on Third Party Statutory Works e.g. UKPN	Time and cost (extension of time claims from contractor and design team)	Possible	Major	12	£150,000.00	N	C – Uncomfortable	Early engagement and submission of application to UKPN by COLC. An early application fee shall be payable, c£100-150k estimated to reserve north shore supply.	£0.00	Possible	Serious	£50,000.00	6	£0.00		17/08/20		COLC(NB) / AECOM(PB)			AECOM shall submit the UKPN application during early RIBA Stage 2. AECOM shall monitor the UKPN application and detailed design process. UKPN quoatation recived 20.10.2020 allowaing early placement of order.
R6	5	(3) Reputation	Disturbance to neighbours during construction works resulting in negative reputation of project and client, increased costs and delays to programme.	Reputation	Possible	Serious	6	£0.00	N	B – Fairly Confident	ensuring that logistics plan and environmental health requirements are met by the contractor. Draft CEMP to be request from contractors as part of ITT process / tender.	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC(NB) / Contractor(tbc)			
R7	5	(3) Reputation	Disturbance or effect on Business As Usual Activities of Tower Bridge. Potential requirement for temporary ticket office should closure be required to facilitate works.	Revenue impact (est £420K per month)	Possible	Major	12	£0.00	N	B – Fairly Confident	Consider phasing of works during design development. Out of hours working and back up supply's to be considered to avoid BAU interruption.	£0.00	Rare	Major	£0.00	4	£0.00		17/08/20		COLC(NB) / Design Team(PB & DB AECOM/ LPM(SMC)			Design team to develop phasing strategy / sectional completion proposals prior to ITT issue.
R8	5	(9) Environmental	Poor consultant / contractor Team Performance	Time and cost for disputes, delays or replacement of resource	Possible	Serious	6	£600,000.00	Y - for costed impact post-mitigation	C – Uncomfortable	close Team management in place - high quality weighting for tender assesment and KPIs during appointment etc	£0.00	Unlikely	Serious	£50,000.00	4	£0.00		17/08/20		COLC(NB) / CB(JC) / LPM(SMC) / Contractor			Project team to assess most appropriate procurement route during early RIBA Stage 3 via procurement workshop(s). This will define the most appropriate route to identify a principal contactor.
R9	5	(3) Reputation	Negative Press	Reputation	Possible	Serious	6	£20,000.00	N	B – Fairly Confident	Liaison with TB Marketing/ CoL press office ahead of commencement of works.	£0.00	Possible	Minor	£0.00	3	£0.00		17/08/20		COLC(NB)			Press release to be issued to provide sufficient and advanced warning of works. Communications Strategy to be developed with TB & COLC. Potential use of comms consultant if negative press is received due to bridge closure / bus diversions etc.
R10	5	(3) Reputation	Local transport disruption caused by construction traffic	Reputation	Likely	Minor	4	£0.00	N	C – Uncomfortable	highlight traffic management sensitivities to UKPN & TFL on engagement	£0.00	Possible	Minor	£0.00	3	£0.00		17/08/20		COLC(NB)			Refer to Risk 4 above.
R11	5	(10) Physical	Delays during construction - Unable to achieve practical completion as programmed	Time and Cost (consultant TA fees, staff costs)	Possible	Serious	6	£50,000.00	N	C – Uncomfortable	Project management and good supervision of contractor and robust ITT documents / Contract Documentation to be developed at RIBA Stage 4.	£0.00	Possible	Minor	£0.00	3	£0.00		17/08/20		COLC(NB)/ CB(JC) / LPM(SMC)	Oct-20		Risk Closed. Refer to Risk 62
R12	5	(10) Physical	The site presents space constraints for construction, access and logistics.	Site logistics impacting on cost, time and quality of completing the works	Possible	Major	12	£500,000.00	N	C – Uncomfortable	site logistics plan will be developed and included in tender docs. Briefing to project team and Contractor to be clear, with options, access and logistics discussed.	£0.00	Unlikely	Major	£0.00	8	£0.00		17/08/20		COLC(NB)/ Design Team(PB AECOM/ DB AECOM)/ Arch(Tbc)	Oct-20		Refer to Risk 3 above. Implement site survey schedule and identify surveys / information required from early RIBA Stage 2. Design team to develop design based of accurate measured building survey information. Review of boiler mezzanine installation information. Risk Closed. Refer to Risk 62
R13	5	(10) Physical	Unavoidable or un-anticipated bridge activities affecting these works	Time and Cost - extension of time	Likely	Minor	4	£250,000.00	N	C – Uncomfortable	liaise closely with TB Team and contractor on programme	£0.00	Possible	Minor	£100,000.00	3	£0.00		17/08/20		COLC(NB) / LPM(SMC) / Contractor(Tbc)			
R14	5	(1) Compliance/Regulatory	Delay due to CoL Committee Approval Process	Time and Cost	Possible	Serious	6	£50,000.00	N	C – Uncomfortable	include committee processes into programme. Briefing chairmen on early warnings and issues	£0.00	Unlikely	Minor	£15,000.00	2	£0.00		17/08/20		COLC(NB) / LPM(SMC) / Lead Designer (PB AECOM)			Strategic Programme now agreed with project team and CoL. Note that the project programme must be maintained to achieve a 2021 completion date.
R15	5	(1) Compliance/Regulatory	Works could be subject to change further to Statutory requirements. This includes English Heritage etc.	Staff costs, re-design fees and application fees	Possible	Major	12	£150,000.00	N	B – Fairly Confident	Early engagement with Planning Authorities & English Heritage via planning consultant and thorough understanding of any conditions which require discharge	£0.00	Unlikely	Serious	£100,000.00	4	£0.00		17/08/20		COLC(NB) / Planning Consultant(Tbc)			
R17	5	(10) Physical	Long Lead on specialist / Material Services not accounted for in contractors programme / not anticipated	Time	Likely	Serious	8	£150,000.00	N	C – Uncomfortable	Early placement of UKPN order prior to Contractor engagement. Refer to Strategic Project Programme.	£0.00	Unlikely	Serious	£25,000.00	4	£0.00		17/08/20		COLC(NB) / Design Team(PB AECOM/ Arch(Tbc)/ Contractor(Tbc)			It is not proposed for COLC to order specialist equipment as this will form part of the Contractors Construction Contract to de-risk liability and coordination issues. UKPN quoatation recived 20.10.2020 allowaing early placement of order.
R21	5	(10) Physical	Poor existing condition or works / working area	Additional works or remedial works required which were unplanned	Possible	Serious	6	£250,000.00	N	C – Uncomfortable	Early surveys, contractor engagement and site set up	£0.00	Unlikely	Serious	£0.00	4	£0.00		17/08/20		COLC(NB) / Lead Designer (PB AECOM)			Risk allowance allocated under Risk 12 above (survey costs).
R22	5	(5) H&S/Wellbeing	Uncovering of unknown hazardous materials (Lead Paint, Asbestos, any other hazardous material)	Time impact if works stopped, additional cost if further surveys or works required	Likely	Major	16	£100,000.00	N	C – Uncomfortable	Surveys are included in the project strategy and budget	£0.00	possible	Serious	£0.00	6	£0.00		17/08/20		COLC(NB) / Contractor(Tbc)			Asbestos R&D to be procured prior to ITT issue. CB to allow asbestos / other removal/remediation costs within PTE.
R23	5	(3) Reputation	Excessive or Unclear Insurance Requirements	Additional Cost or self insured route required	Likely	Major	16	£150,000.00	N	C – Uncomfortable	Consultation with Insurance Team required ahead of surveys and contractor appointment	£0.00	possible	Serious	£0.00	6	£0.00		17/08/20		COLC(NB) / Contractor(Tbc)			
R24	5	(10) Physical	Existing equipment expires before project completed	Poor condition of existing infrastructure not lasting until project completion this may impact completion for this project	Possible	Major	12	£300,000.00	N	C – Uncomfortable	Failure of existing equipment prior to PC of the HV upgrade project. A generator plug-in point is also included in the scope of works as a back up power supply	£0.00	possible	Serious	£200,000.00	6	£0.00		17/08/20		COLC(NB)			Existing south shore HV supply to be renewed as part of prject and be used as secondary HV back-up supply upon project PC.
R26	5	(10) Physical	Services to neighbouring sites disrupted during construction.	Time	Possible	Serious	6	£250,000.00	N	C – Uncomfortable	Phasing of the works, timescales and costs to be considered to allow for transition. Inform Contractor of no downtime to existing services to neighbouring sites.	£0.00	Unlikely	Serious	£0.00	4	£0.00		17/08/20		Contractor(Tbc)			

R28	5	(2) Financial	Estimated high level costs only allowed for. Actual costs may be more	Cost Increase	Possible	Serious	6	£300,000.00	N	C – Uncomfortable	design information to be closely monitored by QS based upon benchmarking information. Cost plan information to be closely monitored to determine and define procurement route.	£0.00	Possible	Serious	£0.00	6	£0.00		17/08/20		COLC(NB) / CB(JC) / LPM(SMC)			
R29	5	(10) Physical	Site Conditions unsuitable for new UKPN supply / sub-station)	Cost and Time	Possible	Serious	6	£300,000.00	N	C – Uncomfortable	undertake site identification surveys early in RIBA Stage 2/3&4 and complete site visits with UKPN during design stage. Site surveys already included in project plan	£0.00	Possible	serious	£0.00	6	£0.00		17/08/20		COLC(NB) / Lead Designer (PB AECOM)			Sub-Station sizing to be determined by UKPN during 12wk UKPN design phase.
R33	5	(1) Compliance/Regulatory	Completing works in line with legal bridge lifting constraints	Breach of condition. Possible cost and time if affects planned Contractors contract works - extension of time claims	Possible	Major	12	£250,000.00	N	C – Uncomfortable	ensure that contractors are aware of the need to work around Bridge lifts. Set out agreement ahead of construction to agree how these are dealt with in terms of programme and costs	£0.00	possible	serious	£25,000.00	6	£0.00		17/08/20		COLC(NB)			Temporary generator to be installed as part of works, currently under RIBA Stage 3 development.
R34	5	(5) H&S/Wellbeing	Working around public and tourists	Impact on completing works and associated costs	possible	Major	12	£150,000.00	N	D – Very Uncomfortable	Ensure that sensitivities are included in the tender pack for contractors, ensure that contractor. Appointment of PD during the project to ensure H&S considerations are taken into account and implemented. This is included in the project plan	£0.00	possible	serious	£0.00	6	£0.00		17/08/20		COLC(NB) / Contractor(Tbc)			Specific hording requirements to be identified within ITT Documents. Hording and security costs allowed for within Cost Plan.
R35	5	(10) Physical	Revised management / restricted visitor numbers if fire routes amended	this may affect ticket sales, ability to let out venue, require training on different emergency procedures	Possible	Serious	6	£150,000.00	N	C – Uncomfortable	The logistics and fire strategy will be considered in the design stages and worked through with the contractor which should mean that any impact on existing fire strategies will not impact BAU	£0.00	Unlikely	serious	£0.00	4	£0.00		17/08/20		COLC(NB)/ Lead Designer(PB AECOM)/ Fire Eng(AECOM)			Project Team to develop phasing strategy to avoid restrictions. Fire Consultant to review phasing proposals throughout design development.
R37	5	(10) Physical	Valid Extension of Time request from Contractor	Cost	Possible	Serious	6	£150,000.00	N	C – Uncomfortable	continue to assess risks and buildability during development of design to ensure that issues are addressed prior to construction as far as possible	£0.00	possible	serious	£50,000.00	6	£0.00		17/08/20		COLC(NB) / LPM(SMC)			Implement robust contract administration.
R39	5	(10) Physical	BREXIT: market uncertainty, increased goods costs and labour shortages.	Cost & Time	Likely	Serious	8	£150,000.00	N	C – Uncomfortable	Use Consultant team benchmarking & contractor knowledge to mitigate	£0.00	Likely	serious	£100,000.00	8	£0.00		17/08/20		COLC(NB) / CB(JC)			Current market conditions show strong competition. BREXIT conditions remain uncertain.
R41	5	(10) Physical	Archaeological finds	Cost & Time	Possible	Major	12	£250,000.00	N	D – Very Uncomfortable	Desktop study to be considered by planning and heritage consultant and contingency amount held. Cost of surveys included in the project	£0.00	Unlikely	serious	£35,000.00	4	£0.00		17/08/20		COLC(NB) / Architect (Pellings)			Heritage & Planning consultant to engage with LPA's. Pre-Application processes to be implemented.
R44	5	(10) Physical	Contamination	Time and Cost	Possible	Serious	6	£300,000.00	N	C – Uncomfortable	Surveys to be undertaken as part of project plan	£0.00	Unlikely	serious	£50,000.00	4	£0.00		17/08/20		COLC(NB) / LPM(SMC)			Refer to Risk 22 & 62.
R45	5	(9) Environmental	Ecological site constraints	Legal, reputational, cost and time	Possible	Serious	6	£50,000.00	N	C – Uncomfortable	Ecological surveys to be determined if required as part of planning pre-app prcess.	£0.00	Unlikely	Serious	£10,000.00	4	£0.00		17/08/20		COLC(NB) / AECOM(PB)			Planning consultant to engage with LPA's. Pre-Application processes to be implemented.
R46	5	(10) Physical	Site Constraints - additional costs for provision of Contractors space and welfare	City must allow to provide for contractors facilities under CDM 2015 Regs but may not be able to given the site constraints	Possible	Major	12	£150,000.00	N	C – Uncomfortable	Welfare site location will be considered as part of the design development for tender documentation	£0.00	possible	serious	£25,000.00	6	£0.00		17/08/20		COLC(NB) / CB (DS) / AECOM (PB)			Additional welfare locations to be considered during RIBA Stage 3 & 4.
R48	5	(2) Financial	Project exceeding budget	Cost	Possible	Major	12	£500,000.00	N	D – Very Uncomfortable	Pre-tender estimate and QS feedback throughout the design.	£0.00	possible	serious	£0.00	6	£0.00		17/08/20		COLC(NB) / QS(JC)			
R49	5	(4) Contractual/Partnership	Contractual disputes/ team disagreements	Cost and Time	Unlikely	Serious	4	£150,000.00	N		Clear lines of communication, RACI put in place as part of project plan	£0.00	rare	Serious	£0.00	2	£0.00		17/08/20		COLC(NB) / LPM(SMC) / Project Team(All)			
R50	5	(10) Physical	Inclement weather construction	Adverse weather affecting works being able to go ahead / completed	Possible	Serious	6	£25,000.00	N	C – Uncomfortable	no mitigation actions can be taken. Provision requested if event occurs	£0.00	rare	minor	£0.00	1	£0.00		17/08/20		COLC(NB)			
R51	5	(10) Physical	Other projects impacting this project	Time and Cost	Possible	Major	12	£50,000.00	N	C – Uncomfortable	Review of works programme to be undertaken including planned maintenance	£0.00	rare	minor	£0.00	1	£0.00		17/08/20		COLC(NB)/ LPM(SMC)/ Lead Designer(PB) AECOM)/ Arch(Pellings)			Maintain close dialogue with TB Team.
R52	5	(10) Physical	Damage to Bridge during works by contractor	Cost and Quality	Possible	Serious	6	£0.00	N	D – Very Uncomfortable	Listed Building: Grade 1 - Contractors / Survey Contractors need be made aware. Cost would be to contractor	£0.00	Unlikely	serious	£0.00	4	£0.00		17/08/20		Contractor(Tbc)			Contractor RAMS to be obtained prior to starting works. All RAMS to be shared with TB Team & PrinD for H&S.
R53	5	(10) Physical	Unforeseen technical problems during installation	Problems with fixings / fittings / infrastructure	Possible	Major	12	£50,000.00	N	C – Uncomfortable	Pre-survey and maintain contingency.	£0.00	unlikely	Major	£0.00	8	£0.00		17/08/20		COLC(NB)/ CB (DS) / LPM(SMC)/ Lead Designer(PB)/ Contractor(Tbc)			
R54	5	(10) Physical	Additional Requirements for working in live environment	Cost	Possible	Serious	6	£50,000.00	N	C – Uncomfortable	Security requirements and any other additional requirements to be advised.	£0.00	unlikely	Serious	£0.00	4	£0.00		17/08/20		COLC(NB)			
R55	5	(10) Physical	Current infrastructure feeds river traffic lights and CCTV feed disrupted	reputational - CCTV impact, river traffic chaos	Possible	Major	12	£0.00	N	C – Uncomfortable	Surveys of exact infrastructure to be known and liaison with parties undertaken	£0.00	Unlikely	major	£0.00	8	£0.00		17/08/20		COLC(NB)/ LPM(SMC)/ Lead Designer(PB)/ Contractor(Tbc)			Track and trace surevy to be instructed during RIBA Stage 3.
R56	5	(10) Physical	Sporting Events	Time	Likely	Minor	4	£0.00	N	C – Uncomfortable	Sporting events (World Cup, Wimbledon, Rugby) disrupting work on site	£0.00	possible	minor	£0.00	3	£0.00		17/08/20		COLC(NB)			Early engagement with TB Teams & GLA to understand potential events
R57	5	(1) Compliance/Regulatory	Requirement for replacement of existing LV cables which require reconnection should they not pass certification prior to being connected to new HV	Time & cost	Likely	Serious	8	£50,000.00	N	C – Uncomfortable	PPM works and funding may be required to undertake remedial works to existing LV. No proposal to upgrade outgoing LV cables.	£0.00	Unlikely	Serious	£5,000.00	4	£0.00		17/08/20		COLC(NB)/ LPM(SMC)/ Lead Designer(PB)/ Contractor(Tbc)	Oct-20		PPM works not part of project scope. Risk Closed.
R58	5	(1) Compliance/Regulatory	UKPN works delayed	delay the project programme, resulting in incurring extension of time	Possible	Major	12	£60,000.00	N	C – Uncomfortable	early engagement and order placed prior to contractor appointment	£0.00	possible	serious	£30,000.00	6	£0.00		17/08/20		COLC(NB)/ Lead Designer(PB)			Temporary generator to be provided as back-up. Curently allowed fro within RIBA Stage 2 Cost Plan.
R59	5	(1) Compliance/Regulatory	Contractors works delay UKPN works/ connection work	delay the project programme, resulting in incurring extension of time	Possible	Major	12	£60,000.00	N	C – Uncomfortable	engagement to be maintained with contractor and order placed prior to contractor appointment	£0.00	possible	serious	£0.00	6	£0.00		17/08/20		Contractor(Tbc)			UKPN and pre-con / construction programme closely managed.
R60	5	(10) Physical	Time delay due to Bridge House Estates/ CoL do not agree to transfer freehold/ come to a legal agreement for the new substation land	Programme delay and costs for design team on hold/ additional design work and extensions of time. Additional staff costs	Possible	Major	12	£250,000.00	N	C – Uncomfortable	Engage with CoL legal Team to undertake work to resolve land ownership with UKPN.	£0.00	possible	Serious	£5,000.00	6	£0.00		17/08/20		COLC(NB)			
R61	5	(10) Physical	capacity / routes of existing cable routes is not sufficient for routing new HV cables prior to removing existing	re-design costs and unforeseen works costs. Programme delays	Likely	Major	16	£300,000.00	N	C – Uncomfortable	Survey and enabling works to ascertain whether there is capacity for existing routes for new HV and LV cables as proposed. Included in project plan	£0.00	possible	Major	£50,000.00	12	£0.00		17/08/20		COLC(NB)/ Lead Designer(PB)/ Planning Consultant(Tbc)			If existing service routes are not suffice following survey information, alternative routes will require investigation and development with engagement with the planning & heritage consultants.

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Appendix 1: Project Coversheet

[1] Ownership & Status

UPI: 12214 & 12213
Core Project Name: Guildhall Cooling Plant Replacement & Steam Humidification Plant Replacement
Programme Affiliation (if applicable): N/A
Project Manager: Edwin Birch
Definition of need: Plant is at end of life
Key measures of success: Time & Budget

Expected timeframe for the project delivery: June 20 – Oct 23
Key Milestones: GW 3 & 4
Are we on track for completing the project against the expected timeframe for project delivery? Y
Has this project generated public or media impact and response which the City of London has needed to manage or is managing? N

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Briefing' G1 report (as approved by Chief Officer (2020:

- Total Estimated Cost (including risk):
  - Cooling: £3m
  - Humidification: £1.2m
- Estimated Programme Dates:
  - Cooling April 21 – Dec 21
  - Humidification Feb 21 – Dec 21

Scope/Design Change and Impact:

'Project Proposal' G2 report (as approved by PSC 22/04/20):

- Total Estimated Cost (excluding risk):
  - Cooling: £2.6M
  - Humidification: £1.012m
- Resources to reach next Gateway (excluding risk)
  - Cooling:
    - Project Manager £25,000;
    - Quantity Surveyor £20,000;
    - Mechanical & Electrical Designer £40,000
    - Structural Engineer £10,000;
    - Surveys £40,000;
    - Staff Costs £6,000
  - Humidification:
    - Project Manager £12,000;
    - Quantity Surveyor £10,000;
    - Mechanical & Electrical Designer £30,000;
    - Structural Engineer £5,000;
    - Surveys £25,000;
    - Staff Costs £3,000
- Spend to date: 0
- Costed Risk Against the Project:

- Cooling: £400,000
- Humidification: £189,000

- CRP Requested:
  - Cooling: £33,200;
  - Humidification: £22,000
- CRP Drawn Down: 0
- Estimated Programme Dates:
  - Cooling: June 20 – Oct 23
  - Humidification: June 20 April 22

Scope/Design Change and Impact:

'Options Appraisal and Design' G3-4 report (as approved by PSC xx/yy/zz):

- Total Estimated Cost (excluding risk):
- Resources to reach next Gateway (excluding risk
- Spend to date:
- Costed Risk Against the Project:
- CRP Requested:
- CRP Drawn Down:
- Estimated Programme Dates:

Scope/Design Change and Impact:

'Authority to start Work' G5 report (as approved by PSC xx/yy/zz):

- Total Estimated Cost (excluding risk):
- Resources to reach next Gateway (excluding risk
- Spend to date:
- Costed Risk Against the Project:
- CRP Requested:
- CRP Drawn Down:
- Estimated Programme Dates:

Scope/Design Change and Impact:

Total anticipated on-going commitment post-delivery [£]:<Current Range>
Programme Affiliation [£]:<(If applicable) What is the estimated total programme cost including this project:>

Appendix 2

City of London: Projects Procedure Corporate Risks Register

Project Name:	Guildhall Cooling Plant Replacement	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 33,200
Unique project identifier:	12214	**Total estimated cost (exc risk):**	£ 3,924,000	**Total CRP used to date**	£ -

Average unmitigated risk	11.6	**Open Risks**	46
Average mitigated risk score	5.2	**Closed Risks**	0

General risk classification											Mitigation actions						CRP used to date	Use of CRP	Ownership & Action				
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk score			Date raised	Named Departmental Risk Manager/ Coordinator	Risk owner (Named Officer or External Party)	Date Closed OR/ Realised & moved to Issues	Comment(s)
R1	2	(2) Financial	Additional survey/study work required to process to GW3	Insufficient technical review, leading to lower confidence in budget and recommended option	Possible	Serious	6	£56,400.00	Y - for mitigation costs	B – Fairly Confident	Commission further surveys, included costed risk for GW2 which equates to 20% in addition to original estimated costs.	£0.00	Rare	Minor	£28,200.00	1	£0.00	Commission additional technical surveys as advised by engineering consultants.	02/03/20	City Surveyor's, Major Project Team	Ola Obadara		
R2	2	(5) H&S/Wellbeing	Asbestos containing material identified which requires removal/management to facilitate survey work	Increased budget cost for management/mitigation of asbestos, increase to project delivery time for asbestos removal/management	Possible	Serious	6	£15,000.00	Y - for costed impact post-mitigation	C – Uncomfortable	R&D surveys to quantify risk and costs (cost included for in project budget under surveys'). Removal/Management of asbestos as required.	£0.00	Possible	Minor	£5,000.00	3	£0.00	Management/removal of asbestos	03/03/20	City Surveyor's, Major Project Team	Ola Obadara		

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Appendix 3

City of London: Projects Procedure Corporate Risks Register

Project Name:	Guildhall Steam Generator Plant Replacement	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 22,000	**Average unmitigated risk**	11.4	**Open Risks**	44
Unique project identifier:	12213	**Total estimated cost (exc risk):**	£ 1,012,000	**Total CRP used to date**	£ -	**Average mitigated risk score**	4.9	**Closed Risks**	0

General risk classification											Mitigation actions						Ownership & Action						
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk score	CRP used to date	Use of CRP	Date raised	Named Departmental Risk Manager/ Coordinator	Risk owner (Named Officer or External Party)	Date Closed OR/ Realised & moved to Issues	Comment(s)
R1	2	(2) Financial	Additional unforseen survey/study work required to process to GW3	Insufficient technical review, leading to lower confidence in budget and recommended option	Possible	Serious	6	£20,000.00	Y - for mitigation costs	B – Fairly Confident	Commission further surveys, included costed risk for GW2 which equates to 20% in addition to original estimated costs.	£0.00	Rare	Minor	£17,000.00	1	£0.00	Commission additional technical surveys as advised by engineering consultants.	02/03/20	City Surveyor's, Major Project Team	Ola Obadara		
R2	2	(5) H&S/Wellbeing	Asbestos containing material identified which requires removal/management to facilitate survey work	Increased budget cost for management/mitigation of asbestos, increase to project delivery time for asbestos removal/management	Possible	Serious	6	£15,000.00	Y - for costed impact post-mitigation	C – Uncomfortable	R&D surveys to quantify risk and costs (cost included for in project budget under surveys'). Removal/Management of asbestos as required.	£0.00	Possible	Minor	£5,000.00	3	£0.00	Management/removal of asbestos	03/03/20	City Surveyor's, Major Project Team	Ola Obadara		

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CITY OF LONDON CORPORATION

CITY SURVEYORS DEPARTMENT

PROPERTY PROJECTS GROUP - COST BOOK

Project No.	**55800066**	**PM**	**Edwin Birch**	
Project name	Guildhall Steam Plant Replacement			
Project Type	Capex			
Period		**Site**	**Guildhall**	

Financial Summary

	Element	GATEWAY CASHFLOW Gateway 1 Budget	Gateway 2 Budget	Gateway 3 Budget	Gateway 4 Budget	Gateway 5 Budget	Gateway 6 Budget	Total CapEX	CRP Alloc - GW2	CRP Alloc - GW3	CRP Alloc - GW4	Total Add
	Construction	**0.00**	**40,000.00**	**5,000.00**	**0.00**	**2,328,000.00**	**0.00**	2,373,000.00				**0.00**
1.1	Enabling Works		0.00	0.00	0.00	0.00	0.00	0.00				0.00
1.2	Main Contractor					2,328,000.00		2,328,000.00				0.00
1.3	Direct Package							0.00				0.00
1.4	Surveys		40,000.00	5,000.00				45,000.00				0.00
1.5	Landscape							0.00				0.00
1.6	Fittings and Equipment							0.00				0.00
1.7								0.00				0.00
1.8								0.00				0.00
	Professional Fees	**0.00**	**95,000.00**	**20,600.00**	**28,000.00**	**34,460.00**	**2,940.00**	**181,000.00**				**0.00**
2.1	Architect							0.00				0.00
2.2	Interior Designer							0.00				0.00
2.3	Cost Consultant		20,000.00	3,100.00	8,400.00	9,660.00	840.00	42,000.00				0.00
2.4	Mechanical and Electrical		40,000.00		5,000.00	13,800.00	1,200.00	60,000.00				0.00
2.5	Structural Engineer		10,000.00					10,000.00				0.00
2.6	Principal Designer			3,000.00				3,000.00				0.00
2.7	Planning Consultant							0.00				0.00
2.8	Building Control			5,000.00				5,000.00				0.00
2.9	Project Management		25,000.00	1,500.00	9,600.00	11,000.00	900.00	48,000.00				0.00
3	Fire Risk Assessment			5,000.00				5,000.00				0.00
3.1	Catering Consultant							0.00				0.00
3.2	Acoustics Consultant							0.00				0.00
3.3	AV Consultant							0.00				0.00
3.4	Lighting Consultant							0.00				0.00
3.5	CDMA				5,000.00			5,000.00				0.00
3.6	Sustainablitty			3,000.00				3,000.00				0.00
3.7	CGI							0.00				0.00
3.8	RoL							0.00				0.00
	Consequential Fees	**0.00**	**0.00**	**0.00**	**5,000.00**	**0.00**	**0.00**	**5,000.00**				**0.00**
4.1	Construction Legal Fees				5,000.00			5,000.00				0.00
4.2	Consents - RoL							0.00				0.00
4.3	Agents							0.00				0.00
4.4	Marketing							0.00				0.00
4.5	Stamp Duty							0.00				0.00
4.6	Relocation							0.00				0.00
4.7	Planning Fees							0.00				0.00
4.8	FF&E (furntiure, AV, FM)							0.00				0.00
4.9								0.00				0.00
	City of London Internal Recharge	**0.00**	**6,000.00**	**0.00**	**3,000.00**	**3,000.00**	**1,000.00**	**13,000.00**				**0.00**
5.1	IT Costs							0.00				0.00
5.2	DBE							0.00				0.00
5.3	Legal Costs							0.00				0.00
5.4	Other							0.00				0.00
5.5	Staff Costs		6,000.00		3,000.00	3,000.00	1,000.00	13,000.00				0.00
5.6								0.00				0.00
5.7								0.00				0.00
	SUB TOTAL	**0.00**	**141,000.00**	**25,600.00**	**36,000.00**	**2,365,460.00**	**3,940.00**	**2,572,000.00**				**0.00**

	Risk Register	**0.00**	**33,200.00**	**0.00**	**0.00**	**375,000.00**	**20,000.00**	**428,200.00**	**0.00**	**0.00**	**0.00**	**0.00**
6.1	Compliance/Regulatory (i.e Planning)					40,000.00		40,000.00				
6.2	Financial (i.e inflation)		28,200.00					28,200.00				
6.3	Reputation (Client Changes)							0.00				
6.4	Contractual/Partnership (Contracts)					209,000.00		209,000.00				
6.5	H&S/Wellbeing (i.e Design Compliance)		5,000.00			126,000.00		131,000.00				
6.6	Safeguarding (i.e Site Attendance)						20,000.00	20,000.00				
6.7	Innovation (i.e Design Development)							0.00				
6.8	Technology (BIM/ Sustainablity)							0.00				
6.9	Environmental (Site Constraints)							0.00				
6.10	Physical (building Constraints)							0.00				
6.11	Blank											
6.12	Blank											
6.13	Blank											
6.14	Blank											
7	GRAND TOTAL	0.00	174,200.00	25,600.00	36,000.00	2,740,460.00	23,940.00	3,000,200.00				
	CapEx- Actuals& Committed											
	CapEx-Variance	**0.00**	**174,200.00**	**25,600.00**	**36,000.00**	**2,740,460.00**	**23,940.00**	**3,000,200.00**				

NOTES	
EXCLUSIONS	
Costs prepared by:	
Costs verified by:	
Date:	

CITY OF LONDON CORPORATION

CITY SURVEYORS DEPARTMENT

PROPERTY PROJECTS GROUP - COST BOOK

Project No.	**55800065**	**PM**	**Edwin Birch**	
Project name	Guildhall Steam Plant Replacement			
Project Type	Capital			
Period		**Site**	**Guildhall**	

Financial Summary

GATEWAY CASHFLOW

	Element	Gateway 1 Budget	Gateway 2 Budget	Gateway 3 Budget	Gateway 4 Budget	Gateway 5 Budget	Gateway 6 Budget	Total CapEX	CRP Alloc - GW2	CRP Alloc - GW3	CRP Alloc - GW4	Total Add
	Construction	**0.00**	**25,000.00**	**0.00**	**0.00**	**0.00**	**0.00**	25,000.00				**0.00**
1.1	Enabling Works			0.00	0.00	0.00	0.00	0.00				0.00
1.2	Main Contractor							0.00				0.00
1.3	Direct Package							0.00				0.00
1.4	Surveys		25,000.00					25,000.00				0.00
1.5	Landscape							0.00				0.00
1.6	Fittings and Equipment							0.00				0.00
1.7								0.00				0.00
1.8								0.00				0.00
1.9								0.00				0.00
	Professional Fees	**0.00**	**57,000.00**	**18,900.00**	**6,000.00**	**10,316.00**	**984.00**	**93,200.00**				**0.00**
2.1	Architect							0.00				0.00
2.2	Interior Designer							0.00				0.00
2.3	Cost Consultant		10,000.00			1,760.00	240.00	12,000.00				0.00
2.4	Mechanical and Electrical		30,000.00					30,000.00				0.00
2.5	Structural Engineer		5,000.00	4,900.00	3,600.00	4,140.00	360.00	18,000.00				0.00
2.6	Principal Designer			3,000.00				3,000.00				0.00
2.7	Planning Consultant							0.00				0.00
2.8	Building Control			3,000.00				3,000.00				0.00
2.9	Project Management		12,000.00		2,400.00	4,416.00	384.00	19,200.00				0.00
3	Fire Risk Assessment			2,500.00				2,500.00				0.00
3.1	Catering Consultant							0.00				0.00
3.2	Acoustics Consultant							0.00				0.00
3.3	AV Consultant							0.00				0.00
3.4	Lighting Consultant							0.00				0.00
3.5	CDMA			2,500.00				2,500.00				0.00
3.6	Sustainablitty			3,000.00				3,000.00				0.00
3.7	CGI							0.00				0.00
3.8	RoL							0.00				0.00
3.9								0.00				0.00
	Consequential Fees	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**				**0.00**
4.1	Construction Legal Fees							0.00				0.00
4.2	Consents - RoL							0.00				0.00
4.3	Agents							0.00				0.00
4.4	Marketing							0.00				0.00
4.5	Stamp Duty							0.00				0.00
4.6	Relocation							0.00				0.00
4.7	Planning Fees							0.00				0.00
4.8	FF&E (furntiure, AV, FM)							0.00				0.00
4.9								0.00				0.00
	City of London Internal Recharge	**0.00**	**3,000.00**	**0.00**	**2,000.00**	**2,000.00**	**0.00**	**7,000.00**				**0.00**
5.1	IT Costs							0.00				0.00
5.2	DBE							0.00				0.00
5.3	Legal Costs							0.00				0.00
5.4	Other							0.00				0.00
5.5	Staff Costs		3,000.00		2,000.00	2,000.00		7,000.00				0.00
5.6								0.00				0.00
5.7								0.00				0.00
5.8								0.00				0.00
												0.00
	SUB TOTAL	**0.00**	**85,000.00**	**18,900.00**	**8,000.00**	**12,316.00**	**984.00**	**125,200.00**				**0.00**

	Risk Register	**0.00**	**22,000.00**	**0.00**	**0.00**	**183,500.00**	**0.00**	**205,500.00**	**0.00**	**0.00**	**0.00**	**0.00**
6.1	Compliance/Regulatory (i.e Planning)					20,000.00		20,000.00				
6.2	Financial (i.e inflation)		17,000.00					17,000.00				
6.3	Reputation (Client Changes)							0.00				
6.4	Contractual/Partnership (Contracts)					90,500.00		90,500.00				
6.5	H&S/Wellbeing (i.e Design Compliance)		5,000.00			63,000.00		68,000.00				
6.6	Safeguarding (i.e Site Attendance)					10,000.00		10,000.00				
6.7	Innovation (i.e Design Development)							0.00				
6.8	Technology (BIM/ Sustainablity)							0.00				
6.9	Environmental (Site Constraints)							0.00				
6.10	Physical (building Constraints)							0.00				
6.11	Blank											
6.12	Blank											
6.13	Blank											
6.14	Blank											
7	GRAND TOTAL	0.00	107,000.00	18,900.00	8,000.00	195,816.00	984.00	330,700.00				
	CapEx- Actuals& Committed											
	CapEx-Variance	**0.00**	**107,000.00**	**18,900.00**	**8,000.00**	**195,816.00**	**984.00**	**330,700.00**				

NOTES	
EXCLUSIONS	
Costs prepared by:	
Costs verified by:	
Date:	

Project Briefing

Project identifier			
[1a] Unique Project Identifier		**[1b] Departmental Reference Number**	
[2] Core Project Name	*BEMS Upgrade Project-CPG Estate – Phase 1*		
[3] Programme Affiliation *(if applicable)*	*BEMS Upgrade Project CPG Estate*		

Ownership	
[4] Chief Officer has signed off on this document	Paul Wilkinson
[5] Senior Responsible Officer	James Rooke
[6] Project Manager	Brendan Crowley

Description and purpose

[7] Project Description

The City Surveyor's Corporate Energy Team has oversight of the Building Energy Management System (BEMS) which monitors and controls the HVAC plant (& other engineering systems) across the CPG estate. We have commissioned Skanska to conduct a condition survey of 3 of the highest priority sites in terms of business criticality and vulnerability to system failure, these sites make up Phase 1. This is the first phase of a larger estate-wide upgrade BEMS upgrade project. The estimated energy and maintenance cost savings resulting from the upgrade of these sites comes to approx. £83,513/ann. Below is a breakdown of these savings and the total project cost for *BEMS Upgrade Project-CPG Estate – Phase 1:*

Site	Est. Savings kWh/ann.	Est. Savings £/ann.	Est. Reactive Maintenance Savings £/ann.	Total Est. savings, £/ann.	Estimated Project Cost (excl. Risk)	Total project est. Cost (incl. Risk)	Simple Payback for project	Request for Central Funding
Guildhall East Wing	406,113	£42,008	£11,725	£53,732	£681,000	£749,100	14	£749,100
Walbrook Wharf	115,591	£7,680	£10,037	£17,717	£60,000	£66,000	4	£66,000
LMA	93,848	£6,804	£7,686	£14,490	£81,000	£89,100	6	£89,100
Total	**615,552**	**£59,382**	**£29,448**	**£88,830**	**£822,000**	**£904,200**	**10**	**£904,200**

Please Note: This project isn't an energy efficiency project, but it will provide energy and maintenance savings as a by-product and is an enabling project for future energy efficiency projects. It is an essential project to ensure continuity of business operations for these CPW buildings. If the current obsolete BEMS fails, the buildings can't be heated/cooled properly, life safety systems could be prevented from working correctly etc.

[8] Definition of Need: What is the problem we are trying to solve or opportunity we are trying to realise (i.e. the reasons why we should make a change)?

The Current BEMS platform is obsolete, end-of-life & increasingly unreliable. We intend to:
1. Mitigate the Life Safety Risk posed by the failure of the obsolete system which monitors &, in some cases, controls the fire & smoke emergency plant with the installation a new, fit-for-purpose BEMS.
2. Mitigate this significant business risk to the Corporation with the upgrade of the system the latest BEMS platform, Schnieder EcoStruxure.
3. Invest in a modern, flexible & easily optimsed control system for the CPG estate building assets. Bringing with it improved building energy preformance and, as such, supporting the Carbon Descent Plan, endorsed by the Energy Board and CASC. which is committed to achieving 40% energy savings between 2008/09 and 2025/26.
4. Use the new BEMS as a platform to implement further innovative smart building technologies and to allow for integration with other systems e.g. CAFM software, energy management software and lighting controls.

[9] What is the link to the City of London Corporate plan outcomes?

[5] Businesses are trusted and socially and environmentally responsible.
[7] We are a global hub for innovation and enterprise.

[9] Our spaces are secure, resilient and well-maintained.
[11] Our spaces are digitally and physically well-connected and responsive.

[10] What is the link to the departmental business plan objectives?

Property assets and facilities management: We will ensure buildings are fit for purpose, sustainable, safe and secure, providing access for all, meeting service needs and community expectations and delivering value for money through enhancing our efficiencies;

Links to City Surveoyor's departmental programme item 12 to "Implement the new Carbon Descent Plan, developing programme of energy efficiency projects across the Estate" & item 16 to ''Deliver a rolling programme of reviews, rationalisation and optimisation of Facilities Management (FM) services, working in partnership with the FM corporate contractors.''

[11] Note all which apply:

Officer: Project developed from Officer initiation	N	**Member:** Project developed from Member initiation	N	**Corporate:** Project developed as a large scale Corporate initiative	N
Mandatory: Compliance with legislation, policy and audit	N	**Sustainability:** Essential for business continuity	Y	**Improvement:** New opportunity/ idea that leads to improvement	N

Project Benchmarking:

[12] What are the top 3 measures of success which will indicate that the project has achieved its aims?
<These should be impacts of the activity to complete the aim/objective, rather than 'finishes on time and on budget'>>

1. Have a fully reliable, resilient BEMS which meets customer needs for the 6 sites selected in phase 1
2. Have building assets that are optimised to operate as efficiently as possible via a new BEMS platform and via integration with energy management software, resulting in energy consumption savings.
3. Phase1 being the start of the development of centralised BEMS command centre, where assets on all CPG sites are monitored and optimised centrally by a dedicated BEMS team based at Guildhall.

[13] Will this project have any measurable legacy benefits/outcome that we will need to track after the end of the 'delivery' phase? If so, what are they and how will you track them? (E.g. cost savings, quality etc.)

- The new/upgraded BEMS will be monitored post-commissioning by the Corporate Energy Team to verify it conforms to specification and meets site needs. Any deviations will be raised during the defects period with the commissioned contractor as appropriate.

[14] What is the expected delivery cost of this project (range values)[£]?

Lower Range estimate: £850,000
Upper Range estimate: £950,000

[15] Total anticipated on-going revenue commitment post-delivery (lifecycle costs)[£]:

The maintenance of the current BEMS is managed via the building operations contract with Skanska, this will continue for the new system. It is expected that the cost of maintaining a new BEMS will be significantly less due to increased reliability of the new hardward and software.

[16] What are the expected sources of funding for this project?

- Central Funding: £904,200 of funding is requested.

[17] What is the expected delivery timeframe for this project (range values)?
Are there any deadlines which must be met (e.g. statutory obligations)?

Lower Range estimate: 1/11/2020
Upper Range estimate: 1/6/2023

Project Impact:	
[18] Will this project generate public or media impact and response which the City of London will need to manage? Will this be a high-profile activity with public and media momentum?	
No	
[19] Who has been actively consulted to develop this project to this stage? <(Add additional internal or external stakeholders where required) >	
Chamberlains: Finance	Hazel Lerigo
Chamberlains: Procurement	
IT	David Clelland
HR	
Communications	
Corporate Property	Alison Bunn, Daniel Tyler
External	James Burton (Schneider Electric), Jack Sharpe, (Skanska)
[20] Is this project being delivered internally on behalf of another department? If not ignore this question. If so: **Please note the Client supplier departments.** **Who will be the Officer responsible for the designing of the project?** **If the supplier department will take over the day-to-day responsibility for the project, when will this occur in its design and delivery?**	
Client	Department:
Supplier	Department:
Supplier	Department:
Project Design Manager	Department:
Design/Delivery handover to Supplier	Gateway stage: <Before Project Proposal>, <Post Project Proposal>, <Post Options Appraisal>, <Post Detailed design>, <Post Authority to start work>

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City of London: Projects Procedure Corporate Risks Register

Project name: *BEMS Upgrade project – Phase 1*

Unique project identifier:

Total est cost (exc risk) *£823920*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**10.1**
Avg risk post-mitigation	**4.8**
Red risks (open)	**4**
Amber risks (open)	**9**
Green risks (open)	**3**

Corporate Risk Matrix score table

	Minor impact	Serious impact	Major impact	Extreme impact
Likely	4	8	16	32
Possible	3	6	12	24
Unlikely	2	4	8	16
Rare	1	2	4	8

Costed risks identified (All)	£250,850.00	30%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£250,850.00	30%	*" "*
Costed risk post-mitigation (open)	£80,850.00	10%	*" "*
Costed Risk Provision requested	£7,250.00	1%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	0	0.0	£0.00	0	0	0
(2) Financial	10	7.0	£212,850.00	0	7	3
(3) Reputation	0	0.0	£0.00	0	0	0
(4) Contractual/Partnership	1	16.0	£0.00	1	0	0
(5) H&S/Wellbeing	3	16.0	£0.00	2	1	0
(6) Safeguarding	0	0.0	£0.00	0	0	0
(7) Innovation	0	0.0	£0.00	0	0	0
(8) Technology	1	12.0	£0.00	0	1	0
(9) Environmental	0	0.0	£0.00	0	0	0
(10) Physical	1	16.0	£38,000.00	1	0	0

		Extreme	Major	Serious	Minor
Issues (open)	0	**Open Issues**	0	0	0	0
All Issues	0	**All Issues**	0	0	0	0

Cost to resolve all issues (on completion) £0.00

Total CRP used to date £0.00

City of London: Projects Procedure Corporate Risks Register

Project Name:	BEMS Upgrade project – Phase 1	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 7,250	**Average unmitigated risk**	10.1	**Open Risks**	16
Unique project identifier:		**Total estimated cost (exc risk):**	£ 823,920	**Total CRP used to date**	£ -	**Average mitigated risk score**	4.8	**Closed Risks**	0

General risk classification											Mitigation actions								Ownership & Action				
Risk ID	Gateway	Category	Description of the Risk	Risk Impact Description	Likelihood Classification pre-mitigation	Impact Classification pre-mitigation	Risk score	Costed impact pre-mitigation (£)	Costed Risk Provision requested Y/N	Confidence in the estimation	Mitigating actions	Mitigation cost (£)	Likelihood Classification post-mitigation	Impact Classification post-mitigation	Costed impact post-mitigation (£)	Post-Mitigation risk score	CRP used to date	Use of CRP	Date raised	Named Departmental Risk Manager/ Coordinator	Risk owner (Named Officer or External Party)	Date Closed OR/ Realised & moved to Issues	Comment(s)
R1	5	(10) Physical	Presence of asbestos containing material which requires management prior to surveys/works being undertaken	Additional project costs and time delays	Likely	Major	16	£38,000.00	N	C – Uncomfortable	Survey to reduce uncertainty (cost included in project budget), add in float time to account for potential delays. If risk	£0.00	Likely	Minor	£13,000.00	4	£0.00	Management/removal of asbestos to allow safe installation of works.	17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R2	2	(2) Financial	Consulting Services Engineers costs higher than requested for at GW2 or additional surveys required	Insufficient technical review, leading to lower budget confidence in options appraisal and recommendation	Possible	Minor	3	£22,250.00	Y - for costed impact post-mitigation	B – Fairly Confident	Included costed risk for GW2 which equates to 40% in addition to original estimated costs.	£0.00	Rare	Minor	£7,250.00	1	£0.00	Commission additional technical surveys as advised by engineering consultants.	17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R3	4	(2) Financial	Tender costs higher than anticipated budget cost	Insufficient budget to deliver all project scope and hence impact on business case	Possible	Major	12	£0.00	N	C – Uncomfortable	Budget costs and risk provision to be refined between GW2-GW3/4 through further market testing and technical	£0.00	Possible	Major	£0.00	12	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R4	4	(2) Financial	Design costs higher than requested for at GW3/4	Unable to progress to tender on one or more projects.	Possible	Major	12	£32,600.00	N	B – Fairly Confident	Included costed risk for GW4 which equates to 50% in addition to original estimated costs.	£0.00	Possible	Minor	£10,600.00	3	£0.00	Commission additional design work as advised by Project Manager.	17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R5	6	(5) H&S/Wellbeing	Disruption to site services/operations during installation	Some level of disruption (interruption to the operation of building assets being replaced) is inevitible. The	Likely	Major	16	£0.00	N	B – Fairly Confident	Good project planning, driven by competent appointed Project Manager, to minimise the	£0.00	Likely	Minor	£0.00	4	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R6	6	(5) H&S/Wellbeing	An accident/injury related to the works being undertaken for the installation	Depends on the nature of the accident/injury, but potentially: project delays and legal action	Possible	Extreme	24	£0.00	N	B – Fairly Confident	Ensure project is specified, designed, procured, and installed/managed in accordance with regulations	£0.00	Rare	Extreme	£0.00	8	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R7	6	(4) Contractual/Partnership	Installation is not compliant	Depending the the nature of the compliance this could have minor to major issues. It could result in essential	Unlikely	Extreme	16	£0.00	N	B – Fairly Confident	Through due diligence, Control of Contractors, and Project Manager resource: ensure specification and	£0.00	Rare	Extreme	£0.00	8	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R8	6	(5) H&S/Wellbeing	Occupants/users are not satisfied with final outcome	Poor performance from new building services could result in minor or major disatisfaction depending on the resulting issues	Unlikely	Major	8	£0.00	N	B – Fairly Confident	Through due diligence, Control of Contractors, and Project Manager resource: ensure specification and installation meets	£0.00	Rare	Major	£0.00	4	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R9	6	(2) Financial	Projected energy savings not achieved	Longer payback period which erodes the business case which is based on a short spend-to-save payback	Possible	Serious	6	£0.00	N	B – Fairly Confident	Energy saving calculations have been based on conservative assumptions, but will be further reviewed between GW2-3/4 to ensure projections are still	£0.00	Possible	Minor	£0.00	3	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R10	6	(8) Technology	Installed assets fail before anticipated life	Anticipated savings on installed assets are not achieved.	Possible	Major	12	£0.00	N	B – Fairly Confident	Specify quality equipment with a high confidence for meeting project life span	£0.00	Unlikely	Serious	£0.00	4	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R11	6	(2) Financial	Site changes result in early redundancy of installed assets	Anticipated savings on installed assets are not achieved.	Possible	Major	12	£0.00	N	B – Fairly Confident	Consult with corporate property stakeholders to ensure alignment with existing asset and building plans. Where there is a	£0.00	Unlikely	Serious	£0.00	4	£0.00		17/01/20	City Surveyor's, Corporate Energy Team	James Rooke		
R12	3	(2) Financial	Delays to decision making or surveys due to a significant outbreak of the Corona virus.	Delays to project programme.	Possible	Minor	3	£25,000.00	N	C – Uncomfortable	Revise project programme as required	£0.00	Possible	Minor	£5,000.00	3	£0.00						
R13	4	(2) Financial	Delay in providing/recruiting Project Manager to manage the process following GW3/4 approval.	Delay to project programme	Likely	Minor	4	£0.00	N	B – Fairly Confident	Prepare recruitment process prior to GW3/4 decision.	£0.00	Likely	Minor	£0.00	4	£0.00						
R14	3	(2) Financial	Extra IT network infrastruture required CoL IT to meet security policy	Additional project costs and time delays	Possible	Serious	6	£45,000.00	N	C – Uncomfortable	Conduct thorough site surveys at GW2 using IT specialist. Consult closely with CoL IT to ensure compliance with IT	£0.00	Possible	Serious	£15,000.00	6	£0.00	Commission additional IT technical surveys as advised by engineering consultants.	03/03/21	City Surveyor's, Corporate Energy Team	James Rooke		
R15	3	(2) Financial	Brexit - significant delay to BMS/IT parts lead time	Additional project costs and time delays	Possible	Serious	6	£38,000.00	N	C – Uncomfortable	Get assurance for supplier that parts will be available on time	£0.00	Unlikely	Serious	£10,000.00	4	£0.00		04/03/21	City Surveyor's, Corporate Energy Team	James Rooke		
R16	4	(2) Financial	Requirement for supplementary dehum/humidification plant to maintain GAG and LMA environmental conditions during install phase	Poor environmental control - danger to gallery artefacts	Possible	Serious	6	£50,000.00	N	C – Uncomfortable	Install supplentary mobile plant to manitain gallery environmental conditions	£0.00	Unlikely	Serious	£20,000.00	4	£0.00		16/03/21	City Surveyor's, Corporate Energy Team	James Rooke		

BEMS Upgrade Project – Phase 1

Appendix 3. Additional project detail

A3.1. Brief description of project

The City Surveyor's Corporate Energy Team has oversight of the Building Energy Management System (BEMS) which monitors and controls the HVAC plant (& other engineering systems) across the CPG estate. We have commissioned a contractor to conduct a condition survey of 3 of the highest priority sites in terms of business criticality and vulnerability to system failure. Guildhall Yard East (GYE), London Metropolitan Archives and Walbrook Wharf make up Phase 1. This is the first phase of a larger estate-wide upgrade BEMS upgrade project. The estimated energy and maintenance cost savings resulting from the upgrade of these sites comes to approx. **£57,989.42**

Title	Total savings (kWh/yr)	Carbon Savings (tCO2e/yr)	Total Cost Savings incl. maintenance (first year £/year)	Capex Excl. PM & Risk	PM	Capex Incl. PM Excl. Risk	Total Capex incl. Risk	Simple Payback (yrs)	CoL Funds required
GHC GYE	425,827.64	60,376.28	39,597.60	553,251	53,022	606,273	614,523	16	614,523
WW	119,322.26	24,801.21	10,257.28	109,229	16,397	125,626	131,626	13	131,626
LMA	95,325.99	19,238.24	8,134.54	81,378	10,643	92,021	98,021	12	98,021
Total	**640,475.89**	**104,415.73**	**57,989.42**	**743,857**	**80,062**	**823,920**	**904,770**	**16**	**904,770**

Table 1 presents a breakdown of key project figures.

Please note: This project isn't an energy efficiency (spend to save) project, but it will provide energy and maintenance savings as a by-product. It is also an enabling project for future energy efficiency projects. It is an essential project to ensure continuity of business operations for these CPW buildings. If the current obsolete BEMS fails, the buildings can't be heated/cooled properly, life safety systems could be prevented from working correctly etc.

A3.3. Procurement strategy/route to market

It is proposed the project procured either through a Mini Competition via the Intermediate Works Framework or an open tender if the expertise is not available in the Framework.

A3.4. Delivery period and key dates

The below table presents two timelines: fast and slow. The fast timeline reflects the potential where risks do not cause undue project delays.

Fast	**Gateway 2**
31/03/2021	Corporate Project Board
14/04/2021	Project Sub Committee
28/04/2021	Corporate Assets Sub-Committee

12/05/2021	Resource Allocation Sub-Committee
	Gateway 3/4
30/09/2021	Corporate Assets Sub-Committee
15/09/2021	Project Sub-Committee
Sept 21	Resource Allocation Sub-Committee
Oct-21	**Project Manager in post**
Nov-21	**Design**
Dec-21	**Procurement**
Feb-22	**Gateway 5**
Jun-22	**Completion of all projects** (installation, hand-over)
Aug-22	**Gateway 6**

A3.5. Property specific stakeholders

Project	**Key stakeholders**
Walbrook Wharf	Dorian Price Alan Dingley Neil Hawkins
GHC Guildhall Yard East	Dorian Price Peter Ochser Trevor Ulla (CoLP) Elizabeth Scott (GAG) Anancy Wade (GAG) Benjamin O'Conner (City Centre) Rachel Cartwright (Remembrances)
London Metrolpolitan Archive	Neil Hawkins/Andrew Wray Stephen Maberly Tim Harris

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