Public Document Pack

Projects and Procurement Sub-Committee – Information Pack: Part 1 (Public Items)

Date: **MONDAY, 15 APRIL 2024**

Time: **1.45 pm**

Venue: **COMMITTEE ROOMS, 2ND FLOOR, WEST WING, GUILDHALL**

Members:

Alderman Timothy Hailes (Chairman)
Deputy Shravan Joshi (Deputy Chairman)
Deputy Randall Anderson
Deputy Keith Bottomley
Deputy Madush Gupta
Caroline Haines
Deputy Christopher Hayward
Deputy Charles Edward Lord
Deputy Paul Martinelli
Anett Rideg
Tom Sleigh
Luis Felipe Tilleria
Philip Woodhouse

Enquiries: **John Cater**
John.Cater@cityoflondon.gov.uk

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Ian Thomas CBE
Town Clerk and Chief Executive

AGENDA

6. ***GW1-4: FUTURE NETWORK PROGRAMME**

Report of the Chamberlain.

For Information
(Pages 147 - 196)

7. ***GW2: FENCHURCH STREET AREA HEALTHY STREETS PLAN**

Report of the Interim Executive Director, Environment.

For Information
(Pages 197 - 218)

8. ***GW2: 65 GRESHAM STREET**

Report of the Interim Executive Director, Environment.

For Information
(Pages 219 - 232)

9. ***GW3,4,5: CLIMATE ACTION STRATEGY (CAS) – CAPITAL DELIVERY PROGRAMME FOR OPERATIONAL BUILDINGS: LMA SOLAR PV**

Report of the City Surveyor.

For Information
(Pages 233 - 256)

10. ***GW3,4,5: CLIMATE ACTION STRATEGY (CAS) - CAPITAL DELIVERY PROGRAMME FOR OPERATIONAL BUILDINGS: PARLIAMENT HILL LIDO**

Report of the City Surveyor.

For Information
(Pages 257 - 282)

11. ***GW3,4,5: CLIMATE ACTION STRATEGY (CAS) - CAPITAL DELIVERY PROGRAMME FOR OPERATIONAL BUILDINGS: WALBROOK WHARF CARBON REDUCTION MEASURES**

Report of the City Surveyor.

For Information
(Pages 283 - 304)

12. ***GW3,4,5: CLIMATE ACTION STRATEGY (CAS) - CAPITAL DELIVERY PROGRAMME FOR OPERATIONAL BUILDINGS: THE WARREN CARBON REDUCTION MEASURES**

Report of the City Surveyor.

For Information
(Pages 305 - 328)

13. ***GW4: ST PAUL'S CATHEDRAL EXTERNAL RE-LIGHTING**

Report of the Interim Executive Director, Environment.

For Information
(Pages 329 - 350)

14. ***GW5: PEDESTRIAN PRIORITY STREETS PROGRAMME - PHASE 1 (KING WILLIAM STREET TRANSFORMATION AND PROGRAMME UPDATES)**

Report of the Interim Executive Director, Environment.

For Information
(Pages 351 - 388)

15. ***GW6: BEVIS MARKS SUSTAINABLE URBAN DRAINAGE SYSTEM (SUDS)**

Report of the Interim Executive Director, Environment.

For Information
(Pages 389 - 402)

16. ***GW6: CONCERT HALL 2016 REFURBISHMENT WORKS**

Report of the CEO, Barbican Centre.

For Information
(Pages 403 - 412)

17. ***GW6: CURVE GALLERY REFURBISHMENT**

Report of the CEO, Barbican Centre.

For Information
(Pages 413 - 418)

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Committees:	Dates:
Police Authority Board *for information* Digital Services Committee *for decision* City Bridge Foundation Board *for decision* Finance Committee *for decision* Projects and Procurement Sub Committee *for information* Court of Common Council *for decision*	06 March 2024 18 March 2024 20 March 2024 9 April 2024 15 April 2024 25 April 2024
Subject: Future Network Programme **Unique Project Identifier:** 12423	**Gateway 1-4 Project Proposal & Options Appraisal** Complex
Report of: Chamberlain **Report Author:** Sam Collins	**For Information**
PUBLIC	

Recommendations

1. Approval track, next steps and requested decisions	**Project Description:** To provide a modern and resilient network for the City of London Corporation (COL) and City of London Police (COLP). **Next Gateway: Gateway 5** **Next Steps:** Following approval, the Future Network Programme will progress with the procurement of a new Network Support Provider to deliver the implementation and support of the future network. **Funding Source:** City Fund / City Estate / City Bridge Foundation / City of London Police **Requested Decisions:** 1. That budget of £535K is approved to reach Gateway 5. 2. Note the total estimated cost of the project at £9.24m, with an estimated Costed Risk Provision of £2.93m. 3. That Option **3** – to replace the existing network with a Secure Access Service Edge (SASE) solution in line with the approved Future Network Strategy is approved. 4. Endorse and approve that future approvals for City Bridge Foundation Funding in respect of the project are

<table>
<tr><td></td><td>delegated to the Managing Director of CBF, in consultation with the Chair and Deputy Chair, who will take account of the decisions taken by the lead decision-making committee and representations from the Member Steering Group</td></tr>
<tr><td>2. Resource requirements to reach next Gateway</td><td>For recommended option 3:

<table>
<tr><th>Item</th><th>Reason</th><th>Funds/ Source of Funding</th><th>Cost (£)</th></tr>
<tr><td>Programme Resource</td><td>To support the specification and preparation in advance of the procurement</td><td>City Fund / City Estate/CBF</td><td>£410k</td></tr>
<tr><td>External Procurement Support</td><td>To manage the procurement of the new Network Support Provider</td><td>City Fund / City Estate/CBF</td><td>£90k</td></tr>
<tr><td>Network Coverage Surveys</td><td>To support the specification preparation</td><td>City Fund / City Estate/CBF</td><td>£35k</td></tr>
<tr><td>Total</td><td></td><td></td><td>£535k</td></tr>
</table>

Costed Risk Provision requested for this Gateway:
N/A (an estimated Costed Risk Provision has been included in the Risk Register but will not be requested until Gateway 5 – Appendix 2).

The overall programme costs will be established following the procurement of the new Network Support Provider.</td></tr>
<tr><td>3. Governance arrangements</td><td>• Service Committee: Digital Services Committee
• SRO: Chris Rawding, DITS Assistant Director Cloud & Infrastructure
• Project Manager, Wayne Fitzgerald
• Governance: Future Network Programme Board</td></tr>
</table>

	This paper is for Gateways 1-4. This is due to the programme delivery being timebound, as the contract for the incumbent managed service provider expires in January 2025, with no further extension allowed.

Project Summary

4. Context	5. The current City of London Corporation and City of London Police network was implemented in 2017 based on a traditional Local Area Network (LAN) and Wide Area Network (WAN) approach using Multiprotocol Labelling Switch (MPLS) technology. Whilst this technology is still supported, the Network hardware is ageing, and the requirements of the organisation have evolved to a point where there is no longer a cohesive approach to networking across the organisation. 6. The current network approach has limited flexibility and is dependent on multiple external suppliers, which has led to even more complexity and a disjointed and inefficient service. The current infrastructure of copper or fibre cabling is also ageing and has limitations in supporting the current workforce and ways of working. 7. The Future Police Estates Programme (FPEP) and Markets Consolidation Programme (MCP) require a resilient and robust network provision, to support the delivery of modern, future-proofed facilities. 8. The Future Network Strategy was approved at Digital Services Committee on 17 January 2024. It proposes to adopt the following key design principles: • The use of standardised technology to enable a modern and holistic approach to networking and security. • Combined network and security in a cloud-based architecture, simplifying the network and reducing complexity and operational costs. • Fast and secure access for remote and on-premise users. • Ability to respond to an organisation's growth and the evolving nature of work by being adaptable and scalable. • Support any user, from anywhere, using any device, via any connection, to any application.

5. Brief description of project	6. The Future Network Programme will deliver a modern and resilient network to the City of London Corporation and City of London Police, in line with the approved Future Network Strategy. 7. The programme will include the replacement and upgrade of the network hardware across all 120 existing COL, and 12 COLP buildings, and 110 CCTV sites delivered through the Secure City Programme. This will include the upgrade of existing Wireless Access Points to the latest technology (Wi-Fi 7) supported by extensive surveys to support the installation of new Wireless Access Points to provide improved Wi-Fi coverage in line with the Wi-Fi-first approach. 8. The Future Network approach will adopt Secure Access Service Edge (SASE), combining network and security services into a unified cloud-based architecture. This is intended to reduce complexity and operational costs, as well as being highly scalable and adaptable. It replaces the traditional hub and spoke model with a reliance on Guildhall, with a more agile, user centric approach, optimising performance and ensuring fast, secure access for remote and on-premise users. SASE adopts a zero-trust security model which verifies the identity and security posture of every user and device, providing a granular, context-based access control. 9. The proposal is also to adopt a Wi-Fi-first approach, giving greater flexibility in the use of office accommodation and a significant reduction in the use of network hardware and structured cabling, as a fixed network connection will no longer be required to every desk and terminal. This has benefits in terms of reduced network hardware, reduced installation costs for new buildings and a reduction in energy consumption. 10. A further key element of the programme is to deliver a tiered approach to providing network connectivity across all COL, COLP and CCTV sites depending on the needs of each site. As such, a key site such as Guildhall will have high bandwidth connectivity with multiple internet connections for resilience and redundancy. This compares to a smaller satellite site which may access services over a single raw internet link, with security and access being controlled by the new cloud-based network and security infrastructure. 11. The new networking approach will also support the implementation of a modern, resilient network to the new buildings proposed through FPEP and MCP.

	12. To deliver the new network, the programme will go to market to procure a new Network Support Provider to implement and support the new network.
6. Consequences if project not approved	7. The existing COL and COLP network was implemented in 2017 and some network hardware is now approaching end of life. 8. The demands on the network have increased significantly since it was originally implemented, with new uses such as the extensive use of video conferencing and mobile devices. As such, it is no longer able to meet the demands of the organisation and without investment the ability to provide these services, and functionality will diminish. 9. The Future Network Programme is also a key dependency for the Future Police Estates Programme and the Markets Consolidation Programme, as a modern, future proofed network will be required to support the delivery of the new sites. 10. The existing Network Support Contract with ROC Technologies is due to expire in January 2025 with no further extensions. As such, there is a risk that the existing network will become unsupported.
7. SMART project objectives	The key project objectives include: • The successful replacement of the existing network hardware across 120 COL buildings, 12 COLP buildings, 110 CCTV sites. • Move to a Wi-Fi-first network approach supported by the installation of new Wireless Access Points to provide improved coverage and connectivity. • The implementation of a new cloud-based network and security architecture. • A modern, resilient network approach to support the delivery of new buildings through FPEP and MCP • The procurement of a new Network Support Provider to support the delivery of the Future Network Strategy

8. Key benefits	9. The Future Network Programme will deliver a modern, resilient network for all 120 existing COL buildings, 12 existing COLP buildings, 110 CCTV sites and new buildings being delivered through FPEP and MCP. 10. The new network has been designed to support the increasing connectivity demands of new and emerging technology such as Video Conferencing, the use of mobile devices and the 4k cameras delivered through the Secure City Programme. This approach enables the Corporation to respond to growth and the evolving nature of work by being adaptable and scalable. 11. The Future Network Strategy proposes a Wi-Fi-first approach which will reduce the network hardware and structured cabling required across the organisation. This will lead to a significant cost avoidance in the delivery of new buildings and energy savings by at least 30% for the networking equipment. 12. This approach will also enable a more agile building estate, allowing for greater flexibility in the use of office accommodation, removing the reliance upon cabled connectivity and allowing devices to connect seamlessly throughout COL and COLP buildings, including break out spaces and meeting rooms. 13. The tiered approach, with the level of connectivity provided based on need, will allow for more cost-effective occupancy, and quicker decommission of smaller sites – removing the reliance on complex and expensive MPLS connectivity and moving towards greater secure access to services over raw internet. 14. The new network will enhance user experience and organisational collaboration by providing fast and reliable connectivity from Corporation premises, and from home, with enhanced performance and less downtime.
9. Project category	5. Other priority developments
10. Project priority	A. Essential
11. Notable exclusions	The programme will define and support the networking approach for the new buildings being delivered through the FPEP and MCP Programmes, however the purchase and

	installation of network hardware for those programmes will not be funded through the Future Network Programme. The Barbican Centre, GSMD and Schools are not included within the Future Network Programme, however provision is being made in the network support procurement to allow these areas to move onto the unified networking approach in the future, subject to additional funding.

Options Appraisal

12. Overview of options	1. Option One would be to retain the existing the MPLS based network, continue to support the hardware, and replace it when it fails. This would fail to address the complexity and limitations of the existing network and would lead to inevitable disruption to connectivity when hardware fails. The existing network technology would be installed to all new buildings. 2. Option Two would be to retain the existing MPLS based network and refresh the hardware based on the same technology before it becomes end of life. This would mean that the network remains supported but will not result in performance improvements or other associated benefits. 3. Option Three is to progress with the replacement of the existing network in line with the approved Future Network Strategy. This is likely to lead to improved performance, and the Wi-Fi-first approach will reduce hardware needs, decrease energy usage, and allow much greater flexibility in building use across the organisation.
13. Risk	**Overall project risk:** Medium The most significant risks relate to uncertainty around costs and time. Until the procurement process is completed all hardware, circuit and managed service costs are estimated. It is possible that an interim solution for managing the existing network beyond January 2025 will be required. Options for how this could be achieved are being developed, but these have not yet been costed. COL operates certain IT systems such as the Managed Print Service, Building Management Systems and Telephony (COLP) which add complexity to the current network, some of which should be moved to modern solutions that integrate seamlessly with the future network. If the works required to update these systems is not delivered in time the future

	network will require additional complexity within its design which will add time and, ultimately, cost. Costed Risk Provision (CRP) has been estimated, but will not be required until Gateway 5, at which point the CRP will be finalised, based on further information gathered throughout the procurement phase. NB – inflation has not been factored into the costs. With current forecasts (3.65% falling to 2% in the coming years*) it is not deemed materially significant. *Statista Further information available within the Risk Register (Appendix 2) and Options Appraisal Table below.

Resource Implications

14. Total estimated cost	For recommended option 3. **Total estimated cost (excluding risk): £9.24m** **Total estimated cost (including risk): £12.17m**	
15. Funding strategy	Is funding confirmed: No funding confirmed	Who is providing funding: Internal - Funded wholly by City's own resource

This was part of the new bids process for 24/25, an indicative amount of £8.3m was approved, with the acknowledgment that amount would change as more detailed work was undertaken, including the CBF split.

They have determined the CBF portion of the £9.24m would be £271k excluding risk and £418k including the risk.

Using that CBF apportionment with remaining costs split 60% to City Fund and 40% to City Estate as per the recharge model used for the bids.

Funds/Sources of Funding	**Cost (£)**
City Fund	£311k
City Estate	£208k
City Bridge Foundation	£16k
Total	**£535k**

Estimated Total costs

Funds/Sources of Funding	**Cost (£) Excluding Risk**	**Cost Including Risk**
City Estate	£3,532k	£4,648k
City Fund	£5,300k	£6,972k
City Bridge Foundation	£403k	£550k
Total	**£9.24m**	**£12.17m**

Work is ongoing on the City Estate/ City Fund split using the buildings to apportion the cost, the COLP element is currently estimated to be £3,772k including risk.

N.B. The network costs for the new buildings delivered through the Future Police Estates Programme and Markets Consolidation Programme will be met within the existing programme budgets.

The Future Network Programme will only cover the costs associated with the replacement of the existing network to existing COL and COLP buildings and existing CCTV sites.

The estimated cost breakdown across COL, COLP, CBF and CCTV sites is as follows;

	Hardware	**Resource**	**CRP**	**Total**

COL	£1,489k	£3,742k	£1,642k	£6,873k
COLP	£824k	£2,039k	£909k	£3,772k
CBF	£133k	£271k	£147k	£551k
CCTV	£213k	£526k	£235k	£974k
Total	£2,659k	£6,578k	£2,933k	£12,170k

Appendices

Appendix 1	Project Briefing
Appendix 2	Risk Register
Appendix 3	PT4 Procurement Form
Appendix 4	Future Network Strategy

Contact

Report Author	**Sam Collins**
Email Address	**Sam.collins@cityoflondon.gov.uk**

Options appraisal table.

	Option 1	*Option 2*	*Option 3*
1. Brief description	Option One would be to retain the existing the MPLS based network, continue to support the hardware, and replace it when it fails. This would fail to address the complexity and limitations of the existing network and would lead to inevitable disruption to connectivity when hardware fails. The existing network technology would be installed to all new buildings.	Option Two would be to retain the existing MPLS based network and refresh the hardware based on the same technology before it becomes end of life. This would mean that the network remains supported but will not result in performance improvements or other associated benefits.	Option Three is to progress with the replacement of the existing network in line with the approved Future Network Strategy. This is likely to lead to improved performance, and the Wi-Fi-first approach will reduce hardware needs, decrease energy usage, and allow much greater flexibility in building use across the organisation.
2. Scope and exclusions	• The replacement of existing network hardware across 120 COL Buildings, 12 COLP buildings, 110 CCTV sites. • Hardware to be replaced upon failure. • Existing network approach to be retained in terms of reliance upon wired and wireless connectivity. • The procurement of a new Network Support Provider to be progressed based on	• The replacement of existing network hardware across 120 COL Buildings, 12 COLP buildings, 110 CCTV sites. • Hardware to replaced prior to becoming end of life. • Existing network approach to be retained in terms of reliance upon wired and wireless connectivity. • The procurement of a new Network Support Provider to be progressed based on	• The successful replacement of the existing network hardware across 120 COL Buildings, 12 COLP buildings, 110 CCTV sites. • Move to a Wi-Fi-first network approach supported by the installation of new Wireless Access Points to provide improved coverage and connectivity. • The implementation of a new cloud-based networking and security architecture.

	Option 1	***Option 2***	***Option 3***
	support and maintenance for existing network approach.	support and maintenance for existing network approach.	• A modern, resilient network approach to support the delivery of new buildings through FPEP and MCP. • The procurement of a new Network Support Provider to support the delivery of the Future Network Strategy.
Project Planning			
3. Programme and key dates	N/A – hardware to existing buildings would be replaced on failure.	April 2024 – Procurement for Network Support Provider July 2024 – Procurement Award August 2024 – Commence Network Implementation December 2025 – Estimated Programme Completion	April 2024 – Procurement for Network Support Provider July 2024 – Procurement Award August 2024 – Commence Network Implementation December 2025 – Estimated Programme Completion
4. Risk implications	Overall project option risk*:* High • Failure to replace network components before they become end of life could result	Overall project option risk: Medium • Ongoing complexity of network is unlikely to provide performance improvements. • Staying with the current network approach may not be	Overall project option risk: Medium • Widescale replacement of network hardware may result in disruption to services during implementation.

	Option 1	*Option 2*	*Option 3*
	in network failures and service outages. • Will not meet current and future demands on the network.	sufficient to meet the increasing connectivity demands. • Reductions in hardware and associated cost savings / energy consumption reductions may not be realised.	• A Wi-Fi first approach is unlikely to be successful without rigorous surveying and assessment of coverage. • A cloud-based network and security architecture would require upskilling of in-house staff to maximise benefits. Further information available within the Risk Register (Appendix 2).
5. Benefits	• Extend life of existing hardware, (though would need to be replaced upon failure). • Delay capital outlay.	• Extend life of existing hardware. • Delay capital outlay.	• Deliver a modern, resilient network for all 120 existing COL buildings, 12 existing COLP buildings, 110+ CCTV sites and new buildings being delivered through FPEP and MCP. • Support the increasing connectivity demands of new and emerging technology such as Video Conferencing, the use of mobile devices and the 4k cameras delivered through the Secure City Programme. • Enable the Corporation to respond to growth and the evolving nature of work by

	Option 1	*Option 2*	*Option 3*
			delivering adaptable and scalable solutions. • A Wi-Fi-first approach which will reduce the network hardware and structured cabling required across the organisation. This will lead to a significant cost avoidance in the delivery of new buildings and an estimated energy saving by at least 30% for the network. • Greater flexibility in the use of office accommodation, removing the reliance upon cabled connectivity and allowing devices to connect seamlessly throughout COL and COLP buildings, including break out spaces and meeting rooms. • The tiered approach, with the level of connectivity provided based on need, will allow for more cost-effective occupancy, and quicker decommission of smaller sites – removing the reliance on complex and expensive MPLS connectivity

	Option 1	*Option 2*	*Option 3*
			and moving towards greater secure access to services over raw internet. • Enhance user experience and organisational collaboration by providing fast and reliable connectivity from Corporation premises, and from home, with enhanced performance and less down time.
6. Disbenefits	• Significant risk of network outages and service disruption. • Continuation of existing complex network and increased support costs. • Piecemeal replacement would not result in overall performance gains or improved network capacity. • Unlikely to support increased demands on network connectivity such as video conferencing and mobile devices.	• Continuation of existing complex network and increased support costs. • Piecemeal replacement would not result in overall performance gains or improved network capacity. • Unlikely to support increased demands on network connectivity such as video conferencing and mobile devices.	• Increased programme complexity in introducing a new technology approach. • Some equipment will be replaced prior to becoming end of life (though has resale value). • Will require a new service delivery model to support new network model.
7. Stakeholders and consultees	1. Chamberlains 2. City of London Police	1. Chamberlains 2. City of London Police 3. City Bridge Foundation	1. Chamberlains 2. City of London Police 3. City Bridge Foundation

	Option 1	***Option 2***	***Option 3***
	3. City Bridge Foundation 4. City Procurement 5. Site Contacts (various departments) 6. DSC / PAB	4. City Procurement 5. Site Contacts (various departments) 6. DSC / PAB	4. City Procurement 5. Site Contacts (various departments) 6. DSC / PAB
Resource Implications			
7. Total estimated cost	Total estimated cost (excluding risk): This option is uncosted as there is no project at the start of this option. There would inevitably be significant costs during the lifecycle of this option as hardware fails and remediation becomes necessary, and equipment becomes end-of-life and unsupportable. Total estimated cost: NA.	Total estimated cost (excluding risk): £10.12M There is confidence in this figure as it is based on the previous costs to deliver the current network (Network Transformation Programme - 2017). Total estimated cost: (including risk): £13.05m	Total estimated cost (excluding risk): £9.24m Given the procurement process has not yet been undertaken there is limited confidence in this figure. CRP has been applied to cover this uncertainty, and future papers will clarify the figures as costs are better understood. Total estimated cost: (including risk): £12.17m
8. Funding strategy	Capital Programme City Bridge Foundation.	Capital Programme City Bridge Foundation.	Capital Programme City Bridge Foundation.
9. Estimated capital value/return	N/A	N/A	N/A

	Option 1	*Option 2*	*Option 3*
10. Ongoing revenue implications	Costs for the new Network Support Provider will be met from existing DITS revenue budgets on the assumption that these fall within existing budget envelope	As opposite	As opposite
11. Investment appraisal	N/A	N/A	N/A
12. Affordability	3 sentences maximum	3 sentences maximum	3 sentences maximum
13. Procurement strategy/Route to Market	The Procurement Strategy is covered in the accompanying Procurement Options Report	The Procurement Strategy is covered in the accompanying Procurement Options Report	The Procurement Strategy is covered in the accompanying Procurement Options Report
14. Legal implications	Comptroller and City Solicitors will be engaged in the contract award for the new Network Support Provider	As opposite	As opposite
15. Corporate property implications	none	none	none
16. Traffic implications	none	none	none
17. Sustainability and energy implications	This will retain the existing network approach and therefore	This will retain the existing network approach and therefore	The new network approach towards Wi-Fi first and cloud-based infrastructure will lead to a

	Option 1	***Option 2***	***Option 3***
	will not lead to a reduction in hardware or cabling.	will not lead to a reduction in hardware or cabling.	significant reduction in network hardware and structured cabling. This has been quantified as at least a 30% reduction in BTU (British Thermal Units) for networking equipment and in the order of £340 per desk for structured cabling in future office fit outs.
18. IT implications	A modern, resilient, and fit for purpose network is fundamental to the delivery of effective services and supports the use of new and emerging technology such as video conferencing and the use of mobile devices	As opposite	As opposite
19. Equality Impact Assessment	An equality impact assessment will not be undertaken	An equality impact assessment will not be undertaken	An equality impact assessment will not be undertaken
20. 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	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken	The risk to personal data is less than high or non-applicable and a data protection impact assessment will not be undertaken
21. Recommendation	Not recommended	Not recommended	Recommended

Future IT Network Strategy

October 2023

Contents

1) Executive summary

This document is intended to provide a strategic vision of the future of the City of London and City of London Police (CoL/P) network delivery. It is a high-level plan to achieve multiple goals for a high-performance, world-class environment for CoL/P for the next 10 years.

As a strategy, it does not focus on the low-level detailing of every single use case for a network or the technical implementation, nor does it attempt to provide a detailed timeline for implementation and scheduling. Both outputs will come from the next phases including business analysis and requirements gathering, technical designs in HLD/LLD format and detailed project planning.

The objective is to ensure a centralised set of objectives and key pillars on which to make future decisions on network services across the estate ensuring a common delivery method and reduced ongoing management costs.

The scope encompasses both LAN and WAN services including (but not limited to) on premise cabled networking, Wi-Fi, Internet provision, VPN's and cloud connectivity.

Delivering the new network across CoI/P will provide a blueprint to evolve over time, extending to include other networks within the CoI/P estate, such as Barbican, schools, public areas, and City Bridge Foundation.

This strategy is written as an overarching organisation vision and roadmap for a holistic and common approach for networking across the City of London and its institutions.

This approach to a common blueprint (or set or blueprints defined by use cases) is intended to provide a future proof platform with longevity for modern technology but also a simplified network approach which will increase resilience and reduce ongoing management costs.

The final section of this document outlines key recommendations and decisions on which to base future network decisions and procurements.

2) Introduction

As technology advances, so does the need for a more robust and efficient network infrastructure.

It is worth pausing to think back just 4 short years ago when members, officers, staff and police officers were using outdated technology that failed to work at the most critical of times on the street, during Committee Meetings and across our offices and police stations.

- The Lenovo laptops ran Windows 7, were slow to boot up, took days to build and were well past end of life.
- Police officers relied on Panasonic Toughbook's which were clunky, made every day more difficult for the officers and did not work well in the field.
- The vast majority of officers did not have mobile smartphones with biometric logins for data entry and retrieval in seconds rather than hours.
- Officers and members mobile devices were not managed, and our data was spread across many disparate devices which presented a large risk to the organisation.
- The Corporation and City of London Police's network relied on a hybrid mix of aging hardware, including firewalls, which were not up to the job for mass migration of data to cloud, or for people working from home.
- The server estate contained a large amount of legacy operating systems and technical data all hosted in an expensive third-party datacentre and presenting huge cyber security risk to the organisation.
- There was no capability to make a video call.
- The force internet was incredibly slow being provided by a 20Mbps provision on the PSN for Policing network.
- There was no national Security Operations Centre (SOC) monitoring the entire estate.

Fast forward to 2023 and all the above have been addressed. From starting to look at a refreshed estate in 2019 and having to accelerate this in 2020 due to the Covid Pandemic, the organisation's change programme included new laptops and smartphones, a migration to the Exchange Online, SharePoint, OneDrive and a full datacentre exit with a 'lift and shift' to Azure cloud hosting and connection into the National Management Centre and delivery of the national Policing blueprints.

The City of London Corporation & Police are unrecognisable from just four short years ago in terms of technology adoption and digital transformation.

CoL has shown how forward thinking an authority can be around cloud adoption and delivery.

The level of technology change during this period has exceeded everything else in the previous decade, however it has not been plain-sailing – there have been significant deviations and challenges along the way due to the environment the organisation was operating within, be it financial, operational or outside factors.

Because of this, our network has had to evolve around legacy solutions, contracts, and the demands of the organisation meaning it is now a 'patchwork quilt' of technology and contracts across multiple telecommunication providers (telcos) and vendors. The CoL/P network needs a 'reset' using standardised technology and an improved service wrapper whilst still retaining carrier diversity for redundancy.

Technology advancement stands still for no person or organisation and to that end, CoL/P need to address the next wave of transformation that will support the Corporation & Future Police Estate and their demands of an IT network.

As officers and staff increase their digital demand and adopt and mature their usage of the technology provided, this further increases the demands on the CoL/P Local and Wide Area Networks (the IT Network).

As an organisation, this is a wholly positive outcome – more demand on the network means the technology that sits on top of the network is being exploited – colleagues and visitors within the City are directly benefiting from the investment made by the City of London Corporation. With the evolution of major programmes such as the world first Secure Cities programme, or an entirely new and more powerful Action Fraud and National Fraud Investigation capability or simply higher utilisation of Microsoft 365, Power Platform and SaaS/Cloud solutions this increased demand will continue as the organisation now has an embedded bias for positive change.

Underpinning the whole network is the service management wrapper. Further into this document it lists the various suppliers and brands that are within the CoL/P networks currently and this presents a challenge for service management and hand-off between vendors. It makes fault resolution longer for the support teams who must navigate multiple helpdesks, technology stacks, admin portals and account managers to resolve any faults. An investment in a future network will reduce downtime, improve user experience and could also reduce overall operating costs.

3) Vision

To provide a modern, future proof, secure estate providing 'state of the art sustainable facilities' for policing within the square mile and the force national portfolio

To achieve this vision, City of London Police have identified the following design principles:

- The core estate will remain within (?) the City of London footprint
- Modern estate that is sustainable for the next 30+ years
- A variety of facilities to provide operational resilience
- Value for money to be demonstrated in developing the estate portfolio
- Phased implementation to maintain operational effectiveness
- Adoption of new working practices to be designed in – flexible / agile working / smart initiatives
- Modern, robust and flexible IT infrastructure
- Multi 'use' shared and open plan facilities will be adopted as widely as possible except for specialist facilities (such as Custody, firearms range, Tactical Firearms Group and 'Joint Contact & Control Room' and forensics)
- Operational vehicles securely located and accessible.

The future network strategy for CoL/P should not only deliver on the vision of the police estate in the next 10 years, but also look to deliver on the 3 key themes adopted by the Digital, Information and Technology Service (DITS):

- Brilliant Basics
- Removing Complexity
- Enabling Transformation.

4) Current IT network

a) Wide area network (WAN)

The current City of London network has evolved over many years from a core BT MPLS and with low bandwidth internet breakouts (or PSN for Policing (PSNfP) connection providing the legacy 20Mbps internet provision) to more recently 100Mbps to 1Gbps internet breakout carrying nearly all outbound traffic from all sites.

The City of London has very little flexibility in this provision and is entirely dependent on BT to provision circuits which can often delay accommodation moves or the introduction of new sites (such as a new school or office building).

Due to this inflexibility, we are also limited to the technology that can be deployed for hard to reach sites or those with low network infrastructure in the ground.

Most sites are entirely dependent on the Guildhall or Bishopsgate/New Street to provide firewall security and internet access which presents a suboptimal experience for today's users and demands.

b) Local area network (LAN)

The City's current LAN provision has evolved over many years and is managed by ROC Technologies. The LAN can be considered the 'in building network' which includes physical network points, Wi-Fi, access and core switching. Depending on the service contract, the LAN could also include the next generation firewall provision.

The City of London operates HPE Aruba technology across the estate and a large proportion of the hardware will become unsupported in the next two years.

Our Wi-Fi access points are considered outdated and the majority offer Wi-Fi 5 or below technology. The current Wi-Fi standard, which offers much greater throughput and density, run Wi-Fi 6e with Wi-Fi 7 being released in early 2024. A proportion of our access points are end of life and will require replacement in early 2024.

Most of the in-building physical infrastructure is connected by aging copper or fibre cabling with a maximum throughput of 1Gbps. These limits are a combination of cable types, optics and constraints on the hardware.

c) Supplier & technology list

The organisation currently utilises the following network 'stack':

Telcos

- BT
- Vodafone
- Virgin Media O2

- Colt

Technology

- Managed/Direct Internet Access (MIA/DIA)
- MPLS
- SD-WAN
- RS1000 secure
- Business Broadband
- Wi-Fi
- 4g/5g
- LECN (SD-WAN)
- Clearpass / MacAuth
- Site to Site VPN
- Point to Site VPN

Vendors

- Fortinet
- Aruba
- Barracuda
- Cisco
- Microsoft

Service management partners

- ROC
- Vodafone
- BT
- Barracuda
- Colt
- Virgin Media o2
- Microsoft
- Agilisys
- Phoenix

The above list is not exhaustive or detailed and is included only to demonstrate the vast landscape and complexity of the current complex network setup.

d) Costs

With complexity, cost and risk is increased.

Costs are increased due to more human effort, more time to provision new additions on the network or to troubleshoot issues and increased hardware costs to bring new services or sites online. Our current network is inflexible to the demands of a wide range of sites and worker styles.

Risk is increased as the end-to-end provision is not fully understood and documentation from vendors has become outdated and inaccurate over time. "This disparate approach allows elements of the NCSC anti-patterns (Security architecture anti-patterns - NCSC.GOV.UK) to manifest in distinct sections of the network.

In the last 7 years CoL/P have undertaken two network programmes – Network Transformation Programme and Secure Zone Programme. Both programmes of work were scoped to deliver the change requirements of the organisation and ***achieved their goals at that point time.***

It is important to note that this strategy focuses on the future network and not what was delivered within those programmes of work with the goal of ensuring any network decisions made now are fit for purpose for the vision of the organisation for the future.

The current high-level costs for the City's network are as follows:

ITEM	5 YEAR COST
BT MPLS WAN	£3,572,656.60
ROC MANAGED SERVICE	£4,363,024
HARDWARE	£3,521,580 (anticipated based on qty and pricing from XMA)
TOTAL	**£11,457,260.60**

e) Scale

The City of London network scale is vast. Our network currently includes approximately:

- 120 City of London Corporation Sites
- 17 City of London Police Sites
- 100 Secure City CCTV Sites
- Total: 237 sites (approx.)

This presents a complex network refresh programme and will dictate a phased set of works which will include LAN services as the first component to be refreshed due to contractual milestones with incumbent suppliers. Thereafter the WAN elements will be swapped out and the incumbent supplier solution reduced over time as we move onto the new platform.

5) Future IT network

a) SASE

Secure Access Service Edge (SASE) is the recommended strategic direction for the City of London's future IT network, offering a modern and comprehensive approach to networking and security. SASE represents a paradigm shift in IT infrastructure for several compelling reasons.

First and foremost, SASE combines network and security services into a unified cloud-based architecture. This consolidation simplifies the network, reducing complexity and operational costs. It replaces the traditional hub-and-spoke network model with a more agile, user-centric approach, optimizing performance and ensuring fast, secure access for remote and on-premise users.

SASE also aligns with the evolving nature of work. With an increasing number of remote and mobile employees, the traditional network perimeter is no longer effective. SASE's zero-trust security model verifies the identity and security posture of every user and device, providing a granular, context-based access control system that adapts to the dynamic needs of your organization.

Furthermore, SASE leverages the power of the cloud, making it highly scalable and adaptable to an organization's growth. This eliminates the need for large upfront investments in infrastructure and allows for a more pay-as-you-go, cost-effective model.

Our SMT concluded that, unanimously, all network hardware vendors and managed service providers believe SASE is the future of enterprise networks and are investing heavily in its future development.

SASE will deliver what has eluded most enterprises in the last 5 to 10 years providing services to:

SASE will deliver the foundations for 'Brilliant Basics' and allow the City to provide a truly world class user experience to colleagues and visitors alike

b) What is SASE?

SASE is a culmination of 5 distinct network and security offerings that have existed in the market for several years to varying levels of maturity. A SASE platform comprises of:

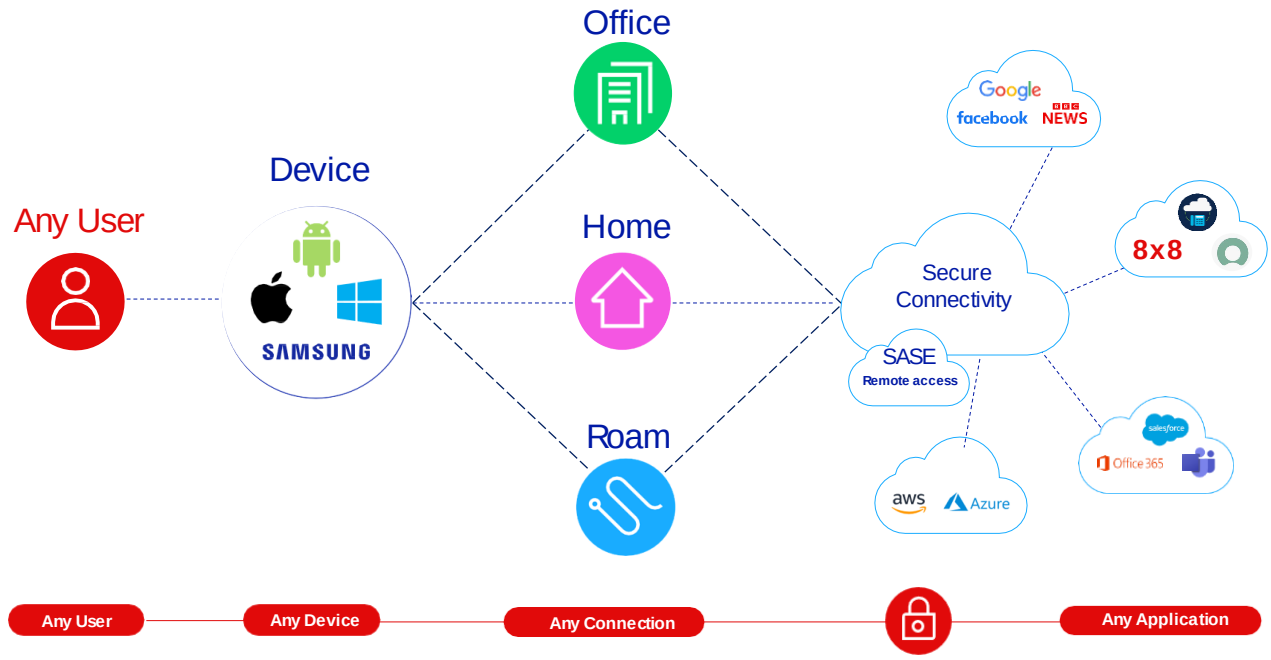
- Zero Trust Network Access (ZTNA)
- ZTNA is a security model that assumes no trust within a network i.e. no device or user on a network can communicate to any other without explicit permission therefore reducing cyber threats
- Software Defined Wide Area Networks (SD-WAN)
- SD-WAN is a technology that optimizes and manages network traffic across geographically dispersed locations using software, enhancing performance, and reducing costs.
- Secure Web Gateways (SWG)
- SWG is a cybersecurity solution that filters and monitors web traffic, ensuring safe and compliant internet access for organizations, protecting against online threats and data breaches.
- Firewall-as-a-Service (FWaaS)
- FWaaS is a cloud-based security solution that provides protective barriers for networks and applications, ensuring data and traffic remain secure from unauthorized access and cyber threats.
- Cloud Access Security Broker (CASB)
- CASB is a cybersecurity tool that helps organizations safeguard their data when using cloud applications by enforcing security policies and monitoring user activity.

Until recently there has never been an easy (and in certain cases even technically possible) way to bring them all together into a holistic platform for management, insights and billing. It has never been possible to have a 'single pane of glass' to our network with many point products that work in isolation.

By 2024 at least 40% of enterprises will have explicit strategies to adopt SASE, up from less than 1% at year-end 2018.

A SASE architecture identifies users and devices, applies policy-based security, and delivers secure access to the appropriate application or data. This approach allows organisations to apply secure access no matter where their users, applications or devices are located. (*Gartner)

c) SASE diagram



d) WAN

The City of London aims to simplify the networking across buildings, cloud and remote workers and the future WAN technology will be based on SD-WAN solutions. SD-WAN can run over any 'raw' internet underlay including internet from enterprise suppliers, business broadband, home broadband, 4g/5g or satellite.

SD-WAN comes in many variants from many different vendors but can be categorised into deployment types which are summarised below.

- **On-Premises SD-WAN:** This type of solution is installed on-site, either as hardware or software and allows the organisation to manage its own WAN locally by way of a hardware-based SD-WAN orchestrator. By way of an example this can be provided by hardware suppliers such as Fortinet and Cisco.

- **Cloud-Managed SD-WAN:** This type of solution is hosted in the cloud and maintained by a third-party provider in the cloud. It offers a simplified deployment process and requires little to no on-site maintenance. Cloud-managed SD-WAN is a popular choice to manage by local teams whilst removing a lot of the management overhead of the SD-WAN orchestration hosting and configuration. By way of an example, this can be provided by a solution such as Meraki.

- **DIY SD-WAN**: This type of solution is designed for organizations that want to build their SD-WAN infrastructure in-house. It requires a high level of technical expertise and resources. By way of an

example, this could be built using open-source technologies that build the underlying VPN's such as OpenStack and Ansible.

- **Managed SD-WAN**: This type of solution is managed by a third-party provider that offers network monitoring, troubleshooting, and support services. Managed SD-WAN is a popular choice for organizations that want to outsource their network management to an experienced provider. The added benefit of this solution is that CoL/P own the SD-WAN solution (which could be any of the above options) but it is managed by a 3rd party. Should contracts come to an end or the vendor/customer relationship breaks down, a new managed service partner could be introduced without replacing the network. The risk to be aware of with this solution is the introduction of a large telco providing the solution that is baked into a proprietary solution owned by them.

The SD-WAN solution we select as part of the SASE platform should be a managed SD-WAN delivered with SASE on a cloud platform.

e) Internet

The internet forms the foundation of the City's future network. Legacy networks are stitched together from a combination of MPLS networks, point to point VPN's and physical hardware firewalls within a building that often become a single point of failure. These firewalls provide the 'pop' out onto the internet for on premise and remote workers. They are also the ingress point for remote workers to access corporate systems. Sites were often connected by private fibre (sometimes called dark fibre) which is expensive and inflexible.

Modern networks are built upon the concept of 'everything over the internet' and this is what will allow simplification of the City's network and to reduce costs.

f) LAN & Wi-Fi

The usage profiles of modern office buildings differ significantly from those of offices five or more years ago. Fixed desks and data points per employee, along with fixed phones and named locations, are a thing of the past. The pandemic has forced the adoption of video calling at scale, and nearly all office workers are now familiar with this technology and expect it to work flawlessly in order to do their daily work.

Moreover, working patterns have changed on an individual and team level. The focus is now on work being something you do, rather than necessarily somewhere you go. A wholesale shift to an agile working format is mandatory, where employees can hot-desk anywhere in any corporate building, along with using public Wi-Fi in lounges, coffee shops, on the train, and at home, as agile working and a modern working environment is now an expectation of the workforce.

There is an opportunity with the adoption of this future network strategy for CoL/P to become a leader in this vision and be more sustainable. Future CoL/P buildings don't need to have fixed data points to every

desk or as miles of structured cabling and vast amounts of networking equipment that generate heat and consume power. Most CoL/P buildings will be fitted with a core network and **high-density Wi-Fi** covering the main building and exterior with only well-defined and specific areas being cabled with copper or fibre connectivity inside the building.

The LAN and Wi-Fi provision should **baseline at Wi-Fi 7** which is due to come to market in 2024 meaning CoL/P will be an early adopter of the very latest Wi-Fi standards. This should vastly improve connectivity from any building to the services users require.

Wi-Fi 7 is poised to redefine the technological landscape, promising an unprecedented leap in connectivity and speed. With its potential to deliver blazing fast speeds of up to 30 Gbps, Wi-Fi 7 will revolutionize the way we interact with the digital world. Its enhanced efficiency and reduced latency will pave the way for seamless integration of advanced technologies like augmented reality (AR), virtual reality (VR), and the Internet of Things (IoT). The improved spectrum utilization and increased bandwidth efficiency will enable smoother data transmission, fostering a more interconnected and dynamic digital ecosystem. Moreover, the heightened security features, including the latest encryption standards, will ensure robust protection against cyber threats, solidifying its position as the cornerstone of secure communication networks.

To ensure we maximise the network performance of all buildings, every core site will have a ***full Ekahau Wi-Fi survey*** which is regarded as the 'gold standard' of Wi-Fi reporting.

Ongoing, the future operator of the network will be required to maintain a solution that continuously monitors and reports on network throughput at each segment of the network.

For new buildings and campus buildings, **CoL/P will maintain a wired score** (https://wiredscore.com) so that colleagues and visitors have constant visibility of a world class user experience for connectivity across our estate.

In conclusion, it is vital for CoL/P to adapt to these changing trends and provide a modern and flexible working environment that meets the needs of its employees, both now and in the future. By embracing new technologies and adopting a sustainable approach to network infrastructure, CoL/P can remain competitive and attract top talent in the industry.

g) Site types

To speed up network deployments, and to simplify the network there will be several predefined 'Site Types' which will describe exactly the network topology that should be deployed to that site.

Some locations are essential to maintain a service to employees, workers and visitors to the City, whilst some sites have a much lower criticality and the users on that site could use a business continuity and disaster recovery (BCDR) plan that dictates they simply move to another local site, or work from home.

By adhering to a site type list, we can ensure that costs are kept as low as possible, whilst delivering a world class service and giving the flexibility to upgrade the site quickly and at little to no cost.

{THIS TABLE NEEDS UPDATING POST APPROVAL OF SITE TYPES}

Site Type	Name	Description
A	Datacentre	This site is a critical network location that could be a physical bricks and mortar datacentre or a main hyperscale cloud hosting facility
B	Campus Main Site	This site is considered a main office or HQ type location that has a critical mass of employees working from within it at a single time. It will contain multiple meeting rooms and AV equipment with complex BMS deployments. There will be a requirement for high density Wi Fi across the entire site.
C	Resilient Business Broadband Site	This site has less than 100 employees regularly working from it and there are no complex specialist equipment installs. It is a basic working office where users require high speed internet and access to CoL/P line of business applications. This site will have a mix of employees who must be physically present on site due to their role and also some employees who are able to work flexibly from other locations or home.
D	Non-Resilient Business Broadband Site	This site has less than 50 employees regularly working from it and there are no complex specialist equipment installs. It is a basic working office where users require high speed internet and access to CoL/P line of business applications. All employees utilising this site must be able to transfer to another site or work from home for business continuity should the site fail.

E	Rapid or IoT 4/5g Deployment Site	This site should be used for speed of deployment for new estate or utilised in combination of a D type site to provide resilience. It may also be used for sites that have a small IoT footprint such as sites that require a single BMS connection or for Door Access Controller connections.
F	Satellite Site	
G	CCTV Camera Site	

h) What we will procure

6) Procurement & implementation plan

To deliver on the future network vision for CoL/P, DITS will conduct 5 clearly defined and well-planned stages of procurement and implementation.

a) Brilliant basics

Pinning ourselves to the DITS theme of 'brilliant basics' all new buildings across CoL/P should plan to be hyper connected.

All future new constructions must provision between 2 and 4 telco carriers. These carriers can be spread across Tier 1 and Alt-Net carriers, but our future sites must always have at least one Tier 1 carrier.

All carriers should be cabled into the basement or other suitable location of the building and converge in a secure comms room or meet-me room.

Where telcos are providing dark fibre, it would be suitable for them to build out a chamber in an adjacent street with the building and have pre-installed ducting allowing the telco connections to be provisioned into the building later without having to drill or dig or complete civils work.

'Tier 1' carrier is defined by market share which is listed below (as of April 2023). The recent SMT allowed us to consult with BT, Vodafone, Virgin Media O2 and an Alt-Net called Vorboss. A caveat to the above standard is where the provider of the cabling infrastructure is Openreach, who are a major player and sell cabling to nearly all carriers where they do not have their own fibre infrastructure.

By taking this approach, we ensure all future buildings have as many networking options available to us as possible both now and in the future.

Rank	Company	Market Share
1	BT	30.10%
2	Vodafone	22.50%
3	Virgin Media	14.20%
4	TalkTalk Business	7.30%
5	O2	6.70%
6	Gamma	5.60%
7	Colt Technology Services	4.50%
8	KCOM	2.10%
9	Glide	1.40%
10	DWS	1.30%

b) Let the market talk

The future network strategy will be defined by what we know now, and what we think we know about the future direction of network technology. Without outside consultation, it will also be bound by the skills and knowledge within DITS.

To ensure we counter this intrinsic limitation, our first step will be to conduct a Soft Market Test (SMT) which will allow us to engage in a compliant, non-committal and structured way with the industry and let them tell us about their latest advancements and future vision for the market.

c) Adjust & adapt

Only once we know as much as we can about the technology offerings and services on the market, can we be comfortable with the content of the Future Network Strategy.

This stage will see us review the market offering and adapt our vision and next steps to best fit the needs of the organisation against the commercial offerings available on the market.

A revised draft strategy will be formulated based on the market engagement in this stage.

d) Procure compliantly

When the strategy is finalised, we will launch a formal tender process with support from the Commercial department.

This procurement will include the provision of (but not limited to):

- MIA/DIA service
- An SD-WAN service
- A LAN support provision
- A WAN support provision
- A SASE solution.

e) Implementation

****THIS SECTION REQUIRES FURTHER INPUT WHEN AN AGREED PROJECT APPROACH IS FINALISED****

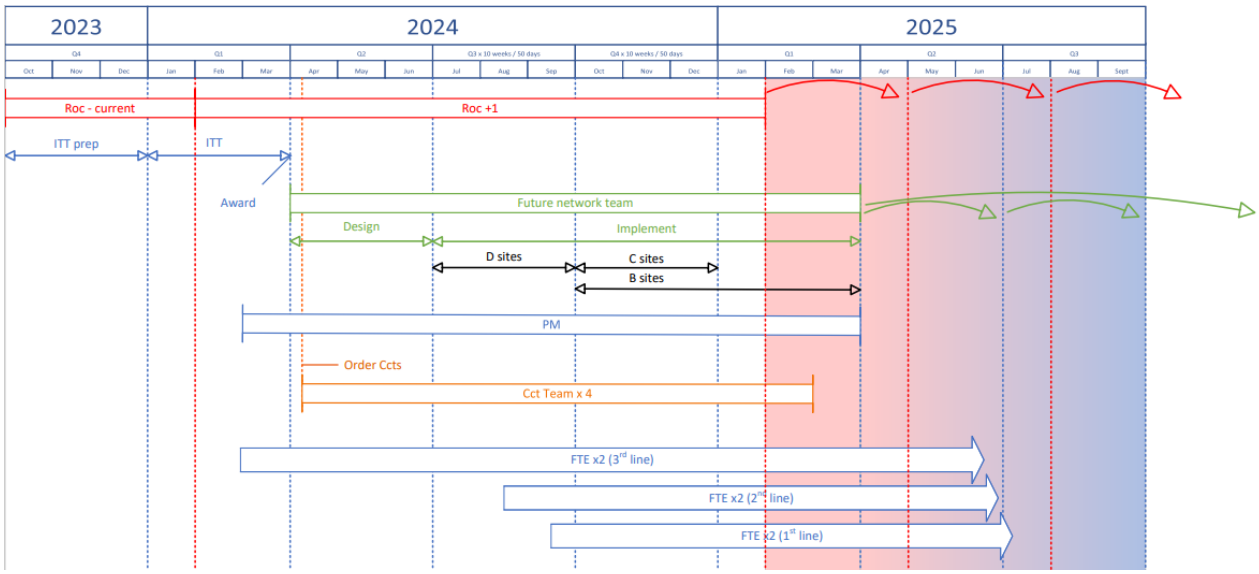
At the point we have a finalised strategy of what our future network provision should be we will need to:

- Recruit
- Design
- Build
- Test
- Deploy

The final approach for implementation has yet to be agreed. Several options are being considered, and the factors at play include:

- The extent to which the incumbent managed network service provider continues to be engaged
- Outsourcing vs insourcing certain roles
- Speed at which the network is refreshed.

The diagram demonstrates one of the options being discussed by the SLT:



7) Summary, recommendations & conclusion

- Ensure structured and compliant engagement with suppliers through to ITT.
- Ensure all technology selected in the future is vendor agnostic.
- Decouple existing network provision and suppliers and allow a period of reset and market evaluation.
- Agree this strategy is to provide a clear direction and roadmap for the future network and it is not a strategy to address existing solutions and vendors.
- Agree that the future network provision is requirements and solution orientated and not vendor constrained.
- Agree incumbent suppliers do not have contract extensions for multiple years until we have a defined procurement plan and thereby locking CoL/P into a sub-optimal technology platform for longer than is needed.
- Agree that this strategy outlines an acceptable future IT network provision for the organisation and that the programme is permitted to move into the detailed requirements gathering and ITT generation.
- The detailed ITT will come to the SLT for review and approval before going to market.

8) Version Control

f) Revision history

VERSION	DATE	AMENDED BY	SUMMARY
0.1		C. Walker	Document created
0.2		C. Walker	Updated to incorporate costs
0.3		C. Walker	Reviewed after comments at programme board
0.4		C. Walker	Feedback added
1.1	04/01/2024	T. Crombie	Minor edits to update wording and remove comments

g) Document approval

VERSION	DATE	APPROVED BY	APPROVAL STATUS (PENDING / APPROVED)
1.0	04/12/2023	Z. Ghauri	Approved

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City of London: Projects Procedure Corporate Risks Register

Project name: *Future Network Programme*

Unique project identifier: *12423*

Total est cost (exc risk) *£0*

PM's overall risk rating	Medium
Avg risk pre-mitigation	6.8
Avg risk post-mitigation	5.2
Red risks (open)	1
Amber risks (open)	6
Green risks (open)	4

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)	£5,866,000.00	0%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£5,866,000.00	0%	*" "*
Costed risk post-mitigation (open)	£5,166,000.00	0%	*" "*
Costed Risk Provision requested	£0.00	0%	*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	4	6.3	£1,890,000.00	0	3	1
(3) Reputation	0	0.0	£0.00	0	0	0
(4) Contractual/Partnership	2	8.0	£273,000.00	0	2	0
(5) H&S/Wellbeing	0	0.0	£0.00	0	0	0
(6) Safeguarding	0	0.0	£0.00	0	0	0
(7) Innovation	0	0.0	£0.00	0	0	0
(8) Technology	5	6.8	£770,000.00	1	1	3
(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

City of London: Projects Procedure Corporate Risks Register

Project Name:	Future Network Programme	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ -	**Average unmitigated risk**	6.8	**Open Risks**	11
Unique project identifier:	12423	**Total estimated cost (exc risk):**	£ -	**Total CRP used to date**	£ -	**Average mitigated risk score**	5.2	**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	(8) Technology	The existing network support model costs could increase significantly from Jan 2025	With no ability to extend the existing contract, CoL may need to tender for a short-term support contract / agreement for legacy equipment. Given the complexity of the legacy network and the short-term nature of the requirement suppliers are likely to only offer terms on a a high-cost basis.	Likely	Minor	4	£0.00	N	C – Uncomfortable	Recruit temporary support staff until future network rollout has been completed	£0.00	Rare	Minor	£0.00	1	£0.00						Cost based on new service provider requiring a min 12 month contract, at 1.5x incumbent's annual cost. Mitigation – based on 6 months, 4 x network engineers @£600 per day.
R2	2	(8) Technology	Tacit knowledge of current network is not made available to programme team	This could result in items being missed causing delays and / or issues which need to be remediated.	Rare	Serious	2	£0.00	N	B – Fairly Confident	Technical team to review existing documentation and liaise with incumbent network support team, as per contract exit agreement	£0.00	Rare	Serious	£0.00	2	£0.00						Cost based on estimate of post-contract CCNs required to accommodate additional work.
R3	2	(8) Technology	Existing, complex workarounds for legacy systems cannot be easily accommodated as part of the new network	This could result in the new network requirement more complexity than anticipated, increasing design and support cost, and compromise the Future Network Strategy.	Likely	Major	16	£250,000.00	N	B – Fairly Confident	Engage relevant business units to understand future road maps (e.g. BEMS) and current designs to allow bidding parties early visibility of the network estate	£0.00	Likely	Major	£250,000.00	16	£0.00						Based on Dynamic Segmentation costs x 2. This covers e.g. BEMS, hence being 'likely'.
R4	2	(8) Technology	Hardware supply chain issues	If there are supply chain issues it could result in having to pay premium rates for hardware procurement or extend length of time the programme team is engaged.	Rare	Major	4	£350,000.00	N	B – Fairly Confident	Procure hardware from alternative vendors / supply channels. If not possible, retain programme team for additional quarter	£350,000.00	Rare	Major	£0.00	4	£0.00						Cost of extending programme team by 1 quarter. It is likely the cost uplift of sourcing hardware from an alternative vendor would be less than this cost and not impact the schedule.
R5	2	(8) Technology	Existing network documentation is inaccurate	This could result in having to procure additional equipment / services which have not been accounted for.	Likely	Serious	8	£170,000.00	N	D – Very Uncomfortable	Pre-tender analysis of network, engagement with incumbent service provider and local staff with tacit knowledge of the existing network	£0.00	Possible	Serious	£170,000.00	6	£0.00						Unknowable figure. This cost is an estimate that will be refined through the pre-tender discovery work.
R6	2	(4) Contractual/ Partnership	Delays caused by external factors within the business could result in the resource being required for a longer time-frame	This could result in outsourcing additional, required resource.	Unlikely	Major	8	£273,000.00	N	B – Fairly Confident	Review and approval of resource profile by senior stakeholders with experience of similar network refresh programmes, with regular governance checkpoints.	£0.00	Unlikely	Minor	£273,000.00	2	£0.00						Cost based on Programme Manager, Project Manager, Technical Architect, Circuit Engineer and Field Engineer for additional 6 months, plus £45K of dual run vendor support
R7	2	(4) Contractual/ Partnership	No vendor provides an acceptable tender response	Either a second round of tendering will be necessary with requirements clarified, or the Corporation will have to accept a deviation from the Future Network Strategy	Rare	Extreme	8	£0.00	N	D – Very Uncomfortable	Ensure requirements are identified, confirmed, defined and articulated as part of the tender preparation.	£0.00	Rare	Extreme	£0.00	8	£0.00						This is uncosted as in this scenario we could re-tender, or revert to Options 1 or 2
R8	2	(2) Financial	Inflation increases the cost of hardware and / or services	Additional, unfunded costs need to be met to deliver the programme	Likely	Serious	8	£0.00	N			£0.00			£0.00		£0.00						There has been no CRP assigned. It is deemed inflation will not materially alter the programme's viability.
R9	2	(2) Financial	The assumed cost of hardware and licences has been significantly underestimated	There is insufficient budget to cover procurement of the hardware and licences	Unlikely	Major	8	£680,000.00	N	B – Fairly Confident	Procurement to engage with market and suppliers to provide programme with compliant route to vendor meetings.	£0.00	Rare	Major	£680,000.00	4	£0.00						Assumed cost of hardware / licences – have used 20% of estimated total for FNP hardware
R10	2	(2) Financial	Managed service costs increase	There is a risk the revenue cost of the managed service provider increases - it has been assumed to be a cost-neutral exercise.	Possible	Minor	3	£0.00	N	C – Uncomfortable	NA	£0.00	Possible	Minor	£0.00	3	£0.00						No costs associated - these would be deemed in-flight BAU run costs.
R11	2	(2) Financial	There is a risk the new internet circuits will require new circuits to be run (as oposed to using existing infrastructure	Each site would require circuit installation costs for surveys, physical installation and, in many cases, additional construction costs.	Possible	Serious	6	£1,210,000.00	N	C – Uncomfortable	NA	£0.00	Possible	Serious	£1,210,000.00	6	£0.00						Figures are based on £5K per site – half of the sites have been factored into the standard cost modal, and half in the CRP.
R12								£2,933,000.00				£350,000.00			£2,583,000.00		£0.00						
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Project Briefing

Project identifier			
[1a] Unique Project Identifier	12423	**[1b] Departmental Reference Number**	N/A
[2] Core Project Name	Future Network Programme		
[3] Programme Affiliation *(if applicable)*	N/A		

Ownership	
[4] Chief Officer has signed off on this document	
[5] Senior Responsible Officer	Chris Rawding, DITS Assistant Director (Interim)
[6] Project Manager	Wayne Fitzgerald, DITS Project Manager

Description and purpose
[7] Project Description
The Future Network Programme will replace the existing network with a modern, resilient network in line with the approved Future Network Strategy. The network will meet the requirements of the City of London Corporation, the City of London Police and London Councils, and will also provide a blueprint for future alignment should partner institutions wish to adopt the same approach. The programme will replace and upgrade hardware across the estate, improve modern ways of working, and provide secure, flexible and reliable connectivity to the network. The adoption of a Secure Access Service Edge (SASE) platform will reduce complexity and operational costs whilst being scalable and versatile. As a cloud-based solution it reduces the dependency upon 'core' sites. It also permits a tiered approach where each site's requirements can be assessed and the local network tailored accordingly.
[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 existing network was implemented in 2017, and much of the hardware is approaching end of life. The demand upon the IT network has increased significantly since it was introduced, as modern ways of working have adapted, primarily through the use of video conferencing and mobile networking devices. Consequently, the network is no longer able to meet the demands of the organisation and without investment the ability to provide these services, and functionality will diminish. The Network Support Contract with ROC Technologies is due to expire in January 2025 with no further extensions. As such, there is a risk that the existing network will become unsupported. The future network will provide a modular blueprint which can be adopted by partner organisations. This would realise cost-savings resulting from the efficiencies of scale. A Wi-Fi first approach will create more dynamic working environments, reduce energy consumption, and create a more agile building estate.
[9] What is the link to the City of London Corporate plan outcomes?
[9] Our spaces are secure, resilient, and well-maintained. [10] Our physical spaces have clean air, land and water and support a thriving and sustainable natural environment. [11] Our spaces are digitally and physically well-connected and responsive. [12] Our spaces inspire excellence, enterprise, creativity, and collaboration. [13 COLP] To make the City of London the safest city area in the world. [17 COLP] To have an innovative, skilled, and agile workforce in a culture that supports and empowers our people.
[10] What is the link to the departmental business plan objectives?

Links to Digital, Information and Technology Service Business Plan Objectives;

- To provide "Brilliant Basics"
- To remove complexity across the organisation
- To enable and accelerate collaboration & transformation
- To converge appropriate services across Institutions
- Deliver high quality services that meet the needs of our customers
- Drive systems and process improvements to increase automation and self-service to deliver more proactive added value support

[11] Note all which apply:

Officer: Project developed from Officer initiation	Y	**Member:** Project developed from Member initiation	N	**Corporate:** Project developed as a large scale Corporate initiative	Y
Mandatory: Compliance with legislation, policy and audit	N	**Sustainability:** Essential for business continuity	Y	**Improvement:** New opportunity/ idea that leads to improvement	Y

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) Improved user experience and functionality
2) Enhanced resiliency
3) Greater flexibility

[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.)

Improved user experience and functionality (measurable by user satisfaction surveys)
Enhanced resiliency (measurable by reduced down-time)
Greater flexibility (measurable by improved business continuity options, reduced timescales for new / decommissioned sites)
Reduced energy consumption (measurable by British Thermal Unit (BTU) reduction)
Reduced support costs (measurable by Change Control Notice (CCN) charges)

[14] What is the expected delivery cost of this project (range values)[£]?

Lower Range estimate: £8.2m
Upper Range estimate: £12.2m

[15] Total anticipated on-going revenue commitment post-delivery (lifecycle costs)[£]:

The ongoing revenue costs will be met within existing DITS Local Risk Budgets across COL and COLP

[16] What are the expected sources of funding for this project?

City Fund, City Estate, City Bridge Foundation, City of London Police

[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: March 2024 – January 2025
Upper Range estimate: March 2024 – December 2025
ROC Technology contract terminates end of January 2025 at the latest. Alternative support options must be in place by this point.

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?

The Future Network Programme will transition from current to future state in a controlled and managed way. There is always risk associated with network transformation, but these will be captured, monitored, and mitigated throughout and DITS' change control process will be adhered to.	
[19] Who has been actively consulted to develop this project to this stage? <(Add additional internal or external stakeholders where required) >	
Chamberlains: Finance	Officer Name: John James, Yasin Razaaq
Chamberlains: Procurement	Officer Name: Aga Watt
IT	Officer Name: Zakki Ghauri, Chris Rawding, Sam Collins, Tara Crombie
HR	Officer Name: N/A
Communications	Officer Name: N/A
Corporate Property	Officer Name: N/A
COLP	Chris Bell, Jonathan Chapman
External	Several of potential suppliers were engaged through Soft Market Testing
[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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Committees: Streets and Walkways Sub-Committee - for Decision Projects and Procurement Sub-Committee – for Information	**Dates:** 19 March 2024 15 April 2024 Click here to enter a date.
Subject: Fenchurch Street Area Healthy Streets Plan **Unique Project Identifier:** *PV ID confirmed post CPB via PMO.*	**Gateway 2: Project Proposal** Regular
Report of: Interim Executive Director, Environment **Report Author:** Stephen Oliver, Policy and Projects, City Operations	**For Information**
PUBLIC	

Recommendations

1. Next steps and requested decisions	**Project Description:** The Fenchurch Street Area Healthy Streets Plan will provide a framework for improvements to streets and public realm in the area. The proposals will reflect the aspirations of stakeholders, including the Eastern City Business Improvement District group (the EC BID), and the Aldgate Connect BID and opportunities arising from development. Developing the plan will include testing the feasibility of any proposals which may include traffic management changes if necessary. The final Plan will include a series of proposed projects and a programme for implementation. Subsequently funding bids will be submitted for projects, which once initiated will be subject to additional consultation and approvals as detailed proposals are developed. The Fenchurch Street Area Healthy Streets Plan is funded through Section 106 funds. **Next Gateway:** Gateway 3/4 - Options Appraisal (Regular) **Next Steps:** • Establish the scope and parameters of the plan. • Liaise with the EC Bid and Aldgate Connect BID on objectives and priorities for improvements in the area.

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Engage with ward members, local residents and businesses to consider objectives of the Transport Strategy including pedestrian priority, the comfort and safety for people walking, wheeling and cycling and maximising opportunities to improve the public realm.
Appointment of a transport consultancy to provide baseline traffic and pedestrian surveys and provide technical advice on the detail and scope of the traffic/pedestrian modelling required to inform the Healthy Streets Plan for the Gateway 3/4 report to meet Transport for London’s modelling requirements.
Develop concept options for the Gateway 3/4 report, which would be seeking permission to go to public consultation on the draft plan and proposals.

Requested Decisions:

That a budget of £100,000 is approved to reach the next Gateway.
Note the total estimated cost of the project to develop the plan is £240,000 (excluding risk).
Approve the boundary of the Fenchurch Street Area Healthy Streets Plan as set out in Appendix 3.

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<td>2. Resource requirements to reach next Gateway</td>
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<tr><td>P&T Staff Time</td><td>Project Management, stakeholder engagement and area analysis.</td><td>S.106</td><td>60,000</td></tr>
<tr><td>Fees</td><td>Initial data collection and engagement.</td><td>S.106</td><td>40,000</td></tr>
<tr><td>Total</td><td></td><td></td><td>100,000</td></tr>
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The staff costs are consistent of the time required to set up the project and other project management requirements. The staff costs include time for a Project Manager and for staff supervision. This equates to approximately two and a half days of project management time per week over a 10-month period.

Costed Risk Provision requested for this Gateway: None requested.
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3. Governance arrangements	**Service Committee:** Streets and Walkways Sub-Committee **Senior Responsible Officer:** Bruce McVean, Assistant Director Policy and Projects. **Project Board:** The already established City Cluster Programme Board will guide the development of the Healthy Streets Plan.

Project Summary

4. Context	4.1. The Fenchurch Street Area Healthy Streets Plan was originally within the scope of the City Cluster Healthy Streets Plan and was approved to be initiated on the 14 June 2019 as the 'City Cluster and Fenchurch Street Healthy Streets Plan'. However, in December 2019 the Streets and Walkways Sub-Committee agreed to split the work into 2 phases to create two more practical and manageable areas of work. The first phase for the City Cluster was completed and adopted by committees in July 2021. This report now recommends bringing forward the second phase to establish the Fenchurch Street Area Healthy Street Plan. 4.2. The Fenchurch Street Area Healthy Streets Plan comprises the area between, Fenchurch Street / Aldgate to the north, and the A3211 Lower Thames Street (managed by TFL) to the south, Gracechurch Street (managed by TfL) to the west and Minories to the east. The project boundary is set out in Appendix 3. Fenchurch Street itself has had a significant amount of development completed and more is under construction, and in the pipeline. 4.3. The project area also includes the streets of Eastcheap and Great Tower Street which bisects the area. There are a series of Local Access streets within the area that have existing traffic management orders that restrict turning movements and/or restrict motor vehicles to one direction of travel. The area also includes the railway terminus of Fenchurch Street Station, and the Monument Underground station (part of the Bank station complex). 4.4. Members should also note that the EC BID are developing their own Public Realm Strategy which will include much of the Fenchurch Street Area Healthy Streets Plan area. As with the work in the Fleet Street area Healthy Street Plan, City officers intend to work closely with the EC BID and their consultants on their work to ensure the outputs

	between the two documents are aligned and to maximise data and resource sharing. 4.5. The Fenchurch Street Area Healthy Streets Plan is a key deliverable of the City's Transport Strategy and further supports the Climate Action Strategy in developing spaces that are climate resilient. The Healthy Streets Plan also aligns with the ambitions for the area, as set out in the draft City Plan 2040 and will support the ambitions of delivering Destination City for the future.
5. Brief description of project	5.1. The Heathy Streets Plan will identify and develop proposals for future projects to build upon the existing traffic management in the area and outline further changes to enable the priority, comfort and safety of people walking, wheeling and cycling. It will also identify proposals to create high quality public realm. It will build upon and complement the improvements being delivered from the City Cluster Vision Healthy Streets Plan. Projects identified in the plan will be subject to further engagement and consultation. The preparation of the Healthy Streets Plan will include the following: • A comprehensive data collection exercise to identify the scope and parameters of the project and inform a base line understanding of opportunities and issues in the study area. • The appointment of a transport consultancy to provide comprehensive baseline traffic and pedestrian surveys and the technical advice on the traffic/pedestrian modelling for the G3/4 report and to meet Transport for London's modelling requirements. • Developing a draft plan and proposals for public consultation. 5.2. The Fenchurch Street Area Healthy Streets Plan provides the opportunity to work closely with the EC BID and the Aldgate Connect BID to ensure that their goals and opportunities are considered within our plan and encourage further positive partnership working in the future.
6. Consequences if project not approved	6.1. The Fenchurch Street area has seen significant change with new developments and associated public realm improvements to date and further change is proposed. Further delays to the development of the Healthy Streets Plan will result in a missed opportunity to provide a holistic overview of the required additional space for the increase in people walking, wheeling, cycling and using public transport in this area, and consider the ongoing requirements for vehicular access. It would also miss the opportunity of aligning ongoing developments in the area to

	successfully deliver the required street changes as part of their S278 and S106 delivery.
7. SMART project objectives	7.1. The draft HSP will set out an integrated approach to improving the public realm and managing traffic to support delivery of the following Transport Strategy outcomes: • The Square Mile's streets are great places to walk and spend time. • Street space is used more efficiently and effectively. • The Square Mile is accessible to all. • People using our streets and public spaces are safe and feel safe. • More people choose to cycle. • The Square Mile's air and streets are cleaner and quieter. • Delivery and servicing are more efficient, and impacts are minimised. • Our street network is resilient to changing circumstances.
8. Key benefits	8.1. An area-based approach to identify traffic management measures allows for a holistic overview of the required network changes, including coordination with other area-based projects and local freight and servicing requirements. 8.2. The Healthy Streets Plan will identify an initial delivery plan of projects and temporary changes that can be undertaken to restrict traffic on streets, prior to full implementation of the proposals that will provide medium and long-term infrastructure changes. 8.3. The Healthy Streets Plans will further provide an opportunity to work with the BIDs and with local stakeholders to develop a framework of projects.
9. Project category	4a. Fully reimbursable
10. Project priority	B. Advisable
11. Notable exclusions	None

Options Appraisal

12. Overview of options	1. Healthy Streets Plan developed in full.

	This option allows the Healthy Streets Plan to be completed in full and will encompass all aspects of a Healthy Streets Plan. The Healthy Streets Plan allows all potential scenarios to be tested collectively, as well as identify any required changes to the highway network. This is a cost-effective approach with best value for money to ensure transformational change can be delivered. This is the preferred option. 2. Light-touch Health Streets Plan approach. This option presents a light-touch approach in developing the Healthy Streets Plan. Under this option, the Healthy Streets Plan will focus on developing key aspects, such as traffic modelling, and existing projects identified in the Transport Strategy but may miss opportunities for a more holistic approach particularly projects that are identified through engagement with stakeholders. 3. Do nothing scenario. This option would result in a Healthy Streets Plan not being undertaken and opportunities to improve the comfort and safety of people walking and cycling and improvements to the public realm may be missed as part of ongoing development proposals.

Project Planning

13. Delivery period and key dates	**Overall project:** March 2024 – December 2025 This is the longest anticipated timescale to develop the Healthy Streets Plan. **Key dates:** Key dates for the project/development of the plan, up to Gateway 5 include the following: • Gateway 1/2 – March 2024 • Review of existing projects and developments in the area, area analysis and traffic and pedestrian data collection - April to August 2024 • Initial stakeholder engagement – September - November 2024 • Gateway 3/4 – December 2024 • More detailed traffic and pedestrian modelling –January 2025 – May 2025 • Development of full draft Healthy Streets Plan– January – July 2025 • In depth stakeholder consultation (presenting Healthy Streets Plan scenarios) – July - September 2025 • Healthy Streets Plan finalisation – September to November 2025 • Gateway 5 – December 2025

14. Risk implications	**Overall project risk:** Low Risks associated with the development of the plan include: R2 - Proposals identified are not supported by key stakeholders. R4 - Funding is not secured for the delivery of projects. R6 - Public Consultation responses do not support the proposed changes. Further information available within the Risk Register (Appendix 2)
15. Stakeholders and consultees	The key stakeholders and consultees consist of the following: • Transport for London • Business and occupiers within the area • Local Ward Members (Candlewick, Bridge, Billingsgate, Tower and Aldgate) • City of London Access Group • EC BID and Aldgate Connect BID • Residents • Places of worship • The Monument and other visitor destinations Engagement timeframes are outlined within the Healthy Streets Plan programme (Appendix 4).

Resource Implications

16. Total estimated cost	**Likely cost range (excluding risk):** £200,000-£240,000
17. Funding strategy	All funding fully guaranteed

Funds/Sources of Funding	**Cost (£)**
Section 106 - 20 Fenchurch Street	£240,000
Total	**£240,000**

The report to the Streets and Walkways Sub-Committee of the 26th September 2023 identified the Fenchurch Street Healthy Streets Plan as one of the City Cluster High Priority projects. It was agreed to allocate £240,000 of S106 to its development.

18. Investment appraisal	Not applicable.

19. Procurement strategy/route to market	19.1. Traffic and pedestrian surveys will be undertaken by an external traffic survey company. This will be procured via the Transport and public realm framework contract.
20. Legal implications	20.1. In exercising its traffic management functions, the City has statutory duties to secure the expeditious, safe and convenient movement of traffic (Section 122 Road Traffic Regulation Act 1984) and the efficient use of the road network, avoiding congestion and disruption (Section 16 Traffic Management Act 2004). 20.2. Traffic modelling will ensure efficient and convenient vehicular movements can be appropriately managed when delivering the Healthy Streets Plan proposals. 20.3. Public sector duty for ensuring the Equalities Act principles is considered within the Healthy Streets Plan proposals.
21. Corporate property implications	None noted.
22. Traffic implications	22.1. The preparation of the Healthy Streets Plan itself will cause no traffic implications. 22.2. The traffic modelling component of the Healthy Streets Plan will test a number of options for the proposals and will identify any traffic displacement throughout the wider network. 22.3. The appointed traffic modelling consultant will assist in the early engagement with Transport for London on their modelling requirements to understand the impact on the wider network and the Strategic Road Network.
23. Sustainability and energy implications	23.1. The overall outcome of the Healthy Streets Plan will enable the prioritisation of people walking, wheeling, cycling and using public transport.
24. IS implications	None
25. Equality Impact Assessment	25.1. An equality impact assessment will be undertaken.
26. Data Protection Impact Assessment	26.1. A data impact assessment will be undertaken in relation to the procurement of any engagement tool or relevant data collection.

Appendices

Appendix 1	Project Briefing
Appendix 2	Risk Register

Appendix 3	Fenchurch Street Area Plan Area
Appendix 4	Healthy Street Plan areas.

Contact

Report Author	Stephen Oliver
Email Address	Stephen.Oliver@cityoflondon.gov.uk
Telephone Number	

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Project Briefing

Project identifier			
[1a] Unique Project Identifier	-	**[1b] Departmental Reference Number**	-
[2] Core Project Name	Fenchurch Street Area Healthy Streets Plan		
[3] Programme Affiliation *(if applicable)*	None.		

Ownership	
[4] Chief Officer has signed off on this document	
[5] Senior Responsible Officer	Gillian Howard
[6] Project Manager	Stephen Oliver

Description and purpose
[7] Project Description
The Fenchurch Street Area Healthy Streets Plan will, as set out in the Transport Strategy, address the following objectives: • How to reduce the use of Local Access streets by through traffic, while maintaining access • Opportunities to introduce pedestrian priority, improve the experience of walking and cycling, improve air quality, enhance the public realm and create new public space • Potential changes to kerbside uses including loading and parking • Opportunities for area-based approaches to the management of freight and servicing, including consolidation and retiming of deliveries • The need for network changes to support planned and future development The proposals and the traffic management changes required to enhance the public environment for all those who live, work and visit the area both in the short term to include temporary/interim changes to the function of the streets and longer-term transformational projects.
[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 Fenchurch Street plan area is bounded by City and London Access Streets (managed by TFL) with Fenchurch Street and Fenchurch Street/Aldgate and East Cheap and Great Tower Street the primary east-west corridor. Within the area many of the local access streets have traffic and turning restrictions. To the north of the project area there is already a City Cluster Healthy Streets Plan. The area will continue to undergo new development that will bring greater of numbers of workers and visitors into the area. The Fenchurch Street Area Healthy Streets Plan will provide a framework for the transformation of streets and spaces, by way of prioritising people walking and cycling and reducing motor traffic levels. This transformation will also provide for a high-quality public realm environment. This framework will set out viable proposals to rebalance the street hierarchy, implement traffic management measures and create a more welcoming public realm.
[9] What is the link to the City of London Corporate plan outcomes?
[1] People are safe and feel safe. [9] Our spaces are digitally and physically well-connected and responsive.

[10] Our spaces inspire excellence, enterprise, creativity and collaboration.
[12] Our spaces are secure, resilient and well-maintained.

[10] What is the link to the departmental business plan objectives?

This project is linked to the following Department of Environment business plan objectives:

- The number of people killed and seriously injured on our streets (KSI, 7am-7pm), baseline 54 in 2017.
- Number of kilometres of pedestrian priority streets, baseline 25km (25%) in 2017.
- Reduction in all-day motor vehicle traffic volumes, baseline 185k in 2017.

The project also supports the delivery of the City of London Transport Strategy, including the following proposals:

1. Embed the Healthy Streets Approach in transport planning and delivery
2. Put the needs of people walking first when designing and managing our streets
7. Provide more public space and deliver a world-class public realm
12. Design and manage the street network in accordance with the City of London Street Hierarchy
27. Promote and celebrate cycling.

In addition, the project further supports the City of London Climate Action Strategy and the City of London Local Plan which align to the above proposals.

[11] Note all which apply:

Officer: Project developed from Officer initiation	Y	**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	N	**Improvement:** New opportunity/ idea that leads to improvement	Y

Project Benchmarking:

[12] What are the top 3 measures of success which will indicate that the project has achieved its aims?

1) A tested and recommended phasing schedule for the delivery of the Fenchurch Street Healthy Streets Plan.
2) An indication in the reduction of traffic volumes and the identification of the number of pedestrian priority streets within the area.
3) Create opportunities for enhanced stakeholder engagement.

[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.)

Data collected to prepare the Fenchurch Street Area Healthy Streets Plan will provide baseline data that will inform post-implementation mointoring of the individual projects.

[14] What is the expected delivery cost of this project (range values)[£]?

Cost range: £200,000 to £240,000

[15] Total anticipated on-going revenue commitment post-delivery (lifecycle costs)[£]:

None.

[16] What are the expected sources of funding for this project?

Section 106 funding will be used to fund this HSP. The Section 106 funds have been approved for use for the HSP through the Departmental Prioritisation report which was approved by members in 2019.

[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: March 2024 – September 2025 Upper Range estimate: March 2024 – December 2025

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?	
The outcome of this project may generate media attention. The Healthy Streets Plan may identify significant network changes to provide adequate capacity, quality and the safety for people walking and cycling, as well as changes to local freight movements and servicing requirements. Local occupiers, businesses and their employees that will be impacted by the delivery of the Healthy Streets Plan in terms of vehicle access will be fully engaged throughout the entire duration of the programme.	
[19] Who has been actively consulted to develop this project to this stage?	
Chamberlains: Finance	Officer Name: Darshika Patel/Olumayowa Obisesan
Chamberlains: Procurement	Officer Name: N/A
IT	Officer Name: NA
HR	Officer Name: NA
Communications	Officer Name: NA
Corporate Property	Officer Name: N/A
External	NA

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City of London: Projects Procedure Corporate Risks Register

Project name: *Fenchurch Street Healthy Streets Plan*

Unique project identifier: -

Total est cost (exc risk) *£240000*

PM's overall risk rating	Low
Avg risk pre-mitigation	5.7
Avg risk post-mitigation	3.1
Red risks (open)	0
Amber risks (open)	5
Green risks (open)	2

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)	£0.00	0%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£0.00	0%	" "
Costed risk post-mitigation (open)	£0.00	0%	" "
Costed Risk Provision requested	£0.00	0%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	3	6.0	£0.00	0	2	1
(2) Financial	1	6.0	£0.00	0	1	0
(3) Reputation	0	0.0	£0.00	0	0	0
(4) Contractual/Partnership	3	5.3	£0.00	0	2	1
(5) H&S/Wellbeing	0	0.0	£0.00	0	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

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City of London: Projects Procedure Corporate Risks Register

Project Name:	Fenchurch Street Healthy Streets Plan	**PM's overall risk rating:**	Low	**CRP requested this gateway**		**Average unmitigated risk**	5.7	**Open Risks**	7
Unique project identifier:	-	**Total estimated cost (exc risk):**	£ 240,000	**Total CRP used to date**	£ -	**Average mitigated risk score**	3.1	**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	(4) Contractual/Partnership	Some or all of the data collection exercise cannot be completed due to survey companies having no available capacity at this time	Delay and possible increased cost to project programme	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Procure the surveys as an open tender to increase the possibilty of a company able to undertake the surveys, and complete the procurement exercise as early as possible to increase the likelihood of companies having spare capacity	£0.00	Unlikely	Serious	£0.00	4	£0.00		12/01/2024	Gillian Howard	Stephen Oliver		
R2	2	(4) Contractual/Partnership	Proposals identified are not supported by key stakeholders.	The BID in particular may not agree with proposals that are identified in early emgagement.	Possible	Serious	6	£0.00	N	B – Fairly Confident	Work closely with the EC BID to understand/identify their objectives and goals	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/01/2024	Gillian Howard	Stephen Oliver		
R3	2	(1) Compliance/Regulatory	Change in political leadership within TfL or City Corporation	The project is no longer supported or withdrawn	Unlikely	Major	8	£0.00	N	B – Fairly Confident	Informing City of London members of progress and benefits of the project and identifying in Transport Strategy delivery plan	£0.00	Rare	Major	£0.00	4	£0.00		12/01/2024	Gillian Howard	Stephen Oliver		
R4	2	(2) Financial	Insufficent funds to progress HSP or the project loses a funding source	Will delay HSP progression or result in the cancellation of the project	Possible	Serious	6	£0.00	N	B – Fairly Confident	Work closely with City's Planning Team to understand/identify upcoming developments within the project area	£0.00	Unlikely	Serious	£0.00	4	£0.00		12/01/2024	Gillian Howard	Stephen Oliver		
R5	2	(1) Compliance/Regulatory	Brexit or external factors affect labour costs	Higher or lower costs of traffic surveys and traffic modelling than estimated	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Review costs at each stage of HSP developemnt	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/01/2024	Gillian Howard	Stephen Oliver		
R6	2	(4) Contractual/Partnership	Public consultation responses do not support the proposals.	Businesses, residents and highway users do not support proposals.	Possible	Serious	6	£0.00	N	B – Fairly Confident	Engagement will seek the opinions of the wider community including businesses, residents and visitors.Proposals will balance the responses by all stakeholders.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/01/2024	Gillian Howard	Stephen Oliver		

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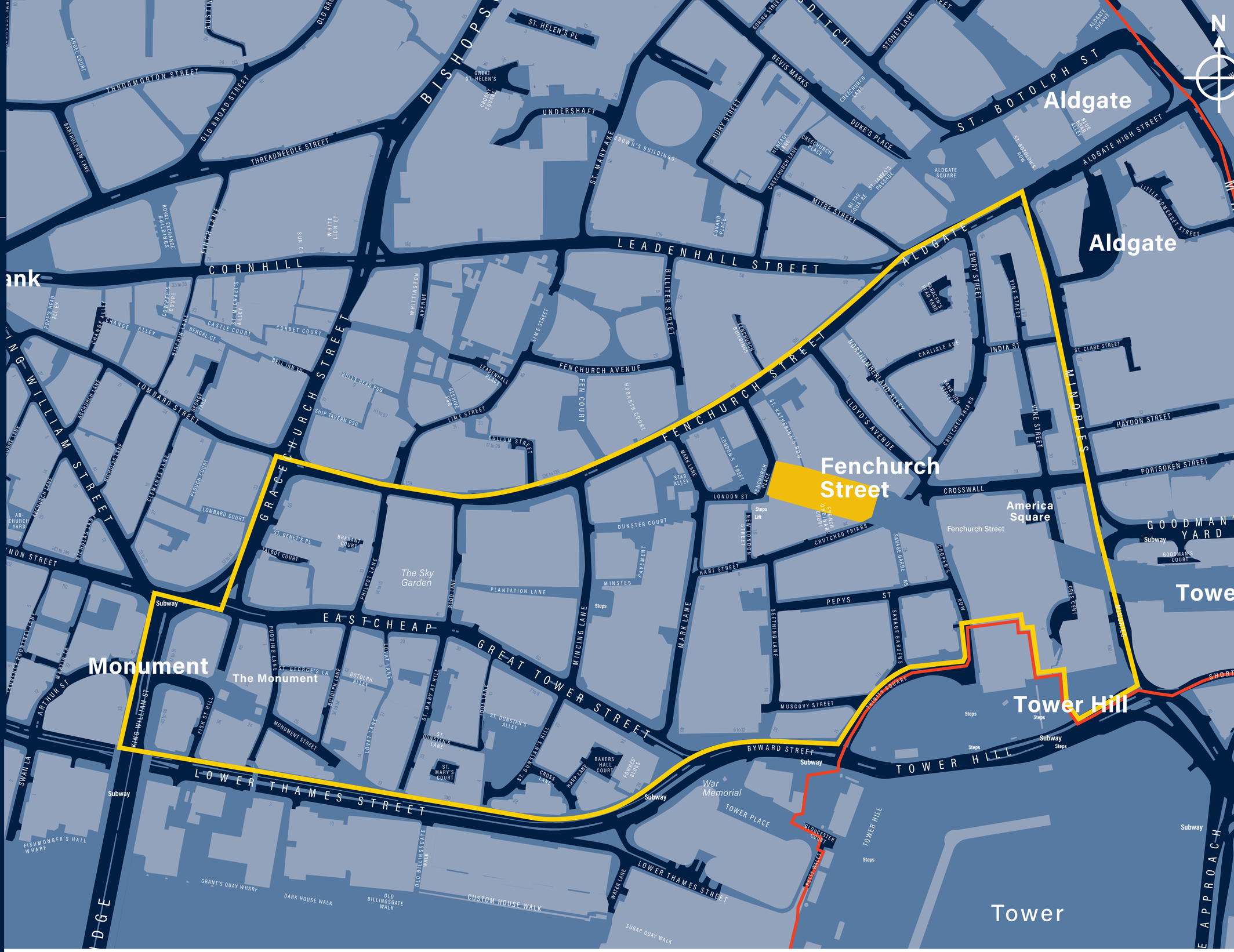
Fenchurch Street Healthy Street Plan

KEY

- Healthy Streets Plan Area
- CoL Boundary



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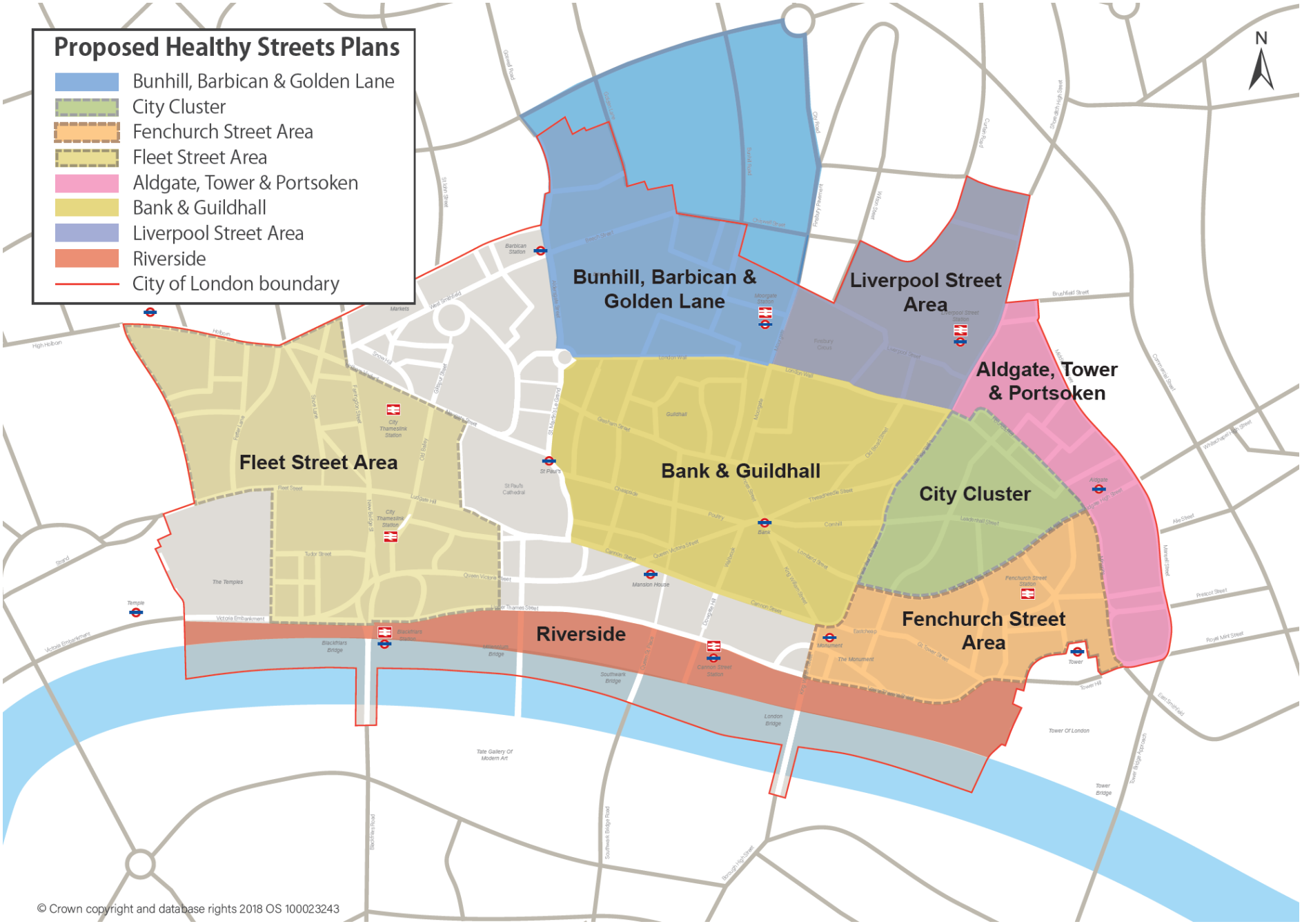
APPENDIX 4 Proposed Healthy Streets Areas Plans



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Committees: Streets & Walkways Sub - *for decision* Projects & Procurement Sub - *for information*	**Dates:** 19 March 2024 15 April 2024
Subject: 65 Gresham Street s278 **Unique Project Identifier:** 12421	**Gateway 2:** **Project Proposal** Regular
Report of: Interim Executive Director, Environment **Report Author:** Tom Noble	**For Information**
PUBLIC	

Recommendations

1. Next steps and requested decisions	**Project Description:** Works to improve the public highway associated with the development at 65 Gresham Street, including the potential pedestrianisation of Aldermanbury to create a new public space, and alternative options to increase pedestrian priority. **Next Gateway:** Gateway 3/4 - Options Appraisal (Regular) **Next Steps:** • Establish project design team, including representatives from the developer who are funding the project; • Procure necessary consultants, including a landscape architect to develop design options; • Draft a Section 278 agreement. **Requested Decisions:** 1. That a budget of **£100,000** is approved to reach the next Gateway as set out in Section 2; 2. Authorise officers to instruct the Comptroller & City Solicitor's department to negotiate and enter into a Section 278 agreement; 3. Agree that the Corporate Programme Manager, in consultation with the Chairman of the Projects & Procurement Sub Committee and Chief Officer as necessary, is to decide whether any project issues or decisions that fall within the remit of paragraph 45 of the

<table>
<tr><td></td><td>'City of London Project Procedure – November 2023' (Changes to Projects: General) is to be delegated to Chief Officer or escalated to committee(s);
4. Delegate authority to the Executive Director Environment to approve budget procedures in consultation with the Chamberlain, between budget lines if this is within the total project budget amounts.</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>Staff costs (Project Manager)</td><td>Project management, stakeholder liaison, report writing</td><td>Section 278</td><td>30,000</td></tr>
<tr><td>Staff costs (Engineer)</td><td>Design work, commissioning surveys</td><td>Section 278</td><td>20,000</td></tr>
<tr><td>Fees</td><td>To cover (but not limited to) technical assessments, including any surveys and utility enquiries, landscape architect</td><td>Section 278</td><td>50,000</td></tr>
<tr><td>Total</td><td></td><td></td><td>100,000</td></tr>
</table>
Costed Risk Provision requested for this Gateway: Not requested at this stage.

Funds have already been received from the developer for the evaluation and design stage of the project. Provision is also made in the related Section 106 agreement for any excess payments during the evaluation and design stage to be recouped from the developer.</td></tr>
<tr><td>3. Governance arrangements</td><td>• Service committee: Streets & Walkways Sub
• Senior Responsible Officer: Bruce McVean (Assistant Director, Policy & Projects)</td></tr>
</table>

	• A working party will be established to steer the design process. This will be chaired by the City and will include a representative from the developer.

Project Summary

4. Context	4.1 On 21 December 2023 permission was granted (22/00848/FULMAJ) for the refurbishment and horizontal extension of 65 Gresham Street. The proposals include the removal of a mezzanine level to facilitate the provision of retail units fronting on to Aldermanbury. 4.2 On 20 December 2023 a Section 106 agreement was signed which obligates the developer to enter into a Section 278 agreement with the City Corporation. The scope of the Section 278 agreement is set out in Section 5 below.
5. Brief description of project	5.1 The project seeks to deliver improvements to areas of public highway related to the refurbishment of 65 Gresham Street, including Aldermanbury, Love Lane, Wood Street and Gresham Street. The project is to be fully funded by the developer by entering into a Section 278 agreement as stated in the Section 106 agreement. 5.2 Under the terms of the Section 106 agreement, the City will also lead a design process, with the developer closely involved, to explore the possibility of creating a new public space in Aldermanbury. This would require removing vehicle access and relocating parking from Aldermanbury between Gresham Street and Love Lane, and introducing new seating, planting and other features to create a welcoming space. This is a developer-requested initiative, and although it is not necessary to make the development acceptable, it is a strong aspiration of the developer. 5.3 Should the full pedestrianisation of Aldermanbury prove prohibitively expensive or be unfeasible in another way, the developer is committed to delivering more modest changes to accommodate the refurbished building, namely footway and carriageway resurfacing on the above-mentioned streets. 5.4 There may also be additional options that provide some form of pedestrian priority in Aldermanbury but which stop short of full pedestrianisation; these will be explored and presented at the next Gateway but may include a timed closure of the street to vehicles.

6. Consequences if project not approved	6.1 The applicant would be in breach of their planning permission should approval not be granted to progress this project. Opportunities for developer funded improvements identified through the Transport Strategy will be missed.
7. SMART project objectives	• Pedestrian priority and public realm improvements on Aldermanbury, between Gresham Street and Love Lane, subject to affordability and deliverability criteria. • Integration of the ground floor uses of the development with the surrounding public highway. • Improved walking and cycling conditions to streets in the vicinity of the development.
8. Key benefits	• An enhanced pedestrian environment in the vicinity of the 65 Gresham Street development, potentially including the creation of a new public space in Aldermanbury. • Integration of the new development with the surrounding public realm.
9. Project category	7a. Asset enhancement/improvement (capital)
10. Project priority	A. Essential
11. Notable exclusions	None.

Options Appraisal

12. Overview of options	12.1 The Section 106 agreement obligates the City of London and the developer to work together to assess the feasibility of delivering a pedestrian priority street in Aldermanbury, between Love Lane and Gresham Street. 12.2 It is currently anticipated that three options will be taken forward for assessment at the next Gateway: • Full pedestrianisation of Aldermanbury, between Love Lane and Gresham Street, and the creation of a new public space featuring additional green infrastructure, seating and public amenities; • Pedestrian priority measures in Aldermanbury, such as a raised carriageway and / or timed traffic restrictions, which will improve the pedestrian environment but stop short of full pedestrianisation; • Retaining the existing street layout with an improved footway on Aldermanbury.

	12.3 All options will include the repaving of pavements on Love Lane, Wood Street and parts of Gresham Street as a minimum.

Project Planning

13. Delivery period and key dates	**Overall project:** The overall project duration is not yet known, but will align with the programme of the development. **Other works dates to coordinate:** There will be a need to assess the scheme in the context of other projects taking place in the area, to ensure that adverse impacts on vehicle movement are mitigated. This will be coordinated within the Policy & Projects section, and in liaison with relevant Corporation departments where necessary.
14. Risk implications	**Overall project risk:** Low 14.1 The City Operations division has delivered many Section 278 projects and is experienced in managing the risks involved with such works. 14.2 Early-stage risks identified include: • Gateway 1 to 5 – The development is delayed impacting on project programme and budget. • Gateway 1 to 6 – Inaccurate or incomplete project estimates, including inflationary issues, lead to budget increases. • Gateway 1 to 5 – Utility survey issues lead to increased costs and / or scope of work. • Gateway 1 to 6 – Issues with external engagement and buy-in lead to projects delays and / or increased costs. • Gateway 1 to 6 – Third party delays impact negatively on project delivery (time and / or costs). Further information available within the Risk Register (Appendix 2).
15. Stakeholders and consultees	• Developer • Local businesses & organisations • Transport for London (regarding the Cycle Hire station) • City divisions & departments, including Planning & Development, Natural Environment, Chamberlains and Comptroller & City Solicitors • Pageantmaster

Resource Implications

<table>
<tr><td>16. Total estimated cost</td><td colspan="2">Likely cost range (excluding risk): £500,000 to £3m
Likely cost range (including risk): Not applicable at this stage.
The broad cost range is reflective of the current options available and the uncertainties about what can be delivered, and will be refined at future Gateways.</td></tr>
<tr><td>17. Funding strategy</td><td>Choose 1:
All funding fully guaranteed</td><td>Choose 1:
External - Funded wholly by contributions from external third parties</td></tr>
<tr><td></td><td colspan="2"><table><tr><th>Funds/Sources of Funding</th><th>Cost (£)</th></tr><tr><td>Section 106 agreement</td><td>100,000</td></tr><tr><td>Section 278 agreement</td><td>500,000 – 3,000,000</td></tr><tr><td>Total</td><td>600,000 – 3,600,000</td></tr></table></td></tr>
<tr><td>18. Investment appraisal</td><td colspan="2">Not applicable.</td></tr>
<tr><td>19. Procurement strategy/route to market</td><td colspan="2">Specialist input is likely to be required to determine the feasibility and design options for the scheme. All such appointments will be sourced through the Transport & Public Realm Framework or a competitive tender process in line with City Procurement regulations.</td></tr>
<tr><td>20. Legal implications</td><td colspan="2">Where the City Corporation are satisfied it will be of benefit to the public, Section 278 of the Highways Act 1980 allows the City Corporation as highway authority to enter into an agreement with any person for the execution of works by the authority on terms that that person pays the whole or such part of the costs of the works as may be specified. Planning obligations secure the highway works necessary to make the relevant developments acceptable in planning terms.</td></tr>
<tr><td>21. Corporate property implications</td><td colspan="2">None.</td></tr>
<tr><td>22. Traffic implications</td><td colspan="2">22.1 The proposed pedestrianisation of Aldermanbury, between Gresham Street and Love Lane, will require detailed assessment to ensure its viability, including the relocation of existing parking, waiting and loading facilities.</td></tr>
</table>

	22.2 The impact of the closure on the surrounding street network will be assessed as part of the design process and reported in more detail at the next Gateway.
23. Sustainability and energy implications	23.1 The project will have sustainability impacts that will be assessed through the design process. It is anticipated that all materials will be sustainably sourced where possible and be suitably durable for the design life of the asset. 23.2 Any greening and planting in the public realm will help to improve the scheme's climate resilience and meet the City's Climate Action Strategy objectives. Further information will be provided at the next Gateway.
24. IS implications	None.
25. Equality Impact Assessment	A Test of Relevance will be undertaken and where indicated, an equality impact assessment will be undertaken. The CoLSAT (City of London Street Accessibility Tool) and Equalities Analysis processes will form a key part of the design process to ensure the deliverables maximise accessibility and inclusivity opportunities and improvements for as many users as possible.
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	Project Briefing
Appendix 2	Risk Register

Contact

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Email Address	tom.noble@cityoflondon.gov.uk
Telephone Number	020 7332 1057

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City of London: Projects Procedure Corporate Risks Register

Project Name:	65 Gresham Street s278	**PM's overall risk rating:**	Low	**CRP requested this gateway**	£ -	**Average unmitigated risk**	5.5	**Open Risks**	6
Unique project identifier:	12421	**Total estimated cost (exec risk):**	£ 3,600,000	**Total CRP used to date**	£ -	**Average mitigated**	3.7	**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	(3) Reputation	Gateway 1 to 5 - The development is delayed, impacting on project programme and budget	Further time and therefore resource may be required if planned alignment with the development programme is extended.	Possible	Serious	6	£0.00	N	B – Fairly Confident	* Early engagement with the developer via the project's communications plan and the planned working group.	£0.00	Possible	Minor	£0.00	3	£0.00	0	22/01/2024		Tom Noble		
R2	2	(2) Financial	Gateway 1 to 6 - Procurement procedures impact negatively on project delivery	Additional resource may be required if there is a delay or issue with a project's procurement of goods or services from external suppliers.	Possible	Minor	3	£0.00	N	B – Fairly Confident	* Map out any resources using the Annual Procurement Plan with the procurement team * Consider early engagement with internal suppliers where required (Highways, Traffic Enforcement, Open Spaces, M&E, etc)	£0.00	Unlikely	Minor	£0.00	2	£0.00	0	22/01/2024		Tom Noble		22/01/24 - The project does carry some risk in this regard as it is proposed to procure external services in the next stage of work. However, this proposed work is standard in nature and therefore no mitigation (other than usual BAU work) is planned.
R3	2	(2) Financial	Gateway 1 to 6 - Inaccurate or incomplete project estimates, including baxters / inflationary issues	If an estimate is found at a later date to be inaccurate or incomplete, more funding and/or time resource would be needed to rectify the issue or fund/ underwrite the shortfall. More specifically, inflationary amounts predetermined earlier in a project may be found to be insufficient and require extra funding to cover any	Possible	Serious	6	£0.00	N	B – Fairly Confident	* Undertake internal re-estimates prior to each Gateway stage, including discussions with procurement/ finance in regards to external factors such as baxters/ inflation	£0.00	Possible	Minor	£0.00	3	£0.00	0	22/01/2024		Tom Noble		
R4	2	(10) Physical	Gateway 1 to 5 - Utility survey issues lead to increased costs and / or scope of work	At the earlier stages of a project, delays could occur which result unplanned costs if utility companies don't engage as expected or further topographical or utility surveys are required.	Possible	Serious	6	£0.00	N	B – Fairly Confident	* Work with design engineers to work out an appropriate sums to cover utility delays or on-site discoveries. * Consider and budget for trial holes if the location is thought to be particularly difficult.	£0.00	Possible	Serious	£0.00	6	£0.00	0	22/01/2024		Tom Noble		
R5	2	(3) Reputation	Gateway 1 to 6 – Issues with external engagement and buy-in lead to projects delays and / or increased costs.	Further time and therefore resource may be required if planned engagement work with main stakeholders takes longer, requires more work or doesn't go as planned. Also, they may change their requirements for a project which results in abortive work and costs.	Possible	Serious	6	£0.00	N	B – Fairly Confident	* Establish the working group as proposed and create a log of their aspirations/ requirements for the project. * Identify key stakeholders through the Communication Plan and ensure regular engagement.	£0.00	Unlikely	Serious	£0.00	4	£0.00	0	22/01/2024		Tom Noble		
R6	2	(3) Reputation	Gateway 1 to 6 – Third party delays impact negatively on project delivery (time and / or costs).	Activities planned by third parties in the project area clash with project-related workstreams, leading to delays to implementing the project deliverables.	Possible	Serious	6	£0.00	N	B – Fairly Confident	* Map out key external dependencies and assess their timescales. * Engage early with key identified stakeholders.	£0.00	Unlikely	Serious	£0.00	4	£0.00	0	23/01/2024		Tom Noble		

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Project Briefing

Project identifier			
[1a] Unique Project Identifier	12421	**[1b] Departmental Reference Number**	N/A
[2] Core Project Name	65 Gresham Street s278		
[3] Programme Affiliation *(if applicable)*	N/A		

Ownership	
[4] Chief Officer has signed off on this document	Ian Hughes
[5] Senior Responsible Officer	Bruce McVean
[6] Project Manager	TBC

Description and purpose
[7] Project Description
The project seeks to deliver improvements to areas of public highway related to the refurbishment of 65 Gresham Street, including Aldermanbury, Love Lane, Wood Street and Gresham Street. The options are likely to include the pedestrianisation of Aldermanbury to create a new public space, and other options such as a timed closure to vehicles. The project is to be fully funded by the developer by entering into a Section 278 agreement.
[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)?
Under the Section 106 Agreement the developer is obligated to fund the required works on the public highway to mitigate the impacts as a result of the new development. There is also an opportunity to deliver new public space and / or a pedestrian priority street in Aldermanbury.
[9] What is the link to the City of London Corporate plan outcomes?
[1] People are safe and feel safe. [9] Our spaces are secure, resilient and well-maintained. [10] Our physical spaces have clean air, land and water and support a thriving and sustainable natural environment. [11] Our spaces are digitally and physically well-connected and responsive. [12] Our spaces inspire excellence, enterprise, creativity and collaboration.
[10] What is the link to the departmental business plan objectives?
2023/34 business plan: • Deliver key Strategies: Climate Action, City Plan, Transport, Air Quality, Volunteering • Provide Thriving, Biodiverse, relevant spaces

• Improve public security, safety and environmental resilience					
[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	Y	**Sustainability:** Essential for business continuity	N	**Improvement:** New opportunity/ idea that leads to improvement	Y

Project Benchmarking:
[12] What are the top 3 measures of success which will indicate that the project has achieved its aims?
1) Pedestrian priority and public realm improvements on Aldermanbury, between Gresham Street and Love Lane, subject to affordability and deliverability criteria.
2) Integration of the ground floor uses of the development with the surrounding public highway.
3) Improved walking and cycling conditions to streets in the vicinity of the development.
[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 project may deliver a pedestrian priority street, which is an objective of the City Transport Strategy.
[14] What is the expected delivery cost of this project (range values)[£]?
Lower Range estimate: £600,000 Upper Range estimate: £3,600,000 The broad cost range reflects the options as defined in the Section 106, as set out in Section 8 of this Briefing, and the uncertainties about what can be delivered. This will be refined at future Gateways.
[15] Total anticipated on-going revenue commitment post-delivery (lifecycle costs)[£]:
Commuted sums to maintain upgraded sections of the highway and greenery will be presented at future Gateways, and will be covered for a period of 20 years as per Section 278 projects' standard.
[16] What are the expected sources of funding for this project?
The project will be fully funded by the developer through a Section 278 agreement.
[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: to be confirmed with the developer's programme Upper Range estimate: to be confirmed with the developer's programme

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?	
Chamberlains: Finance	Officer Name: TBC
Chamberlains: Procurement	Officer Name: TBC
External	Developer
[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: N/A
Supplier	Department: N/A
Supplier	Department: N/A
Project Design Manager	Department: N/A
Design/Delivery handover to Supplier	Gateway stage: N/A

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Committees: CAS SRO – for Decision Resource Allocation Sub-Committee – for information Projects & Procurement sub-Committee – for information	**Dates:** February-24 11/03/2024 15/04/2024
Subject: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: LMA Solar PV **Unique Project Identifier:** 12418	**Gateway 3/4/5: Options Appraisal and Authority to Start Work (Regular)**
Report of: City Surveyor **Report Author:** Mark Donaldson	**For Decision**
PUBLIC	

1. Status update	**Project Description:** installation of Solar Photovoltaic panels (Solar PV) to the roof the London Metropolitan Archives (LMA) main building to provide energy cost and carbon emission savings in support of the City Corporations Climate Action Strategy (CAS). This project was included within the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' which was approved at GW2, see background papers, which agreed that projects within the programme would be approved through individual gateway papers. **RAG Status:** Green **Risk Status:** Medium **Total Estimated Cost of Project (excluding risk): £129,116** **Change in Total Estimated Cost of Project (excluding risk):** £19,779 mainly due to the requirement for a new electrical panel to be installed. **Spend to Date: £2,989** (for surveys and permissions) **Costed Risk Provision Utilised: £0 (of which £0 amount has been drawn down since the last report to Committee);** **Funding source:** CAS Year 3 Plan budget **Slippage:** none.

2. Next steps and requested decisions	**Next Gateway:** *Gateway 6: Outcome Report* **Next Steps:** Enter into contract for the Solar PV works. Design then instruct the electrical panel upgrade works. **Requested Decisions:** 1. Note the total estimated cost of the project at **£129,117** (excluding risk); 2. Approve a further budget of **£122,789** for the project to reach the next gateway, to be wholly funded from the budget approved for the Climate Action Strategy Year 3 plan for NZ1 and delivered; 3. Approve procuring the design and capital works for the Solar PV installation through entering into a new Works Agreement with Vital Energi under our existing contract and instructing the Comptroller in this regard; 4. Approve delivering the electrical panel works through instruction to Sykes and Sons via the existing Measured Terms Contract; 5. That a Costed Risk Provision of **£21,089** is approved (to be drawn down via delegation to Chief Officer) to be funded wholly from the budget approved for the Climate Action Strategy Year 3 plan for NZ1. 6. That Option **2** is approved for the installation of the proposed solar PV and electrical works.
3. Budget	The total estimated cost of the project is £150,206 (including a costed risk budget of £21,089), of which: • £6,327 to be funded from a draw-down of the £250,000 budget approved at GW2, see background paper 'GW2 Paper: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings'. o Expenditure to date of £2,989. • £143,879 (incl. CRP of £21,089) to be funded from a draw-down of the approved Year 3 budget allocation of £5,108,715 for 'Corporate Property Group Buildings', see background paper 'Year 2 quarter 4 update on Climate Action Strategy Year 3 Plan'. The allocation will be 100% City Fund. o Expenditure to date of £0. In accordance with the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' (see background documents) "In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City's Cash as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly." Note, only 'cashable'

	savings will be recouped to the Build Back Better Fund and only on the fiscal year succeeding the completion of the works. The budget breakdown for recommended option **2** (the installation of the solar PV and associated electrical works): **Costed Risk Provision requested for this Gateway: £21,089** (as detailed in the Risk Register – Appendix 2). **Consisting of:** • £18,589 associated with the Solar PV scope of works; and • £2,500 associated with the electrical panel works.
4. Overview of project options	• **Option 1 (not recommended). Do not proceed with the project.** This option is not recommended as it will not allow a reduction in the carbon emissions for the site and therefore not support the City Corporations achievement of net zero carbon emissions by 2027. • **Option 2 (recommended): Proceed with the project to install Solar PV.** This option is for the installation of the proposed Solar PV panels to the roof of the main building of the LMA. • **Option 3 (not recommended):** Defer the project. This option is to defer a decision on the installation of Solar PV until there is certainty over a future lease of the building.
5. Recommended option	Option 2. This option provides saving of c. 6 tCO2e per annum (based on projected 2027 electricity carbon factors) which will support the City Corporation to meet its net zero carbon by 2027 target as set out in the CAS. This option will also deliver a net cost saving of c. £12,000 per annum (based on expected

Item	Reason	Funds/ Source of Funding	Cost (£)
Works: Vital Energi	Main works: Solar PV	CAS Year 3 Plan budget (this paper, GW5 approved budget drawdown)	£90,264
Works: Electrical Panel	Essential to enable the PV installation		£10,000
Works: IT network connection	Monitoring of Solar PV installation		£1,500
Works: warranty extension	Extend Solar PV warranty		£2,000
Works: Fire safety isolation	Compliance		£2,000
Fees: Landlords Consent	Permission		£5,000
Fees: Roof Guarantor	Maintaining warranty		£2,500
Fees: Lightning protection systems survey	Compliance		£500
Fees: Staff/consultant fees for Project Management	Manage project delivery		£9,026
Fees: structural survey	Required for PV works	CAS Year 3 Plan budget (GW2 approved budget drawdown)	£899
Fees: DNO application	Required for PV Works		£658
Fees: building control	Compliance		£2,537
Fees: Prior Approval Planning Application	Compliance		£1,432
Fees: Asbestos R&D - solar pv	Compliance		£800
		Total	£129,116
		from CAS GW5 budget (approved by this paper)	£122,790
		from CAS GW2 project development budget	£6,326

	short-term electricity prices of 27.5p/kWh) which will support the City Corporations Build Back Better Fund. The payback for this measure is 11-13 years. This project is primarily supporting the CAS net zero target for our properties by 2027. The business case for the request for CAS funding is therefore aiming to achieve carbon emission savings as a priority over other benefits, such as cost savings and a financial payback.
6. Risk	**Removal at lease expiration**. The building owners' agent (William Sturges LLP) has informed us their "clients are agreeable in principle to what's proposed subject to the completion of a formal licence, (which will provide for the removal and/or reinstatement of the equipment at expiry or sooner determination of the lease) and payment of their legal and surveyors costs". The current building lease expires in 2035 (within 12 years). Installation of the works constitutes a risk of the future cost to carry out removal and/or reinstatement. There is also a risk that the installation will not payback prior to the lease expiration, although this may well change if energy prices increase further in the coming years. **Landlords consent**. The building is leased to City Corporation and landlords' consent is required. The owners' agent has confirmed their client is agreeable in principle to what is proposed, and consent will be sought if the project is approved to proceed. **Electrical upgrades**. The Solar PV installation requires a new electrical panel. It is proposed for these works are procured and delivered by a separate contractor. The Solar PV is dependent on the electrical works being completed to allow final system commissioning. **Roof guarantee**. The flat roofing cover of the main LMA building, to which the Solar PV would be mounted, was replaced in 2017 and a guarantee established up to the 2035 lease break. The project must ensure this guarantee is maintained. **Health and safety**: the electrical and builders work on the roof, service risers and switch room, as well as the deliver and craning of materials require careful management in line with City of London policies and local permissions. **Costs exceed approved budget** and costed risk provision. This could be mitigated through a review of the project scope or consideration of either cancellation or approval of additional CAS funding. **Energy and carbon savings** are lower than estimated. Further information available in the Risk Register (Appendix 2) and options appraisal matrix.
7. Procurement approach	The project works will be delivered in two separate parts: 1) Electrical panel, 2) Solar PV.

	Solar PV. The scope of works set out in section 8 below, are to be procured under a design and build contract. We shall enter into a new works agreement with Main Contractor Vital Energi, under our existing Call-off-Contract. Vital Energi were previously procured under the Greater London Authority's Retrofit Accelerator for Workplaces framework, to carry out Energy Efficiency Measures under an Energy Performance Guarantee. Vital Energi will undertake the design and construction of the works and undertake the duties of Principal Contractor and Principal Designer. **Electrical panel works**. The scope of works set out in section 8 below, are proposed for delivery by Skyes and Sons through the Measured Terms Contract.
8. Design summary	**Solar PV**. The scope of works consists of a solar photovoltaic array mounted on the flat roof of the main building of the LMA. A 60.1 kWp installation has been sized based on the available area and optimised to offset the on-site consumption import of electricity. The installation consists of No.132 roof mounted solar PV panels (manufactured by SunTech, who are SA8000 accredited and a participant of the UNGC – United National Global Compact), Van der Valk Solar Systems ValkPro+ mounting system, Huawei SUN2000-50KTL-M3-400V inverters and a Huawei Smart Logger 3000B with built in bi-directional meter to enable remote monitoring of the system. The Main Contractor, Vital Energi, have specified the works to be installed and commissioned by a single sub-contractor: Ivegate (MSC Certified and NICEIC Approved Contractor), who have installed over 30MW of solar systems in past projects. The equipment will be crane lifted to the roof and licences for this will be applied for by the Main Contractor. The project has been designed up to stage 3, including for specification of equipment, datasheet and layout drawings. The project is to be procured through a design and build contract, and thus the final design will follow Gateway 5 but is not expected to significantly deviate from what is set out here. A structural survey of the roof has been carried out and advised no structural works will be required to support the proposed installation. The roofing material was replaced in 2017 and came with a long guarantee up to 2035. The project will ensure this guarantee is maintained in accordance with its terms and conditions. The LMA is leased, and the owner's agent have informed us the owner is supportive in principle of the works, subject to a formal licence been secured and subject to later removal/restoration on lease expiration if required. The solar PV has been designed to comply with the General Permitted Development Order (GPDO) and a prior approval

	planning application has been made. Note: the LMA site and main building are not listed. In compliance with G99 regulations, an application has been made with UKPN for their approval and notification of any charges and works required to enable the project. The project would arrange for future maintenance of the installed equipment, either through the existing corporate contract or separate. The equipment will require minimal maintenance, mainly consisting of 6-12 monthly inspections and cleaning of the panels to ensure ongoing safe and efficient operation. Warranty terms of the main items are: • Panels: 12-25 years • Mounting frame: 10 years • Inverters: 5 years • On-site installation: 1 year **Electrical panel**. The proposed Solar PV installation needs an electrical connection to the site to supply its generated electricity for on-site usage. The existing main electrical switch board is old and not suitable for connection to. To provide compliance with the current electrical standards a new electrical panel will be installed. **Works alignment**. The PV installer will install all bracketry, panels, containment and DC cabling up to a rotary isolator. The AC cabling from the inverter to point of connection will not be installed until the above LV panels works have been completed. Assuming approval by 31st January 2024, project completion would be expected by end of August 2024.
9. Delivery team	The project for the installation of the Solar PV scope of works will be internally managed by the Surveying & Engineering Projects Team within the City Surveyor's Operations Group.
10. Success criteria	1. Completed by 31st August 2024. 2. Completed within budget. 3. Verified net cost savings of c. £12,000 per annum, based on est. electricity savings of c. 45,000 kWh/yr, and projected short-term electricity price of 24p/kWh. 4. Verified carbon savings of c. 6 tCO2e per annum (based on projected 2027 carbon factors).
11. Progress reporting	Project Vision progress reports with issues requiring decision coming back as an Issue Report. Internal reporting to BCOG and the CAS Project Board.

Appendices

Appendix 1	Project Coversheet
Appendix 2	Risk Register

Background documents

GW2 Paper: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings

Contact

Report Author	Mark Donaldson
Email Address	Mark.donaldson@cityoflondon.gov.uk
Telephone Number	0780 8844409

Options Appraisal Matrix

Option Summary	*Option 1*	*Option 2*	*Option 3*
1. Brief description of option	**Option 1 (not recommended). Do not proceed with the project.** This option is not recommended as it will not allow a reduction in the carbon emissions for the site and therefore not support the City Corporations achievement of net zero carbon emissions by 2027	**Option 2 (recommended): Proceed with the project to install Solar PV.** This option is for the installation of the proposed Solar PV panels to the roof of the main building of the LMA and associated electrical upgrades.	**Option 3 (not recommended):** Defer the project until around 2035. This option is to defer a decision on the installation of Solar PV until there is certainty over a future lease of the building.
2. Scope and exclusions	N/A	Scope: Solar PV panels to be installed on the main roof area of the Main Building of the LMA. Generated electricity to supply the main building only. Electrical upgrade works to main building only. Exclusions: Other roof spaces/buildings within the site.	N/A
Project Planning			

Option Summary	*Option 1*	*Option 2*	*Option 3*
3. Programme and key dates	*N/A*	Jan-24 GW3-5 approved Feb-24 Solar PV Works Agreement with Vital Energi commenced Mar-24 Solar PV works and electrical works design complete May-24 Electrical works instructed under MTC with Sykes and Sons Mar-24 permissions granted for planning, DNO, landlord May-24 Solar PV works commence Aug-24 Solar PV works complete Jul-24 Electrical works commence Aug-24 Electrical works complete Aug-24 Solar PV final commissioning	*N/A*
4. Risk implications	Low	Medium Further information available within the Risk Register (Appendix 2).	Low
5. Stakeholders and consultees	N/A	LMA Management: Stephen Maberly, Emma Markiewicz City Surveyors: Dorian Price, Peter Ochser, Luca Pagliaroli, Mark Donaldson, Chris Sharpe, Graeme Low, Paul Friend, Stephan Chandler,	

Option Summary	*Option 1*	*Option 2*	*Option 3*
		Jonathan Cooper, Darren Horrigan, Grayham Howarth, Matt Baker, Andrew Coke, David Renshaw, Terence Short CBRE Chamberlains: Carley Bower Procurement: TBC Legal: Philip Mirabelli UKPN Building owner and their representative (William Sturges LLP) Finsbury Business Centre Roof systems guarantor: IKO Local Planning Authority: LB Islington Local Building Control Authority: LB Islington Local highways authority: LB Islington	
6. Benefits of option	No requirement for funding the works. No disruption to the site.	Proceeding with the project will support the City Corporation to meet its 2027 net zero carbon target. Lower ongoing electricity costs for the LMA than would otherwise have been incurred.	No requirement for funding the works in the short term. No disruption to the site.
7. Disbenefits of option	Loss of opportunity to reduce the energy costs and carbon emissions.	Long financial payback. Disruption to the site. Risk of future cost for removal of the Solar PV installation if at the end of the lease the landlord requested this.	Loss of opportunity to reduce the energy costs and carbon emissions.
Resource Implications			

Option Summary	*Option 1*	*Option 2*	*Option 3*
8. Total estimated cost	Up to £8,500 for the abortive costs for the design and development work undertaken to date.	The total estimated cost of the project is £150,206 (including a costed risk budget of £20,582)	Up to £8,500 for the abortive costs for the design and development work undertaken to date.
9. Funding strategy	Abortive costs only, for design and development of the project to GW5. Funded through Climate Action Strategy Year 3 budget.	Wholly funded through the approved Climate Action Strategy Year 3 budget.	Abortive costs only, for design and development of the project to GW5. Funded through Climate Action Strategy Year 3 budget.
10. Investment appraisal	N/A	A simple payback for the whole project has been estimated of 11-13 years based on estimated energy cost savings of c.£12,000/yr. (based on short-term projected energy prices) and an assumed ongoing maintenance cost of £1,000/yr.	N/A
11. Estimated capital value/return	N/A	The site which encompasses the London Metropolitan Archives (40 Bowling Green Lane) is leased by the City Corporation. The lease expires on 24 June 2035, which is c. 11 years from when the proposed Solar PV would start operating. The report sets out the simple payback to be 11-13 years based on the short-term estimated electricity costs of 27.5 p/kWh. The payback is likely to exceed	N/A

Option Summary	*Option 1*	*Option 2*	*Option 3*
		the remaining lease length, therefore there is a risk the project will not payback if the City Corporation does not continue to occupy the site beyond the existing lease expiration.	
12. Ongoing revenue implications	N/A	The Solar PV will generate electricity of which we estimate 90% will be used on-site to offset imported electricity and the remainder will be exported to the grid. The energy cost savings are estimated to be c.£13,000 based on short-term projected electricity import and export prices. The project would arrange for future maintenance of the installed equipment, either through the existing corporate contract or separate. The equipment will require minimal maintenance, mainly consisting of 6-12 monthly inspections and cleaning of the panels to ensure ongoing safe and efficient operation. We estimate the annual cost for this to be c.£1,000. Therefore the net revenue implications are a decrease in costs of c.£12,000 per annum. In accordance with the 'Climate	N/A

Option Summary	*Option 1*	*Option 2*	*Option 3*
		Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' (see background documents) "In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City's Cash as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly."	
13. Affordability	N/A	The project is to be wholly funded through the approved Climate Action Strategy Year 3 budget.	
14. Legal implications	N/A	The works are to be carried out through entering into a new works agreement with Vital Energi, under an existing Call-off-Contract. This will require the drafting of a JCT contract. Landlords consent would be required through a new licence. City Corporation have liaised with the freeholder's agent, and they are supportive of the propose in principle pending licence agreements.	

Option Summary	*Option 1*	*Option 2*	*Option 3*
15. Corporate property implications	Does not align with the Corporate Property Asset Management Strategy 2020-2025	The building owners' agent (William Sturges LLP) has informed us their "clients are agreeable in principle to what's proposed subject to the completion of a formal licence, (which will provide for the removal and/or reinstatement of the equipment at expiry or sooner determination of the lease) and payment of their legal and surveyors costs". The current building lease expires in 2035 (within 12 years). Installation of the works constitutes a risk of the future cost to carry out removal and/or reinstatement. The flat roofing cover of the main LMA building, to which the Solar PV would be mounted, was replaced in 2017 and a guarantee established up to the 2035 lease break. The project must ensure this guarantee is maintained.	
16. Traffic implications	N/A	The installation of the equipment (solar panels and their supports) to the roof will require a crane lift. This may require temporary road closure. The Local Authority (LB Islington) will be	

Option Summary	*Option 1*	*Option 2*	*Option 3*
		consulted and appropriate permissions obtain by the main contractor.	
17. Sustainability and energy implications	No proceeding with the project would limit the ability for the City Corporation to meet its 2027 net zero carbon target and would result in ongoing higher electricity costs for the LMA.	Proceeding with the project will support the City Corporation to meet its 2027 net zero carbon target and would result in ongoing lower electricity costs for the LMA than would otherwise have been incurred.	No proceeding with the project would limit the ability for the City Corporation to meet its 2027 net zero carbon target and would result in ongoing higher electricity costs for the LMA.
18. IS implications	N/A	May require data points for monitoring remotely	N/A
19. Equality Impact Assessment	N/A	N/A	N/A
20. Data Protection Impact Assessment	N/A	N/A	N/A
21. Recommendation	Not recommended	Recommended	Not recommended

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Project Coversheet

[1] Ownership & Status

UPI: 12418
Core Project Name: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: LMA Solar PV
Programme Affiliation (if applicable): Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings
Project Manager: Mark Donaldson
Definition of need: this project is part of the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' which aims to deliver reductions in the carbon emissions of our operational buildings in support of the City Corporation's net zero goal as set out in our Climate Action Strategy.
Key measures of success:

1. Completed by 30th May 2024.
2. Completed within budget.
3. Verified net cost savings of c. £12,000 per annum, based on est. electricity savings of c. 45,000 kWh/yr, and projected short-term electricity price of 27.5p/kWh.
4. Verified carbon savings of c. 6 tCO2e per annum (based on projected 2027 carbon factors).

Expected timeframe for the project delivery: Completion by 31st December 2023.

Key Milestones:

- Jan-24 GW3-5 approved
- Feb-24 Solar PV Works Agreement with Vital Energi commenced
- Mar-24 Solar PV works and electrical works design complete
- May-24 Electrical works instructed under MTC with Sykes and Sons
- Mar-24 permissions granted for planning, DNO, landlord
- May-24 Solar PV works commence
- Aug-24 Solar PV works complete
- Jul-24 Electrical works commence
- Aug-24 Electrical works complete
  Aug-24 Solar PV final commissioning

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?
No.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Briefing' GW1 report (as approved by P&R 15/12/2022):

A GW1 paper titled 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' was received by Policy and Resources Committee alongside the below GW2 paper. This set out a proposed programme to cover a portfolio of capital interventions to be delivered to decarbonise the most carbon intensive City of London operational buildings, in line with the Climate Action targets. The programme is expected to deliver £550,000 in savings per year. The programme is expected to deliver carbon savings of c. 520 tonnes per year.

Delivery cost:
Lower Range estimate: £5,585,000
Upper Range estimate: £6,250,000

Delivery timeframe:
Lower Range estimate: January 2023 – June 2024
Upper Range estimate: January 2023– April 2025

'Project Proposal' GW2 report (as approved by P&R 15/12/2022):
A GW2 paper titled 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' was approved by P&R for the programme. This paper set out the next steps for specific projects which are part of the programme to be approved through subsequent separate gateway papers. Appendix 1 of the paper set out a list of the proposed projects for the scope of the programme, which included a Solar PV installation for the LMA. The following summarises the figures presented in the GW2 paper relevant to the LMA Solar PV:

- Total Estimated Cost (excluding risk): £109,337
- Resources to reach next Gateway (excluding risk): £250k was approved for the whole programme
- Spend to date: £0
- Costed Risk Against the Project: £26,241
- CRP Requested: £0
- CRP Drawn Down: £0
- Estimated Programme Dates:

  Overall programme:
  Sept 2021: Surveys commenced
  July 2022: Surveys completed
  Dec 2022: GW2 approval for overall project programme
  Jan 2023: First GW3-5 Paper for individual projects, with other GW3-5 papers submitted on an ongoing basis. Preparation of Investment Grade Proposals to support GW3-5 papers.
  Mar 2023: Commencement of construction of individual projects
  Mar 2025: Completion of construction

'Authority to start Work' GW3-5 report (subject to approval):
- Total Estimated Cost (excluding risk): £129,116. This is an increase of £19,779 due to the requirement to install a new electrical panel.
- Resources to reach next Gateway (excluding risk): £122,790
- Spend to date: £2,989.
- Costed Risk (pre-mitigation) Against the Project: £219,012.
- CRP Requested: £21,089

- CRP Drawn Down: £0
- Estimated Programme Dates:
  - Jan-24 GW3-5 approved
  - Feb-24 Solar PV Works Agreement with Vital Energi commenced
  - Mar-24 Solar PV works and electrical works design complete
  - May-24 Electrical works instructed under MTC with Sykes and Sons
  - Mar-24 permissions granted for planning, DNO, landlord
  - May-24 Solar PV works commence
  - Aug-24 Solar PV works complete
  - Jul-24 Electrical works commence
  - Aug-24 Electrical works complete

    Aug-24 Solar PV final commissioning

Total anticipated on-going commitment post-delivery [£]: £1,000/yr for maintenance/cleaning

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City of London: Projects Procedure Corporate Risks Register

Project name: *Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: LMA Solar PV*

Unique project identifier: *TBC*

Total est cost (exc risk) *£129116*

PM's overall risk rating	Medium
Avg risk pre-mitigation	7.2
Avg risk post-mitigation	3.2
Red risks (open)	4
Amber risks (open)	9
Green risks (open)	13

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)	£219,012.00	170%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£219,012.00	170%	*" "*
Costed risk post-mitigation (open)	£0.00	0%	*" "*
Costed Risk Provision requested	£21,089.00	16%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	2	3.0	£6,014.00	0	0	2
(2) Financial	5	10.6	£119,998.00	2	2	1
(3) Reputation	0	0.0	£0.00	0	0	0
(4) Contractual/Partnership	8	5.1	£33,000.00	1	2	5
(5) H&S/Wellbeing	6	8.7	£40,000.00	1	3	2
(6) Safeguarding	1	4.0	£10,000.00	0	0	1
(7) Innovation	0	0.0	£0.00	0	0	0
(8) Technology	1	3.0	£0.00	0	0	1
(9) Environmental	1	12.0	£0.00	0	1	0
(10) Physical	2	8.0	£10,000.00	0	1	1

		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:	Climate Action Strategy (CAS) – Capital Delivery Pro	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 21,089	**Average unmitigated risk**	7.2	**Open Risks**	26
Unique project identifier:	TBC	**Total estimated cost (exc risk):**	£ 129,116	**Total CRP used to date**	£ -	**Average mitigated risk score**	3.2	**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	(2) Financial	Solar PV Main works variations/delays Cause: changes during the design or installation stage based on further design work, surveys and consultation with building control, planning conservation and other stakeholders Event: may require further design or installation works and could lengthen the programme	Additional costs and delays, if no budget is available to meet this then scope scope of the project would need to be changed or an issue report raised to request the additional budget	Likely	Major	16	£13,540.50	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£9,027.00	Likely	Minor	£0.00	4	£0.00	To address any need for contract variations	19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R2	5	(1) Compliance/Regulatory	Permissions and compliance Cause: planning requires full application for proposals, landlords consent required additional design work or legal support. Event: additional fees for and input required from contractor/legal	Additional costs exceed approved budget	Unlikely	Serious	4	£5,000.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£1,250.00	Unlikely	Minor	£0.00	2	£0.00	To address any need for contract variations	19/09/23	Darren Horrigan	Main Contractor: Vital Energi		To be funded from approved GW2 budget to support project development
R3	5	(2) Financial	Electrical LV Panel Main works variations/delays Cause: changes during the design or installation stage based on further design work, surveys and consultation with building control, planning conservation and other	Additional costs and delays, if no budget is available to meet this then scope scope of the project would need to be changed or an issue report raised to request the additional budget	Likely	Major	16	£3,750.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£2,500.00	Likely	Minor	£0.00	4	£0.00	To address any need for design or contract variations	19/09/23	Darren Horrigan	TBC (Contractor)		
R4	5	(2) Financial	Client Project Management fees increase cause: programme extension/delays or scope changes event: increased PM resource	Insufficient PM resource could impact project control and hence other risks - such as performance	Possible	Serious	6	£2,707.50	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£1,805.00	Possible	Minor	£0.00	3	£0.00	To extend PM services	12/01/24	Darren Horrigan	Darren Horrigan		
R5	5	(10) Physical	Accidental property damage due to movement of equipment Cause: impact of items to property/fittings from equipment transfer to/from Event: damage to property within access routes	Additional project time delay. Disruption caused by damage/repairs.	Unlikely	Serious	4	£5,000.00	N	B – Fairly Confident	This can be mitigated through restricting access route to low risk areas, well developed RAMS and good installation supervision.	£0.00	Rare	Minor	£0.00	1	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		Liaison required with Art Gallery management
R6	5	(4) Contractual/Partnership	Unable to enter into contract within fixed price proposal period	Additional costs due to inflation	Unlikely	Minor	2	£5,000.00	N	B – Fairly Confident	Fixed price is 90 days and the approval process should be short due to delegated authority under CAS programme. If 90 days was exceeded, the increased costs are likely to be minor.	£0.00	Unlikely	Minor	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R7	5	(4) Contractual/Partnership	Supply delivery disruption Cause: disruption to the transport system Event: delays for materials and personnel	Additional project time delay.	Unlikely	Minor	2	£0.00	N	B – Fairly Confident	Main Contractor has verified there is very low risk to the supply of the selected products.	£0.00	Rare	Minor	£0.00	1	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R8	5	(4) Contractual/Partnership	Contractor liquidity Cause: contractor cash liquidity Event: contractor insolvency	Project delays	Unlikely	Extreme	16	£0.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Vital Energi. Vital Energi are considered low risk in terms of solvency given the size of the company. There is a risk that the lighting sub-contractor could go insolvent, in which case this could cause delays while the Main Contractor arranges an alternative sub-contractor.	£0.00	Rare	Serious	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R9	5	(4) Contractual/Partnership	Commissioning and snagging delays Cause: commissioning and snagging not performed on time Event: the quality of remaining works might be jeopardised if repeated mistakes are not spotted on time	Additional project time delay.	Possible	Minor	3	£5,000.00	N	B – Fairly Confident	Ensure Main Contractor carries out their QA process effectively. Procured PM services will support quality control checks.	£0.00	Unlikely	Minor	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R10	5	(4) Contractual/Partnership	Contract dispute Cause: disputes between the client and the contractor Event: legal actions delays or pause in the project	Additional project time delay. Legal costs	Unlikely	Serious	4	£10,000.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Vital Energi. Considered unlikely due to the existing GLA framework contract being well developed and used for a number of years. A specific JCT contract will be in place for the works in scope of the project.	£0.00	Rare	Serious	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		

R11	5	(4) Contractual/Partnership	Contractor performance Cause: contractor not performing to expectations Event: programme of works altered and delays in delivering key milestones	Additional project time delay.	Possible	Serious	6	£5,000.00	N	B – Fairly Confident	Careful contractor selection, using established frameworks. Good project management and controls with frequent meetings, key milestones, regular contract reports, regular site inspections.	£0.00	Unlikely	Serious	£0.00	4	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R12	5	(4) Contractual/Partnership	Faulty equipment Cause: faulty equipment delivered to site Event: solar panels not operating as intended	Delays to completion	Possible	Serious	6	£5,000.00	N	B – Fairly Confident	Ensure specified products are of good quality. Ensure installers are experienced and qualified. Ensure effective QA process.	£0.00	Unlikely	Minor	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R13	5	(4) Contractual/Partnership	Coordination with other site works and maintenance Cause: poor coordination with other site project works or maintenance works Event: disruption to both works	Project delays	Unlikely	Minor	2	£3,000.00	N	B – Fairly Confident	Early and ongoing engagement with all key stakeholders	£0.00	Unlikely	Minor	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R14	5	(5) H&S/Wellbeing	Asbestos related to Solar PV works Cause: unsurveyed areas of work Event: asbestos discovery	Additional project costs and time delay while asbestos is managed.	Unlikely	Serious	4	£5,000.00	Y - for mitigation costs	C – Uncomfortable	Asbestos R&D surveys planned for all risk areas. CRP requested to allow for any discovered asbestos to be managed. Where risk budget is insufficient the scope of the project may need to be changed to avoid asbestos risks, or an issue raised to obtain further budget to address	£2,000.00	Rare	Serious	£0.00	2	£0.00	Manage asbestos if discovered	19/09/23	Darren Horrigan	Darren Horrigan		
R15	5	(5) H&S/Wellbeing	General H&S Cause: accident while working on or near electrical equipment, unsafe works or installation, working in a plant room, working at height, working with power tools, crane lift, traffic control Event: various - immediate or later injury or death to people undertaking the work or in the vicinity of the works, electrical fire, damage to property.	Project delays. Reputational risk.	Possible	Extreme	24	£10,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans/permits, RAMs and monitoring of works to ensure compliance with CDM, CoL H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R16	5	(5) H&S/Wellbeing	Covid-19 Cause: Covid-19 outbreak Event: disruption to contractor or supply-chain, infections between personnel, restricted or no access to the building.	Additional project time delay and closure of the building	Likely	Serious	8	£5,000.00	N	B – Fairly Confident	Work in accordance with CoL COVID-19-safe guidelines, including the use of face masks and social distance between teams, limiting personnel within confined plant rooms where possible. Vaccination of site personnel.	£0.00	Possible	Serious	£0.00	6	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R17	5	(5) H&S/Wellbeing	Noise nuisance Cause: use of power tools, crane operation, installation on solar panel installation roof Event: noise is audible to occupants	Nuisance cause to occupants. Project delays if works need to be postponed. Additional costs if works need to be undertaken out of hours.	Unlikely	Serious	4	£10,000.00	N	B – Fairly Confident	Consultation with stakeholders to understand potential impacts. Careful planning of works to avoid time when this may be an issue.	£0.00	Unlikely	Minor	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R18	5	(6) Safeguarding	Vehicle/Crane access Cause: Access to LMA Event: Possible injuries to people/property	Reputation damage and financial loss. Potential project delays while issue is addressed.	Unlikely	Serious	4	£10,000.00	N	B – Fairly Confident	Good contractor management, ensuring construction plan and RAMS are in place. Only authorised drivers should be granted permission for access to Guildhall	£0.00	Rare	Extreme	£0.00	8	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R19	5	(1) Compliance/Regulatory	Building control compliance	Additional project costs and time delay to address building control approval	Unlikely	Minor	2	£1,014.00	Y - for mitigation costs	C – Uncomfortable	CRP requested	£507.00	Rare	Minor	£0.00	1	£0.00		13/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R20	6	(10) Physical	Post Practical Completion Solar PV performance issues Cause: a fault with the design, installation or commissioning Event: Solar PV not operating as intended or to specification	Energy savings lower than anticipated	Possible	Major	12	£5,000.00	N	B – Fairly Confident	Careful design and specification. Selection of contractor experience with these types of works for these types of environments. Good project control and monitoring to ensure installation meets specification. Good QA. Processes in place to address any defects during the defects period. Ensure good warranties are in place.	£0.00	Unlikely	Minor	£0.00	2	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R21	6	(9) Environmental	Savings lower than estimated Cause: inaccurate assumptions or calculations, post-project site changes to on-site electricity consumption, post-installation maintenance issues, future energy prices lower than anticipated, future electric grid carbon factor lower than anticipated Event: actual energy cost and carbon savings are lower than estimated	Unable to verify project meets the GW5 savings targets for carbon emissions and energy costs. Project provides less support to the Climate Action Strategy than anticipated. Guildhall energy costs remain higher than anticipated.	Possible	Major	12	£0.00	N	B – Fairly Confident	Base saving estimates on conservative assumptions. Refine estimations based on final design. Verify assumptions throughout the project. Savings guarantee provided through energy performance contract with Vital Energi and includes a Monitoring and Verification exercise.	£0.00	Possible	Serious	£0.00	6	£0.00		19/09/23	Mark Donaldson	Main Contractor: Vital Energi		

R22	5	(8) Technology	IT Network connection Cause: connection costs higher than anticipated Event: unable to connect solar pv to network	Unable to remotely monitor solar PV performance, ongoing risk to proactive identification of any future performance issues	Possible	Minor	3	£0.00	Y - for mitigation costs	B – Fairly Confident	CRP requested	£750.00	Possible	Minor	£0.00	3	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R23	5	(2) Financial	Warranty extension Cause: extension costs higher than anticipated Event: unable to extend warranty	Warranty expires before lease expiration resulting in ongoing liability	Possible	Minor	3	£0.00	Y - for mitigation costs	B – Fairly Confident	CRP requested	£1,000.00	Possible	Minor	£0.00	3	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R24	5	(5) H&S/Wellbeing	Fire safety isolation Cause: costs for installing isolation are higher than anticipated Event: delay to project	Fire isolation is required, hence if costs were higher than budget this could cause a delay to the project while additional funding is	Possible	Serious	6	£5,000.00	Y - for mitigation costs	B – Fairly Confident	CRP requested	£1,000.00	Possible	Minor	£0.00	3	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R25	5	(5) H&S/Wellbeing	Lightning protection system Cause: costs for ensuring installation is compliant with lightning protection system are higher than anticipated Event: delay to project	Compliant lightning protection is required, hence if costs were higher than budget this could cause a delay to the project while additional funding is	Possible	Serious	6	£5,000.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to cover survey and works costs which exceed budget allocation for these items	£1,250.00	Possible	Minor	£0.00	3	£0.00		19/09/23	Darren Horrigan	Main Contractor: Vital Energi		
R26	5	(2) Financial	Damage to roof structure/covering Cause: poor design/installation of solar installation, such as excessive	Project could be delayed will damage is addressed and a solution found. There could be insurance and legal implications.	Possible	Major	12	£100,000.00	N	B – Fairly Confident	Structual survey completed and advises installation does not require structural changes to the roof. Ensure contractor engages	£0.00	Unlikely	Serious	£0.00	4	£0.00		28/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R27																							
R28																							
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R94								£0.00				£0.00			£0.00		£0.00						
R95								£0.00				£0.00			£0.00		£0.00						
R96								£0.00				£0.00			£0.00		£0.00						
R97								£0.00				£0.00			£0.00		£0.00						
R98								£0.00				£0.00			£0.00		£0.00						
R99								£0.00				£0.00			£0.00		£0.00						
R100								£0.00				£0.00			£0.00		£0.00						

Committees: Buildings Chief Officer Group – for Decision. CAS Senior Responsible Officer – for Decision. Resource Allocation Sub (Policy and Resources) Committee – for information. Projects and Procurement Sub Committee – for information.	**Dates:** Jan 2024 Jan 2024 11 March 2024 15 April 2024
Subject: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: Parliament Hill Lido PV **Unique Project Identifier:** 12420	**Gateway 3/4/5: Options Appraisal and Authority to Start Work (Regular)**
Report of: City Surveyor **Report Author:** Adam Fjaerem	**For Information**
PUBLIC	

1. Status update	**Project Description:** This paper is to request funding for the installation of Photovoltaic Panels (PV) on the roof of the Parliament Hill Lido, Hampstead Heath to generate electricity for use within the building. This PV installation is the first of two phases that will work to decarbonise the site and operation. This project was included within the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' which was approved at GW2 and agreed that projects within the programme would be approved through individual gateway 3-5 papers. A smaller PV array was installed in March 2018 however, part of the roof required repairs preventing the installation of PV across the entire roof area. These repairs have now been completed allowing these areas to be utilised for electricity generation. The project is being part funded from the Heritage Building Pathway project to investigate how heritage and/or listed buildings can be decarbonised, and the costs associated with this. This PV installation is an appropriate project to receive this funding as it will show that PV can be retrofitted onto a listed building, but the installation will incur additional enabling costs that would be unlikely/lower cost in a newer or non-listed building. The Lido is an open-air facility which requires the pool filtration pumps to operate 24/7 to keep the swimming water clean and free of detritus. The electricity generated by the new PV during the day

	will help to power these pumps and reduce the sites dependence on grid supplied electricity. The second planned phase of the project will begin after the installation of the new PV panels and following a review of the combined electrical output over a calendar year. To ensure that all generated electricity is used in decarbonising the building, and not being exported to the grid, the second phase would look to replace the pumps for the pool, paddling pool and fountain with lower energy versions. Energy saving will be achieved by replacing the pumps but also through better controls that will reduce pump speed and filtration levels during closed periods and quieter months (whilst retaining the required water cleanliness during opening hours). A final potential project, within this second phase, could use PV generated electricity to heat hot water for the male and female shower blocks utilising the existing calorifiers as thermal stores to reduce the sites gas consumption. This will need further investigation to better understand if the existing calorifiers (installed within the last five years) can have electric immersion heaters retrospectively installed, or whether a thermal store would be required to supply electrically heated water to the existing calorifiers. **Rag Status:** Green **Risk Status:** This project involves a Medium level of risk as it is dependent upon receiving planning permission (a precedent has already been set with the earlier installation) and a structural engineers refreshed report stating that the roof structure will be able to cope with the additional weight of the PV panels (this was deemed acceptable in 2018 but this assessment requires a refreshed review in line with current guidance). **Total Estimated Cost of Project (excluding costed risk): £269,409** **of which £80,000 is being funded by the Design Standard Heritage Building Pathway project (as part of the Climate Action Strategy (CAS), £95,625 is being funded by Cyclical Works Programme (CWP) City Surveyors, Operations Group and the remaining balance of £117,905 (including cost risk) is from the allocated CAS budget.** **Change in Total Estimated Cost of Project (excluding costed risk):** £160,229 increase on previous estimate due, in part, to the requirement to install a new electrical switch panel, and associated enabling works, at a cost of £95,625

	Spend to Date: £0 **Costed Risk Provision Utilised:** £0 (of which £0 amount has been drawn down since the last report to Committee) **Funding source:** Climate Action Strategy (CAS) with contribution from Heritage Building Pathway project and Cyclical Works Programme (CWP) City Surveyors, Operations Group. **Cost explanation:** this project should generate 34,300kWh of 'green' electricity per year reducing the reliance on grid supplied electricity and saving 4.7tCO_2e per year. The total project comes with a 12.5 year simple payback against the CAS financial contribution. It should be noted that the PV panels and associated invertors at ~£60k represent 22% of the cost of this project with the enabling works using the majority of the costs. Of these enabling works the requirement for a new electrical switchboard panel at £85k represents the majority of this expenditure. **Design Standard Heritage Building Pathway project** The Design Standard Heritage Building Pathway project is to investigate what can be done with listed buildings to reduce their carbon impact despite their listed status. Installing PV on listed buildings is a good example for this Pathway project as it is likely to show that: • a retrospective installation of low carbon measures will involve significant enabling works to old and dated infrastructure, • there will be several different stakeholder's views regarding planning permission, • the requirement for detailed calculations regarding loading capacities of older structures, • the impact of time scales when working in buildings frequented by the (paying) members of the public, • other lessons to be learnt. As part of the Pathway project a report will be produced that outlines any barriers to installation, any additional costs incurred and any limitations to the installation that came about during the project as a direct result of working on a listed building. This report will be shared as the lessons learnt will be applicable for future installations in other listed buildings across the public sector. Since 2018

	improvements have been made in expected lifetimes, warranties, and electrical output of PV products and this will be reviewed against the earlier installation. At this stage it is thought unlikely that the PV installation on this building will lead to electricity being exported to the grid options will be investigated into methods to prevent this. These are likely to include battery storage, electric vehicle charging points for City of London Corporation vehicles, phase-change material thermal stores etc.
2. Next steps and requested decisions	**Next Gateway:** Gateway 6: Outcome Report **Next Steps:** • Establish Project Team, to be managed by City Surveyor's Minor Projects Team, • Instruct works contract for Sykes and Sons Ltd (Sykes), • Sykes to submit planning application and raise supply orders, • Commence installation. **Requested Decisions:** 1. That Option **3** is approved for the delivery of the PV installation works, 2. Note the total estimated cost of the project at **£269,409** (excluding costed risk), 3. Approve a budget of **£269,409** for the capital works to reach the next Gateway, 4. Approve allocation of **£269,409** which is currently available from the Carbon Action Strategy Fund with **£80,000** of the budget coming from the Design Standard Heritage Building Pathway project and **£95,625** of the budget coming from the CWP. This approval is in accordance with the approved policy approach to deliver reductions in carbon emissions from retrofitting measures in publicly owned operational buildings, 5. Approve a Costed Risk Provision of **£24,121** (to be drawn down via delegation to Chief Officer in consultation with the Chamberlain) to be wholly funded from the Climate Action Strategy Year 3 plan for NZ1, 6. Enter into a new works agreement with Sykes to undertake the works as Principal Contractor in accordance with the terms of their Measured Terms Contract with CoL, 7. That Option **3** is approved for the complete installation of the proposed solar PV.
3. Budget	The following sets out the budget for the recommended option 3. Total estimated cost of the project is: **£293,530** (including a costed risk budget of **£24,121**). This is being funded by:

- **£95,625** from Cyclical Work Programme,
- **£80,000** from Heritage Building Pathway project,
- **£117,905** CAS Year 3 Plan.

In accordance with the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' (see background documents) "In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City's Estate as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly."

The funding arrangement is presented in the Options Appraisal Matrix under option 3. The budget requested for option 3 to reach the next gateway is £269,409 and the breakdown is set out below.

Item	Reason	Funds/ Source of Funding	Cost (£)
Works: Switch room panel upgrade.	Main works	Cyclical Works Programme (CWP) City Surveyors, Operations Group.	£85,000
Works: Solar PV supply.	Main works	CAS Year 3 Plan budget. (this paper, GW5 approved budget drawdown)	£57,207
Works: Scaffold, PV installation electrical works, test & commissioning, roofing works, site clearance and hoarding.	Main works		£35,650
Fees: Site supervision/management, RAMs, QHS, O&M, design, structural engineering report, building control, planning permission.	Main works		£61,618
Fees: Consultancy services to support project delivery.	Project delivery resources		£29,934

	Total **269,409** **Costed Risk Provision requested for this Gateway: £24,121** (as detailed in the Risk Register – Appendix 2) to cover any variations which may be required following detailed design, cost uplift from inflation, additional project management costs and making good, to be funded:
4. Overview of project options	**Option 1 (not recommended). Cancel the project.** Do not proceed with the project. This is not recommended as it will not support the City of London's goals for reducing carbon emissions and energy costs nor will it use the Design Standard Heritage Building Pathway funding to provide a benchmark of what Low Carbon measures can be retrofitted onto a listed building and at what additional costs. **Option 2: Install the non-certified PV (not recommended).** Do not proceed with the project as it does not align with City of London Corporation's 'Responsible Procurement Strategy' as the reputational risk to the City of London of using PV panels associated with modern day slavery is too great. The City of London Corporate PPA solar farm included the following clause in its supply contract *'The Generator shall at all times (i) comply with the Modern Slavery Act 2015 ("Modern Slavery Act") and (ii) subject to the effectiveness of clause 3.1. ensure its best efforts to make sure its photovoltaic modules supplier comply with SA 8000 or equivalent certification standards".* **Option 3 (recommended): Install the Cradle-to-Cradle certified PV.** Proceed with the project.
5. Recommended option	Option 3, Installation of the Cradle-to-Cradle certified PV panels. This PV installation will provide self-generated 'green' electricity for use by the building as part of its daily electricity consumption reducing the cost of buying electricity from the national grid. This option provides an estimated saving of c.£9,433 per annum in electricity costs, with a simple payback against CAS financial contribution of 12.5 years (excl. risk). The option provides an estimated annual saving of 4.7 tCO2e, equating to an 8% reduction in the sites carbon emissions and supports the City of London's energy and carbon reduction goals. Two future projects could further decarbonise the site by replacing the pool, paddling pool and fountain pumps with lower energy consuming versions that reduce speed during quiet periods to

	save energy through reduced filtering. A second future improvement could be to use PV generated electricity to heat hot water used in the shower blocks utilising the existing calorifiers as thermal stores and reduce gas consumption. The PV panels in this option are certified from the Cradle to Cradle institute that ensures that the products are independently verified across a number of factors including material use and future recycling, renewable energy used in their manufacture, water conservation during their manufacturing, supply chain verification such as modern day slavery and active social projects. It should be noted that that the Cradle-to-Cradle certified panels generate slightly less electricity per panel (400W rather than 435W or system of 39.2kWp rather than 42.6kWp) than the non-certified panels but come with a 40-year warranty over the non-certified panels 25-year warranty.
6. Risk	**Electrical upgrades**. The Solar PV installation requires an upgrade of the existing mains electrical panel. It is proposed for these works are procured and delivered by the Sykes as part of their contract. **Service interruption**. The PV installation works will occur whilst the building is fully operational. Apart from a short period during the final connection to the electrical panel no plant will need to be turned off during the installation and there should be no adverse impacts on the Lido's users. The desire is for the installation works to happen during the colder months of January to March 2024 when usage of the facility is lower. **Health and safety**: working at height, electrical and other related works will require careful management in line with City of London policies. Further information available in the Risk Register (Appendix 2) and options appraisal matrix. **Costs exceed approved budget** and costed risk provision. This could be mitigated through a review of the project scope or consideration of either cancellation or approval of additional CAS funding. **Costed Risk Provision requested for this Gateway: £24,121** (as detailed in the Risk Register – Appendix 2) to cover any variations which may be required following detailed design, additional project management costs and making good.

7. Procurement approach	The project works set out in this paper are to be carried out through entering into a new works agreement with Sykes through the Measured Terms Contract in place since October 2023. Three quotes for the supply of the PV panels, invertor and fixing mechanism have been sought with the winning quote sent to Sykes to 'top and tail' with their installation costs. Sykes will undertake the design and construction of the works and undertake the duties of Principal Contractor and Principal Designer. Following project completion, the Energy Engineering Project Manager will undertake a basic M&V exercise of comparing the generation meter on the PV invertor against the buildings half hourly electricity consumption over a calendar year before and after the PV installation to evidence the reduction of purchased gird kWh.
8. Design summary	The final design has been provided by the PV supplier (Williams Renewables), Sykes will provide the final electrical design as part of their works agreement and issued to CoL for approval.
9. Delivery team	The project will be led by the Minor Projects Team, City Surveyor's.
10. Success criteria	1. Completed by 25th March 2024. 2. Completed within budget. 3. Energy cost savings of ~£9,450 per annum. 4. Carbon savings of 4.7 tCO_2e per annum.
11. Progress reporting	The installation will have a generation meter supplied as part of the invertor system. This can be manually read monthly to check that the PV array is generating electricity to the levels expected for monthly reporting. Annual savings will be calculated based on the reduction of grid supplied electricity consumed by the site per annum as reported via TeamSigma. This reduction in consumption will be calibrated utilising the monthly meter readings from the invertor system.

Appendices

Appendix 1	Project Coversheet
Appendix 2	Risk Register

Background documents

GW2 Paper: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings

Contact

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Telephone Number	07871 107 902

Options Appraisal Matrix

Option Summary	Option 1	Option 2	Option 3
1. Brief description of option	**Option 1. Cancel the project.** Do not proceed with installing PV panels on the remaining roof space of the Lido.	**Option 2**. **Proceed with non-certified PV installation.** This option is to install 42.6kWp PV array onto the roof of the Lido connected via a new electrical panel to distribute the generated electricity throughout the building.	**Option 2**. **Proceed with Cradle-to-Cradle certified PV installation.** This option is to install 39.6kWp PV array onto the roof of the Lido connected via a new electrical panel to distribute the generated electricity throughout the building. The PV panels in this option are certified from the Cradle to Cradle institute that ensures that the products are independently verified across a number of factors including material use and future recycling, renewable energy used in their manufacture, water conservation in their manufacturing, supply chain verification such as modern day slavery and active social projects.
2. Scope and exclusions	N/A	Scope: • PV panel installation on the roof of the Lido to contribute	Scope: • PV panel installation on the roof of the Lido to contribute

Option Summary	Option 1	Option 2	Option 3
		to the electricity consumption of the building.	to the electricity consumption of the building.
Project Planning			
3. Programme and key dates	N/A	Jan 24: GW3-5 approval, Jan 24: Instruct works agreement with Sykes through the Measured Terms Contract, Jan 24: Contractor mobilisation, planning permission and listed building request submitted, provisional supply orders raised, Feb 24: Commence installation, Mar 24: Complete installation, Mar 25: Gateway 6.	Jan 24: GW3-5 approval, Jan 24: Instruct works agreement with Sykes through the Measured Terms Contract, Jan 24: Contractor mobilisation, planning permission and listed building request submitted, provisional supply orders raised, Feb 24: Commence installation, Mar 24: Complete installation, Mar 25: Gateway 6.
4. Risk implications	N/A	Low There should be no service interruption to the users of the Lido, the installation should take place during January to March 2024 when the use of the facility is at its lowest. Health and safety: working at height, electrical and other	Low There should be no service interruption to the users of the Lido, the installation should take place during January to March 2024 when the use of the facility is at its lowest. Health and safety: working at height, electrical and other

Option Summary	Option 1	Option 2	Option 3
		related works requires careful management in line with City of London policies.	related works requires careful management in line with City of London policies.
5. Stakeholders and consultees	N/A	**Corporate Property** Peter Collinson, Graeme Low, Andrew Coke, Anastasia Batten, Jonathan Cooper, Darren Horrigan, Grayham Howarth, Julie Fittock, Paul Friend, Mark Donaldson, Melodie Peters **Innovation and growth** Kate Neale, Stuart Wright and Michella Dhas **IT** NA **Chamberlains** John James, Andrew Little, Simon Owen, Sarah Baker	**Corporate Property** Peter Collinson, Graeme Low, Andrew Coke, Anastasia Batten, Jonathan Cooper, Darren Horrigan, Grayham Howarth, Julie Fittock, Paul Friend, Mark Donaldson, Melodie Peters **Innovation and growth** Kate Neale, Stuart Wright and Michella Dhas **IT** NA **Chamberlains** John James, Andrew Little, Simon Owen, Sarah Baker

Option Summary	Option 1	Option 2	Option 3
		Procurement Jemma Borland **Communications** N/A **Site users/clients** Charlotte Williams, Paul Jeal	**Procurement** Jemma Borland **Communications** N/A **Site users/clients** Charlotte Williams, Paul Jeal
6. Benefits of option	No funding required.	Cost savings est. of c.£10,250/yr. The project savings will be evidenced through the reduction in the metered electricity consumption and cross referenced through the invertor generation meter. Carbon emission savings est. of c.5.1 tCO_2e/yr.	Cost savings est. of c.£9,450/yr. The project savings will be evidenced through the reduction in the metered electricity consumption and cross referenced through the invertor generation meter. Carbon emission savings est. of c.4.7 tCO_2e/yr.
7. Disbenefits of option	Higher ongoing energy and maintenance costs	Capital cost and requirement for a new electrical panel.	Capital cost and requirement for a new electrical panel.

Option Summary	Option 1	Option 2	Option 3
Resource Implications			
8. Total estimated cost	N/A	Total estimated cost (excluding risk): **£245,625.** Highly confident in the cost at this stage.	Total estimated cost (excluding risk): **£269,408.** Highly confident in the cost at this stage.
9. Funding strategy	N/A	The total estimated cost (including risk) of **£272,415** shall be met through the following funding sources: **£95,625 from WCP** **£80,000 from Heritage Building Pathway** **£70,000 from Climate Action Strategy Fund** funding allocated towards making a financial contribution to a project to retrofit Low/Zero Carbon (LZC) Technology to a Listed or Heritage Building in order to produce a case study detailing the complexities of such a project.	The total estimated cost (including risk) of **£293,530** shall be met through the following funding sources: **£95,625 from WCP** **£80,000 from Heritage Building Pathway** **£93,783 from Climate Action Strategy Fund** funding allocated towards making a financial contribution to a project to retrofit Low/Zero Carbon (LZC) Technology to a Listed or Heritage Building in order to produce a case study detailing the complexities of such a project.

Option Summary	Option 1	Option 2	Option 3
10. Investment appraisal	N/A.	A simple payback for the whole project has been estimated of 25 years based on estimated cost savings of c.£10,250 /yr. (based on current energy prices). The energy savings are an estimate based on assumptions from the PV design and proposed installation. These estimations will be verified post-completion.	A simple payback for the whole project has been estimated of 28 years based on estimated cost savings of c.£9,450 /yr. (based on current energy prices). The energy savings are an estimate based on assumptions from the PV design and proposed installation. These estimations will be verified post-completion.
11. Estimated capital value/return	N/A	Estimated cost savings of c.£10,250/yr. and simple payback against CAS funding of 9.4 years.	Estimated cost savings of c.£9,450/yr. and simple payback, against CAS financial contribution of 12.5 years.
		Moderately confident (+/-15%). The savings estimate will be refined as the project is developed to final design and verified after completion.	Moderately confident (+/-15%). The savings estimate will be refined as the project is developed to final design and verified after completion.

Option Summary	Option 1	Option 2	Option 3
12. Ongoing revenue implications	N/A	Reducing the amount of electricity needed to be bought from the National Grid.	Reducing the amount of electricity needed to be bought from the National Grid.
13. Affordability	N/A	The cost for this option can be accommodated within funding allocations as set out in item 9 above.	The cost for this option can be accommodated within funding allocations as set out in item 9 above.
14. Legal implications	N/A	None.	None.
15. Corporate property implications	Does not align with the Corporate Property Asset Management Strategy 2020-2025	• This project aligns with the Corporate Property Asset Management Strategy 2020-2025 in reducing energy costs and carbon emissions. • Works require careful planning, consultation and coordination to minimise the disruption and impacts to building services and site users. • Security considerations for the contractor to secure the site outside of working hours until all purchased materials installed.	• This project aligns with the Corporate Property Asset Management Strategy 2020-2025 in reducing energy costs and carbon emissions. • Works require careful planning, consultation and coordination to minimise the disruption and impacts to building services and site users. • Security considerations for the contractor to secure the site outside of working hours until all purchased materials installed. • Maintenance contracts and registers need to be updated

Option Summary	Option 1	Option 2	Option 3
		• Maintenance contracts and registers need to be updated to account for the new assets. • Commissioning and hand-over process required to ensure the PV is generating as designed.	to account for the new assets. • Commissioning and hand-over process required to ensure the PV is generating as designed.
16. Traffic implications	N/A	None.	None.
17. Sustainability and energy implications	Cancelling the project would be a missed opportunity for reducing energy and carbon emissions for this site and does not support the City of London's net zero carbon targets.	This project supports the City of London's net zero carbon targets as set out in the Climate Action Strategy. This project supports the funding aims of the Heritage Building Pathway project.	This project supports the City of London's net zero carbon targets as set out in the Climate Action Strategy. This project supports the funding aims of the Heritage Building Pathway project.
18. IT implications	N/A	There will be no IT implications for this project.	There will be no IT implications for this project.
19. Equality Impact Assessment	N/A	None.	None.
20. Data Protection Impact Assessment	N/A	N/A	N/A
21. Recommendation	Not recommended	Not recommended	Recommended

Project Coversheet

[1] Ownership & Status

UPI: 12420
Core Project Name: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: Parliament Hill Lido PV.
Programme Affiliation: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings
Project Manager: Adam Fjaerem
Definition of need: this project is part of the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' which aims to deliver reductions in the carbon emissions of our operational buildings in support of the City Corporation's net zero goal as set out in our Climate Action Strategy.

Key measures of success:

1. Completed by March2024.
2. Completed within budget.
3. Verified energy cost savings of c. £9,450 per annum in electricity cost.
4. Verified carbon savings of c. 4.7 tCO_2e per annum.

Expected timeframe for the project delivery: Completion by March 2024.

Key Milestones:

Jan 24:	• GW3-5 for main works approved.
Jan 24:	• Instruct works agreement with Sykes through the Measured Terms Contract. Contractor mobilisation, planning permission and listed building request submitted, provisional supply orders raised.
Feb 24:	• Commence installation.
Mar 24:	• Complete installation.
Mar 26:	• GW6 with final estimated energy and carbon savings.

Are we on track for completing the project against the expected timeframe for project delivery? N

Has this project generated public or media impact and response which the City of London has needed to manage or is managing?
No.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Proposal' GW2 report (as approved by P&R 15/12/2022):

A GW2 paper titled 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' was approved by P&R. This paper set out the specific

projects that formed the programme and would be put forward for approval through a series of subsequent separate gateway papers. Appendix 1 of this paper set out a list of the proposed projects for the scope of the programme. This included installing photovoltaic panels (PV) at Parliament Hill Lido to generate green electricity to be consumed by the site in its operation (mainly through the filtration pumps). The programme below summarises the stages that are relevant to the GW3-5 paper proposed for the Parliament Hill Lido PV project:

Overall programme:

- Sept 2021: Surveys commenced,
- July 2022: Surveys completed,
- Dec 2022: GW2 approval for overall project programme,
- Jan 2023: First GW3-5 Paper for individual projects, with other GW3-5 papers submitted on an ongoing basis. Preparation of Investment Grade Proposals to support GW3-5 papers,
- Mar 2023: Commencement of construction of individual projects,
- Mar 2025: Completion of construction.

'Authority to start Work' GW3-5 report (subject to approval):

- Total Estimated Cost (excluding risk): £269,409. This is an increase of £160,229 due, in part, to the requirement to install a new electrical switch panel, and associated enabling works, at a cost of £85,000.
- Resources to reach next Gateway (excluding risk): £269,409.
- Spend to date: £0.
- Costed Risk (pre-mitigation) Against the Project: £129,332.
- CRP Requested: £24,121
- CRP Drawn Down: £0
- Estimated Programme Dates:
  I
  - Jan 24: GW3-5 approval,
  - Jan 24: Instruct works agreement with Sykes,
  - Jan 24: Contractor mobilisation, supply orders raised,
  - Feb 24: Commence installation,
  - Mar 24: Complete installation,
  - Mar 25: Gateway 6.

Total anticipated on-going commitment post-delivery [£]: 0

City of London: Projects Procedure Corporate Risks Register

Project name: *Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: OS Solar PV F*

Unique project identifier: *TBC*

Total est cost (exc risk) *£269408*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**6.9**
Avg risk post-mitigation	**3.2**
Red risks (open)	**3**
Amber risks (open)	**11**
Green risks (open)	**11**

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)	£129,331.50	48%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£129,331.50	48%	*" "*
Costed risk post-mitigation (open)	£0.00	0%	*" "*
Costed Risk Provision requested	£24,121.00	9%	*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**	£5,000.00	0	1	0
(2) Financial	3	**8.3**	£21,331.50	1	1	1
(3) Reputation	0	**0.0**	£0.00	0	0	0
(4) Contractual/Partnership	8	**5.1**	£33,000.00	1	2	5
(5) H&S/Wellbeing	8	**8.3**	£50,000.00	1	5	2
(6) Safeguarding	1	**4.0**	£10,000.00	0	0	1
(7) Innovation	0	**0.0**	£0.00	0	0	0
(8) Technology	1	**3.0**	£0.00	0	0	1
(9) Environmental	1	**12.0**	£0.00	0	1	0
(10) Physical	2	**8.0**	£10,000.00	0	1	1

		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:	Climate Action Strategy (CAS) – Capital Delivery Pro	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 24,121	**Average unmitigated risk**	6.9	**Open Risks**	25
Unique project identifier:	TBC	**Total estimated cost (exc risk):**	£ 269,408	**Total CRP used to date**	£ -	**Average mitigated risk score**	3.2	**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	(2) Financial	Solar PV Main works variations/delays Cause: changes during the design or installation stage based on further design work, structural engineering surveys and consultation with building control, planning conservation and local residential stakeholders Event: may require further design or installation works and could lengthen the programme	Additional costs and delays, if no budget is available to meet this then scope of the project would need to be changed or an issue report raised to request the additional budget	Likely	Major	16	£8,581.50	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£5,721.00	Likely	Minor	£0.00	4	£0.00	To address any need for contract variations	02/01/24	Darren Horrigan	Main Contractor: Sykes		
R2	5	(1) Compliance/Regulatory	Permissions and compliance Cause: planning permission and building regs required, if planning is refused then this could be appealed. Event: additional fees for and input required from contractor/legal	Additional costs exceed approved budget	Possible	Serious	6	£5,000.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£2,250.00	Unlikely	Minor	£0.00	2	£0.00	To address any need for contract variations	02/01/24	Darren Horrigan	Main Contractor: Sykes		To be funded from approved GW2 budget to support project development
R3	5	(2) Financial	Electrical LV Panel Main work delays Cause: existing panel is at full capacity and new PV electricity will cause it to fail (which would have a significant impact on the site operation) as such it needs	Additional costs and delays.	Possible	Serious	6	£12,750.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£8,500.00	Likely	Minor	£0.00	4	£0.00	To address any need for design or contract variations	02/01/24	Darren Horrigan	Main Contractor: Sykes		
R4																							
R5	5	(10) Physical	Accidental property damage due to movement of equipment Cause: impact of items to property/fittings from equipment transfer to/from Event: damage to property within access routes	Additional project time delay. Disruption caused by damage/repairs.	Unlikely	Serious	4	£5,000.00	N	A – Very Confident	This can be mitigated through restricting access route to low risk areas, well developed RAMS and good installation supervision.	£0.00	Rare	Minor	£0.00	1	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		Liaison required with Lido management
R6	5	(4) Contractual/Partnership	Unable to enter into contract within fixed price proposal period	Additional costs due to inflation	Unlikely	Minor	2	£5,000.00	N	B – Fairly Confident	Fixed price is 90 days and the approval process should be short due to delegated authority under CAS programme. If 90 days was exceeded, the increased costs are likely to be minor.	£0.00	Unlikely	Minor	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R7	5	(4) Contractual/Partnership	Supply delivery disruption Cause: disruption to the transport system Event: delays for materials and personnel	Additional project time delay.	Unlikely	Minor	2	£0.00	N	B – Fairly Confident	Main Contractor has verified there is very low risk to the supply of the selected products.	£0.00	Rare	Minor	£0.00	1	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R8	5	(4) Contractual/Partnership	Contractor and/or PV supplier liquidity Cause: contractor cash liquidity Event: contractor insolvency	Project delays	Unlikely	Extreme	16	£0.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Sykes who are considered low risk in terms of solvency given the size of the company and their history of working with CoL. There is a risk that the PV supplier and sub-contractor could go insolvent, in which case this could cause delays while the Main Contractor arranges an alternative PV supplier (who is able to supply the same panels) .	£0.00	Rare	Serious	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R9	5	(4) Contractual/Partnership	Commissioning and snagging delays Cause: commissioning and snagging not performed on time Event: the quality of remaining works might be jeopardised if repeated mistakes are not spotted on time	Additional project time delay.	Possible	Minor	3	£5,000.00	N	B – Fairly Confident	Ensure Main Contractor carries out their QA on the PV installaion effectively.	£0.00	Unlikely	Minor	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R10	5	(4) Contractual/Partnership	Contract dispute Cause: disputes between the client, the contractor and/or the PV supplier Event: legal actions delays or pause in the project	Additional project time delay. Legal costs	Unlikely	Serious	4	£10,000.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor Sykes. This is considered unlikely due to the existing contract and history of there working with CoL. A specific JCT contract will be in place for the works in scope of the project.	£0.00	Rare	Serious	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		

R11	5	(4) Contractual/Partnership	Contractor performance Cause: contractor and/or PV supplier not performing to expectations Event: programme of works altered and delays in delivering key milestones	Additional project time delay.	Possible	Serious	6	£5,000.00	N	B – Fairly Confident	Careful contractor selection, good project management and controls with frequent meetings, key milestones, regular contract reports, regular site inspections.	£0.00	Unlikely	Serious	£0.00	4	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R12	5	(4) Contractual/Partnership	Faulty equipment Cause: faulty equipment delivered to site Event: solar panels not operating as intended	Delays to completion	Possible	Serious	6	£5,000.00	N	B – Fairly Confident	Ensure specified products are of good quality. Ensure installers are experienced and qualified. Ensure effective QA process with each string tested when installed.	£0.00	Unlikely	Minor	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R13	5	(4) Contractual/Partnership	Coordination with other site works and maintenance Cause: poor coordination with other site project works or maintenance works Event: disruption to both works	Project delays	Unlikely	Minor	2	£3,000.00	N	B – Fairly Confident	Early and ongoing engagement with all key stakeholders	£0.00	Unlikely	Minor	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R14	5	(5) H&S/Wellbeing	Asbestos related to Solar PV works in feeding cables from the roof to the new panel. Cause: unsurveyed areas of work Event: asbestos discovery	Additional project costs and time delay while asbestos is managed.	Likely	Serious	8	£5,000.00	Y - for mitigation costs	B – Fairly Confident	Asbestos R&D surveys planned for all risk areas. Where risk budget is insufficient the scope of the project may need to be changed to avoid asbestos risks, or an issue raised to obtain further budget to address	£1,200.00	Rare	Serious	£0.00	2	£0.00	Manage asbestos if discovered	02/01/24	Darren Horrigan	Main Contractor: Sykes		
R15	5	(5) H&S/Wellbeing	General H&S Cause: accident while working on or near electrical equipment, unsafe works or installation, working in a small plant room, working at height, working with power tools, working near to water, slips and trips due to surface water, splashing from pool users, lifting panels onto roof, stacking panels at height prior to installation, working during sunny days resulting in high temperatures, traffic control through car park, awareness of children playing facilities nearby. Event: various - immediate or later injury or death to people undertaking the work or in the vicinity of the works, electrical fire, damage to property.	Project delays. Reputational risk.	Possible	Extreme	24	£10,000.00	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans/permits, RAMs and monitoring of works to ensure compliance with CDM, CoL H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R16	5	(5) H&S/Wellbeing	Covid-19 and/or similar pandemic outbreaks Cause: Covid-19 outbreak Event: disruption to contractor or supply-chain, infections between personnel, restricted or no access to the building.	Additional project time delay and closure of the building	Likely	Serious	8	£5,000.00	N	B – Fairly Confident	Work in accordance with CoL COVID-19-safe guidelines, including the use of face masks and social distance between teams, limiting personnel within confined plant rooms where possible. Vaccination of site personnel.	£0.00	Possible	Serious	£0.00	6	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R17	5	(5) H&S/Wellbeing	Noise nuisance Cause: use of power tools, lifting machine, installation of solar panel installation roof. Event: noise is audible to lido users or local residents	Nuisance cause to users of lido and/or local residents. Project delays if works need to be postponed. Additional costs if works need to be undertaken during certain hours to avoid disturbing either party.	Unlikely	Serious	4	£10,000.00	N	B – Fairly Confident	Consultation with stakeholders to understand potential impacts. Careful planning of works to avoid times when this may be an issue.	£0.00	Unlikely	Minor	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R18	5	(6) Safeguarding	Vehicle/lifting machine access to site via car park Cause: Access to Lido roof space Event: Possible injuries to people/property	Reputation damage and financial loss. Potential project delays while issue is addressed.	Unlikely	Serious	4	£10,000.00	N	B – Fairly Confident	Good contractor management, ensuring construction plan and RAMS are in place. Only authorised drivers should be granted permission for access to Lido site space.	£0.00	Rare	Extreme	£0.00	8	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R19	5	(5) H&S/Wellbeing	Asbestos related to Electrical panel works Cause: unsurveyed areas of work Event: asbestos discovery	Additional project costs and time delay while asbestos is managed. Asbestos related to LV panel works as age of existing panel means that likely to contain asbestos.	Unlikely	Serious	4	£5,000.00	Y - for mitigation costs	C – Uncomfortable	Asbestos R&D surveys planned for all risk areas. Where risk budget is insufficient the scope of the project may need to be changed to avoid asbestos	£1,200.00	Rare	Serious	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R20	6	(10) Physical	Post Practical Completion Solar PV performance issues Cause: a fault with the design, installation or commissioning Event: Solar PV not operating as intended or to specification	Energy savings lower than anticipated	Possible	Major	12	£5,000.00	N	B – Fairly Confident	Careful design and specification. Selection of contractor experience with these types of works for these types of environments. Good project control and monitoring to ensure installation meets specification. Good QA. Processes in place to address any defects during the defects period. Ensure good warranties are in place.	£0.00	Unlikely	Minor	£0.00	2	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		

R21	6	(9) Environmental	Savings lower than estimated Cause: inaccurate assumptions or calculations, post-project site changes to on-site electricity consumption, post-installation maintenance issues, future energy prices lower than anticipated, future electric grid carbon factor lower than anticipated Event: actual energy cost and carbon savings are lower than estimated	Unable to verify project meets the GW5 savings targets for carbon emissions and energy costs. Project provides less support to the Climate Action Strategy than anticipated. Lido energy costs remain higher than anticipated.	Possible	Major	12	£0.00	N	B – Fairly Confident	Base saving estimates on conservative assumptions. Refine estimations based on final design. Verify assumptions throughout the project.	£0.00	Possible	Serious	£0.00	6	£0.00		02/01/24	Adam Fjaerem	Main Contractor: Sykes		
R22	5	(8) Technology	IT Network connection Cause: connection costs higher than anticipated Event: unable to connect solar pv to network	Unable to remotely monitor solar PV performance, ongoing risk to proactive identification of any future performance issues	Possible	Minor	3	£0.00	Y - for mitigation costs	B – Fairly Confident	CRP requested	£750.00	Possible	Minor	£0.00	3	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R23	5	(2) Financial	Warranty extension Cause: extension costs higher than anticipated Event: unable to extend warranty	Warranty expires resulting in ongoing liability	Possible	Minor	3	£0.00	Y - for mitigation costs	B – Fairly Confident	Recommended panels come with a 40 year warranty. Invertors will need to be replaced before these.	£1,000.00	Possible	Minor	£0.00	3	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R24	5	(5) H&S/Wellbeing	Fire safety isolation Cause: costs for installing isolation are higher than anticipated Event: delay to project	Fire isolation is required, hence if costs were higher than budget this could cause a delay to the project while additional funding is	Possible	Serious	6	£5,000.00	Y - for mitigation costs	B – Fairly Confident	Existing installation already has fire isolation installed and this will cover this new installation.	£1,000.00	Possible	Minor	£0.00	3	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R25	5	(5) H&S/Wellbeing	Lightning protection system Cause: costs for ensuring installation is compliant with lightning protection system are higher than anticipated Event: delay to project	Compliant lightning protection is required, hence if costs were higher than budget this could cause a delay to the project while additional funding is	Possible	Serious	6	£5,000.00	Y - for mitigation costs	B – Fairly Confident	Existing installation already has lighting protection installed and this will cover this new installation.	£1,250.00	Possible	Minor	£0.00	3	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R26																							
R27	5	(5) H&S/Wellbeing	Main building power shut-down Cause: costs for carrying out the power shut-down are	Power shut-down is essential for the final connection works to the mains supply be carried out, hence if costs	Possible	Serious	6	£5,000.00	Y - for mitigation costs	B – Fairly Confident	Power to the site could be shut down for a short period during the day especially during the winter season	£1,250.00	Possible	Minor	£0.00	3	£0.00		02/01/24	Darren Horrigan	Main Contractor: Sykes		
R28																							
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Committees: Buildings Chief Officer Group – for Decision. CAS Senior Responsible Officer – for Decision. Resource Allocation Sub (Policy and Resources) Committee – for information. Projects and Procurement Sub Committee – for information.	**Dates:** Jan 2024 Jan 2024 11 March 2024 15 April 2024
Subject: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: Walbrook Wharf Carbon Reduction Measures. **Unique Project Identifier:** 12419	**Gateway 3/4/5: Options Appraisal and Authority to Start Work (Regular)**
Report of: City Surveyor **Report Author:** Adam Fjaerem	**For Information**
PUBLIC	

1. Status update	**Project Description:** This paper is for a single project to deliver four Energy Conservation Measures (ECM) at Walbrook Wharf Phase 2 Building (the main office space, not the depot (Phase 3) or the depot's offices (Phase 1)) to reduce energy consumption, costs and carbon emissions. **RAG Status:** Green **Risk Status:** Medium **Total Estimated Cost of Project (excluding risk): £169,378** **Change in Total Estimated Cost of Project (excluding risk): £92,599** increase on previous estimate due inflationary increases, increased overheads and a greater share of prelims costs due to a reduced scope as other measures are still being developed. The total estimate cost (including risk) is within the previously allocated combined funding, as set out in the Funding Strategy of the Options Appraisal Matrix (see below). **Spend to Date: £0** **Costed Risk Provision Utilised: £0 (of which £0 amount has been drawn down since the last report to Committee);** **Funding Source:** CAS Year 3 Plan budget. **Slippage:** The Gateway 2 paper set out a completion date of March 2025 and a gateway 2 program completion by September 2023. The

	delayed and extended timeframe for this single project is to allow the development of the proposal from our existing energy performance contractor and to minimise site disruption.
2. Next steps and requested decisions	**Next Gateway:** Gateway 6: Outcome Report **Next Steps:** • Establish Project Team, to be managed by City Surveyor's Minor Projects Team. • Instruct works contract for Vital Energi. • Detailed design to be undertaken by Vital Energi and approved by CoL. • Vital Energi to raise supply orders. • Commence installation. **Requested Decisions:** 1. That **Option 2** is approved for the delivery of a project to deliver four ECM. These works relate to the same site and their inclusion in a single project will provide a cost-effective approach and ensure good alignment of the works under a single main contractor. 2. Note the total estimated cost of the project at **£169,378** (excluding risk); 3. Approve a budget of **£150,558** for the capital works to reach the next Gateway; 4. Approve a budget of **£18,820** for the fees, which include project management support and building control, to reach the next Gateway; 5. Approve a Costed Risk Provision of **£24,394** (to be drawn down via delegation to Chief Officer in consultation with the Chamberlain as a post mitigation cost to solve the highlighted risk. This will be funded from CAS funds if required); 6. Enter into a new works agreement with Vital Energi to undertake the works as Principal Contractor and Principal Designer, in accordance with the terms of their existing contract with CoL to deliver services under the National Framework Agreement for Energy Performance Contracting; 7. Procure the project management support services required to reach the next gateway.
3. Budget	The following sets out the budget for the recommended option 2. Total estimated cost of the project, including risk: **£193,772** (including a costed risk budget of **£24,394**). Spend to date of £0. In accordance with the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' (see background

documents) “In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City’s Cash as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly.”

The funding arrangement is presented in the Options Appraisal Matrix under option 2. The budget requested for option 2 to reach the next gateway is set out below.

Item	Reason	Funds/ Source of Funding	Cost (£)
Works: Insulation to pipework	Main works	CAS Year 3 Plan budget. (this paper, GW5 approved budget drawdown)	£3,488
Works: Pumps and valve replacement	Main works		£59,119
Works: EC Fan Replacement	Main works		£78,980
Works: BEMS Optimisation	Main works		£8,971
Fees: Consultancy services to support project delivery.	Project delivery resources		£15,056
Fees: Asbestos R&D surveys	Compliance		£1,000
Fees: Building Control	Compliance	CAS Year 3 Plan budget (GW2 approved budget drawdown)	£1,382
Fees: Permission and compliance	Compliance		£1,382
Total			**£169,378**
From CWP			**£50,000[1]**
From CAS GW5 budget (approved by this paper)			**£116,614**
From CAS GW2 project development budget			**£2,764**

Costed Risk Provision requested for this Gateway: £24,394 (as detailed in the Risk Register – Appendix 2) to cover any variations which may be required following detailed design, cost uplift from inflation, additional project management costs and making good.

[1] Cyclical Works Programme has a project to replace pumps in the building in 2024/25. This funding has been transferred to this project to contribute to ECM3 – Pump replacement.

4. Overview of project options	**Option 1 (not recommended). Cancel the project.** Do not proceed with the project covered by this paper to install four ECMs at Walbrook Wharf, Phase 2. This is not recommended as it will not support the City of London's goals for reducing carbon emissions and energy costs. **Option 2 (recommended): Proceed with the project to install the ECM measures.** The scope of this project is to install the four distinct ECM. No alternative technical options have been identified to those which are proposed here under option 2.
5. Recommended option	Option 2, to proceed with this project to install four ECM. Combining these four ECM into one project at the same site will provide a more cost-effective approach and ensure good alignment of the works under a single main contractor. These measures will provide significant energy cost and carbon emission savings and can be met within the existing provisionally approved funding. This option provides an estimated saving of c.£12,236 per annum in electricity and gas costs which will support the City Corporations Build Back Better Fund. The simple payback for this project is 11.8 years (including risk). The option provides an estimated annual saving of 10.8 tCO_2e (based on projected 2027 electricity carbon factors), equating to an 8% reduction in the sites carbon emissions, which will support the City Corporation to meet its net zero carbon by 2027 target as set out in the CAS.
6. Risk	**Service interruption**. The project to install these ECM will be completed whilst the building is operational and although plant will need to be turned off this should not adversely impact the building's tenants. Nighttime and weekend work will be utilised if required to complete the works when least disruptive to tenants. **Health and safety**: all works within the demise will require careful management in line with City of London policies. Further information available in the Risk Register (Appendix 2) and options appraisal matrix. **Costed Risk Provision requested for this Gateway: £24,394** (as detailed in the Risk Register – Appendix 2) to cover any variations which may be required following detailed design, additional project management costs and making good.
7. Procurement approach	City of London have an existing Call-off-Contract with Vital Energi under GLA's Re:fit framework, for which Vital Energi (the Service Provider) will provide a range of services including High Level

	Assessments, Investment Grade Proposals and Works Contracts to carry out Energy Efficiency Measures under an Energy Performance Guarantee. Vital Energy have undertaken numerous surveys of Walbrook Wharf and issued CoL with an Investment Grade Proposal (IGP) in accordance with their contract. The IGP sets out the firm costs, guaranteed savings and Measurement and Verification (M&V) plan for the works. The project works set out in this paper are to be carried out through entering into a new works agreement with Vital Energi, under the Call-off-Contract. Vital Energi will undertake the design and construction of the works and undertake the duties of Principal Contractor and Principal Designer. Following project completion, Vital Energi will undertake a M&V exercise, in accordance with an agreed method and best practice industry standards, to evidence the achieved savings.
8. Design summary	The final design shall be undertaken by Vital Energi as part of their works agreement and issued to CoL for approval. The following summarises the design as set out in Vital Energi's Investment Grade Proposal (IGP) which has been informed through on-site surveys with their design team and sub-contractors. <u>Pipework insulation</u> This ECM involves the installation of insulation onto exposed valves, flanges, pipework and heat exchangers. The need for this insulation has been identified via site surveys with temperatures loses noted through using thermal imaging cameras. Where existing insulation is missing or damaged this will be replaced with new insulation with the old material suitably disposed of. <u>EC Fan replacement</u> This ECM involves the replacement of belt driven AC fan motors in Air Handling Units (AHU) with Electrically Commutated (EC) driven fans. These EC fans will provide energy saving from improved energy efficiency, reduction in belt losses and reduced noise level. EC fans can be fitted to both direct on-line starting AHU and those with inverters and will work with the existing BMS controls. Thirteen motors will be installed in nine AHUs, any holes in the external covers (as a result of the old motor being removed) will be covered with bespoke plates to ensure that AHU retains air tightness. <u>Pumps and Valves replacement</u> Replacing the 3-port valve on each AHU with a 2-port valve and replacing the existing heating pumps with an inverter driven pump. New flow and return temperature sensors will monitor the

	temperature going to the heat emitter and lower the speed of the pumps saving energy. This ECM will reduce energy consumption with the existing heating system but will increase energy savings with any future heat pump solution as this will have allowed for lower flow and return temperatures. <u>BMS Optimisation</u> This ECM involves the optimisation of the BMS to better match the occupancy of the building and more closely control the temperatures of the spaces. It includes an assessment of the BMS hardware, sensors and controllers and will involve the replacement of any obsolete or failing equipment with the most suitable, latest models. Savings in the BMS are likely to cover operating times more closely reflecting tenants working hours, nighttime setbacks being introduced, set points being checked and the control strategies being interrogated to ensure that the control loops are fine tuned. Energy savings will be realised through reduced gas consumption in the existing boilers and through reduced operations of fans, pumps and motors reducing electricity consumption.
9. Delivery team	The project will be led by the Minor Works Projects Team, City Surveyor's. The project management consultancy support set out in this paper will be resourced separately by the Minor Works Team.
10. Success criteria	1. Completed by May 2024. 2. Completed within budget. 3. Verified energy cost savings of £12,236 per annum. 4. Verified carbon savings of 10.8 tCO_2e per annum based on projected 2027 carbon costs.
11. Progress reporting	Project Vision progress reports with any required decisions coming back as an Issue Report.

<u>Appendices</u>

Appendix 1	Project Coversheet
Appendix 2	Risk Register

<u>Background documents</u>

Background Paper. GW2 CAS Capital Delivery Programme

<u>Contact</u>

Report Author	Adam Fjaerem
Email Address	Adam.Fjaerem@cityoflondon.gov.uk

Telephone Number	07871 107 902

Options Appraisal Matrix – in scope Phase 2 Building, out of scope Phase 1 & 3 buildings

Option Summary	Option 1	Option 2
1. Brief description of option	**Option 1. Cancel the project.** Do not proceed with the project to deliver four Energy Conservations Measures (ECM) at the building.	**Option 2**. **Proceed with the project to deliver four Energy Conservation Measures (ECM).** The scope of this option encompasses pipework insulation, EC Fan replacement, Pumps and Valve replacement and BMS optimisation.
2. Scope and exclusions	N/A	Scope: • Pipework insulation within Phase 2 building at Walbrook Wharf. • EC Fan replacement at Phase 2 building at Walbrook Wharf. • Pump and valve replacement at Phase 2 building at Walbrook Wharf. • BEMS optimisation at Phase 2 building at Walbrook Wharf.
Project Planning		
3. Programme and key dates	N/A	Jan 24: GW3-5 approval, Feb 24: Instruct works agreement with Vital Energi, Mar 24: Contractor mobilisation, supply orders raised, Mar 24: Commence installation, May 24: Complete installation, Mar 25: Gateway 6.

<table>
<tr><th>Option Summary</th><th>Option 1</th><th>Option 2</th></tr>
<tr><td>4. Risk implications</td><td>Low</td><td>Low

Further information available within the Risk Register (Appendix 2).

Service interruption. The insulation to the pipework project can be completed whilst the boilers are operating however, it would be preferable to do this after a period of them being off to avoid operative’s discomfort. This installation will be coordinated with the Building Manager to avoid any negative impacts for tenant’s comfort.

For the EC fans, pumps and valves replacement the individual plant will need to be turned off during the replacement. The amount of down time will be minimised and co-ordinated with the Building Manager.

The BMS works will mainly be remote desk based unless hardware requires swapping out. Any replacement works will be arranged with the Building Manager to reduce plant shut-down time.

Health and safety: No hot works will be required with operatives using cold cutting equipment, all electrical and related works will require careful management in line with City of London policies.</td></tr>
<tr><td>5. Stakeholders and consultees</td><td>N/A</td><td>
<table>
<tr><td>1. Corporate Property</td><td>Peter Collinson, Paul Friend, Peter Young, Dorian Price, Robert Murphy, Matt Baker, Jonathan Cooper, Darren Horrigan, Grayham Howarth, Ian Hughes, Peter Ochser, Luca Pagliaroli, Andrew Coke, Samantha Williams, Stuart Wright, Michaela Dhas, Graeme Low, Mark Donaldson, Edmund Tran,</td></tr>
<tr><td>2. IT</td><td>N/A</td></tr>
<tr><td>3. Chamberlains</td><td>John James, Andrew Little, Sarah Baker</td></tr>
<tr><td>4. Procurement</td><td>Jemma Borland</td></tr>
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Option Summary	Option 1	Option 2
		5. Site users/clients: Alan Dingley, Building Tenants
6. Benefits of option	No funding required.	Cost savings est. of c.£12,236/yr. These savings are guaranteed under the energy performance contract with Vital Energi. A Measurement and Verification (M&V) exercise will be undertaken six months after installation to verify the actual projects savings which will be evidenced through the metered electricity and gas consumption. Carbon emission savings of 10.8 tCO_2e/yr. The new fans, pumps and valves will come with lower maintenance failures and associated costs. The pipe insulation will lower the temperatures in the plant room to make for better working conditions.
7. Disbenefits of option	Higher ongoing energy and maintenance costs	Capital cost. Staff management and resource implications.
Resource Implications		
8. Total estimated cost	N/A	Total estimated cost (excluding risk): **£169,378** Highly confident in the cost at this stage. Total estimated cost: (including risk): **£193,772**
9. Funding strategy	N/A	The total estimated cost (including risk) of **£193,772** shall be met through the following funding sources: **£50,000 from CWP** **£143,772 from City Fund**. This funding was previously provisionally approved by CAS as set out in the Gateway 2 issue report approved in December 2022.

Option Summary	Option 1	Option 2
10. Investment appraisal	N/A.	A simple payback for the whole project has been estimated of 11.8 years based on estimated cost savings of c.£12,236/yr. (based on current energy prices). The energy savings are an estimate based on assumptions of the existing system and proposed system. These estimations will be verified post-completion.
11. Estimated capital value/return	N/A	Estimated cost savings of c.£12,236/yr and simple payback of 11.8 years. Moderately confident (+/-15%). The savings estimate will be refined as the project is developed to final design and verified after completion.
12. Ongoing revenue implications	N/A	There will be a reduction in maintenance costs as the ECMs come with an increased life expectancy against the existing and the works to the fans and pumps will reduce the operating hours of the plant and reduce future maintenance.
13. Affordability	N/A	The cost for this option can be accommodated within funding allocations already approved in principle, as set out in item 9 above.
14. Legal implications	N/A	None.

Option Summary	Option 1	Option 2
15. Corporate property implications	Does not align with the Corporate Property Asset Management Strategy 2020-2025	• This project aligns with the Corporate Property Asset Management Strategy 2020-2025 in reducing energy costs and carbon emissions. • Works require careful planning, consultation and coordination to minimise the disruption and impacts to building services and site users. • Works require coordination with other site works/projects and activities/events. • Security considerations for contractor access to certain areas. • Maintenance contracts and registers need to be updated to account for the changes to the building services and systems. • Good commissioning and hand-over process required to ensure the upgraded plant and equipment is working satisfactorily.
16. Traffic implications	N/A	None.
17. Sustainability and energy implications	Cancelling the project would be a missed opportunity for reducing energy and carbon emissions for this building and does not support the City of London's net zero carbon targets.	This project supports the City of London's net zero carbon targets as set out in the Climate Action Strategy.
18. IT implications	N/A	None
19. Equality Impact Assessment	N/A	None.

Option Summary	Option 1	Option 2
20. Data Protection Impact Assessment	N/A	N/A
21. Recommendation	Not recommended	**Recommended**

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Project Coversheet

[1] Ownership & Status

UPI: TBC

Core Project Name: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: Walbrook Wharf, Phase 2 building.

Programme Affiliation: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings

Project Manager: Adam Fjaerem

Definition of need: this project is part of the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' which aims to deliver reductions in the carbon emissions of our operational buildings in support of the City Corporation's net zero goal as set out in our Climate Action Strategy.

Key measures of success:

1. Completed by May 2024.
2. Completed within budget.
3. Verified energy cost savings of c. £12,236 per annum in electricity and gas costs.
4. Verified carbon savings of c. 10.8 tCO_2e per annum (based on projected 2027 carbon factors).

Expected timeframe for the project delivery: Completion by May 2024.

Key Milestones:

Jan 24:	• GW3-5 for main works approved.
Feb 24:	• Instruct works agreement with Vital Energi.
Mar 24:	• Contractor mobilisation, supply orders raised, commence installation.
May-24:	• Complete installation.
May-25:	• GW6 with final estimated energy and carbon savings.

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?
No.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Proposal' GW2 report (as approved by P&R 15/12/2022):

A GW2 paper titled 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' was approved by P&R. This paper set out the specific projects that formed the programme and would be put forward for approval through a series of subsequent separate gateway papers. Appendix 1 of this paper set out a list of the proposed projects for the scope of the programme. This included several Energy Conservations Measures (ECM) identified at Walbrook Wharf (Phase 2 building) which are combined into the scope set out in the attached GW3-5 paper. The programme below summarises the stages that are relevant to the GW3-5 paper proposed for Walbrook Wharf (Phase 2 building):

Overall programme:

- Sept 2021: Surveys commenced,
- July 2022: Surveys completed,
- Dec 2022: GW2 approval for overall project programme,
- Jan 2023: First GW3-5 Paper for individual projects, with other GW3-5 papers submitted on an ongoing basis. Preparation of Investment Grade Proposals to support GW3-5 papers,
- Mar 2023: Commencement of construction of individual projects,
- Mar 2025: Completion of construction.

'Authority to start Work' GW3-5 report (subject to approval):

- Total Estimated Cost (excluding risk): £169,378. This is an increase of £125,053 due to an increase in the scope of works to include some ECM that were not included in the High-Level Assessment (HLA).
- Resources to reach next Gateway (excluding risk): £169,378.
- Spend to date: £0.
- Costed Risk (pre-mitigation) Against the Project: £110,720.
- CRP Requested: £24,394
- CRP Drawn Down: £0
- Estimated Programme Dates:
  l
  - Jan 24: GW3-5 approval,
  - Feb 24: Instruct works agreement with Vital Energi,
  - Mar 24: Contractor mobilisation, supply orders raised,
  - Mar 24: Commence installation,
  - May 24: Complete installation,
  - Mar 25: Gateway 6.

Total anticipated on-going commitment post-delivery [£]: 0

City of London: Projects Procedure Corporate Risks Register

Project name: *Walbrook Wharf (Phase 2 building) [Climate Action Strategy (CAS) – Capital Delivery Programme for C*

Unique project identifier:

Total est cost (exc risk) *£169378*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**6.2**
Avg risk post-mitigation	**3.2**
Red risks (open)	**2**
Amber risks (open)	**8**
Green risks (open)	**12**

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)	£110,720.10	65%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£110,720.10	65%	*" "*
Costed risk post-mitigation (open)	£0.00	0%	*" "*
Costed Risk Provision requested	£24,393.63	14%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	2	**2.0**	£7,500.00	0	0	2
(2) Financial	3	**6.0**	£33,875.60	0	3	0
(3) Reputation	0	**0.0**	£0.00	0	0	0
(4) Contractual/Partnership	8	**5.1**	£24,000.00	1	2	5
(5) H&S/Wellbeing	4	**10.0**	£25,406.70	1	1	2
(6) Safeguarding	1	**4.0**	£0.00	0	0	1
(7) Innovation	0	**0.0**	£0.00	0	0	0
(8) Technology	0	**0.0**	£0.00	0	0	0
(9) Environmental	1	**12.0**	£0.00	0	1	0
(10) Physical	3	**6.0**	£19,937.80	0	1	2

		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:	Walbrook Wharf (Phase 2 building) [Climate Action S	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 24,394	**Average unmitigated risk**	6.2	**Open Risks**	22
Unique project identifier:		**Total estimated cost (exc risk):**	£ 169,378	**Total CRP used to date**	£ -	**Average mitigated risk score**	3.2	**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	5	(2) Financial	Main works variations/delays Cause: changes during the design or installation stage based on further design work, surveys and consultation with building control, planning conservation and other stakeholders Event: may require further design or installation works and could lengthen the programme	Additional costs and delays, if no budget is available to meet this then scope of the project would need to be changed or an issue report raised to request the additional budget	Possible	Serious	6	£8,468.90	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£9,315.85	Likely	Minor	£0.00	4	£0.00	To address any need for contract variations	12/12/23	Darren Horrigan	Darren Horrigan		
R2	5	(1) Compliance/Regulatory	Permissions and compliance Cause: planning permission not required for this phase Event: additional fees for application and input required from contractor	Cost for planning fees	Unlikely	Minor	2	£2,500.00	N	B – Fairly Confident	CRP included for in R1	£0.00	Possible	Minor	£0.00	3	£0.00	To address any need for contract variations	12/12/23	Darren Horrigan	Darren Horrigan		To be funded from approved GW5 budget to support project implementation
R3	5	(2) Financial	Insulation to pipework Cause: quality of insulation (attachment, installation, coverage, performance) does not meet requirements Event: heat leakage to the plant room, pipe runs resulting insufficient heat being supplied to emitter meaning end user are unsatisfied, potential compliance or H&S risk with regard DHW EC Fan replacement Cause: quality of installation results in fans running out of control, noisy or failing to operate on demand. Event: insufficient heat or coolth where required through lack of air movement meaning end user are unsatisfied, potential compliance or H&S risk with building temperatures not being achieved. Pumps and valves Cause: quality of installation results in pumps running out of control or noisy. Replacing of three port valves with two	Additional costs to rectify issues	Possible	Serious	6	£16,937.80	N	B – Fairly Confident	Good design and consultation with stakeholders. Strict adherence to warranty to ensure that any mistakes are corrected within the handover period.	£0.00	Possible	Minor	£0.00	3	£0.00	NA	12/12/23	Darren Horrigan	Darren Horrigan		To be funded from approved GW5 budget to support project implementation
R4	5	(1) Compliance/Regulatory	Permissions and compliance Cause: planning or building control requires design changes Event: additional cost of works	Capital cost for additional works	Unlikely	Minor	2	£5,000.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to address potential additional works cost	£5,000.00	Possible	Minor	£0.00	3	£0.00	To allow for additional scope of works	12/12/23	Darren Horrigan	Darren Horrigan		
R5	5	(10) Physical	Accidental property damage due to movement of equipment Cause: impact of items to property/fittings from equipment transfer to/from works space, within the spaces Event: damage to property within access routes or work space	Additional project time delay. Cost of repairs. Disruption caused by damage/repairs.	Unlikely	Serious	4	£8,468.90	N	B – Fairly Confident	The main risk relates to any transfer of equipment to/from the back of house plant room areas which can be fully mitigated through restricting access route to low risk areas, well developed RAMS and good installation supervision.	£0.00	Rare	Minor	£0.00	1	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		Liaison required with building manager
R6	5	(4) Contractual/Partnership	Unable to enter into contract within fixed price proposal period	Additional costs due to inflation	Unlikely	Minor	2	£5,000.00	N	B – Fairly Confident	Fixed price is 90 days and the approval process should be short due to delegated authority under CAS programme. If 90 days was exceeded, the increased costs are likely to be minor.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R7	5	(4) Contractual/Partnership	Supply delivery disruption Cause: disruption to the transport system Event: delays for materials and personnel	Additional project time delay.	Unlikely	Minor	2	£0.00	N	B – Fairly Confident	None of the items being installed are difficult to access and so very low risk to the supply of the selected products	£0.00	Rare	Minor	£0.00	1	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		

R8	5	(4) Contractual/Partnership	Contractor liquidity Cause: contractor cash liquidity Event: contractor insolvency	Project delays	Unlikely	Extreme	16	£0.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Vital Energi. Vital Energi are considered low risk in terms of solvency given the size of the company. There is a risk that the sub-contractor could go insolvent, in which case this could cause delays while the Main Contractor arranges an alternative sub-contractor but the installation works do not require a specialist contractor.	£0.00	Rare	Serious	£0.00	2	£0.00		12/12/23	Darren Horrigan	Darren Horrigan		
R9	5	(4) Contractual/Partnership	Commissioning and snagging delays Cause: commissioning and snagging not performed on time Event: the quality of remaining works might be jeopardised if repeated mistakes are not spotted on time	Additional project time delay.	Possible	Minor	3	£5,000.00	N	B – Fairly Confident	Ensure Main Contractor carries out their QA process effectively. Procured PM services will support quality control checks.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R10	5	(4) Contractual/Partnership	Contract dispute Cause: disputes between the client and the contractor Event: legal actions delays or pause in the project	Additional project time delay.	Unlikely	Serious	4	£5,000.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Vital Energi. Considered unlikely due to the existing GLA framework contract being well developed and used for a number of years. A specific JCT contract will be in place for the works in scope of the project.	£0.00	Rare	Serious	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R11	5	(4) Contractual/Partnership	Contractor performance Cause: contractor not performing to expectations Event: programme of works altered and delays in delivering key milestones	Additional project time delay.	Possible	Serious	6	£3,000.00	N	B – Fairly Confident	Careful contractor selection, using established frameworks. Good project management and controls with frequent meetings, key milestones, regular contract reports, regular site inspections.	£0.00	Unlikely	Serious	£0.00	4	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R12	5	(4) Contractual/Partnership	Faulty equipment Cause: faulty equipment Event: ECM not operating as intended as detailed in R3	Inconvenience to tenants, H&S risk where required building conditions are not being met.	Possible	Serious	6	£3,000.00	N	B – Fairly Confident	Ensure all ECMs products are of good quality. Ensure installers are experienced and qualified. Ensure effective QA process.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R13	5	(4) Contractual/Partnership	Coordination between the various ECMs and on site maintenance Cause: poor coordination with other ECMs or maintenance works Event: disruption to both works and reduced building operations for the building manager.	Project delays	Unlikely	Minor	2	£3,000.00	N	B – Fairly Confident	Early and ongoing engagement with all key stakeholders especially the Building Manager	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R14	5	(5) H&S/Wellbeing	Asbestos Cause: unsurveyed areas of work Event: asbestos discovery	Additional project costs and time delay while asbestos is managed.	Unlikely	Serious	4	£8,468.90	Y - for mitigation costs	C – Uncomfortable	Asbestos R&D surveys planned for all risk areas. CRP requested to allow for any discovered asbestos to be managed. Where risk budget is insufficient the scope of the project may need to be changed to avoid asbestos risks, or an issue raised to obtain further budget to address	£3,000.00	Rare	Serious	£0.00	2	£0.00	Manage asbestos if discovered	12/12/23	Darren Horrigan	Darren Horrigan		
R15	5	(5) H&S/Wellbeing	Works Cause: accident while working on or near electrical equipment, unsafe works or installation, working in a plant room, working at height, working with power tools Event: various - immediate or later injury or death to people undertaking the work or in the vicinity of the works, electrical fire, damage to property.	Project delays. Reputational risk.	Possible	Extreme	24	£8,468.90	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans, RAMs and monitoring of works to ensure compliance with CDM, CoL H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R16	5	(5) H&S/Wellbeing	Covid-19 or similar pandemic Cause: Covid-19 outbreak Event: disruption to contractor or supply-chain, infections between personnel, restricted or no access to the building.	Additional project time delay and closure of the building	Likely	Serious	8	£8,468.90	N	B – Fairly Confident	Work in accordance with CoL COVID-19 and similar public health safe guidelines, including the use of face masks and social distance between teams, limiting personnel within confined plant rooms where possible. Vaccination of site personnel.	£0.00	Possible	Serious	£0.00	6	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R17	5	(5) H&S/Wellbeing	Noise nuisance Cause: use of power tools for cutting Event: noise is audible to tenants	Nuisance cause to occupants.	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Consultation with stakeholders to understand potential impacts. Careful planning of works to avoid time when this may be an issue.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		

R18	5	(6) Safeguarding	Vehicle access and/or collisions Cause: Vehicle access to working bays and appropriate locations to avoid refuse lorries Event: Possible injuries to drivers, vehicle or pedestrians	Reputation damage and financial loss	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Good contractor management, ensuring construction plan and RAMS are in place. Only authorised drivers should be granted permission for access to site. Extra training provided to take into account the risk and size of refuse lorries.	£0.00	Rare	Extreme	£0.00	8	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R19	5	(10) Physical	Redecoration Cause: any ECM installation do not match up with existing fixing points highlighting the need for redecoration. Event: minor damage to the surface, or exposing an undecorated surface	May cause a noticible visual appearance issue	Unlikely	Minor	2	£3,000.00	Y	B – Fairly Confident	All ECMS will be in back of house areas and a making good allowance has been included in the main contract budget.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R20	6	(10) Physical	Post ECM installation Cause: a fault with the design, installation or commissioning results Event: ECM not operating as intended or to specification	Inconvenience to tenants or building manager, H&S risk if the building isn't being heated to the levels required.	Possible	Major	12	£8,468.90	N	B – Fairly Confident	Careful design and specification. Selection of contractor experience with these types of works for these types of environments. Good project control and monitoring to ensure installation meets specification. Good QA. Processes in place to address any defects during the defects period. Ensure good warranties are in place.	£0.00	Unlikely	Minor	£0.00	2	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R21	6	(9) Environmental	Savings lower than estimated Cause: inaccurate assumptions or calculations, installation does not meet specification, post-installation changes to the control settings of the ECMs , post-installation maintenance issues with the wider integration of the ECMs , future energy prices lower than anticipated, future electric grid carbon factor lower than anticipated, change in occupancy usage of the spaces Event: actual energy cost and carbon savings are lower than estimated	Unable to verify project meets the GW5 savings targets for carbon emissions and energy costs. Project provides less support to the Climate Action Strategy than anticipated. Energy consumption costs remain higher than anticipated.	Possible	Major	12	£0.00	N	B – Fairly Confident	Base saving estimates on conservative assumptions. Refine estimations based on final design. Verify assumptions throughout the project. Savings guarantee provided through energy performance contract with Vital Energi and includes a Monitoring and Verification exercise.	£0.00	Possible	Serious	£0.00	6	£0.00		12/12/23	Darren Horrigan	Main Contractor: Vital Energi		
R22	5	(2) Financial	Extended Project Management services required Cause: Project programme is extended Event: need for extended project management services	Unable to provide sufficient Project Management support to the whole programme	Possible	Serious	6	£8,468.90	Y - for mitigation costs	B – Fairly Confident	CRP requested	£7,077.78	Possible	Minor	£0.00	3	£0.00		12/12/23	Darren Horrigan	Darren Horrigan		
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R98								£0.00				£0.00			£0.00		£0.00						
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Committees: Buildings Chief Officer Group – for Decision. CAS Senior Responsible Officer – for Decision. Resource Allocation Sub (Policy and Resources) Committee – for information. Projects and Procurement Sub Committee – for information.	**Dates:** Jan 2024 Jan 2024 11 March 2024 15 April 2024
Subject: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: The Warren Carbon Reduction Measures. **Unique Project Identifier:** 12425	**Gateway 3/4/5: Options Appraisal and Authority to Start Work (Regular)**
Report of: City Surveyor **Report Author:** Adam Fjaerem	**For Information**
PUBLIC	

1. Status update	**Project Description:** This paper is for a single project to deliver three Energy Conservation Measures (ECM) at The Warren, Epping Forest to reduce energy consumption, costs and carbon emissions. **RAG Status:** Green **Risk Status:** Medium **Total Estimated Cost of Project (excluding costed risk): £429,227** **Change in Total Estimated Cost of Project (excluding costed risk): £0** No previous estimated cost. The total estimate cost (including risk) is within the previously allocated combined funding, as set out in the Funding Strategy of the Options Appraisal Matrix (see below). **Spend to Date: £4,349** **Costed Risk Provision Utilised: £0 (of which £0 amount has been drawn down since the last report to Committee);** **Funding Source:** CAS Year 3 Plan budget and CWP. **Slippage:** The Gateway 2 paper set out a completion date of March 2025 and a gateway 2 program completion by September 2023.

2. Next steps and requested decisions	**Next Gateway:** Gateway 6: Outcome Report **Next Steps:** • Establish Project Team, to be managed by City Surveyor's Minor Projects Team. • Instruct works contract for Vital Energi. • Detailed design to be undertaken by Vital Energi and approved by CoL. • Vital Energi to raise supply orders. • Commence installation. **Requested Decisions:** 1. That **Option** 3 is approved for the delivery of a single project to deliver three ECM. These works relate to the same site and their inclusion in a single project will provide a cost-effective approach and ensure good alignment of the works under a single main contractor. 2. Note the total estimated cost of the project at **£429,227** (excluding costed risk); 3. Approve a budget of **£381,535** for the capital works to reach the next Gateway; 4. Approve a budget of **£47,692** for the fees, which include project management support and building control, to reach the next Gateway; 5. Approve a Costed Risk Provision of **£42,923** (to be drawn down via delegation to Chief Officer in consultation with the Chamberlain as a post mitigation cost to solve the highlighted risk. This will be funded from CAS funds if required); 6. Enter into a new works agreement with Vital Energi to undertake the works as Principal Contractor and Principal Designer, in accordance with the terms of their existing contract with CoL to deliver services under the National Framework Agreement for Energy Performance Contracting; 7. Procure the project management support services required to reach the next gateway.
3. Budget	The following sets out the budget for the recommended option 3. Total estimated cost of the project, including risk: **£ £472,150** (including a costed risk budget of **£42,923**). Spend to date of **£4,348.89**. In accordance with the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' (see background documents) "In the case of centrally funded sites, financial savings that are made will accrue back to the City Corporation as a contribution to the Build Back Better Fund held in City Fund or City Estate as appropriate. Therefore, departmental local risk budgets will be adjusted accordingly."

The funding arrangement is presented in the Options Appraisal Matrix under option 3. The budget requested for option 3 to reach the next gateway is set out below.

Item	Reason	Funds/ Source of Funding	Cost (£)
Works: Insulation to pipework.	Main works	CAS Year 3 Plan budget. (this paper, GW5 approved budget drawdown)	£1,327
Works: LED lighting replacement.	Main works		£47,503
Works: Air Source Heat Pump.	Main works		£332,705
Fees: Consultancy services to support project delivery.	Project delivery resources		£38,154
Fees: Building Control.	Compliance	CAS Year 3 Plan budget (GW2 approved budget drawdown)	£4,769
Fees: Permission and compliance.	Compliance		£4,769
Total			**£429,227**
Funded from CWP			**£214,613[1]**
Funded from CAS GW5 budget (approved by this paper)			**£205,076**
Funded from CAS GW2 project development budget			**£9,538**

Costed Risk Provision requested for this Gateway: £42,923 from the CAS Year 3 Plan budget (as detailed in the Risk Register – Appendix 2) to cover any variations which may be required following detailed design, cost uplift from inflation, additional project management costs and making good.

4. Overview of project options

Option 1 (not recommended). Cancel the project. Do not proceed with the single project covered by this paper to install three ECMs at The Warren. This is not recommended as it will not support the City of London's goals for reducing carbon emissions and energy costs.

Option 2 (not recommended). Proceed with a reduced scope project. Proceed with a single project to install two ECMs at The Warren. This is not recommended as it will only support the City of

[1] Cyclical Works Programme has a project to replace boilers, heating controls, room controls and pumps in the building in 2024/25 and landlords lighting in 26/27. This funding has been transferred to this project to contribute to ECM3 – Air Source Heat Pump and ECM2 - LED lighting.

	London's goals for reducing carbon emissions and energy costs in a limited way whilst leaving an aged boiler plant to be replaced as a separate project. **Option 3 (recommended): Proceed with the project to install the ECM measures.** The scope of this project is to install three distinct ECM.
5. Recommended option	Option 3, to proceed with this project to install three ECM. Combining these three ECM into one project at the same site will provide a more cost-effective approach and ensure good alignment of the works under a single main contractor. These measures will provide energy cost and carbon emission savings and can be met within the existing provisionally approved funding. This option provides an estimated saving of c.£6,416 per annum in electricity and gas costs which will support the City Corporations Build Back Better Fund. The simple payback for this project for the CAS funding element is 40.1 years (including costed risk). The option provides an estimated annual saving of 18.7 tCO_2e (based on projected 2027 electricity carbon factors), equating to an 53% reduction in the sites carbon emissions, which will support the City Corporation to meet its net zero carbon by 2027 target as set out in the CAS. The boiler plant at this site is older than CIBSE recommended life expectancy of such plant and as such is likely to fail and require replacing as an emergency. The Air Source Heat Pump (ASHP) recommended in this project will allow for a planned replacement with a low carbon alternative.
6. Risk	**Service interruption**. The project to install these three ECM will be completed whilst the building is operational. The heating will need to be turned off for the final connection of the ASHP to the existing heating system and this will be programmed to avoid impacting the building users. **Health and safety**: all works within the demise will require careful management in line with City of London policies. Further information available in the Risk Register (Appendix 2) and options appraisal matrix. **Costed Risk Provision requested for this Gateway: £42,923** (as detailed in the Risk Register – Appendix 2) to cover any variations which may be required following detailed design, additional project management costs and making good.

7. Procurement approach	City of London have an existing Call-off-Contract with Vital Energi under GLA's Re:fit framework, for which Vital Energi (the Service Provider) will provide a range of services including High Level Assessments, Investment Grade Proposals and Works Contracts to carry out Energy Efficiency Measures under an Energy Performance Guarantee. Vital Energy have completed surveys of The Warren and issued CoL with an Investment Grade Proposal (IGP) in accordance with their contract. The IGP sets out the firm costs, guaranteed savings and Measurement and Verification (M&V) plan for the works. The single project comprising of three separate ECM set out in this paper are to be carried out through entering into a new works agreement with Vital Energi, under the Call-off-Contract. Vital Energi will undertake the design and construction of the works and undertake the duties of Principal Contractor and Principal Designer. Following project completion, Vital Energi will undertake a M&V exercise, in accordance with an agreed method and best practice industry standards, to evidence the achieved savings.
8. Design summary	The final design shall be undertaken by Vital Energi as part of their works agreement and issued to CoL for approval. The following summarises the design as set out in Vital Energi's Investment Grade Proposal (IGP) which has been informed through on-site surveys with their design team and sub-contractors. <u>Pipework insulation</u> This ECM involves the installation of insulation onto exposed valves, flanges, pipework and heat exchangers. The need for this insulation has been identified via site surveys with temperatures loses noted through using thermal imaging cameras. Where existing insulation is missing or damaged this will be replaced with new insulation with the old material disposed of suitably. <u>LED Lighting replacement</u> The site has already replaced a number of older, less energy efficient fluorescent luminaires with new LED versions. However, there are still some fluorescent luminaires remaining and this ECM will replace these so that the entire site is lit by LED. These will be replaced as a point for point replacement using the existing wiring and switching arrangements. If further energy saving opportunity are available through installing occupancy controls in certain areas then this will be done as part of the installation. <u>ASHP installation</u>

	This ECM involves the removal of the existing boilers, calorifier and primary pumps and replacing them with a single 110.4kW Air Source Heat Pump (ASHP), a 200 litre indirect domestic hot water calorifier, a 2,000 litre thermal store/buffer vessel and a new primary heating pump. In addition, modifications will be made to the existing heating, electrical, BMS, and DHW systems to optimisation the operation of the new ASHP. The ASHP will be located on the ground floor to the rear of the auxiliary barn, adjacent to the existing heating plantroom. Insulated pipework will be routed above ground to connect the new plant with the existing plantroom and onto the existing heat transference system and emitters. It has been calculated that although the flow and return temperatures from the ASHP will be lower than those with the existing gas boiler the radiators in the building are already oversized and as such will provide sufficient heat into the building. A contingency fund is available to replace some of the smaller radiators if this is deemed necessary.
9. Delivery team	The project will be led by the Minor Works Projects Team, City Surveyor's. The project management consultancy support set out in this paper will be resourced separately by the Minor Works Team.
10. Success criteria	1. Completed by August 2024. 2. Completed within budget. 3. Verified energy cost savings of £6,416 per annum. 4. Verified carbon savings of 18.7 tCO_2e per annum based on projected 2027 carbon costs.
11. Progress reporting	Project Vision progress reports with any required decisions coming back as an Issue Report.

Appendices

Appendix 1	Project Coversheet
Appendix 2	Risk Register

Background documents

Background Paper. GW2 CAS Capital Delivery Programme

Contact

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Options Appraisal Matrix – in scope Phase 2 Building, out of scope Phase 1 & 3 buildings

Option Summary	Option 1	Option 2	Option 3
1. Brief description of option	**Cancel the project.** Do not proceed with the project to deliver three Energy Conservations Measures (ECM) at the building.	**Proceed with the project.** To deliver two Energy Conservation Measures (ECM).	**Proceed with the project.** To deliver three Energy Conservation Measures (ECM).
2. Scope and exclusions	N/A	Scope: • Pipework insulation • LED lighting replacement	Scope: • Pipework insulation • LED lighting replacement • ASHP installation
Project Planning			
3. Programme and key dates	N/A	• Feb 24: GW3-5 approval, • Mar 24: Instruct works agreement with Vital Energi, • April 24: Contractor mobilisation, supply orders raised, • April 24: Commence installation, • May 24: Complete installation, • May 25: Gateway 6.	• Feb 24: GW3-5 approval, • Mar 24: Instruct works agreement with Vital Energi, • April 24: Contractor mobilisation, supply orders raised, • May 24: Commence installation, • August 24: Complete installation, • August 25: Gateway 6.

Option Summary	Option 1	Option 2	Option 3
4. Risk implications	Low	Low Further information available within the Risk Register (Appendix 2). Service interruption. The insulation to the pipework project can be completed whilst the heating system is operating however, it would be preferable to do this after a period of non-operation to avoid operative's discomfort. This will be coordinated with the Building Manager to avoid any negative impact on the building comfort. LED installation will take place during the day when the building is occupied. The areas to be covered will be planned at the end of the week for the week ahead to allow people who work in those areas to work elsewhere on the day of the install. Most luminaires will be a straight switch and so relatively quick. Any drilling or noisy works will be completed out of normal office hours.	Medium Further information available within the Risk Register (Appendix 2). Service interruption. The insulation to the pipework project can be completed whilst the heating system is operating however, it would be preferable to do this after a period of non-operation to avoid operative's discomfort. This will be coordinated with the Building Manager to avoid any negative impact on the building comfort. LED installation will take place during the day when the building is occupied. The areas to be covered will be planned at the end of the week for the week ahead to allow people who work in those areas to work elsewhere on the day of the install. Most luminaires will be a straight switch and so relatively quick. Any drilling or noisy works will be completed out of normal office hours.

Option Summary	Option 1	Option 2	Option 3
		Health and safety: No hot works will be required with operatives using cold cutting equipment, all electrical and related works will require careful management in line with City of London policies.	The installation of the ASHP will require the heating system to be turned off during the transfer from the boiler to the ASHP heat source. The ASHP plant would need to be installed first to allow this transfer before the redundant boiler equipment is removed and the gas supply capped off. This transfer will be coordinated with the Building Manager to avoid any negative impact on the building comfort. Health and safety: No hot works will be required with operatives using cold cutting equipment, all electrical and related works will require careful management in line with City of London policies.
5. Stakeholders and consultees	N/A	**Corporate property:** Peter Collinson, Paul Friend, Peter Young, Robert Murphy, Matt Baker, Jonathan Cooper, Darren Horrigan, Grayham Howarth, Ian Hughes, Peter Ochser, Andrew Coke, Neil Hawkins, Stuart Wright, Michaela Dhas, Graeme Low, Mark Donaldson, Edmund Tran, **Chamberlains:** Simon Owen, Andrew Little, Sarah Baker	

Option Summary	Option 1	Option 2	Option 3
		Procurement: Jemma Borland **Site users:** Jacqueline Egglestone, William LoSasso, Emily Brennan, Lee Powell, Nick Clayden, Jennifer Harris	
6. Benefits of option	No funding required.	Cost savings est. of c.£4,151/yr. These savings are guaranteed under the energy performance contract with Vital Energi. A Measurement and Verification (M&V) exercise will be undertaken six months after installation to verify the actual projects savings and this will be evidenced using metered electricity and gas consumption. Carbon emission savings of 2.8 tCO_2e/yr. Improvements in the lighting of areas that have previously not been upgraded to LED. Reduced heat loss into the plant areas through the installation of pipe insulation.	Cost savings est. of c.£6,416/yr. These savings are guaranteed under the energy performance contract with Vital Energi. A Measurement and Verification (M&V) exercise will be undertaken six months after installation to verify the actual projects savings and this will be evidenced using metered electricity and gas consumption. Carbon emission savings of 18.7 tCO_2e/yr. The new ASHP will come with a lower maintenance requirement than with the current aged boiler plant. Improvements in the lighting of areas that have previously not been upgraded to LED.

Option Summary	Option 1	Option 2	Option 3
			Reduced heat loss into the plant areas through the installation of pipe insulation.
7. Disbenefits of option	Higher ongoing energy and maintenance costs	Capital cost. Staff management and resource implications.	Capital cost. Staff management and resource implications.
Resource Implications			
8. Total estimated cost	N/A	Total estimated cost (excluding risk): **£54.933** Highly confident in the cost at this stage. Total estimated cost: (including risk): **£60.427**	Total estimated cost (excluding costed risk): **£429,227** Moderately confident in the cost at this stage. Total estimated cost: (including costed risk): **£472,150**
9. Funding strategy	N/A	The total estimated cost (including risk) of **£60,427** shall be met entirely **from City Estate**. This funding was previously provisionally approved by CAS as set out in the Gateway 2 issue report approved in December 2022.	The total estimated cost (including risk) of **£472,150** shall be met through the following funding sources: **£214,613 from CWP** **£257,537 from City Estate**. This funding was previously provisionally approved by CAS as set out in the Gateway 2 issue

Option Summary	Option 1	Option 2	Option 3
			report approved in December 2022.
10. Investment appraisal	N/A.	A simple payback for the whole project has been estimated of 14.5 years based on estimated cost savings of c£4,151/yr. (based on current energy prices). The energy savings are an estimate based on assumptions of the existing system and proposed system. These estimations will be verified post-completion.	A simple payback for the whole project has been estimated of 55.4 years based on estimated cost savings of c.£6,416/yr. (based on current energy prices). The energy savings are an estimate based on assumptions of the existing system and proposed system. These estimations will be verified post-completion. The boiler plant at this site is older than CIBSE recommended life expectancy of such plant and as such is likely to fail and require replacing as an emergency. The ASHP recommended in this project will allow for a planned replacement with a low carbon alternative.
11. Estimated capital value/return	N/A	Estimated cost savings of c.£4,151/yr and simple payback of 14.5 years.	Estimated cost savings of c.£6,416/yr and simple payback of 40.1 years.

Option Summary	Option 1	Option 2	Option 3
		Confident.	Moderately confident (+/-15%). The savings estimate will be refined as the project is developed to final design and verified after completion.
12. Ongoing revenue implications	N/A	There will be a reduction in the maintenance costs associated with replacing lamps.	There will be a reduction in maintenance costs associated with the heating system as the ASHP will replace the aged boiler system. There will be a reduction in the maintenance costs associated with replacing lamps.
13. Affordability	N/A	The cost for this option can be accommodated within funding allocations already approved in principle, as set out in item 9 above.	The cost for this option can be accommodated within funding allocations already approved in principle, as set out in item 9 above.
14. Legal implications	N/A	None	None.
15. Corporate property implications	Does not align with the Corporate Property Asset Management Strategy 2020-2025	• This project aligns, albeit at a reduced level, with the Corporate Property Asset Management Strategy 2020-	• This project aligns with the Corporate Property Asset Management Strategy 2020-

Option Summary	Option 1	Option 2	Option 3
		2025 in reducing energy costs and carbon emissions.	2025 in reducing energy costs and carbon emissions. • Works require careful planning, consultation and coordination to minimise the disruption and impacts to building services and site users. • This project works require coordination with other site works/projects and activities/events. • Security considerations for contractor access to certain areas. • Maintenance contracts and registers need to be updated to account for the changes to the building services and systems. • Good commissioning and hand-over process required to ensure the upgraded plant and equipment is working satisfactorily.
16. Traffic implications	N/A	None	None.
17. Sustainability and energy implications	Cancelling the project would be a missed opportunity for reducing	The reduced scope of this project would represent a missed	This project supports the City of London's net zero carbon targets

Option Summary	Option 1	Option 2	Option 3
	energy and carbon emissions for this building and does not support the City of London's net zero carbon targets.	opportunity for reducing energy and carbon emissions at this building (whilst being aware that the heating system requires replacement) and does not support the City of London's net zero carbon targets in full.	as set out in the Climate Action Strategy.
18. IT implications	N/A	None	None
19. Equality Impact Assessment	N/A	None	None.
20. Data Protection Impact Assessment	N/A	N/A	N/A
21. Recommendation	Not recommended	Not recommended	**Recommended**

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Project Coversheet

[1] Ownership & Status

UPI: TBC

Core Project Name: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings: The Warren Carbon Reduction Measures.

Programme Affiliation: Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings

Project Manager: Adam Fjaerem

Definition of need: this project is part of the 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' which aims to deliver reductions in the carbon emissions of our operational buildings in support of the City Corporation's net zero goal as set out in our Climate Action Strategy.

Key measures of success:

1. Completed by August 2024.
2. Completed within budget.
3. Verified energy cost savings of c. £6,416 per annum in electricity and gas costs.
4. Verified carbon savings of c. 18.7 tCO_2e per annum (based on projected 2027 carbon factors).

Expected timeframe for the project delivery: Completion by August 2024.

Key Milestones:

Feb 24:	• GW3-5 for main works approved.
Mar 24:	• Instruct works agreement with Vital Energi.
April 24:	• Contractor mobilisation, supply orders raised, commence installation.
August 24:	• Complete installation.
August 25:	• GW6 with final estimated energy and carbon savings.

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?
No.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Proposal' GW2 report (as approved by P&R 15/12/2022):

A GW2 paper titled 'Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings' was approved by P&R. This paper set out the specific projects that formed the programme and would be put forward for approval through a series of subsequent separate gateway papers. Appendix 1 of this paper set out a list of the proposed projects for the scope of the programme. This included three Energy Conservations Measures (ECM) identified at The Warren which are combined into the scope set out in the attached GW3-5 paper. The programme below summarises the stages that are relevant to the GW3-5 paper proposed for The Warren:

Overall programme:

- Sept 2021: Surveys commenced,
- July 2022: Surveys completed,
- Dec 2022: GW2 approval for overall project programme,
- Jan 2023: First GW3-5 Paper for individual projects, with other GW3-5 papers submitted on an ongoing basis. Preparation of Investment Grade Proposals to support GW3-5 papers,
- Mar 2023: Commencement of construction of individual projects,
- Mar 2025: Completion of construction.

'Authority to start Work' GW3-5 report (subject to approval):

- Total Estimated Cost (excluding risk): £429,227.
- Resources to reach next Gateway (excluding risk): £429,227.
- Spend to date: £4,349
- Costed Risk (pre-mitigation) Against the Project: £227,262.
- CRP Requested: £42,923
- CRP Drawn Down: £0
- Estimated Programme Dates:
  I
  - Feb 24: GW3-5 approval,
  - Mar 24: Instruct works agreement with Vital Energi,
  - Apr 24: Contractor mobilisation, supply orders raised,
  - Apr 24: Commence installation,
  - Aug 24: Complete installation,
  - Aug 25: Gateway 6.

Total anticipated on-going commitment post-delivery [£]: 0

City of London: Projects Procedure Corporate Risks Register

Project name: *The Warren [Climate Action Strategy (CAS) – Capital Delivery Programme for Operational Buildings]*

Unique project identifier: *12425*

Total est cost (exc risk) *£429227*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**6.2**
Avg risk post-mitigation	**3.2**
Red risks (open)	**2**
Amber risks (open)	**8**
Green risks (open)	**12**

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)	£227,261.55	53%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£227,261.55	53%	*" "*
Costed risk post-mitigation (open)	£0.00	0%	*" "*
Costed Risk Provision requested	£42,923.34	10%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	2	**2.0**	£7,500.00	0	0	2
(2) Financial	3	**6.0**	£85,454.80	0	3	0
(3) Reputation	0	**0.0**	£0.00	0	0	0
(4) Contractual/Partnership	8	**5.1**	£24,000.00	1	2	5
(5) H&S/Wellbeing	4	**10.0**	£64,384.05	1	1	2
(6) Safeguarding	1	**4.0**	£0.00	0	0	1
(7) Innovation	0	**0.0**	£0.00	0	0	0
(8) Technology	0	**0.0**	£0.00	0	0	0
(9) Environmental	1	**12.0**	£0.00	0	1	0
(10) Physical	3	**6.0**	£45,922.70	0	1	2

		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:	The Warren [Climate Action Strategy (CAS) – Capital	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 42,923	**Average unmitigated risk**	6.2	**Open Risks**	22
Unique project identifier:	12425	**Total estimated cost (exc risk):**	£ 429,227	**Total CRP used to date**	£ -	**Average mitigated risk score**	3.2	**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	(2) Financial	Main works variations/delays Cause: changes during the design or installation stage based on further design work, surveys and consultation with building control, planning conservation and other stakeholders Event: may require further design or installation works and could lengthen the programme	Additional costs and delays, if no budget is available to meet this then scope of the project would need to be changed or an issue report raised to request the additional budget	Possible	Serious	6	£21,461.35	Y - for mitigation costs	B – Fairly Confident	CRP requested to address this if it occurs	£17,169.08	Likely	Minor	£0.00	4	£0.00	To address any need for contract variations	06/02/24	Darren Horrigan	Darren Horrigan		
R2	5	(1) Compliance/Regulatory	Permissions and compliance Cause: planning permission not required for this phase Event: additional fees for application and input required from contractor	Cost for planning fees	Unlikely	Minor	2	£2,500.00	N	B – Fairly Confident	CRP included for in R1	£0.00	Possible	Minor	£0.00	3	£0.00	To address any need for contract variations	06/02/24	Darren Horrigan	Darren Horrigan		To be funded from approved GW5 budget to support project implementation
R3	5	(2) Financial	Insulation to pipework Cause: quality of insulation (attachment, installation, coverage, performance) does not meet requirements Event: heat leakage to the plant room, pipe runs resulting insufficient heat being supplied to emitter meaning end user are unsatisfied, potential compliance or H&S risk with regard DHW LED installation Cause: quality of luminaires results in different colour rendition lighting in the building, controls not operating the lights as required. Event: lighting not in compliance with CIBSE guidance or Building Controls. ASHP Cause: The lower temperatures of the ASHP result in the existing radiators not getting hot enough to heat the building in the colder months	Additional costs to rectify issues.	Possible	Serious	6	£42,922.70	Y - for mitigation costs	B – Fairly Confident	Good design and consultation with stakeholders. Strict adherence to warranty to ensure that any mistakes are corrected within the handover period.	£10,730.68	Possible	Minor	£0.00	3	£0.00	NA	06/02/24	Darren Horrigan	Darren Horrigan		To be funded from approved GW5 budget to support project implementation
R4	5	(1) Compliance/Regulatory	Permissions and compliance Cause: planning or building control requires design changes Event: additional cost of works	Capital cost for additional works	Unlikely	Minor	2	£5,000.00	Y - for mitigation costs	B – Fairly Confident	CRP requested to address potential additional works cost	£5,000.00	Possible	Minor	£0.00	3	£0.00	To allow for additional scope of works	06/02/24	Darren Horrigan	Darren Horrigan		
R5	5	(10) Physical	Accidental property damage due to movement of equipment Cause: impact of items to property/fittings from equipment transfer to/from works space, within the spaces Event: damage to property within access routes or work space	Additional project time delay. Cost of repairs. Disruption caused by damage/repairs.	Unlikely	Serious	4	£21,461.35	N	B – Fairly Confident	The main risk relates to any transfer of equipment to/from the plant room areas which can be fully mitigated through restricting access route to low risk areas, well developed RAMS and good installation supervision.	£0.00	Rare	Minor	£0.00	1	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		Liaison required with building manager
R6	5	(4) Contractual/Partnership	Unable to enter into contract within fixed price proposal period	Additional costs due to inflation	Unlikely	Minor	2	£5,000.00	N	B – Fairly Confident	Fixed price is 90 days and the approval process should be short due to delegated authority under CAS programme. If 90 days was exceeded, the increased costs are likely to be minor.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R7	5	(4) Contractual/Partnership	Supply delivery disruption Cause: disruption to the transport system Event: delays for materials and personnel	Additional project time delay.	Unlikely	Minor	2	£0.00	N	B – Fairly Confident	With the exception of the ASHP none of the items being installed are difficult to access (and even for the ASHP this is becoming less of a rist) and so very low risk to the supply of the selected products	£0.00	Rare	Minor	£0.00	1	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		

R8	5	(4) Contractual/Partnership	Contractor liquidity Cause: contractor cash liquidity Event: contractor insolvency	Project delays	Unlikely	Extreme	16	£0.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Vital Energi. Vital Energi are considered low risk in terms of solvency given the size of the company. There is a risk that the sub-contractor could go insolvent, in which case this could cause delays while the Main Contractor arranges an alternative sub-contractor but the installation works do not require a specialist contractor.	£0.00	Rare	Serious	£0.00	2	£0.00		06/02/24	Darren Horrigan	Darren Horrigan		
R9	5	(4) Contractual/Partnership	Commissioning and snagging delays Cause: commissioning and snagging not performed on time Event: the quality of remaining works might be jeopardised if repeated mistakes are not spotted on time	Additional project time delay.	Possible	Minor	3	£5,000.00	N	B – Fairly Confident	Ensure Main Contractor carries out their QA process effectively. Procured PM services will support quality control checks.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R10	5	(4) Contractual/Partnership	Contract dispute Cause: disputes between the client and the contractor Event: legal actions delays or pause in the project	Additional project time delay.	Unlikely	Serious	4	£5,000.00	N	B – Fairly Confident	Works to be delivered through call-off contract with existing Main Contractor - Vital Energi. Considered unlikely due to the existing GLA framework contract being well developed and used for a number of years. A specific JCT contract will be in place for the works in scope of the project.	£0.00	Rare	Serious	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R11	5	(4) Contractual/Partnership	Contractor performance Cause: contractor not performing to expectations Event: programme of works altered and delays in delivering key milestones	Additional project time delay.	Possible	Serious	6	£3,000.00	N	B – Fairly Confident	Careful contractor selection, using established frameworks. Good project management and controls with frequent meetings, key milestones, regular contract reports, regular site inspections.	£0.00	Unlikely	Serious	£0.00	4	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R12	5	(4) Contractual/Partnership	Faulty equipment Cause: faulty equipment Event: ECM not operating as intended as detailed in R3	Inconvenience to building users , H&S risk where required building conditions are not being met.	Possible	Serious	6	£3,000.00	N	B – Fairly Confident	Ensure all ECMs products are of good quality. Ensure installers are experienced and qualified. Ensure effective QA process.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R13	5	(4) Contractual/Partnership	Coordination between the various ECMs and on site maintenance Cause: poor coordination with other ECMs or maintenance works Event: disruption to both works and reduced building operations for the building manager.	Project delays	Unlikely	Minor	2	£3,000.00	N	B – Fairly Confident	Early and ongoing engagement with all key stakeholders especially the Building Manager	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R14	5	(5) H&S/Wellbeing	Asbestos Cause: unsurveyed areas of work Event: asbestos discovery	Additional project costs and time delay while asbestos is managed.	Unlikely	Serious	4	£21,461.35	Y - for mitigation costs	B – Fairly Confident	Asbestos R&D surveys planned for all risk areas. CRP requested to allow for any discovered asbestos to be managed. Where risk budget is insufficient the scope of the project may need to be changed to avoid asbestos risks, or an issue raised to obtain further budget to address	£3,000.00	Rare	Serious	£0.00	2	£0.00	Manage asbestos if discovered	06/02/24	Darren Horrigan	Darren Horrigan		
R15	5	(5) H&S/Wellbeing	Works Cause: accident while working on or near electrical equipment, unsafe works or installation, working in a plant room, working at height, working with power tools Event: various - immediate or later injury or death to people undertaking the work or in the vicinity of the works, electrical fire, damage to property.	Project delays. Reputational risk.	Possible	Extreme	24	£21,461.35	N	B – Fairly Confident	Selection of experienced and competent contractors. Scrutiny of plans, RAMs and monitoring of works to ensure compliance with CDM, CoL H&S Policy, and any specific site requirements.	£0.00	Rare	Extreme	£0.00	8	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R16	5	(5) H&S/Wellbeing	Covid-19 or similar pandemic Cause: Covid-19 outbreak Event: disruption to contractor or supply-chain, infections between personnel, restricted or no access to the building.	Additional project time delay and closure of the building	Likely	Serious	8	£21,461.35	N	B – Fairly Confident	Work in accordance with CoL COVID-19 and similar public health safe guidelines, including the use of face masks and social distance between teams, limiting personnel within confined plant rooms where possible. Vaccination of site personnel.	£0.00	Possible	Serious	£0.00	6	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R17	5	(5) H&S/Wellbeing	Noise nuisance Cause: use of power tools for cutting Event: noise is audible to building users	Nuisance cause to occupants.	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Consultation with stakeholders to understand potential impacts. Careful planning of works to avoid time when this may be an issue.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R18	5	(6) Safeguarding	Vehicle access and/or collisions Cause: Vehicle access to only certain parking bays for loading and unloading Event: Possible injuries to drivers, vehicle or pedestrians	Reputation damage and financial loss	Unlikely	Serious	4	£0.00	N	B – Fairly Confident	Good contractor management, ensuring construction plan and RAMS are in place. Only authorised drivers should be granted permission for access to site.	£0.00	Rare	Extreme	£0.00	8	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		

R19	5	(10) Physical	Redecoration Cause: any ECM installation do not match up with existing fixing points highlighting the need for redecoration. Event: minor damage to the surface, or exposing an undecorated surface	May cause a noticible visual appearance issue	Unlikely	Minor	2	£3,000.00	N	B – Fairly Confident	A making good allowance has been included in the main contract budget.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R20	6	(10) Physical	Post ECM installation Cause: a fault with the design, installation or commissioning results Event: ECM not operating as intended or to specification	Inconvenience to building users and/or building manager, H&S risk if the building isn't being heated to the levels required.	Possible	Major	12	£21,461.35	N	B – Fairly Confident	Careful design and specification. Selection of contractor experience with these types of works for these types of environments. Good project control and monitoring to ensure installation meets specification. Good QA. Processes in place to address any defects during the defects period. Ensure good warranties are in place.	£0.00	Unlikely	Minor	£0.00	2	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R21	6	(9) Environmental	Savings lower than estimated Cause: inaccurate assumptions or calculations, installation does not meet specification, post-installation changes to the control settings of the ECMs , post-installation maintenance issues with the wider integration of the ECMs , future energy prices lower than anticipated, future electric grid carbon factor lower than anticipated, change in occupancy usage of the spaces Event: actual energy cost and carbon savings are lower than estimated	Unable to verify project meets the GW5 savings targets for carbon emissions and energy costs. Project provides less support to the Climate Action Strategy than anticipated. Energy consumption costs remain higher than anticipated.	Possible	Major	12	£0.00	N	B – Fairly Confident	Base saving estimates on conservative assumptions. Refine estimations based on final design. Verify assumptions throughout the project. Savings guarantee provided through energy performance contract with Vital Energi and includes a Monitoring and Verification exercise.	£0.00	Possible	Serious	£0.00	6	£0.00		06/02/24	Darren Horrigan	Main Contractor: Vital Energi		
R22	5	(2) Financial	Extended Project Management services required Cause: Project programme is extended Event: need for extended project management services	Unable to provide sufficient Project Management support to the whole programme	Possible	Serious	6	£21,070.75	Y - for mitigation costs	B – Fairly Confident	CRP requested	£7,023.58	Possible	Minor	£0.00	3	£0.00		06/02/24	Darren Horrigan	Darren Horrigan		
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Committees: Streets and Walkways Sub-committee *[for decision]* Projects and Procurement Sub-committee *[for information]*	**Dates:** 19 March 2024 15 April 2024
Subject: St Paul's Cathedral External Re-lighting **Unique Project Identifier:** *9672*	**Gateway 4** Complex **Issue Report**
Report of: Interim Executive Director of Environment **Report Author:** Clarisse Tavin, Policy and Projects, City Operations	**For Decision**
PUBLIC	

1. Status update	**Project Description:** The project proposes to replace the ageing external lighting system at St Paul's Cathedral with a new innovative, sustainable and energy efficient system. St Paul's Cathedral is one of the most famous and iconic landmarks on the London skyline. It is recognised both nationally and internationally. The way it is seen is critical to the character and identity of the entire city as well as the City of London. The project, governed by a joint Board with City of London and St Paul's Cathedral representatives, aims to support a more sustainable low energy solution thanks to use of LED technology controlled through a management system. The new lighting scheme aims to reveal the building's iconic architecture after dark, improving the quality of the lit environment in the local area and contributing to London's nightscape and protected views. This is to be achieved using the latest technology which will allow a more sustainable approach and substantial savings in running and maintenance costs. The project aligns with the objectives of the City Lighting Strategy, the Lighting Supplementary Planning Document and the Climate Action Strategy. **Latest update:** This report provides an update on the works completed to date including the successful delivery of lighting trials, and requests release of further funding from the previously approved project budget to appoint the project team and relevant experts to progress the design to the next gateway.

	Lighting trials to validate the concept design were successfully carried out in January 2024. Various stakeholders attended events to view the lighting proposals which allow them to provide comments and alleviate concerns they may have had. The trial showcased the proposed approach of using warm “light from within” to highlight forms and details commonly unappreciated by day as they are often in heavy shadow, and the dynamic management of the lighting, allowing a slow and gradual reduction of lighting levels. This was achieved through several layers of lighting on key architectural elements of the facades, which together celebrate the Cathedral’s architecture and demonstrated how lighting can greatly enhance the legibility and appreciation of the exceptional heritage of the building. Overall, the trials received very supportive comments. **RAG Status:** Green (Green at last report to Committee) **Risk Status:** Medium (Medium at last report to committee) **Total Estimated Cost of Project (excluding risk):** £2.075M **Change in Total Estimated Cost of Project (excluding risk):** No change since last report. **Spend to Date:** £500,470 **Costed Risk Provision Utilised:** N/A **Slippage:** None The project is being developed as per the programme presented in the Gateway 4 report approved by Committees in September 2023.
2. Requested decisions	**Next Gateway:** Gateway 4c – Detailed design **Requested Decisions:** 1. Approve the procurement and appointment of services required to reach the next Gateway; 2. Approve the additional budget of £705,000 funded from the S106 contributions allocated to the project (£640,000) and the previously approved £1.16M capital bid (£65,000) as detailed in Finance Tables in Appendix 2; and 3. Note the revised budget of 1,380,000 (excluding risk).
3. Budget	3.1 The project has progressed successfully, and activities completed to date include: a full review of the concept design, the preparation and delivery of the lighting tests and lighting demonstration trials (delivered respectively in October 2023 and January 2024), as well as associated key stakeholders' engagement. 3.2 The project expenditure to date is £500,470 funded from the approved capital bid of £1.16m and Finance Contingency budget of £75,000 (see details in Finance Tables in Appendix 2) 3.3 To progress the detailed design (RIBA Stage 3 equivalent) and manage the technical complexities of working on a Grade I listed

	building, additional fees are required to appoint the project team, including: • **Lighting Designer** to produce the detailed and technical lighting design, including layouts, schedule of equipment and controls, provide advice on design matters and review the final lighting installation. It is proposed that the services of a lighting designer are procured for all the remaining stages of the project. This approach is deemed more cost-effective and efficient compared to procurement in stages. It will also ensure continuity and consistency of service. • **Technical Project Manager** to act as a technical interface between the City, the Cathedral and the design and technical teams. This will include the day-to-day co-ordination of work streams, review and evaluation of work delivered by the expert consultants. • **Heritage Assessor** to evaluate and report on the Heritage value of the Cathedral which will be key to secure relevant secular and ecclesiastical consents. • **Sustainability consultant** to calculate the proposed embodied and operation carbon of the overall project and help evaluate the potential social economic and environmental impact of the scheme. • **St Paul's Cathedral Services** including Director of Property, Clerk of Work and Surveyor to the Fabric who are liaising with key decision people at St Paul's, overseeing any works to the Cathedral and ensuring these are appropriately approved and installed. • **Arboriculturist** to advice on potential impact on local trees. The specialist team is required to support the successful delivery of the project successfully and manage the complexities of consents and approvals. This includes assessing the impact the new lighting scheme may have on the fabric of the Grade I listed building, and on the character of the immediate area of St Paul's Cathedral, the surrounding public realm, and the London skyline. The team will also provide recommendations in regard to sustainability to ensure this iconic building is re-lit to the highest standard and in a sustainable way, whilst protecting its integrity, heritage significance and fabric. Their advice will also enable to refine the overall cost-estimate and de-risks important aspects of the project. 3.4 Additional internal staff costs are required to continue to lead on the project and ensure City's project management requirements are fulfilled, progress documentation procurement and appointments of specialist consultants and negotiations of legal agreements, undertake further stakeholders and sponsorship engagements and

report writing. Please see details in the Finance Tables in section 3.9 below.

3.5 It is expected that additional discrete tests will need to be carried out as part of the further design development to validate final decisions, and the budget request accounts for the expected costs of the associated works.

3.6 The total project cost estimate will be further refined following the assessment of the tests and trials and the appointment of a Quantity Surveyor. The full project budget will be confirmed at the next Gateway and if it exceeds the current available budget, additional funding from external sources will be secured before the Gateway 5 report is submitted.

3.7 Positive conversations with external high-profile partners have taken place. Since the last report, Officers secured an additional £40,000 contribution from the Fleet Street Quarter (FSQ) for the project, so the current total project funding secured is 2.115M.

3.8 Finance tables

Table 1: resource requirements to reach the next gateway

Description	Approved budget (£)	Resources required (£)	Revised budget (£)
PreEv staff costs	15,000	-	15,000
PreEv P&T fees	35,000	-	35,000
Marketing fees	1,900	-	1,900
Sponsorship consultants	7,775	-	7,775
Staff costs	134,325	60,000	194,325
P&T fees	300,000	595,000	814,000
Legal staff cost	6,000	-	6,000
Works (including lighting tests and trial)	213,000	50,000	263,000
Total	675,000	705,000	1,380,000

Table 2: Current Funding Strategy

Source of funding	Amount (£)
City of London Capital Bid (City Fund)	1.160M
S106s	0.840M
Finance Committee Contingency fund	0.075M
External contribution (FSQ)	0.040M

	TOTAL 2.115M Costed Risk Provision requested for this Gateway: £0
4. Issues description	Project update: **4.1 Project objectives** The project aims to: • Replace the current ageing lighting equipment with a new more effective and efficient system that aligns to the current Institute of Engineering and Technology (IET) regulations, reveals and celebrates the architecture of the Cathedral after dark, aligning with the City Lighting Strategy. • Improve the quality of the evening environment in the local area and reinforce the views of St Paul's Cathedral across London. This will contribute to providing a nicer and more attractive environment after dark encouraging people to dwell and spend more time in the area, aligning with Destination City initiative. • Deliver annual savings of approximately 75% of running costs (electrical) and substantial savings for its future maintenance. • Reduce light pollution and energy use in line with the City Corporation's commitment to sustainability and contribute towards achieving its net zero carbon emission by 2040. • Hand over and formalise the responsibility for the management of the new external lighting to St Paul Cathedral and associated maintenance. **4.2 Latest progress** Extensive work and important milestones have been achieved since the last Gateway report was approved in September 2023. These helped to develop the project and further understand the effect of the new lighting in the local area as well as medium and long distance views and will provide the basis for the development of the detailed and developed design. • The project team focused on securing the relevant approvals and procuring necessary equipment to deliver the January's lighting trials, including testing of a various lighting equipment in October 2023. Testing enabled the lighting designer to specify the most suitable equipment and their settings and positions for the trials. • Lighting trials, illuminating parts of the Cathedral's façade, were undertaken on the week of 22 January 2024. They aimed to carry out a technical evaluation of the scheme, validate the concept design and demonstrate it to key stakeholders and sponsors. 59 people attended and were invited to share their views, ask

	questions and to submit written feedback to a specific email inbox created for the event (stpaulslighting@cityoflondon.gov.uk) • The trial enabled an initial examination of the way the scheme might be controlled and helped with addressing key issues, including urban and heritage considerations, sustainable balance of social and economic benefit with potential environmental impact. The successful demonstration provides the basis for the development of the detailed design and helps to de-risk many aspects of the project. • A report detailing the process and findings of the lighting trial, including stakeholders' feedback and photographic recording was prepared. It will inform the detailed design development stage. Please see summary report in Appendix 3. • The trial was fully recorded by a professional architectural lighting photographer who captured short, medium and long distance views of the lighting across key locations and viewing points in the City and London. Please see Appendix 4 for a selection of recorded images. The key conclusions from the trials were: • The trial delivered on its main objectives and validated the concept design, and overall, comments have been overwhelmingly positive. • The overall approach to the design to provide a well-balanced scheme with warm and sensitive colour tones revealing the Cathedral's architecture after dark, was viewed as a positive and enhancing change to the existing lighting scheme. This could have a benefit impact into the local area and support the night time economy. • The flexibility of the lighting and ability to create 'layers' of lighting to suit varying phases of night was clearly demonstrated and highly supported. • The new lighting scheme provides opportunities to add more depth and interest by highlighting further architectural detail that is in a shadow by day using a warm "light from within". This allows for immense architectural details to be brought to life from inside the building's alcoves. • Attendees also commended on the significant reduction in the building's light pollution brought on by the existing flood lights, creating an innovative, carbon-efficient scheme that reduces both the cost and energy usage significantly. • Visibility from distant views was achieved despite reduced levels of luminance (60% at the trial). • Viability of proposed remote lighting positions on neighbouring rooftops was confirmed and additional locations that could further improve the outcome were also identified.

	• Amount of lighting equipment and overall energy use might be further reduced without compromise to the overall lit effect (please see Appendix 3 for more details). • The trial highlighted other specific areas in the Cathedral precinct that may need to be considered at the detailed design stage. These include the Churchyard and the West steps, and assessment will be undertaken to ensure there is sufficient level of lighting when the existing lighting system is removed. • Engagement, including Accessibility Officers, will continue at detailed design stage to ensure the new lighting design is fully inclusive. • To progress the detailed design a further £705,000 is required to secure the necessary expertise and complete the detailed and developed design (as detailed in Section 3 of this report). This will allow appointment of a specialist consultants, including Lighting Designer, Technical Project Manager, Heritage Assessor, Sustainability and Arboriculture consultants and services of St Paul's Cathedral, including Surveyor to the Fabric. **4.3 Project programme** The implementation of the lighting scheme is proposed to start in Q1 2026 as detailed in Gateway 4 report approved by Committees in September 2023. This reflects the need to: • carry out extensive surveys, design and assessments due to the project's technical complexity and challenging context, and its local, and national impact. • follow a complex approval process to ensure due diligence is done, and necessary secular and ecclesiastical consents are secured. • formalise legal agreements in respect of handover to the Cathedral of the management of the new external lighting once it has been installed. The key actions needed to be undertaken are set out below and in the Appendix 5: • **Procuring specialist consultants** to assist with the design process and preparation of relevant consents' applications (February – May 2024) • **Formalising legal agreements** with St Paul's Cathedral to formalise the ownership and future maintenance and management of the new lighting scheme by St Paul's Cathedral (March – December 2024). • **RIBA Stage 3** to progress detail design, including additional discrete testing (April – June / July 2024).

	• **Obtaining consents** from the City, St Paul's Cathedral and other regulatory bodies. This formal consultation process is expected to take six months (July – December 2024). • **RIBA Stage 4** to prepare technical design for tender. This stage can only commence following receipt of formal consents. (January – May 2025) • **Tendering** works and materials and contractor appointment in preparation for the installation (June – October 2025). • **Mobilisation of the contractor** (November – December 2025). Reporting to Committees is scheduled in line with the actions listed above. **4.4 Next steps:** • Complete the required procurement of the services of a cost consultant through an open tender. • Continue liaison with the St Paul's Cathedral on management and maintenance of the new lighting system and drafting of relevant legal agreements. • Continue key stakeholder engagement including internal City services (Planning, Highway, Climate Resilience Team), St Paul's Cathedral decision making bodies, local residents and external statutory bodies such as Historic England, GLA; and consider wider engagement with interested groups and those who may be impacted by the proposed changes. • Continue engagement with external sponsors to secure additional funding if required. • Appoint the project team, including Lighting Designer, Technical Project Manager, Heritage Assessor, Sustainability and Arboriculture consultants and services of St Paul's Cathedral including Surveyor to the Fabric, for the next stages of the project (RIBA Stages 3 – 7 equivalent). • Develop the detailed design based on the learnings and outcomes of the lighting trials. • Secure relevant consents and approvals from the City and St Paul's Cathedral, and other statutory bodies and interested parties as required. • Prepare the Gateway 4c to provide update on detailed design in Q4 2024.
4 Options	Failure to secure the additional funding to progress to Gateway 4c would mean that the project would have to stop, and the upgrade to the lighting to St Paul's Cathedral would not be achieved in the timeframe that has previously been set out, with implementation scheduled to start in Q1 2026.

Appendices

Appendix 1	Project Coversheet
Appendix 2	Finance Tables
Appendix 3	Lighting trial report - circulated on request
Appendix 4	Photographic record of the lighting trial - circulated on request
Appendix 5	Programme
Appendix 6	Risk register

Contact

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Project Coversheet

[1] Ownership & Status

UPI: 9672
Core Project Name: St Paul's External Lighting
Programme Affiliation (if applicable): City Lighting Strategy
Project Manager: Clarisse Tavin

Definition of need: The project proposes to replace the ageing external lighting system at St Paul's Cathedral with a new energy efficient system. A recent inspection of the lighting has deemed many of the light fittings and cabling unsafe; many of the fitting have already failed and the system overall is not compliant with current IET (Institute of Engineering and Technology) regulations.

Since 1966, the City Corporation and Cathedral have continued an informal arrangement whereby the responsibility for the maintenance of the external lighting system, the associated maintenance costs and the running costs are the responsibility of the Corporation. The annual costs are in the region of £25k per annum. The specific responsibility sits with the Environment Department.

Replacement with a new energy efficient system will reduce on-going revenue costs by 60% and reduce its carbon emissions by 66%, contributing towards our commitment to net zero by 2040. The new system will be designed to meet the criteria of the City's Lighting Strategy, creating a highly attractive night-time appearance for the Cathedral, which has been absent in recent years. The new lighting system would be both a contributor and a symbol of the City's post-pandemic recovery and, in particular, the recovery of its night-time economy.

A recent inspection of the external lighting system has deemed many of the light fittings and cabling unsafe; many of the lanterns have already failed and the system overall is not compliant with current IET regulations. This is a health and safety risk to users of the Cathedral and to the fabric of this Grade I listed building. The impact of the failure of the external lighting system could result in a catastrophic event. The likelihood of such an event is possible and will increase over time. This risk is being added to the Departmental risk register.

The existing lighting system is not efficient, both in terms of energy consumption and sustainability. Replacement with a new energy efficient system will reduce on-going revenue costs by 60% and reduce its carbon emissions by 66%, contributing towards our commitment to net zero by 2040.

The failure of lanterns and problems associated with current system has resulted in a poorly lit Cathedral exterior, which has a negative impact on the City skyline and night-time economy.
Both the City and Cathedral receive complaints from the public and institutions about the poor state of the external lighting of St Paul's. There is reputational risk to both institutions.

Key measures of success:

1) A new lighting system that significantly reduces the health and safety risk associated with system failure, as per the corporate risk assessment process.

2) The reduction of costs associated with the maintenance and energy consumption of the lighting system by 60% compared with the existing system – to be borne by St Paul's Cathedral.
3) The reduction of associated carbon emissions of the new lighting systems by 66%, compared with the existing system.

Expected timeframe for the project delivery:
Project programme was dependent on external funding being secured; full project to be delivered before the end of 2026, compared to the previously stated completion by 2024/25.

Key Milestones:
Completion of Trials and Demonstrations: January 2024
Detailed design & consents: March – December 2024
Technical design: January – May 2025
Gateway 5 report: Q2 2025
Start of implementation: Q1 2026

Are we on track for completing the project against the expected timeframe for project delivery? It is expected that the project will be delivered in line with the revised programme.

Has this project generated public or media impact and response which the City of London has needed to manage or is managing? Not to date. However due to its high profile, the project is likely to attract future interest from media/wider public.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Feasibility Study' (as approved by Members in May 2008)
'Capital Bid' report (as approved by P&R 21/10/10)- (pre-Gateway process)

- Total Estimated Cost (excluding risk): £1,050,000
- Costed Risk Against the Project: N/A
- Estimated Programme Dates: N/A

The City of London is responsible since 1966 for the lighting of St Paul's Cathedral. The lighting scheme was approaching the end of its 25 years life and was now in need of replacement.

A feasibility study to replace the lighting of St Paul's Cathedral was undertaken with the Dean and Chapter of St Paul's Cathedral in May 2008 which identified a preliminary proposal for a future project.

A Capital Bid was approved in 2010 for further evaluation for the external relighting for St Paul's, at a cost of £50,000 being met from central resources. The implementation of the project was expected to be met from external sources. The evaluation key objectives were:

- Replace the current lighting equipment which is approaching the end of its life;
- Create a flexible lighting scheme that highlights the architecture of the building;

- Deliver annual savings of approximately 50% of running costs (electrical and maintenance);
- Reduce light pollution and energy use in line with the Corporation's commitment to sustainability;
- Improve the quality of the evening environment in this area and therefore, London as a whole;
- Identify an external funding strategy for the implementation of the project.

'Options Appraisal and Design' G3 report (as approved by PSC 16/05/13):

- Total Estimated Cost (excluding risk): range between £425,000 and £1,105,000
- Resources to reach next Gateway (excluding risk) £25k
- Spend to date: £50k
- Costed Risk Against the Project: N/A
- CRP Requested: N/A
- CRP Drawn Down: N/A
- Estimated Programme Dates: these are dependent on securing external funding for the project's implementation.

Following the feasibility study undertaken in May 2008 which identified a preliminary proposal for a future project, several options were evaluated to replace the lighting of St Paul's Cathedral. These include replacing the current scheme like for like or implementing a new design using a range of lighting equipment. The 3 options evaluated are as follows:

- Option 1: Replacing the current scheme like for like;
- Option 2: Implementing a new design using High Intensity Discharge (HID) lighting;
- Option 3: Implementing a new design using Light-Emitting Diodes (LED) technology

The preferred option (Option 3) was approved by Committees and includes the replacement of the current lighting scheme with a new scheme using the latest LED lighting technology. This option will better highlight the buildings architectural features and the new design would continually adapt to the level of lighting needed (i.e., for special events, at different times of the night…). This would deliver considerable energy savings and would reduce maintenance costs, thereby reducing the City's running costs by approx. 60%. It would also deliver considerable sustainability benefits by reducing the City's carbon footprint. This option is also the best in terms of lighting quality.

The Gateway 3 report also requested that a total contribution of £100,000 from the City Finance Committee Contingency Budget be allocated to St Paul's lighting project.

£25,000 of this budget was allocated to evaluate design options, develop a Sponsorship Package, and take the project to the next Gateway.

Following the development of the Sponsorship Package, potential external sponsors were approached, and briefings organised. External funding was secured for part of the project budget.

City Lighting Programme Update (as approved by S&W on 25/02/20 and P&T on 06/03/20)

Update on investigation of sources of funding to deliver St Paul's External Lighting Scheme, through external sponsorship and an application to CIL (Community Infrastructure Levy) Neighbourhood funding.

City Lighting Programme Update (as approved by S&W on 08/07/21, P&T on 20/07/2021 and PHES on 13/07/21)
Officers are continuing to investigate sources of funding to deliver St Paul's External Lighting Scheme, which includes external sponsorship and a potential future application to CIL Neighbourhood funding. Discussion with St Paul's Cathedral about the lighting project and its future maintenance. Total project estimated cost £2.075m.

Gateway 3 Progress report (as approved by RASC on 30/12/2021)
The capital bid of £1.6M was approved.

'Options Appraisal and Design' G3 Issues report (as approved by S&W on 15/02/2022 and Project Sub on 17/02/2022)
This report confirmed a proposed change to the programme to deliver the St Paul's Cathedral external re-lighting project.

'Detailed Options Appraisal' G4 (complex) report (as approved by S&W on 26/09/2023 and PPC on 04/12/2023.

- Total Estimated Cost (excluding risk): £2.075M
- Resources to reach next Gateway (excluding risk): £350,000
- Spend to date: £202,012
- Costed Risk Against the Project: N/A
- Estimated Programme Dates:
    - Lighting Tests – October 2023
    - Lighting Demonstration Trial – January 2024
    - Detailed design – Q1 – Q3 2024
    - Gateway 4c 'Detailed Design' – Q3 2024
    - implementation proposed to start January 2026 (*dependant on securing external funding necessary to implement the project.)*

Scope / Design Change and Impact
The project's programme has been revised to include testing key elements of the design and validate the concept and enable engagement with key stakeholders.

Total anticipated on-going commitment post-delivery [£]:
It is anticipated that the on-going commitments for the upkeep of the new lighting system are borne by the St Paul's Cathedral.
The annual costs are in the region of £25k per annum. The specific responsibility sits with the Environment Department. Replacement with a new energy efficient system will reduce on-going revenue costs by 60%.
The llifetime operational cost (over 25 years) of the existing lighting is estimated at £625,000; the estimated cost of the new lighting system over the same period is £250,000.

Programme Affiliation [£]:

Appendix 2

Table 1: Spend to date			
Description	**Approved Budget (£)**	**Expenditure (£)**	**Balance (£)**
16800038: St Pauls External Lighting			
PreEv P&T Fees	35,000	34,322	678
PreEv P&T Staff Cost	15,000	15,000	-
Total 16800038	**50,000**	**49,322**	**678**
51800003: St Pauls Cathedral External Lighting			
Marketing Fees	1,900	1,900	-
Sponsorship Consultants	7,775	7,775	-
P&T Staff Costs	15,325	15,325	-
Total 518000003	**25,000**	**25,000**	**-**
16800466: St Pauls Cathedral External Re-Lighting			
Env Servs Staff Costs	15,000	2,006	12,994
Legal Staff Costs	6,000	962	5,039
P&T Staff Costs	94,000	87,030	6,970
P&T Fees	272,000	136,021	135,979
Lighting Trial Works	213,000	200,129	12,871
Total 16800466	**600,000**	**426,148**	**173,852**
GRAND TOTAL	**675,000**	**500,470**	**174,530**

Table 2: Resources Required to reach the next Gateway			
Description	**Approved Budget (£)**	**Resources Required (£)**	**Revised Budget (£)**
16800038: St Pauls External Lighting			
PreEv P&T Fees	35,000	-	35,000
PreEv P&T Staff Cost	15,000	-	15,000
Total 16800038	**50,000**	**-**	**50,000**
51800003: St Pauls Cathedral External Lighting			
Marketing Fees	1,900	-	1,900
Sponsorship Consultants	7,775	-	7,775
P&T Staff Costs	15,325	-	15,325
Total 518000003	**25,000**	**-**	**25,000**
16800466: St Pauls Cathedral External Re-Lighting			
Env Servs Staff Costs	15,000	-	15,000
Legal Staff Costs	6,000	-	6,000
P&T Staff Costs	94,000	60,000	154,000
P&T Fees	272,000	595,000	867,000
Lighting Trial Works	213,000	50,000	263,000
Total 16800466	**600,000**	**705,000**	**1,305,000**
GRAND TOTAL	**675,000**	**705,000**	**1,380,000**

Table 3: Current Funding Strategy			
Funding Source	**Current Funding Allocation (£)**	**Funding Adjustments (£)**	**Revised Funding Allocation (£)**
Finance Committee Contingency Budget	75,000	-	75,000
City of London Capital Bid (City Fund - CIL)	600,000	65,000	665,000
S106 contributions	-	640,000	640,000
TOTAL	**675,000**	**705,000**	**1,380,000**

Table 4: Estimated Funding Strategy	
Funding Source	**Amount (£)**
Finance Committee	75,000
City of London Capital Bid (City Fund)	1,160,000
Old Bailey S106	140,000
81 Newgate Street S106	500,000
55 Bishopsgate	200,000
Fleet Street Quarter	40,000
TOTAL	**2,115,000**

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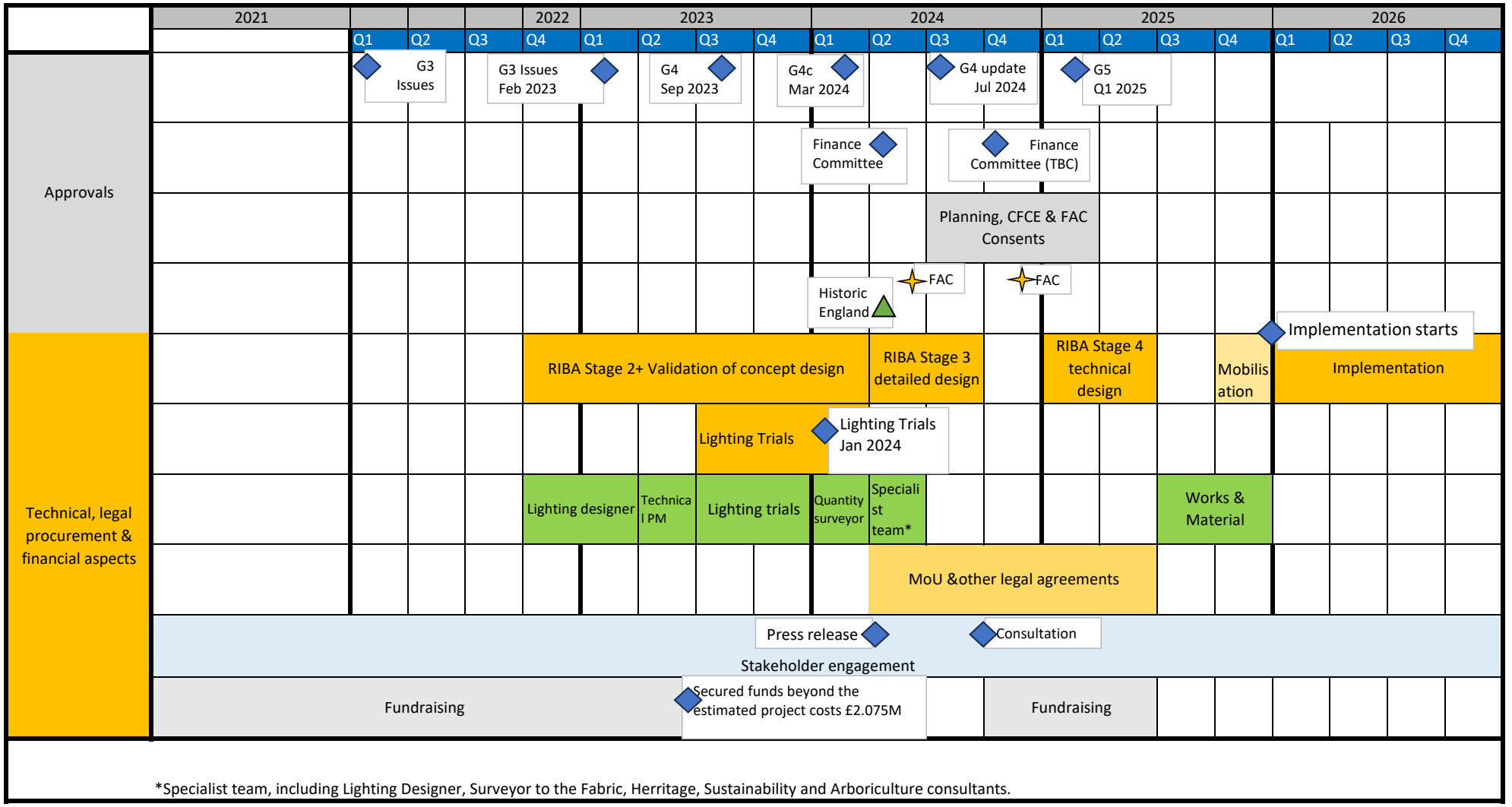
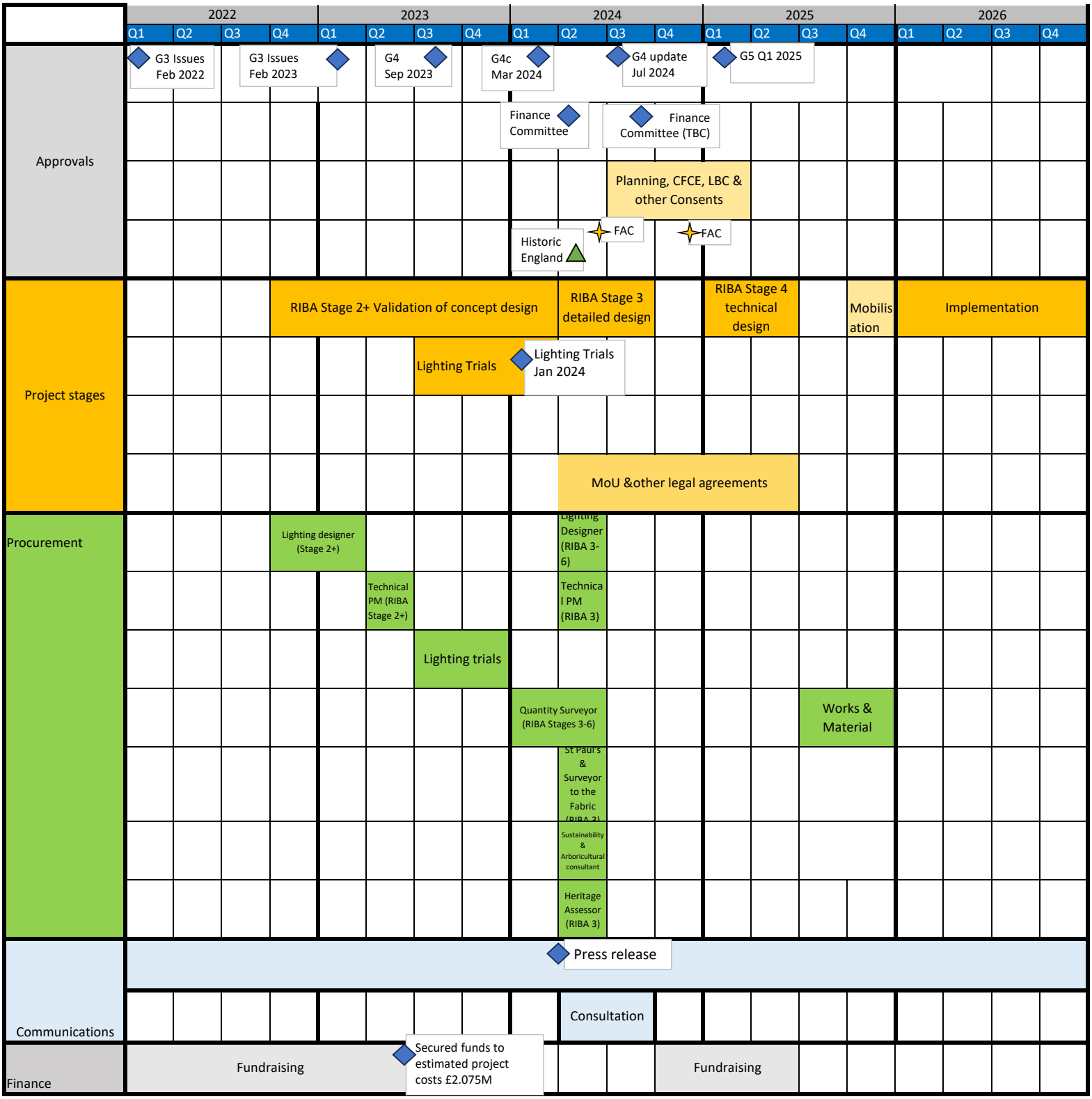
Appendix 5

St Paul's External Lighting project



*Specialist team, including Lighting Designer, Surveyor to the Fabric, Herritage, Sustainability and Arboriculture consultants.


2022
2023
2024
2025
2026
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Approvals
G3 Issues Feb 2022
G3 Issues Feb 2023
G4 Sep 2023
G4c Mar 2024
G4 update Jul 2024
G5 Q1 2025
Finance Committee
Finance Committee (TBC)
Planning, CFCE, LBC & other Consents
Historic England
FAC
FAC
Project stages
RIBA Stage 2+ Validation of concept design
RIBA Stage 3 detailed design
RIBA Stage 4 technical design
Mobilisation
Implementation
Lighting Trials
Lighting Trials Jan 2024
MoU &other legal agreements
Procurement
Lighting designer (Stage 2+)
Lighting Designer (RIBA 3-6)
Technical PM (RIBA Stage 2+)
Technical PM (RIBA 3)
Lighting trials
Quantity Surveyor (RIBA Stages 3-6)
Works & Material
St Paul's & Surveyor to the Fabric
Sustainability & Arboricultural consultant
Heritage Assessor (RIBA 3)
Communications
Press release
Consultation
Finance
Fundraising
Secured funds to estimated project costs £2.075M
Fundraising

City of London: Projects Procedure Corporate Risks Register

Project name: *St Paul's External Lighting*

Unique project identifier: *PV9672*

Total est cost (exc risk) *£2075000*

PM's overall risk rating	**Medium**
Avg risk pre-mitigation	**10.6**
Avg risk post-mitigation	**5.1**
Red risks (open)	**3**
Amber risks (open)	**11**
Green risks (open)	**1**

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)	£0.00	0%	*Costed risk as % of total estimated cost of project*
Costed risk pre-mitigation (open)	£0.00	0%	*" "*
Costed risk post-mitigation (open)	£0.00	0%	*" "*
Costed Risk Provision requested	£0.00	0%	*CRP as % of total estimated cost of project*

	Number of Open Risks	Avg Score	Costed impact	Red	Amber	Green
(1) Compliance/Regulatory	1	**12.0**	£0.00	0	1	0
(2) Financial	5	**10.8**	£0.00	1	4	0
(3) Reputation	3	**8.7**	£0.00	1	1	1
(4) Contractual/Partnership	2	**6.0**	£0.00	0	2	0
(5) H&S/Wellbeing	1	**24.0**	£0.00	1	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	3	**6.7**	£0.00	0	3	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:	St Paul's External Lighting	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ -
Unique project identifier:	PV9672	**Total estimated cost (exc risk):**	£ 2,075,000	**Total CRP used to date**	£ -

Average unmitigated risk	10.6	**Open Risks**	14
Average mitigated risk score	5.1	**Closed Risks**	23

General risk classification											Mitigation actions						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	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	(4) Contractual/Partnership	St Paul's Cathedral project development objectives differ from CoL objectives	impacting project's progress and working relationship between the City and the Cthedral.	Likely	Major	16	£0.00	N		Close liaison with the Cathedral to agree scheme objectives	£0.00	Possible	Minor	£0.00	3	£0.00		10/06/2013		Clarisse Tavin	10/12/2013	
R2	2	(4) Contractual/Partnership	Insufficient coordination between St Paul's and CoLC	Impacting project's progress and costs. Potential impact on working relationship between the parties	Possible	Serious	6	£0.00	N		Communicate regularly with St Paul's. Arrange Design Team / Working Group meetings	£0.00	Unlikely	Minor	£0.00	2	£0.00				Clarisse Tavin		Liaision meetings have been effective in building trust. Wider discussion with Chapter at St Paul's are planned
R3	2	(1) Compliance/Regulatory	St Paul's Cathedral does not manage consultants in accordance with CoL evaluation requirements resulting in insufficient information to produce CoL evaluation report	Impacting project's progress (time & costs).	Possible	Serious	6	£0.00	N		Early agreement on consultants scope of work		Unlikely	Serious	£0.00	4	£0.00				Clarisse Tavin	12/12/2013	Management of consultants will be the responsibility of CoL, with St Pauls acting in the capacity of client.
R4	2	(2) Financial	Funding insufficient to cover all required consultants work	Project is paused or progresses at much slower rate whilst funding is secured.	Possible	Major	12	£0.00	N		Source cost estimates from consultants and agree funding strategy with St Paul's Cathedral		Unlikely	Serious	£0.00	4	£0.00		05/07/2013		Clarisse Tavin		Updates to Memers will be provided regularly, specifically on any risks related to funding, to ensure requests for additional funding is expected.
R5	5	(2) Financial	Spend to save element of project is too low to allow match funding to be sought	unable to secure external sponsorship	Possible	Major	12	£0.00	N		Ensure that cost analysis is part of the design process, and spend to save element taken as an important design factor.	£0.00	Unlikely	Minor	£0.00	2	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R6	2	(2) Financial	Cost consultants not appointed	Insufficient estimates or no cost information will impact sponsorship efforts.	Possible	Serious	6	£0.00	N		Ensure that cost consultants are appointed	£0.00	Unlikely	Minor	£0.00	2	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R7	2	(8) Technology	Electrical Engineers not appointed	insufficient technical information available	Possible	Serious	6	£0.00			Ensure that electrical engineers are appointed	£0.00	Unlikely	Minor	£0.00	2	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R8	2	(2) Financial	Lack of CoL Member support	project paused or closed down; funding not approved	Possible	Major	12	£0.00	N		Arrange Members' briefings, and actively engage and update Members on the project		Unlikely	Serious	£0.00	4	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R9	2	(4) Contractual/Partnership	Project governance / management structure unclear	Confusion over roles and responsibilities.	Possible	Major	12	£0.00	N		Discuss and agree project governance structureand reporting lines at inception meeting		Unlikely	Serious	£0.00	4	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R10	2	(2) Financial	Members do not agree to provide Committee Contingency Funding to the project	Project unable to progress s funding unavailable.	Possible	Major	12	£0.00	N		Project Sponsor / Senior Officer to discuss with Chairman prior to Committee		Possible	Serious	£0.00	6	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R11	2	(9) Environmental	Public spaces lighting not included in evaluation exercise	The desired effect of the new external lighting for the could be compromised	Possible	Serious	6	£0.00	N		Ensure the inclusion of public space lighting in the evaluation exercise is stipulated in the consultant's brief		Unlikely	Serious	£0.00	4	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	Public spaces lighting included in the consultant's concept proposals.
R12	2	(2) Financial	Sponsorship Consultant not provide high quality sponsorship Package	Difficulties with securing sponsorship.	Possible	Serious	6	£0.00	N		Ensure that information required in the sponsorship package are detailed in the consultants brief		Unlikely	Minor	£0.00	2	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	The consultant produce satisfactory package, which attracted potential sponsors.
R13	2	(4) Contractual/Partnership	Sponsorship Package does not reflect both City and Cathedral expectations and view	Difficulties in agreeing on sponsorship package sign-off, impacting project's progress and working relationships.	Unlikely	Serious	4	£0.00	N		Ensure that information required in the sponsorship package are detailed in the consultants brief		Rare	Serious	£0.00	2	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R14	2	(4) Contractual/Partnership	CoL and Cathedral disagree on the sponsorship approach and sponsorship funding	affects obtaining the funds necessary to deliver the project	Possible	Serious	6	£0.00	N		Organise internal briefings and presentations to St Pauls Committees		Unlikely	Serious	£0.00	4	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R15	2	(4) Contractual/Partnership	CoL and Cathedral do not agree who will be the recipient of the sponsorship funding	affectsthe working relationships with St Paul's and impacts the project programme	Possible	Major	12	£0.00	N		Discuss and agree the receiting and management of the sponsorship funding with St Paul's at an early stage of the project		Rare	Major	£0.00	4	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	Approach endorsed by the Chamberlain.
R16	2	(1) Compliance/Regulatory	CoL regulations regarding sponsorship does not allow sponsorship funding to be received	Difficulties for the officers to manage project funds.	Possible	Serious	6	£0.00	N		CoL to investigate the regulations and discuss alternative options with Chamberlains and the Cathedral t an early stage		Unlikely	Serious	£0.00	4	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R17	2	(2) Financial	Sponsorship process not agreed internally	Unable to receive sponsorship funding and progress the project.	Possible	Major	12	£0.00	N		Interal briefings, advice from the Chamberlains and the legal team to be sought at early stage.		Unlikely	Major	£0.00	8	£0.00		05/07/2013		Clarisse Tavin	12/12/2013	
R18	2	(2) Financial	Potential sponsors unresponsive	Inability to secure sufficient funding for the overall project	Possible	Major	12	£0.00	N		Set exact criteria to identify the most appropriate City businesses and Lighting Companies that could be approached for potential sponsorship		Unlikely	Major	£0.00	8	£0.00		05/07/2013		Clarisse Tavin	11/09/2023	
R19	3	(3) Reputation	Lack of support from City Members to the developed Sponshorship Package.	inability to progress with securing external sponsorship	Possible	Major		£0.00	N		internal briefings and presentations to City Committees		Unlikely	Major	£0.00	8	£0.00		05/10/2015		Clarisse Tavin	03/03/2017	
R20	3	(2) Financial	Existing Main distribution equipment not in good condition and needs replacement	costs of the project will likely increase	Likely	Major	16	£0.00	N		undertake detailed assessment of the existing main distribution equipment		Possible	Major	£0.00	12	£0.00		01/03/2017		Andrea Moravicova		
R21	3	(2) Financial	Lack of support of the final sponsorship package from the Cathedral	affecting progress with securing external funding	Possible	Major	12	£0.00	N		Briefings and presentations to St Paul's committees		Unlikely	Major	£0.00	8	£0.00				Clarisse Tavin	20/05/2023	
R22	3	(3) Reputation	Failure of the existing lighting system	damage could be caused by the failing light fittings and fixtures	Likely	Major	16	£0.00	N		seek additional funding, so the project can progress as soon as possible. Review project's programme and deliver		Unlikely	Serious	£0.00	4	£0.00		09/10/2021		Andrea Moravicova		
R23	3	(2) Financial	Consultants fees higher than expected	insuficient funding for the overall project.	Unlikely	Major	8	£0.00	N		Consultant briefs to include detailed information and fees to be agreed accordingly. Consider approaching lighting suppliers with in-house consultancy. Include risk in the sponsorship strategy and identify potential sponsors		Unlikely	Serious	£0.00	4	£0.00		09/10/2021		Andrea Moravicova		

R24	3	(10) Physical	Sensitivities over information	resulting in poor quality information provided and undermining the quality of recommendations in the draft strategy by the sponsorship consultant.	Possible	Major	12	£0.00	N		Early engagement with the Cathedral clarifying any matters of sensitivity. Provide reassurance about intentions. Avoid applying pressure where possible.		Unlikely	Major	£0.00	8	£0.00				Clarisse Tavin	21/02/2022	
R25	3	(2) Financial	Lack of secured external funding	impacting progress of the project.	Possible	Major	12	£0.00	N		Identify and engage with potential sponsors.		Unlikely	Major	£0.00	8	£0.00		09/10/2021		Clarisse Tavin	11/09/2023	
R26	3	(5) H&S/Wellbeing	Ageing current lighting system	fixtures and fittings becoming loose	Possible	Extreme	24	£0.00	N		Commission a comprehensive lighting inspection; carry out regular checks and progress with an implementation of the new lighting system in timely manner.		Possible	Major	£0.00	12	£0.00		12/07/2021		Andrea Moravicova		
R27	5	(10) Physical	Lighting tests and trials unsuccessful in securing decisionmakers approvals	project delayed or unable to progress	Possible	Serious	6	£0.00	N		Active engagement with decision makers, including circulation of briefings and presentations to provide project updates and highlight the opportunities offered by the new lighting system		Unlikely	Serious	£0.00	4	£0.00		30/08/2023		Andrea Moravicova	31/01/2024	Lighting Trial is deemed dsuccessful; report detailing the Trial and learnings is being prepared.
R28	5	(10) Physical	Necessary approvals unobtained from statutory bodies	project delayed or unable to progress	Possible	Serious	6	£0.00	N		Close liaison with the City's planning team and other statutory bodies to ensure relevant packages of information are prepared and submitted on time		Unlikely	Serious	£0.00	4	£0.00		02/05/2023		Andrea Moravicova		
R29	5	(10) Physical	Project programme is delayed	resulting in the Cathedral being in darkness due to delays in implementation and failure of current lighting	Possible	Serious	6	£0.00	N		Regular board meeting and effective communication with St Paul's Cathedral, external consultants, and future contractors.		Unlikely	Serious	£0.00	4	£0.00		05/05/2023		Andrea Moravicova		
R30		(2) Financial	Project programme is delayed	potential increase in costs	Possible	Major	12	£0.00	N		Regular board meeting and effective communication with St Paul's Cathedral, external consultants, and future contractors. Identify and approach external sponsors if required.		Possible	Serious	£0.00	6	£0.00						
R31	3	(1) Compliance/Regulatory	Members do not approved Gateway 3 report	project unable to progress	Possible	Major	12	£0.00	N		Briefing to Members to be done and Project Sponsor to discuss with Chairman prior to Committee		Unlikely	Major	£0.00	8	£0.00				Clarisse Tavin	17/02/2022	
R32	4	(1) Compliance/Regulatory	Members do not approve Gateway 4 report	project unble to progress	Possible	Major	12	£0.00	N		Project Sponsor / Senior Officer to discuss with Chairman prior to Committee	£0.00	Unlikely	Major	£0.00	8	£0.00		30/08/2023		Andrea Moravicova	26/09/2023	members approved G4 report at the September's committee.
R33	4	(3) Reputation	Project is not delivered to agreed timeline due to technical issues that arise either in design or construction phase	This will either extend the project timeline or reduce the project scope to align with the available funding	Possible	Serious	6	£0.00	N		A programme will incorporate necessary tests and trials / demonstrations to ensure potential technical issues can be addressed	£0.00	Unlikely	Minor	£0.00	2	£0.00		13/09/2023		Andrea Moravicova		
R34	4	(4) Contractual/Partnership	Delays in supply, issues in productivity or resource	Negative impact on project delivery, both monetarily and timewise, causing potential delays to programme and increasing costs.	Possible	Serious	6	£0.00	N		Early engagement with the procurement team, suppliers andthe City's term and Cathedral's contractor to programme works and procure materials well in advance, allowing for at least 16 weeks lead in times. Regulate supply chain via existing meetings with principal contractor.	£0.00	Unlikely	Serious	£0.00	4	£0.00		02/05/2023		Andrea Moravicova		
R35	4	(10) Physical	Unforseen technical and / or engineering issues identified	Late identification of any engineering or technical issues will disrupt delivery and may increase costs and timelines	Unlikely	Major	8	£0.00	N		Undertake relevant surveys, tests and large-scale trial to support the design development.	£0.00	Unlikely	Serious	£0.00	4	£0.00		02/05/2023		Andrea Moravicova		Lighting Trial undertaken in Janaury 2024 was recorderded, including observations. Learning from the Trial will be used to inform development of detailed design
R36	4	(2) Financial	The full cost of the project is unknown	If the costs are not ascertained soon enough in the project process, the design might exceed the available project budget	Possible	Serious	6	£0.00	N		As the design develops, the likely cost of the scheme will be established by an appointed quantity surveyor. Develop funding strategy, clearly identify potential funding sources and actively engage with potential sponsors. The scope and design of the project will be tailored to ensure the scheme can be financed from the available project budget.	£0.00	Unlikely	Serious	£0.00	4	£0.00		02/05/2023		Andrea Moravicova		
R37	4	(3) Reputation	Stakeholders object to the proposals	The City would not be delivering a scheme that is supported by the local community, and it would not therefore be responsive to their needs. A redesign would be required which could impact on the programme and budget	Unlikely	Serious	4	£0.00	N		Engage early and consult stakeholders as part of the project process and adapt the design if required. Key stakeholders were previously consulted and were supportive of the proposals.	£0.00	Rare	Serious	£0.00	2	£0.00		02/05/2023		Andrea Moravicova		
R38	4	(1) Compliance/Regulatory	Members do not approve the Gateway 4 Issues report	project unable to progress	Possible	Major	12	£0.00	N		Project Sponsor / Senior Officer to discuss with Chairman prior to Committee.	£0.00	Unlikely	Major	£0.00	8	£0.00		20/02/2024		Andrea Moravicova		

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Committees: Streets & Walkways Sub Committee *[for decision]* Projects and Procurement Sub Committee *[for information]*	**Dates:** 19 March 2024 15 April 2024
Subject: Pedestrian Priority Streets Programme – Phase 1 *(King William Street Transformation and Programme Updates)* **Unique Project Identifier:** 12269	**Gateway 5: Authority to start work** Complex
Report of: Interim Executive Director Environment **Report Author:** Daniel Laybourn – Policy and Projects, City Operations	**For Information**
PUBLIC	

1. Status Update	**Background:** A three-year programme implementing pedestrian priority schemes across the Square Mile to enhance comfort, safety and accessibility for people walking, helping to deliver the objectives of the Transport Strategy and Climate Action Strategy. Phase 1 of the programme features on-street measures at six distinct locations: • Old Jewry • King Street • King William Street • Cheapside (east of Bread Street) • Threadneedle Street / Old Broad Street • Chancery Lane In February and May 2023, Members approved permanent traffic orders on Old Jewry, King Street, King William Street, Threadneedle Street/ Old Broad Street and Cheapside. The traffic experiment on Chancery Lane continues and is due to report back to committee in May 2024 on whether to make it permanent.

	Construction on King Street was recently completed, coming in approximately £117k under budget. Design work continues on the Cheapside and Old Broad Street/ Threadneedle Street schemes. Finally, it was agreed to pause work on Old Jewry at the January 2024 Streets & Walkways Sub Committee whilst further consideration is given to implement a further experiment to open the street to southbound traffic. This is covered by a separate report to this meeting of the Streets & Walkways Sub Committee. **This report:** This report is to: • Seek authority to implement the King William Street Transformation scheme (the main content of this report); • Update the budgets accordingly for construction on King William Street and the continued development of the programme's other schemes; and • Provide an update on the programme. **RAG Status:** Green (Green at last report to Committee) **Risk Status:** Medium (Medium at last report to committee) **Requested Budget Increase from Previous**: Additional £3,572,261 requested to increase the overall budget to £5,756,690 (excluding costed risk and maintenance), funded by the approved funding sources listed below. **Total Estimated Cost of Programme:** ~£8.36M **Funding Source:** All funding sources confirmed, and broken down as follows: • £6m from Climate Action Strategy funding (OSPR) • £0.158m Section 106 funding. • £2m funding from OSPR for King Wiliam Street • £202,500 from the Cool Streets & Greening Programme for trees on King William Street (already approved) **Spend to Date:** £1,829,780 as of 20th February 2024. **Costed Risk Provision Utilised:** £56k. No further drawdowns since the last report.

2. Requested decisions	**Next Gateway:** *Gateway 5: Authority to Start Work (for Chancery Lane Experimental Traffic Order only) – May 2024* **Next Steps:** Following approval of this report and subject to receiving final approval under the Traffic Management Act (TMAN) from Transport for London (TfL), the next steps for King William Street are to complete the detailed construction planning, continue the stakeholder engagement process and then commence construction in Summer 2024, lasting approximately 18 months. **Requested Decisions:** Members of the Streets and Walkways Sub-committee are asked to approve: 1. The final highway and public realm design for King William Street (shown in **Appendices 2, 3 and 4**) which widens the pavements on both sides of the street, allows for the planting of a number of street trees, provision of some seating and reconstruction of the carriageway; 2. Approve the requested overall budget of £5,756,690 (an increase of £3,572,261, excluding costed risk and maintenance, funded by previously approved funding) to implement the King William Street Transformation and continue work on the rest of the programme; 3. The Costed Risk Register in **Appendix 5** and the requested increase of the Costed Risk Provision from £417,200 to £518,000 (an increase of £100,800) for the entire programme, and that the Executive Director Environment is delegated to authorise the drawdown of funds from this register; 4. The commuted maintenance budget of £87,000 for the trees on King William Street. This is to be funded by the Cool Streets & Greening Programme funding which is included in this overall budget; and 5. That the Corporate Programme Management Office, in consultation with the Chairman of the Streets & Walkways Sub Committee and Chief Officer as necessary, is to decide whether any project issues or decisions that falls within the remit of paragraph 45 of the 'City of London Project Procedure – Oct 2023' (Changes to Projects: General), as prescribed in **Appendix 6** of this report, is to be delegated to Chief Officer or escalated to committee(s).

3. Budget

Item	Reason	Funds/ Source of Funding	Cost (£)
Environmental Services (Highways) Staff costs	Design development, surveys, utility liaison.	Climate Action Strategy (OSPR) and S106 funds	£176,000
Planning and Transportation (P&T) Staff costs	Project Management, communications	Climate Action Strategy (OSPR) and S106 funds	£120,000
City Gardens Staff Costs	Project Management of the King William Street Trees only.	Cool Streets & Greening Programme	£3,900
Fees	Surveys, assessments, design, TfL and Utility fees, Traffic orders	Climate Action Strategy (OSPR) and S106 funds	£218,000
Works	Construction costs	Climate Action Strategy (OSPR) and S106 funds	£2,942,761
City Garden Works	Installation costs for the trees on King William Street only.	Cool Streets & Greening Programme	£111,600
		Sub-total	**£3,572,261**
Risk	Further details can be found in **Appendix 5 – Risk Register**		£518,000
City Gardens Maintenance	Maintenance costs for the trees on King William Street only.		£87,000
		Total	**£4,177,261**

The table above summarises the estimated budget required to continue the programme, develop designs at the remaining locations and the budget to construct King William Street. It represents project management and communication staff

	spending on average 3 days a week and a Highways Engineer working full time on the programme for the next 18 months. The fees budget includes costs for work by external suppliers such as statutory undertakers' design tasks, highway surveys, temporary & permanent traffic orders and advertising costs for their statutory requirements etc. More detailed financial information showing the split between the various projects within the programme is shown in **Appendix 7.** Cheapside, and Old Broad Street/ Threadneedle Street will be the subjects of their own Gateway 5 reports for their public realm enhancements in due course. Old Jewry is also on this agenda regarding the request to look at implementing an alternative experiment to allow traffic southbound. **Costed Risk Provision requested for this Gateway: £518,000** (as detailed in the Risk Register – **Appendix 5**)
4. Design summary	**<u>King William Street Transformation</u>** The detailed design proposals for King William Street are detailed in Appendices 2, 3 and 4. Subject to Members approval, King William Street will be transformed through pavement widening and tree planting to create a much more pleasant and greened street, with much more space for people walking and wheeling. The improvements delivered at Bank junction will effectively be extended all the way to Monument junction. The southern end of King William Street has been developed in conjunction with Transport for London (TfL) in preparation for the future improvements at Monument Junction so that the two schemes can be integrated. **<u>Highway & Public Realm Design</u>** In more detail, the scheme consists of: • **Widened pavements on both sides of the street** – all pavements will be widened by at least 1.5m. This results in a pedestrian comfort level score of 'A' throughout the street, even with pedestrian flow uplifts of 20% and 50% above existing levels applied. • **Narrowed and renewed carriageway** –The carriageway will be narrowed, reconstructed and reprofiled. To accommodate the widened pavements, the carriageway will be narrowed to 6.4m. This complies with the relevant highways design guidance in relation to lane widths for buses and cycles using the same traffic lane. The

	reconstructed carriageway will be smoother meaning that in particular people cycling and using public transport will experience a smoother ride, reducing the need to avoid defects and improving the general road safety of the street. • **Side street entry treatments to prioritise people walking and wheeling - all** side street entrances along King William Street will be rebuilt, and raised to pavement level if they are not already. This will provide a continuous and smooth surface for people walking and wheeling, improving the inclusivity and accessibility of the street. At the Lombard Street junction, the pavement widening and the raising of the pavement across the junction will make it more comfortable for users. The wider pavements here will also help the experience of the vast number of people exiting the nearby London Underground (LU) entrance. • **Raised carriageway tables across King William Street at Lombard Street & St Swithin's Lane and Nicholas Lane north** - to compliment the step-free LU access points, these locations will have raised carriageway tables made from hot-rolled Asphalt (HRA). This means that the carriageway will be raised to pavement level to make crossing the street easier and improve accessible routes into the wider City. • **Planting of 15+ Trees** – Following in-depth survey and engineering work, trees are to be planted at numerous locations on both sides of the street. This is to be funded by the Cool Streets & Greening programme. As Members are aware, finding space for street trees is difficult due to the concentration of underlying utilities in the City. This project has developed a refined approach to allow for a greater yield of trees, but it comes with some risk. Please see section 7 for further details of these risks. Whilst all reasonable efforts have been made to confirm the viability of the proposed tree planting locations, it is possible that things may be uncovered during construction which prevent trees being planted in all locations. Also, it was not possible to undertake trial holes at a handful of locations due to traffic management issues. Trial holes at these locations will need to be undertaken and viability assessed during construction. Finally, TfL's Oversight Development between Abchurch Lane and Nicholas Lane means the six proposed trees outside will have to wait until the development is complete which could take a number of years. Please see section 6 for more details.

	• **Improved drainage system** – Currently, the entirety of King William Street's carriageway is drained by only 4 gullies. The street's drainage system will be upgraded to provide a more resilient and contemporary highways drainage system. • **Two purpose-built inset loading bays** – At the north-eastern and the south-western points of the street, loading bays will be introduced which sit within the pavement rather than the carriageway, like those on Cheapside and Aldgate High Street. Timed restrictions would be in place during the peak pedestrian flow periods of 7-10am, 12-2pm and 4-7pm Monday-Friday. This means that the loading bays would revert to being used as pavement during these times. • **Improved crossing on the approach to Monument** – The design moves the current crossing point further north so that a dropped kerb on both sides of the street is possible. These proposals will improve the current layout for people crossing this part of the street in the short to medium term with a shorter crossing distance and dropped kerbs whilst the redesign of the whole of Monument Junction by TfL is undertaken. A green pedestrian phase will be possible within the new TfL design. Officers have worked with TfL to design King William Street to complement the improvements at Monument junction and reduce any abortive work on the City's road network. TfL intend to undertake public consultation on their designs for the junction later in the year. • **Seating and general accessibility improvements** – Use of the CoLSAT tool has led to numerous design refinements to improve accessibility and comfort of people such as the raised tables and side entry treatments that provide pavement level surfaces to aid the ease of people crossing the street. Elsewhere, tactile paving which guides visually impaired people to crossing points is to be provided at all required locations. Seating will be installed at key locations along the street to provide the opportunity for people to stop and rest if they need. The exact locations will be agreed as the civils works near completion. Current traffic access restrictions on King William Street, which restricts traffic between 7am-7pm Monday- Friday to buses, and vehicles loading & accessing off-street premises, will remain unchanged.

	Equalities Impact Assessment, Healthy Streets and CoLSAT Results An independent Equalities Impact Assessment (EqIA) has been undertaken by an external consultant on the proposed detailed design. This and responses to it can be seen in **Appendix 8**. All identified issues have been responded to and none have required any design changes as they are already accommodated within the scheme design. Other comments, related to the construction of the scheme, are these are already standard practice for the City's term contractor. A Healthy Street design check score is shown in **Appendix 9.** This tool assesses the baseline score for the street and helps to measure improvements, in particular for people walking and cycling, with a proposed design. The overall score improves from 21 to 63 (out of 100). The CoLSAT assessment has been undertaken and the summary results are listed in table 1 on the next page and included in full in **Appendix 10.** It indicates a significant improvement over the current environment with the elimination of all '0' scores (which indicate a street is inaccessible to people with particular impairments) and a halving the number of '1' scores (which indicates that a street is very challenging for people with particular impairments, and they may choose not to undertake the journey). Where '1' scores have increased, this is due to the increased use of tactile paving which can present difficulties for some users, but the overall benefit is considered to outweigh this. In some instances, it is not possible to improve on some of the lower scores such as proximity of bus stops, blue badge parking and accessible toilets due to the scope limitations of the project, but overall, the scheme does significantly improve the accessibility characteristics of the street.

Table 1 - CoLSAT Summary Results Table				
	Total 0 scores* – severe accessibility issue		Total 1 scores**- significant accessibility issues	
	Before	After	Before	After
Electric Wheelchair user	3		1	
Manual Wheelchair user	2		1	
Mobility Scooter user	2			
Walking Aid user			2	
Person with a walking impairment			7	9
Long cane user	5		1	2
Guide Dog user			4	1
Residual Sight user			5	
Deaf or Hearing impairment			6	3
Acquired neurological impairment			3	
Autism/Sensory-processing diversity			3	
Developmental Impairment	5		11	5
Total	**17**	**0**	**44**	**21**

** This score means most people in this segment would be excluded by the street characteristic in the selected configuration.*

*** This score means some people in this segment may be able to negotiate the street characteristic in the selected configuration, but it would significantly deplete their levels of confidence and energy, and they would be likely to give up on the journey if they had to negotiate it more than once or twice.*

Wider Programme Update

Cheapside

The experimental traffic order to allow taxis through the traffic restriction east of Bread Street continues and will end by May 2025. A committee report will be submitted by Officers with their recommendation on whether to make it permanent or not before it expires. In parallel with this, public realm improvements are in the design stage in conjunction with other local nearby schemes to ensure a consistent look and feel across them all.

Chancery Lane

The experimental traffic order which started in February 2023 will expire in August 2024. A committee report is to be submitted in May 2024 with the Officers' recommendation on whether to make it permanent. Generally, the experiment is operating as predicted, with good compliance and an overall reduction in traffic volumes.

	<u>Old Jewry</u> A separate report covering the potential opening of Old Jewry in a southbound direction is on the agenda for this meeting of the Streets & Walkways Sub Committee. <u>Old Broad Street/ Threadneedle Street</u> Officers are currently exploring the options for both streets. There are also several private developments planned along Old Broad Street which also need to be accommodated within this programme's design. Any large-scale improvements are likely to take place in 2026 at the earliest, once King William Street is substantially complete. <u>King Street</u> The scheme is substantially complete and has done so underbudget by approx. £117,000. The underspend is a result of various value engineering exercises by the City's Engineers throughout construction, such as a drainage redesign, minimising of the carriageway breakout and revisions to the traffic management.
5. Delivery team	The Delivery team remains unchanged from the previous report and includes: • Project management by the Transport and Public Realm Projects team in Policy and Projects. • Construction Engineering/Design and Construction Supervision to be managed by the Highways team. • Contractor – FM Conway under the highways term contract.
6. Programme and key dates	Subject to the on-going construction planning, committee approval and budgetary updates being activated, the following is a summary of the 18-month programme for the work on King William Street: • Late March 2024 – orders placed with contractors and 12-week lead-in time begins. Required temporary traffic orders and work permits sought. • June/ July 2024 – Construction work to start on site, most likely at the southern end of the scheme. • Early 2025 – Construction would move to the central section of the street. • Mid 2025 – Construction work moves to the northern end of the street, integrating with Bank Junction. • Late 2025/ early 2026 – Construction completion. Tree planting is expected to take place towards the end of the construction period. However, as construction progresses, officers will assess whether some trees can be planted earlier

	to coincide with optimum planting weather conditions in the completed sections. **Construction phasing and traffic management** When constructing the scheme, traffic will only be permitted to travel northbound on King William Street to enable a safe working area for the City's contractors and maintain access to Lombard Street. Southbound traffic, including buses and people cycling, will be diverted. Due to the duration of the construction works, planning with TfL commenced in February 2024 for the long-term bus diversions. It is not possible to maintain a safe contraflow southbound cycle lane and so a diversion for people cycling will be necessary. There will be a need for short duration full road and side road closures. This will be required when resurfacing the carriageway or working across junctions. Officers will therefore undertake communications via letter and visits to the affected buildings & businesses nearer the time of these closures once the dates are confirmed so that stakeholders can make alternative arrangements. Access into properties will be maintained as best as possible throughout the construction programme, as well as an accessible route for people walking and wheeling along the street. It has been determined that it will not be possible to fully construct the scheme outside the Oversight Development site at 10 King William Street due to the planned construction activity there. As part of this scheme's construction, the drainage changes, permanent kerb line and tree planting infrastructure will be installed with a temporary footway surface behind. Once the development has completed, the footway would be renewed, and trees planted. **Stakeholder Engagement** Engagement on King William Street begun with local stakeholders in February 2023 via a mail-out, asking whether there were any construction activities planned in 2024 which officers needed to accommodate in their construction planning. Subject to this committee approval, Engagement activities will increase with further direct mail-outs (physical and electronic), social media posts, Ward and BID (Business Improvement District) newsletters and site meetings as necessary. Local Ward Member briefings were held at the end of February 2024, prior to this report being finalised. Before this, there have been meetings with Ward Members on King William Street during its development, where Members expressed their desire for more greening and trees.

7. Risk & Legal	**Risk** The overall risk level of this programme remains at a medium level due to the complexity of the different concurrent workstreams involved. The amended Costed Risk Register which covers King William Street and the rest of the programme that is being submitted for approval can be seen in **Appendix 5**. This has been updated to reflect the completion of the work on King Street, the proposed works on King William Street and the continuation of work on the rest of the programme. Tree Planting in proximity to third-party Utility Apparatus There is an opportunity to create a much-improved street environment and plant many Street Trees in this redesign. However, the proposed tree planting requires the trees to be placed closer to some third-party utility apparatus than the owner's guidance on this matter would prefer. If Officers were to follow the guidance on distances required, there would only be a single tree on the street. It is considered that not planting along King William Street would be a missed opportunity that would not easily be rectified later on and so an alternative solution to standard practices has been investigated. To overcome these issues, Officers, including the City Gardens Manager and the Assistant Directors of Highways and Policy & Projects departments, have held internal design workshops to solve these problems. Furthermore, discussions were had with the City's legal teams. The conclusion was that measures such as root deflector barriers and avoiding planting near bends and joins in certain pipes, respond to the owners' concerns. Those affected have been informed of these proposals and, to date, no substantive responses have been received despite Officers being in on-going contact with them on other parts of the scheme, not related to the proposed trees. However, it is possible that more-formal responses could come once construction on King William Street starts which would need to be considered. It is important to note that statutory undertakers do not have the right to stop to these proposals being implemented, especially as their concerns have been noted and mitigated in what officers believe to be a reasonable manner. **Legal** There are no further direct legal implications resulting from this report's proposals. Consequential implications are included in this report where applicable, with some specific aspects listed over page:

	Traffic Implications In exercising its traffic authority functions, the City is under a duty to "*secure the expeditious, convenient and safe movement of vehicular and other traffic (including pedestrians)*" as far as practicable (S.122 Road Traffic Regulation Act 1984). Temporary and revised permanent traffic orders will be required for King William Street, and regard will be had to this duty in making them. The scheme proposals will slightly alter the current on-street waiting & loading bay positions for vehicles and will deliver improvements for people walking, wheeling and cycling. Vehicular access to off-street premises will remain unchanged. Equalities As a Public Authority, the City must have due regard to equality considerations when exercising its functions (section 149 Equality Act 2010). Therefore, an independent Equalities Impact Assessment (EqIA) has been undertaken as detailed earlier in this report and included in **Appendix 8**.
8. Success criteria	The programme wide success criteria set out below was established at the initiation of the programme: 1. Number of kilometres of new pedestrian priority streets and total length of pedestrian priority streets (Climate Action Strategy and Transport Strategy targets) 2. Length of street with pedestrian comfort level of A+, length of street with pedestrian comfort level of at least B+ (Climate Action Strategy and Transport Strategy targets) 3. Percentage of people rating the experience of walking in the City as pleasant (Transport Strategy target and measured through the City Streets Survey) The proposed scheme on King William Street would: • Add approx. 250m of new pedestrian prioritisation to the Square Mile by virtue of the wider more comfortable footways and reduced carriageway; • Pedestrian Comfort Levels achieving an average of 'A' scores; • Improved informal crossing facilities; and • At least 15+ trees and provision of new seating for people to be able to stop and rest if they need to. The King William Street project, including the already-approved traffic restrictions, contributes to the Transport Strategy proposals to: • Prioritise the needs of people walking, make streets more accessible and deliver world-class public realm;

	• Make the most efficient and effective use of street space by significantly reducing motor traffic, including the number of delivery and servicing vehicles in the Square Mile; • Eliminate death and serious injuries from our streets through measures to deliver safer streets and reduce speeds; and • Enable more people to choose to cycle by making conditions for cycling in the Square Mile safer and more pleasant.
9. Progress reporting	Officers will report via monthly Project Vision updates. A report to committee on Chancery Lane's Experimental Traffic Order is due in May 2024. Programme wide update reports will follow and will include progress of the King William Street project. Should it be required, issues requiring further decisions by Members will be brought back as an Issue Report. Any delegated decisions taken will be reported back to Committee.

Appendices

Appendix 1	Project Coversheet
Appendix 2	Scheme Design
Appendix 3	Scheme Visualisations – circulated on request
Appendix 4	Scheme Technical Drawing – circulated on request
Appendix 5	Risk Register
Appendix 6	Paragraph 45 from Project Procedures
Appendix 7	Financial Information
Appendix 8	Equalities Impact Assessment – circulated on request
Appendix 9	Healthy Streets
Appendix 10	CoLSAT Assessments

Contact

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Project Coversheet

[1] Ownership & Status

Unique Project Identifier: 12269
Core Project Name: Pedestrian Priority Streets Phase 1
Programme Affiliation (if applicable): Pedestrian Priority Programme
Project Manager: Kristian Turner
Definition of need: Climate Action

Key measures of success:

1) Increase the number of kilometres of new pedestrian priority streets and total length of pedestrian priority streets (Climate Action Strategy and Transport Strategy targets)
2) Increase the length of City streets with pedestrian comfort level of A+, and lengths of street with pedestrian comfort level of at least B+ (Climate Action Strategy and Transport Strategy targets)
3) Increase the percentage of people rating the experience of walking in the City as pleasant (Transport Strategy target and measured through the City Streets survey)

Expected timeframe for the project delivery:
Original timelines:
Gateway 5 – Authority to Start Work – October 2019
Completion of interim measures – summer 2022

Amended Timelines
Completion of Phase 1 Permanent measures – end of 2024/25

Key Milestones:
G345 – October 2019
ETO's commence – January 2022
Experiment end – July 2023
Public consultation – ~~Sept/Oct 2022~~ Oct/Dec 2022
Decision report – ~~Nov 2022~~ on 3 of the locations (King Street, Old Jewry and King William Street) Jan 2023
Following locations (Cheapside and Threadneedle Street/Old Broad Street) May 2023.

Construction of Phase 1 schemes: March 2023 through to the end of 2024/25

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?
No.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

Since G1/2 report:

- Total Estimated Cost (excluding risk) of whole programme: £8M
- Resources to reach next Gateway (excluding risk) £199,000
- Spend to date: £0
- Costed Risk Against the Project: 0

- CRP Drawn Down: None
- Estimated Programme Dates: March 2020 – end of 2022 (for Phase 1)

'Options Appraisal and Design and Authority to Start work' G3-4-5 report (as approved by PSC 20/10/2021):

- Total Estimated Cost (excluding risk): Phase 1 budget £2,601,628
- Overall project estimate £6-8M
- Resources to reach next Gateway (excluding risk) £2,402,628
- Spend to date: £43,419
- Costed Risk Against the Project: £473,000
- CRP Drawn Down: None
- Estimated Programme Dates: March 2020 – end of 2022 (for Phase 1)

Scope/Design Change and Impact: Authority to proceed design and implementation of interim measures

Issues report – (as approved (For Information) by OPPS 26/09/2022):

- Total Estimated Cost (excluding risk): Phase 1 budget £2,601,628
- Overall project estimate £6-8M
- Resources to reach next Gateway (excluding risk) no new funding request
- Spend to date: £545,118
- Costed Risk Against the Project: £473,000
- CRP Drawn Down: None
- Estimated Programme Dates: March 2020 – end of 2022 (for Phase 1 decision on experiments)

Gateway 5 Authority to Start Work (as by Streets and Walkways February and May 2023)

- Total Estimated Cost (excluding risk): Phase 1 budget £2,601,628
- Overall project estimate £8M (adjusted following Capital Bid of £2M for King William Street)
- Resources to reach next Gateway (excluding risk) no new funding request
- Spend to date: £1,445,656
- Costed Risk Against the Project: £473,000
- CRP Drawn Down: £56k
- Estimated Programme Dates: March 2020 – end of 2024/25 (for Phase 1)

Gateway 5 Issues Report (for Old Jewry - as by Streets and Walkways January 2024)

- Total Estimated Cost (excluding risk): Phase 1 budget £2,601,628
- Overall project estimate £8.55M
- Resources to reach next Gateway (excluding risk) no new funding request
- Spend to date: £1,792,127 (of £2.6m approved budget)
- Costed Risk Against the Project: £473,000
- CRP Drawn Down: £56k
- Estimated Programme Dates: March 2020 – end of 2024/25 (for Phase 1)

The Gateway 5 Reports were for making the traffic orders permanent. To date, works on King Street have been implemented.

Total anticipated on-going commitment post-delivery [£]: N/A
Programme Affiliation [£]: N/A

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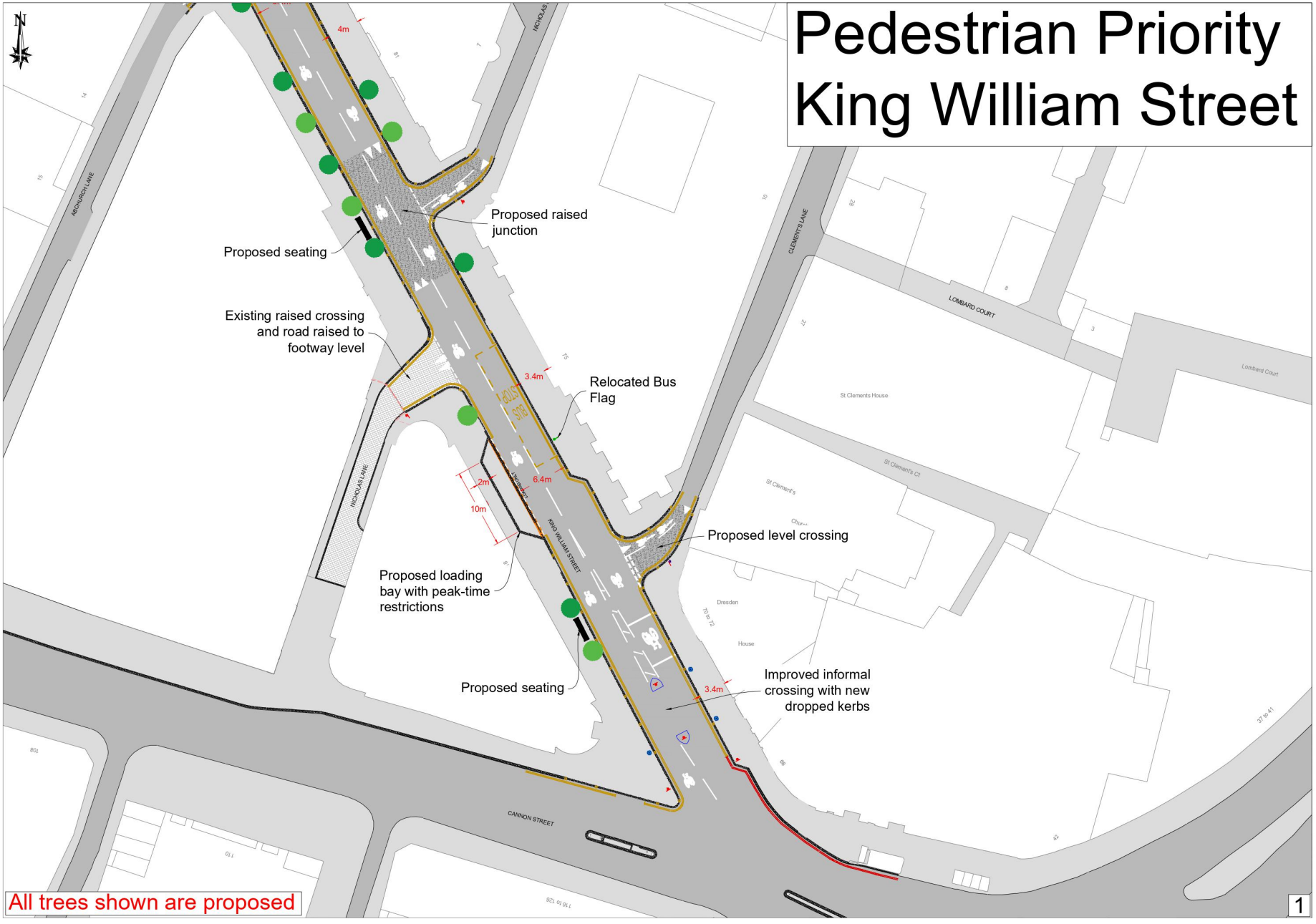
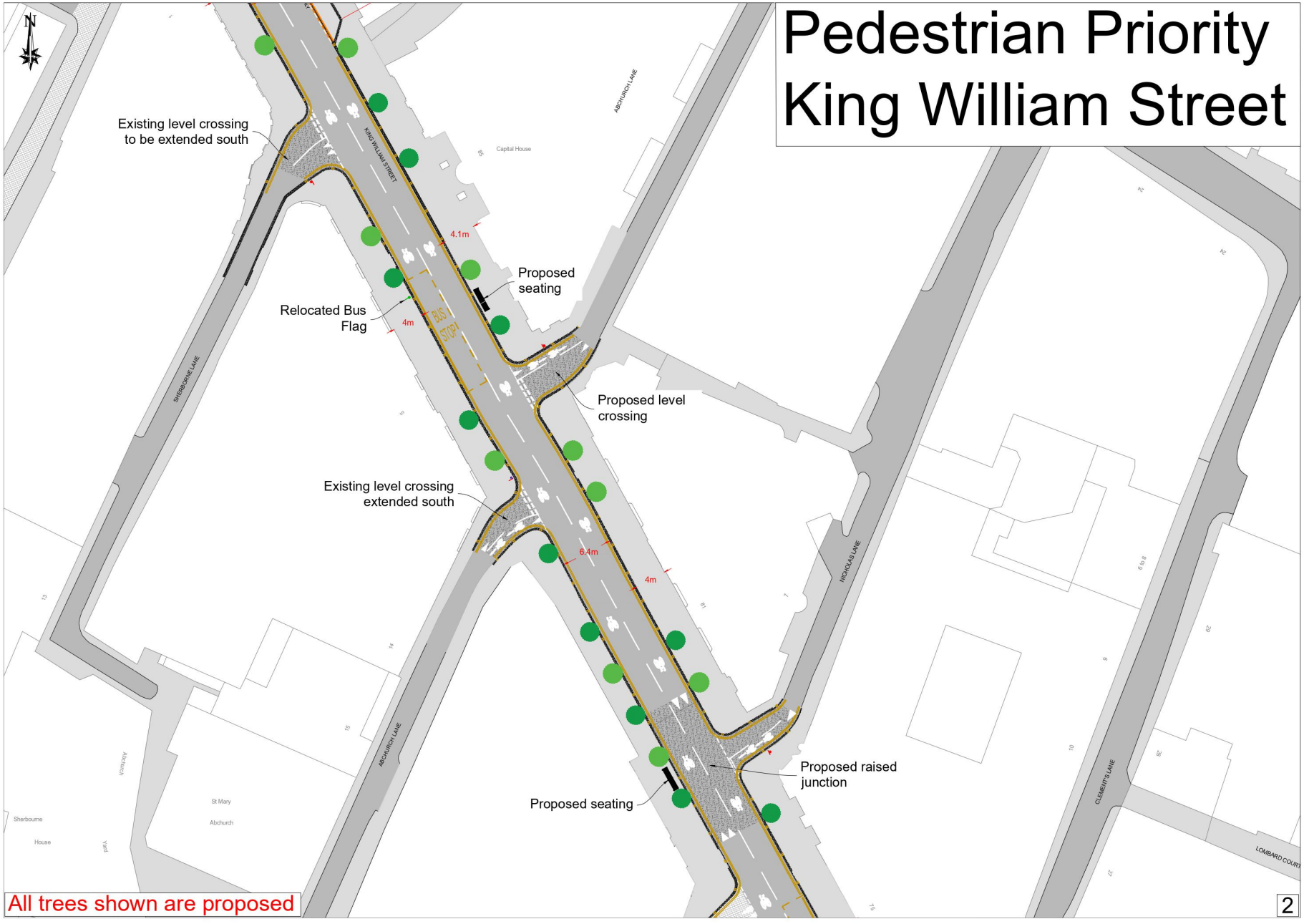
Pedestrian Priority King William Street




Pedestrian Priority
King William Street
Existing level crossing to be extended south
Relocated Bus Flag
Proposed seating
Proposed level crossing
Existing level crossing extended south
Proposed raised junction
Proposed seating
4.1m
4m
6.4m
4m
BUS STOP
KING WILLIAM STREET
ABCHURCH LANE
SHERBORNE LANE
NICHOLAS LANE
CLEMENT'S LANE
LOMBARD COURT
Capital House
St Mary Abchurch
Sherbourne House
All trees shown are proposed
2

Pedestrian Priority King William Street

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City of London: Projects Procedure Corporate Risks Register

Project Name:	Pedestrian Priority Streets	**PM's overall risk rating:**	Medium	**CRP requested this gateway**	£ 518,000	**Average unmitigated risk**	5.2	**Open Risks**	18
Unique project identifier:	12269	**Total estimated cost (exec risk):**	£ 8,132,000	**Total CRP used to date**	£ 56,000	**Average mitigated risk score**	1.4	**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	(1) Compliance/Regulatory	Issues or delays in any required consents such as third party consents, TTOs, Section 8s, TMAN, Permits, etc which cause delays to the implementation of the schemes.	If there was to be any delay in the approval of any required consents, such as TTOs, Permits, EqIA, TMAN etc; its likely delivery of the interventions could suffer from some form of unplanned delay or additional work.	Possible	Serious	6	£40,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Map out the required consents for each intervention / experimental scheme and continually monitor & update the consents if required throughout the trial period and delivery of the permanent measures. * Schedule regular meetings with consent approvers, especially those with long lead in times or complex approval procedures.	£0.00	Unlikely	Serious	£15,000.00	4		Use of CRP could include but is not limited to additional staff time, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Transport & Public Realm Projects	Kristian Turner, Transport & Public Realm Projects		15/2/24 - Although the schemes are being delivered under well-used and understood regulations, there is a possibility that some delays may occur due to unforeseen technicalities.
R2	5	(1) Compliance/Regulatory	Legal challenges or query upon any of the interventions / experimental schemes (excluding judicial review) that leads to delays or extra costs	Should an intervention / experimental scheme fall under some form of legal or challenge or investigation, its likely additional time and resource will be required to undertake associated work. External additional legal assistance could also be required. On the other hand, a project may need to look at legally resolving an unforeseen issue to proceed. It's also possible that a challenge to one measure then means that all are affected.	Possible	Serious	6	£60,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Consult early on with the legal, planning and network performance teams as required to identify potential issues, then monitor these individual issues and mitigate if possible. * Ensure TRO making process is followed to the letter of the law to mitigate against any statutory challenges (lesson learnt form Beech St)	£0.00	Possible	Minor	£30,000.00	3		Use of CRP could include but is not limited to additional staff time, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Transport & Public Realm Projects	Kristian Turner, Transport & Public Realm Projects		15/2/24 - financial figures reduced. It is unlikely that any form of meaningful legal challenge will take place against the remaining ETOs and proposed TMOs, and standard project management processes will help mitigate against the possibility.
R3	5	(3) Reputation	Issue(s) with external engagement and buy-in, potentially at the consultation stage, including any perceived or actual negative impacts, lead to additional resources being required to compensate	Further time and therefore resource may be required if the interventions / experimental schemes delivered don't meet the stakeholder's expectations. Its possible that as a result of this, changes to the interventions / experimental schemes may also be required.	Possible	Serious	6	£30,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Early-as-possible identification and engagement with key stakeholders where possible. * Proactive external comms to inform stakeholders as early as possible.	£0.00	Possible	Minor	£12,000.00	3		Use of CRP could include but is not limited to additional staff time and increased external consultants costs	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - Engagement with businesses, occupiers, residents, street users and other actively interested stakeholders (refer to PPS comms strategy) explaining what's happening and why is best placed to mitigate against negative reactions to the interventions / experimental schemes.
R4	5	(4) Contractual/Partnership	Issue(s) with internal engagement and buy-in, including any perceived or actual negative impacts, lead to additional resources being required to compensate	Further time and therefore resource may be required if the interventions / experimental schemes delivered either don't meet the stakeholder's expectations. Its possible that as a result of this, changes to the interventions / experimental schemes may also be required.	Unlikely	Minor	2	£15,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Early-as-possible identification and engagement with key stakeholders where possible. * Proactive internal comms to inform stakeholders as early as possible.	£0.00	Unlikely	Minor	£5,000.00	2		Use of CRP could include but is not limited to additional staff time and increased external consultants costs	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		(as above)
R5	5	(2) Financial	Procurement procedures impact negatively on project delivery	Additional resource may be required if there is a delay or issue with the procurement of goods or services from external suppliers.	Unlikely	Minor	2	£15,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Undertake early engagement with City's term contractor, FM Conway where required and map out the required resources & materials.	£0.00	Unlikely	Minor	£5,000.00	2		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - Early engagement and early ordering where possible.
R6	5	(10) Physical	Supplier delays, productivity or resource issues impact on project delivery	Referring both to internal and external suppliers to projects, alternative arrangements which require additional resource may be required if a potential or existing supplier is unable to deliver as agreed for whatever reason. This may involve retendering work if an existing supplier is unable to deliver.	Unlikely	Minor	2	£15,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Utilise existing framework agreements where possible * Investigate any likely 'bottlenecks', such as TfL's ability to deliver at this time, as early as possible to help plan possible mitigations	£0.00	Unlikely	Minor	£5,000.00	2		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - The interventions are being installed are to be delivered by the City's term contractor, FM Conway, with the issue of resourcing having already been discussed. However, with the economic climate, inflation and labour shortages in some industries its possible it could also negatively impact on resources available.
R7	5	(4) Contractual/Partnership	Accessibility, equalities and/ or security concerns or simmilar lead to changes being required to either designs or implemented interventions that in-turn results in additional resources being required to compensate.	Further changes may be required if accessibility, equalities and/ or security concerns are raised.	Possible	Minor	3	£30,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Include the City's Accessibility and Security Officers (if required) in design reviews. * Consider involving accessibility groups in an advisory role.	£0.00	Unlikely	Minor	£15,000.00	2		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - The interventions schemes will account for accessibility, equalities and security concerns but its possible that when implemented or further design reviews are undertaken that changes are deemed necessary to remove identified shortcomings.

R8	5	(10) Physical	Inaccurate or incomplete project estimates, including baxters/ inflationary issues leads to budget increases	If an estimate is found at a later date to be inaccurate or incomplete, more funding and/or time resource would be needed to rectify the issue or fund/ underwrite the shortfall. More specifically, inflationary (Baxters, RPI, etc) amounts predetermined earlier in a project may be found to be insufficient and require extra funding to cover any shortfall.	Possible	Major	**12**	£350,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Undertake regular cost reviews via interim submissions from the main contractor. * Track spending closely so future costs can be estimated more accurately.	£0.00	Possible	Serious	£250,000.00	**6**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - financial figures updated. The works required are using well-established rates and costs through the City's existing highways term contractor but the current financial climate means contract uplifts and increases in other costs are very likely. This will include any upcoming rate/ baxters/RPI changes. Officers will continually monitor this and mitigate as best as possible. Also, its possible an estimate could be wrong for whatever reason and this risk also covers this possibility.
R9	5	(10) Physical	Network accessibility before and during construction which cause project delay and/ or increased costs	Should parts of the road network not be available or become unavailable during implementation, expect delivery delays.	Possible	Serious	**6**	£30,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Regular engagement with City and TfL network management teams	£0.00	Possible	Minor	£20,000.00	**3**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - It is possible that should other works be required in a given street or road that it could impact on the City's ability to delivery the schemes. For example, if urgent utility works are required on a street where interventions have been installed, it could result in alternative routes being required to comfortably divert pedestrians and cyclists around the emergency works. Delays could cause cost increases with material prices and some utility serivces.
R10	5	(3) Reputation	Unforeseen technical and/ or engineering issues identified which leads to delays and additional costs to rectify.	Late identification of any engineering or technical issues that disrupt delivery, especially those involving utilities could result in further costs whether they be time, funding or resources.	Possible	Serious	**6**	£50,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Work with design engineers to review each site at the appropriate time.	£0.00	Unlikely	Serious	£25,000.00	**4**	£1,000.00	Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - engineering difficulties occurred with the interim measures leading to a change in aproach to the project, but increased costs had been realised in determining this and changing direction. Increased the provision available as this risk still exists and drawing down part of the revised revision. (jan 23)
R11	5	(4) Contractual/Partnership	TfL buses engagement and their requirements on a project.	Further time and therefore resource may be required if planned engagement work with TfL buses didn't go as planned. Also, they may change their requirements for a project.	Unlikely	Serious	**4**	£25,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Ensure early engagement with TfL buses in the design phases so they can consult internally * Design the interventions to help minimise impacts on the bus network	£0.00	Unlikely	Minor	£15,000.00	**2**		Use of CRP could include but is not limited to additional staff time, external consultants, labour and works costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - Bus routes and stops are likely to be affected by at least some of the interventions so these effects will need to be discussed with TfL and monitored, and changes made to the interventions if required.
R12	5	(3) Reputation	Accident during construction/ operation impacts on project delivery and/ or costs	Regardless of whether it be a member of public or a contractor on site, should an accident occur in or around any of the interventions / experimental schemes, delays are likely to occur whilst its investigated.	Rare	Major	**4**	£40,000.00	Y - for costed impact post-mitigation	A – Very Confident	* Consider regular site visits with the Principal Designer both to monitor the construction of the interventions / experimental schemes and user behaviour once installed.	£0.00	Rare	Minor	£15,000.00	**1**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - Should an accident occur within any of the schemes, the safety of all may be called into question. Therefore, the planned monitoring is to include an overview of any accidents that occur. However, any identified changes will require resourcing in terms of design and contractor time.
R13	5	(10) Physical	Unexpected Uitlities diversions or alterations impact on project delivery and/ or costs	Unforeseen delay and costs from SU companies	Possible	Serious	**6**	£50,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	Ensure due NSWRA process is followed	£0.00	Rare	Minor	£35,000.00	**1**	£30,000.00	Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - Whilst all efforts are made to idenitfy the required utility works fo a scheme, its possible extra diversions or changes could be required once a site is exposed.
~~R14~~	~~4~~	~~(2) Financial~~	Gateway 345 cost estimates are based on schematic and preliminary design plans. Subsequent changes /costs may be identified during the detailed design phase.	~~Unforeseen design & works costs~~	~~Possible~~	~~Serious~~	**6**	~~£50,000.00~~	~~Y - for costed impact post-mitigation~~	~~B – Fairly Confident~~	~~Highways (who will undertake detailed design) to undertake a review of the preliminary design cost estimates prior to gateway 345 submission.~~	~~£0.00~~	~~Rare~~	~~Minor~~		**1**	~~£25,000.00~~		~~13/09/2021~~	~~Gillian Howard, Policy and Projects~~	~~Kristian Turner, Policy and Projects~~		15/2/24 - risk closed having been used previously. However, the risk is still live and is covered by R8.
R15	5	(10) Physical	Additional investigations, surveys, data and/ or monitoring may be required by internal/ external parties to further validate the design or due to another unforeseen event.	Delays could occur to the programme if validation ofthe design is delayed. Also, should the interventions / experimental schemes cause any type of unforeseen impacts (changes in traffic patterns, pedestrian behaviour, pollution levels, etc), the monitoring strategy may need changing and therefore extra resource may be need to account for this.	Possible	Serious	**6**	£30,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	undertake trial holes and basement surveys where needed to minimise the risk, but if it occurs there will be additioanl costs	£0.00	Possible	Serious	£20,000.00	**6**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	01/10/2022	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - schemes may require additioanl surveys, data and/ or monitoring than those already planned for whatever reason(s), particulalry concerning basements and possibly the underground infrastructure.
R16	6	(10) Physical	Network performance issues following the schemes result in changes being required	There could be unforeseen implications on the city's network performance, both positive and negative.	Unlikely	Major	**8**	£20,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Create a monitoring strategy that includes the ability to react quickly to changes and unforeseen events. * Ensure that all relevant departments are consulted as early as possible to input into design options.	£0.00	Rare	Minor	£15,000.00	**1**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - No traffic modelling is being undertaken for the interventions and this therefore means that the risk is higher. This risk will reduce as more schemes complete.
R17	6	(1) Compliance/Regulatory	Scheme monitoring and/ or Road Safety Audits identify required changes	Scheme monitoring or Road Safety Audits may identify that the interventions / experimental schemes require changes. This could result in rework costs or further monitoring to assess whether what's built is safe and suitable.	Unlikely	Serious	**4**	£15,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Informally monitor on street as work begins to complete to identify any potential changes whilst the contractor is on-site * Ensure the planned monitoring feeds directly into design reviews	£0.00	Rare	Minor	£12,000.00	**1**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - If issues are identified by monitoring and/ or any future road safety audits, these may require extra resource to fix.

R18	5	(10) Physical	Unexpected or unplanned user behaviour results in the City requiring marshalling and/ or enforcement in and around the schemes before, during or after construction/ implementation.	Extra costs would be incurred if additional resource was required to marshall and enforce the interventions / experimental schemes	Unlikely	Serious	**4**	£30,000.00	Y - for costed impact post-mitigation	B – Fairly Confident	* Ensure that the comms related to the interventions / experimental schemes is strong and clear in its message to all stakeholders * Assess whether city occupiers can also promote the City's work and message through their comms channels.	£0.00	Rare	Minor	£24,000.00	**1**		Use of CRP could include but is not limited to additional staff time, external consultants, labour, works and utility costs to accommodate	06/07/2021	Gillian Howard, Policy and Projects	Kristian Turner, Policy and Projects		15/2/24 - With the post COVID-19 return to work, it's very difficult at this point in time to assess how users will react to the interventions / experimental schemes, and its likely that there will be many contributing factors to this. Many of these will also be outside of the City's control. Therefore, should it be required, approx. £8k per month has been estimated for providing marshalling and enforcement services should they be necessary.

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Appendix 6 - Paragraph 45 of the 'City of London Project Procedure – Nov 2023' (Changes to Projects: General)

Changes to Projects: General

45. In cases where:

- *the financial implications will be higher or lower than the agreed confidence range (capital or revenue expenditure or income/returns/savings);*
- *the overall programme needs to be accelerated or delayed +/- 10% of time against the last numbered Gateway report;*
- *the specification will be significantly different to that agreed, i.e. there will be a shortfall against one of more of the key objectives/ SMART targets, or the inclusion or reduction in the parameters of the project, which may include changing operational performance criteria and business benefits;*

Officers will report to the Committee(s) or Chief Officer who approved the last Gateway report on the circumstances, the options available and a recommended course of action. For example, if circumstances change on the Light and Regular routes where Authority to start work is delegated to Chief Officer, they would need to return to Committee to progress to the next gateway.

If additional unallocated City Corporation resources are required (i.e. from Central resources, not local risk budgets), the approval of the Policy and Resources Committee must also be obtained as Service Committees cannot approve Central resources.

In such cases the Policy and Resources Committee must be advised of the impact of the proposed increase in the City's overall Programme and any agree increase must be reported to the next meeting of the Resource Allocation Sub-Committee for appropriate adjustments to be made to the City Corporation's Programme.

Note that Chamberlains have prepared guidance on the preparation of Whole Life Costing (available on the corporate intranet).

These will not apply to the costed risk provision drawdown increases to budgets as they have already been considered and delegated [See 49]:

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Appendix 7 – Financial Information

Table 1: Expenditure to Date			
Description	**Approved Budget (£)**	**Expenditure (£)**	**Balance (£)**
16800457: Pedestrian Priority Programme (SRP)			
Env Servs Staff Costs	42,000	4,325	37,675
P&T Staff Costs	61,510	60,947	563
P&T Fees	86,000	85,328	672
Enabling Works	10,000	-	10,000
Total 16800457	**199,510**	**150,601**	**48,909**
16100457: Pedestrian Priority Programme (CAP)			
Env Servs Staff Costs	247,584	216,650	30,934
Legal Staff Costs	20,000	108	19,892
P&T Staff Costs	260,802	211,628	49,174
P&T Fees	461,533	405,602	55,931
ANPR Cameras	70,000	28,325	41,675
Env Servs Works	925,000	816,866	108,134
Costed Risk Provision	417,200	-	417,200
Total 16100457	**2,402,119**	**1,679,179**	**722,940**
GRAND TOTAL	**2,601,629**	**1,829,780**	**771,849**

Table 2: Resources Required to reach the next Gateway			
Description	**Approved Budget (£)**	**Additional Resources Required (£)**	**Revised Budget (£)**
16800457: Pedestrian Priority Programme (SRP)			
Env Servs Staff Costs	42,000	-	42,000
P&T Staff Costs	61,510	-	61,510
P&T Fees	86,000	-	86,000
Enabling Works	10,000	-	10,000
Total 16800457	**199,510**	**-**	**199,510**
16100457: Pedestrian Priority Programme (CAP)			
Env Servs Staff Costs	247,584	76,000	323,584
Legal Staff Costs	20,000	-	20,000
P&T Staff Costs	260,802	75,000	335,802
P&T Fees	461,533	158,000	619,533
ANPR Cameras	70,000	-	70,000
Env Servs Works	925,000	17,000	942,000
Costed Risk Provision	417,200	100,800	518,000
Total 16100457	**2,402,119**	**426,800**	**2,828,919**
Pedestrian Priority Programme - King William Street			
Env Servs Staff Costs	-	100,000	100,000
P&T Staff Costs	-	45,000	45,000
Open Spaces Staff Costs	-	3,900	3,900
P&T Fees	-	60,000	60,000
Env Servs Works	-	2,925,761	2,925,761
Open Spaces Works	-	111,600	111,600
Open Spaces Maintenance	-	87,000	87,000
Total King William Street	**-**	**3,333,261**	**3,333,261**
GRAND TOTAL	**2,601,629**	**3,760,061**	**6,361,690**

Table 3: Revised Funding Allocation			
Funding Source	**Current Funding Allocation (£)**	**Funding Adjustments (£)**	**Revised Funding Allocation (£)**
16800457: Pedestrian Priority Programme (SRP)			
S106 - 02-4962Y - Cheapside 150 - LCEIW	6,330	-	6,330
S106 - 03-5027C - New Street Square - LCEIW	8,208	-	8,208
S106 - 04/01005/FULEIA - Old Stock Exchange - LCEIW	895	-	895
S106 - 05/00653/FULEIA - Mondial House - Transportation	510	-	510
S106 - 05/00864/FULL - Bartholomew Lane 1 - LCEIW	8,279	-	8,279
S106 - 05/00864/FULL - Bartholomew Lane 1 - Transportation	11	-	11
S106 - 06/00240/FULL - Dashwood House - LCEIW	9,158	-	9,158
S106 - 06/00240/FULL - Dashwood House - Transportation	16,720	-	16,720
S106 - 06/00500/FULL - Lothbury 1 - Transportation	314	-	314
S106 - 06/00613/FULL - Fleetway House - LCEIW	125	-	125
S106 - 06/00903/FULL - New Court - LCEIW	4,168	-	4,168
S106 - 09/00450/FULMAJ - Bevis Marks 6 - LCEIW	1,087	-	1,087
S106 - 10/00889/FULMAJ - Angel Court & 33 Throgmorton Street - LCEIW	1,533	-	1,533
S106 - 10/00889/FULMAJ - Angel Court & 33 Throgmorton Street - Transportation	35,234	-	35,234
S106 - 12/00256/FULEIA - Bartholomew Close - Transportation	12,916	-	12,916
S106 - 12/00474/FULMAJ - Moorgate 8-10 - LCEIW	151	-	151
S106 - 12/00474/FULMAJ - Moorgate 8-10 - Transportation	10,814	-	10,814
S106 - 13/00049/FULMAJ - Monument Street - LCEIW	49	-	49
S106 - 13/00049/FULMAJ - Monument Street - Transportation	208	-	208
S106 - 13/00339/FULMAJ - Cannon Street 39-53, 11-14 Bow Lane And Watling Court - Transportation	15,000	-	15,000
S106 - 14/00322/FULMAJ - Fann Street 2 - LCEIW	1,182	-	1,182
S106 - 14/00860/FULMAJ - King William Street 33 - LCEIW	15,563	-	15,563
CAS: On Street Parking Reserve	51,057	-	51,057
Total 16800457	**199,510**	**-**	**199,510**
16100457: Pedestrian Priority Programme (CAP)			
CAS: On Street Parking Reserve	2,402,119	417,284	2,819,403
S106 - 04/00633/FULEIA - Cannon Street Station - Transport	-	2,458	2,458
S106 - 08/00940/FULL - Drapers Gardens - Transport	-	4,379	4,379
S106 - 12/00256/FULEIA - Bartholomew Close - LCE	-	2,679	2,679
Total 16100457	**2,402,119**	**426,800**	**2,828,919**
Pedestrian Priority Programme - King William Street			
On Street Parking Reserve	-	2,000,000	2,000,000
CAS: Cool Streets and Greening Programme (OSPR)	-	202,500	202,500
CAS: On Street Parking Reserve	-	1,130,761	1,130,761
Total King William Street	**-**	**3,333,261**	**3,333,261**
Total Funding Drawdown	**2,601,629**	**3,760,061**	**6,361,690**

Table 4: Funding Strategy	
Funding Source	**Amount (£)**
Section 106	157,969
On Street Parking Reserve	2,000,000
CAS: On Street Parking Reserve	6,000,000
CAS: Cool Streets and Greening Programme (OSPR)	202,500
TOTAL	**8,360,469**

Appendix 9 – Healthy Streets

Healthy Streets Score

Name of street

King William St

Name of street at start junction

Monument Junction

Name of street at end junction

Bank Junction

	Existing Layout Score	Proposed Layout Score
Healthy Streets Score	21	63
Everyone feels welcome	19	65
Easy to cross	25	63
Shade and shelter	0	50
Places to stop and rest	13	60
Not too noisy	40	67
People choose to walk and cycle	19	65
People feel safe	28	69
Things to see and do	0	67
People feel relaxed	19	65
Clean air	50	58

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Step 1
Set each of the drop downs below to best describe the street characteristics for the section being analysed

Step 2
Review the results for each needs segment

Step 3
Hover the cursor over the box next to each score to read quotes explaining how participants in the segment are affected by the feature

		EWC	MWC	MS	WA	WI	LC	GD	RS	HI	ANI	AT	DI	Comments
Crossing Point														
Crossing Type	Uncontrolled crossing > 8m road width	3	2	3	1	2	0	2	2	3	1	2	1	Crossing over KWS
Crosses Over	Carriageway (motor vehicles and cycles together)	3	3	3	3	3	3	3	3	3	3	3	4	
Edge Marking	No tactile edge marking	3	3	2	3	4	0	1	1	3	4	2	0	
Tactile Paving Back Edge	Straight back edge	2	3	3	3	1	4	3	3	2	2	4	4	
Tactile Paving Colour	Tactile colour not as per guidance	3	3	3	3	3	3	3	3	2	3	3	3	
Tactile Paving Tonal Contrast	Tactile has significant contrast with surrounding paving	3	3	4	3	4	3	4	4	3	3	3	3	
Tactile Paving Stem Length	No tactile stem	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	
Tactile Paving Stem Width	Tactile stem 800 mm width	3	3	3	3	2	3	3	3	4	4	3	3	
Island Type	No island	2	3	2	2	2	2	2	3	2	2	2	3	
Island Depth	Island depth < 1.2 m	2	2	3	3	3	3	2	3	2	3	3	3	
Kerb Drop Slope	Kerb drop 1/6, 9.5 deg, 17% to 1/12, 4.7deg, 8% incline	3	3		3	2	3	3	3	3	2	3	3	
Kerb Drop Tactile	Kerb drop without tactile paving	3	4	3	2	3	2	2	3	3	4	3	1	
Signal (red/green man)	No Signal (zebra)	2	3	4	2	3	3	3	3	3	3	3	2	
Audible (beeping)	Audible	3	3	4	4	3	4	4	4	4	4	4	4	
Count Down	Count down	4	3	3	4	4	3	3	3	4	4	4	4	
Tactile Rotating Cone	Rotating cone right + left side	3	3	3	3	3	4	4	4	3	3	3	3	
Surface Material														
Surface Type	York Stone with gaps/bumps	2	2	2	2	1	2	2	2	1	2	3	3	
Pattern	Uniform paving colour	3	3	3	3	3	3	3	3	3	3	4	3	
Contrast with Road	Lower tonal contrast between paving and road	3	3	3	3	3	3	2	3	2	3	3	3	
Lines	yellow/red/white lines at road edge	3	3	4	3	3	3	3	4	3	4	4	4	
Kerb														
Kerb Type (crossing over)	Crossing kerb 50 mm to 100 mm	0	0	0	2	3	2	3	1	2	2	3	0	Crossing over KWS
Kerb Type (moving alongside)	Deliniating kerb 50 mm to 100 mm	3	3	3	3	3	3	3	3	3	3	4	3	
Footway Width														
Width	Footway width 2 m to 5 m	4	4	4	4	3	3	3	4	3	3	4	4	
Unobstructed Width	Min unobstructed width > 1.5 m	3	3	3	3	3	4	3	3	4	3	3	3	
Street Furniture														
Position	Street furniture < 0.5 m from kerb	3	3	3	4	4	3	2	3	4	4	3	3	
Cafe Tables	No cafe tables	4	4	4	3	3	4	3	3	3	4	3	4	
Temporary Items	No temporary obstructions	4	4	4	4	4	4	4	4	4	4	4	4	
Street Furniture Height	Street furniture > 0.9 m height	3	3	3	3	4	3	3	3	3	3	3	3	
Contrast	High tonal contrast with paving	3	3	4	3	3	3	4	4	3	3	3	3	
Bench Spacing	Bench within 150 m	3	3	3	4	4	3	3	3	3	4	4	3	Outside Mansion House
Bench Design	Benches with backrests without arms	3	3	3	3	3	3	3	3	4	3	3	3	
Bench Seat Height	Benches seat height 45 to 50 cm	3	3	3	4	3	3	3	3	4	3	3	3	
Bench Sensory Experience	Bad sensory experience (adjacent busy road, cold surface)	3	3	3	3	2	3	3	3	2	3	1	3	
Slopes														
Gradient (in direction of travel)	Gradient 1/20 to 1/50	3	3	3	3	3	3	3	3	3	3	3	3	
Camber (across footway)	Camber < 1/50	3	4	3	4	3	3	3	3	3	4	3	4	
Vehicle Access														
Vehicle Crossover	No crossover	3	3	3	3	3	3	3	3	3	3	3	3	
Blue Badge Parking	Blue badge parking 100 m to 500 m away	3	3	3	2	2	3	3	3	3	3	2	1	
Taxi Drop Off Location	Taxi drop off within 10 m	4	4	3	4	4	4	4	4	4	4	4	4	
Taxi Drop Off Kerb	Taxi drop off kerb 100 mm to 150 mm	3	3	3	3	3	3	3	3	3	3	3	2	
Dedicated Taxi Drop Off	Somewhere a taxi can stop safely	3	3	3	3	3	3	3	3	3	3	3	3	
Bus Stop Location	Within 100 m	3	4	4	4	3	4	3	4	3	4	3	3	
Bus Stop Kerb Height	< 125 mm	2	2	3	3	2	3	3	3	3	3	3	3	
Bus Stop Type	Flag only	3	3	2	3	1	3	3	3	1	3	2	2	
Toilets														
Accessible Toilets	100 m to 500 m away	3	3	3	3	2	3	3	4	3	3	3	4	Cannon St station
Changing Places Toilets	More than 500 m away	3	3	3	3	3	3	3	3	3	3	3	1	

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v 1.2

Step 1
Set each of the drop downs below to best describe the street characteristics for the section being analysed

Step 2
Review the results for each needs segment

Step 3
Hover the cursor over the box next to each score to read quotes explaining how participants in the segment are affected by the feature

		EWC	MWC	MS	WA	WI	LC	GD	RS	HI	ANI	AT	DI	Comments
Crossing Point														
Crossing Type	Uncontrolled crossing > 8m road width	3	2	3	1	2	0	2	2	3	1	2	1	
Crosses Over	Carriageway (motor vehicles and cycles together)	3	3	3	3	3	3	3	3	3	3	3	4	
Edge Marking	No tactile edge marking	3	3	2	3	4	0	1	1	3	4	2	0	
Tactile Paving Back Edge	Straight back edge	2	3	3	3	1	4	3	3	2	2	4	4	
Tactile Paving Colour	Tactile colour not as per guidance	3	3	3	3	3	3	3	3	2	3	3	3	
Tactile Paving Tonal Contrast	Tactile has significant contrast with surrounding paving	3	3	4	3	4	3	4	4	3	3	3	3	
Tactile Paving Stem Length	Tactile stem > 0.5 m from building line	3	3	3	3	4	2	3	3	3	3	4	3	
Tactile Paving Stem Width	Tactile stem 800 mm width	3	3	3	3	2	3	3	3	4	4	3	3	
Island Type	Island without tactile	4	4	4	3	4	2	2	4	3	4	3	1	
Island Depth	Island depth < 1.2 m	2	2	3	3	3	3	2	3	2	3	3	3	
Kerb Drop Slope	Kerb drop > 1/6, 9.5 deg, 17% incline	1	1		2	1	3	3	2	3	1	3	2	No drop kerb on eastern side because of basements
Kerb Drop Tactile	Kerb drop without tactile paving	3	4	3	2	3	2	2	3	3	4	3	1	
Signal (red/green man)	Far side signal	3	4	2	4	3	4	4	4	4	4	4	3	
Audible (beeping)	Audible	3	3	4	4	3	4	4	4	4	4	4	4	
Count Down	Count down	4	3	3	4	4	3	3	3	4	4	4	4	
Tactile Rotating Cone	Rotating cone right + left side	3	3	3	3	3	4	4	4	3	3	3	3	
Surface Material														
Surface Type	York Stone with gaps/bumps	2	2	2	2	1	2	2	2	1	2	3	3	
Pattern	Uniform paving colour	3	3	3	3	3	3	3	3	3	3	4	3	
Contrast with Road	Lower tonal contrast between paving and road	3	3	3	3	3	3	2	3	2	3	3	3	
Lines	yellow/red/white lines at road edge	3	3	4	3	3	3	3	4	3	4	4	4	
Kerb														
Kerb Type (crossing over)	Crossing kerb 100 mm to 150 mm	0	0	0	2	2	2	3	1	2	2	3	0	No drop kerb on eastern side because of basements
Kerb Type (moving alongside)	Deliniating kerb 50 mm to 100 mm	3	3	3	3	3	3	3	3	3	3	4	3	
Footway Width														
Width	Footway width 2 m to 5 m	4	4	4	4	3	3	3	4	3	3	4	4	
Unobstructed Width	Min unobstructed width > 1.5 m	3	3	3	3	3	4	3	3	4	3	3	3	
Street Furniture														
Position	Street furniture < 0.5 m from kerb	3	3	3	4	4	3	2	3	4	4	3	3	
Cafe Tables	No cafe tables	4	4	4	3	3	4	3	3	3	4	3	4	
Temporary Items	No temporary obstructions	4	4	4	4	4	4	4	4	4	4	4	4	
Street Furniture Height	Street furniture > 0.9 m height	3	3	3	3	4	3	3	3	3	3	3	3	
Contrast	High tonal contrast with paving	3	3	4	3	3	3	4	4	3	3	3	3	
Bench Spacing	Bench within 150 m	3	3	3	4	4	3	3	3	3	4	4	3	Ouside Mansion House
Bench Design	Benches with backrests without arms	3	3	3	3	3	3	3	3	4	3	3	3	
Bench Seat Height	Benches seat height 45 to 50 cm	3	3	3	4	3	3	3	3	4	3	3	3	
Bench Sensory Experience	Bad sensory experience (adjacent busy road, cold surface)	3	3	3	3	2	3	3	3	2	3	1	3	
Slopes														
Gradient (in direction of travel)	Gradient 1/20 to 1/50	3	3	3	3	3	3	3	3	3	3	3	3	
Camber (across footway)	Camber < 1/50	3	4	3	4	3	3	3	3	3	4	3	4	
Vehicle Access														
Vehicle Crossover	No crossover	3	3	3	3	3	3	3	3	3	3	3	3	
Blue Badge Parking	Blue badge parking Within 100 m	4	3	3	3	3	3	3	3	3	3	3	3	
Taxi Drop Off Location	Taxi drop off 10 m to 100 m away	3	3	2	3	3	3	1	3	4	3	3	3	
Taxi Drop Off Kerb	Taxi drop off kerb 100 mm to 150 mm	3	3	3	3	3	3	3	3	3	3	3	2	
Dedicated Taxi Drop Off	Somewhere a taxi can stop safely	3	3	3	3	3	3	3	3	3	3	3	3	
Bus Stop Location	Within 100 m	3	4	4	4	3	4	3	4	3	4	3	3	
Bus Stop Kerb Height	< 125 mm	2	2	3	3	2	3	3	3	3	3	3	3	
Bus Stop Type	Flag only	3	3	2	3	1	3	3	3	1	3	2	2	
Toilets														
Accessible Toilets	100 m to 500 m away	3	3	3	3	2	3	3	4	3	3	3	4	Cannon St station
Changing Places Toilets	More than 500 m away	3	3	3	3	3	3	3	3	3	3	3	1	

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Appendix 10 - CoLSAT Assessment
Existing - Nicholas Lane to Bank Side Roads only

v 1.2

Step 1
Set each of the drop downs below to best describe the street characteristics for the section being analysed

Step 2
Review the results for each needs segment b

Step 3
Hover the cursor over the box next to each score to read quotes explaining how participants in the segment are affected by the feature

		EWC	MWC	MS	WA	WI	LC	GD	RS	HI	ANI	AT	DI	Comments
Crossing Point														
Crossing Type	Uncontrolled crossing 6 m to 8 m road width	3	3	3	3	3	2	2	2	3	2	3	2	Crossing existing side roads
Crosses Over	Carriageway (motor vehicles and cycles together)	3	3	3	3	3	3	3	3	3	3	3	4	
Edge Marking	No tactile edge marking	3	3	2	3	4	0	1	1	3	4	2	0	Some have tactile, some don't
Tactie Paving Back Edge	Straight back edge	2	3	3	3	1	4	3	3	2	2	4	4	
Tactie Paving Colour	Tactile colour not as per guidance	3	3	3	3	3	3	3	3	2	3	3	3	
Tactile Paving Tonal Contrast	Tactile has significant contrast with surrounding paving	3	3	4	3	4	3	4	4	3	3	3	3	
Tactile Paving Stem Length	No tactile stem	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	
Tactile Paving Stem Width	Tactile stem 800 mm width	3	3	3	3	2	3	3	3	4	4	3	3	
Island Type	No island	2	3	2	2	2	2	2	3	2	2	2	3	
Island Depth	Island depth < 1.2 m	2	2	3	3	3	3	2	3	2	3	3	3	
Kerb Drop Slope	Kerb drop 1/6, 9.5 deg, 17% to 1/12, 4.7deg, 8% incline	3	3		3	2	3	3	3	3	2	3	3	A mixture of gradients present. None are too steep though.
Kerb Drop Tactile	Kerb drop without tactile paving	3	4	3	2	3	2	2	3	3	4	3	1	
Signal (red/green man)	No Signal (zebra)	2	3	4	2	3	3	3	3	3	3	3	2	
Audible (beeping)	Audible	3	3	4	4	3	4	4	4	4	4	4	4	
Count Down	Count down	4	3	3	4	4	3	3	3	4	4	4	4	
Tactile Rotating Cone	Rotating cone right + left side	3	3	3	3	3	4	4	4	3	3	3	3	
Surface Material														
Surface Type	York Stone with gaps/bumps	2	2	2	2	1	2	2	2	1	2	3	3	
Pattern	Uniform paving colour	3	3	3	3	3	3	3	3	3	3	4	3	
Contrast with Road	Lower tonal contrast between paving and road	3	3	3	3	3	3	2	3	2	3	3	3	
Lines	yellow/red/white lines at road edge	3	3	4	3	3	3	3	4	3	4	4	4	
Kerb														
Kerb Type (crossing over)	Crossing upstand 3 to 50 mm	0	2	2	3	2	1	2	2	3	3	3	2	
Kerb Type (moving alongside)	Deliniating kerb 50 mm to 100 mm	3	3	3	3	3	3	3	3	3	3	4	3	
Footway Width														
Width	Footway width 2 m to 5 m	4	4	4	4	3	3	3	4	3	3	4	4	
Unobstructed Width	Min unobstructed width > 1.5 m	3	3	3	3	3	4	3	3	4	3	3	3	
Street Furniture														
Position	Street furniture < 0.5 m from kerb	3	3	3	4	4	3	2	3	4	4	3	3	
Cafe Tables	No cafe tables	4	4	4	3	3	4	3	3	3	4	3	4	
Temporary Items	No temporary obstructions	4	4	4	4	4	4	4	4	4	4	4	4	
Street Furniture Height	Street furniture > 0.9 m height	3	3	3	3	4	3	3	3	3	3	3	3	
Contrast	High tonal contrast with paving	3	3	4	3	3	3	4	4	3	3	3	3	
Bench Spacing	Bench within 150 m	3	3	3	4	4	3	3	3	3	4	4	3	Outside Mansion House
Bench Design	Benches with arms + Backrests	3	3	4	4	4	3	3	4	4	4	3	3	
Bench Seat Height	Benches seat height 45 to 50 cm	3	3	3	4	3	3	3	3	4	3	3	3	
Bench Sensory Experience	Bad sensory experience (adjacent busy road, cold surface)	3	3	3	3	2	3	3	3	2	3	1	3	
Slopes														
Gradient (in direction of travel)	Gradient 1/20 to 1/50	3	3	3	3	3	3	3	3	3	3	3	3	
Camber (across footway)	Camber < 1/50	3	4	3	4	3	3	3	3	3	4	3	4	
Vehicle Access														
Vehicle Crossover	No crossover	3	3	3	3	3	3	3	3	3	3	3	3	
Blue Badge Parking	Blue badge parking 100 m to 500 m away	3	3	3	2	2	3	3	3	3	3	2	1	
Taxi Drop Off Location	Taxi drop off within 10 m	4	4	3	4	4	4	4	4	4	4	4	4	
Taxi Drop Off Kerb	Taxi drop off kerb 100 mm to 150 mm	3	3	3	3	3	3	3	3	3	3	3	2	
Dedicated Taxi Drop Off	Somewhere a taxi can stop safely	3	3	3	3	3	3	3	3	3	3	3	3	
Bus Stop Location	Within 100 m	3	4	4	4	3	4	3	4	3	4	3	3	
Bus Stop Kerb Height	< 125 mm	2	2	3	3	2	3	3	3	3	3	3	3	
Bus Stop Type	Flag only	3	3	2	3	1	3	3	3	1	3	2	2	
Toilets														
Accessible Toilets	100 m to 500 m away	3	3	3	3	2	3	3	4	3	3	3	4	Cannon St station
Changing Places Toilets	More than 500 m away	3	3	3	3	3	3	3	3	3	3	3	1	

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v 1.2

Step 1
Set each of the drop downs below to best describe the street characteristics for the section being analysed

Step 2
Review the results for each needs segment

Step 3
Hover the cursor over the box next to each score to read quotes explaining how participants in the segment are affected by the feature

		EWC	MWC	MS	WA	WI	LC	GD	RS	HI	ANI	AT	DI	Comments
Crossing Point														
Crossing Type	Uncontrolled crossing 6 m to 8 m road width	3	3	3	3	3	2	2	2	3	2	3	2	Crossing over KWS using the raised tables.
Crosses Over	Carriageway (motor vehicles and cycles together)	3	3	3	3	3	3	3	3	3	3	3	4	
Edge Marking	800 mm deep tactile paving edge marking (partial width)	3	3	3	3	3	1	2	3	3	3	3	4	
Tactie Paving Back Edge	Straight back edge	2	3	3	3	1	4	3	3	2	2	4	4	
Tactie Paving Colour	Tactile colour as per guidance (red at contr. buff at uncontr.)	3	3	3	3	3	3	3	3	3	3	3	3	
Tactile Paving Tonal Contrast	Tactile has significant contrast with surrounding paving	3	3	4	3	4	3	4	4	3	3	3	3	
Tactile Paving Stem Length	No tactile stem	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	
Tactile Paving Stem Width	Tactile stem 800 mm width	3	3	3	3	2	3	3	3	4	4	3	3	
Island Type	No island	2	3	2	2	2	2	2	3	2	2	2	3	
Island Depth	Island depth < 1.2 m	2	2	3	3	3	3	2	3	2	3	3	3	
Kerb Drop Slope	Kerb drop 1/6, 9.5 deg, 17% to 1/12, 4.7deg, 8% incline	3	3		3	2	3	3	3	3	2	3	3	
Kerb Drop Tactile	Kerb drop with tactile paving	3	2	3	4	1	3	3	3	3	3	4	3	
Signal (red/green man)	No Signal (zebra)	2	3	4	2	3	3	3	3	3	3	3	2	
Audible (beeping)	Audible	3	3	4	4	3	4	4	4	4	4	4	4	
Count Down	Count down	4	3	3	4	4	3	3	3	4	4	4	4	
Tactile Rotating Cone	Rotating cone right + left side	3	3	3	3	3	4	4	4	3	3	3	3	
Surface Material														
Surface Type	Smooth York Stone	3	3	3	3	4	4	4	3	3	4	3	3	
Pattern	Uniform paving colour	3	3	3	3	3	3	3	3	3	3	4	3	
Contrast with Road	Higher tonal contrast between paving and road	3	3	3	4	3	3	3	4	3	4	3	4	
Lines	yellow/red/white lines at road edge	3	3	4	3	3	3	3	4	3	4	4	4	
Kerb														
Kerb Type (crossing over)	Crossing upstand 0 mm to 3 mm + 800 tactile paving	4	3	4	4	2	3	4	3	3	4	3	3	Crossing over KWS at the raised tables.
Kerb Type (moving alongside)	Deliniating kerb 50 mm to 100 mm	3	3	3	3	3	3	3	3	3	3	4	3	
Footway Width														
Width	Footway width 2 m to 5 m	4	4	4	4	3	3	3	4	3	3	4	4	
Unobstructed Width	Min unobstructed width > 1.5 m	3	3	3	3	3	4	3	3	4	3	3	3	
Street Furniture														
Position	Street furniture < 0.5 m from kerb	3	3	3	4	4	3	2	3	4	4	3	3	
Cafe Tables	No cafe tables	4	4	4	3	3	4	3	3	3	4	3	4	
Temporary Items	No temporary obstructions	4	4	4	4	4	4	4	4	4	4	4	4	
Street Furniture Height	Street furniture > 0.9 m height	3	3	3	3	4	3	3	3	3	3	3	3	
Contrast	High tonal contrast with paving	3	3	4	3	3	3	4	4	3	3	3	3	
Bench Spacing	Bench within 150 m	3	3	3	4	4	3	3	3	3	4	4	3	
Bench Design	Benches with arms + Backrests	3	3	4	4	4	3	3	4	4	4	3	3	
Bench Seat Height	Benches seat height 45 to 50 cm	3	3	3	4	3	3	3	3	4	3	3	3	
Bench Sensory Experience	No sensory experience	3	3	3	3	3	3	3	3	3	3	3	3	
Slopes														
Gradient (in direction of travel)	Gradient 1/20 to 1/50	3	3	3	3	3	3	3	3	3	3	3	3	
Camber (across footway)	Camber < 1/50	3	4	3	4	3	3	3	3	3	4	3	4	
Vehicle Access														
Vehicle Crossover	No crossover	3	3	3	3	3	3	3	3	3	3	3	3	
Blue Badge Parking	Blue badge parking 100 m to 500 m away	3	3	3	2	2	3	3	3	3	3	2	1	
Taxi Drop Off Location	Taxi drop off within 10 m	4	4	3	4	4	4	4	4	4	4	4	4	
Taxi Drop Off Kerb	Taxi drop off kerb 100 mm to 150 mm	3	3	3	3	3	3	3	3	3	3	3	2	
Dedicated Taxi Drop Off	Somewhere a taxi can stop safely	3	3	3	3	3	3	3	3	3	3	3	3	
Bus Stop Location	Within 100 m	3	4	4	4	3	4	3	4	3	4	3	3	
Bus Stop Kerb Height	< 125 mm	2	2	3	3	2	3	3	3	3	3	3	3	
Bus Stop Type	Flag only	3	3	2	3	1	3	3	3	1	3	2	2	
Toilets														
Accessible Toilets	100 m to 500 m away	3	3	3	3	2	3	3	4	3	3	3	4	Cannon St station
Changing Places Toilets	More than 500 m away	3	3	3	3	3	3	3	3	3	3	3	1	

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Appendix 10 - CoLSAT Assessment
Proposed - Nicholas Lane to Monument

v 1.2

Step 1
Set each of the drop downs below to best describe the street characteristics for the section being analysed

Step 2
Review the results for each needs segment b

Step 3
Hover the cursor over the box next to each score to read quotes explaining how participants in the segment are affected by the feature

		EWC	MWC	MS	WA	WI	LC	GD	RS	HI	ANI	AT	DI	Comments
Crossing Point														
Crossing Type	Uncontrolled crossing 6 m to 8 m road width	3	3	3	3	3	2	2	2	3	2	3	2	Southern crossing would not be marked as a formal crossing despite looking like one.
Crosses Over	Carriageway (motor vehicles and cycles together)	3	3	3	3	3	3	3	3	3	3	3	4	
Edge Marking	800 mm deep tactile paving edge marking (full width of flush area)	3	3	4	3	1	3	3	4	3	3	4	3	
Tactie Paving Back Edge	Straight back edge	2	3	3	3	1	4	3	3	2	2	4	4	All crossings are informal at this stage so tails aren't appropriate.
Tactie Paving Colour	Tactile colour as per guidance (red at contr. buff at uncontr.)	3	3	3	3	3	3	3	3	3	3	3	3	
Tactile Paving Tonal Contrast	Tactile has significant contrast with surrounding paving	3	3	4	3	4	3	4	4	3	3	3	3	
Tactile Paving Stem Length	No tactile stem	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	
Tactile Paving Stem Width	Tactile stem 800 mm width	3	3	3	3	2	3	3	3	4	4	3	3	N/A
Island Type	Island without tactile	4	4	4	3	4	2	2	4	3	4	3	1	
Island Depth	Island depth < 1.2 m	2	2	3	3	3	3	2	3	2	3	3	3	
Kerb Drop Slope	Kerb drop 1/6, 9.5 deg, 17% to 1/12, 4.7deg, 8% incline	3	3		3	2	3	3	3	3	2	3	3	
Kerb Drop Tactile	Kerb drop with tactile paving	3	2	3	4	1	3	3	3	3	3	4	3	(see above)
Signal (red/green man)	No Signal (zebra)	2	3	4	2	3	3	3	3	3	3	3	2	
Audible (beeping)	Audible	3	3	4	4	3	4	4	4	4	4	4	4	
Count Down	Count down	4	3	3	4	4	3	3	3	4	4	4	4	
Tactile Rotating Cone	Rotating cone right + left side	3	3	3	3	3	4	4	4	3	3	3	3	
Surface Material														
Surface Type	Smooth York Stone	3	3	3	3	4	4	4	3	3	4	3	3	
Pattern	Uniform paving colour	3	3	3	3	3	3	3	3	3	3	4	3	
Contrast with Road	Higher tonal contrast between paving and road	3	3	3	4	3	3	3	4	3	4	3	4	
Lines	yellow/red/white lines at road edge	3	3	4	3	3	3	3	4	3	4	4	4	
Kerb														
Kerb Type (crossing over)	Crossing upstand 0 mm to 3 mm + 800 tactile paving	4	3	4	4	2	3	4	3	3	4	3	3	
Kerb Type (moving alongside)	Deliniating kerb 50 mm to 100 mm	3	3	3	3	3	3	3	3	3	3	4	3	
Footway Width														
Width	Footway width 2 m to 5 m	4	4	4	4	3	3	3	4	3	3	4	4	
Unobstructed Width	Min unobstructed width > 1.5 m	3	3	3	3	3	4	3	3	4	3	3	3	
Street Furniture														
Position	Street furniture < 0.5 m from kerb	3	3	3	4	4	3	2	3	4	4	3	3	
Cafe Tables	No cafe tables	4	4	4	3	3	4	3	3	3	4	3	4	
Temporary Items	No temporary obstructions	4	4	4	4	4	4	4	4	4	4	4	4	
Street Furniture Height	Street furniture > 0.9 m height	3	3	3	3	4	3	3	3	3	3	3	3	
Contrast	High tonal contrast with paving	3	3	4	3	3	3	4	4	3	3	3	3	
Bench Spacing	Bench within 150 m	3	3	3	4	4	3	3	3	3	4	4	3	
Bench Design	Benches with arms + Backrests	3	3	4	4	4	3	3	4	4	4	3	3	
Bench Seat Height	Benches seat height 45 to 50 cm	3	3	3	4	3	3	3	3	4	3	3	3	
Bench Sensory Experience	No sensory experience	3	3	3	3	3	3	3	3	3	3	3	3	
Slopes														
Gradient (in direction of travel)	Gradient 1/20 to 1/50	3	3	3	3	3	3	3	3	3	3	3	3	
Camber (across footway)	Camber < 1/50	3	4	3	4	3	3	3	3	3	4	3	4	
Vehicle Access														
Vehicle Crossover	No crossover	3	3	3	3	3	3	3	3	3	3	3	3	
Blue Badge Parking	Blue badge parking Within 100 m	4	3	3	3	3	3	3	3	3	3	3	3	
Taxi Drop Off Location	Taxi drop off 10 m to 100 m away	3	3	2	3	3	3	1	3	4	3	3	3	
Taxi Drop Off Kerb	Taxi drop off kerb 100 mm to 150 mm	3	3	3	3	3	3	3	3	3	3	3	2	
Dedicated Taxi Drop Off	Somewhere a taxi can stop safely	3	3	3	3	3	3	3	3	3	3	3	3	
Bus Stop Location	Within 100 m	3	4	4	4	3	4	3	4	3	4	3	3	
Bus Stop Kerb Height	< 125 mm	2	2	3	3	2	3	3	3	3	3	3	3	
Bus Stop Type	Flag only	3	3	2	3	1	3	3	3	1	3	2	2	
Toilets														
Accessible Toilets	100 m to 500 m away	3	3	3	3	2	3	3	4	3	3	3	4	Cannon St station
Changing Places Toilets	More than 500 m away	3	3	3	3	3	3	3	3	3	3	3	1	

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The City of London Street Accessibility Tool (CoLSAT) was developed by Ross Atkin Associates and Urban Movement for the City of London Corporation.

CoLSAT
City of London Street Accessibility Tool
v 1.2

Step 1
Set each of the drop downs below to best describe the street characteristics for the section being analysed

Step 2
Review the results for each needs segment

Step 3
Hover the cursor over the box next to each score to read quotes explaining how participants in the segment are affected by the feature

		EWC	MWC	MS	WA	WI	LC	GD	RS	HI	ANI	AT	DI	Comments
Crossing Point														
Crossing Type	Uncontrolled crossing < 6 m road width	3	3	4	3	3	3	3	3	3	3	3	2	Crossing proposed side roads
Crosses Over	Carriageway (motor vehicles and cycles together)	3	3	3	3	3	3	3	3	3	3	3	4	
Edge Marking	800 mm deep tactile paving edge marking (partial width)	3	3	3	3	3	1	2	3	3	3	3	4	
Tactie Paving Back Edge	Straight back edge	2	3	3	3	1	4	3	3	2	2	4	4	
Tactie Paving Colour	Tactile colour as per guidance (red at contr. buff at uncontr.)	3	3	3	3	3	3	3	3	3	3	3	3	
Tactile Paving Tonal Contrast	Tactile has significant contrast with surrounding paving	3	3	4	3	4	3	4	4	3	3	3	3	
Tactile Paving Stem Length	No tactile stem	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	
Tactile Paving Stem Width	Tactile stem 800 mm width	3	3	3	3	2	3	3	3	4	4	3	3	
Island Type	No island	2	3	2	2	2	2	2	3	2	2	2	3	
Island Depth	Island depth < 1.2 m	2	2	3	3	3	3	2	3	2	3	3	3	
Kerb Drop Slope	Kerb drop < 1/12, 4.7deg, 8% incline	3	3		3	3	3	3	3	3	2	3	4	Raised treatments mean no slopes.
Kerb Drop Tactile	Kerb drop with tactile paving	3	2	3	4	1	3	3	3	3	3	4	3	
Signal (red/green man)	No Signal (zebra)	2	3	4	2	3	3	3	3	3	3	3	2	
Audible (beeping)	Audible	3	3	4	4	3	4	4	4	4	4	4	4	
Count Down	Count down	4	3	3	4	4	3	3	3	4	4	4	4	
Tactile Rotating Cone	Rotating cone right + left side	3	3	3	3	3	4	4	4	3	3	3	3	
Surface Material														
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Lines	yellow/red/white lines at road edge	3	3	4	3	3	3	3	4	3	4	4	4	
Kerb														
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Kerb Type (moving alongside)	Deliniating kerb 50 mm to 100 mm	3	3	3	3	3	3	3	3	3	3	4	3	
Footway Width														
Width	Footway width 2 m to 5 m	4	4	4	4	3	3	3	4	3	3	4	4	
Unobstructed Width	Min unobstructed width > 1.5 m	3	3	3	3	3	4	3	3	4	3	3	3	
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Position	Street furniture < 0.5 m from kerb	3	3	3	4	4	3	2	3	4	4	3	3	
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Contrast	High tonal contrast with paving	3	3	4	3	3	3	4	4	3	3	3	3	
Bench Spacing	Bench within 150 m	3	3	3	4	4	3	3	3	3	4	4	3	
Bench Design	Benches with arms + Backrests	3	3	4	4	4	3	3	4	4	4	3	3	
Bench Seat Height	Benches seat height 45 to 50 cm	3	3	3	4	3	3	3	3	4	3	3	3	
Bench Sensory Experience	No sensory experience	3	3	3	3	3	3	3	3	3	3	3	3	
Slopes														
Gradient (in direction of travel)	Gradient 1/20 to 1/50	3	3	3	3	3	3	3	3	3	3	3	3	
Camber (across footway)	Camber < 1/50	3	4	3	4	3	3	3	3	3	4	3	4	
Vehicle Access														
Vehicle Crossover	No crossover	3	3	3	3	3	3	3	3	3	3	3	3	
Blue Badge Parking	Blue badge parking 100 m to 500 m away	3	3	3	2	2	3	3	3	3	3	2	1	
Taxi Drop Off Location	Taxi drop off within 10 m	4	4	3	4	4	4	4	4	4	4	4	4	
Taxi Drop Off Kerb	Taxi drop off kerb 100 mm to 150 mm	3	3	3	3	3	3	3	3	3	3	3	2	
Dedicated Taxi Drop Off	Somewhere a taxi can stop safely	3	3	3	3	3	3	3	3	3	3	3	3	
Bus Stop Location	Within 100 m	3	4	4	4	3	4	3	4	3	4	3	3	
Bus Stop Kerb Height	< 125 mm	2	2	3	3	2	3	3	3	3	3	3	3	
Bus Stop Type	Flag only	3	3	2	3	1	3	3	3	1	3	2	2	
Toilets														
Accessible Toilets	100 m to 500 m away	3	3	3	3	2	3	3	4	3	3	3	4	Cannon St station
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Committees: Streets and Walkways Sub Committee *[for decision]* *Projects And Procurement Sub Committee [For Information]*	**Dates:** 30 January 2024 15 April 2024
Subject: **Bevis Marks Sustainable Urban Drainage system (SUDs)** (City Cluster Programme 2- Well-being and Climate Change Resilience programme) City Cluster Programme - 12295	**Gateway 6:** **Outcome Report** Regular
Report of: Interim Executive Director, Environment Department **Report Author:** Maria Herrera, Policy and Projects, City Operations	**For Information**
PUBLIC	

Summary

1. Status update	**Project Description:** The project delivered an attractive and high-quality space, increasing the provision of greenery by relandscaping two existing planters to enable the introduction of a sustainable urban drainage system (Suds). The objective is to capture rainwater from the surrounding hard paving area and re-direct it to the planters, reducing the amount of rainfall going into the sewers. This is a pilot project and has been developed in response to the Climate Action Strategy and will help to inform future Suds schemes in the City. Resilient planting was selected to reduce maintenance implications and respond to potential extended periods of droughts in the future. Construction works were practically completed in June 2023, with works staggered to accommodate pedestrian and cycling movement in the area and to maintain access to building entrances at all times. **RAG Status:** Green (same at last Gateway)

	Risk Status: Low (same at last Gateway) **Costed Risk Provision Utilised:** None **Funding Source: A total of** £387,000 allocated to this project from the Cool Streets and Greening Programme (Climate Action Strategy) and Section 106 Contribution of 40 Leadenhall Street. **Final Outturn Cost:** £291,159
2. Next steps and requested decisions	**Requested Decisions:** • Approve the content of this outcome report. • Approve the budget adjustment summarised in section 13 and Table 2. • Agree to close this project once the budget adjustment to cover an increase in staff costs has been completed (refer to section 13). • Agree for the unspent funds from this project to be re-allocated to the Climate Action Strategy programme – Phase 3.
3. Key conclusions	The Bevis Marks project was completed on time and on budget, with an underspend of a total of £75,841, which will be re-allocated to the Climate Action Strategy programme – Phase 3. The scheme delivered on its main objectives, which are as follows: o Increase the amount of greenery to help mitigate the impacts of climate change, noise and air pollution and soften the urban environment. o Deliver more accessible and attractive spaces to rest and spend time in. o The creation of 'green corridors' along busy pedestrian routes. o Deliver sustainable urban drainage systems (Suds) in line with the Climate Action strategy. Key learning and recommendations for future projects: • Close co-ordination and engagement with consultants, the term contractor and City project teams enables smooth project delivery. • Early engagement with utilities reduces conflicts when accommodating highways activities. • Flexibility on proposed solution for the SuDs infrastructure is important to accommodate unexpected ground conditions.

	• Early engagement with City Gardens and SuDs specialists helped informed the scope of the project and development of details. **Reasons for underspend:** • Construction works were efficiently managed and coordinated with works in the local area, which provided savings in respect to coordinating delivery of materials and other maintenance works in the vicinity of the site. • Soft landscaping works costs were lower than expected, and one tree was not possible to be planted due to utilities, which is reflected in the cost. • Street furniture was relocated from another site, and therefore cost neutral. • Requirement for additional external consultant's input was minimal, which also generated cost savings.

Main Report

Design & Delivery Review

4. Design into delivery	The project involved the relandscaping of a wide area of footway along Bevis Marks and Creechurch Lane (northern section), with the removal of two existing brick planters to enable the integration of the sustainable urban drainage system. New low-level planters were introduced to allow for surface water to be retained within the planter and avoid or reduce run-off into the sewage system. The scheme also included the repaving of the area to achieve a more efficient flow of surface water into the new planters. Where possible, materials were re-used where possible, and a permeable surfacing was introduced near the planters to allow for the surface water to also permeate into the ground. Three semi mature and multi-stem trees were planted, alongside a range of resilient planting which reduces long term maintenance cost. The scheme also introduced areas of seating and cycle parking. The design of the scheme utilised the City's existing palette of materials in accordance with the Public Realm SPD and the

	Technical Manual (and in line with the recently published Public Realm tool Kit). **Impacts on the Delivery Programme** A two-month delay at the beginning of the project was experienced due to the longer than anticipated procurement of materials. Also, the installation of the Suds infrastructure took longer due to the need to adapt the proposed system following the discovery of archaeological remains on site. However, during this delay other areas of the project were progressed and overall, the archaeological remains delay had a minor impact on the overall delivery of the project.
5. Options appraisal	The scope of the project was agreed in response to the objectives of the Climate Action Strategy and was focused on delivering a sustainable urban drainage in the area. A single option was therefore considered that was adapted within the existing footprint of the brick planters. The design adjusted the profile of the planters in order to maximise the amount of greenery and the area to capture rainwater run-off. Standard materials such as Yorkstone and granite were utilised, with a permeable surfacing introduced in the area between the planters to support the climate resilience design principles. The material selection is line with the recently adopted Public Realm Toolkit which includes a section on permeable surfacing options to be considered in line with the Climate Action Strategy. The location of the trees was adjusted following site excavation works, to ensure sufficient depth was achieved for the long-term establishment of the trees.
6. Procurement route	• The design and construction package were produced by a specialist Sustainable Urban Drainage landscape consultant, with input from City's Highways engineers. • Hard landscaping and civils work on-site were undertaken by the City's term contractor. • All soft landscaping was delivered by City Garden's team.
7. Skills base	• The project team has the skills, knowledge, and experience to manage delivery of this and similar future projects. Input from specialist consultants was required at certain stages of the project. • A communication strategy was developed in the initial stages of the project to include immediate stakeholders and ensure good

	coordination of the construction works and to minimise disruption.
8. Stakeholders	• The main stakeholders of the project were occupiers in the immediate vicinity of the site. • Information letters were issued at the beginning of the project, and throughout the construction process to inform them regarding the extent of the works and timescales for delivery. • Access to building premises was maintained at all times, which ensured disruption was kept to a minimum. • Noisy works were conducted in line with CoL Environmental Health policies. • Engagement with stakeholders is ongoing to gather feedback on the impact of the scheme on the users of the space and occupiers.

Variation Review

9. Assessment of project against key milestones	Gateway 5 – April 2022 | Committee Approval • Expected start as per G5 – December 2022 • Expected end date – March 2023 • Actual start date – January 2023 • Actual end date – June 2023 **Delays to the programme** When the public realm works were due to commence, it was soon realised that nearby utility works were required to be undertaken as a matter of urgency. The emergency works were not connected to the project, but excavations were required near the site. Therefore, access was restricted, and this caused a delay on the start of the works. However, construction was managed efficiently by the term contractor. During the construction process, there was a further delay as a result of the procurement of materials and adjusting the provision for the Suds infrastructure due to the archaeological remains.
10. Assessment of project against Scope	The project's scope of the project was fully met as per the objectives as agreed at the outset and is summarised below: • The relandscaping of the wide area along Bevis Marks and Creechurch Lane (northern section), with the removal of two

	existing brick planters to enable the integration of the sustainable urban drainage system. • Low-level planters were then introduced to allow for surface water to be retained within the planter and avoid run-off into the sewage system. • The repaving of the area along the pedestrian section of Creechurch, to achieve a more efficient flow of surface water management into the new planters. • Introduction of three semi mature or multi-stem trees, and resilient planting to reduce maintenance cost. • Introduction of benches and seats.
11. Risks and issues	During the construction phase the follwoing risks materialised: • Whilst utility and underground surveys had been undertaken prior to works, it is not uncommon to uncover prohibitive infrastructure, in this case the London Roman Wall, which was not captured in the survey work. Therefore, there was a need to review an alternative option for the Suds infrastructure and the location of the trees had to be adjusted. • Also, in relation to underground utilities/structures, the SuDs system, which was originally considered for the retention of surface water, had to be changed in response to the archaeological remains found. An alternative option was then selected which still delivers a rain garden by slowing down surface run off water within the planter. This system provides the flexibility to adjust it in response to underground structures, utilities, and archaeological remains.
12. Transition to BAU	This project used standard design practices with a clear plan for transitioning to business as usual. The project has remained within scope with a commonly agreed maintenance regime that will commence when the project has concluded.

Value Review

13. Budget

The project is complete; however, a budget adjustment is required to cover additional staff costs.

The project required an increase in officer resources to manage the project and navigate challenges as summarised in Section 4 and Section 9. This has meant an increase in staff costs to conduct:

- Adjustments to the design of the scheme to respond to site constraints.
- Manage the project throughout an extended timeframe, with additional communication required and liaison with the Term contractor.
- Risk management and communicate with the local occupiers.

Table 1: Spend to Date - 16100463: City Cluster - Bevis Marks Sustainable Urban Drainage System

Description	Approved Budget (£)	Expenditure (£)	Balance (£)
Env Servs Staff Costs	18,000	19,452	(1,452)
Open Spaces Staff Costs	5,000	1,348	3,652
P&T Staff Costs	20,000	23,031	(3,031)
P&T Fees	8,000	8,000	0
Env Servs Works	266,000	231,827	34,173
Open Spaces Works	30,000	7,501	22,499
Costed Risk Provision	20,000	-	20,000
Total	**367,000**	**291,159**	**75,841**

Table 2: Budget Adjustment Required

Description	Approved Budget (£)	Adjustment Required (£)	Revised Budget (£)
Env Servs Staff Costs	18,000	1,452	19,452
Open Spaces Staff Costs	5,000	-	5,000

P&T Staff Costs	20,000	3,032	23,032
P&T Fees	8,000	0	8,000
Env Servs Works	266,000	(4,484)	261,516
Open Spaces Works	30,000	-	30,000
Costed Risk Provision	20,000	-	20,000
Total	**367,000**	**-**	**367,000**

Please confirm whether or not the Final Account for this project has been verified.

Final account has been verified.
Unspent funds will be reallocated to Phase 3 of the Climate Action Strategy work programme.

14. Investment

This project is funded from the following sources:

- Section 106 from Pinnacle Development - 06/01123/FULEIA - 30/11/2007 – LCEIW.
- Section 106 from 40 Leadenhall Street - 13/01004/FULEIA - LCE
- CAS - Cool Streets and Greening Programme – capital works
- CAS - Cool Streets and Greening Programme (for £20,000 for Maintenance works)

15. Assessment of project against SMART objectives

Objective:

The project has delivered an attractive and high-quality space, increasing the amount of greenery by relandscaping the existing planters to enable the introduction of a sustainable urban drainage system to capture rainwater from the surrounding area.

This project is the first of its kind in the City and has been developed in response to the City's Climate Action Strategy. Resilient planting has been planted to reduce maintenance implications and enhance local biodiversity.

16. Key benefits realised

- Increase the amount of greenery to help mitigate the impacts of climate change, noise and air pollution and soften the urban environment.

	• Deliver more accessible and attractive spaces to rest and spend time in. • The creation of 'green corridors' along busy pedestrian routes. • Deliver sustainable urban drainage systems (Suds) in line with the emerging Climate Action strategy.

Lessons Learned and Recommendations

17. Positive reflections	Efficient, joined up thinking between City officers ensured a co-ordinated clear approach to resolving potential issues. This was further strengthened by officers' regular communication with the term contractor to facilitate the success of the project, resulting in a much-improved environment.
18. Improvement reflections	Where there have clearly been issues, it is important to engage in a post project debrief to ensure lessons are learnt and communicated effectively.
19. Sharing best practice	By engaging in regular meetings to share ideas, disseminate and record best practice, improvements are assured.
20. AOB	NA

Appendices

Appendix 1	Plan – circulated upon request
Appendix 2	Site photos – circulated upon request
Appendix 3	Cover sheet

Contact

Report Author	Maria Herrera
Email Address	maria.herrera@cityoflondon.gov.uk
Telephone Number	07526 201100

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Project Coversheet

[1] Ownership & Status

UPI:

Core Project Name: City Cluster - Well-being and Climate Resilience programme: Bevis Marks SUDs

Programme Affiliation: City Cluster programme of work

Project Manager: Maria Herrera (Transportation and Public Realm - Environment Department)

Definition of need: The project delivered an attractive and high-quality space, increasing the provision of greenery by relandscaping two existing planters to enable the introduction of a sustainable urban drainage system (Suds).

Key measures of success:

1. Deliver more accessible and attractive spaces to rest and spend time in.
2. Deliver sustainable urban drainage systems (Suds) in line with the emerging Climate Action strategy

Expected timeframe for the project delivery: December - March 2023

Key Milestones:

1. Implementation of scheme in 2023
2. Planting completed

Are we on track for completing the project against the expected timeframe for project delivery? Yes.
Project is complete.

Has this project generated public or media impact and response which the City of London has needed to manage or is managing?
None reported to date.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Briefing' programme report

City Cluster Area – Delivery Plan, as approved by:
Planning and Transportation Committee – For decision, 14 July 2020
Streets and Walkways Sub – For decision, 07 July 2020
Projects Sub – For decision, 30 July 2020
Open Spaces Committee - For information, 14 July 2020

- Total Estimated Cost (excluding risk): £2.4-2.9m delivery of the initial three years of work (2020-23)

- Costed Risk Against the Project: NA

- Estimated Programme Dates: 2020-2023 for the overall programme which consists of several projects across three workstreams.

Scope/Design Change and Impact:
The delivery of the programme was set out within three work programmes:

1. Pedestrian Priority and traffic reduction
2. Well-being and Climate Change resilience (*Bevis Marks SUDS is within this programme of work)*
3. Activation and Engagement

City Cluster Area – Wellbeing and Climate Change resilience programme implementation (2021-2024) Gateway 3, as approved by:

Planning and Transportation Committee – For decision-14 July 2020
Streets and Walkways Sub – For decision – 07 July 2020
Projects Sub – For decision – 30 July 2020
Open Spaces Committee - For information – 14 July 2020

- Total Estimated Cost (excluding risk): £750-850k for the projects within the programme.
- Estimated Programme Dates: 2020-25

Scope/Design Change and Impact:
Projects within the programme have been developed further and this reflects the increase in overall estimated costs. External funding has been taken into account in the estimated programme costs.

City Cluster Area – Wellbeing and Climate Change resilience programme implementation (2021-2024) Gateway 4, as approved by:

Open Spaces Committee - For decision – 27 April 2021
Streets and Walkways Sub Committee – For decision – 29 April 2021
Projects Sub Committee– For decision – 17 May 2021

- Total Estimated Cost (excluding risk): £1.4-£1.5 for the projects within the programme.
- Resources to reach next Gateway (excluding risk): within project budget as set out in report.
- Spend to date: £149,659 on this programme only (June 2021).
- Costed Risk Against the Project: NA
- Estimated Programme Dates:2021-24

Scope/Design Change and Impact:
Detailed project scope has been presented with seven projects proposed to be taken forward to gateway 5. The Green Streets project is one of the projects within the programme.

'Authority to start Work' G5 report (Delegated Approval, April 2022):

- Total Estimated Cost (excluding risk): £387,000
- Spend to date: £291,159
- Costed Risk Against the Project: £20,000
- CRP Requested: None
- CRP Drawn Down: None
- Estimated Programme Dates: Project completed in June 2023

Scope/Design Change and Impact: None, scope remained unchanged.

Total anticipated on-going commitment post-delivery [£]: Project is complete, no further commitments are anticipated.

Programme Affiliation [£]: £1.4-£1.5 for the projects within the programme.

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Committees: Finance & Risk Committee of the Barbican Centre Board – for decision *Barbican Centre Board – for information Projects and Procurement Sub Committee – for information	**Dates:** 26 June 2023 12 July 2023 15 April 2024
Subject: Concert Hall 2016 refurbishment works. Phase 1 02100107 Phase 2 02800107 **Unique Project Identifier:** **11559**	**Gateway 6:** **Outcome Report** Regular
Report of: Barbican Centre **Report Author:** Tram-Anh Gonin – Project Manager	**For Decision**
PUBLIC	

Summary

1. Status update	**Project Description:** This project consisted of the following phases: • Phase One: a) Overhaul stage riser mechanisms (including new controls, with back-up system along with new safety edges). b) Replace piano lift control system and installation of a robust safety rail to stage. • Phase Two: ○ Projection & control room air-conditioning & ventilation upgrade. ○ Stage surface refurbishment/replacement ○ Dressing rooms and conductor's room refurbishment. • The refurbishment of the stage timber wall cladding ('organ pipe' feature panels) has been omitted at Gateway 1&2. **RAG Status:** Amber (Amber at last report Committee)

	Risk Status: Amber (Amber at last report Committee) **Costed Risk Provision Utilised:** N/A **Final Outturn Cost:** N/A
2. Next steps and requested decisions	**Requested Decisions:** To note the lessons learned section of this report and approve formal closure of this project.

3. Key conclusions

Key benefits of the project

Since the delivery of the project, the music, engineering, and event departments have confirmed safer H&S operations with the piano lift, better continuity of projection operations during performances, and a better experience for front of house patrons and performers backstage.

It demonstrated effective collaborative working with LSO and the artists ensuring the smooth operation of the Concert Hall.

It has reduced the likelihood of reputational damage due to material failure and outdated equipment.

Phase 1A and 2 were completed on time, but Phase 1B had to be deferred and a new cooling system had to be designed for Phase 2 as per the project timeline below. Budgetary adjustments were required to cover the above points.

Project timeline

Phase 1 was delivered by TAIT Technologies (formerly Stage Technologies) for the following works:

Phase 1 works	Completion date
Phase 1A - Refurbishment of the stage riser control system	September 2016
Phase 1B - Installation of the piano lift	December 2017

Phase 2 was delivered by Zodiac Contracts (formerly Bakers of Danbury) for the following works:

Phase 2 works	Completion date
Refurbishment of the dressing rooms 15, conductor's room	September 2016
Stage surface	September 2016

	Refurbishment of dressing rooms 6-21	September 2016
	Projection room ventilation and cooling system	September 2016
	Installation of the standalone cooling system	August 2018

Main Report

Design & Delivery Review

4. Design into delivery	Phase 1: The design of the project did adequately prepare for the delivery of Phase 1. However, Phase 1B - installation of the piano lift was deferred until 2017, this was due to design error by the contractor. Phase 2 :The control room cooling system was installed, but it was not providing the output anticipated. This was because the consultant's design was superseded by adjustments made by the M&E team to make the system more energy efficient. A standalone cooling system therefore had to be designed for the control room.
5. Options appraisal	Gateway 3-4 (October 2015) outlined four possible options: • Option 1: renew the piano lift, upgrade the projections room cooling system, replace the stage riser control system, re-sand and seal the stage surface, and refurbish the dressing rooms. • Option 2: as per option 1, except that instead of renewing the piano lift, it is fully serviced and its control system replaced. • Option 3: as per option 2, except that it allows for full refurbishment of dressing rooms 1 to 5 and the stage timber wall cladding.
	• Option 4: as per option 3 except that it includes the full refurbishment of dressing rooms 6 to 21. This constitutes the full scope of works envisaged at Gateway 1&2. The recommended and agreed option of Option 1 allowed the project to meet its objectives and provide long term value.

6. Procurement route	The specialist consultant was procured through a competitive tender process. Theatreplan Ltd was appointed on the basis of providing the full scope of services. The contractors were procured through a competitive tender process, managed by Commercial Services (formerly City Procurement). The procurement process worked well for the consultant and the contractors. There are few suppliers in the market that can deliver those specific services and works, and as a result, it tends to be the same suppliers that are invited to tender.
7. Skills base	The City of London project team had the required skills and experience to deliver this project. An external theatre specialist consultant was appointed to assist with the design, contract administration and delivery.
8. Stakeholders	The Barbican Centre music, engineering and events departments as well as the LSO were key stakeholders and were heavily involved in the design and delivery .Stakeholders were engaged throughout the project lifecycle and were satisfied with the project outputs/outcomes.

Variation Review

9. Assessment of project against key milestones

Item	Estimated date	Actual date
Gateway 5 approval	March/April 2016	11th May 2016
Start on site	July 2016 (at G1-4)	August 2016
Phase 1	Aug 2016 (at G5)	August 2016
Phase 2	Aug/Sep 2016 (at G5)	August 2016
Works Complete	September 2016 (at G1-4)	
Phase 1A	Sep 2016 (at issue report)	September 2016
Phase 1B	Aug 2017 (at issue report)	December 2017
Phase 2	Sep 2016 (at issue report)	September 2016

	The construction phase was delayed due to the issues with the piano lift and the control room cooling system. The Outcome Report has been delayed for several reasons but primarily due to a lack of resource. - There have been a number of staff changes resulting in a lack of direct knowledge of the project post-completion. - The lock down of the Centre due to Covid forced the two remaining officers (one temporary PM and Assistant PM) to concentrate their efforts into delivering as many projects as feasible whilst the Centre was accessible for contractors due to the Centre being closed. - There is a backlog of Outcome Reports, due to lack of resource and turnover of staff, which require drafting and submitting. The current project team are working their way through these and have agreed a timetable with the Corporate Programme Office for when these reports will go to committee.
10. Assessment of project against Scope	**Change to scope** The refurbishment of the stage timber wall cladding ('organ pipe' feature panels), originally included in the Gateway report 1 & 2 was omitted due to budgetary constraints in Gateway 3 & 4. The rest of the scope remained unchanged from Gateway 1 to Gateway 5.
	Other changes during delivery In Phase 1, due to a design error by the Phase 1 contractor, the manufacture and installation of the piano lift was not possible in 2016 and its replacement deferred until August 2017. In Phase 2, the new cooling system installed by Phase 2 contractor could not provide adequate cooling during the winter. The design had to be modified to take into account that the Barbican Centre decommissions its chilled water system during winter. A new standalone cooling system had to be designed and installed, as outlined in the Issue report from May 2017.

11. Risks and issues	**CRP** The use of CRP was introduced after the last report to Committee. If we had CRP at the time, it would have helped mitigate the delays for the changes in scope and for the discovery of asbestos during the construction phase. **Unidentified risks** • The discovery of asbestos was identified in Gateway 5, however this risk has been mitigated through a refurbishment survey. • Changes to scope. • Extension of time.
12. Transition to BAU	The project had a clear plan for transfer to business as usual, working around the dark period for the concert hall, and for the ongoing maintenance of the lift and the cooling system.

Value Review

13. Budget

Estimated Outturn Cost (G2)	Estimated cost (including risk): £680,000 Estimated cost (excluding risk): £680,000

	At Authority to Start work (G5) – May 2016	*At Issue Report – May 2017*	*Final Outturn Cost*
Fees	*£99,500*	*£105,972*	*£135,370*
Staff Costs	*£30,000*	*£30,000*	*£0*

	At Authority to Start work (G5) – May 2016	*At Issue Report – May 2017*	*Final Outturn Cost*
TAIT technologies UK (formerly Stage technologies) – Phase 1 works	*£338,152*	*£342,601.50*	*£275,189.50*

	Zodiac Contracts (formerly Bakers of Danbury) – Phase 2 works	*£284,650.50*	*£311,599.70*	*£373,334.23 (incl. £44,000 raised on revenue AC11210800)*
	Furniture Purchases	*£18,743.50*	*£16,799.80*	*£14,988.87*
	Asbestos refurbishment survey	*£2,875*	*-*	*£1,320*
	Provisional allowance for asbestos remedial works	*£5,000*	*-*	*-*
	Fire system	*-*	*-*	*£2,632.46*
	Other - contingency	*-*	*£7,000*	*-*
	Total	***£778,921***	***£813,973***	***£802,835*** *(incl. £44,000 raised on revenue AC11210800)*

Please confirm whether the Final Account for this project has been verified.

Yes

14. Investment	Not applicable
15. Assessment of project against	Phase 1 and Phase 2 works were successfully managed such that both phases were able to progress in a safe manner despite proximity.

SMART objectives	Cooperation and collaboration in relation to Health and Safety between two separate contractors with Phase contractor acting as Principal Contractor. However, the project was not completed on time nor on budget: - The piano lift installation was deferred until 2017 due to a design error by contractor. - A new standalone cooling system in the control room had to be designed and installed in 2018. - Three budgetary adjustments were needed to cover the above points to a total of £68,152, however savings in other parts of the construction meant that the final overall increase in budget was +£23,914.
16. Key benefits realised	1. A safe operational piano hoist and stage lift system controls during performances. 2. Continuity of projection room/ control room equipment operation during concerts. 3. Presentation of a professional image to patrons and performers and continue to attract world class events.

Lessons Learned and Recommendations

17. Positive reflections	Clear and effective communication between the project team and stakeholder ensured clarity on decisions made and project progress. Detailed planning and programming helped to ensure a swift transition from BAU to construction phase and then back to BAU.

18. Improvement reflections	Preparation of a clearer brief and more specific instructions which would have prevented consultant designing a system that did not reflect changes made to the operation of the cooling system. This resulted in delays and a new system being designed. Record keeping is essential for future officers to have clear understanding of why decisions have been made. The Barbican Centre has since restructured and employed an Engineering Services Manager. This better enables technical issues to be relayed into the project brief.
	Progress against project timescales is now monitored to allow for proactive and reactive actions to be taken by the project manager.
19. Sharing best practice	The lessons learnt have been outlined in this report for future reference.
20. AOB	N/A

Appendices

Appendix 1	N/A

Contact

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Telephone Number	07927131985

Committees: Finance & Risk Committee of the Barbican Centre Board – For Decision Barbican Centre Board – For Information Projects & Procurement Sub Committee – For Information	**Dates:** 4th March 2024 20th March 2024
Subject: Curve Gallery refurbishment (R018CW013L) **Unique Project Identifier:** *11979*	**Gateway 6:** **Outcome Report** Regular
Report of: Barbican Centre **Report Author:** Darren Matthias	**For Information**
PUBLIC	

Summary

1. Status update	**Project Description:** To replace the timber flooring with concrete and replace the wall cladding with treated flame checked timber cladding. **RAG Status:** Green at last report **Risk Status:** Low (Low at last report to committee) **Costed Risk Provision Utilised:** N/A **Final Outturn Cost:** £216,337 (excluding staff costs)
2. Next steps and requested decisions	**Requested Decisions:** 1) To note the lessons learned section of this report and approve formal closure of this project.
3. Key conclusions	The project was completed within budget and programme. Since the delivery of the project, it is considered that, due to the successful completion of this project, the Curve gallery has

	improved its fire safety to ensure clients hiring the space feel assured their art is in a safe environment which has reduced the likelihood of reputational damage. The project has also enhanced the client/visitor experience through improved aesthetics and accessibility.

Main Report

Design & Delivery Review

4. Design into delivery	4.1) The design of the project was adequately prepared for the delivery of the project 4.2) The temporary timber floor has been replaced with concrete and dilapidated upright timers have been replaced as per design
5. Options appraisal	5.1) A gateway 1-4 outlined the possible options. The recommended and agreed option (*option 3 – replacement of timber wall cladding, installation of a concrete floor throughout and the relocation of the ventilation grills*) allowed the project to meet its objectives and provide long term value. Delivering this work in 2 phases mitigated the need for multiple closure periods in the curve gallery.
6. Procurement route	Four suppliers were invited to tender. One contractor was appointed via the City of London Procurement team. The project team were satisfied with the procurement process and appointment of the main contractor, particularly the smooth process and transition from tender to placing an order.
7. Skills base	The City of London project team had the required skills and experience to deliver this project. The barbican centre Curve Gallery department were a key stakeholder and were involved in the design and delivery.
8. Stakeholders	Stakeholders were engaged throughout the project lifecycle. They were heavily involved in the design and delivery and kept informed and consulted on project progress. Stakeholders are satisfied with the project outputs/outcomes.

Variation Review

<table>
<tr>
<td>9. Assessment of project against key milestones</td>
<td>
<table>
<tr><th>Item</th><th>GW 1-4 Estimate</th><th>Actual</th></tr>
<tr><td>Gateway 5 approval</td><td>March 2018</td><td>8th June 2018</td></tr>
<tr><td>Order placed</td><td>June 2018</td><td>8th June 2018</td></tr>
<tr><td>Start on site</td><td>June 2018</td><td>9th July 2018</td></tr>
<tr><td>Works Complete</td><td>9th September 2018</td><td>9th September 2018</td></tr>
</table>

The project was completed within the agreed programme.

The Outcome Report has been delayed for several reasons but primarily due to a lack of resource.
- The original report author started as a temporary project manager in October 2019 as a third Barbican Centre PM however by November 2019 the other two PMs were no longer employed by the City. This necessitated ‘live’ projects taking priority over GW6 reports.
- The lock down of the Centre due to Covid forced the two remaining officers (one temporary PM and Assistant PM) to concentrate their efforts into delivering as many projects as feasible whilst the Centre was accessible for contractors due to the Centre being closed.
- The team continued to be understaffed until May 2022
- There are a backlog of Outcome Reports, due to lack of resource and turnover of staff, which require drafting and submitting. The current project team are working their way through these and have agreed a timetable with the Corporate Programme Office for when these reports will go to committee.
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</td>
</tr>
<tr><td>10. Assessment of project against Scope</td><td>There was no major change to the original scope</td></tr>
<tr><td>11. Risks and issues</td><td>No issues occurred during this project.
CRP was not utilised in this project.</td></tr>
<tr><td>12. Transition to BAU</td><td>The project had a clear plan for transfer to business as usual.</td></tr>
</table>

Value Review

<table>
<tr><td>13. Budget</td><td>
<table>
<tr><td>Estimated Outturn Cost (G2)</td><td>Estimated cost £250,000</td></tr>
</table>
<table>
<tr><th></th><th>At Authority to Start work (G5)</th><th>Final Outturn Cost</th></tr>
<tr><td>Fees</td><td>£0</td><td>£0</td></tr>
<tr><td>Staff Costs</td><td>£25,000</td><td>£10,000</td></tr>
<tr><td>Works</td><td>£224,985</td><td>£216,337</td></tr>
<tr><td>Costed Risk Provision</td><td>N/A</td><td>N/A</td></tr>
<tr><td>Other*</td><td>£n/a</td><td>£n/a</td></tr>
<tr><td>Total</td><td>£249,985</td><td>£226,337</td></tr>
</table>
. The Final Account for this project has been verified.
</td></tr>
<tr><td>14. Investment</td><td>Not Applicable</td></tr>
<tr><td>15. Assessment of project against SMART objectives</td><td>The project met its SMART objectives, listed below.

1) The temporary timber floor was replaced with concrete finish
2) The dilapidated wall timber was replaced
3) The Ventilation grills were relocated to higher level for greater flexibility for exhibitions
4) Works was completed without disruption to the centre’s operations
5) The Project was delivered within the schedule dates</td></tr>
<tr><td>16. Key benefits realised</td><td>The key benefits, listed below, have been realised:

16.1) Improvement to our clients and visitors experience
16.2) The centres reputation as a leading international venue for the world class arts and learning and safety is maintained
16.3) compliance with fire safety regulations</td></tr>
</table>

Lessons Learned and Recommendations

17. Positive reflections	**17.1)** Clear and effective communication between the project team and stakeholder ensured clarity on decisions made and project progress **17.2)** Detailed planning and programming helped to ensure a swift transition from BAU to construction phase and then back to BAU

18. Improvement reflections	When the concrete was mixed and poured the truck was parked on the truck lift, however over a short space of time the fumes started to fill the foyer/reception. The truck exhaust fume will need to be considered next time, i.e., a more remote methodology of transferring the liquid concrete to its destination, longer hoses, drive the truck in rather reverse it.
19. Sharing best practice	All reports (including this Outcome Reports) will be stored in the project file where project managers/users can refer to the 'Lessons Learned' section to help reduce risk and improve process of future projects.
20. AOB	This project was initiated before the project coversheet was introduced to the gateway process therefore there is no coversheet to attach as an appendix

Contact

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