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<p>Committees: Open Spaces and City Gardens Committee <i>[for decision]</i> Operational Property and Projects Sub <i>[for decision]</i> Streets and Walkways Sub <i>[for decision]</i></p>	<p>Dates: 05 December 2022 16 January 2023 17 January 2023</p>
<p>Subject: City Greening and Biodiversity – Phase 3 of the Cool Streets and Greening Programme</p> <p>Unique Project Identifier: 12332</p>	<p>Gateway 3/4: Options Appraisal (Regular)</p>
<p>Report of: Executive Director, Environment</p> <p>Report Author: Melanie Charalambous</p>	<p>For Decision</p>
<h1>PUBLIC</h1>	

<p>1. Status update</p>	<p>Project Description: This project (City Greening and Biodiversity) forms Phase 3 of the Cool Streets and Greening programme. The project aims to introduce more trees and planting in the public realm across the City and enhance biodiversity.</p> <p>RAG Status: Green (as at last report to Committee)</p> <p>Risk Status: Medium (low at last report to committee). Risk status has increased largely as a result of inflation.</p> <p>Total Estimated Cost of Project (excluding risk): £2.5m</p> <p>Change in Total Estimated Cost of Project (excluding risk): None</p> <p>Spend to Date: £49,804</p> <p>Costed Risk Provision Utilised: None</p> <p>Funding Source: OSPR (Climate Action Strategy)</p> <p>Slippage: The project has been delayed by 2 months as a result of the capital projects review. The project is anticipated to be implemented across 2023-2025.</p>
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<p>2. Next steps and requested decisions</p>	<p>Next Gateway: Gateway 5: Authority to Start Work</p> <p>Next Steps:</p> <ul style="list-style-type: none"> • Undertake local stakeholder engagement • Finalise detailed designs and construction information • Prepare detailed cost estimates and programme • Prepare Gateway 5 reports <p>Requested Decisions:</p> <ol style="list-style-type: none"> 1. That the proposals for re-landscaping and re-planting strategically located sites in the City are approved to reach Gateway 5 as described in this report; 2. That additional budget of £95,000 for design development of the re-landscaping and re-planting proposals is approved to reach the next Gateway, funded from the On Street Parking Reserve (OSPR) Climate Action Strategy funding agreed for the Cool Streets and Greening programme; 3. Note that the tree planting proposals have already been approved at Gateway 5 at a total estimated cost of £755,000 (excluding risk) and are to be implemented across the next two planting seasons; 4. Note the total estimated cost of the project (Phase 3) at £2.5m (excluding risk). 																				
<p>3. Resource requirements to reach next Gateway</p>	<table border="1"> <thead> <tr> <th colspan="4">Table 1: Resources required to reach the next gateway (Re-planting and Re-landscaping)*</th> </tr> <tr> <th>Item</th> <th>Reason</th> <th>Funds/ Source of Funding</th> <th>Cost (£)</th> </tr> </thead> <tbody> <tr> <td>Fees</td> <td>Surveys, design development, engineering input</td> <td>CAS-OSPR</td> <td>45,000</td> </tr> <tr> <td>Staff costs</td> <td>Project management, design development, consultation</td> <td>CAS-OSPR</td> <td>50,000</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>95,000</td> </tr> </tbody> </table>	Table 1: Resources required to reach the next gateway (Re-planting and Re-landscaping)*				Item	Reason	Funds/ Source of Funding	Cost (£)	Fees	Surveys, design development, engineering input	CAS-OSPR	45,000	Staff costs	Project management, design development, consultation	CAS-OSPR	50,000	Total			95,000
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	<p>*Tree planting proposals have been separately approved at Gateway 5</p> <p>Costed Risk Provision requested for this Gateway: None</p>
<p>4. Overview of proposals</p>	<p><u>Context</u></p> <p>4.1 The Cool Streets and Greening Programme was approved by Committees in 2021 as part of the Climate Action Strategy. It is a £6.8m four-year programme to create resilient streets and open spaces in the Square Mile. Please also refer to the Programme summary in Appendix 5.</p> <p>4.2 Natural urban greening measures such as trees, planting beds and vertical greening aid in softening the built environment and have the potential to improve environmental conditions. They improve resilience against overheating through shade and evaporation of stored moisture, improve habitats to protect against biodiversity loss, and also filter air pollutants and reduce greenhouse gas emissions. A more varied, species-rich natural environment can not only reinforce existing habitats within the City but also provide a natural resilience to the challenges of projected future climate change.</p> <p>4.3 The Climate Action Strategy acknowledges that access to green space and nature is linked to improving the health and wellbeing of individuals. There is also significant evidence of the economic benefits of introducing trees and planting into the public realm.</p> <p>4.4 Urban biodiversity gain and resilience relies on ecological corridors and stepping stones for the movement and distribution of species and genetic diversity. Connection of existing open spaces, Sites of Importance for Nature Conservation (SINCs) and addition of new soft landscaping within the Square Mile and beyond into the Green Grid will conserve and enhance biodiversity.</p> <p><u>City Greening and Biodiversity project</u></p> <p>4.5 This project was initiated in May 2022 and forms Phase 3 of the Cool Streets and Greening Programme. Following Members’ feedback when the project was initiated, officers have undertaken a detailed assessment of greening opportunities across the City and have prepared a project <i>Masterplan</i> document (attached as Appendix 3). This approach differs from Phase 1 and Phase 2 of the Programme, where existing highway and public realm projects were identified, and funding provided to enhance the climate resilience of the proposals.</p>

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	<p>This project is divided into three elements:</p> <ul style="list-style-type: none">• Tree planting across the City with a target to plant at least 100 new trees. Members agreed at Gateway 2 that this element of the project should proceed directly to Gateway 5, in order to maximise the planting opportunities within the tree planting season (November to March). This Gateway 5 report was approved by Chief Officer in November 2022.• Re-planting a number of green spaces, planting beds and planters in the City with a more climate resilient palette and biodiversity enhancements.• Re-landscaping a number of strategically selected sites in the City, to enhance climate resilience and biodiversity. <p>4.6 The preparation of the project Masterplan involved a prioritisation exercise which has been used to identify the proposals and locations that result in the greatest impact and benefits.</p> <p>4.7 The objective is to plant trees, re-plant existing sites for climate resilience and re-landscape sites, focussing on three strategic ‘green corridors’. These corridors have been identified to improve connectivity between the City’s Sites of Importance for Nature Conservation (SINCs) and areas close to them, as well as providing routes across the City for pedestrians and cyclists with increased shade/canopy cover. These routes are illustrated in Figure 1 and are:</p> <ul style="list-style-type: none">• The Thames corridor• Millennium Bridge to Barbican• Barbican to the Tower <p>4.8 Sites along these routes have been prioritised by considering a range of parameters, including proximity to SINCs, presence of Biodiversity Action Plan target species and habitats, air quality, thermal comfort and pedestrian flows.</p> <p>4.9 Additional locations have been identified because of a deficiency of greening in the area. For these locations, tree planting will be the priority, alongside the creation of at least one new pocket park. There is further scope in the future to add more greenery to these areas through the delivery of projects from Healthy Streets Plans, subject to future funding.</p>
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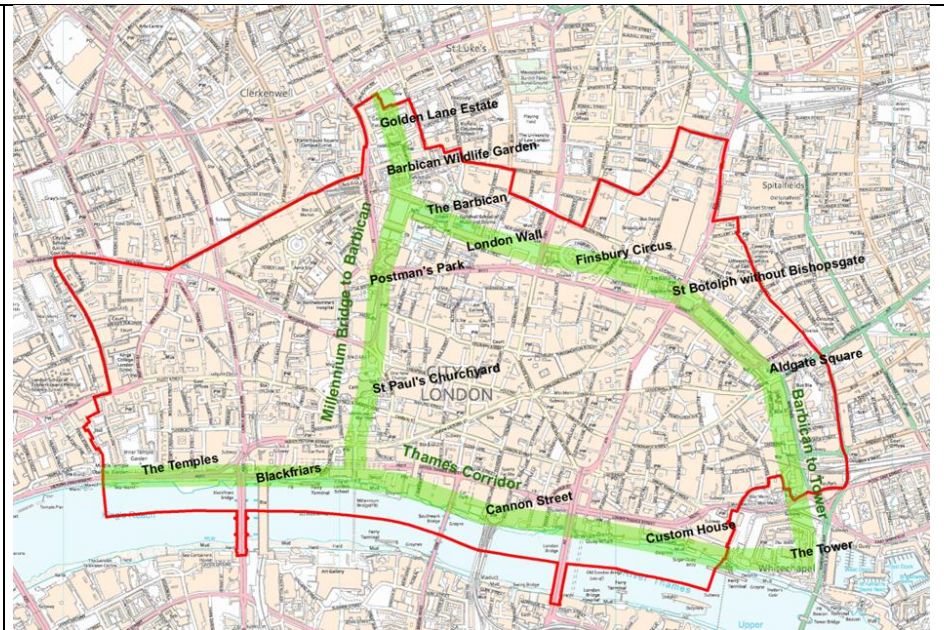


Figure 1: Indicative cool routes and biodiversity green corridors through the City

5. Risk

For the re-planting and re-landscaping elements, the main risks include:

- Planting restrictions as a result of utilities and underground structures;
 - *Mitigation: carry out site assessments and surveys (including assessing existing data) to identify locations for planting and undertake trial holes.*

- Affordability of the proposals and cost increases as a result of inflation;
 - *Mitigation: The project scope may need to be adjusted to ensure that it remains affordable within the programme budget. This risk will impact the re-landscaping projects the most and could result in one or two of the sites having to be omitted in order to stay within budget. Officer's will also review the scope of Phase 4 (which is at an earlier stage) to assess if some of this funding can be transferred to Phase 3 if appropriate, to cover increased costs.*

- Maintenance costs limit proposals;
 - *The project will increase the amount of greening in the City which will have implications for maintenance costs. It is proposed that these costs are covered by the project budget where possible which will redirect funding away from the*

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	<p><i>improvements. In the long-term, maintenance budgets will need to be increased.</i></p> <ul style="list-style-type: none"> • Development sites and other projects impact programme; <ul style="list-style-type: none"> ○ <i>Mitigation: coordinate proposals with other projects and construction sites. Phased approach to delivery will assist.</i> • Objections to proposals from stakeholders or local occupiers; <ul style="list-style-type: none"> ○ <i>Mitigation: Engage with occupiers and stakeholders and identify alternative sites if necessary</i> <p>Costed Risk Provision Utilised at Last Gateway: None Change in Costed Risk: None</p> <p>Further information available in the Risk Register (Appendix 2) and Options Appraisal. Please note that a separate risk register has been produced for the tree planting element which has passed gateway 5.</p>
<p>6. Procurement approach</p>	<p>It is proposed that most of the design work is carried out in-house by officers in the Environment Department. Some consultancy input will be required for the larger scale projects, and it is proposed to appoint landscape architects and engineers following approved procurement processes.</p> <p>The civil works (excavation, construction and paving) will be carried out by the City's Highway Term Contractor (FM Conway). The planting and soil works will be carried out by The City Gardens Team and their contractors.</p> <p>The project management and construction management will be undertaken by the Environment Department (Policy and Projects, City Gardens and Highways).</p>

Appendices

Appendix 1	Project Coversheet
Appendix 2	Risk Register (for recommended option)
Appendix 3	Project Masterplan
Appendix 4	Finance Tables
Appendix 5	Cool Streets and Greening Programme - overview of Phases 1-4

Contact

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Options Appraisal Matrix

Due to the masterplan approach to project development, only one option is proposed, as described below and set out in the project masterplan in Appendix 3.

Project Overview														
1. Brief description of option	This project (City Greening and Biodiversity) forms Phase 3 of the Cool Streets and Greening programme. The project aims to introduce more trees, improve planting and re-landscape areas of the public realm across the City to improve climate resilience and enhance biodiversity.													
2. Scope and exclusions	<ul style="list-style-type: none"> • Tree planting is proposed to plant street trees across the City with a target of at least 100 new trees. Members have agreed that this element of the project should proceed directly to Gateway 5 in order to maximise the planting opportunities within the tree planting season (November to March). This Gateway 5 report was approved by Chief Officer in November 2022. Further details are set out in the masterplan in Appendix 3. • Re-planting: 14 sites have been identified to be either fully or partially re-planted with a more climate resilient palette and biodiversity enhancements. These are described in the table below: <table border="1"> <thead> <tr> <th>Re-planting Sites</th> <th>Proposals</th> <th>Green corridor</th> </tr> </thead> <tbody> <tr> <td>All Hallows on the Wall</td> <td> <ul style="list-style-type: none"> • Shrub planting with access to historic wall • Nectar/pollen rich perennial planting in western bed </td> <td>Barbican - Tower</td> </tr> <tr> <td>St Dunstan's on the Hill</td> <td> <ul style="list-style-type: none"> • Climate resilient 'dry' planting • Scope tree/shrub potential • Improve drainage </td> <td>SINC between two routes</td> </tr> <tr> <td>St Dunstan's in the East Churchyard</td> <td> <ul style="list-style-type: none"> • Addition of permeable surfacing • Dead wood • New bed with nectar/pollen rich perennial upper lawn </td> <td>SINC between two routes</td> </tr> </tbody> </table>		Re-planting Sites	Proposals	Green corridor	All Hallows on the Wall	<ul style="list-style-type: none"> • Shrub planting with access to historic wall • Nectar/pollen rich perennial planting in western bed 	Barbican - Tower	St Dunstan's on the Hill	<ul style="list-style-type: none"> • Climate resilient 'dry' planting • Scope tree/shrub potential • Improve drainage 	SINC between two routes	St Dunstan's in the East Churchyard	<ul style="list-style-type: none"> • Addition of permeable surfacing • Dead wood • New bed with nectar/pollen rich perennial upper lawn 	SINC between two routes
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Project Overview	
	<ul style="list-style-type: none"> • Improve lower lawn drainage create bog style rain garden in recess
Queen Street Place	<ul style="list-style-type: none"> • Replace some plants with climate resilient plants • Improve soil
Whittington Gardens	<ul style="list-style-type: none"> • Decompaction of soil • Soil improvements • Mulching • Invertebrate measures
Angel Lane	<ul style="list-style-type: none"> • Replace hedging with resilient species • Dead wood • Nectar/pollen rich shade tolerant planting
Grants Quay	<ul style="list-style-type: none"> • Soft landscaping of circular lawn with perennials and shrubs
Dark House Walk	<ul style="list-style-type: none"> • Extend riverside climate resilient planting scheme • Trial different substrates • Replace shrubs and perennials with resilient species • Invertebrate measures
St Annes and St Agnes Churchyard	<ul style="list-style-type: none"> • Nectar/pollen rich shade tolerant perennial planting • Tree removal for resilient understory tree • Replace/build up shrubs with fruiting species • Deadwood area • Introduce low/ground cover planting in high ASB area

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Project Overview		
St Olave Silver Street	<ul style="list-style-type: none"> • Dense wild hedging 2 – 3 rows • Nectar/pollen rich shade tolerant bedding planting • Replenish ground cover planting beneath trees 	Millennium Bridge - Barbican
John Carpenter Street	<ul style="list-style-type: none"> • Replace failing box hedging with more resilient planting 	Thames
St Botolph's without Bishopsgate	<ul style="list-style-type: none"> • Create wildlife strip behind netball court • Introduce low/ground cover planting in high ASB area • Raise canopy to increase visibility (tree planting) • Improve management plan for enclosed shrubbery for wildlife • Investigate redesign of water feature for pond • Replant annual bedding area with nectar/pollen rich perennials and grasses 	Barbican - Tower
St Mary Staining	<ul style="list-style-type: none"> • Create pond in raised bed • New bed beneath established tree with understory planting and fruiting shrubs • Mulch new bed area • Improve species mix in raised beds 	Millennium Bridge - Barbican
St Mary Aldermanbury	<ul style="list-style-type: none"> • Replace box hedging with resilient species • Improve planting across site with mix of shrubs, perennials and grasses 	Millennium Bridge - Barbican

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Project Overview		
<ul style="list-style-type: none"> • Re-landscaping: Strategically selected sites have been identified to be re-landscaped to unseal existing paved areas, enhance climate resilience and biodiversity and provide amenity space. These sites vary in scale and proposals are summarised below with further details set out in the masterplan in the Appendix. The project funding will be focussed on delivering greening and biodiversity benefits in the first instance. Paving improvements, seating and other street furniture will be secondary priorities and will only be included in scope if funding is available. 		
Re-landscaping Sites (listed in priority order)	Proposals	Green corridor
London Wall/Moorgate (significant corner space)	<ul style="list-style-type: none"> • Additional planters and trees and improved layout to reflect pedestrian movement • Replacement of lawn with raised planting bed and attractive resilient planting. Protection of existing mature oak tree • Sustainable drainage (SuDS) • Seating (including re-positioning existing seats) 	Barbican to Tower
Finsbury Circus Western Arm (existing carriageway space that has been closed to vehicles) – significant new green route	<ul style="list-style-type: none"> • Creation of new green public space with trees and planting beds • Complements the enhancement of Finsbury Circus • This project will only fund the greening elements of this scheme (the main paving , seating and drainage works are already funded by the Moorgate Crossrail project) 	Barbican to Tower
Fetter Lane (north)	<ul style="list-style-type: none"> • Existing asphalt carriageway space that has been closed to vehicles for several years 	Area of greening deficiency

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Project Overview	
	<ul style="list-style-type: none"> • Creation of new green pocket park with trees and planting • Retention of cycle route through space • Also potential for new permeable paving and SuDS as part of Phase 4, subject to underground investigations • This could link with improvements to other green spaces in the area identified through the Fleet Street Healthy Streets Plan
St Peter Westcheap	<ul style="list-style-type: none"> • Explore opportunities to adjust layout to increase space for resilient planting and ensure the existing mature plane tree is protected
Fann Street west	<ul style="list-style-type: none"> • Replacing existing concrete planters at western end with more appropriate landscape design
Playhouse Yard	<ul style="list-style-type: none"> • This site has been selected as a 'contingency' site to be taken forward if site constraints restrict the implementation of the above sites • There is scope to widen footways and plant trees with under-planting • There is also potential for SuDS as part of Phase 4 • This could link with improvements to other green spaces in the area identified through the Fleet Street Healthy Streets Plan

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Project Overview																				
	<p>Biodiversity Enhancements will be critical in delivering on the key ecosystem service areas: biodiversity value, microclimate management, water management and wellbeing. The following enhancements will be considered (see table below) within the scope of the sites to maximise the opportunity for wildlife and increase the resilience of these spaces. The aims of these measures include creation/restoration of relevant habitat types, increasing breeding opportunities and to ensure an adequate level of redundancy in planting schemes to create ecological continuity.</p> <table border="1"> <thead> <tr> <th>Biodiversity Measures</th> <th>Benefits</th> </tr> </thead> <tbody> <tr> <td>Nesting infrastructure</td> <td>Bird breeding/distribution</td> </tr> <tr> <td>Roosting infrastructure</td> <td>Bat breeding/seasonal roosting</td> </tr> <tr> <td>Bee posts/bug hotels/bee pots</td> <td>Increase pollinator/invertebrate nesting/abundance</td> </tr> <tr> <td>Bare/exposed ground/rock piles</td> <td>Provision of habitat for ground nesting invertebrates</td> </tr> <tr> <td>Loggeries (deadwood features)</td> <td>Provision of habitat for saproxylic species</td> </tr> <tr> <td>Species rich native planting types (trees, understory, shrubs, hedging, climbing/trailing and mid – low ground cover)</td> <td>Increase flowering/fruitlet season, provision of larval food plants, increase habitat types, thermal comfort, air quality</td> </tr> <tr> <td>Standing water (ponds and rain/bog gardens)</td> <td>Increase available habitat parcel types, reduce water flow into surface water drains, provision of habitat for semi aquatic macro invertebrates</td> </tr> <tr> <td>Monitoring and field equipment</td> <td>Collect data on species distribution and abundance, assess plants and soil viability/durability/quality</td> </tr> </tbody> </table> <p>Further details are set out in the project masterplan in Appendix 3.</p> <p>All proposals relate to either public highway or open spaces that the City already maintains. Private land is excluded from the scope of this project.</p>		Biodiversity Measures	Benefits	Nesting infrastructure	Bird breeding/distribution	Roosting infrastructure	Bat breeding/seasonal roosting	Bee posts/bug hotels/bee pots	Increase pollinator/invertebrate nesting/abundance	Bare/exposed ground/rock piles	Provision of habitat for ground nesting invertebrates	Loggeries (deadwood features)	Provision of habitat for saproxylic species	Species rich native planting types (trees, understory, shrubs, hedging, climbing/trailing and mid – low ground cover)	Increase flowering/fruitlet season, provision of larval food plants, increase habitat types, thermal comfort, air quality	Standing water (ponds and rain/bog gardens)	Increase available habitat parcel types, reduce water flow into surface water drains, provision of habitat for semi aquatic macro invertebrates	Monitoring and field equipment	Collect data on species distribution and abundance, assess plants and soil viability/durability/quality
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Project Overview	
Project Planning	
3. Programme and key dates	<p><i>Overall project: 2022- 2025</i></p> <p><i>Key dates:</i></p> <ul style="list-style-type: none"> • Undertake local stakeholder engagement (Jan 23 – June 23) • Finalise detailed designs and construction information (Jan 23 – July 23) • Prepare detailed cost estimates and programme (Jan 23 – July 23) • Prepare Gateway 5 reports: <ul style="list-style-type: none"> ○ (Tree planting Nov 22) ○ Re-planting spring/summer 23 ○ Re-landscaping summer 23 • Implementation of works – 2023-2025 (timing is restricted by planting season: tree planting season is Nov-March, perennial planting is in spring and autumn).
4. Risk implications	<p>Overall project option risk: medium</p> <p>Please refer to risk section in main report. Further information available within the Risk Register (Appendix 2).</p>
5. Stakeholders and consultees	<ul style="list-style-type: none"> • Local occupiers • BIDs • Local interest groups • Ward Members • Churches • Local Residents

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Project Overview													
6. Benefits of option	<ul style="list-style-type: none"> • The recommended option will allow for trees, planting and landscaping schemes to be strategically located. This will provide maximum benefits to biodiversity by improving connectivity between Sites of Importance for Nature Conservation (SINCs). • Previous phases of the Cool Streets and Greening programme have identified existing highway/public realm schemes and re-designed these to incorporate climate resilience measures. The recommended option means that proposed schemes are not constrained by design work that has previously taken place. Maximum cost-benefits for climate resilience can be achieved and designed in from the start. • The designation of Green Corridors allows limited resources to be focused where maximum benefits can be achieved for biodiversity, as supported by the City of London SINC Review (2016) and the Biodiversity Action Plan. • A priority of the Cool Streets and Greening programme is to monitor the effectiveness of such schemes. The recommended option allows monitoring scheme/equipment to be designed in, rather than retrofitted. The schemes will be monitored as part of the wider programme. 												
7. Disbenefits of option	The recommended option does not target all areas of greening deficiency due to the prioritisation of the green corridors approach and funding restrictions. It is recommended that these deficient areas are addressed through future projects (subject to funding).												
Resource Implications													
8. Total estimated cost	<p>Total estimated cost (excluding risk): £2.5m (inclusive of maintenance).</p> <p>Table 2: City Greening and Biodiversity – estimated cost</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Estimated Cost (excluding risk)</th> </tr> </thead> <tbody> <tr> <td>Evaluation and Design</td> <td>175,000</td> </tr> <tr> <td>Tree planting (100 trees)</td> <td>755,000</td> </tr> <tr> <td>Re-planting (14 sites)</td> <td>400,000</td> </tr> <tr> <td>Re-landscaping (up to 4 sites)*</td> <td>1,170,000</td> </tr> <tr> <td>TOTAL</td> <td>2,500,000</td> </tr> </tbody> </table> <p>*subject to detailed cost estimates ahead of Gateway 5 – see site prioritisation in table above</p>	Item	Estimated Cost (excluding risk)	Evaluation and Design	175,000	Tree planting (100 trees)	755,000	Re-planting (14 sites)	400,000	Re-landscaping (up to 4 sites)*	1,170,000	TOTAL	2,500,000
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Project Overview	
	Please also refer to finance tables in Appendix 4. More detailed cost estimates will be prepared ahead of the Gateway 5 reports.
9. Funding strategy	OSPR funding as part of the Climate Action Strategy
10. Investment appraisal	<i>N/A</i> <i>Asset enhancement</i>
11. Estimated capital value/return	<i>N/A</i> <i>Asset enhancement</i>
12. Ongoing revenue implications	The detailed project costs will be developed at the next stage and will include an allowance for the establishment and maintenance of the trees and planting.
13. Affordability	Funding fully allocated as part of CAS
14. Legal implications	<i>None</i>
15. Corporate property implications	<i>None.</i>
16. Traffic implications	Some of the sites will need to be designed to accommodate existing cycle routes through.
17. Sustainability and energy implications	The project will achieve best practice/ industry leading standards The project will meet the following Climate Action Strategy Objectives: <ul style="list-style-type: none"> • The Square Mile's buildings, public spaces and infrastructure are resilient to climate change • People in the Square Mile and beyond benefit from a clean, green and safe environment

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Project Overview	
	<p>Relevant Climate Action Strategy Action:</p> <ul style="list-style-type: none"> • Make the Square Mile public realm more climate change ready through adding in more green spaces, urban greening, flood resistant road surfaces, adaptable planting regimes and heat resistant materials <p>The Biodiversity Action Plan (2021-26), Tree Strategy SPD (2012) and City Gardens Management Plan are also relevant as well as the Climate resilient planting catalogue that is currently being prepared.</p> <p>In addition, this project helps to deliver towards proposals 7 to 10 of the City's Transport Strategy in delivering the strategy outcome of "The Square Mile's streets are great places to walk and spend time"</p>
18. IS implications	<i>None</i>
19. Equality Impact Assessment	An EQIA will be undertaken and the City's COLSAT tool will be used where appropriate to inform the design before the Gateway 5 report is submitted (for some of the relandscaping sites). Healthy streets checks will also be undertaken on these sites.
20. Data Protection Impact Assessment	<i>N/A</i>
21. Recommendation	Recommended

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Appendix 1 – Project Coversheet

Project Coversheet

[1] Ownership & Status

UPI: 12332

Core Project Name: City Greening and Biodiversity

Programme Affiliation (if applicable): Cool Streets and Greening (part of Climate Action Strategy)

Project Manager: Melanie Charalambous

Definition of need:

The City's climate is changing. We need to adapt the City's environment to hotter drier summers, warmer wetter winters, sea level rise and more frequent extreme weather events.

The Cool Streets and Greening Programme is a key delivery mechanism of the City's Climate Action Strategy that aims to create resilient streets and open spaces in the Square Mile.

The benefits of greenery in the public realm are well documented. Trees and planting aid in softening the built environment and have the potential to improve environmental conditions offering shade, pollutant filtration and habitat creation as well as reducing greenhouse gas emissions.

Key measures of success:

- To improve the Square Mile's Urban Greening Factor
- To Increase the amount of climate resilient planting in the City
- To improve opportunities and corridors for biodiversity and deliver on the outcomes of the City's Biodiversity Action Plan

Expected timeframe for the project delivery: 2022-2025

Key Milestones:

- Undertake local stakeholder engagement – Feb – July 2023
- Finalise detailed designs and construction information Feb – July 2023
- Prepare detailed cost estimates and programme Feb – July 2023
- Prepare Gateway 5 reports – March – Sept 2023
- Implementation – 2023 - 2025
- Gateway 6 will be submitted in mid 2025

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

2-3 month programme delay as a result of the Capital project review and above milestones have been amended as a result.

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Has this project generated public or media impact and response which the City of London has needed to manage or is managing?

Yes. Managed as part of Climate Action Strategy

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Briefing' G1 report (as approved by Chief Officer April 2022)

- Total Estimated Cost (excluding risk): £1.5m - £2.5m
- Costed Risk Against the Project: n/a
- Estimated Programme Dates: 2022-2025

Scope/Design Change and Impact: no change

'Project Proposal' G2 report (as approved by PSC May 2022)

- Total Estimated Cost (excluding risk): £1.5-2.5m
- Resources to reach next Gateway (excluding risk) £80,000
- Spend to date: N/A
- Costed Risk Against the Project: none
- CRP Requested: none
- CRP Drawn Down: none
- Estimated Programme Dates: 2022-2025

Scope/Design Change and Impact: no change

'Options Appraisal and Design' G3-4 report (Dec 2022 and Jan 2023 the subject of this report) Note: the tree planting element of the project went straight to GW5 in order to not miss the opportunity to plant trees in the planting season (Nov – March)

- Total Estimated Cost (excluding risk): £2.5m
- Resources to reach next Gateway (excluding risk): 95k
- Spend to date: £49,804 (for the whole of Ph 3)
- Costed Risk Against the Project: None
- CRP Requested: None
- CRP Drawn Down: None
- Estimated Programme Dates: 2023 - 2025

Scope/Design Change and Impact: no change

'Authority to start Work' G5 report – Tree planting (approved by Chief Officer Nov 2022)

- Total Estimated Cost (excluding risk): £755,000
- Resources to reach next Gateway (excluding risk): £755,000
- Spend to date:
- Costed Risk Against the Project: £45,000
- CRP Requested: £45,000
- CRP Drawn Down:
- Estimated Programme Dates: 2022 - 2024

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Scope/Design Change and Impact: none

Total anticipated on-going commitment post-delivery [£]: maintenance costs included within capital project costs **Programme Affiliation [£]:** Cool Streets and Greening (CAS)

Appendix 2 – Risk Register (separate document)

Appendix 3 – Project masterplan (separate document)

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Appendix 4 – Finance Tables

Table 1: Spend to date - City Greening & Biodiversity Project – 16800467 (as at Nov 2022)			
Description	Approved Budget (£)	Expenditure (£)	Balance (£)
Env Servs Staff Costs	7,000	-	7,000
Open Spaces Staff Costs	3,000	-	3,000
P&T Staff Costs	40,000	19,804	20,196
P&T Fees	30,000	30,000	-
TOTAL	80,000	49,804	30,196

Table 2: Resources Required to reach the next Gateway (replanting and relandscaping)*			
Description	Approved Budget (£)	Resources Required (£)	Revised Budget (£)
Env Servs Staff Costs	7,000	15,000	22,000
Open Spaces Staff Costs	3,000	15,000	18,000
P&T Staff Costs	40,000	20,000	60,000
P&T Fees	30,000	45,000	75,000
TOTAL	80,000	95,000	175,000

*Budget for tree planting element of the project (Gateway 5) has been approved separately

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Appendix 5
Cool Streets and Greening Programme – Overview of Phases 1-4
November 2022

The Cool Streets and Greening programme is an integral part of building climate resilience across the City Corporation’s public spaces under the Climate Action Strategy (CAS). The programme will deliver a range of capital projects in order to further the following goals, as approved under Gateway 1 of the CAS:

- Sustainable rain and surface water management policies and implementation
- Increase the quality and provision of green space and coverage in the Square Mile and wider City Corporation spaces
- Introduce climate resistant and adaptive landscaping in planned work

Capital projects under the Cool Streets and Greening programme are being delivered in **four phases**. The overall budget for this programme is £6.8M which is funded through the Climate Action Strategy. The progress of each phase and the projects within these phases are outlined below along with a breakdown of total estimated costs for each phase.

Programme Planning and Management

Programme development began in April 2021 with a budget of £320K. This is being used for programme framework development, smart sensor installation across the City, opportunity mapping and site identification, design and prioritisation. The budget also funds the development of a Resilient Planting Catalogue and Climate Resilience Measures Catalogue. These two resources will be available across the City Corporation to allow project managers to develop schemes that are resilient to the impacts of climate change.

Phase 1

Under Phase 1, existing capital projects were identified and additional funding provided from the Cool Streets and Greening programme for the inclusion of climate resilience measures, where these may not have been previously included. The most suitable sites were identified through a prioritisation exercise of existing highways, public realm and City Gardens projects. This exercise took account of the date of commencement, area of the site, potential for inclusion of resilience measures and/or additional environmental benefits, as well as cost.

A total of nine projects were identified for Phase 1, including five individual schemes and four sites under the Pedestrian Priority programme. Phase 1 of the programme was initially known as ‘Year 1’, with projects planned for completion in 2021/22. However, a number of these projects have faced some delay. Progress on these sites is outlined below.

Site	Measures Included	Gateway Approval	Progress
Vine Street	Avenue tree planting	G5	Completed March 2022
Riverside Planters, City of London School	Climate resilient landscaping (drought tolerant planting)	G5	Completed May 2022
Bevis Marks/Dukes Place	Sustainable drainage (rain gardens and geocellular storage), tree planting	G5	Works commenced October 2022

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Cheapside Sunken Garden	Sustainable drainage (permeable paving), climate resilient planting	G5	Works to commence early 2023
Jubilee Gardens	Tree planting, green wall, climate resilient planting	G4	Detailed design completed pending Capital Projects review. Gateway 5 due early 2023
Pedestrian Priority Sites	Climate resilient planting at four sites	G5	Temporary measures complete 2021. Permanent trial site being developed (City Cluster) October 2022.

Phase 2

Phase 2 sites were identified and prioritised using a similar approach to Phase 1, although in most cases these projects were at an earlier stage of design.

Consequently, a more holistic approach to integrating climate resilience measures was possible through involvement at an earlier design stage.

Phase 2 of the programme was initially known as 'Year 2', with projects planned for completion in 2022/23. Progress on these sites is outlined below.

Site	Measures Included	Gateway Approval	Progress
Bank	Tree planting, sustainable drainage (rain gardens)	G5	Works commenced October 2022
Little Trinity Lane	Hedge planting, climate resilient planting	G4	Detailed design in development
Crescent	Tree planting, climate resilient planting, sustainable drainage (rain gardens and attenuation boards)	G4	Detailed design in development
Moor Lane	Tree and hedge planting, sustainable drainage (proposed)	G4	Detailed design in development – below ground constraints affecting scope
Finsbury Circus	Monitoring only (subject to wider works proposals)	G5 – monitoring	On hold pending Capital Projects review
Barbican Podium Phase 2	Monitoring only	G5 – monitoring	In progress in partnership with Atkins

Phase 3 – City Greening and Biodiversity (the subject of this report)

Further phases of the programme aim to identify new project sites using a more strategic approach, rather than intervening in projects previously underway. Phase 3 of the programme will work with the Policy and Projects team under *City Greening and Biodiversity* to improve tree planting, replanting for climate resilience and relandscaping of new sites, as well as deliver a range of biodiversity enhancements as outlined in Appendix 3.

These schemes are to be focused along three strategic green corridors. These corridors have been identified to improve connectivity between the City's Sites of Importance for Nature Conservation (SINCs) and areas close to them, as well as providing routes across the City for pedestrians and cyclists with increased shade and canopy cover. These routes are illustrated in *Figure 1*. Individual sites along this

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route were prioritised considering a range of biodiversity and pedestrian parameters, as outlined in Appendix 3.

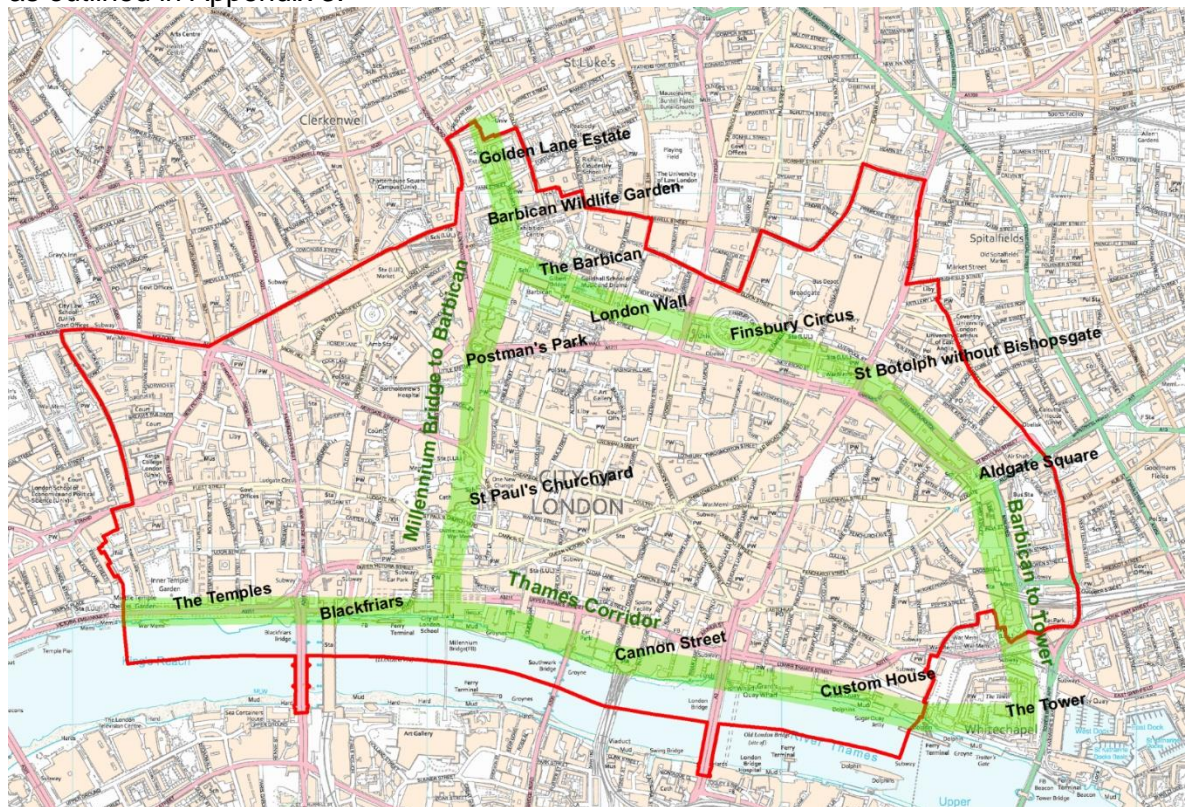


Figure 1: Indicative green corridors

Tree planting

An accelerated programme of tree planting is proposed under Phase 3. Potential locations for tree planting were identified through site visits and are being progressed through trial holes and ground radar surveys. A number of priority areas within green corridors have been identified for new tree planting, as outlined below. This programme will be delivered through the City Gardens team as resource becomes available, following the success of site surveys.

The tree planting element has been accelerated with Gateway 5 approval under Chief Officer delegated authority in order to maximise trees planted within the 2022/23 planting season. The remaining funds will be carried over to the 2023/24 planting season.

Location	Green Corridor
London Wall/All Hallows	Barbican to Tower
Houndsditch	Barbican to Tower
Jewry Street/Fenchurch Street	Barbican to Tower
Eastcheap/Green Tower Street	Enhancing SINC (St Dunstan's)
Queen Victoria Street	Millennium Bridge to Barbican
King Edward Street	Millennium Bridge to Barbican
Rotunda/Aldersgate Street	Millennium Bridge to Barbican

Replanting for resilience

A number of sites managed by City Gardens have been identified along the green corridors as priority sites for replacement planting. Replanting schemes will respond to site-relevant priorities, including climate adaptive planting, disease-resistant planting, planting for biodiversity benefit etc.

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Site	Green Corridor
All Hallows on the Wall	Barbican to Tower
St Dunstan's on the Hill	Enhancing SINC
St Dunstan's in the East Churchyard	Enhancing SINC
Queen Street Place	Thames
Whittington Gardens	Thames
Angel Lane	Thames
Adelaide House	Thames
Dark House Walk	Thames
St Anne and St Agnes Churchyard	Millennium Bridge to Barbican
St Olave Silver Street	Millennium Bridge to Barbican
John Carpenter Street	Thames
St Botolph without Bishopsgate	Barbican to Tower
St Mary Staining	Millennium Bridge to Barbican
St Mary Aldermanbury	Millennium Bridge to Barbican

Relandscaping

Additional sites have been identified where more detailed proposals will be brought forward to introduce new climate resilience measures, with a focus on the strategic green corridors and biodiversity improvements within them.

Site	Green Corridor
London Wall Moorgate	Barbican to Tower
Finsbury Circus Western Arm	Barbican to Tower
Fann Street (West)	Millennium Bridge to Barbican
St Peter Westcheap	Millennium Bridge to Barbican
Fetter Lane (North)	Area of green space deficiency
Playhouse Yard	Area of green space deficiency (contingency site)

Phase 4 – SuDS for Climate Resilience

Phase 4 of the programme has begun to identify a number of sites with potential for sustainable drainage systems (SuDS) to be delivered under *SuDS for Climate Resilience*. SuDS schemes are effective for managing surface water at source and minimising the risk of sewer surcharge flooding.

Locations have been selected where there is lower risk of substantial surface water flooding, but in proximity to trunk sewers where SuDS can be more effective during periods of heavy rain. SuDS will result in improvements in water quality and attenuation of runoff into the sewer network. Where SuDS sites are also located in a green corridor, scheme with greening elements such as rain gardens and swales will be prioritised.

Phase 4 of the Cool Streets and Greening programme is progressing through Gateway 2-3 in November and December 2022. This will allow for detailed site surveys of the locations below, and identify any constraints.

Site	Green Corridor
St Andrew Undershaft	Not on route
Took's Court	Not on route (deficient in green space)
Lambeth Hill (or equivalent)	Thames
Riverside/Swan Lane	Thames
Bread Street	Not on route
Ludgate Broadway	Not on route (deficient in green space)
St Martin's-le-Grand	Millennium Bridge to Barbican

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Knightrider Court	Millennium Bridge to Barbican
Godliman Street	Millennium Bridge to Barbican
Houndsditch	Barbican to Tower

Sites not included in the Cool Streets and Greening programme

Some additional sites were identified during the prioritisation exercise and subsequent site visits, with potential for strategic climate resilience interventions. However, these sites have alternative delivery mechanisms and will be progressed outside of the Cool Streets and Greening Programme.

Site	Reason
St Mary at Hill	S106 funding for this site
Temple Avenue	Potential Landowner funding for this site