

REQUEST FOR DIRECTOR DECISION – DD2391

Title: Air quality monitoring assessment of green infrastructure at schools

Executive Summary:

In the London Environment Strategy, the Mayor committed to reducing Londoners' exposure to poor air quality, particularly young people. Through the Mayor's Air Quality Fund, air quality audits have been undertaken in 50 of London's most polluted primary schools. A further 20 audits of London's most polluted nurseries are currently being undertaken. A number of the school audits recommended the installation of green infrastructure (e.g. hedges, walls covered in vegetation, trees) to help reduce children's exposure to air pollution. Similar recommendations are expected as part of the nursery audits programme.

To support the delivery of the audit recommendations, the Community Green Space Grants strand of the Mayor's Greener City is funding during 2019, the installation of green infrastructure in 29 schools to help reduce exposure to air pollution. It includes projects delivered by schools directly, as well as partnership projects delivery by organisations including Groundwork and Trees for Cities.

This Directors Decision seeks approval to procure and spend Greater London Authority (GLA) budget of up to £60,000, via a call-off contract from an existing framework, to undertake an air quality monitoring assessment of these greening projects, to evaluate the impact green infrastructure has on reducing air pollution exposure at schools in different locations.

Decision:

That the Executive Director for Development, Enterprise and Environment approves:

1. The procurement of technical expert services via a call-off contract from an existing framework to deliver an air quality monitoring assessment; and
2. Expenditure of up to £60,000 of GLA budget to deliver the air quality monitoring assessment.

AUTHORISING DIRECTOR

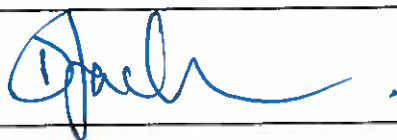
I have reviewed the request and am satisfied it is correct and consistent with the Mayor's plans and priorities.

It has my approval.

Name: Debbie Jackson

Position: Interim Executive Director,
Development, Enterprise and
Environment

Signature:



Date:

07/11/19.

PART I – NON-CONFIDENTIAL FACTS AND ADVICE

Decision required – supporting report

1. Introduction and background

- 1.1. In the London Environment Strategy, the Mayor of London committed to do more to protect London's young people by reducing their exposure to poor air quality including children's exposure when walking to and from, and at, schools, nurseries and other educational establishments. Exposure to poor air quality has the potential to stunt the development of young lungs and makes children more susceptible to poor health conditions.
- 1.2. The London Environment Strategy also established the aim of making London the world's first National Park City, with a network of green infrastructure managed to benefit all Londoners. London's green infrastructure should be planned, managed and designed to deliver a range of benefits to Londoners' wellbeing, including reducing exposure to air pollution.
- 1.3. The Mayor completed 50 school air quality audits last year that identified recommendations to tackle poor air quality at some of London's most polluted primary schools. This approach is now being piloted in nurseries in London's most polluted areas, with 20 nurseries being audited in 2019.
- 1.4. One of the key recommendations from the school air quality audits was to install green infrastructure, including green walls and screens, hedges and trees, within the school grounds to reduce the exposure of children to toxic levels of air pollution. This is also anticipated to be a recommendation for many of the audited nurseries. As part of the support offered to audited schools, they are now taking forward their recommendations, including installing green infrastructure with the support of a £10,000 starter grant from the Mayor. Audited nurseries will also receive a £4,500 starter grant to implement audit recommendations.
- 1.5. The Mayor's Community Green Space Grants, part of the GLA's £12m Greener City Fund, are supporting communities to create and improve green spaces across Greater London. The 2019-20 grants round included funding reserved for school air quality greening grants and is supporting 29 such projects (including 15 at schools that took part in the audits programme). These grants were awarded through an open, competitive process in January 2019. Projects are being led by schools themselves, and by delivery organisations chosen by the schools including Groundwork, and Trees for Cities (who have started a London-wide programme, Planting Healthy Air). These projects are running from January to December 2019. A further round of Community Green Space Grant funding for financial year 2019-2020 will be awarded in January 2020, and it is anticipated that further similar projects will be supported.
- 1.6. The Mayor has recently published guidance on using green infrastructure to protect people from air pollution. This guidance summarises the latest research and current best practice for how a range of greening interventions e.g. climbing plants, green walls, hedges, trees, can be used to reduce exposure in a range of settings e.g. at roadsides, away from roadsides, in classrooms, in open spaces such as parks. At small scales (e.g. a street or school playground), including green infrastructure predominantly reduces exposure to air pollution through dispersion; controlling the flow and distribution of pollutants and creating a barrier between people and pollution sources.
- 1.7. While studies to date have shown that the right green infrastructure in the right place can reliably reduce exposure to air pollution, and that vegetation barriers can as much as halve the levels of pollutants just behind the barrier, this is a relatively new and fast-evolving area of research. As such, there is limited quantified evidence for how reduction in exposure to air pollution provided by green infrastructure varies in strength and consistency across different interventions and settings.
- 1.8. There is an opportunity to monitor the impact that greening projects funded through the Community Green Space Grants, including the schools and nurseries that participated in the audit programmes will

have on air pollution exposure in and around different school and nursery settings. While some individual projects conduct their own air quality monitoring, this is not consistent nor necessarily appropriately robust. It would be beneficial to monitor and report the impact of specific green infrastructure projects funded by the Mayor. This would be carried out by monitoring the air quality before and after installation of various green infrastructure projects as they are implemented at various schools and nurseries and that are appropriate for including in this assessment (this would be determined by an expert). This will be useful information to monitor and report the success of green infrastructure for air quality schemes funded by the Mayor. It will improve the GLA's evidence for evaluating the impacts of green infrastructure on air quality, to update the guidance on using green infrastructure to protect people from air pollution if required, and to provide improved advice on scheme design for future projects.

- 1.9. To enable the GLA to conduct this assessment as described in paragraph 1.8 (the "Assessment"), it is necessary to procure and fund from the GLA budget, a technical expert who can conduct the technical service requirements for this one-time assessment.
- 1.10. The GLA's Contracts and Funding Code requires that for procurements over £25,000, GLA must engage Transport for London (TfL) Commercial to undertake the procurement process. TfL identified that a contract for the Assessment can be procured from an existing call-off framework – TfL Professional Services Framework Health & Safety and Environment Services, E3: Air Quality Monitoring. This framework includes an array of air quality monitoring consultants and organisations that can be procured for one-time projects. This decision therefore seeks approval to procure a call-off contract from this existing Health & Safety and Environment Services Framework, and approve the expenditure of up to £60,000, to deliver an air quality monitoring assessment service. Given the Assessment will provide project evaluation data for the Air Quality and Green Infrastructure Teams at the GLA, the two teams have agreed that they will share the cost of the Assessment, that will come from their allocated GLA 2019-20 budget. For the Green Infrastructure Team, costs will come from their allocated funding for the National Park City Programme as approved in MD2285.

2. Objectives and expected outcomes

- 2.1. The aim of the Assessment is to evaluate the impact on air pollution exposure provided by installing green infrastructure – predominantly in the form of vegetation barriers created by green screens (usually of ivy), trees and hedges, in a range of school and/or nursery settings. While research has found that such vegetation barriers can as much as half the levels of pollutants behind the barrier, their effectiveness could be influenced by a number of factors, including wind direction and air flow, distance from pollution source, distance from barrier, vegetation type, and barrier size.
- 2.2. To conduct this Assessment, the contracted technical expert will identify which schools, from those that have taken part in the audit programme, or have received funding from the Greener City Fund, are necessary to include in the assessment to enable comparisons of similar types of green infrastructure, and comparisons of different types of settings. They will also need to decide on the method to monitor the impact of green infrastructure on reducing air pollution exposure at the selected schools to ensure that the data collected are comparable, are of high quality, and that value for money is considered in the type of monitoring equipment and methods used.
- 2.3. At the end of the Assessment the contracted technical expert will deliver a report including monitoring data that assesses the impact of green infrastructure on reducing air pollution exposure at selected schools and evaluates the success of the Mayor funded green infrastructure projects.
- 2.4. The Assessment will:
 - Provide quantified evidence of the impact on air quality in and around schools by implementing greening measures;
 - Evaluate the success of green infrastructure projects implemented by the Mayor for reducing air pollution exposure;

- Identify which green infrastructure schemes are better at delivering reductions in air pollution exposure within one given setting and could identify which greening interventions are better at delivering reductions in air pollution exposure in a range of settings;
- Inform advice on scheme design for future projects delivered by schools, NGOs, boroughs and others, including those supported by the Mayor. Installing greening measures especially green screens, is becoming increasingly popular at schools and nurseries as a means of reducing exposure to air pollution, and it is important that this is informed by robust evidence;
- Provide updates to the GLA's guidance 'Using Green Infrastructure to Protect People from Air Pollution', and to inform future grants programme guidance and assessment; and
- Provide support for achieving the Mayor's objectives of reducing exposure to air pollution by using green infrastructure measures.

3. Equality comments

- 3.1. The Mayor and the GLA are subject to the "public sector equality duty" contained in s 149 of the Equality Act 2010. This duty requires each public body to have due regard to three outcomes when exercising their functions: (1) the need to eliminate unlawful discrimination, harassment and victimisation; (2) to advance equality of opportunity between those who share a protected characteristic¹ and those who do not; and (3) to foster good relations between such people.
- 3.2. The Assessment the technical expert will undertake will be expected to comply with the Equality Act 2010. This will be instructed through the contract with the successful technical expert.
- 3.3. There is currently significant exposure of the London population to air pollution. Although this exposure is predicted to decline significantly by 2020 due to the introduction of the central London Ultra Low Emission Zone, current modelling results show that in 2020 there will still be more than 300,000 people living in locations with average NO₂ levels above the EU legal limit value. In contrast, average concentrations of particles (PM₁₀ and PM_{2.5}) were, by 2010, already within EU Limit Values for the annual average concentrations.
- 3.4. A recent independent report² by Aether published by the GLA showed that over 400 schools (nurseries, primary and secondary) in London are exposed to illegal NO₂ levels. The proposed assessment is considered likely to be beneficial for groups with protected characteristics, especially young people. Enabling this Assessment will contribute to support the most impacted groups by understanding the efficiency and impact of greening measures to reduce exposure to poor air and adapt future green infrastructure projects to enhance their efficiency to reduce exposure to air pollution.

4. Other considerations

a) Risks and issues

- 4.1. If the proposed Assessment is not implemented the GLA will have limited quantified evidence for evaluating and demonstrating the impact of greening measures on reducing exposure to air pollution for Mayor supported green infrastructure projects. This could result in the GLA providing limited

¹ The protected characteristics covered by section 149 are: age; disability; gender reassignment; pregnancy and maternity; race; sex; religion or belief; and sexual orientation, and in certain circumstances civil partnership or marriage. Compliance with the PSED may involve, in particular, removing or minimising any disadvantage suffered by those who share a relevant protected characteristic, taking steps to meet the needs of such people and encouraging them to participate in public life or in any other activity where their participation is disproportionately low, including tackling prejudice and promoting understanding.

² https://www.london.gov.uk/sites/default/files/les_exposure_rpt_final2-rb.pdf

guidance on green infrastructure where this guidance is typically used by schools, local community groups and local authorities.

Risk	Likelihood	Impact	Mitigation
Allocated budget is not sufficient to complete the work	Low	High	• The budget is based on experience of previous, similar work • Tender submissions will be reviewed closely to ensure the scope is sufficiently covered within the allocated budget • Before starting the Assessment, the agreed outputs will be confirmed with the consultant • Regular meetings will be held with the appointed consultant to ensure project costs are kept within budget
Lack of appropriate projects identified for monitoring	Medium	High	• We will work with schools and the consultant to identify schools that are implementing greening projects appropriate for this assessment • We have allowed for a timescale that covers the delivery of a number of proposed school greening projects to capture an appropriate array of greening projects
Difficulty co-ordinating with schools and gaining access to carry out monitoring	Low	High	• There will be regular meetings and engagement with the consultant and schools to monitor progress • There will be an agreed project programme
Monitoring produces inconclusive or poor quality results	Medium	High	• Before starting the Assessment, the agreed methodology will be confirmed with the consultant including monitoring equipment used and identifying which schools and greening projects to monitor
Difficulty in designing an appropriate methodology	Medium	Medium	• Detailed expected aims, objectives and outcomes, and methodology suggestions will be provided during the tender process, and tender submissions will be reviewed closely to ensure the scope is sufficiently covered • Before starting the assessment, the consultant will be aware of all the possible schools and school greening projects that could be included in this Assessment • There will be meetings and engagement with the consultants and schools prior to starting the Assessment to agree an appropriate methodology

Delivery timescales are too short	Medium	High	• There will be an agreed project programme with a timeframe and milestones • There will be regular meetings and engagement with the consultants and schools to monitor progress • We have allowed for some contingency in the proposed timescales
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b) Links to Mayoral Strategy and priorities

- 4.2. The Mayor's London Environment Strategy was published in May 2018 and prioritises reaching legal air pollutant levels as soon as possible.
- 4.3. The Assessment will contribute towards the following objectives, policies and proposals within the London Environment Strategy:

Air Quality:

- Policy 4.1.1 Make sure that London and its communities, particularly the most disadvantaged and those in priority locations, are empowered to reduce their exposure to poor air quality
- Proposal 4.1.1.b The Mayor will aim to do more to protect London's young and disadvantaged people by reducing their exposure to poor air quality, including at schools, nurseries, other educational establishments, care homes, and hospitals

Green Infrastructure:

- Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now and in the future.
- Proposal 5.1.1.c The Mayor aims to improve access to green space and nature by identifying those areas of the city that should be greener, and developing green infrastructure programmes and projects.

5. Financial comments

- 5.1. Approval is sought for expenditure of up to £60,000 to deliver the Air Quality monitoring assessment.
- 5.2. The expenditure will be funded from the Air Quality and Green Infrastructure 2019-2020 budgets. For the Green Infrastructure Team, costs will come from their allocated funding for the National Park City Programme as approved in MD2285.

6. Legal comments

- 6.1 The provision of the proposed air quality monitoring services by the GLA is within its powers under s 30(1) and (2) of the GLA Act 1999 as something that furthers the promotion of environmental improvement in Greater London.
- 6.2 In taking the decisions requested, the Director must have due regard to the Public Sector Equality Duty; namely the need to eliminate discrimination, harassment, victimisation and any other conduct prohibited by the Equality Act 2010, and to advance equality of opportunity between persons who share a relevant protected characteristic (race, disability, gender, age, sexual orientation, religion or belief, pregnancy and maternity and gender reassignment) and foster good relations between persons who share a relevant protected characteristic and persons who do not share it (section 149 of the Equality Act 2010). To this end, the Director should have particular regard to Section 3 (above) of this report.

- 6.3 Officers have indicated in paragraph 1.10 of this report that the framework under which it is proposed the services required are to be “call-off” on behalf of the GLA are in accordance with the relevant procurement law and the services required will be procured fully in accordance with the requirements of that framework. Officers must ensure that appropriate “call-off” documentation is put in place and executed by the successful bidder and the GLA before the commencement of the services.

7. Planned delivery approach and next steps

Activity	Timeline
Procurement of contract	Oct/Nov 2019
Delivery Start Date	Dec/Jan 2019
Delivery End Date	March 2020
Project Closure:	March 2020

Appendices and supporting papers:

None.

Public access to information

Information in this form (Part 1) is subject to the Freedom of Information Act 2000 (FoIA) and will be made available on the GLA website within one working day of approval.

If immediate publication risks compromising the implementation of the decision (for example, to complete a procurement process), it can be deferred until a specific date. Deferral periods should be kept to the shortest length strictly necessary. **Note:** This form (Part 1) will either be published within one working day after it has been approved or on the defer date.

Part 1 - Deferral

Is the publication of Part 1 of this approval to be deferred? NO

If YES, for what reason:

Until what date: (a date is required if deferring)

Part 2 - Sensitive information

Only the facts or advice that would be exempt from disclosure under FoIA should be included in the separate Part 2 form, together with the legal rationale for non-publication.

Is there a part 2 form - NO

ORIGINATING OFFICER DECLARATION:

Drafting officer to
confirm the
following (✓)

Drafting officer:

Roulin_Khondoker has drafted this report in accordance with GLA procedures and confirms the following:

✓

Assistant Director/Head of Service:

Debbie_Jackson has reviewed the documentation and is satisfied for it to be referred to the Sponsoring Director for approval.

✓

Financial and Legal advice:

The Finance and Legal teams have commented on this proposal, and this decision reflects their comments.

✓

Corporate Investment Board

This decision was agreed by the Corporate Investment Board on 4 November 2019.

EXECUTIVE DIRECTOR, RESOURCES:

I confirm that financial and legal implications have been appropriately considered in the preparation of this report.

Signature



Date

05.11.19

TOM MIDDLETON ON BEHALF OF MARTIN CLARKE