MAYOR OF LONDON

Climate Adaptation Plan:

Tiverton Primary School

April 2023

Department for Education

Thames Water

ARUP

What this Climate Adaptation Plan covers

This Climate Adaptation Plan (CAP) summarises relevant information about climate change related impacts and risks for your school along with recommendations for climate change adaptation and resilience measures. These are practical things that schools can do to adjust to, prepare for, respond to, and recover from these impacts and risks. This CAP has been prepared by Arup, a global firm of built and natural environment designers, engineers and consultants. It is informed by a five-stage process, with stages 2, 3 and 4 taking place during an in-person survey at the school:

School site survey

1. Online survey completed by school stakeholders
2. Interview with school stakeholder
3. External walk around school grounds to:
   i. Identify ‘wet spots’, ‘hot spots’ and ‘dry spots’ (areas which have experienced flooding, overheating or water scarcity impacts respectively)
   ii. Any existing climate change adaptation and resilience measures
4. Internal walk around school buildings – as above
5. Expert review from Arup’s Technical Advisory Group to identify appropriate climate change adaptation and resilience measures covering ‘quick win’ and longer-term physical measures, and behavioural and operational measures.

The intended use of this CAP by your school is to:

- highlight key climate change related impacts and risks for the school;
- identify the most relevant and appropriate climate change adaptation and resilience measures for the school;
- feed into any capital expenditure or refurbishment projects for the school;
- focus any fundraising efforts undertaken by the school;
- provide basic information to enable the commissioning of further technical, design or engineering surveys by qualified built environment professionals as appropriate;
- support any business continuity or contingency planning for the school;
- inform conversations with the Local Authority, Board of Governors and/or the Parents and Staff Association; and
- guide communications with school staff, students, families and community, and take an approach which engages the whole school.

Please note that this Climate Adaptation Plan does not constitute a detailed technical, design or engineering plan for the school, but is intended to inform potential further work to develop such plans.

Please keep and share this document with school staff, governors and wider school community. This CAP may be useful to refer back to when future funding is released, or as school improvement opportunities arise.

Why climate change adaptation matters for schools

In London, current climate impacts and future climate risks are exacerbating existing pressures on buildings, critical infrastructure and services, and the natural environment. The three key climate change impacts and risks for schools are:

Current and future changes	Climate impacts and risks
More intense rainfall events	Flooding
Increased temperatures	Overheating
Greater water stress	Water scarcity

The seemingly extreme 40°C temperatures, flash flooding and drought all experienced in London during summer 2022 will increasingly become more frequent due to climate change.

These pressures and impacts are already being felt by schools and early years providers, across their buildings and grounds. If not addressed, they have the potential to affect the health, safety and wellbeing of students and staff, and educational outcomes.

Children, especially very young children and those with special educational needs, are more vulnerable to climate change impacts compared to the general population. They are less able to respond to extreme weather events, have relatively limited experience of changing conditions, lack knowledge about how to adjust their behaviours, and are dependent on teachers and other adults for guidance. Older children may be less vulnerable and dependent on adults, but they are still affected by the disruption caused by extreme weather events. It is therefore important for schools to adapt and become more resilient to the changing climate. To do so, a range of practical climate change adaptation and resilience measures are needed to enable schools to prepare for, respond to and recover from extreme weather events and more gradual climate change impacts.

In addition, climate change adaptation and resilience measures can:

- Create co-benefits (such as biodiversity, air quality or energy efficiency)
- Support a more vibrant and resilient school community
- Create better learning and play environments
- Improve educational and health outcomes
- Reduce operational costs
- Reduce inequalities

However, schools face many challenges such as limited resources and funding; competing priorities, ageing buildings that can be difficult to adapt; new buildings that can be difficult to operate, as well as knowledge and experience barriers. These can affect schools' ability to plan for both short term extreme weather events and long-term climate change impacts and risks.

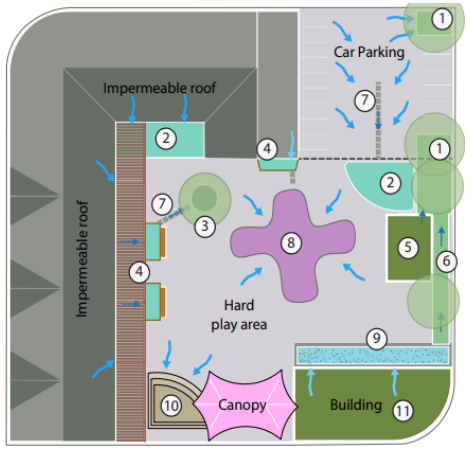


Figure 1: Schools need to be designed and managed in ways which make buildings and grounds resilient to climate change.[1]

[1] *Source: GLA - Reimagining rainwater in schools. Available here*

Supporting schools to adapt and be resilient to climate change

In response to these challenges, the GLA Climate Resilient Schools (CRS) programme, co-funded by Department for Education (DfE) and Thames Water, is working with 101 schools in London identified as most exposed and vulnerable to the three main impacts and risks of climate change for London – flooding, overheating and water scarcity.

Schools were selected and prioritised for the CRS programme based on three main criteria:

1. The school is within the Thames Water catchment area
2. The school has a high ranking in DfE surface water flooding risk to school buildings database
3. The local area of school has a high relative score for Overall Climate Risk, Heat Risk or Flood Risk from the GLA Climate Risk Mapping[1]

The Climate Adaptation Plans for Schools project is one of four workstreams within the CRS programme. Climate Adaptation Plans were offered to all 95 schools within the CRS programme, with the project ultimately undertaking site surveys at 60 of the 95 schools. Based on these surveys, bespoke Climate Adaptation Plans (CAPs) have been developed for each of the 60 schools.

These CAPs build upon recommendations contained in previous GLA guidance on 'How Schools and Early Years Settings Can Adapt to Climate Change' (2020), and are aligned with the DfE's Sustainability and Climate Change Strategy (2021).

Figure 2: The front cover of GLA guidance on how schools can adapt to climate change.[2]

[1] Source: GLA – Climate Risk Mapping. Available here
[2] Source: GLA – How London Schools and Early Year Settings can Adapt to Climate Change. Available here

Summary of your school

Site survey date and time: 23 November 2022, 10.00-12.00

School stakeholder/s met at survey:
Liza Storm, Deputy Head and Mark Pepperday, Caretaker.

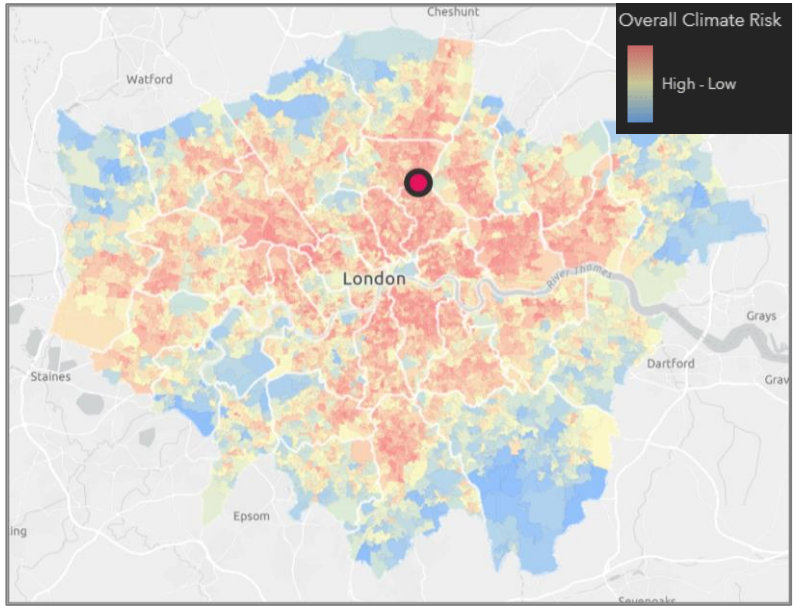
The site has one main building, three separate playgrounds, a science garden and a car park. The building is a brick building of ~2,500m2, mainly comprising one storey with a flat bitumen roof, with a smaller two-storey block also with a bitumen roof. It is heated with gas boilers, and cooled by manual window ventilation, with the exception of two air conditioning units - one in the IT room, which is not often used, and one in the server room.

The three playgrounds are predominantly surfaced with impermeable asphalt and rubber play surfaces. A science garden on the south-east corner of the site is mostly vegetated with trees, bushes, and raised beds. It is an important site for shaded outdoor learning during the summer. Planted beds and hedges dot the perimeters of the playground, and the school has use of a separate allotment immediately adjacent to the school.

- **School type:** **Primary school and nursery with 320 students**
- **Constructed:** **1970s with early 2000s extension**
- **Index of Multiple Deprivation decile[1]:** **30%**
- **Percentage of students eligible for Free School Meals[2]:** **48%**
- **Conservation area**: **No**

[1] e.g. 10% would indicate that the school is in the top 10% of most deprived areas in England. The Index of Multiple Deprivation measures relative deprivation across multiple factors including income, employment, education, health and others. Source: National Statistics, English indices of deprivation 2019. Available here.
[2] England average = 22.5%. Department for Education. Available here
[3] Historic England (2022). Available here

Figure 3: School location on map of Overall Climate Risk map for London[4]



School risk rating: High

Figure 4: School location on Land Surface Temperature map[4]

School risk rating: Medium

Figure 5: School location on surface water flood risk map[5]

School risk rating: High

[4] Source: GLA and Bloomberg Associates. Available here
[5] Source: Environment Agency Flood Risk Maps. Available here

Climate change impacts and risks

Overheating

Tiverton experiences severe overheating during warmer months. In external areas under the polycarbonate waterproof canopies mounted to the buildings on south/south-west side of the school. These receive direct sunlight and whilst provide some shade, cause heat to become ‘trapped’. Within south/south-west facing classrooms adjacent to these polycarbonate canopies. The trapped heat is thought to contribute to classroom overheating.

Climate change will exacerbate overheating impacts in the school and therefore should be addressed as a priority.

Figure 6: Overheating related photo from Arup site visit

Flooding

The school used to experience flooding within the south-west playground. However, the drainage system was improved several years ago and no flooding impacts have been experienced since.

Tiverton Primary school is in a high surface water flood risk area, meaning the area has a chance of flooding of greater than 3.3% each year. This means that even though flooding isn’t regularly experienced at Tiverton, the school should take steps to improve its resilience to flooding.

Figure 7: Flooding related photo from Arup site visit

Water scarcity

Impacts and risks in the food growing areas and planted areas. Produce grown on site is an important school community resource, supplementing the diets of families who live around the school.

The combination of hot weather and drought in summer 2022 led to reduced crop and impacted those families who are dependent on it.

Water shortages will become more frequent with climate change and therefore Tiverton could take further action to improve its water self-sufficiency.

Figure 8: Water scarcity related photo from Arup site visit

Existing and planned measures

There are two small shade structures and canvas canopy within the pre-school playground (north-west), and a larger wooden shaded ‘stage’ in the south-west playground that provides important outdoor shade and respite in hot weather.

There are a number of mature deciduous trees on site and surrounding the school site boundary that provide shade and cooling during warmer months.

The school has 9 rainwater harvesting butts (6 x 800L and 3 x 750L) that are used to supply the majority of water needed to irrigate the gardens. Topping up with mains water is required during summer months each year.

The school has 5 SuDS planters installed under the GLA CRS programme, as well as a weather station on the roof of the building. There are many other smaller planters and raised beds across the site. School stakeholders are keen to increase rainwater collection and storage across the site.

Additional information

Tiverton Primary is an Eco-School, has an Eco-School Green Flag and an Eco-School committee. They currently hold 5 flags out of 9 and are keen to go for the other 4. The Deputy Head Teacher is passionate about gardening and food growing on the school site.

Large areas of flat roofs on school building could lend themselves to green roofs or cool roofs, for water attenuation, cooling of classrooms below and/or an educational resource. The external area to main school gate is paved with concrete and experiences water pooling. This could be made a more permeable and visually appealing area. The school is interested in the idea of grey water recycling systems but aware of costs.

There is limited opportunity for cross-ventilation in classrooms experiencing overheating due to an internal corridor dividing the building. Currently classrooms windows can only be opened on the external side.

Figure 9: Photo of school from Arup site visit

Survey methodology: Field Maps data collection

Information about your school was gathered using a bespoke application developed for this project using Esri Field Maps.

Arup surveyors carried out an accompanied site visit of your school's buildings and grounds, highlighting areas of interest including existing climate change adaptation and resilience measures, and internal and external areas where climate impacts have been experienced, as below:

- **Hot spots**: areas prone to high temperatures or overheating
- **Wet spots**: areas prone to flooding or water pooling
- **Dry spots**: areas of visible water scarcity impacts

Surveyors also collected basic information on the school buildings such as age of construction, building typology, construction materials, ventilation and cooling systems, and marked out the different land uses that make up the school grounds.

A summary of the Field Maps data collected for your school is shown in the adjacent image.

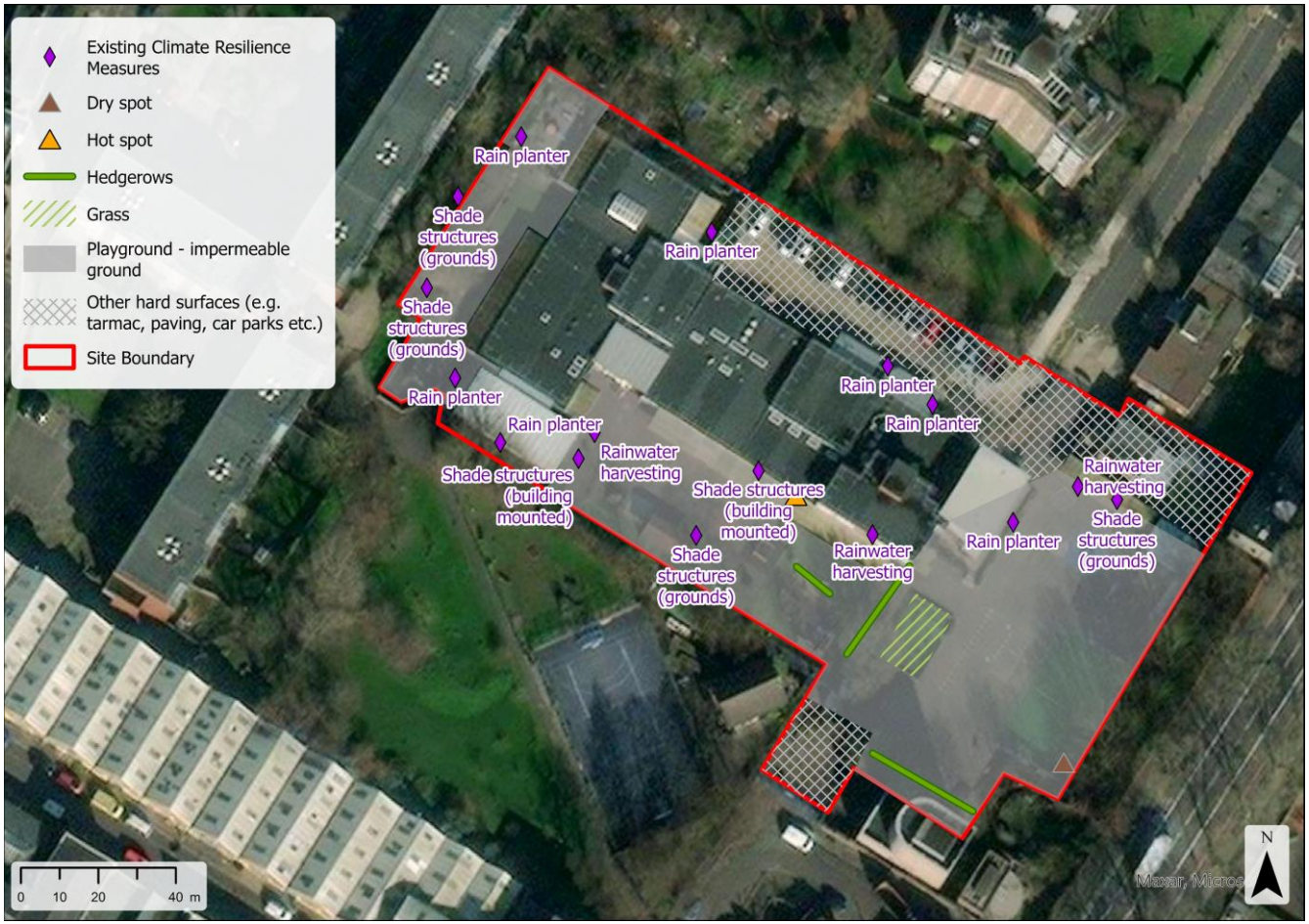


Figure 10: Screenshot of data collected using the Field Maps survey app

Recommended physical measures for your school

The identification of appropriate climate change adaptation and resilience measures for your school has been guided by the following:

- a review of what the priority climate change impacts and risks are for your school;
- consideration of measures which can make the biggest difference to educational outcomes, health inequalities and the health, safety and wellbeing of students, staff and families;
- a presumption in favour of passive and/or nature-based solutions wherever possible in line with Greater London Authority (GLA) and Department for Education (DfE) sustainable development and climate change policies and strategies;
- measures which address more than one climate change impact or risk and which have other environmental, social and economic co-benefits; and
- measures which are cost effective, represent value for money and minimise disruption during the academic year.

Indicative capital cost ranges have been provided for all measures, along with consideration of installation and maintenance requirements. Note that all new physical measures will also require an appropriate operation and maintenance schedule. Relevant behavioural and operational measures are also recommended.

Please see the ‘Compendium of adaptation and resilience measures for schools' which forms an Appendix to this CAP for further details.

We have set out five categories of physical climate change adaptation and resilience measures:

Sustainable Drainage Systems (SuDS)

Hard flood resilience

Ventilation and cooling

Solar shading

Water efficiency

These are further categorised into either ‘quick win’ measures or ‘longer-term’ measures for each school:

- Quick-win measures are priority physical measures for reducing relevant climate change impacts and risks with relatively low cost and effort; and
- Longer-term measures are priority physical measures that may require more funding and/or a major refurbishment opportunity to implement.

Passive design - uses building layout, form and fabric to reduce need for mechanical cooling, heating, ventilation or lighting.

Nature based solutions (NbS) - harness the power of nature to enhance natural ecosystems, biodiversity and human health in order to address major issues, including climate change.

Sustainable Drainage Systems (SuDS) - water management practices to reduce surface water runoff and flood risk, while often providing environmental co-benefits. Can take many forms, above and below ground.

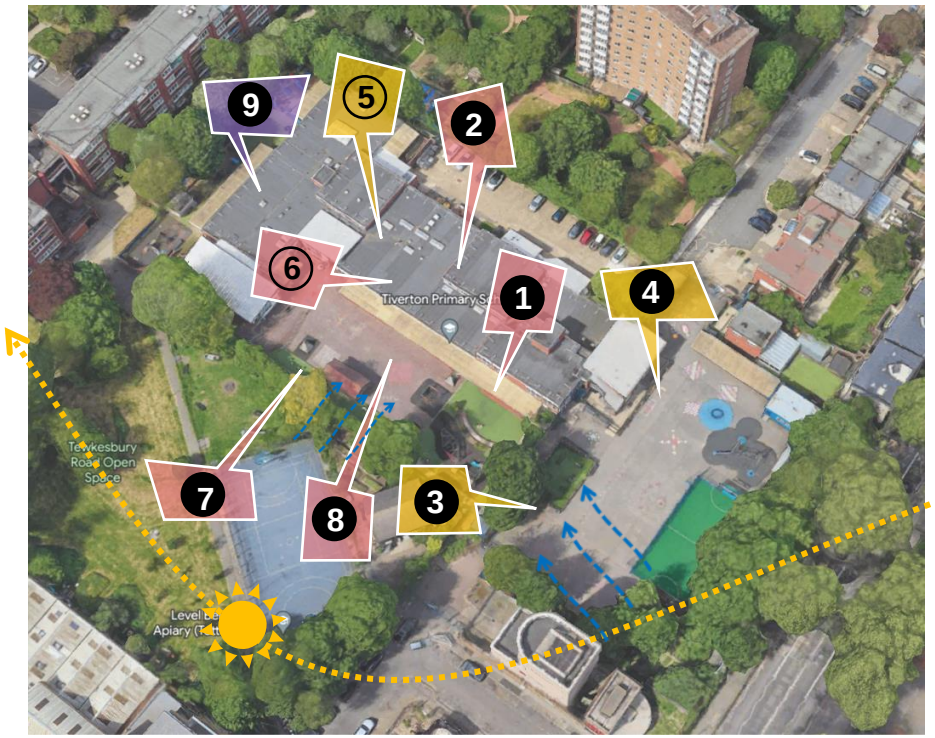
Summary of recommended measures

The diagram below summarises physical climate change adaptation and resilience measures which would help to address the climate change impacts and risks faced by your school. Measure descriptions and additional information can be found in the pages that follow.

01

Intervention areas

Quick win measure #
Long term measure (#)



Key

- Heat related measures
- Flood + Heat measures
- Water scarcity measures
- Surface water flow direction
- Solar pathway
- Flood risk
- Heat risk
- Water scarcity risk

02

Climate risk(s) addressed

03

Recommended adaptation measure

04

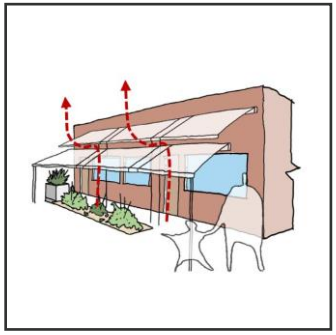
Notes on measure position and impact*

	Recommended adaptation measure	Notes on measure position and impact*
1	**Ventilate weatherproof awnings**	Retrofit existing shade structures to include gaps that allow air to escape from the sides and top
2	**Cool roof**	Covering majority of roof
3	**Rain garden: non-linear**	Intercepting water that flows from the south-east perimeter of the site
4	**Rain garden: linear**	In front of the building to intercept water
5	**Green roof**	Small planted areas of green roof where accessible
6	**Skylights**	To provide ventilation for classrooms on the south-west façade
7	**Grounds shade: pergola**	Consider extending the existing shade structure to provide additional cool space
8	**Grounds shade: sail**	Consider linear shade tarpaulin sails connecting the existing pergola with the building
9	**Internal water efficiency measures**	Across the school site, for example low flow taps and dual flush toilets

*See following pages for descriptions of measures with benefits and costs.

Measure descriptions

1



Ventilate weatherproof awnings

Quick-win measure

Plastic awnings provide effective protection from rain and shade, but can trap hot air during very hot periods. Allowing hot air to escape through greater upwards airflow can alleviate this (e.g. by creating holes in or staggering panels).

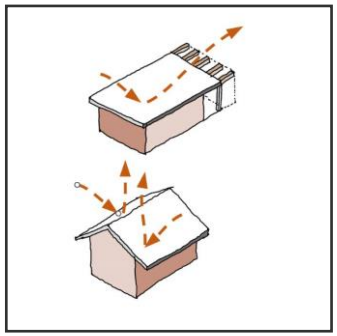
Compendium reference: C.7

Co-benefits
n/a

Indicative capital cost
£2,500 - £4,900

Maintenance requirements
Annual cleaning of weatherproof panels

2



Cool roof

Quick-win measure

Reflective or light coloured roofs reflect more sunlight and absorb less heat than standard roofs, reducing heat gain in the top floors of school buildings that tend to suffer from overheating. They can be highly effective and affordable.

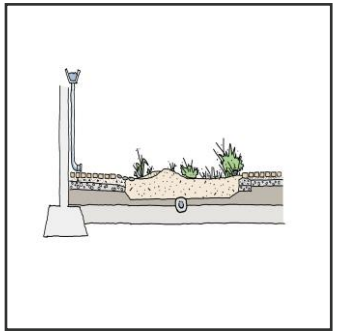
Compendium reference: C.10

Co-benefits
n/a

Indicative capital cost
£50/m2 - £330/m2

Maintenance requirements
Biannual inspections (before and after wetter months)

3



Rain garden: non-linear

Quick-win measure

Rain gardens are shallow landscaped depressions that are designed to capture runoff from school roofs or hard surfaces. They can be planted with a wide range of low-maintenance plants that can survive occasional storms or heavy rainfall.

Compendium reference: A.2

Co-benefits
Biodiversity and educational opportunities

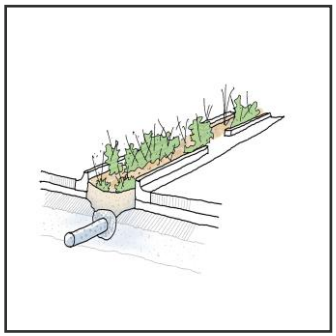
Indicative capital cost
£30/m2 - £60/m2

Maintenance requirements
Regular, biannual and annual maintenance required, refer to CIRIA SuDS Manual

Climate risks addressed: Flood risk Heat risk Water scarcity risk

Measure descriptions

4



Rain garden: linear

Quick-win measure

Planted areas in shallow depressions, with well-draining and engineered soil to encourage infiltration. They help remove pollution as well as reduce surface runoff to reduce the risk of exceeding drainage capacities that can cause flooding.

Compendium reference: A.1

Co-benefits

Biodiversity, carbon savings and educational opportunities

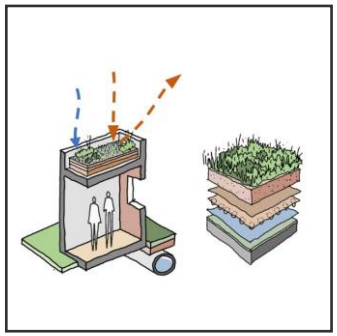
Indicative capital cost

£60/m2 - £120/m2

Maintenance requirements

Regular, biannual and annual maintenance required, refer to CIRIA SuDS Manual

5



Green roof

Longer-term measure

Green roofs are partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. They can slow rainwater flow, reduce the surface runoff on school sites and reduce external and internal air temperatures.

Compendium reference: C.12

Co-benefits

Biodiversity, carbon savings, energy bills savings and educational opportunities

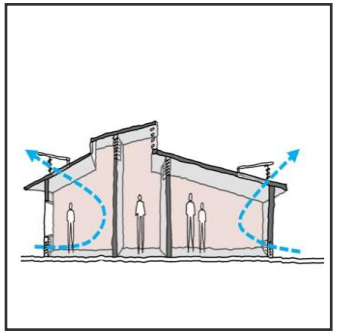
Indicative capital cost

£200/m2 - £400/m2

Maintenance requirements

Initial watering when becoming established

6



Natural ventilation: skylights

Longer-term measure

A skylight (sometimes called a rooflight) is a light-permitting structure or window, usually made of transparent or translucent glass, that forms all or part of the roof space of a building for daylighting and ventilation purposes.

Compendium reference: C.4

Co-benefits

Energy bills savings

Indicative capital cost

£2,100 - £4,200

Maintenance requirements

Semi-regular window cleaning

Climate risks addressed: Flood risk Heat risk Water scarcity risk

Measure descriptions

7

Grounds shade: pergola

Quick-win measure

A pergola is an arched structure in an outdoor space consisting of a framework covered with climbing or trailing plants. Depending on materials, size and choice of plants pergolas can provide shade and cooling in school playgrounds.

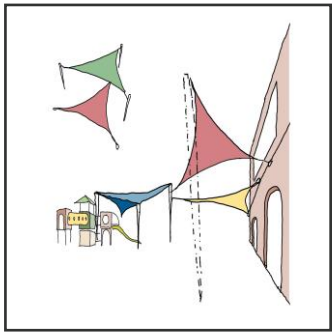
Compendium reference: D.2

Co-benefits
n/a

Indicative capital cost
£1,800 - £3,400

Maintenance requirements
Ad-hoc cleaning of shade-giving structure

8



Grounds shade: sail

Quick-win measure

A shade sail is a device to create outdoor shade using a flexible membrane tensioned between several fixed points. They are usually provided above seating areas and playgrounds in areas exposed to direct sun. They can also be waterproof.

Compendium reference: D.1

Co-benefits
n/a

Indicative capital cost
£2,700 - £5,300

Maintenance requirements
Ad-hoc cleaning of shade-giving fabric

9

Internal water efficiency measures

Quick-win measure

Low flow taps, dual flush toilets and low flush urinals can all reduce water consumption in schools. Taps fitted with aerators can reduce the flow of water by up to 50%. The low flush options for toilets and urinals encourage users to save water.

Compendium reference: E.2

Co-benefits
Educational opportunities

Indicative capital cost
£2,000 - £12,000

Maintenance requirements
Ad-hoc if issues arise

Climate risks addressed: Flood risk Heat risk Water scarcity risk

Behavioural and operational measures: flood risk

These are measures which do not require capital funding, but do require awareness, engagement and action from school stakeholders in order to be effective. They can also support effectiveness of the physical measures. Behavioural and operational measures can be taken *before, during* and/or *after* a climate change impact or an extreme weather event.

Before: Plan ahead | **During**: React and respond | **After**: Learn and transform

Measure	Description	Who is responsible	When to act
Maintain roofs, gutters, drains and below ground drainage infrastructure	Removing debris from the school's drainage system enables gutters, pipes and drains to capture and remove of all the rainwater to which their capacity was designed. Checking the school's drainage system before heavy rainfall is forecast can make a big difference. Having an operation and maintenance (O&M) manual is important to refer and follow.	Site or premises manager	Plan ahead
Register for flood alerts from the Environment Agency or weather warnings from the Met Office	Schools can sign up to receive flood alerts from the EA by email, call or text, and weather warnings (including rain) from the Met Office. Note the EA alerts are only for flooding from rivers or the coast - not from intense rainfall-runoff events (surface water flooding). Schools can use the advance notice to act and protect buildings and grounds.	Site or premises manager	Plan ahead
Review flood insurance policies	Ensuring the school's policy covers flooding may help to alleviate the financial cost.	Business manager	Plan ahead
Engage with external groups to run educational sessions	Organisations like the EA or local flood groups may be able to run classroom sessions on flood risk, such as on the Thames Barrier or using Minecraft Education to design flood protection for neighbourhoods and towns.	Teachers or member of the Senior Leadership Team	Plan ahead
Consult asbestos management plan	Structural damage from flooding damage can cause the binding material and potentially release asbestos fibres into the atmosphere. Knowing where asbestos is can alleviate risk of exposure after a flood event.	Site or premises manager	Plan ahead

Behavioural and operational measures: heat risk

These are measures which do not require capital funding, but do require awareness, engagement and action from school stakeholders in order to be effective. They can also support effectiveness of the physical measures. Behavioural and operational measures can be taken *before, during* and/or *after* a climate change impact or an extreme weather event.

Before: Plan ahead → **During**: React and respond → **After**: Learn and transform

Measure	Description	Who is responsible	When to act
Subscribe to receive UK Health Security Agency's Heat-Health Alerts	Schools can sign up to receive alerts to forewarn of periods of high temperatures. They can be a useful trigger to implement other operational measures.	Member of Senior Leadership Team	Plan ahead
Service ventilation systems prior to summer term when needed the most	Schedule recurring servicing of ventilation systems prior to the Easter holidays or May half-term so any issues can be repaired while the students are off school.	Site manager	Plan ahead
Provide free sun hats or suncream for students	Peaked or brimmed sun hats help keep children cooler and suncream avoids burning. Providing these to all students free of charge reduces the financial burden on parents.	Business manager	Plan ahead
Turn electrical appliances off when not required	Switch computers, lights and other appliances off when not needed to remove unnecessary heat gain.	Site manager and teachers	Respond and react
Maximise ventilation in classrooms and halls	Keeping secure windows open during the night on hot days can help cool classrooms and halls ready for the school day. When temperatures are hotter outside than inside, it can be better to almost close windows, to maintain some ventilation but restrict the amount of hot air entering the school building. Trying to create cross-ventilation or stack ventilation where possible can help to reduce thermal discomfort. This can be done by keeping doors into the corridor open, or making use of both upper and lower windows in double-height halls to encourage hotter air to escape upwards.	Site manager and teachers	Respond and react

Behavioural and operational measures: heat risk - continued

These are measures which do not require capital funding, but do require awareness, engagement and action from school stakeholders in order to be effective. They can also support effectiveness of the physical measures. Behavioural and operational measures can be taken *before, during* and/or *after* a climate change impact or an extreme weather event.

Before: Plan ahead | **During**: React and respond | **After**: Learn and transform

Measure	Description	Who is responsible	When to act
'Slip, slap, slop' campaigns (or similar)	Running an assembly on 'Slip (on a shirt), Slap (on a hat), Slop (on suncream)' can help educate students, and their parents or guardians, on sun protection.	Member of Senior Leadership Team	Respond and react
Have less vigorous PE lessons or activities on very hot days	Children should not take part in vigorous physical activity or spend prolonged periods outside without shade when very hot (e.g. over 30°C). This is to reduce the risk of heat stroke or exhaustion.	Member of Senior Leadership Team	Respond and react
Amend or relax school dress code during hot spells	Allowing students to wear fewer layers or alternative loose, light-coloured clothes (e.g. sports kit) on very hot days can improve comfort levels and reduce sweating.	Member of Senior Leadership Team	Respond and react
Amend lesson plans and rotate classrooms	Reducing the amount of time spent in hot classrooms (e.g. south-facing IT suites) by rotating classes held in them, and consider spending time in shaded outdoor areas.	Member of Senior Leadership Team	Respond and react
Stay hydrated	Encouraging pupils to bring reusable water bottles and providing regular breaks to refill these with cold water, will help students keep cool. The Mayor of London has also installed drinking water fountains across the city, and the 'Refill London' scheme has created a network of points offering the public free tap water across the city, including restaurants, cafes and businesses.	Teachers	Respond and react
Complete a heat audit	Checking all classroom windows open and close, and blinds operate correctly, can help reduce overheating in classrooms and identify where targeted upgrades may be required. The audit can be completed by the site manager or students could be involved.	Site manager or STEM teacher	Plan ahead

Behavioural and operational measures: water scarcity risk

These are measures which do not require capital funding, but do require awareness, engagement and action from school stakeholders in order to be effective. They can also support effectiveness of the physical measures. Behavioural and operational measures can be taken *before, during* and/or *after* a climate change impact or an extreme weather event.

Before: Plan ahead | **During**: React and respond | **After**: Learn and transform

Measure	Description	Who is responsible	When to act
Complete Thames Water's 'business water saving calculator'	The calculator, which has a bespoke category for schools, requires some simple inputs about the school's water consumption, to give an indication of relative water efficiency. The calculator provides a summary report which recommends a range of actions to reduce water consumption by identifying leaks and efficiency measures.	Business manager	Plan ahead
Complete a water audit	Checking all taps work correctly and don't leak can save lots of water and money. The audit can be completed by the site manager or students could also be involved.	Site manager or STEM teacher	Plan ahead
Communication of risks and responsibilities to staff and students.	Prior to a forecasted extreme weather event, run refresher sessions to staff on the plans and useful measures. This could include not using hosepipes.	Member of the Senior Leadership Team	Plan ahead
Choose drought-tolerant plants for most exposed areas	In areas of the school ground particularly exposed to hot, dry conditions, consider drought-tolerant planting to reduce the need to water using hosepipes during summer months. Examples include grasses, lavender and sedum.	Site manager or gardener	Plan ahead
Engage with Thames Water for water efficiency measures	Thames Water may be able to provide or install water efficiency measures such as dual flush or reduced flush toilets and low flow taps, urinals or shower heads.	Site manager and business manager	Plan ahead
Request a water talk from Thames Water	Thames Water has a network of volunteers who can run classroom sessions in schools, covering curriculum content related to water, or focus on careers.	Teachers or member of the Senior Leadership Team	Plan ahead

Funding opportunities

These are potential sources of financial support to help implement the identified ‘quick win’ and longer-term physical measures to address the impacts and risks of climate change.

Name and link	Description	Key climate risks
GLA Climate Resilient Schools (CRS) programme	The CRS programme from the Greater London Authority has funded SuDS planters and weather stations.	Heat, flooding and water scarcity
Tesco Community Grants	Every three months, three local good causes are selected to be in the blue token customer vote in Tesco stores throughout the UK. Through this, grants of up to £1,500 can be provided to cover equipment or non-statutory services within schools.	Heat, flooding and water scarcity
Thames Water 'Smarter Business Visits'	If the school has not yet had a ‘Smarter Business Visit’ from Thames Water, they can help customers to fit water-saving devices, identify and potentially fix leaking toilets and fit free urinal controls if practical. They may also recommend other water efficiency improvements that schools can make.	Flooding and water scarcity
Woodland Trust 'Free Trees for Schools and Communities'	The Woodland Trust charity can provide free tree saplings to schools via an online application form. Good options for London schools are the urban trees, hedge and copse tree packs.	Heat and flooding
Trees for Cities 'Schools Programme'	The Trees for Schools programme aims to transform urban school grounds into leafy green oases. The programme can take the school through all phases of the tree planting process from initial engagement, design and implementation.	Heat and flooding

Please visit the Mayor of London website for the full range of current funding opportunities available.

Further guidance and resources for schools

These are some key extra sources of guidance and information related to climate change adaptation and resilience for schools. Additional guidance and resources can be found in the GLA report 'How Schools and Early Years Settings can Adapt to Climate Change'.

Name and link	Description	School stakeholder	Key climate risks
GLA report 'How Schools and Early Years Settings can Adapt to Climate Change'	This guidance sets out measures they can take to help London schools and early years settings better prepare for the impacts of climate change. Measures have been broken down into physical measures, operational changes, and learning and awareness-raising opportunities. It draws on stakeholder consultation with several state-funded London schools, that were selected to represent the diversity of London's school types.	School/trust leaders, governors, business managers, teachers and other decision-makers	Heat, flooding and water scarcity
The NHS and UKHSA Heatwave Plan for England *For teachers*	The government has provided guidance tailored to schools on how to manage during heatwaves. It includes the warning signs of heat stroke and exhaustion, as well as practical suggestions.	Member of school SLT	Heat
CIRIA - The SuDS manual (C753F)	The SuDS manual from CIRIA provides additional practical information on the installation and maintenance requirements of SuDS measures such as swales, filter drains and rain gardens.	Site and business managers	Flooding
DfE Sustainability and Climate Change Strategy	Published in 2022, the strategy outlines how the department will support schools with the sustainability agenda. Initiatives include the National Education Nature Park and Climate Leaders Award.	Member of school SLT and governors	Heat, flooding and water scarcity
Follow on Twitter @LDN_environment	Keep up to date on funding streams and receive updates from the Mayor of London's Environment and Energy team.	Business manager	Heat, flooding and water scarcity

Links to further information about physical climate change adaptation and resilience measures are contained in the 'Compendium of adaptation and resilience measures for schools' which forms an Appendix to this CAP.

Further guidance and resources for schools - continued

These are some key extra sources of guidance and information related to climate change adaptation and resilience for schools. Additional information can be found in the GLA report 'How Schools and Early Years Settings can Adapt to Climate Change'.

Name and link	Description	School stakeholder	Key climate risks
SuDS Sector guidance for schools: 'Reimagining Rainwater'	The 'Reimagining Rainwater' guidance developed includes some practical examples, case studies and potential funders for implementing SuDS measures in schools.	Site and business managers	Flooding
STEM Climate Ambassadors Scheme	Schools can register their interest in receiving support from a climate expert, for example to help develop Climate Action Plans, upskill teachers on climate change or run STEM classroom activities.	Member of school SLT and governors	Heat, flooding and water scarcity
GLA Cool Spaces	The GLA have produced a map of cool spaces across London, which could be signposted to families to help during the summer holidays.	Member of school SLT	Heat
National Education Nature Park	Developed from the DfE's Sustainability and Climate Change Strategy, the National Education Nature Park aims to help students measure and boost their school's biodiversity, by managing their school estate as if it were a Nature Park. Students can take on roles including managers, ecologists, fundraisers, grounds people and data analysts.	Member of school SLT	Heat, flooding and water scarcity
Climate Change Adaptation: Factsheet for Children & Young People	The Climate Change Committee have developed a factsheet on climate change adaptation specifically targeted at children and young people. It includes an introduction on weather, climate and how it is changing, along with specific actions they can take to improve their school or local community's resilience to climate change.	Teachers	Heat, flooding and water scarcity

Links to further information about physical climate change adaptation and resilience measures are contained in the 'Compendium of adaptation and resilience measures for schools' which forms an Appendix to this CAP.

Glossary

These are some of the key terms used throughout this CAP, and their definitions.

Key term	Definition
Climate change	Large-scale, long-term shifts in the planet's weather patterns and average temperatures.
Climate change impacts	The consequences of climate change, both experienced and expected, for natural and human systems and environments.
Climate change risk	The potential for climate change to create adverse consequences or impacts for natural and human systems and environments in the future. Involves some assessment of magnitude and probability of, and exposure and vulnerability to, climate change impacts.
Climate change adaptation	The process taken to adjust to the impacts and risks of climate change.
Climate change resilience	The capacity to prepare for, respond to, and recover from climate impacts and risks while incurring minimal damage to wellbeing, the economy and the environment.
Climate change adaptation and resilience measures	Practical things that can be done to adjust to, prepare for, respond to, and recover from climate change impacts and risks.
Nature based solutions (NbS)	Solutions which harness the power of nature to enhance natural ecosystems, biodiversity and human health in order to address major issues, including climate change.
Passive design	A design method that uses building layout, form and fabric to reduce need for mechanical cooling, heating, ventilation or lighting.
Sustainable Drainage Systems (SuDS)	Water management practices to reduce surface water runoff and flood risk, while often providing environmental co-benefits. Can take many forms, above and below ground.

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