ESSEX DESIGN GUIDE
SCHOOL DESIGN PRINCIPLES

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Contents

Page Number

A Site Visit in Tendring

Introduction

This guide is intended to be read alongside National and Local Policy on Design and School Buildings.

Readers of this guide will include Planning Officers involved in the delivering of Local Plans for the delivery of new schools, Master planners submitting Design Codes, Masterplans and Outline Planning Applications including new schools, Schools designers and delivery teams submitting Reserved Matters and Full Planning applications on new school sites and Planning Officers assessing these applications.

This guide therefore principally covers new Primary, Secondary and Sixth form schools but could equally apply to new Early Years and Special Needs schools.

It is structured as a series of 12 Principles which can be flexibly applied by Planning Officers, Agents and Designers in all work associated with the planning of new schools.

Chapter 12 of the NPPF encourages the creation of well-designed places which:

- Function well.
- Are visually attractive as a result of good architecture, layout and appropriate landscaping.
- Are sympathetic to local character, including the historic built character, while not preventing increased densities.
- Create a strong sense of place through definition of streets and distinctive forms.
- Optimise the potential of the site to create an appropriate mix of development.
- Create places that are safe, inclusive and accessible.
- Are consistent with the principles set out in the National Design Guide (NDG).

The National Design Guide and Local Planning Policy give more detailed guidance on how this is achieved. The National Planning Practice Guidance (NPPG) sets out the government's planning policies for England and how these are expected to be applied. The Essex Design Guide (EDG) is adopted in some local authorities and provides materially important guidance across Essex. Additionally, the Department for Education (DfE) provides mandatory area guidelines and detailed technical specifications for school development. Alongside this, the DfE has published example Baseline school designs as one way of achieving their requirements.

In this environment, this section of the Essex Design Guide is intended to give detailed guidance on key principles aligned to policy which should be upheld in Essex when developing masterplans for new communities containing schools and when designing the schools themselves. This supplements the Developers Guide, Essex County Council Local and Neighbourhood Planners Guide to School Organisation published by Essex County Council giving specific guidance for developers and Local Authorities respectively.

This guide is therefore intended for the following:

- Planning Officers involved in the drafting of Local Plans including the delivery of new communities, extension to communities and all types of new schools.
- Designers and developers involved in preparing applications for masterplans of new and extensions to existing communities including schools, as well as the planning officers considering these applications.
- Developers and School designers preparing applications for new school sites, as well as the planning officers considering these.
- School developers can include organisations such as Essex County Council, Thurrock District and Southend City Councils who are responsible for providing sufficient numbers of school places in schools of sufficient quality, the Department for Education, and private developers.

Therefore, each key design principle in this guide is set out in the following sections:

- An explanation of the background to each Principle.
- The relevant NDG guidance
- The relevant NPPG guidance
- The relevant EDG guidance
- The relevant DfE specifications.
- Issues to Consider at Local Plan Stage
- Issues to consider at Masterplanning Stage.
  - Baseline Requirement
  - **Exemplary Requirement**
- Issues to consider at Schools design Stage.
  - Baseline Requirement
  - **Exemplary Requirement**

Introduction

Department for Education Specification

1. Building Bulletin 93 - Acoustic Design

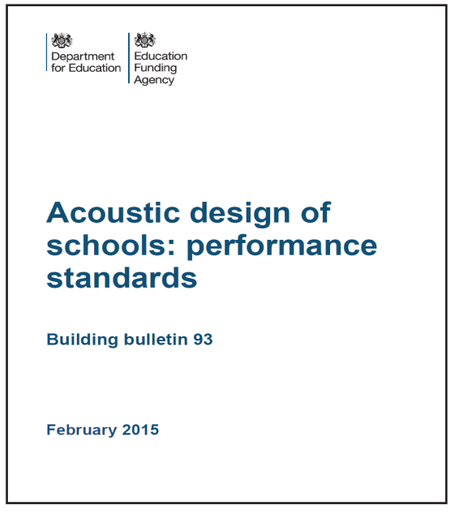
2. Building Bulletin 100 - Fire Safety
(Please note reference should also be made to Building Regulations Approved Document Part B).

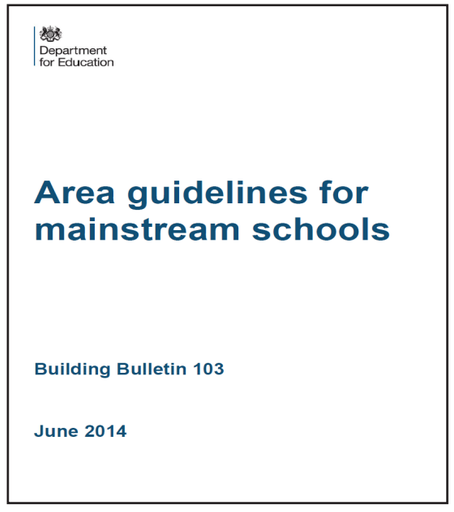
3. Area Guidelines and Net Capacity:
- Mainstream Schools should be compliant with Building Bulletin 103.
- Special Needs Schools should be compliant with Building Bulletin 104.
- Area guidelines and net capacity

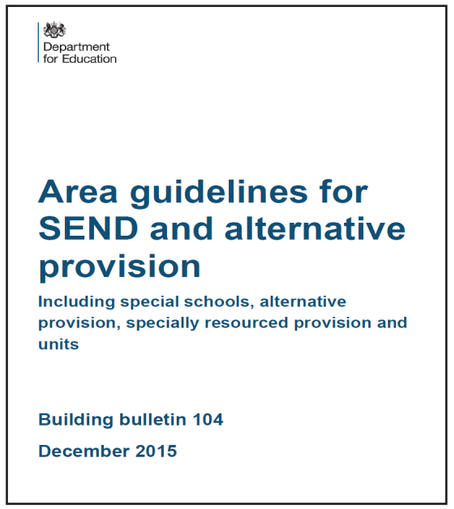
4. The DfE also publish Baseline Standard School Designs.

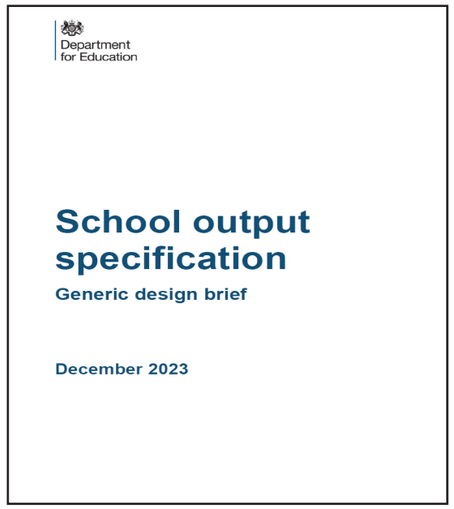
It should be noted that these illustrate one way of complying with the DfE specifications and it is intended that these should be adapted and developed according to other site specific and policy criteria. In particular these should be used as a starting point and adapted according to the principles in this guide alongside national and local policy.

5. Part B Generic Design Brief and Technical Annexes.
- Employer's requirements part B: generic design brief









Programme

The Importance of Design Reviews and the Essex Quality Review panel (EQRP)

The NPPF paragraph 138 requires Local Planning Authorities to have access to and make appropriate use of Design Review Panels along with other tools and processes for assessing and improving the design of a school.

The Essex Quality Review Panel (EQRP) was established in 2019 as the second phase to the Essex Design Guides refresh in 2018 and is run and managed on behalf of the Essex Planning Officers Association by Place Services.

The Panel's objective is to encourage high quality design, sustainability, environmental infrastructure and community coherence within Essex, and through the formation of a tailored Schools Panel, to encourage high- quality, contextual, legible, well-connected sustainable school design. The EQRP does this by being multidisciplinary: not only striving to improve the quality of architecture, urban design, landscape and highway design, but also considering the wider aspects of what makes a fully cohesive community. Other elements such as heritage, health and wellbeing, sustainable energy, and public art are all incorporated. This is what separates the EQRP from more traditional Design Review Panel formats.

Benefits of the EQRP:

1. **Impartial Advice:** Provides unbiased advice to developers, clients, and planning officers, enhancing design quality and speeding up the planning process.

2. **Early Issue Resolution:** Helps resolve design issues early, saving time and facilitating project progress.

3. **Fresh Perspective:** Offers new insights on design viability, quality, and efficiency, suggesting alternative solutions.

4. **Consensus Building:** Encourages collaboration among different parties to reach agreements on design vision and project development.

5. **Quality Improvement:** Ensures better design quality by identifying enhancements and integrating into the development control process.

The EQRP therefore seeks to improve schools by:

1. **Improving Design & Landscaping:** Enhances the design and landscaping of schools, making them valuable educational resources.
2. **Health Benefits:** Promotes physical and mental health of children through better exercise and play facilities.
3. **Safe and Inclusive Environments:** Ensures schools are safe and inclusive for all students.
4. **Community Integration:** Integrates schools into well-planned housing communities, enhancing the educational environment as part of the wider community.
5. **Civic Pride & Cultural Activity:** Encourages children's involvement in civic pride and cultural activities within the public realm.
6. **Crime Prevention:** Increases awareness and prevention of crime through thoughtful design.

The Key to a Successful Review:

The EQRP has an ethos of ensuring that the Panel, the applicant and the Local Planning Authority are part of the review process.

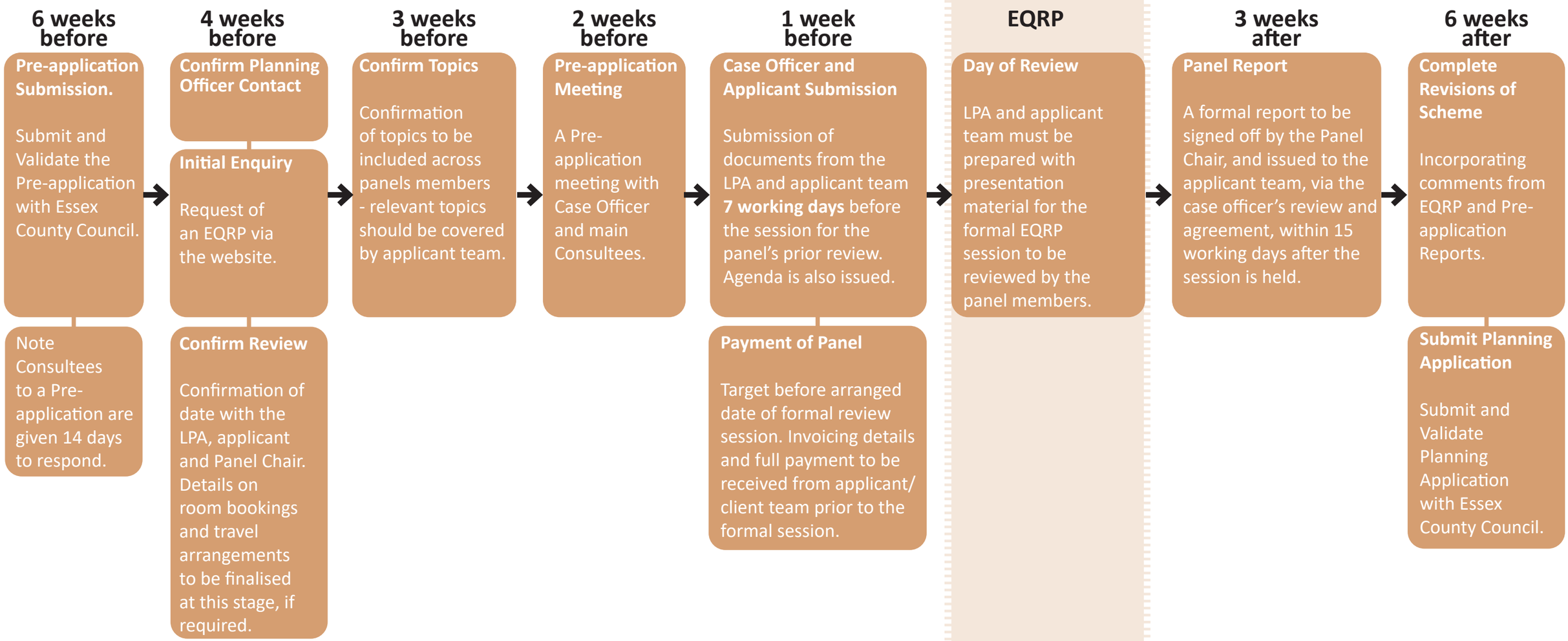
When to Engage with the EQRP:

Panels are best undertaken at an early stage of the design process. This ensures a design is flexible in responding to comments and observations through the panel process. Alternatively, a design should also be developed enough to allow a panel to comment and discuss the concept, approach and details.

From experience we have discovered that panels organised following a validated planning application are tightly restricted, or limited to any design changes, and these instances a panel process can become redundant.

Programme

We therefore recommend engagement at the Pre-application stage as set out in this diagram:

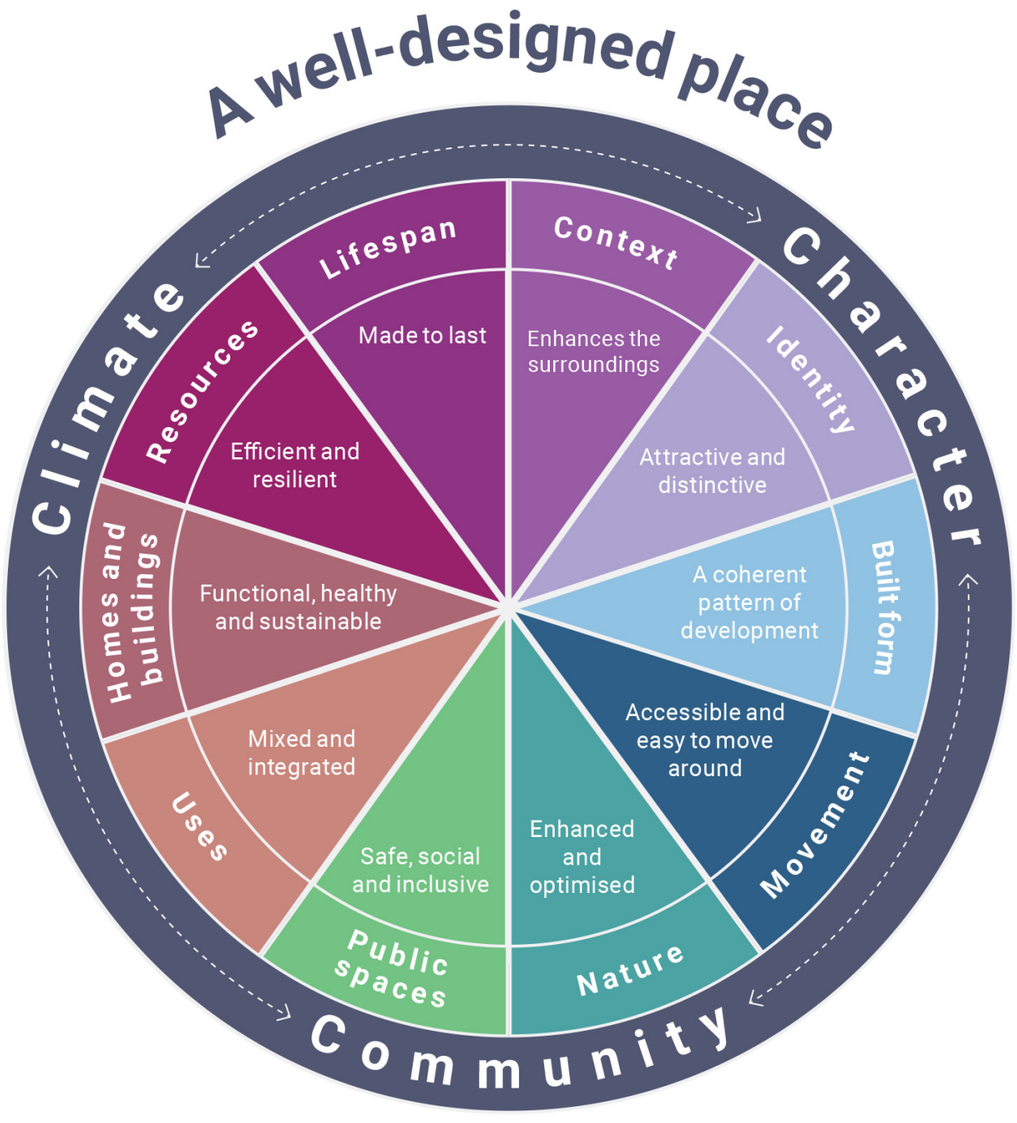


Introducing the ten characteristics

36 Well-designed places have individual characteristics which work together to create its physical **Character**. The ten characteristics help to nurture and sustain a sense of **Community**. They work to positively address environmental issues affecting **Climate**. They all contribute towards the cross-cutting themes for good design set out in the National Planning Policy Framework.

37 The ten characteristics set out in Part 2 are:

- **Context** – enhances the surroundings.
- **Identity** – attractive and distinctive.
- **Built form** – a coherent pattern of development.
- **Movement** – accessible and easy to move around.
- **Nature** – enhanced and optimised.
- **Public spaces** – safe, social and inclusive.
- **Uses** – mixed and integrated.
- **Homes and buildings** – functional, healthy and sustainable.
- **Resources** – efficient and resilient.
- **Lifespan** – made to last.



The ten characteristics of well-designed places

Principle 1 - The School Should be Centrally Located and Close to Local Facilities.

Explanation

New schools should be centrally located and within easy reach of existing and new homes and facilities to ensure ease of travel to school and to facilitate active and sustainable travel within the community.
New schools which are located at the edge of developments will feel cut off from their communities and risk self-reliant travel to school by car. The exception here is where new schools serve existing housing and are within easy reach of local amenities.

Relevant NDG Principles

- The National Design Guide Section B1 encourages compact development with an amount and mix of uses facilities and open spaces which is easily accessible to all by walking and cycling, reducing dependency on the car.
- B3 encourages well defined, centrally located, mixed use destinations to allow people to share experiences and come together as a community. In this way local destinations become recognisable features to help people find their way around give a sense of identity.

- P1 encourages well located, attractive and high- quality public spaces.

- U1 requires successful communities to have a range and variety of centrally located local services and community facilities, including schools, nurseries, workplaces, healthcare, spiritual, recreational, civic, and commercial uses. These facilities represent the varied needs and aspirations of the existing and future local community, including all ages and abilities. They support everyday life, encourage sustainable lifestyles, and are convenient and within walking or cycling distance on accessible routes to local homes and other facilities.
- U3 encourages the design of schools and facilities as destinations to maximise the potential for social integration in the layout and form of the development.

Relevant NPPG Principles

- NPPG encourages Local Plans to allocate sufficient land for schools and local facilities in the most convenient location for the needs of existing and newly planned communities. It refers to the DfE standards and encourages masterplans to come forward to cover exact locations.
- Climate change this principle encourages the serving of school sites with pedestrian, cycle and public transport infrastructure to reduce car dependence.

Relevant EDG Principles

- Functional Context encourages the central location of mixed use facilities as would traditionally be provided in a historic town centre. It encourages a context appraisal to establish the existing centres of gravity and facilities which are missing such as schools sports fields and playgrounds as part of a mix of uses.
- Spatial context encourages the formation of mixed use neighbourhood centres including schools with ease of walkable access to public transport and local housing.

DfE Specification

- Technical annexe 2J requires that priority be given to healthy and active travel including walking and cycling.
- Desire lines for pedestrian movement shall inform the layout.
- The location of the cycle shelter should be passively supervised.

- Section 2.3.12 of the GDB requires secure and convenient servicing which does not undermine the school's educational function.
- Section 2.4.8 requires the parking area is carefully positioned so as not to dominate the main arrival area and entrance point while being overlooked from the school.

Principle 1 - The School Should be Centrally Located and Close to Local Facilities.

Local Plan Stage

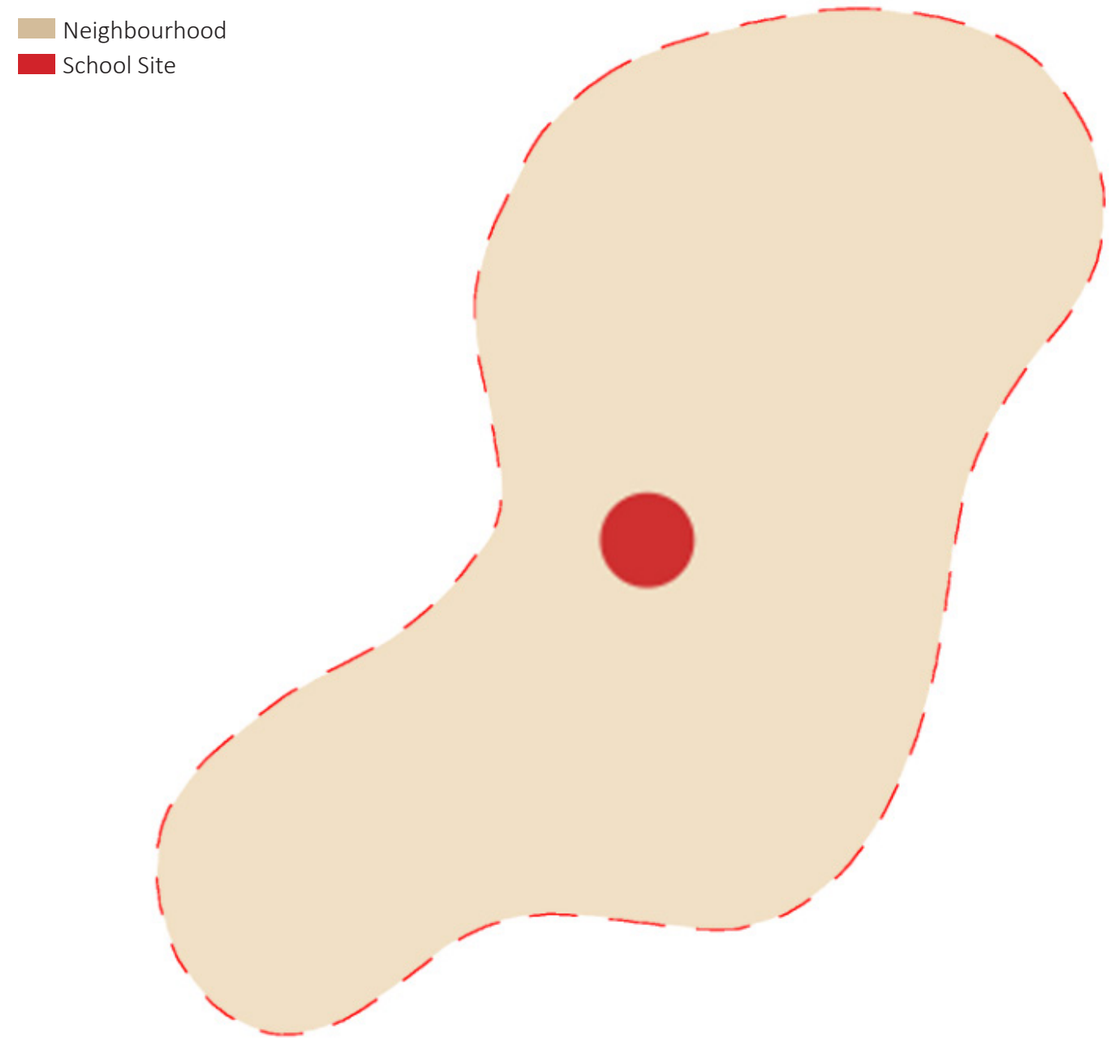
- Plan for sufficient housing and local facilities including considering the need for and co-location of: green, pedestrian and cycle infrastructure; schools, local centres, public space, public transport; commercial, community and health facilities.
- At this stage it is important to identify future demand for and the current location of local facilities and amenity spaces.
- Based on future demand, identify new commercial, community, health and educational uses which can be included and co-located on an allocation site.

Masterplanning Stage

- Consult the Garden Communities Guide, to ensure the number of schools, extent of provision, school locations and other criteria align with this guidance.
- Ensure each school site is within easy reach of existing and/or proposed housing, facilities and amenity spaces.
- Generally, although not always, this will mean that a school is centrally located within any masterplan site.
- Ensure that the location of schools and other uses are specified on land use and parameter plans.
- The site location and size should also be secured by a Section 106 agreement which align with the land use and parameter plans.
- It is important that any school location is practicable according to the DfE Building Bulletins, the Developers Guide and the other principles in this guide (see Introduction).

School Design/Planning Stage

- Follow the Masterplan parameter drawing for the location of the school on the site to ensure that it is co-located with other facilities and amenity spaces.



Illustrative diagram depicting school site's relationship to its surroundings.

Principle 2 - New School Sites should be well connected to local facilities, public transport, pedestrian and cycle routes.

Explanation

School sites should prioritise strong connections to pedestrian, cycle networks and public transport to promote sustainable travel and reduce reliance on cars. Thoughtful servicing arrangements are essential to ensure convenience without compromising the school's integration with the public realm. A well-connected school fosters a sense of community, encouraging engagement with its surroundings and supporting environmentally friendly travel options for students, staff, and visitors.

Therefore all schools will need to front a Healthy School Street (a well-landscaped car-free street primarily for pedestrians and cyclists, with controlled access for emergency, buses, refuse and delivery vehicles.)

Relevant NDG Principles

- The National Design Guide Sections M1 and M2 encourage a connected network of streets for all forms of travel including walking and cycling.
- U1 encourages a mix of uses and local facilities including schools within walking and cycling distance of dwellings.

Relevant NPPG Principles

- The Design: process and tools sets out requirements for masterplans and parameter plans in achieving well-designed places.
- Climate change this principle encourages the serving of school sites with pedestrian, cycle and public transport infrastructure to reduce car dependence.

Relevant EDG Principles

- Layout Details
- Active Design Principles
- Access and connectivity
- Health and Wellbeing
- Streets and Roads
- Street Design
- Car-free Zones
- Pedestrian and Cycle Movement
- Highways Technical Manual

DfE Specification

- Technical annexe 2J requires that priority be given to healthy and active travel including walking and cycling.
- Desire lines for pedestrian movement shall inform the layout.
- The location of the cycle shelter should be passively supervised.

- Section 2.3.12 of the Generic Design Brief requires secure and convenient servicing which does not undermine the school's educational function.
- Section 2.4.8 requires the parking area is carefully positioned so as not to dominate the main arrival area and entrance point while being overlooked from the school.

Principle 2 - New School Sites should be well connected to local facilities, public transport, pedestrian and cycle routes.

Local Plan Stage

• Plan for sufficient housing and local facilities including considering the need for and co-location of: green, pedestrian and cycle infrastructure; schools, local centres, public space, public transport; commercial, community and health facilities.
• Local Plan policies should encourage schools being easily accessible to a permeable route hierarchy including well-connected pedestrian and cycle routes.
• Policies should encourage convenient servicing of buildings which does not undermine their relationship to streets and spaces.
• They should also encourage the public realm streets and spaces in front of schools to be car and vehicle free and not abutted by parking.

Masterplanning Stage

- Propose a series of Parameter Plans that set out the location of schools relative to other uses and the details of a well-connected permeable route hierarchy.

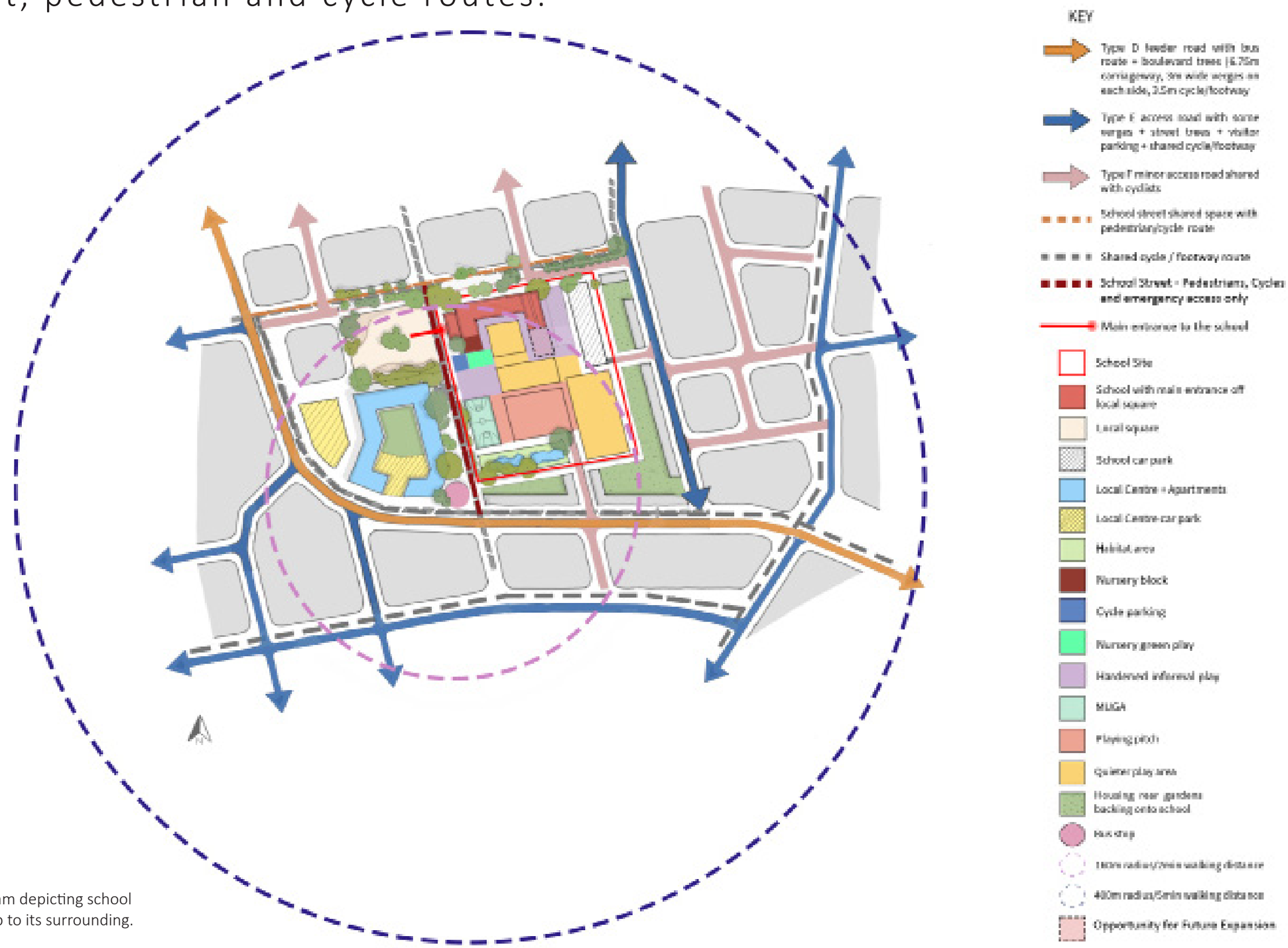
Connection to pedestrian and cycle network

- As per page 41 of the Developers' Guide, the public realm in front of the school is to be car vehicle free and not abutted by roads or parking.
- Seek to design an attractive and well-landscaped pedestrian and cycle network that allows access to the whole neighbourhood, and is well integrated with public transport.
- Ensure a pedestrian and cycle path directly passes the public space in front of the school.
- Seek to ensure a local bus route or other public transport route is easily accessible by walking and cycling to the school site.
- Seek to position School Sites directly adjacent to or within easy reach of other uses. Including local services such as community centres, doctors' surgeries, leisure centres, libraries and offices.

Access and servicing for the school

- Plan for two vehicular access points: one for the staff car park and servicing the kitchen and the refuse store, the other for maintenance work and emergency access from the playing fields. Additionally, explore opportunities for access to other parts of the site.
- In line with the National Design Guide and the DfE guidelines, parking and vehicular access should not undermine the entrance experience to the school.
- Plan the staff car park so that it does not undermine the public space in front of the school. Preferably, it should be hidden from view behind the school or housing, but well overlooked.
- Allow for a turning zone for refuse vehicles and school transport if required.
- Alternatively, allow for a refuse vehicle to reverse in by a maximum of 20m.
- Plan servicing to ensure it does not interrupt the school entrance or the public space.

Principle 2 - New School Sites should be well connected to local facilities, public transport, pedestrian and cycle routes.



Illustrative diagram depicting school site's relationship to its surrounding.

Principle 2 - New School Sites should be well connected to local facilities, public transport, pedestrian and cycle routes.

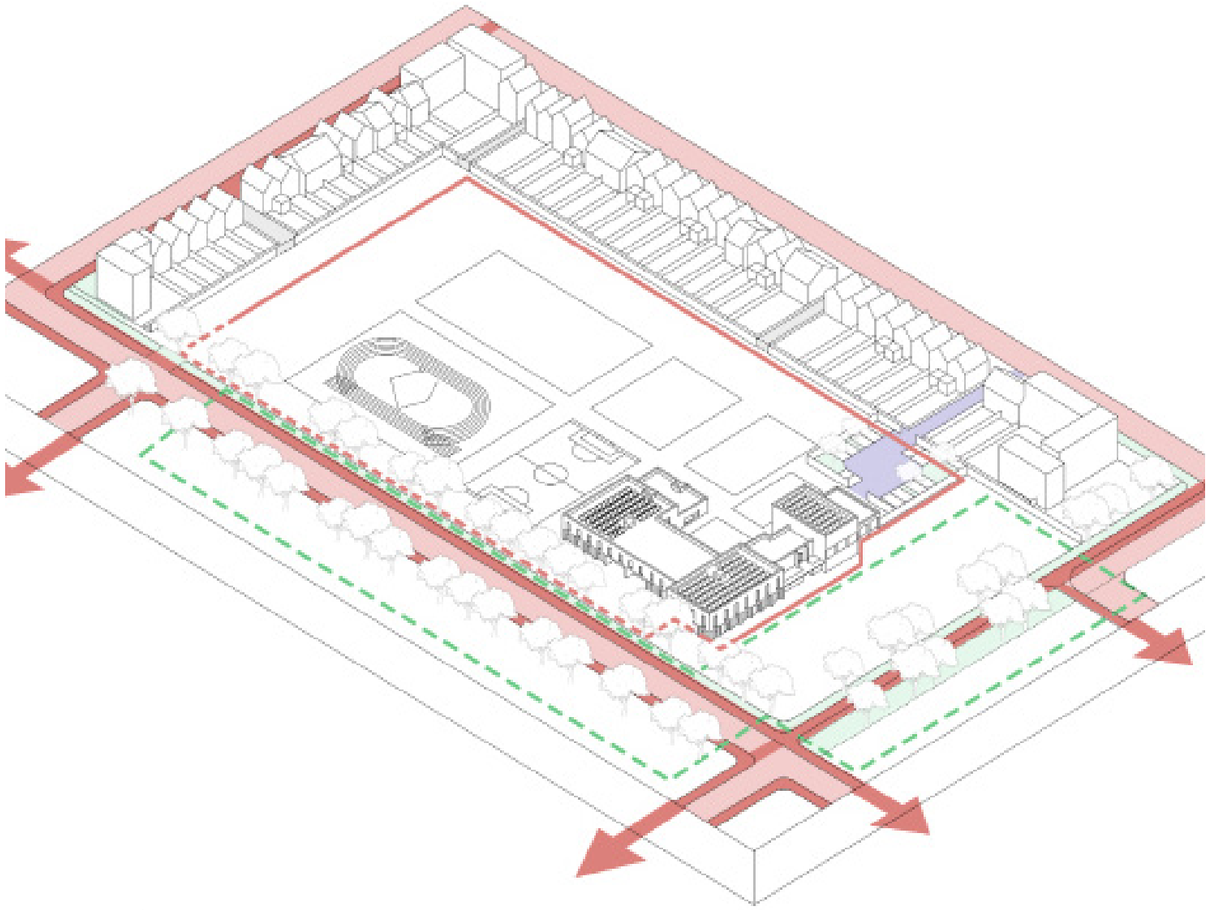
School Design/Planning Stage

Connection to pedestrian and cycle network

- Taking account of any masterplans or design codes which have been developed and the parameters these place on the School site.
- Layout a typical school on an illustrative masterplan following the guidance contained in these principles, good practice and statutory documents.
- Ensure that all public footpaths and cycle routes running past the school site are as well-overlooked as possible by the school building and that a school entrance is located to be directly accessible at one point from this network.

Access and servicing for the school

- As a minimum, the school will require two vehicular accesses: one for the staff car park and building, and one for the playing fields.
- Pedestrian access should be attractive and accessible, lead at least to the main entrance, and not be interrupted by parking or servicing.
- Any additional access points, i.e. rear entrance for example, should also be attractive and accessible by foot.
- Plan for refuse stores to be incorporated into the building with active frontage in the form of windows either side (and above, if a multi-storey building).
- If this is not possible, refuse and cycle stores should be well-integrated into the landscape scheme (e.g. Consider the use of green roofs) and should not undermine the public face of the building of the school plaza.
- Locate refuse stores away from public areas but easily accessible for refuse vehicles.
- Ensure the refuse vehicle (and if necessary school transport) swept path and turning zone does not interrupt the school entrance or any public spaces.
- Provide a well landscaped staff car park hidden away from the public realm if possible.
- Consider the use of permeable paving to provide sustainable drainage in line with National Planning Policy and the DfE Generic Design Brief,.
- It is beneficial to have a dedicated pupil entrance connected to the pupil bike store for improved accessibility and convenience.
- These cycle stores should be well integrated into the landscaping and should be positioned so that they do not undermine the main entrance of the public frontage to the school.



Secure line.
Healthy School Street and public space.
Roads.
Pedestrian + Cycle route.
Gated Maintenance Access for Management Company.
Access for Staff Car Park, Servicing, School Transport drop-off and Associated Turning Circles if Required.

Illustrative diagram depicting school site's relationship to Healthy School Streets and pedestrian and cycle networks.

Principle 3 - School Sites should be Roughly Rectangular in Shape and Broadly Flat.

Explanation

It is important that new school sites can be developed easily, ensuring that there is level access for school children and servicing, and reducing the number of constraints where possible. More detailed guidance can be found in the Developers' Guide.

DfE Specification

- GDB Annexe 2B section 3.2.2 requires for outdoor PE areas to have a maximum gradient of 1 in 80.

Masterplanning Stage

- Consult the Developers' Guide which has a long checklist of requirements for school sites.
- Draft an illustrative masterplan showing a school site and indicative building location, assuming the site and building areas contained within BB103 and BB104 (see Introduction).
- A good start for the sizes of schools is by referring to the Baseline Designs for schools.
- School Sites should allow room for expansion where required.
- Ensure the school site is:
    1. Broadly level (A gradient of 1 in 70 across the width is ideal to assist water runoff from most pitches. However, a gradient of 1 in 80 is preferable).
    2. At level with surrounding areas.
    3. Has two vehicular access points, one for the staff car-park and deliveries and the other for maintenance and emergency access of the playing fields.
    4. Broadly rectangular.
    5. Located according to the other principles in this guide.

Illustrative diagram depicting school site and its relationship to grassland and immediate residential development.

Principle 4 - School Sites Should be free from Air and Noise Pollution and Should Not Disturb Neighbours with Noise or Light Pollution.

Explanation

School pupils should have an appropriate learning environment, away from noise and air pollution. Ideally sites should be chosen where noise pollution is not an issue. If this is not possible, then measures should be taken, outside of the school site to mitigate the noise without these forming a barrier between the school and the community.

Equally, school activities can create noise themselves which will need to be planned for. School grounds should be designed so that the noisier uses are, where possible, located away from residential properties. Where co-location is unavoidable, similar noise mitigation measures should be employed in addition to the allocated site area.

Relevant NDG Principles

- The National Design Guide Section H1 encourages healthy, comfortable and safe internal and external environments, free from noise and air pollution.
- H2 encourages well- designed, unpolluted, shared amenity spaces which feel safe and secure for all users.

Relevant NPPG Principles

- Light Pollution This guidance requires consideration of whether light from school playing fields would affect residential uses or areas likely to contain protected species. It encourages efficient lighting to limit light pollution and discourages lighting above or near the horizontal to reduce glare and sky glow.
- Noise needs to be considered when development may create additional noise, or would be sensitive to the prevailing acoustic environment (including any anticipated changes to that environment from activities that are permitted but not yet commenced). When preparing plans, or taking decisions about new development, there may also be opportunities to make improvements to the acoustic environment. Good acoustic design needs to be considered early in the planning process to ensure that the most appropriate and cost-effective solutions are identified from the outset.

Relevant EDG Principles

- Protection from Noise Sources

DfE Specification

- The GDB section 2.2.2 requires that sites prioritise the safety and security of pupils, staff and visitors, and section 2.14 details how this should be achieved.
- This includes clearly defined boundaries and good natural surveillance.

Principle 4 - School Sites Should be free from Air and Noise Pollution and Should Not Disturb Neighbours with Noise or Light Pollution.

Local Plan Stage

• When planning for schools and other uses, ensure that non-compatible uses such as light or heavy industry are located away from school sites which should be centrally located in residential communities along with compatible uses such as community, leisure and health facilities, retail, offices, and public spaces.
• Policies should seek to ensure school sites are undisturbed by noise pollution.
• Further, policies should ensure that light or noise pollution are not a source of disturbance to nearby uses.

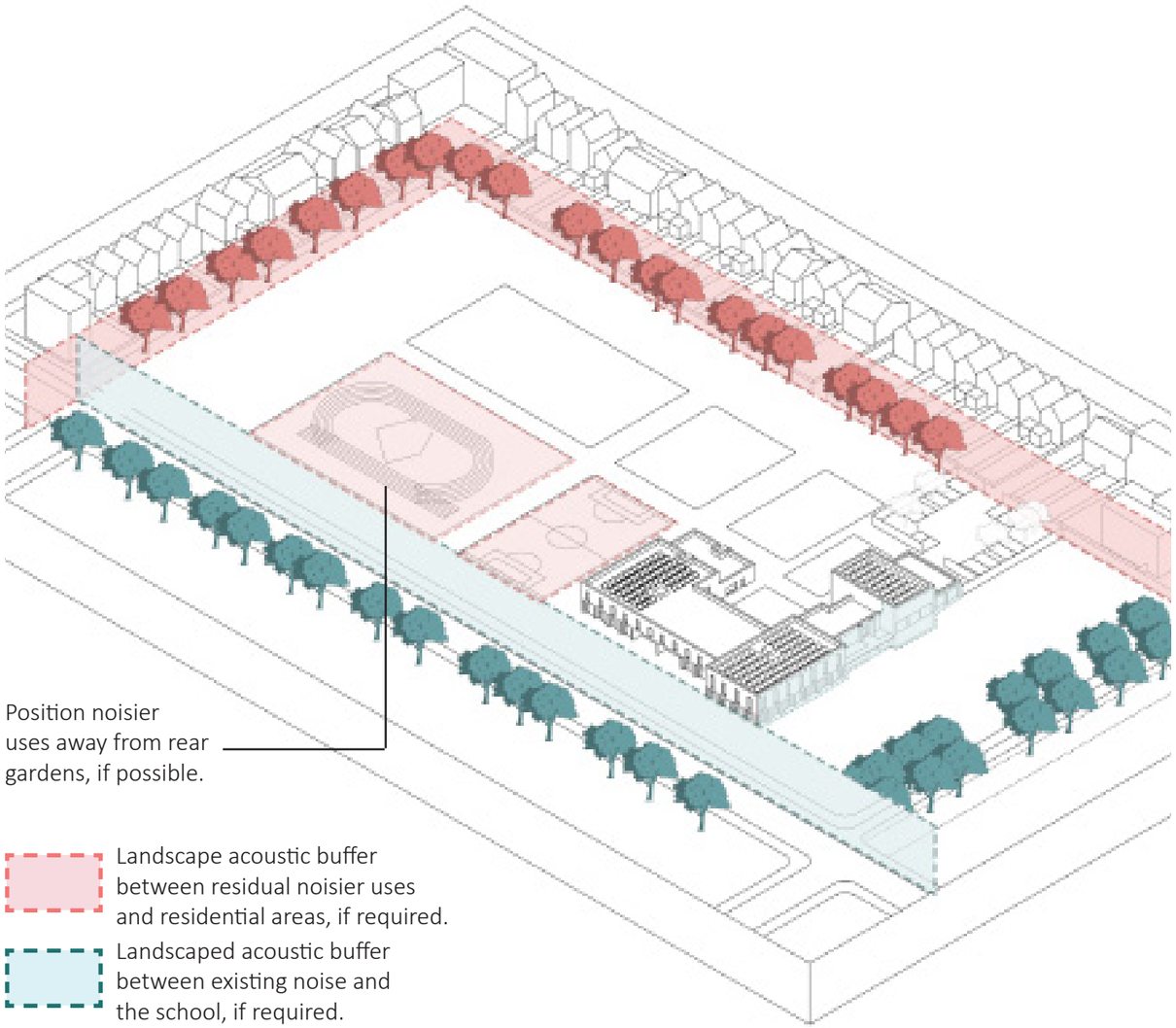
Masterplanning Stage

- Select a site which is away from potential sources of noise or pollution.
- Consider and plan for suitable landscaped noise mitigation measures such as well-landscaped bunds and/or acoustic fences. The aim of this is to ensure that school sites do not exceed maximum noise requirements. The area covered by these should be additional to the minimum site requirement for schools.
- If this is not possible, ensure that noise mitigation measures are added to ensure that noise pollution in reduced to levels set out in Building Bulletin 93- acoustic design.
- Ensure that, where possible, any artificial light creating school uses such as school playing fields are located away from housing and sensitive ecological areas.
- If this is not possible, ensure there is a requirement for efficient lighting which limits light pollution.
- Other guidance requires that the school site be surrounded by other buildings to avoid long lengths of exposed boundary. This has the advantage of also providing another acoustic barrier through built form.
- However, when planning schools, care should be taken regarding proximity of noise creating uses on the school site to rear gardens.
- Where this cannot be avoided, consider well-landscaped acoustic measures in addition to the planned school area.
- An acoustic report is required to guide the design and implementation of landscaped acoustic measures in accordance with its findings.

Principle 4 - School Sites Should be free from Air and Noise Pollution and Should Not Disturb Neighbours with Noise or Light Pollution.

School Design/Planning Stage

- Taking account of any masterplans or design codes which have been developed and the parameters these place on the school site, ensure schools define the edge of the site to provide a barrier for any noise.
- When considering this arrangement, ensure that the necessary school buildings to define the edge of the site are built in phase 1.
- Ensure classrooms face away from the public realm onto secluded courtyards and/or playing fields.
- Plan to ensure any noise producing uses are not placed next to the rear gardens of dwellings.
- If this is unavoidable, ensure that all mitigating acoustic measures are integrated into the landscape scheme. Noise mitigating measures should be on land provided by the developer in addition to the required site area set out in BB103 or BB104.
- These can include well-landscaped acoustic fences, bunds or a combination of the two.
- An acoustic report is required, and the design of residual works should be aligned with its recommendations.



Illustrative diagram depicting school site and its relationship to the noise coming into the site and being emitted from the site.

Principle 5 - The Site Edge Should be Defined with Built Form and Active Frontage.

Explanation

Although School buildings are relatively small compared to their sites, school buildings should line up against Healthy School Streets and public spaces as a baseline requirement. However, if classrooms line School Streets this will inevitably mean a buffer of external landscape and play spaces between school buildings and the streets. Therefore, the exemplary requirements are that internal layouts are revised to ensure that the entrance, school hall, administrative accommodation and ancillary spaces line up against external public spaces. School classrooms and any space which is likely to be linked to an external play area should be kept away from public spaces, and vehicular traffic for security and privacy reasons.

However, it is important that a school building can relate to its community with a 'public' face. Therefore, areas that have the potential to be shared with the community, but will not undermine the school's security being placed adjacent to a public space, should be identified early on. These can include:

1. The main secure entrance
2. The School Hall
3. The kitchen
4. The reception
5. The administrative accommodation including the heads room, the parent's room, and any interview or meeting rooms
6. The staff toilets
7. Associated storage

- The areas in the list above which can be naturally lit and present built form with active frontage should be arranged to face a car free public plaza faced up with other uses.
- It should be possible to provide secure access out of school hours to these areas, assuming an element of staff supervision.
- The rest of the school - i.e. Those areas which are primarily concerned with the education of children- should be well protected from the public realm and should be behind secure doors and gates out of school hours.
- For security reasons, classrooms should not face onto or be immediately visible from the public realm. They should not face onto an area containing moving or parked vehicles.
- Ideally the classrooms should be arranged in a courtyard or overlooking school playing fields.
- The aim should be to provide a private, secure, tranquil, well- landscaped private realm, free from outside noise, which the classrooms can overlook, so that there is a direct connection between the inside and the outside environments.

Principle 5 - The Site Edge Should be Defined with Built Form and Active Frontage.

Relevant NDG Principles

- National Design Guide Section P1 encourages well located, attractive and high- quality public spaces.
- P2 encourages proposals that produce safe and secure public spaces through the definition of spaces by buildings, active frontages, and natural surveillance.

- B2 encourages well defined streets with consistent building lines, heights related to street widths, and plenty of active frontage consistent with local character.

- H2 encourages well designed, shared amenity spaces which feel safe and secure for all users. It encourages private amenity spaces which provide a degree of privacy and separation from public spaces and enhance visual and outdoor amenity.

- U1 encourages developments that promote social inclusivity through removal of potential barriers to and encouraging accessibility. It also encourages a mix of uses to support varied needs, sustainable lifestyles, and ensuring the mixed uses are compatible.

Relevant NPPG Principles

- Healthy and safe communities this principle encourages safe, secure, well-overlooked and inclusive spaces which encourage social interaction.

Relevant EDG Principles

- Secured by Design
- Planning for Safer and More Inclusive Places for Women and Girls
- Layout Details

DfE Specification

- The GDB section 2.2.2 requires that sites prioritise the safety and security of pupils, staff and visitors, and section 2.14 details how this should be achieved.
- This includes clearly defined boundaries and good natural surveillance.

- The GDB Section 2.3.14 requires a secure entry sequence with

1. A secure lobby
2. A waiting area and reception desk linked to a general office.
3. An interview rooms directly accessible from the lobby.
4. An accessible toilet.
5. Reception and general office having a clear view of the entrance.
6. Other administrative accommodation located close to the main entrance.

- Section 2.3.20 requires Staff toilets should be provided and where the school will be shared by the community, these should be accessed without breaching school security.
- Section 2.3.11 requires that secondary school halls are located for convenient access by parents without having to negotiate a route through the rest of the school.
- Section 2.3.12 requires that primary school halls be adaptable to different functions.
- Section 2.3.13 requires that the secondary school sports suite be designed to be used safely and easily by members of the community outside of the school day.
- Section 2.4.3.11 requires pitches and courts used by the community to be sized according to Sport England 'Comparative Sizes of sports Pitches and Courts (Outdoor)'. Out of hours access to these should clear convenient and logical.

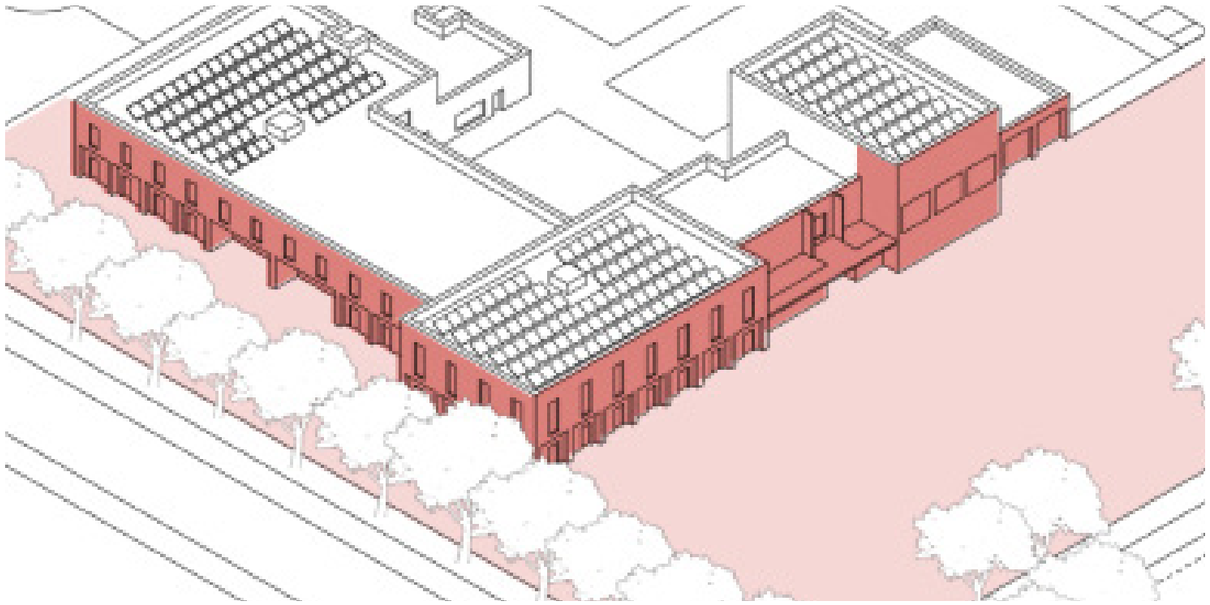
Principle 5 - The Site Edge Should be Defined with Built Form and Active Frontage.

Local Plan Stage

• Consider policies which encourage inclusive, safe and secure streets and public spaces that are well- defined and overlooked with built form and active frontage.
• Policies should seek to avoid school sites with long lengths of fenced boundary.
• Policies should establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types (including schools) and materials to create attractive, welcoming and distinctive places to live, work and visit.
• They should create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.

Masterplanning Stage

- School buildings are relatively small compared to their sites. Identify a site which has a proportion of its boundaries enclosed by either buildings or existing landscaping and a frontage which can be faced with a school.
- Excessively tall buildings defining the site edge will be counterproductive as these may hinder solar gain and could disrupt privacy by overlooking the school grounds.
- Draft an illustrative masterplan showing a school site and indicative building location, assuming the site and building areas contained within BB103 and BB104 (see Introduction).
- A good start for the sizes of schools is by referring to the Baseline Designs for schools.
- School Sites should allow room for expansion where required.
- School site areas exclude land for additional works such as the school public space, village green or plaza and any necessary landscaped acoustic works.
- Locate the school so that it integrates well into local cycle and pedestrian routes.
- Plan for a village green or community square – a vehicle free public space- which is faced up to by the school, housing, and if possible a local centre.
- Ideally, on larger schemes, this public space should also be faced up with other compatible uses to enhance social interaction and to preserve pupil safety and security.
- This public square is an opportunity for hard and soft landscaping such as trees, low planting, benches, lighting and wayfinding signage which can define the edge of the space and its boundary with the Healthy School Street- the pedestrian/ cycle route. All of these items should be provided outside of the school boundary.
- Plan for a carpark close to the local centre but away from the school.
- Ensure as much of the rest of the building as possible line Healthy School Streets.



Illustrative diagram depicting school site defining the edge with active frontage.

- If the school is part of a Garden Community, reference should also be made to the Garden Communities and Planning School Places Guide.
- It is good practice to parameter plans which specify the location of the school entrance, and the key buildings lines for the public edges of the school.

It is helpful to Design Code for :
1. The school location
2. The Healthy School Street
3. The community square/village green.
4. The public facing building lines relative to the public spaces.
5. The perimeter boundary conditions offering a variety of solutions which balance privacy, security and landscaping concerns.

Exemplary Requirement

- **Ensure the school is planned taking account of a likely arrangement of spaces which do not require privacy lining up against the public areas – that is the village green or community square and Healthy School Street.**

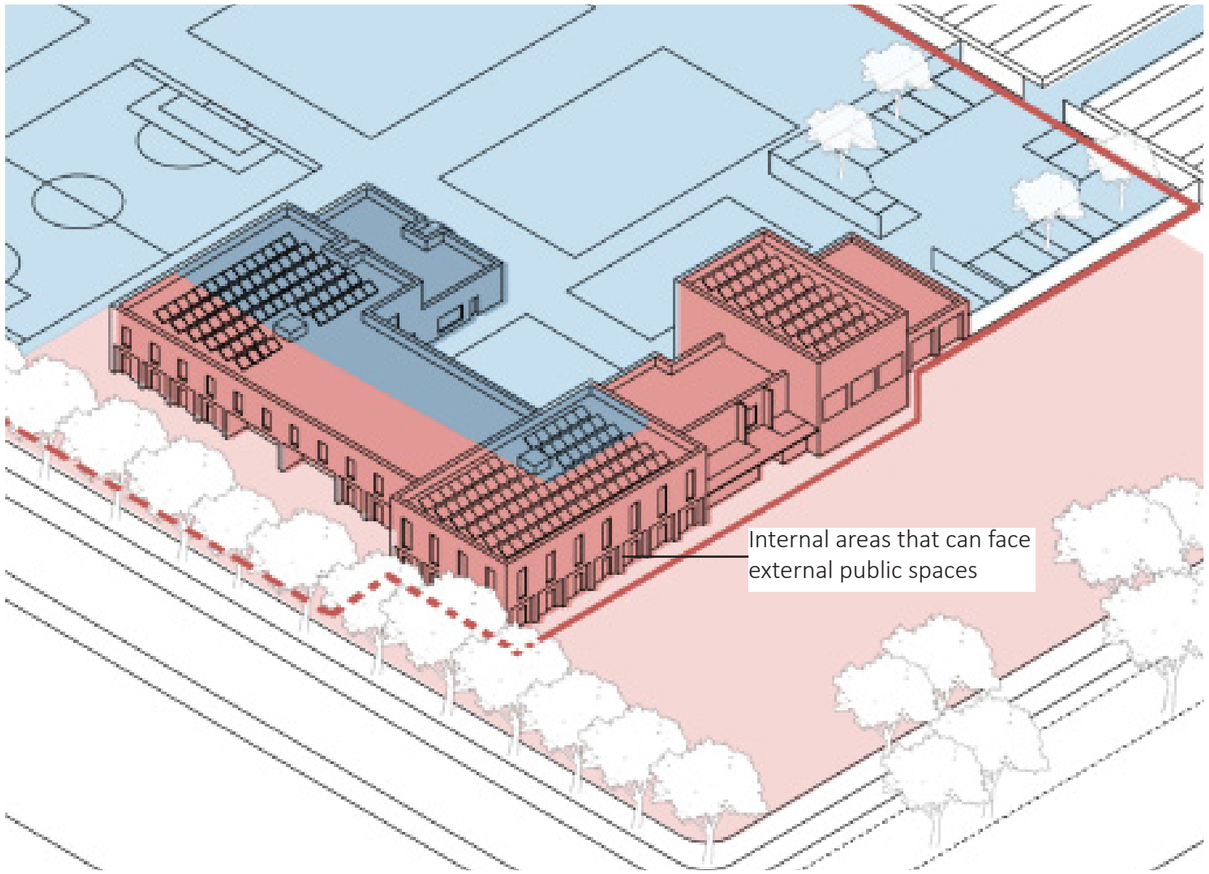
Principle 5 - The Site Edge Should be Defined with Built Form and Active Frontage.

School Design/Planning Stage

- Take account of any masterplans, parameter plans and design codes.
- The public square should be responded to with a building containing the secure main entrance, and potential areas which could be shared with the public or community organisations such as the school hall, the kitchen, and meeting rooms.
- Refuse stores, cycle stores and carparking planned by the school should not be allowed to interrupt or clutter this space.
- The preferred location for the refuse stores is to one side of or hidden behind a portion the building.
- These should be easily accessible from a vehicular or pedestrian access.
- The public square should be lined with active frontage from the school - that is, the secure entrance, and windows to ancillary spaces (e.g. Interview room, meeting rooms, administrative accommodation, parents' room and Head's room).
- This is to ensure that the public realm is secure and that the building has presence to it.
- Line as much of the rest of the school as possible up against Healthy School Streets.
- Allow for landscaping which includes external play areas and learning spaces associated with each classroom, and take great care with the perimeter landscaping to ensure that sufficient privacy is provided, and the external classroom areas are secure, while ensuring these boundary features are well integrated/landscaped and do not feel oppressive.

Exemplary Requirement

• Line up office accommodation, meeting rooms, group areas, libraries and toilets against Healthy School Streets so that windows and active frontage face these spaces
• Provide for a zone of defensible space (around 1 to 2m) between the school building and the public areas, which should be landscaped with robust low height planting.
• Ensure classrooms face away from these public spaces and towards the school playing areas/playing fields.



Illustrative diagram depicting school site defining the edge with active frontage.

Principle 6 - School Sites should be Safe and Secure and contribute to the Safety and Security of their Area.

Relevant NDG Principles

- P2 encourages proposals that produce safe and secure public spaces through the definition of spaces by buildings, active frontages, and natural surveillance. Other necessary security measures should be well integrated into designs so that they do not undermine public spaces.

Relevant NPPG Principles

- Healthy and safe communities this principle encourages safe, secure, well-overlooked and inclusive spaces which encourage social interaction.

Relevant EDG Principles

- Secured by Design
- Planning for Safer and More Inclusive Places for Women and Girls
- Layout Details
- School Boundaries Guidance

DfE Specification

- The GDB section 2.2.2 requires that sites prioritise the safety and security of pupils, staff and visitors, and section 2.14 details how this should be achieved.
- This includes clearly defined boundaries and good natural surveillance.
- 2.23 requires that entry points are well controlled either within the building or within the overall site.
- 2.14 states that security concerns should not be to the detriment of the overall appearance of the buildings and that a 'fortress' appearance should be avoided.
- Complex building plan forms should be avoided to ensure that all areas have passive surveillance from doors and windows.
- 2.4.1 requires a safe and attractive setting for sports, outdoor teaching, social and recreational activities, with opportunities for passive supervision and interaction/encounters with staff and other pupils.
- Annexe 2B requires boundary fencing to be 2.4m high and be anti climb weld mesh. This need not be the secure line of the school.
- Boundary fencing to hard surfaced games courts to be 3m heavy duty steel mesh.

Principle 6 - School Sites should be Safe and Secure and contribute to the Safety and Security of their Area.

Local Plan Stage

• Consider policies which encourage inclusive, safe and secure streets and public spaces which are well defined and overlooked with built form and active frontage.
• Policies should create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.
• Policies should therefore encourage the design of schools to not only contribute to the above but also to be safe and secure in themselves.

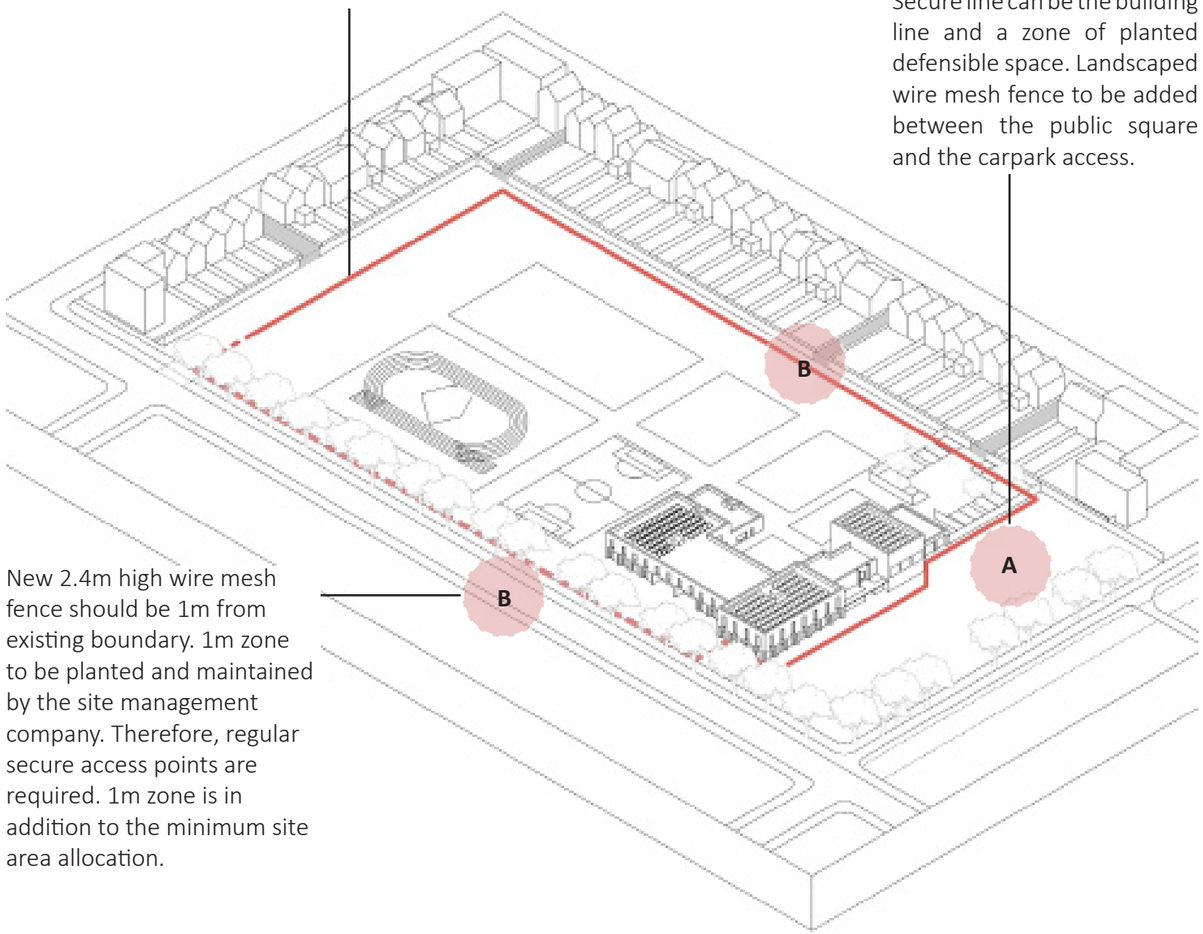
Masterplanning Stage

- School buildings are relatively small compared to their sites. Identify a site which has a proportion of its boundaries enclosed by either buildings or existing landscaping and a frontage which can be faced with a school.
- Draft an illustrative masterplan showing a school site and indicative building location, assuming the site and building areas contained within BB103 and BB104 (see Introduction). A good start for the sizes of schools is by referring to the Baseline Designs for schools.
- Draft a Parameter Plan which reflects this.
- Locate the school so that it integrates well into local cycle and pedestrian routes.
- Identify a site which has a proportion of its boundaries enclosed by either buildings or existing landscaping and a frontage which can be faced with a school.
- Plan for a village green or community square – a vehicle free public space- which is faced up to by the school, housing, and if possible a local centre.
- Line as much of the rest of the school as possible up against Healthy School Streets.
- Ensure it is a key principal of the Masterplan and any Design Code that schools line all public spaces with active frontages of doors and windows behind a zone of landscaping and defensible space.

Principle 6 - School Sites should be Safe and Secure and contribute to the Safety and Security of their Area.

New 2.4m high wire mesh fence must 1m from existing boundary.
1m zone to be planted and maintained by school.
Therefore, regular secure access points are required.
1m zone is in addition to minimum site area allocation.

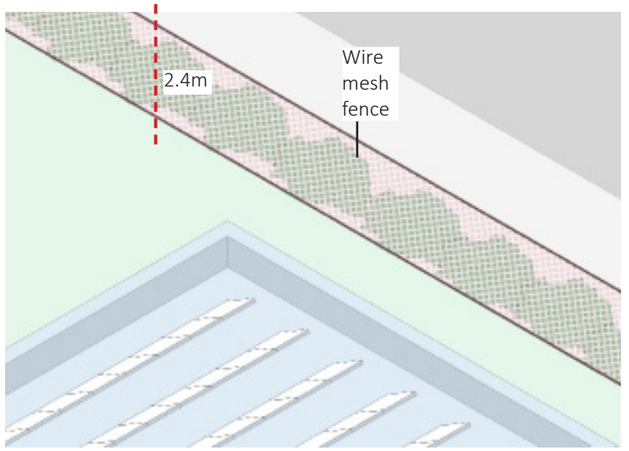
Secure line can be the building line and a zone of planted defensible space. Landscaped wire mesh fence to be added between the public square and the carpark access.



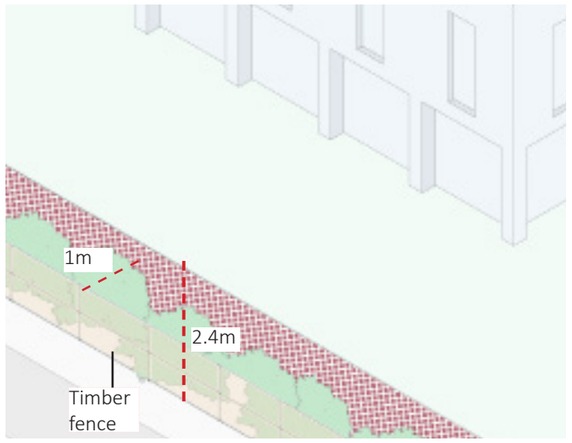
New 2.4m high wire mesh fence should be 1m from existing boundary. 1m zone to be planted and maintained by the site management company. Therefore, regular secure access points are required. 1m zone is in addition to the minimum site area allocation.

Secure line
Gated Maintenance Access for Management Company.

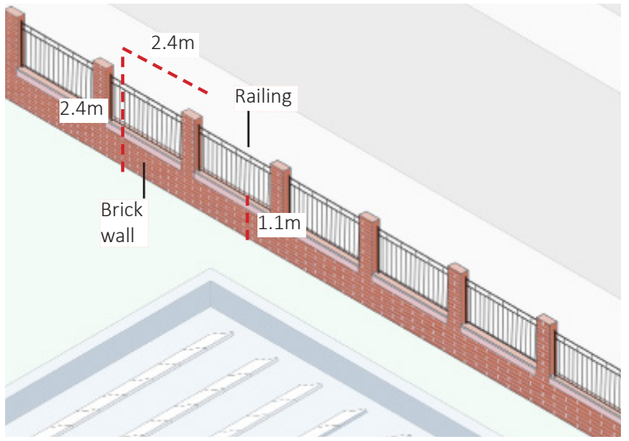
Diagram Illustrating Options for School Site Boundary Treatments.



A. Natural Boundary Hedgerow or Hedges with 2.4m high Weld mesh fencing.



B. 2.4m high Weld mesh fencing with 1m zone between close boarded timber fence.



C. Combination of low 1.1m high brick wall with railing.

Principle 6 - School Sites should be Safe and Secure and contribute to the Safety and Security of their Area.

School Design/Planning Stage

- Take account of any masterplans or design codes which have been developed and the parameters these place on the school site.
- Ensure that the secure line is defined as early as possible in the scheme's design.

- It should be noted that the secure line can be:

1. The building line.
2. A natural boundary or hedgerow softening the appearance of a 2.4m high weld mesh fence.
3. If the school entrance is secure (for example by a secure lobby overseen by the general office and also providing access to the interview room as set out in the Baseline School Designs) it is considered that a boundary fence need not face the school entrance or associated accommodation where the building line can be the secure line.

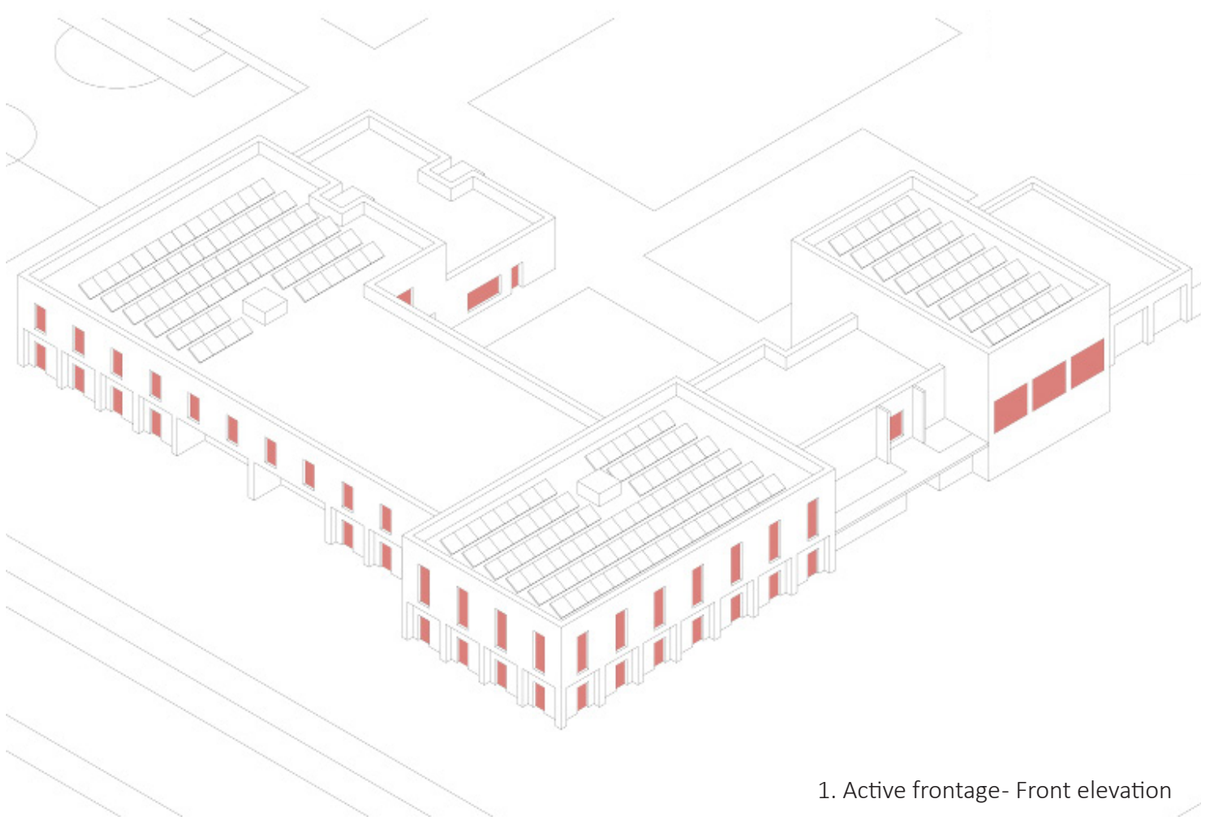
- Boundary fencing or railings will be necessary to secure school grounds, particularly in areas not defined by buildings or between spaces like the car park and the school.
- Buildings and playing fields. Where fencing is required, it should be thoughtfully integrated into the landscape design, with hedge planting or similar features used to conceal or soften its appearance and enhance visual appeal.
- The presence of secluded areas of dense trees and vegetation outside, but close to, school sites should be avoided as these can be places to 'hide' which can present a security risk.
- In the case of the relationship of the more public areas of the school to pedestrian/cycle routes (Healthy School Streets) or public spaces, it is important that school defines and overlooks these with active frontage (the secure main entrance or windows) to ensure that these spaces are well observed and naturally policed.

- Ensure the school entrance is secure with a lobby overseen by the general office, providing access to an interview room as per Baseline School Designs. With these arrangements, a boundary fence need not face the school entrance where the building line is likely to be the secure line.
- Defensible space landscaping with robust low planting provides a natural security buffer, enhancing privacy for accommodation facing public areas.
- Accommodation facing public areas involving children should prioritise privacy. Alongside defensible space planting, windows should be positioned at high levels to prevent visibility into the building.

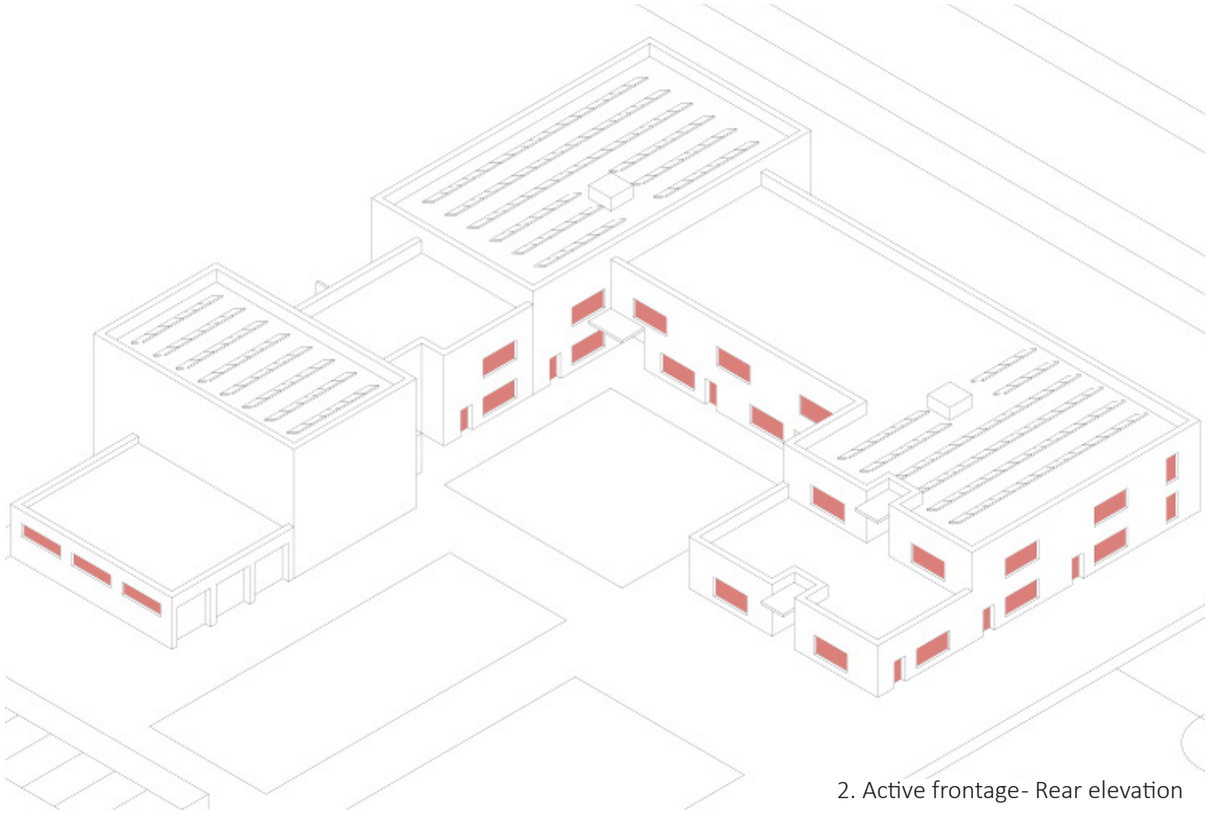
Exemplary Requirement

- **Ensure that the accommodation facing public areas are not those that associated external areas specifically for children – for example, interview room, administrative accommodation the parents room the Head's room, meeting rooms, group areas, libraries and toilets.**
- **Classrooms should not be adjacent to or define the external public realm or Healthy School Streets. They should be associated with a shared private external play area or learning space, better located with their aspect directed inwards towards the site.**
- **The School Boundaries Guidance discusses the importance of school boundary treatments, such as fencing and gates, in defining property lines, enhancing security, and creating a welcoming environment for visitors. It emphasises balancing security needs with the school's role in serving the community. Of the options covered by the guide, only 2.4m high vertical metal railings on a low wall between brick piers should be considered.**

Principle 6 - School Sites should be Safe and Secure and contribute to the Safety and Security of their Area.



1. Active frontage- Front elevation



2. Active frontage- Rear elevation

Illustrative diagram depicting school site and active frontages.

Principle 7 - The Car Free School Public Space and Associated Parking Arrangements.

Explanation

It is the Essex County Council Policy that parents and children should be encouraged to travel to school by public transport, walking and cycling rather than the car. For this reason we have set out that school sites should be well connected to the pedestrian, cycle and public transport network giving easy access to the local neighbourhood and other local services.

This is for reasons of safety to prevent traffic accidents involving children, and to promote sustainability by encouraging the use of more active travel modes.

However, it is also accepted that, depending on the parental choice, some children will still need to travel to school by car. In these instances car sharing can be a viable option. It is also the case that all related housing developments are expected to provide one visitor parking space for every four dwellings in line with the Essex Parking Standards, unless it can be statistically proven that a reduced parking load is acceptable in larger developments.

Chapter 8 of the National Planning Policy Framework encourages policies which promote social interaction through opportunities for meetings between people who would not normally come into contact with each other. Therefore it calls for the provision of schools, community facilities, public spaces, local shops and cultural buildings to be shared, co-located or within easy reach of each other. Schools should be well-related to the communities they serve. We are therefore recommending that all schools relate to a public open space or school plaza which can also be faced up to by buildings of other uses.

Chapter 9 of the National Planning Policy Framework encourages policies which support a sustainable pattern of movement by promoting a balanced mix of uses to minimise the need to travel for work, leisure, education and other daily needs. It calls for active collaboration with highways authorities and transport providers to align strategies for growth. Policies should identify and protect routes and sites critical to infrastructure delivery, support well-designed walking and cycling networks with appropriate facilities, and provide for large-scale transport infrastructure where needed.

Relevant NDG Principles

- The National Design Guide section M3 encourages well considered parking, and servicing which is convenient but does not undermine the street-scape or public spaces.

- P1 encourages well located, attractive and high- quality public spaces.
- P2 encourages proposals that produce safe and secure public spaces through the definition of spaces by buildings, active frontages, and natural surveillance.

- H2 encourages well designed, shared amenity spaces which feel safe and secure for all users. It encourages private amenity spaces which provide a degree of privacy and separation from public spaces and enhance visual and outdoor amenity.

Relevant NPPG Principles

- Travel Plans, Transport Assessments and Statements
- Healthy and safe communities

Relevant EDG Principles

- 2024 Essex Parking Guidance
- Highways Technical Manual
- The Key Principles of Public Open Space
- Urban Public Space
- Successful Criteria for Public Open Spaces

DfE Specification

- The SSB section 2.4.8 requires that the number of parking spaces be minimised, and car usage reduced in line with annexe 2J and planning policy.
- The parking area is carefully positioned so as not to dominate the main arrival area and entrance point while being overlooked from the school.
- Technical Annexe 2J requires that priority be given to active travel including walking and cycling.
- Where vehicle parking is required, this should not dominate the arrival or entrance sequence to the school.

Principle 7 - The Car Free School Public Space and Associated Parking Arrangements.

Local Plan Stage

- Local Plans should consider policies which encourage vehicle free public spaces, particularly accessed by schools.
- In setting parking standards consider reducing overall parking numbers relative to:
  1. The accessibility of the development.
  2. The type, mix and use of development.
  3. The availability of and opportunities for public transport.
  4. Local car ownership levels.
  5. Ensure adequate spaces for charging plug-in and other ultra-low emission vehicles.
- Consider policies which seek to secure children's safety from vehicles including car free streets and public spaces.

Masterplanning Stage

- Schools should be designed so that the external spaces they front onto are car free.
- Draft an illustrative masterplan showing a school site and indicative building location, assuming the site and building areas contained within BB103 and BB104 (see Introduction). A good start for the sizes of schools is by referring to the Baseline Designs for schools.
- Draft a Parameter Plan which reflects this.
- Locate the school so that it integrates well into local cycle and pedestrian routes.
- Plan for a Village Green or Public Square – a vehicle free public space which plugs into this pedestrian and cycle network.
- Plan for Healthy School Streets- i.e. Streets which are car free, and are for pedestrians, cycles, and if necessary designed for deliveries and service vehicles.
- Ensure these public spaces are well-landscaped so that they are safe and attractive for pedestrians and cyclists.
- Healthy School Streets can be useful space for 'Play on the Way' play spaces, trim trails, outdoor gym equipment, planters and seating.
- Public Squares and Village Greens should be hard and soft landscaped for a variety of community activities, including local markets, gathering space, seating and socialising.
- Allow other uses, including a Local Centre, to face this public square or village green.
- Such uses could have public car parking as long as these car parks are not immediately abutting the square or the Healthy School Street. In such cases any public carpark could informally be used as a drop-off for school children not using the pedestrian and cycle network as they live further afield.
- Equally, informal school drop off could occur via the 25% visitor parking associated with the housing elsewhere in the masterplan.
- Allow sufficient space for arranged school transport drop-off (and turning if required) in the staff carpark.
- Public spaces such as Village Greens, Public Squares and Healthy Schools Streets are not suitable for the car or any vehicle parking. Landscape devices such as robust planted areas and bollards can be used to exclude cars in a way that is still welcoming for pedestrians.

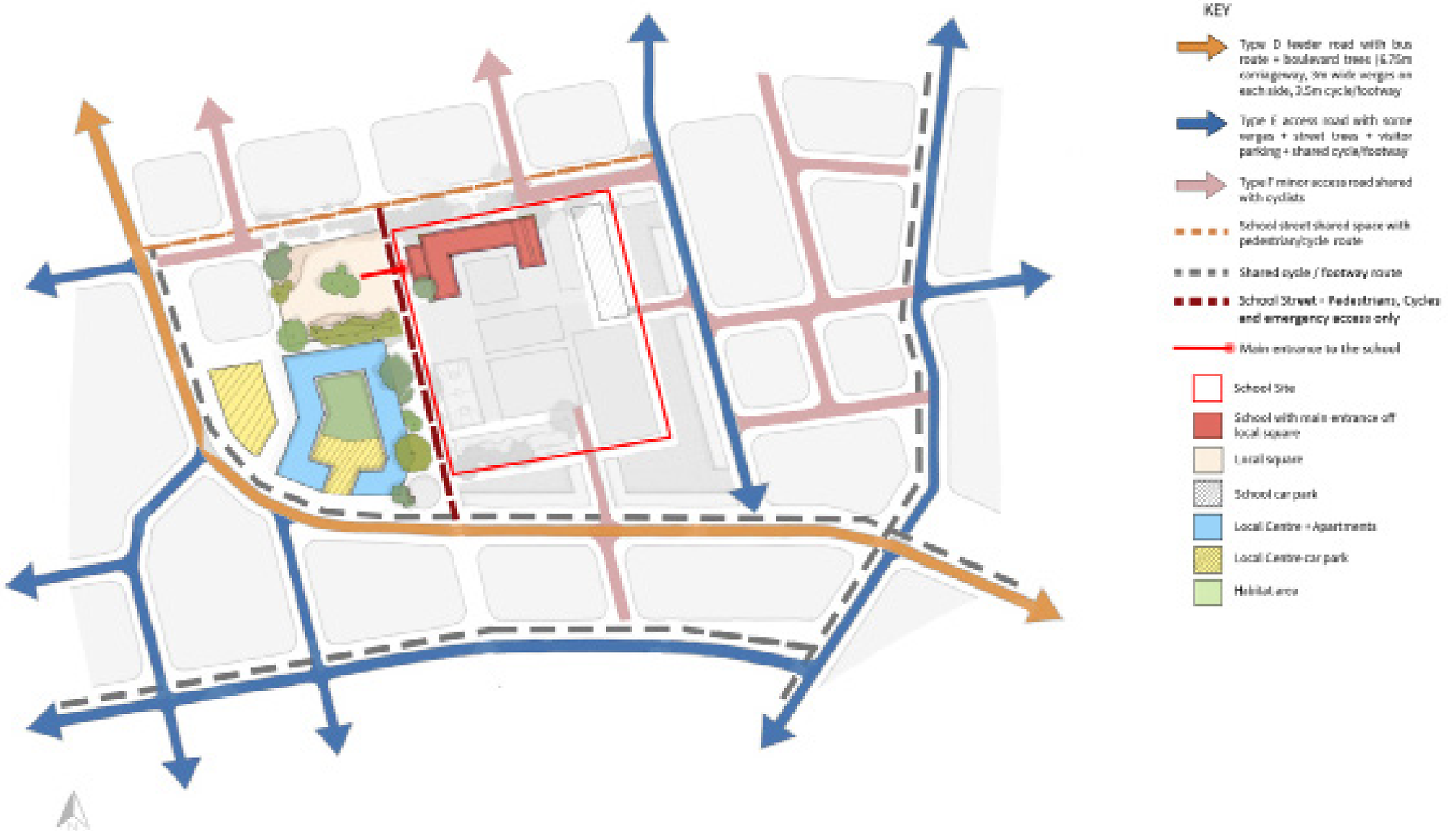
Exemplary Requirement

- **The Essex County Council Sustainable transport School Design Guide sets out how a new build school in a new community should be designed to prioritise travel by active and sustainable modes. This recommends proposed zones and concentric circles around a hypothetical new school, with the order of the zones following the established hierarchy of modes:**
  Zone 1 – School entrance street.
  Zone 2 – Radial walking and cycling routes.
  Zone 3 – Car-free zone (at school start and end times).
  Zone 4 – Bus stop zone.
  Zone 5 – School drop-off / pick-up areas.

- **Bus stops should be located so that bus routes do not pass too close to schools – 400 to 500 metres (approximately 10 minutes' walk) is a reasonable walking distance, aiding exercise while reducing air pollution and traffic volumes near schools. Disabled access from bus stops must be ensured, and special needs bus access would be an exception to this exclusion zone.**
- **The initial proposal is for a car-free zone that restricts dropping-off and picking-up to locations 1km from the school (approximately 20 minutes' walk), but this will be subject to public consultation. Specific locations at the edge of the car-free zone from all directions around the catchment will allow pupils to be dropped off, and dedicated safe walk and cycle routes will be provided as part of the planned network of radial walk and cycle routes contributing to children's recommended average of at least 60 minutes of moderate intensity physical activity a day.**

Principle 7 - The Car Free School Public Space and Associated Parking Arrangements.

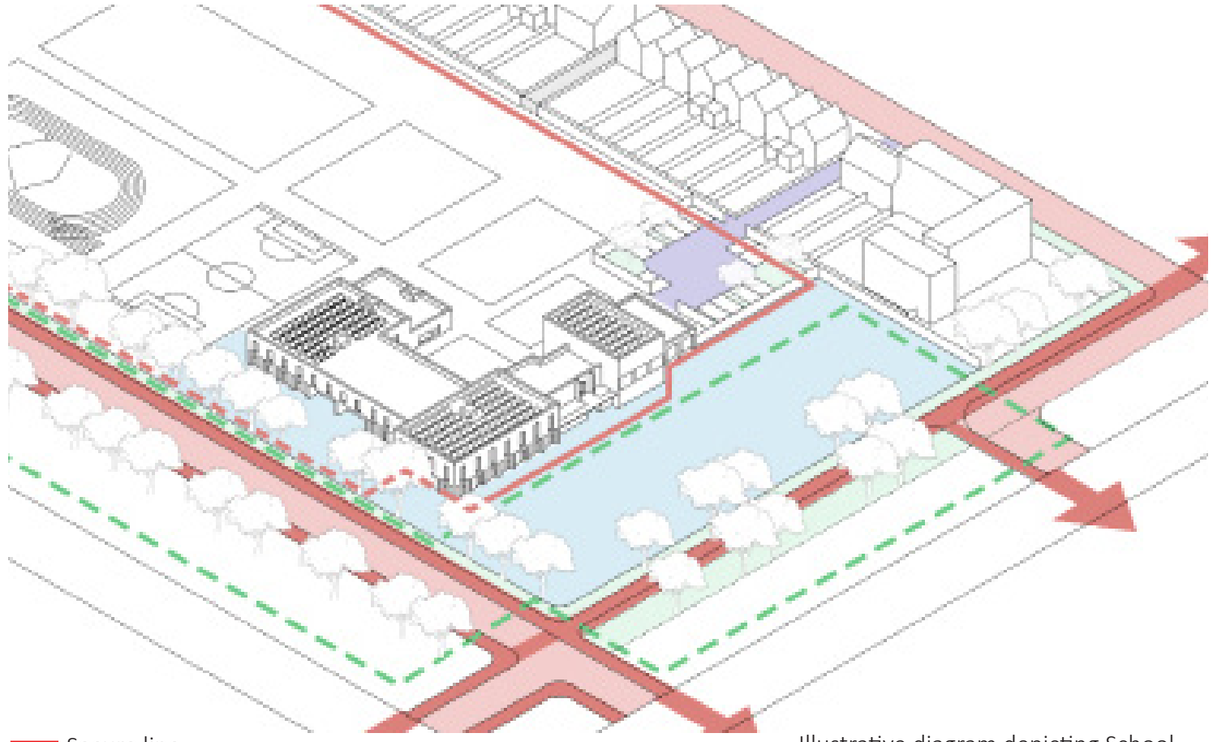
Diagram highlighting the relationship of the school building with the Healthy School Streets, the public square, the local centre and the carparking.



Principle 7 - The Car Free School Public Space and Associated Parking Arrangements.

School Design/Planning Stage

- Take account of any masterplans or design codes which have been developed and the parameters these place on the school site.
- Ensure the school faces up to the Public Square or Village Green and Healthy School Streets.
- The public square must remain entirely vehicle-free, ensuring that public car parking does not abut the space. This will create a safe environment where parents can congregate, and younger siblings can play safely, particularly during the start and end of the school day.
- Ensure the school entrance is secure. For example, a secure lobby overseen by the general office and also providing access to an interview room as set out in the Baseline School Designs. With these arrangements, it is considered that a boundary fence need not face the school entrance of associated accommodation where the building line is likely to be the secure line.
- Defensible space landscaping with robust low planting provides a natural security buffer, enhancing privacy for accommodation facing public areas.
- Do not undermine the public square, village green or Healthy School Streets with poorly integrated vehicle cycle parking which cuts the school off from these spaces.
- Provide a staff carpark adjacent to the building but away from the Healthy School Streets so that it can be accessed by vehicular streets.
- Ensure this carpark does not dominate the street scape by minimising its appearance though a minimum width accessible from the street and through landscaping to break up long runs of spaces. Aim for no more than five spaces between zones of soft landscaping.
- This carpark can also be used for school transport drop-off and should be designed to incorporate this and school transport turning as required.
- Install vehicle charging points as the Essex Parking Standards 2024.

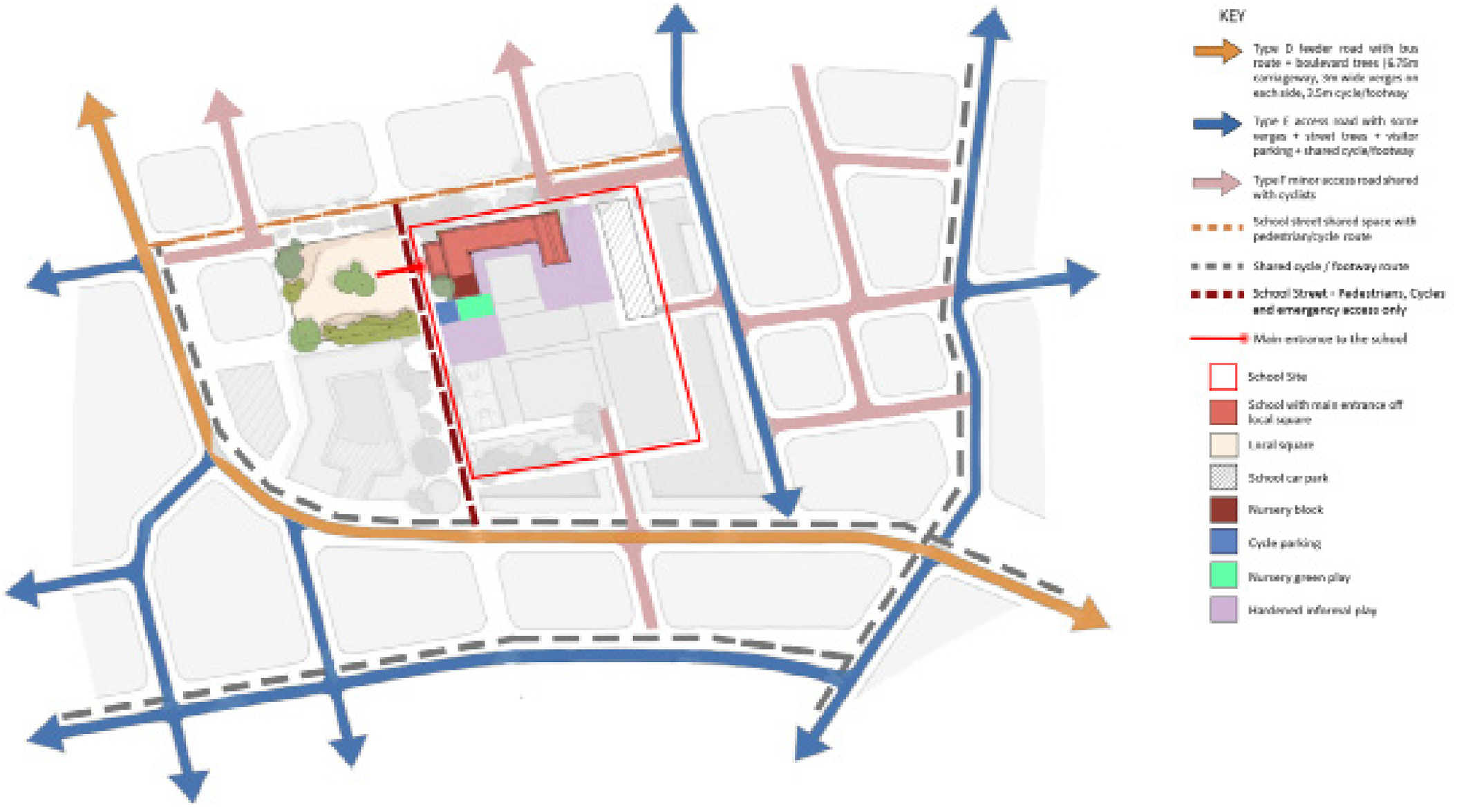


Secure line
Healthy School Street and public space
Public Square or Village Green
Roads
Pedestrian + Cycle route
Gated Maintenance Access for Management Company
Access for Staff Car Park, Servicing, School Transport drop-off and Associated Turning Circles if Required.

Illustrative diagram depicting School Site, Healthy School Streets, School Car Park and Gated Maintenance Access.

Principle 7 - The Car Free School Public Space and Associated Parking Arrangements.

Diagram highlighting the relationship of the School building with the Nursery, Cycle parking, Nursery green play, Hard informal play, the Healthy School Streets and the Local square.



Principle 8 - Making Best Use of Natural Light and Solar Gain.

Explanation

When planning a school, consider how the classroom areas should ideally be orientated East and/or West to take advantage of solar gain, without overheating.

Relevant NDG Principles

- National Design Guide Section H1 encourages healthy, comfortable and safe internal and external environments with natural daylight and ventilation.
- H2 requires these to be well related to well designed, shared amenity spaces which feel safe and secure for all users.
- R3 encourages well- designed buildings which make the most of passive design strategies including solar orientation, the layout and aspect of internal spaces, management of solar gain and good ventilation to control overheating.

Relevant NPPG Principles

- Climate change this principle encourages:

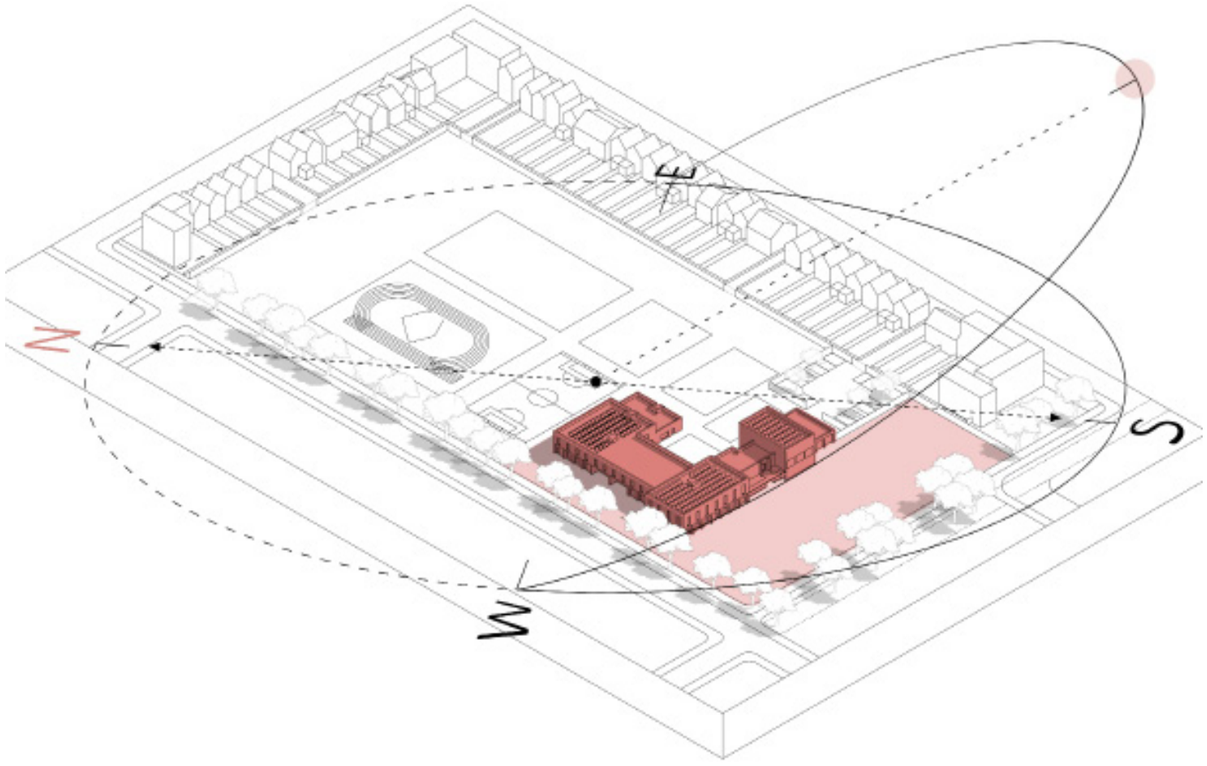
- Passive solar design including optimisation of solar aspect .
- Maximising summer cooling of schools through natural ventilation in buildings and avoiding excessive solar gain.

Relevant EDG Principles

- Daylight and Sunlight
- Natural ventilation
- Designing for solar gain
- Solar orientation
- Layout Principles and Sustainability
- Essex Solar Design Guide

DfE Specification

- The SSB sections 2.2.2 and 1.7.4.2 requires that Buildings should be orientated on their site to balance passive environmental design principles with contextual site constraints.



Illustrative diagram depicting school site and the sun path.

Principle 8 - Making Best Use of Natural Light and Solar Gain.

Local Plan Stage

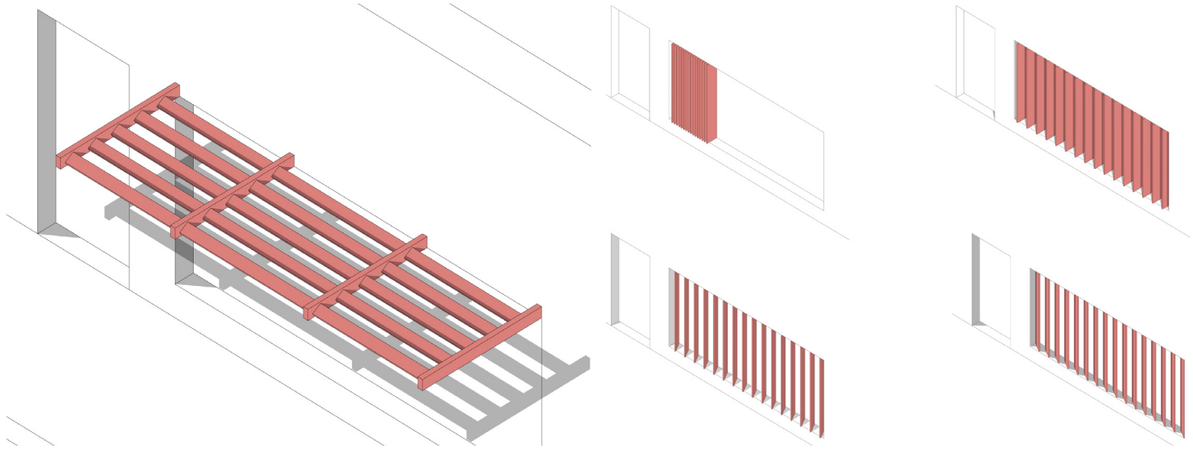
• Local Plans should include policies which encourage optimisation of school layout according to aspect to make full use of daylight and sunlight and solar gain without undermining definition of public spaces, streets and private realm including play areas and school playing fields.
• Policies should also encourage measures such as landscaping and building features which seek to mitigate the effects of overheating on new schools.
• Further policies should seek to create a conducive learning environment which naturally lit benefits from aspect in terms of solar gain and is well-connected to external learning and play areas.
• As set out in the Essex Solar guide, the ideal orientation for classrooms is 30 degrees from south and policies should encourage this where possible.

Masterplanning Stage

- Select a site which ensures that the classrooms can face into the site and do not face north.
- If possible and if it does not undermine the definition of streets and public spaces, school buildings should ideally be orientated so that their classrooms face 30 degrees from south.
- The site and an indicative, feasible, building location should be shown on an illustrative masterplan. This can be the basis of parameter plans.

School Design/Planning Stage

- Take note of and follow any parameter plans.
- Reduce the number of north- facing classrooms to a minimum to avoid cold, dark learning spaces.
- If possible and if it they do not undermine the definition of streets and public spaces, classrooms should be orientated so that they face 30 degrees from south.
- If classrooms face directly south or if there is a risk of overheating, consider the use of canopies, projecting balconies, brise-soleil, louvred shutters or landscaping to provide solar shading.
- Maximise renewables so that 70% of the roof is covered.
- Mono pitched roofs angled South are able to generate more PV energy than flat roofs.
- For flat roof, design for East West concertina PV array as a opposed to North South.
- For mono pitched roofs, slope roof to face South.



Diagrams illustrating methods of Providing Solar Shading Include Horizontal Brise Soleil and Adjustable Louvres in Front of Windows.

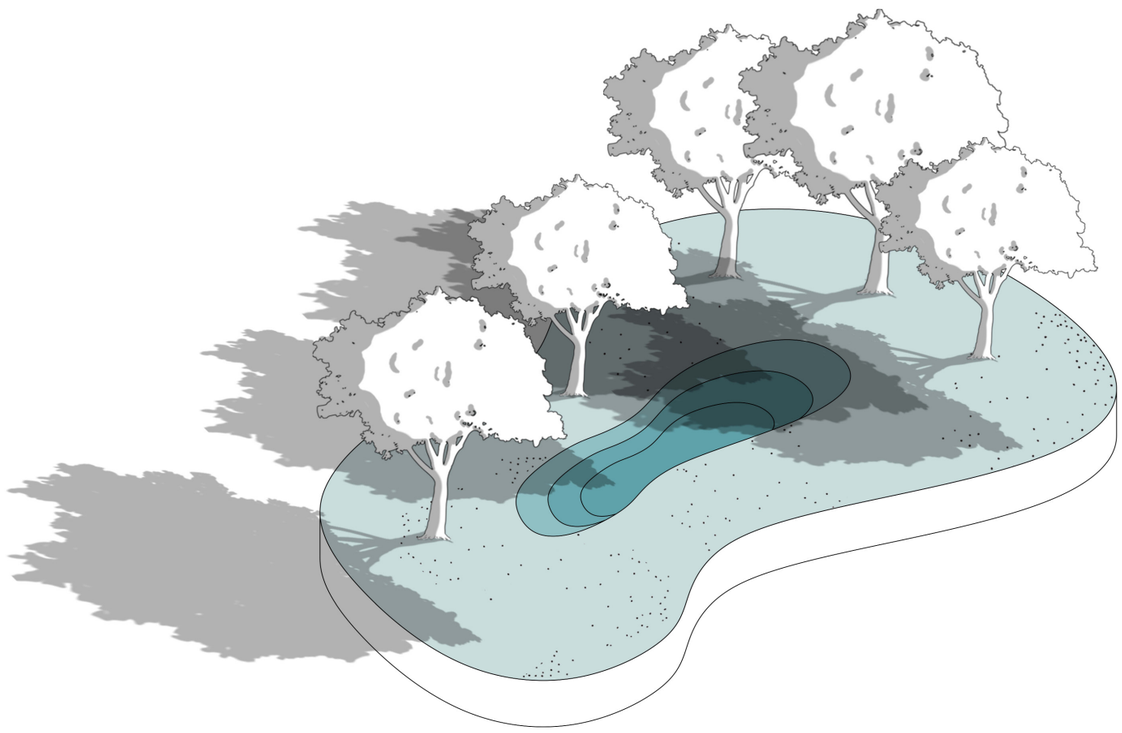


Diagram illustrating existing and Proposed Trees Can Provide Natural Shading for South Facing Classrooms.

Principle 9 - School Sites Should have Well-Designed Contextual Hard and Soft Landscaping Incorporating Existing Landscape Features.

Explanation

- Existing trees, landscape and biodiversity should be retained and strengthened to be used as a new learning and play resource.
- Removal of existing landscape will undermine biodiversity, making it harder to achieve Biodiversity Net Gain (BNG), and will undermine the contextual character of the development.
- Sustainable drainage should be thought about from day one of the design as a visual amenity and a resource for biodiversity and learning.

Relevant NDG Principles

- National Design Guide Section N1 encourages well considered landscaping which incorporates and enhances existing landscape features, addresses the wider context, has well integrated drainage, encourages biodiversity, and has the ability to support a range of activities such as learning and play.

- I3 encourages the setting of buildings within the landscape, the arrangement of layout and grain, landscape spaces, movement network, development blocks, scale, form, proportions and materials to create distinct characters and a memorable sense of place.

Relevant NPPG Principles

- Biodiversity net gain.
- Natural environment this principle encourages a range of public and private spaces including green infrastructure, sustainable drainage, street trees and landscape features to achieve well-designed places, recreation, healthy and safe communities, climate change mitigation, and conserving and enhancing the natural environment.
- Tree Preservation Orders and trees in conservation areas.
- Climate change this principle encourages the provision of multi-functional green infrastructure in public spaces associated with schools and in school sites which can reduce urban heat islands, manage drainage and help species adapt to climate change – as well as contributing to a pleasant environment which encourages people to walk and cycle.

Illustrative diagram depicting school site and its relationship to the existing landscaping, grassland and immediate residential development.

Relevant EDG Principles

- Landscape- Key Requirements
- Biodiversity Net Gain
- Landscaping & Green Infrastructure Design Guidance
- Landscape and Greenspaces
- Public Open Space
- Mental Health
- SuDS and Climate Change
- SuDS Planning Advice

Principle 9 - School Sites Should have Well-Designed Contextual Hard and Soft Landscaping Incorporating Existing Landscape Features.

DfE Specification

- Section 1.8.2 of the GDB requires a design which allows pupils to interact with the external environment to create practical hands on learning.

- Section 2.2.2 of the GDB requires that existing site features are preserved where desirable and practicable including existing trees to BS5837:2012.

- Section 2.4 calls for a variety of spaces to be created including:

1. Early years outdoors space.
2. Outdoor class spaces to be accessed from ground floor classrooms (at least 50% of the classroom area).
3. A portion of these to be covered and to have flag or block paving as Annexe 1C.
4. Soft Informal social areas such as grassed and planted areas.
5. Habitat areas including supervised spaces and resources for teaching and learning.
6. Hard informal social areas.
7. Hard and soft outdoor PE areas.

- Section 3.2.4 requires a whole site Sustainable drainage strategy in line with CIRIA C753 The SuDs Manual and IBSE Guide L: Sustainability to include:

1. Reduction in hard non-permeable surfaces including paths, vehicles, sports and play surfaces.
2. Management of surface water run off close to source involving increased ground level vegetation including, nature based Rain gardens, Swales, Filter strips and Green roofs in preference to below ground attenuation tanks and fenced ponds.
3. Outcomes should provide multi-functional benefits including learning.

- Section 3.2.5 requires that Green Infrastructure (a network of multifunctional green and blue spaces which maximises access to nature) is integral to the design of sites.
- The Biodiversity Metric Tool should be used to demonstrate Biodiversity Net Gain (BNG) of 10% (or higher if local policy).

- Annexe 1C specifies:

1. Fencing, and hard and soft landscaping areas.
2. Outdoor classrooms for natural play.
3. Planted woodland habitats.
4. Woodland play and social areas.
5. Sensory gardens.
6. Trim and walking trails.

- Annexe 2B specifies:

1. Early years outdoors spaces to have an external canopy of at least 0.5sq.m. Per pupil and to be at least 2.4m deep.

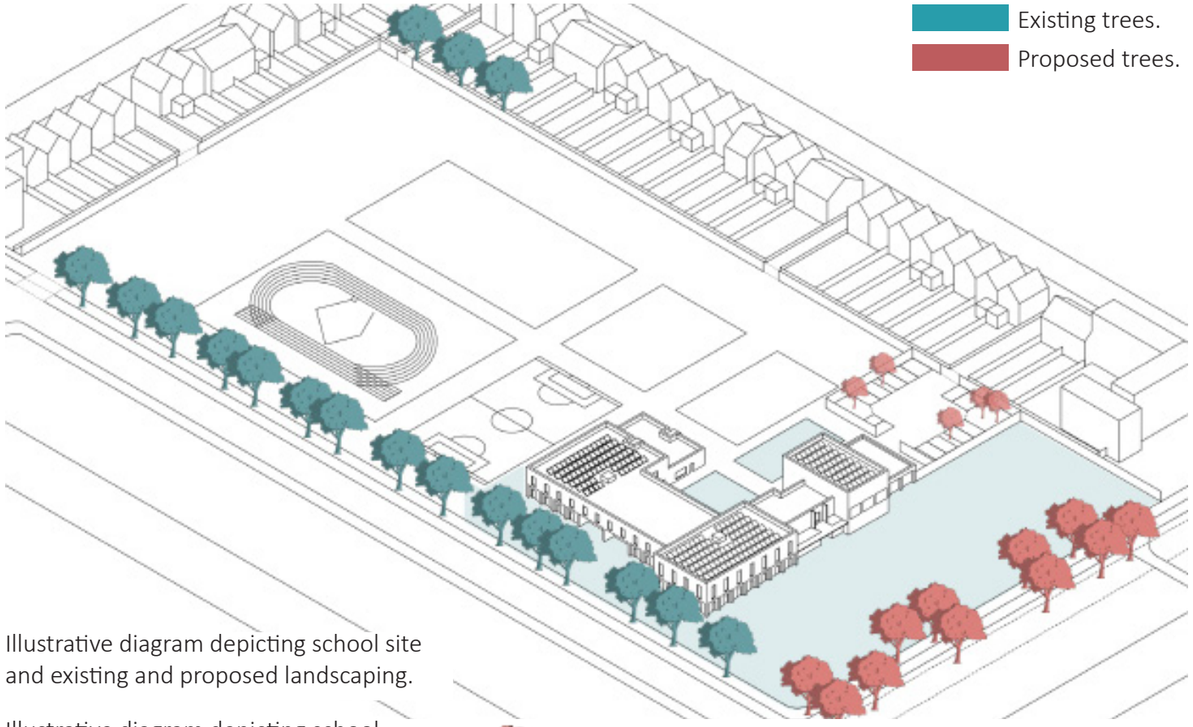
Principle 9 - School Sites Should have Well-Designed Contextual Hard and Soft Landscaping Incorporating Existing Landscape Features.

Local Plan Stage

• Local Plans should contain policies which encourage well - designed, accessible, biodiverse external learning and play spaces which use hard and soft landscaped features to create flexibility and encourage learning and play.
• Policies should encourage the retention and enhancement of as much green infrastructure as possible to create new, accessible, landscaped biodiverse learning and play spaces.
• Policies should encourage biodiverse green roofs and sustainable drainage features in school grounds.
• Encourage the use of existing and proposed landscape features for solar shading.

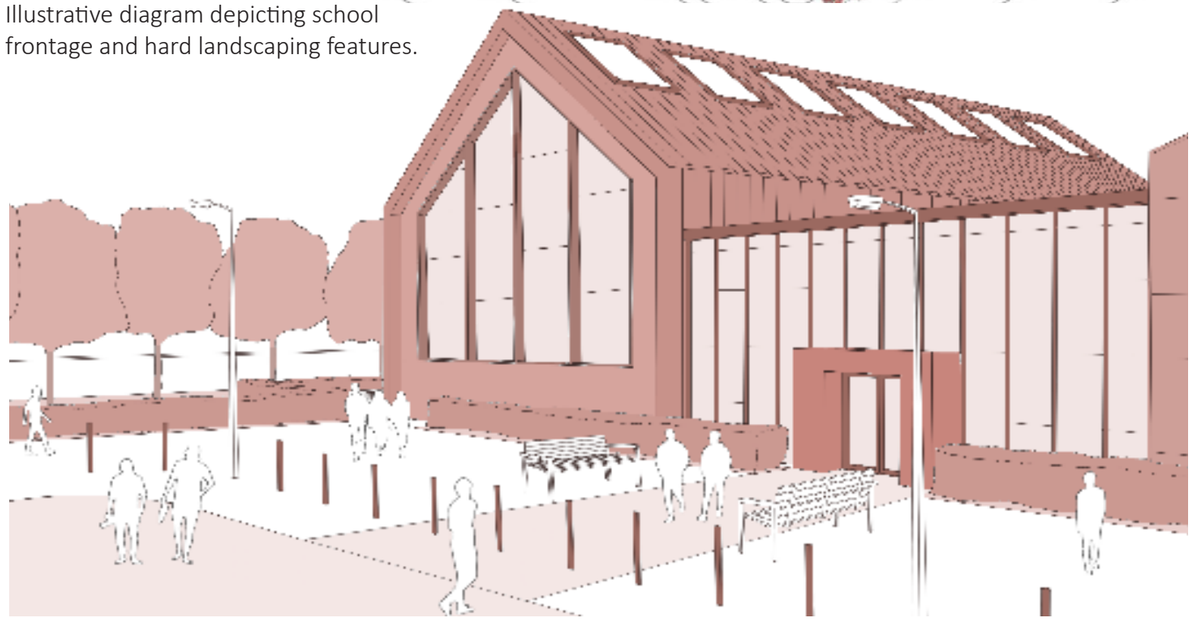
Masterplanning Stage

- Conduct a full survey of existing trees, hedgerows and biodiversity for the planned development including the education site.
- An Arboricultural survey should be conducted to BS 5837 with the aim of retention of all category A & B trees and hedgerows and as many category C trees as possible.
- Ensure a school site is selected where it is possible to design a school around existing trees, hedgerows and biodiversity.
- This should allow for a school building of the correct size to define an element of the edge of the site (preferably a school plaza or landscaped public space) uninterrupted by existing trees and hedgerows.
- Ensure the area required for BNG is additional to the site's minimum required area.
- Use the latest Biodiversity Assessment Methodology to ensure at least 10% BNG (or higher if local policy) in the masterplan and the site.
- Existing trees and hedgerows can be used to mark the boundary of the school site or to provide a landscaped barrier between the school building and the playing fields.
- Additionally, existing trees or planting may form a boundary or focal point to a future school courtyard, or landscaped public space.
- Compensate for any reduction in usable site area due to existing landscaping by providing additional space.
- Existing trees and hedgerows can also be the generator of public routes such as pedestrian and cycle routes where these tree and hedge lines can be overlooked by buildings (including schools) on both sides.
- Plan for sustainable drainage at the lowest part of the site which should be in addition to the minimum school site area.



Illustrative diagram depicting school site and existing and proposed landscaping.

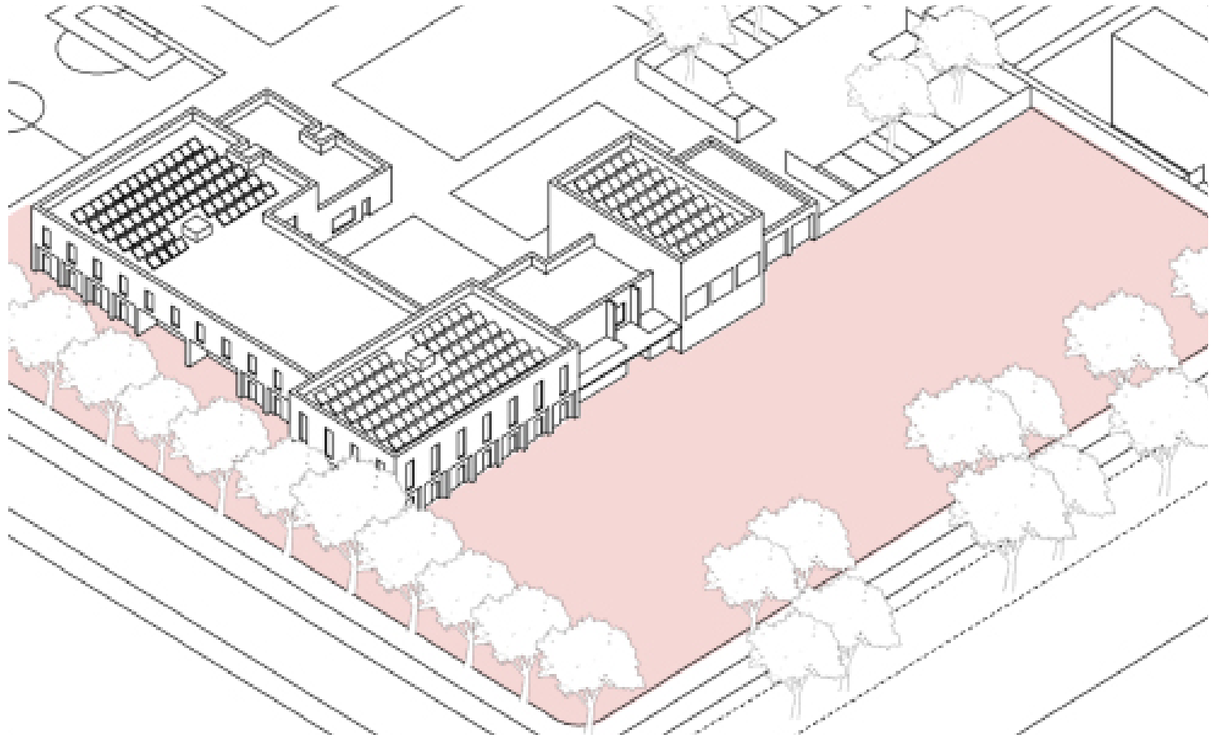
Illustrative diagram depicting school frontage and hard landscaping features.



Principle 9 - School Sites Should have Well-Designed Contextual Hard and Soft Landscaping Incorporating Existing Landscape Features.

School Design/Planning Stage

- Conduct a full survey of existing trees, hedgerows and biodiversity.
- An Arboricultural survey should be conducted to BS 5837 with the aim of retention of all category A & B trees and hedgerows and as many category C trees and hedgerows as possible.
- The school and external play areas should be planned around these retained pieces of landscaping.
- Take note of any TPOed trees and seek to retain them.
- Incorporate and strengthen existing landscaping so that it becomes a learning or play resource of are part of the proposed biodiversity for the site.
- Seek opportunities to design learning courtyards, play spaces or school plazas around strengthened existing landscaping.
- Seek to design complementary landscaping which fits into the context and provides further opportunities for learning, play and biodiversity.
- Fully integrate habitat areas, sustainable drainage basins, swales, and/or rain gardens into the landscape strategy, ensuring these features serve as sources of biodiversity, visual amenities, and educational resources. Incorporate above ground natural SuDS as part of a green infrastructure solution to exploit opportunities to deliver positive effects for biodiversity, distinctiveness and learning resource.
- The ideal location for a sustainable drainage basin is the lowest part of the site.
- Consider combining sustainable drainage with habitat areas.



Illustrative diagram depicting existing and Proposed Trees can Soften and Create a Sense of Enclosure to the Local Square.

Principle 10 - Built Form Should Relate to its Context.

Explanation

It is important that schools should relate well to their community and local context including the built and natural context. They should contribute to the public realm and not undermine it. This approach is supported by the National and Local policy and also the DfE specification (see Introduction). For example, schools which take no account of the existing built form, massing, scale and rhythm of the surrounding buildings will feel out of place and will have a negative effect on the quality of the built environment.

Relevant NDG Principles

- National Design Guide section C1 calls for designs which understand and relate well to local built environment character, views, layout, form, scale and appearance. C1 encourages development which responds well to local context, landscape character, views inwards and outwards and landform. It therefore encourages design that understands landscape character and how places and developments can sit within the landscape.
- C2 encourages well- designed places which are positively influenced by the history and the heritage of the context.

- I1 encourages buildings which respond well to local character and identity through appreciation of existing built form, height scale, massing and relationships between buildings. This includes the scale and proportions of proposals, façade design, patterns and proportions of fenestration and their details.
- I3 encourages the sitting of buildings within the landscape, the arrangement of layout and grain, landscape spaces, movement network, development blocks, scale, form, proportions and materials to create distinct characters and a memorable sense of place.

Relevant NPPG Principles

- Design: process and tools.
- The NPPG encourages the drafting of Design and Access Statements as part of the planning application which explain the consideration of all aspects of design including setting and context.
- Historic environment.
- Effective use of land this principle encourages the optimisation of density and new schools development through characterisation studies and design strategies, dealing with issues such as urban form, historic character, building typologies, prevailing sunlight and daylight levels, green infrastructure and amenity space.

Relevant EDG Principles

- Built Context
- Environment Context
- Functional Context
- Historic Context
- Context Appraisal & Design Access Statements

DfE Specification

- Section 2.2.2 of the GDB requires that:
    1. Schools should take account of the character of the area and topography of the site.
    2. Buildings should be orientated on their site to balance passive environmental design principles with contextual site constraints.
    3. Designers mitigate against the adverse effects of noise pollution and locate quieter activities away from neighbourhood noise.

Principle 10 - Built Form Should Relate to its Context.

Local Plan Stage

• Plans should, at the most appropriate level, set out a clear design vision and expectations for schools, so that applicants have as much certainty as possible about what is likely to be acceptable.
• All Planning authorities should prepare Design Guides and Codes which set out expectation for schools relative to existing and proposed context. These guides, codes and associated policies should ensure that new development including schools are sympathetic to the local character, including the surrounding built environment and landscape setting while not preventing appropriate innovation and change (such as increased densities).

Masterplanning Stage

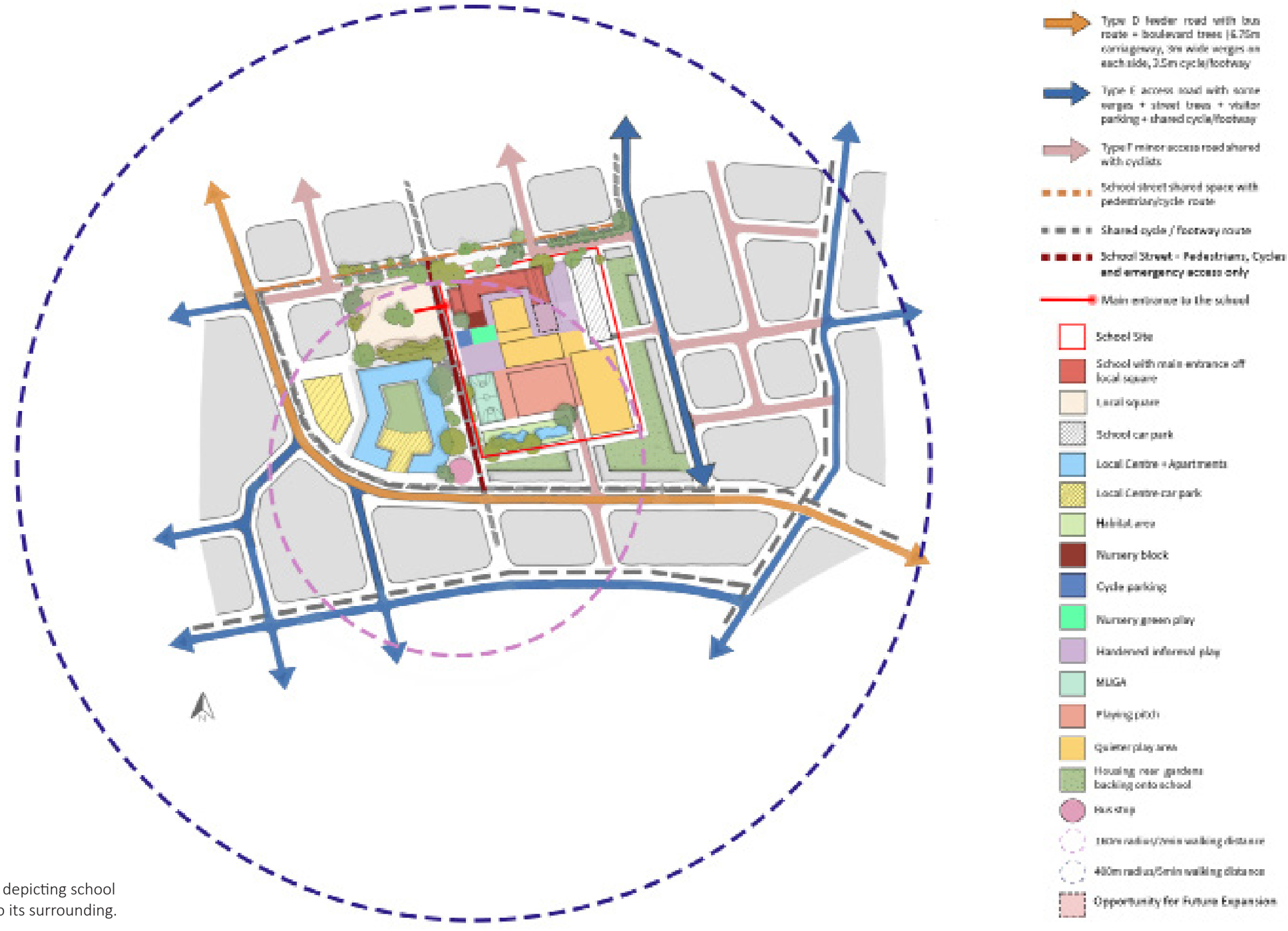
- Typical outputs from a masterplanning exercise can be an Illustrative Masterplan, a Design and Access Statement, Parameter Plans and a Design Code.
- At this stage, a site of a suitable size and shape, capable of being occupied by a school in a way that is compliant with this, and other principles should be selected.
- Masterplanning for an overall site, including a school site, should involve a contextual study of the area, and definition of what new context is required.
- This can include an opportunity and constraints diagram for the site and proposals for character areas based architectural character analysis. These will usually form part of the Design and Access Statement or a Design Code.
- It is important at this stage to decide how future school designs should fit into the context. Schools can have a distinct character of their own, but they should also relate to their context. For example, a school can take on residential proportions related to the dwellings in their area. They can take on the character of background context or can play a more proactive role as a landmark informed by the context of other local landmarks, to improve the legibility of the area.

- Schools should relate to the public realm including public spaces and streets. One way of doing this is to ensure the school relates to a key plaza or social space which can also be faced up to with other building uses. This will affect the massing of the building.
- It is important to plot a workable school in outline on an Illustrative Masterplan in accordance with these principles, National Policy and the DfE specification. In terms of sizes, reference should be made to the Baseline School designs and area standards set out in principle 1 (derived from BB103).
- Consult the Developers Guide which has a long checklist of requirements for school sites and ensure the site is compliant with this.
- Principles to do with the relationship with context can be defined with Parameter Plans and/or a Design Code. These can set:

1. The areas of the school site that are important to be defined by built form in relation to the public realm.
2. Heights of school buildings relative to their proposed context- typically school buildings are between 1 and 2 storeys high.
3. Key elements of architectural character of the school relative to the context and any proposed character areas.

- If the school is designed on the corner, this will visually require increased height, architectural detail and/or contrasting materiality to the rest of the school.
- It is important that these characteristics are set so that they can feasibly be followed by school designers when the site comes forward. This will depend on ensuring they can be compliant with National and Local Policy and the DfE Specification (see Introduction).

Principle 10 - Built Form Should Relate to its Context.



Illustrative diagram depicting school site's relationship to its surrounding.

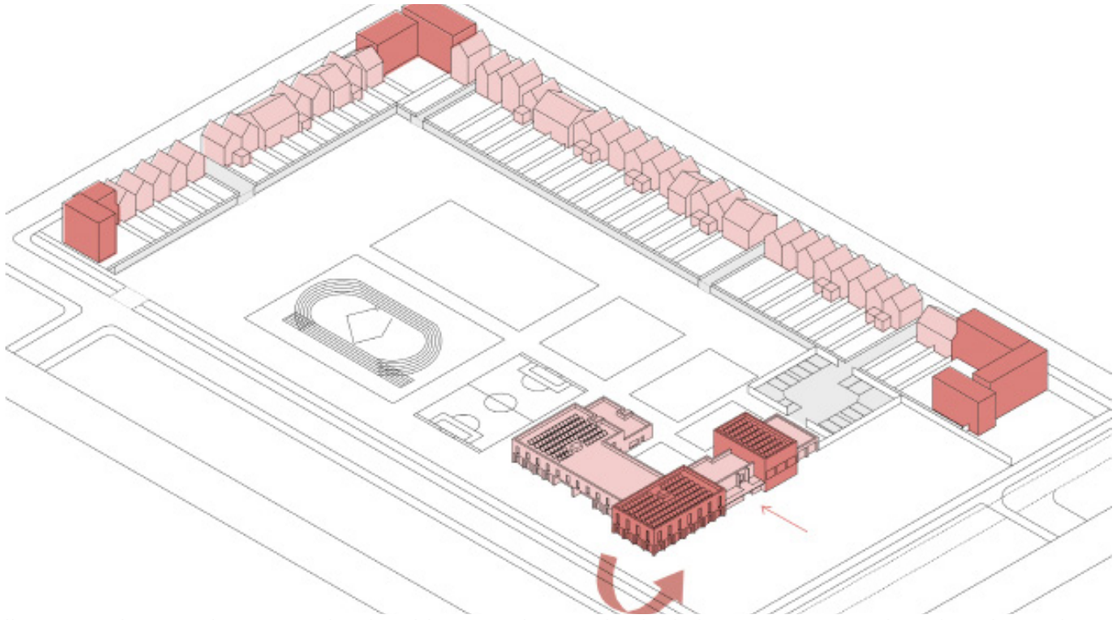
Principle 10 - Built Form Should Relate to its Context.

School Design/Planning Stage

At School Design Stage this involves:

- Schools have a specific architecture which identifies them as a building typology. However, this should not be at odds with the context. The context will either be existing or proposed in the masterplan application.
- It is therefore important to review any contextual information such as the study forming part of the masterplan and any proposals for character areas into which the school will need to engage. If a contextual study does not exist, it is important to undertake one to inform the design, including to what extent the school should fit into the background context or play a more proactive role as a landmark.
- An Opportunities and Constraints plan should be produced for the school site. Typically this will include taking account of the following:
    1. Existing landscape features.
    2. Key Frontages.
    3. Surrounding building heights.
    4. Surrounding lines of built form.
    5. Opportunities for access points.
    6. Opportunities to address a corner.
    7. Opportunities to end vistas.
    8. Site gradients including high and low points.
    9. Associated opportunities for locating Habitat areas and Sustainable Drainage basins.
    10. Underground and overground power lines and utilities.
    11. Opportunities for access.

- Take account of any Masterplans, Design Codes and Parameter Plans which form part of the planning permission for the site and ensure the opportunities and constraints diagram aligns with these if possible. These will have been developed according to National and Local Planning Policy, and should be compliant in outline with the site recommendations and areas in the DfE Specification (see Introduction). These will place parameters, opportunities and constraints on the site and the future school design.
- Consult the Developers Guide which has a long checklist of requirements for school sites.
- Ensure the scale, rhythm and massing of the built form are contextual.
- If the school is defining a key corner, ensure that the building responds to this and provides active frontage (doors, windows, etc.) to both sides.
- Engage with public spaces such as streets, squares and village greens adjacent to the site by defining them with built form, active frontage and appropriate massing.
- Schools have a distinct architecture of their own so that they are instantly recognisable as schools, adding to the legibility of the local area. Therefore it is important that this architecture is employed in a way which does not clash with the existing context.
- Relate to domestically scaled buildings if required. For example, the width of a classroom is analogous to the width of a house and can be fenestrated in a similar way as a house relates to its back garden with large generous windows and doors on the ground floor.
- If the school is required to be a landmark, then the school should take inspiration from other local landmarks, or guidance in the masterplan/design code. There should include a modulation between the immediate context and this enhanced architecture required to become a local landmark.
- If there is an opportunity for the school to define the corner, this will visually require increased height, architectural detail and/or contrasting materiality to the rest of the school to aid legibility.



Illustrative diagram depicting School Buildings can have Individual Elements Expressed, Each with Residential Proportions to match the Local Housing. This can Include a Defined Base to the Building, Raised Elements to Define Corners and Windows with Vertical Proportions.

Principle 11 - School Buildings Should be Legible Inside and Out with Each Broad Function Individually Expressed in the Architecture

Explanation

It is important that the school is legible so that residents can understand that this is a school rather another use, and that parents and pupils can find their way around. One way of achieving this is to ensure the form gives an indication of the function.

Relevant NDG Principles

- The National Design Guide Section C1 calls for designs which understand and relate well to local built environment character, views, layout, form, scale and appearance.
- C2 encourages well- designed places which are positively influenced by the history and the heritage of the context.

- I1 encourages buildings which respond well to local character and identity through appreciation of existing built form, height scale, massing and relationships between buildings. This includes the scale and proportions of proposals, façade design, patterns and proportions of fenestration and their details.
- I3 encourages the setting of buildings within the landscape, the arrangement of layout and grain, landscape spaces, movement network, development blocks, scale, form, proportions and materials to create distinct characters and a memorable sense of place.

Section B encourages the use of height, density and arrangement of buildings to create destinations, increased legibility, and proposals that are proportionate to the spaces they overlook while being sensitive to the existing landscape and built form context.

Relevant EDG Principles

- Essex net zero policy
- Essex Embodied Carbon Policy Study

DfE Specification

- The GDB section 2.2.3 requires that all main access routes and paths are clear, legible and accessible to all.
- Section 2.3.2 requires that schools be laid out legibly to a clear spatial diagram apparent while walking through the building.
- Compatible uses should be grouped together in ‘suites’ for convenience.
- Spaces should be linked logically by a well organised circulation space.

Local Plan Stage

• Design Policies should establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit. Equally policies should encourage designs which are sympathetic to local character and history, including the surrounding built environment and landscape setting.

Masterplanning Stage

- Provide opportunities for schools to face up to public spaces, other buildings and corners.
- Decide whether the school is a landmark building.
- Select a palette of materials for the school which is contextual and fulfils its landmark status if applicable.

Principle 11 - School Buildings Should be Legible Inside and Out with Each Broad Function Individually Expressed in the Architecture

School Design/Planning Stage

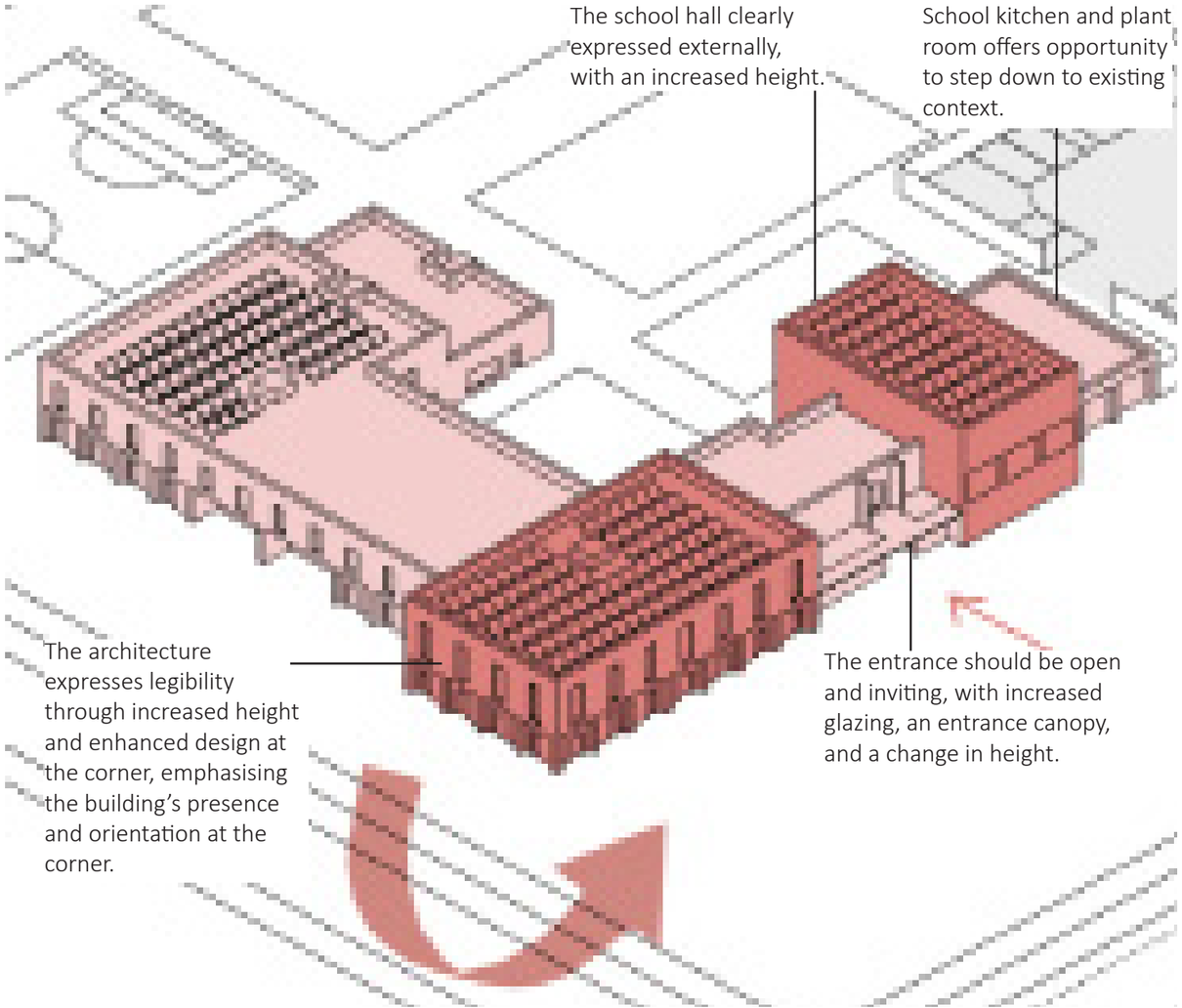
- Be clear about where different parts of the school should be located according to these principles and any masterplans or parameter plans.
- Separately express each broad function of the school, through changes of plane, height and / or materiality.
- Note a change of materiality or colour without a change of plane or height will mean the building will appear poorly articulated.

- Explore opportunities to separately express the following:

1. The School Hall
2. The Entrance
3. The Administrative Accommodation
4. The Classroom

Exemplary Requirement:

5. The school as a series of pitched roofs if local context appears to warrant this. Pitched roofs can have the advantage of allowing solar panels to be angled towards the sun.
6. The school corridor (for example this can be combined with the need for natural light and ventilation by providing a top-lit corridor with roof lights)
7. Each Classroom (consider changes in height plane, material or the use of pitched roofs).



Illustrative diagram depicting legibility expressed through massing and built form.

Principle 12 - Schools Should be Designed to be Sustainable, Zero Carbon, Low Embodied Energy and Make Full Use of Renewable Energy.

Relevant NDG Principles

- The National Design Guide section R1 encourages the reduced need for energy through passive measures, energy efficient M&E systems and maximising opportunities for renewables.

Well-designed places and buildings follow the energy hierarchy of: reducing the need for energy through passive measures including form, orientation and fabric; using energy efficient mechanical and electrical systems, including heat pumps, heat recovery and LED lights; and maximising renewable energy especially through decentralised sources, including on-site generation.

- R2 encourages careful selection of materials and construction techniques to reduce their environmental impact.

DfE Specification

Section 1.7.4 requires buildings to be designed to:

1. Be Lean- exploit passive opportunities presented by the building and its immediate micro climate – such as increased insulation, orientation for solar gain, natural ventilation and passive cooling.
2. Be Clean- maximise the energy efficiency of all installed equipment.
3. Be Green- use on site renewable energy sources and sustainable drainage and green infrastructure to increase biodiversity.

It also requires sustainable approach to construction which:

1. Minimises the use of all resources including energy and water use and embodied carbon.
2. Minimises air and noise pollution.
3. Allows for future recycling.

Relevant NPPG Principles

- Environmental Impact Assessment
- Climate change this principle encourages:
  - Maximising summer cooling of schools through natural ventilation in buildings and avoiding excessive solar gain.
  - The provision of multi-functional green infrastructure in public spaces associated with schools and in school sites which can reduce urban heat islands, manage drainage and help species adapt to climate change – as well as contributing to a pleasant environment which encourages people to walk and cycle.
  - The serving of school sites with pedestrian, cycle and public transport infrastructure to reduce car dependence.
  - Setting requirements for a buildings sustainability according to the governments zero carbon policy.
  - Passive solar design.

Relevant EDG Principles

- Essex net zero policy
- Essex Embodied Carbon Policy Study
- Environmental Sustainability
- Essex Solar Design Guide
- The Sustainable Drainage Systems Design Guide For Essex
- Renewable Energy for Developments
- Influences Upon Sustainability

Principle 12 - Schools Should be Designed to be Sustainable, Zero Carbon, Low Embodied Energy and Make Full Use of Renewable Energy.

Local Plan Stage

• Policies should require schools to be designed to the Net Zero Carbon Policy for Greater Essex.
• They should encourage low embodied carbon schools designed to the recommendations of the Essex Embodied Carbon Policy Study.
• Polices should ensure schools are orientated to full advantage of natural sunlight without undermining the public realm; well-connected to a comprehensive public transport, pedestrian and cycle network; and designed to include a well- integrated and biodiverse sustainable drainage system including green roofs.
• Policies should encourage designs that maximise opportunities for well-controlled solar gain including south facing glazing, minimise heat loss through north facing walls and maximize opportunities for solar panels on roofs.

Masterplanning Stage

- Ensure schools are orientated to take full advantage of natural sunlight without undermining the public realm.
- Ensure the school is well-connected to a comprehensive pedestrian, cycle network and
- Public transport.
- Allow for the planning and integration of sustainable drainage systems into the school site.

Principle 12 - Schools Should be Designed to be Sustainable, Zero Carbon, Low Embodied Energy and Make Full Use of Renewable Energy.

School Design/Planning Stage

- Follow the Essex Design Guidance on Zero Carbon Development, including:

1. The Essex Design Guide Planning Policy Position for Net Zero Carbon Development
2. Essex Design Guide Embodied Carbon Policy Study

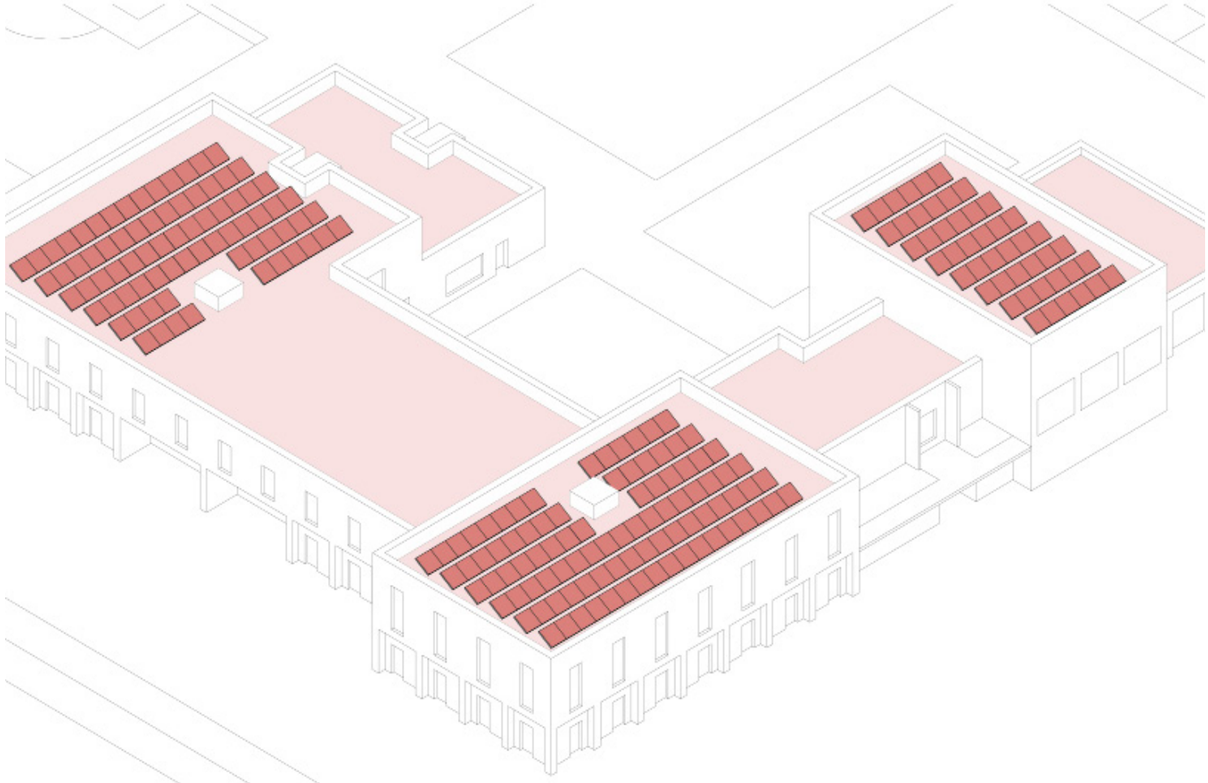
- Maximise opportunities for well-controlled solar gain including south facing glazing and minimise heat loss through north facing walls.
- Maximize opportunities for solar panels on roofs.
- Flat roofs offer the opportunity for a combination of green roofs which help with water attenuation and biodiversity, and rows of solar panels angled at 30 degrees to the horizontal to provide renewable energy.
- Ensure all roofs are safely accessible and it is possible maintain green roofs solar panels and other services safely.
- Consider reducing embodied energy, the amount of energy it takes to construct the school by:

1. Efficient construction, reducing construction programme and waste.
2. Off-site construction which can be used to achieve the above.
3. Use of Local materials with reduced travel costs and with the advantage that they should be contextual.
4. Low embodied energy materials which use less energy in their formation and construction.
5. Recycled materials or materials that are capable of being recycled.

- Consider the possibility of and plan for future school extensions to reduce the impact of future demolition.

Exemplary Requirement:

- **Consider using existing and proposed landscaping features to provide solar shading.**
- **Consider using south facing monopitch roofs which, research has proven, provide the greatest efficiency of solar panel electricity generation compared to other roof forms.**



Illustrative diagram depicting making use of solar panels.

ESSEX DESIGN GUIDE
SCHOOL DESIGN PRINCIPLES

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FINAL
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