



OCTOBER
2023

Low Emission Strategy

Pinn River SEND School

Iceni Projects Limited on behalf of
Kier Construction on behalf of
Department for Education

October 2023

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ON BEHALF OF KIER
CONSTRUCTION ON
BEHALF OF DEPARTMENT
FOR EDUCATION

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CONTENTS

1. EXECUTIVE SUMMARY.....	1
2. INTRODUCTION.....	3
3. PLANNING AND REGULATORY CONTEXT	6
4. LOW EMISSION STRATEGY	13
5. SUMMARY	24

APPENDICES

- A1. SITE PLAN
- A2. GENERAL NOTES

1. EXECUTIVE SUMMARY

- 1.1 Iceni Projects Ltd were commissioned by Kier Construction on behalf of Department for Education to produce a Low Emission Strategy to support the proposed development of the Pinn River SEND School, Fore Street, Pinner, HA5 2JQ.
- 1.2 This application proposes the demolition of the existing school building, and the construction of a part-one, part-two storey Special Educational Needs and Disability (SEND) school.
- 1.3 Consideration has been given to the London Borough of Hillingdon Local Plan Part 1 and 2 in the formulation of this strategy, aiming to minimise the impact of the proposed development on local air quality during construction and operation, and ensure accordance with the London Borough of Hillingdon Air Quality Action Plan 2019-2023.
- 1.4 The proposed strategy has been based around the objectives of the Local Plan Part 1 strategic objective 11, and policies BE1 and EM1, and Local Plan Part 2 policy DMEI 14. The strategy shows that the proposed development:
 - will employ electric-only air source heat pump (ASHP) systems to deliver space and water heating, eliminating the need for fossil-fuel combustion on site;
 - will incorporate measures, such as clear signage and awareness campaigns, to eliminate idling within proximity to the entrance of the school;
 - will employ a range of measures outlined within the Mayor of London's Toolkit of Measures to Improve Air Quality at Schools, including the provision of dedicated footpaths and the implementation of a Delivery and Servicing Plan;
 - will encourage staff to adopt sustainable modes of transport, through the provision of secure on-site cycle storage, detailing of information on walking routes in the surrounding area, and the delivery of electric vehicle charging facilities to encourage the use of alternatives to combustion engine cars;
 - will consider the provision of electric minibuses for the drop-off and collection of students;
 - will ensure the most up-to-date, clean technology is employed with respect to the back-up diesel generator required to service the development, with an appropriate testing and maintenance regime to be implemented to minimise the emission of pollutants to the atmosphere; and
 - will deliver new planting and green infrastructure, which will aid in improving local air quality.

- 1.5 Overall, the proposals constitute sustainable development in accordance with national and local policy requirements and will provide a development that seeks to promote these principles in practice.

2. INTRODUCTION

2.1 Iceni Projects Ltd were commissioned by Kier Construction on behalf of Department for Education to produce a Low Emission Strategy to support the proposed development of the Pinn River SEND School, Fore Street, Pinner, HA5 2JQ.

Report Objective

2.2 This document details the sustainable design and construction measures adopted by the proposed development and gives an overview of the design proposals that will ensure the development operates in a sustainable manner over the lifespan of the scheme. The Low Emission Strategy report headlines will provide a framework for the project team to operate consistently within sustainability guidelines set out by the London Borough of Hillingdon (LBH).

2.3 The report is structured to meet these guidelines as follows:

- Section 3 discusses the planning context and policies which are relevant to sustainability;
- Section 4 discusses the development response to the policy drivers for sustainability; and
- Section 5 summarises the development's design response.

Site and Surroundings

2.4 The application site (Appendix A1) is located within the London Borough of Hillingdon, on the eastern edge of the Park Wood Nature Reserve. The site is bound by Coteford Junior School and associated grounds to the southeast, beyond which lie residential properties to the southeast and east. The site is bound by woodland to the north, northeast, west and southwest.

2.5 The application site itself comprises the existing Grangewood School, which operates as a primary school for 100 students aged 3 to 11, who have severe learning difficulties and complex needs. The single storey building, which is made up of three blocks, is currently supported by parking provision of 82 spaces, and is served by 15 minibuses that drop off and pick up students. The approximate location and boundaries of the site are shown in Figure 2.1 below.

Figure 2.1 The site



The Proposed Development

- 2.6 The proposed development was submitted to the London Borough of Hillingdon in November 2022 (ref. 2145/APP/2022/3534) and approved in March 2023.
- 2.7 The description of development is as follows:

"Demolition of existing school building construction of part-one, part-two storey Special Education Needs and Disability School (SEND) (Use Class F) of 5,413sqm GEA floorspace, together with associated landscaping, play space, access, refuse and recycling storage, car and cycle parking and associated works."

- 2.8 The image below shows a proposed external visual of the proposed development, which was submitted as part of the original planning application, and was prepared by Noviun Architects Ltd in November 2022. The proposed block plan is provided in Appendix A1.

Figure 2.2 Proposed external visual



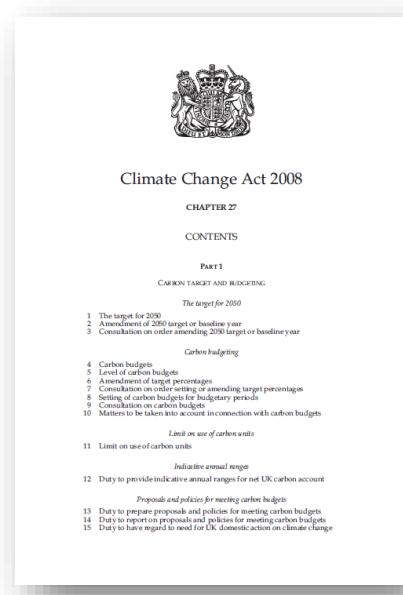
3. PLANNING AND REGULATORY CONTEXT

- 3.1 Sustainable development approaches are incorporated within policy and regulation at a national, regional and local level, as set out below.

National

Climate Change Act 2008

- 3.2 On 26th November 2008, the UK Government published the Climate Change Act 2008; the world's first long-term legally binding framework to mitigate against climate change. Within this framework, the Act sets legally binding targets to increase greenhouse gas emission reductions through action in the UK and abroad from the 60% target set out in the Energy White Paper, to 80% by 2050.

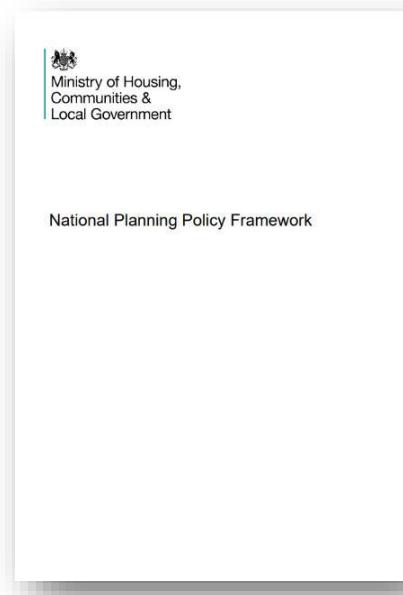


- 3.3 As required under Section 34 of the Climate Change Act, the Sixth Annual Carbon Budget was accepted by the Government in April 2021. This sets out a budget for UK emissions for the period 2033 – 2037.

- 3.4 Following a commitment in June 2019, the Climate Change Act has been amended to target net zero carbon emissions by 2050.

National Planning Policy Framework

- 3.5 The Ministry of Housing, Communities & Local Government determines national policies on different aspects of planning and the rules that govern the operation of the system. Accordingly, the National Planning Policy Framework (NPPF), which came into force in March 2012 and was updated in February 2019, aims to strengthen local decision making. Additional updates have since been made through the latter half of 2020 and in January and July 2021 to reflect changes related to use classes, permitted development rights, the calculation of housing need, and requirements to achieve beauty alongside sustainability. A further update was made in September 2023 with respect to onshore wind development.



- 3.6 Paragraphs 10 and 11 of the NPPF confirm that at the heart of this document is a “*presumption in favour of sustainable development*”, and that development proposals that accord with an up-to-date development plan should be approved without delay.
- 3.7 Paragraph 7 states that the purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.
- 3.8 Achieving sustainable development means that the planning system has three overarching activities, which are interdependent and need to be pursued in mutually supportive ways, so that opportunities can be taken to secure net gains across each of the different objectives:
- **An Economic Role** – ensuring the provision of land and infrastructure needed to help build a *strong, responsive and competitive economy*.
 - **A Social Role** – supplying the required amount of housing while at the same time ensuring and building *strong, vibrant and healthy communities*. Ensuring that the built environment is sited around accessible local services which help support a community’s *health, social and cultural well-being*.
 - **An Environmental Role** – ensuring development contributes to the protection and enhancement of the *natural, built and historic environment* through the improvement of biodiversity, minimising the use of natural resources and production of pollution / waste, and guaranteeing sufficient adaptation to climate change.

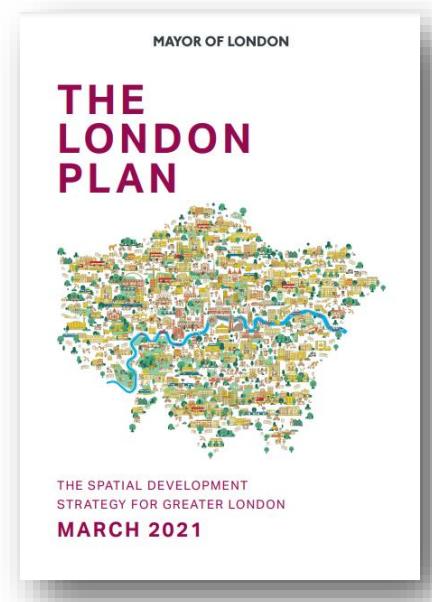
Regional

- 3.9 Within Greater London, key sustainable development principles for economic, environmental and social improvement are set out below:

The London Plan (March 2021)

- 3.10 The London Plan is the overall strategic plan for London and includes policies for sustainable development and energy within Chapter 9 (London's response to climate change). Key policies of relevance to this scheme are as follows:

- **Policy SI1 Improving Air Quality.** This states that, to tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed:
 1. Development proposals should not:
 - a. lead to further deterioration of existing poor air quality
 - b. create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits
 - c. create unacceptable risk of high levels of exposure to poor air quality.
 2. In order to meet the requirements in Part 1, as a minimum:
 - a. development proposals must be at least Air Quality Neutral
 - b. development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retro-fitted mitigation measures
 - c. major development proposals must be submitted with an Air Quality Assessment. Air quality assessments should show how the development will meet the requirements outlined above
 - d. development proposals in Air Quality Focus Areas or that are likely to be used by large numbers of people particularly vulnerable to poor air quality, such as children or older people should demonstrate that design measures have been used to minimise exposure



In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile

Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.

Development proposals should ensure that where emissions need to be reduced to meet the requirements of Air Quality Neutral or to make the impact of development on local air quality acceptable, this is done on-site. Where it can be demonstrated that emissions cannot be further reduced by on-site measures, off-site measures to improve local air quality may be acceptable, provided that equivalent air quality benefits can be demonstrated within the area affected by the development

- **Policy SI2 Minimising Greenhouse Gas Emissions.** This states that major development proposals should be net zero carbon, by reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the following energy hierarchy:
 1. Be lean: use less energy
 2. Be clean: supply energy efficiently
 3. Be green: use renewable energy
 4. Be seen: monitor, verify and report energy performance
- **Policy SI3 Energy Infrastructure.** This policy recognises that combined heat and power installations can have negative effects on London's air quality and shifts the focus of decentralised energy networks to the use of waste or secondary heat sources, where available. The policy also recognises that, compared to increasingly decarbonised electricity generation, gas-fired heat will become comparatively more carbon intensive as the electricity grid is further decarbonised.

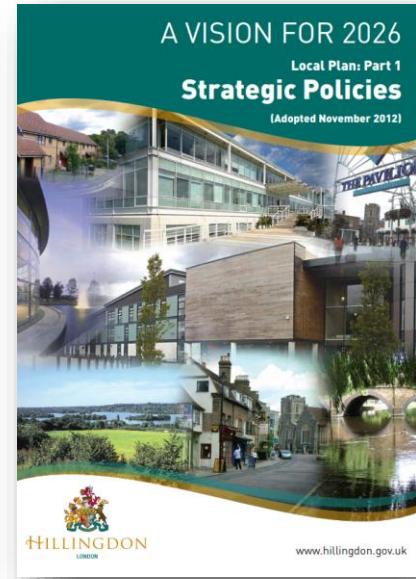
Local

- 3.11 In determining the local context, the London Borough of Hillingdon Local Plan Part 1 Strategic Policies (November 2012) and the Local Plan Part 2: Development Management Policies (January 2020) set out policy relevant to sustainable development.

London Borough of Hillingdon Local Plan Part 1: Strategic Policies (November 2012)

- 3.12 The Local Plan demonstrates the importance the local authority places on maintaining and enhancing the natural environment, outlining a number of strategic objectives and policies to achieve this. The objectives and policies of relevance to the proposed development are outlined below.

- 3.13 **Strategic Objective 11:** Address the impacts of climate change, and minimise emissions of carbon and local air quality pollutants from new development and transport.



- 3.14 **Policy BE1: Built Environment.** This states that the Council will require all new development to improve and maintain the quality of the built environment in order to create successful and sustainable neighbourhoods, where people enjoy living and working and that serve the long-term needs of all residents. All new developments should maximise the opportunities for all new homes to contribute to tackling and adapting to climate change and reducing emissions of local air quality pollutants. The Council will require all new development to achieve reductions in carbon dioxide emission in line with the London Plan targets through energy efficient design and effective use of low and zero carbon technologies.

- 3.15 **Policy EM1: Climate Change Adaptation and Mitigation.** The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

- Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport.
- Promoting a modal shift away from private car use and requiring new development to include innovative initiatives to reduce car dependency.
- Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market.

- Working with developers of major schemes to identify the opportunities to help provide efficiency initiatives that can benefit the existing building stock.
- Promoting the use of decentralised energy within large scale development whilst improving local air quality levels.
- Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional emissions reductions.
- Encouraging sustainable techniques to land remediation to reduce the need to transport waste to landfill. In particular developers should consider bioremediation as part of their proposals.

London Borough of Hillingdon Local Plan Part 2:

Development Management Policies (January 2020)

3.16 The purpose of the Local Plan Part 2: Development Management Policies is to provide policies that will form the basis of the decision making on individual planning applications. The document contains policies relating to new development and environmental protection and enhancement. Policies of relevance are as follows:

3.17 **Policy DMEI 14: Air Quality.** Development proposals should demonstrate appropriate reductions in emissions to sustain compliance with and contribute towards meeting EU limit values and national air quality objectives for pollutants. Development proposals should, as a minimum:

- Be at least “air quality neutral”;
- Include sufficient mitigation to ensure that is no unacceptable risk from air pollution to sensitive receptors, both existing and new; and
- Actively contribute towards the improvement of air quality, especially within the Air Quality Management Area.

LONDON BOROUGH OF HILLINGDON
LOCAL PLAN PART 2
DEVELOPMENT MANAGEMENT POLICIES

Adopted Version
16 January 2020

London Borough of Hillingdon Air Quality Action Plan 2019 – 2024 (May 2019)

3.18 The London Borough of Hillingdon Air Quality Action Plan 2019 – 2024 sets out the action that the Council will take to improve air quality within the borough. The objectives defined for the Air Quality Action Plan are to focus actions to:

- Improve the areas of poorer air quality as soon as possible.

- To continue to improve air quality across the borough and reduce public exposure to air pollution, especially for vulnerable groups within our communities such as the young, the old and those already suffering with associated respiratory illnesses.

3.19 The following actions are to be prioritised under the Action Plan:

- Lead by example in relation to emissions from the Council's fleet and building stock;
- Reduce public exposure and improve air quality around schools;
- Prioritise the implementation of improvement strategies in the AQ Focus Areas;
- Ensure the integration of Transport for London's Healthy Streets Approach in relevant council work programmes, ensuring that air quality is specifically addressed;
- Ensure the planning system supports the achievement of air quality improvements in relation to new developments;
- Raise public awareness via targeted campaigns for example concerning air quality risks and alternatives to car travel;
- Promote the use of greener walking and cycling routes to help the delivery of the Council's transport objective of an increased mode share for walking and cycling;
- Work with external stakeholders where they are responsible for sources of pollution that are outside the control of the Council. We will also lobby regional and central government on policies and issues beyond Hillingdon's influence.

4. LOW EMISSION STRATEGY

- 4.1 With reference to the policy requirements, guidance and industry best practice detailed in Section 3, a Low Emission Strategy has been prepared for the proposed development. This provides details of the measures to be incorporated as part of the scheme to ensure the potential impact of the proposals on local air quality is minimised, and ensure accordance with the London Borough of Hillingdon Air Quality Action Plan 2019-2023.
- 4.2 This Low Emission Strategy has been prepared pursuant to condition 11 of the approved application (ref. 2145/APP/2022/3534), which states:

"Prior to any above ground works for the development hereby approved (excluding demolition), a low emission strategy (LES) shall be submitted to and approved in writing by the Local Planning Authority. The LES shall specify ways to manage air pollution emissions to conform with the LBH Local Action Plan. The measures are to include but not be restricted to the provision of electric mini buses, the provision of green roofs and planting, and a low emission model for the diesel backup generator as well as behavioural measures such as walking, car sharing, cycling and anti-idling campaigns. It shall specify as a minimum the following:

- a) *No idling on school grounds or ways of access to the school entrance;*
- b) *Implementation of suitable measures from the Mayor of London's Schools Air Quality Audit Toolkit demonstrating a clear steer towards an air quality positive approach and demonstrate the project's commitment to ensuring a high level of sustainability;*
- c) *A clear and effective strategy to encourage staff of the school to use public transport, cycle / walk to work where practicable, enter car share schemes, and purchase and drive to work zero emission vehicles.*
- d) *Provision of a clean low emission model for the diesel backup generator to be deployed on site and in alignment with the cleanest technologies in the market for diesel backup generators. The associated testing and maintenance regime is also to be designed in order to minimise to the maximum possible extent the NOx and PM2.5 annual emissions into the atmosphere.*

The measures in the agreed scheme shall be maintained throughout the life of the development.

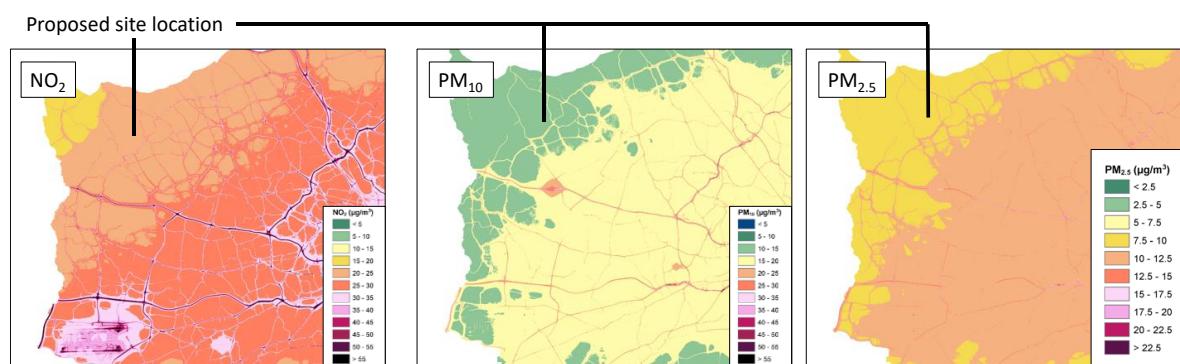
REASON

To reduce impacts on air quality in accordance with Policy SI 1 of the London Plan (2021), Policy DMEI 14 of the Hillingdon Local Plan Part 2 (2020) and the London Borough of Hillingdon Air Quality Action Plan 2019-2023.”

Low Emission Strategy

- 4.3 The Environment Act 1995 requires all Local Authorities to review air quality within their districts. If it appears that any air quality ‘Objective’ prescribed in the regulations and in the National Air Quality Strategy is not likely to be achieved, then the Local Authority must designate the affected area as an Air Quality Management Area (AQMA).
- 4.4 The area from the southern boundary of the London Borough of Hillingdon to the border defined by the A40 corridor, is specified as an AQMA due to excessive levels of nitrogen dioxide (NO₂) resulting from road transport. It is noted, however, that the proposed development site falls outside of this AQMA.
- 4.5 Figure 4.1 below, taken from the London Air Quality Network (LAQN), shows the levels of NO₂, PM₁₀ and PM_{2.5} measured at the site in 2019. The images below indicate that the levels of NO₂, PM₁₀ and PM_{2.5} present at the site in 2019 would have all been below both the National Air Quality Objective (NAQO) and World Health Organisation (WHO) guidelines.

Figure 4.1 Maps indicating annual levels of NO₂ (left), PM₁₀ (middle) and PM_{2.5} (right) exposure



- 4.6 As detailed in the Air Quality Assessment, prepared by Anderson Acoustics and submitted in support of the approved planning application (ref. 2145/APP/2022/3534), accounting for the air quality at the proposed development site, the impacts on future student and staff health will not be significant. Further to this, through the implementation of best practice dust management measures, the impacts of dust associated with the construction of the proposed development is considered to be not significant. In addition to this, through the provision of electric vehicle charging facilities, and due to

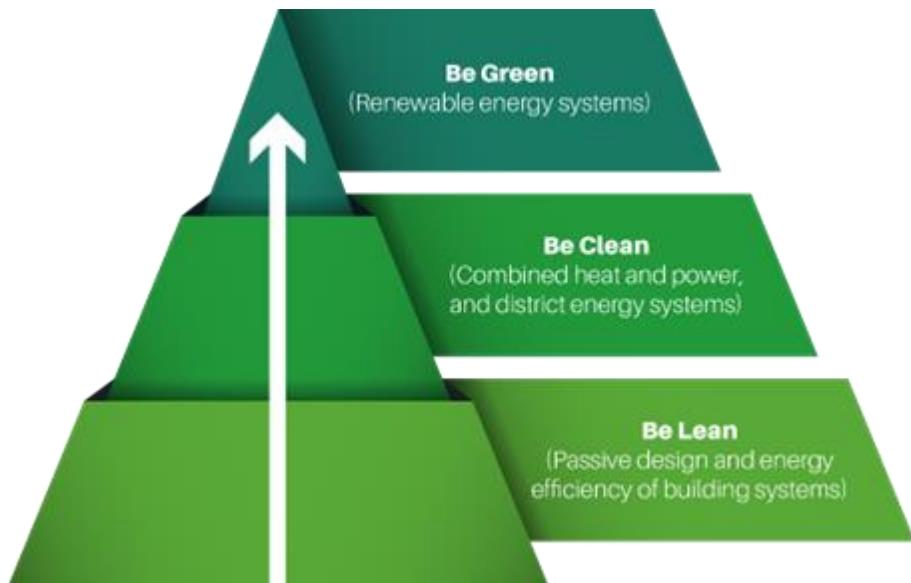
the fact that the majority of students will be dropped off at and collected from the school by minibus, the proposed development will be 'air quality neutral' with respect to transport emissions. Further to this, the employment of all-electric space and water heating systems, and the incorporation of a rooftop array of photovoltaic (PV) panels, will ensure the proposed development is 'air quality positive' with respect to building emissions during operation.

- 4.7 The features of the proposed development that will ensure any impact on local air quality will be minimised are outlined below.

Low and Zero Carbon Technology

- 4.8 In order to achieve a reduction in carbon dioxide emissions over the Part L of the Building Regulations baseline, in line with the requirements of the London Borough of Hillingdon, a number of measures will be implemented.
- 4.9 In addition to design interventions that will aid in minimising energy consumption associated with the proposed building, such as the specification of efficient building fabric and high levels of air tightness, low and zero carbon technology will be employed on-site.
- 4.10 The proposed energy strategy is based upon the principles of the energy hierarchy on the basis that it is preferable to reduce CO₂ emissions through reduced energy consumption above decarbonisation through alternative energy sources.
- 4.11 The tiers of the Energy Hierarchy are:
- Be Lean Use less energy
 - Be Clean Supply energy efficiently
 - Be Green Use renewable energy

Figure 4.2 The Energy Hierarchy



4.12 The proposed development has been carefully massed and located on the site to provide the optimum balance between the school's practical requirements, good form factors, and the need to prevent excess solar gain that could result in overheating.

4.13 The measures proposed at each level of the Energy Hierarchy are set out below.

4.14 The proposed domestic 'Be Lean' measures include:

- High levels of building fabric insulation to minimise heat loss
- High levels of air tightness to reduce heat loss through infiltration
- Low energy LED lighting to minimise artificial lighting energy consumption
- Natural ventilation will be employed wherever possible to minimise energy consumption, however it is intended that heat recovery hybrid ventilation be employed, which combines plate heat exchangers with a very low specific fan power (SFP)
- Energy efficient systems and equipment will be installed to minimise operational energy demand

4.15 The proposed domestic 'Be Green' measures include:

- Employment of a highly efficient, all-electric air source heat pump (ASHP) systems to provide space and water heating
- Incorporation of a 175 kWp rooftop photovoltaic (PV) array to generate carbon-free electricity on-site

- 4.16 Through the proposed employment of ASHP systems, the need for fossil fuel combustion on-site to deliver space heating and domestic hot water will be eliminated. In this way, there will be zero nitrous oxide (NO_x) and particulate matter (PM_x) emissions associated with the space and water heating systems to be provided as part of the proposed development. This will therefore aid in minimising the impact of the proposals on local air quality.
- 4.17 Further details are provided in the Energy Strategy Report, prepared by Ridge and Partners LLP, and submitted in support of the approved planning application (ref. 2145/APP/2022/3534).

Prevention of Idling

- 4.18 A commitment will be made to ensuring no idling takes place on the school grounds, nor on the ways of access to the school entrance. To achieve this, a number of measures will be implemented during the operation of the proposed development to minimise idling both during the dropping off and collection of students, and during deliveries to the school. Subject to confirmation, these measures will include:
- As detailed within the Transport Statement, prepared by Iceni Projects and which was submitted in support of the approved planning application (ref. 2145/APP/2022/3534), the majority of students will be brought to the school and taken home by minibus. This will reduce the number of private cars present in the vicinity of the school for drop-off and collection, which will aid in minimising the potential for idling cars. In order to reduce the potential for idling associated with the minibuses employed for drop-off and collection, campaigns will be employed to ensure the drivers are aware of the dangers of idling, and school staff will be briefed to challenge any minibus idling. It will also be required that the engines of the minibuses be turned off during the drop-off and collection of students, and during extended periods of laying over.
 - As shown in the car park layout displayed in Figure 4.3 below, the proposed car park for the school will incorporate a number of minibus drop-off spaces outside the entrance of the school. As detailed above, it is expected that the majority of students will be dropped off at the school and returned home via minibus. The provision of these spaces at the entrance of the school will minimise the potential for idling cars and other vehicles to be present at the entrance during drop-off and collection of students, and clear markings will be incorporated to denote the use of these spaces for minibuses only. As detailed above, it is intended that minibus drivers employed to provide the drop-off and collection service for students will be suitably briefed on the dangers of idling.
 - A campaign will be developed, potentially in combination with Coteford Junior School to the south, to raise awareness of the dangers of idling within proximity to schools, as well as the benefits of switching off engines. As part of the campaign, volunteers would be sought to act as 'Champions' to help spread awareness, and potentially to identify and prevent repeat offences.

- Signage will be employed at the entrance of the school and, if appropriate, the access route from Fore Street. Banners would also be employed, with multiple languages used where appropriate.
- Liaison will be undertaken with the London Borough of Hillingdon to consider the adoption of policy that will enable the fining of drivers idling within proximity to the entrance of the school. Should this measure be enforceable, it would be delivered as part of a wider campaign to raise awareness of the dangers of idling within proximity to schools, with fines used only as a measure to deter persistent offenders.
- The car park associated with the proposed school, and the access route onto the site, have been designed to smooth traffic flows, which will aid in minimising idling associated with stationary traffic.
- It is noted that a drop-off location associated with Coteford Junior School is located to the south of the proposed school building, however it is intended that this area will be managed in liaison with staff at Coteford Junior School to minimise vehicle idling in this area, which is shown in Figure 4.3 below.
- To reduce the potential of vehicle idling associated with deliveries to the school, awareness will be raised with delivery drivers and companies to ensure the dangers of vehicle idling are known. As above, where appropriate, school staff will be briefed to challenge any vehicle idling during deliveries to the school.

4.19 Figure 4.3 below shows the proposed car park layout, prepared by Wynne-Williams Associates, and submitted in support of the approved planning application (ref. 2145/APP/2022/3534).

Figure 4.3 Proposed car park layout



Toolkit of Measures to Improve Air Quality at Schools

- 4.20 As part of the Mayor's School Air Quality Audit Programme, the Toolkit of Measures to Improve Air Quality at Schools was compiled, setting out a number of best practice approaches and new technologies that may be implemented to ensure good air quality is achieved around London schools.

4.21 The proposed development will seek to take an air quality positive approach as part of its commitment to ensure a high level of sustainability is achieved. During the operation of the proposed development, a number of the measures outlined within the Toolkit will be implemented, including, but not limited to:

 - Campaigns and measures to eliminate vehicle idling, as set out above.
 - The proposed development is accessible via a dedicated access route from Fore Street, which will limit the number of vehicles in proximity to the school to those for which the intended destination is the school, or Cotford Junior School to the south. In addition, the proposed car parking area associated with the Pinn River School will be one-way, aiding to reduce traffic flows, and enabling wider footway spaces that incorporate tree and shrub planting.
 - Traffic smoothing measures will be implemented within the car parking area of and access route to the proposed development. This will include the employment of an anti-clockwise, one-way

system around the central island, the provision of a dedicated Give Way Point, with associated signage, and the maintenance of the existing bell-mouth junction arrangement of the access route, which allows vehicles to turn from the right or left into and out of the site.

- As detailed above, drop-off activity at the proposed school will be limited through the provision of minibus services for students, which will reduce the number of drop-offs and collections made via private vehicle.
- Designated pedestrian footways are to be provided within the car parking area and access route for the proposed school, with tree and shrub planting to be introduced along these footpaths. Dedicated crossings will be provided, and clear signage will be maintained at the bell-mouth junction of the access route on Fore Street to highlight the presence of both the proposed school and the Coteford Junior School.
- The proposed development site is located within the Ultra Low Emissions Zone (ULEZ), which was expanded to cover all London Boroughs in August 2023. To facilitate the uptake of ULEZ-compliant vehicles and to ensure access to the necessary infrastructure, six active electric vehicle (EV) charging points will be provided within the car parking area of the proposed development. As detailed within the Transport Statement, prepared by Iceni Projects, there will be a defined increase of 20% each year in the provision of EV charging infrastructure, to reflect the expected growth of electric vehicle ownership.
- A Delivery and Servicing Plan (DSP) is to be prepared for the proposed development, which will consider the opportunities to reduce the number of delivery and servicing vehicle arrivals at the school that coincide with the drop-off and collection of students. It is also intended that liaison with Coteford Junior School be undertaken to combine deliveries and servicing, where appropriate, to minimise associated vehicle movements.
- A Construction Management & Logistics Plan, prepared by Kier Construction, has been submitted to the London Borough of Hillingdon, and approved in September 2023 (ref. 2145/APP/2023/1876). This document sets out the measures that will be implemented during the construction of the proposed development to minimise adverse impacts on surrounding receptors, including Coteford Junior School and surrounding residential properties. These measures include, but are not limited to: restricted project working hours; the provision of secure hoardings; efficient management of vehicle movements to and from the site; and the implementation of suitable dust suppression measures. Construction and demolition will also be undertaken in accordance with the Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance (SPG) prepared by the Greater London Authority (GLA). Further to this, in order to minimise nitrous oxide and particulate matter emissions, non-road mobile machinery (NRMM) will be audited to ensure compliance with the relevant standards.

Promoting Sustainable Modes of Transport

4.22 A Travel Plan has been prepared by Iceni Projects, and was submitted in support of the approved planning application (ref. 2145/APP/2022/3534). A number of measures are included within the Travel Plan to promote sustainable modes of transport to and from the site, including:

- The use of rail facilities to access the site will be encouraged through the identification of gaps in the public transport network from key stations to the school, with the provision of a minibus service to and from Notthwood Hills Station for staff members to be considered. There may also be potential for a 'roaming' minibus service to be provided to pick up staff from houses or postcode areas. The provision of a minibus service for staff would aid in reducing the number of private vehicle trips to and from the site, minimising the associated air quality impacts.
- There is potential for interest-free salary loans to be offered for rail and bus season tickets, to aid in making these services more affordable for staff.
- Up-to-date public transport information, including timetables, will also be provided on transport noticeboards, and/or within travel packs.
- Access to the school via bicycle is good, with a number of off-road routes and cycle-friendly roads linking the site to the surrounding area. Measures to encourage cycling to and from the school include:
 - A salary sacrifice scheme to allow staff to purchase a new bicycle and pay through their salary over a given time period, which allows for tax and national insurance savings on installments;
 - Regular cycle to work days may be run during the operation of the school, with the potential for rewards to be offered to those who cycle;
 - On-site cycle maintenance sessions may be offered;
 - Changing rooms with showers and lockers will be provided; and
 - Secure and covered cycle storage will be provided as part of the proposed development.
- To encourage staff to walk to the school, information about off-highway pedestrian routes will be provided on notice boards and within travel packs. A walking buddy scheme may also be established, to provide opportunities for employees who may prefer to walk with someone to do so by matching them with other employees who may be walking to or from a similar location.
- A car-sharing scheme will be promoted to reduce the number of single-occupancy private vehicle trips to and from the school. There is potential that some of the car parking spaces provided for the proposed development be reserved as "Car Share Only", to guarantee a car parking space

for those who car-share. There is also potential that a “Guaranteed Lift Home” scheme may be implemented, which will ensure those who car-share are able to get somewhere in an emergency, with the school arranging and paying for a lift home, usually via taxi.

- The car parking area to be provided for the proposed development has been designed to give high priority to electric vehicles (EVs), in placing six EV charging points in close proximity to the school entrance. This, and the commitment to increase the provision of EV charging points in the future, will aid in encouraging staff to take up low emission and electric vehicles.

4.23 Further details are provided in the Travel Plan, prepared by Iceni Projects.

Electric Minibuses

4.24 As detailed above, it is expected that the majority of students will be brought to the school and taken home by minibus. To reduce the emissions associated with these vehicles, the provision of electric minibuses will be considered and, should these vehicles be adopted, the relevant charging facilities and infrastructure will be provided on-site, with further details of this provision to be provided following further detailed design, should this be required.

Low Emission Diesel Generator

- 4.25 It is expected that a back-up generator will be required to service the proposed development. At this stage, it is expected that a diesel generator will be provided, with a low-emission model to be specified. To ensure the emissions of nitrous oxides and particulate matter associated with the back-up generator are minimised as far as possible, it is recommended that a system compliant with the European Union’s (EU) Stage V standard be procured. Plant compliant with Stage V will have reduced emissions of carbon monoxide, nitrous oxides, hydrocarbons, and particulate matter. The procurement of the back-up generator will be informed by the market, with only the cleanest systems to be considered.
- 4.26 An appropriate testing and maintenance regime will be put in place for the back-up generator, to ensure the system is run safely and efficiently. The regime will be designed in accordance with the maintenance requirements of the specified system, and will be implemented by the relevant member of staff, as appropriate.

Provision of Green Infrastructure

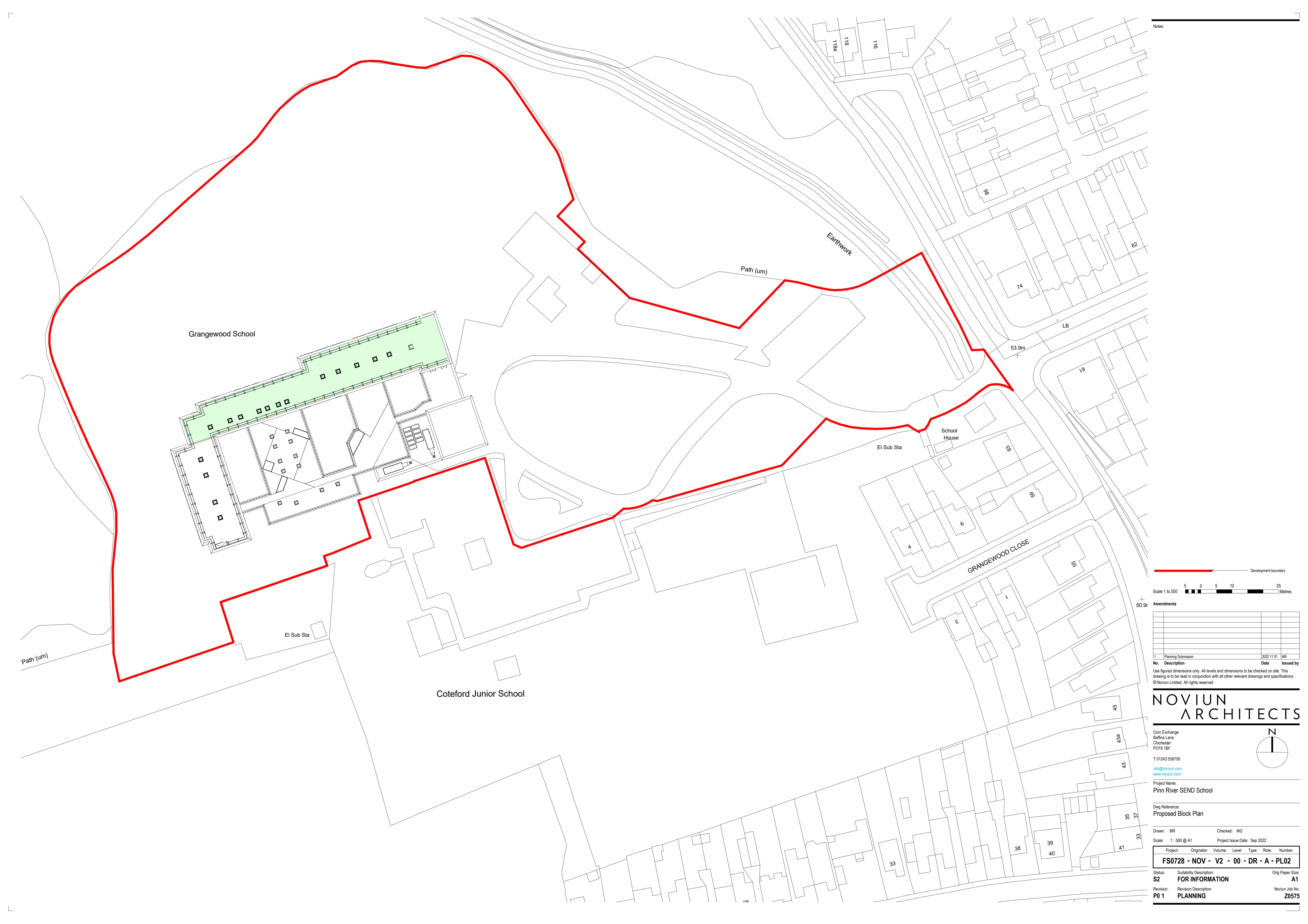
4.27 As shown in Figure 2.1 above, the site bound by woodland to the north, northeast, west and southwest. It is noted that part of the site falls within a Local Nature Reserve (LNR) and a Site of Special Scientific Interest (SSSI), however this element of the site will not be developed, with the exception of the replacement of an existing fence. Trees within the LNR and SSSI will be protected during the erection of the fence through appropriate mitigation measures.

- 4.28 It is noted that some trees located on the site will require removal to enable the increased footprint of the building. However, it is intended that this be mitigated through the provision of biodiversity improvements across the site that will ensure the delivery of a Biodiversity Net Gain of 10%. As detailed within the Biodiversity Net Gain Report, prepared by Rihard Graves Associates Ltd and submitted in support of the approved planning application (ref. 2145/APP/2022/3534), a number of enhancements will be made as part of the proposed development, including the incorporation of urban trees, and the delivery of shrub, mixed scrub, grassland and lowland meadow planting.
- 4.29 The provision of new planting and green infrastructure will aid in the absorption of pollutants in the air, contributing to an improvement of local air quality.

5. SUMMARY

- 5.1 This Low Emission Strategy provides an overview as to how the proposed development of the Pinn River SEND School, Fore Street contributes to sustainable development in the context of the strategic, design and construction considerations.
- 5.2 Consideration has been given to the London Borough of Hillingdon Local Plan Part 1 and 2 in the formulation of this strategy, aiming to minimise the impact of the proposed development on local air quality during construction and operation, and ensure accordance with the London Borough of Hillingdon Air Quality Action Plan 2019-2023.
- 5.3 Section 4 of this report demonstrates that the siting and design of the proposals support relevant policy relating to sustainable development, based around the objectives of the Local Plan Part 1 strategic objective 11, and policies BE1 and EM1, and Local Plan Part 2 policy DMEI 14. This shows that the proposed development:
- will employ electric-only air source heat pump (ASHP) systems to deliver space and water heating, eliminating the need for fossil-fuel combustion on site;
 - will incorporate measures, such as clear signage and awareness campaigns, to eliminate idling within proximity to the entrance of the school;
 - will employ a range of measures outlined within the Mayor of London's Toolkit of Measures to Improve Air Quality at Schools, including the provision of dedicated footpaths and the implementation of a Delivery and Servicing Plan;
 - will encourage staff to adopt sustainable modes of transport, through the provision of secure on-site cycle storage, detailing of information on walking routes in the surrounding area, and the delivery of electric vehicle charging facilities to encourage the use of alternatives to combustion engine cars;
 - will consider the provision of electric minibuses for the drop-off and collection of students;
 - will ensure the most up-to-date, clean technology is employed with respect to the back-up diesel generator required to service the development, with an appropriate testing and maintenance regime to be implemented to minimise the emission of pollutants to the atmosphere; and
 - will deliver new planting and green infrastructure, which will aid in improving local air quality.
- 5.4 Overall, the proposals constitute sustainable development in accordance with local policy requirements, and will provide a development that seeks to promote these principles in operation.

A1. PROPOSED BLOCK PLAN



A2. GENERAL NOTES

- A2.1 The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Iceni Projects Ltd for inaccuracies in the data supplied by any other party.
- A2.2 The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.
- A2.3 No site visits have been carried out, unless otherwise specified.
- A2.4 This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.
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