Design and Access Statement

Plasyfelin Primary School

Report for Pre-Application Consultation

Arcadis

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Design and Access Statement | Plasyfelin Primary School
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1. Introduction

1.1 Executive Summary

1.2 Background

1. Introduction

1.1 EXECUTIVE SUMMARY

This document has been produced in support of the Pre-application Consultation process ahead of the full planning application for the proposed Plasyfelin Primary School in Caerphilly. The application seeks permission for the construction of a new primary school of approx. 3150sqm with a new pedestrian access, landscaping, sustainable drainage, car and cycle parking.

The document is structured according to the guidance document 'Design and Access Statements in Wales' (2017) and is organised in the following sections:

1. Introduction: A brief summary of the proposal and its background
2. The Brief and Vision: The context of the proposal, development brief including accommodation and key design principles
3. Site and Context Analysis: An overview of the site's context and features including planning context
4. Design Proposal – Masterplan: An overview of the proposed site masterplan and associated landscaping and SUDS strategy
5. Design Proposal – Building Design: An overview of the design process, and the proposal including character, access, movement, environmental sustainability and community safety

1. Introduction

1.2 BACKGROUND

PROJECT OBJECTIVES

The aim of the project is to provide a new Two Form Entry Primary School including 60 place (30 FTE) Nursery on the site of the existing Plasyfelin Primary School.

The scheme design proposals are to ensure that these are achieved and carried out in 3 phases:

1. Phase 1 works: Provide temporary accommodation and carry out minor remodelling works to the existing 'Junior Block'.
2. Phase 2 works: Demolition of existing 'Infants Block' and construction of new school.
3. Phase 3 works: Provide temporary staff car park, remove temporary accommodation, demolish existing 'Junior Block' and construct new external works including; new car park, MUGA, external realm and hard & soft landscaping area.

This Design and Access Statement includes the initial concept design which will act as the starting point for further design development. Such design development must include Caerphilly County Borough Council's key design criteria, namely to:

- Address site specific and local issues
- Provide a Net Zero Carbon Operational building compliant with Welsh Government Requirements with a reduced embodied energy target of 600kgCO2m2
- Encourage and facilitate community use
- Ensure that the building users are fully informed of and can take full benefit of energy efficient design features.

The proposals have also been based on stakeholder engagement sessions covering the site constraints, schedule of accommodation, a test fit option appraisal and key sustainability objectives.

ARCHITECTURAL DESIGN PROCESS

This Design and Access Statement describes the proposals for the new Plasyfelin Primary School. So far the scheme has completed RIBA Stage 2 – Concept Design and is in the process of completing RIBA Stage 3 - Developed Design. The key architectural design process reached at this stage includes:

- Site Analysis
- Adjacencies Review
- 1:200 Floor Layout
- Concept Elevations
- 3D Visualisation indicating initial massing and architectural
- Character concepts for form and materiality.

In order to complete the above scope of work, design consultation undertaken during this stage has included;

- Brief Review & Sustainability Workshop with the CCBC project team to review the strategic brief, test fit options and the key sustainability objectives for the project.
- Design team workshops to review site constraints and test fit options.
- Meetings with the Head Teacher and School Governors to discuss initial concept and positioning of the new school building
- Collaborating with the design team to develop strategies for structure, services distribution and buildability
- Attending BREEAM workshops to assist in the determination of energy targets, energy conservation measures and LCA of material selection
- Assisting with the preparation of preliminary cost information
- Reviewing design development against brief and statutory standards and report any project specific derogations to the client team
- Developing initial design layouts, and reviewing architectural form and character

The deliverables and outputs described above developed in conjunction with the CCBC project team, Plasyfelin Primary School's Headteacher and Governors has established an agreed concept design. As such the principles that have been set out in RIBA Stage 2 will form the basis for a more detailed analysis during the next stages of design.

2. The Brief and Vision

2.1 Education Brief

2.2 Client Schedule of Accommodation

2. The Brief and Vision

2.1. EDUCATION BRIEF

Caerphilly County Borough Council (CCBC) is committed to improving education opportunities for all as the first of its Wellbeing Objectives and has committed to an ambitious Sustainable Communities for Learning investment programme. CCBC aspires to continue to raise school standards and improve the quality of the learning environment to create fit-for-purpose 21st century schools and give every child in Caerphilly the best possible start in life.

The Education proposals support the commitment to increase school effectiveness and to narrow inequalities in achievement across groups; to understand the needs of more vulnerable children; promote the Welsh Language, and support those unable to access traditional learning pathways to ensure that all will benefit from the richness of learning and cultural opportunities.

As part of the Sustainable Communities for Learning investment, CCBC are committed to transforming learning environments and the learner experience by;

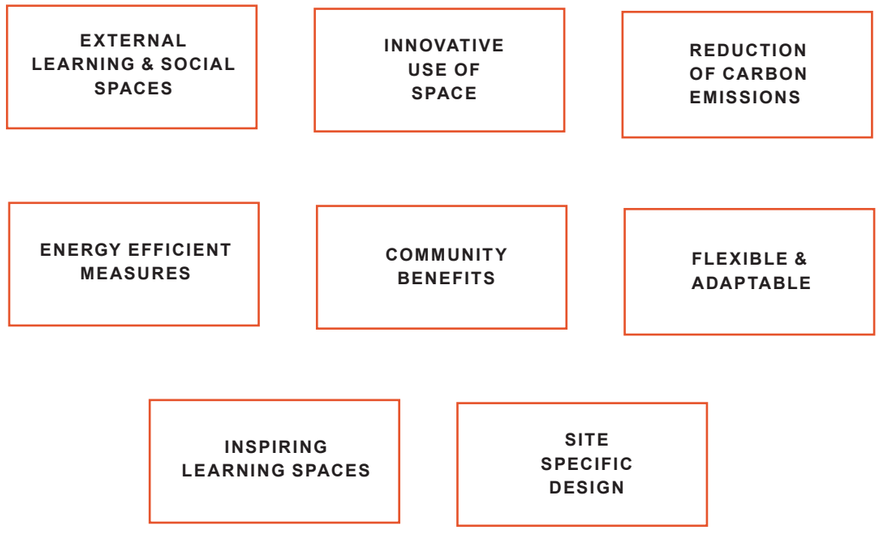
- Supporting all learners to be healthy, engaged, enterprising and ethical citizens, ready to play a full part in life and work, within places of learning that are safe, inclusive and free from discrimination and bullying.
- Improving learner experience and well-being in the built environment, supporting the delivery of Curriculum for Wales.
- Providing first-class digital infrastructure to improve learning environments and teaching methods for students of all ages and for the wider community.
- Supporting learners with additional learning needs and those from disadvantaged backgrounds.

KEY DESIGN PRINCIPLES

The aim of the project is to provide a new 420 place primary school, plus 60 (30 FTE) place Nursery to 21st Century standards for Plasyfelin Primary School on the site of the existing school in Caerphilly. The site is also to accommodate new external works including new car park, MUGA and areas of hard & soft play.

The vision set out by CCBC is to provide ‘every learner with the best life chances through provision of high-quality teaching, learning and leadership across all schools’ as part of their ‘Shared Ambitions’ Strategy. A design that supports the new curriculum by transforming the learning environment and the learner experience whilst ensuring wellbeing is at the heart of any scheme.

In designing the new Plasyfelin Primary School, Arcadis have endeavoured to design in accordance with the above design principles and the physical and operational requirements set out within the CCBC Employer’s Requirements. The build will also have a baseline requirement of BREEAM Excellent standard and will be Net Zero Carbon in Operation and a reduced Embodied Carbon target of 600kg/CO_2m^2 in accordance with Welsh Government targets and CCBC’s ambitions.



2. The Brief and Vision

2.2. CLIENT SCHEDULE OF ACCOMMODATION

The Client Schedule of Accommodation is based on Building Bulletin 99 and additional accommodation requirements as outlined by CCBC, a Community Room, walk-in fridge and freezer rooms within the Kitchen ancillary as well as additional hall space to address the universal school meal provisions.

The kitchen area is subject to consultation with the CCBC catering team. The plant area is subject to additional review from the MEP team.

04 - 18.11.24 Schedule updated to reflect signed-off RIBA 2 design (matching latest CCBC SoA shared)

New Plasyfelin Primary School, Caerphilly

Schedule of Accommodation (based on BB99 Guidance for a 420 2FE primary school)

Rooms	Group Size	Area (m2)	No. of Rooms	Total Area (m2)	Comments
Teaching					
Nursery	30	72	2	144	2.4m2 per child
Reception	30	70	2	140	Includes storage allowance 3m2 per classroom
Infant Classes	30	60	4	240	
Junior Classes	30	60	8	480	
Food Science/DT	15	38	1	38	located near community zone
ICT suite	30	68	1	68	*part of the heart space/school street*
Main Hall		205	1	205	
Small Hall/studio		75	1	75	
Library/Resource	15-30	40	1	40	*part of the heart space/school street*
Special Resource base (Oversized Infants)		30	1	30	This isn't a single room but an allowance to make one ground floor classroom larger, a storage room in that class, and allow for enlarged toilet including closomat toilet and shower over changing table. Class can't share it's toilet with another classroom due to the pupils that could use it should it bemove a SRB class.
Small Group SENCO	6	12	1	12	
Small Group Room	6	9	3	27	
Community Room	30	60	1	60	Size based on classroom size for flexibility
TOTAL TEACHING AREA				**1559**	
Staff and Admin					
Heads Office		16	1	16	
Senior Management Offices		8	1	8	
Staff Room		58	1	58	
PPA Room		50	1	50	
General Office		14	1	14	
Sick Bay		3	1	3	
Entrance / Reception		5	1	5	
Copier Reprographics		8	1	8	
SENCO/MI/Group Room		12	1	12	
Interview/Social Services		8	1	8	
Storage					
Nursery	7	0	0		*included in room area.*
Reception	3	0	0		*included in room area.*
Infants & Juniors	1.5	0	0		*included in room area - tba*
Special Stores	8	3	24		2no. in heart space at GF, 1no. At FF
PE Store (hall)	12	1	12		combined with staging storage
PE Store external	4	1	4		
Non teaching Storage					
Central Stock	8	1	8		
Nursery cloakrooms	13	1	13		
Reception cloakrooms		1	8		
Cloakrooms	3	14	42		Shared between infants on ground floor but the first floor juniors will also need cloakrooms as schools don't like wet coats etc within the classrooms
Dining Chairs	16	1	16		
Additional table storage	25	1	25		
Staging	8	1	8		combined with PE storage
Community Store	4	1	4		
Maintenance Store	7	1	7		
Cleaners Store	1.5	3	4.5		
Total			**377.5**		
TOTAL NET AREA			**1937**		
Non Net Area					
Kitchen (full service)	80	1	80		incl. servery
Ktchen Lobby		1	7.5		Required for hygienic purposes (two doors to WC)
Kitchen Office	5	1	5		
Kitchen Staff WCs & lockers	5	1	5		
Walk-in-Freezer	9	1	9		
Walk-in-Fridge	9	1	9		
Kitchen Store	12	1	12		
Changing rooms	10	2	20		for pupils and community use; 2no. Currently
Nursery Toilets	18	1	18		
Reception Toilets	12	1	12		
Other Pupil Toilets	5	12	60		
Hygiene Room	14	1	14		Associated with Oversized Infants as per brief
Changing places	12	1	12		Accessed off main corridor
Accessible WC	4.5	3	13.5		1no. Additional provided for community use
Staff Toilets	3.5	4	14		
Non Net Area			**291**		
Circulation	23%		445		Not including Heart Space
Heart Space					
Stairs & lift (2 storey)			57		
Plant Inc server			120		subject to review by MEP
Electrical Switch Room			12		
Water tank			12		
Partitions	5%		97		*(GIFA - Total Room areas)*
TOTAL GROSS AREA			**2971**		

3. Planning Context

3.1 Welsh Government Guidance

3.2 National Planning Policy

3.3 Local Planning Policy

3.4 Planning History

3.5 Planning Assessment

3. Planning Context

3.1. WELSH GOVERNMENT GUIDANCE

Objectives of Good Design - Technical Advice Note 12

The Welsh Government guidance on preparing a Design and Access Statement, illustrates the various considerations that need to be taken into account when preparing such a document. A DAS must explain the design concepts and principles applied to the development or works and must explain the concepts and principles in relation to:

- Access
- Character (including amount, layout, scale, appearance and landscaping)
- Community safety
- Environmental sustainability
- Movement to, from and within the development.

3.2. NATIONAL PLANNING POLICY

The key national planning policy documents that provide material context to the proposed development are:

- Planning Policy Wales (Ed. 12)
- Future Wales: The National Plan 2040
- Wellbeing of Future Generations Act (2015)

These policy documents place a presumption on sustainable development and identify placemaking as the statutory process to achieve such development. **Planning Policy Wales** identifies a series of placemaking themes that developments are expected to meet. It also establishes a requirement for all new developments to deliver biodiversity net gain.

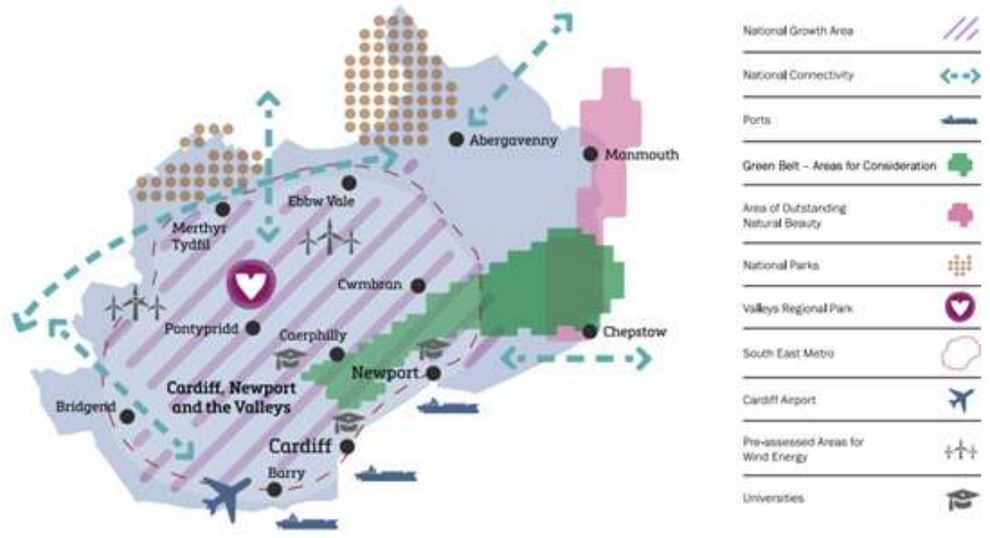
PPW Placemkaing Objectives

3. Planning Context

The Wellbeing of Future Generations Act places a requirement on statutory bodies to safeguard the wellbeing of future generations against those of current generations when public decisions are being made; meaning development proposals must be demonstrated to meet the needs of current generations, whilst safeguarding the needs of future generations. Sustainable development is the means to achieve this as defined in Planning Policy Wales.

Wellbeing of Future Generations Act

Future Wales: The National Plan 2040 established a series of key development policies to guide development; it also established growth areas across Wales. Caerphilly and the development site is located in the south-east region which is a National Growth Area.



Future Wales, South-East Region

3. Planning Context

In addition to the above overarching development policy documents a series of Technical Advice Notes provide design guidance to development proposals. Those relevant to the development include:

- TAN 10: Trees Preservation Orders
- TAN 12: Design
- TAN 15: Development, Flooding and Coastal Erosion
- TAN 16: Sport, recreation and open space
- TAN 20: Planning and the Welsh Language
- TAN 21: Waste

Development Advice Map (the site is partly in Zone C1)

Flood Map for Planning (the site is partly in Zone 3)

3.3. LOCAL PLANNING POLICY

The Local Development Plan is used to guide and control development providing the foundation for consistent and rational decision making. In doing so, it provides a measure of certainty about what kind of development would, and would not, be permitted in particular locations during the Plan period. The relevant plan for this site is the Caerphilly County Borough Local Development Plan up to 2021. A replacement Development Plan is in the early stages of preparation.

In the adopted Local Development Plan the development site falls within the settlement boundary and is white land. The findings of the LDP maps can be seen below. The CCBC Proposals Map, shows no designations or allocations on site. The brown area allocation to the west of the site is for housing development (HG 1.66). There is also a designation of a SINC on the Nant yr Aber River running east of the site.

Local Development Plan Proposals Map

In the Constraints Map to the Local Development Plan, the site is shown to fall within a Development Referral Area as well as being a Sandstone and Secondary Coal Resource Area. The Map also shows the flood zone C1 designation, which falls on the South-Western edge of the site.

3. Planning Context

Local Development Plan Constraints Map

Within the Development Plan, the following written policies are relevant to the determination of a future planning application for the development:

- SP4: Settlement Strategy
- SP6: Placemaking
- SP9: Waste Management
- SP21: Parking Standards
- SP22: Community, Leisure and Education Facilities
- CW1: Sustainable Transport, Accessibility and Social Inclusion
- CW2: Amenity
- CW6: Trees, Woodland and Hedgerow Protection
- CW7: Protection of Open Space
- CW8: Protection of Community and Leisure facilities

Supporting the Local Development Plan are a series of Supplementary Planning Guidance documents. Those relevant to the proposed development are listed below:

- LDP4 Trees and Development
- LDP5 Car Parking Standards
- LDP8 Protection of Open Space

3.4. PLANNING HISTORY

Generally, the history of planning applications for the development site comprises of amendments to the school by adding additional facilities. The following are key planning records for the site:

- 16/0745/LA- Erect a single storey extension to junior block (Granted. 12.10.16)
- 15/0787/LA- Erect a modular building for Flying Start Provision (Granted. 23.12.15)
- 15/0288/LA- Erect a single-storey breakout room (Granted. 16.07.15)
- P/99/0518- Erect a single mobile classroom unit (Granted. 26.08.99)

3.5. PLANNING ASSESSMENT

Based on the planning policy context, the informal advice from the Planning Authority and the nature of the development site character, the table on the following pages lists out the key planning considerations for the development.

3. Planning Context

3.5. PLANNING ASSESSMENT

Consideration	Detail	Mitigating Action
Ecology	The dense woodland area north and east of the site has the potential to be used by priority and protected species. One of the existing buildings also has bats present.	Ecological surveys have been completed to understand the ecological baseline character of the site. This includes targeted bat surveys which confirmed the presence of bats on site and in one of the school buildings and otter surveys. The surveys identify that ecological effects can be managed subject to following the legislative licensing process and providing mitigation and enhancement. The design as proposed will protect key landscape resources, including the vegetated site boundaries, and valuable trees. The design also includes additional landscape planting to diversify the internal site habitat. Concerning lighting levels, the existing dark corridors on the site are to be maintained through the new lighting design. A Green Infrastructure Statement shall be included in the planning to demonstrate how through the above design choices and approaches, biodiversity net gain can be delivered and the development can meet the requirements of national policy.
Flood Risk	Most of the site is located in Flood Zone A on the Development Advice Maps for Wales, but the southwestern corner is located in Flood Zone B (an area known to have flooded in the past). In the Flood Maps for Planning the majority of the site is located in Zone 1 but the southwestern corner is designated as Zone 2 and 3, which is woodland edge.	While the modelling underpinning the Flood Maps for Planning is subject to change, development is to be avoided in the mapped Flood Zone 3 area of the site. As required in policy, a Flood Consequences Assessment is to be included in the planning application to demonstrate the development will not be subject to flooding and will not have adverse off-site effects. The development would thus meet the requirements of TAN 15 and the flood maps.
Street Scene & Visual Impact	The site is part of a residential street and the new development will be highly visible to residents and neighbours. It should therefore have a strong aesthetic quality.	The development as proposed is of high architectural quality, consisting of modern materials that will create a high-quality building that adds to the local street scene. The materials used are appropriate to the local area and contribute to the building's excellent sustainability credentials. The perimeter fence line will also be coloured and located to blend to the street scene as discussed with the Planning Authority. Landscape planting is to be used to assimilate the building into the wider existing site landscape. On these grounds it is considered the development has high placemaking credentials and meets national and local development plan placemaking policy guidance.
Mature Trees	There are several existing mature trees located on the site of good value.	A tree survey has been prepared to support the development and has been used to protect the site trees and minimise tree loss. Minor tree loss is required, but this is restricted to a Category C tree. The landscape design included new tree planting which ensures the minimum 3:1 replacement planting requirement is exceeded by the development. The development can therefore have a positive impact on the site's tree provision. This design approach shall ensure the development meets the requirements of national and local planning policy.
Continuity of Education services	The new school will need to be constructed while education provision continues on the site. Careful phasing of construction works, including demolition and the provision of interim accommodation, will be required. Safe construction methods bespoke to the site will also need to be explained.	It is proposed to phase the development so that the existing school can operate while the new school is built. This will be delivered through a phased demolition strategy and the use of temporary modular buildings. Safe operating conditions for the existing school to stay open will be provided by the use of a CEMP and CTMP during the construction processes. It is thus considered that the development will not impact on local amenity as required by local development plan policy.
Coal Workings	The site is part of a Development Referral Area and is identified as a Secondary Coal Resource.	A Phase 1 Desktop Report has been prepared to support the planning application and this identifies there is a low risk of coal works on the site. It is not considered that the development would have adverse effects on coal resources or prior workings, as required by the local development plan.

3. Planning Context

3.5. PLANNING ASSESSMENT

Residential Amenity	Several properties back onto the site; the amenity of these residents needs to be safeguarded during the construction and operation of the development.	• The development design will not be overbearing to adjacent residential properties, being of a scale appropriate to the local area. The new development has been designed to include appropriate offset from residential boundaries and internal spaces would not overlook adjacent properties. • A lighting design and assessment has been undertaken to ensure that there will be no unacceptable light spill from the site to adjacent properties. The MUGA location, for example, is in the centre of the site to prevent light spill. • All ventilation and kitchen plants will be subject to noise mitigation to ensure that noise and odour levels at adjacent residential properties remain within best-practice standards. • Finally, the undertaking of the construction following a CEMP and CTMP shall ensure construction of the new school buildings and infrastructure does not impact residents. • By following the above design approach and practice, it is considered that the development would not have undue impact on local residential amenity and would meet development plan policy.
Access	The current access is a residential street with on-street parking, which appears constrained. Construction vehicles will require careful management to access the site. The increase of pupil and staff numbers associated with the new school will also need to be assessed and appropriate active travel measures promoted.	• A CEMP and CTMP will be prepared to explain how construction vehicles will safely access and leave the site. This will account for the operation of the existing school. • A Transport Statement has been prepared to support the planning application and this accounts for the proposed uplift in pupil and staff numbers. The Statement identifies that the local highway can safely support a greater number of pupils and teachers. • The promotion of sustainable travel to the site will be key to the success of Plasyfelin's future operation and the Transport Statement includes sustainable travel principles that will be enshrined in future Travel Plan for the site. This will ensure opportunities for pupils and staff to travel by active means, public transport, and shared vehicles will be maximised. • The approaches shall ensure the development can operate and be built without unacceptable impact on the local highway network and meet local development plan policy relating to sustainable travel.
Parking	The school requires an appropriate number of car park spaces to operate effectively. However, the space provision needs to be in line with local maximum parking standards - one commercial vehicle space; one space per member of teaching staff; one space per three non-teaching staff; one space per thirty pupils visitor spaces; and bus parking as required.) Minimum 5% of bays to be for blue badge holders and minimum 10% to be electric vehicle charging bays.	The proposed design includes an appropriate number of parking spaces to ensure the school can operate effectively. This number is suitable to the local parking standards. The Transport Statement sets out the parking case for the development.
Open Space and Play Provision	The development must provide external play space to meet sector guidelines.	Appropriate external space and play facilities are included in the development that meets school design standards.

4. Site and Context

4.1 Site Location and Context

4.2 Site Photographs

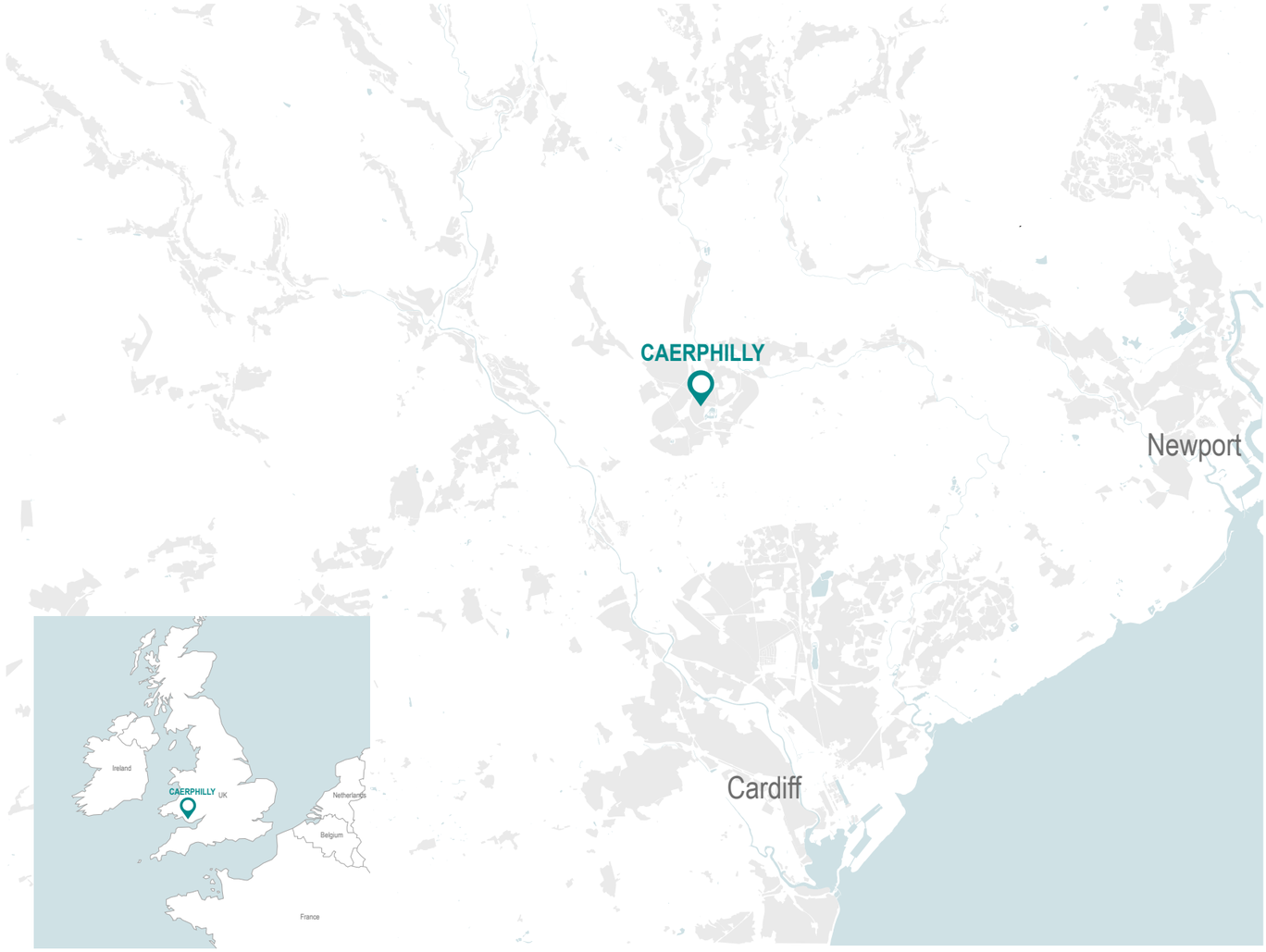
4.3 Site Analysis

4.4 Site Opportunities & Constraints

Aerial View (Image taken from Google Earth)

4. Site and Context

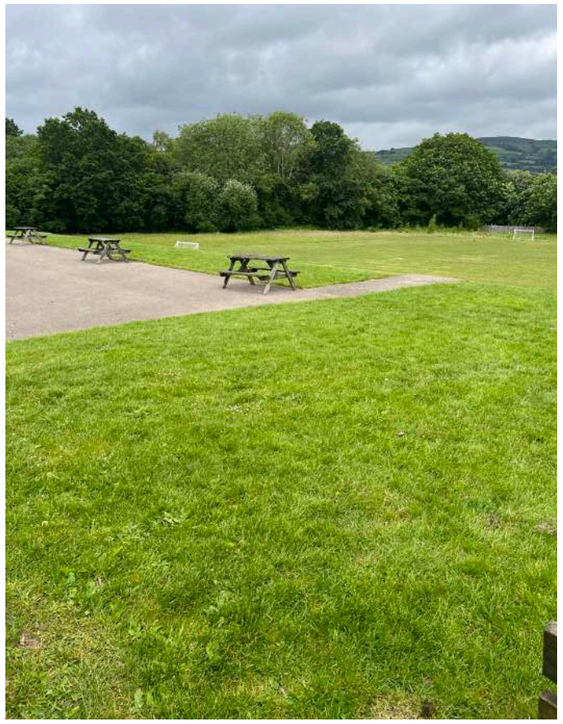
4.1 SITE LOCATION AND CONTEXT

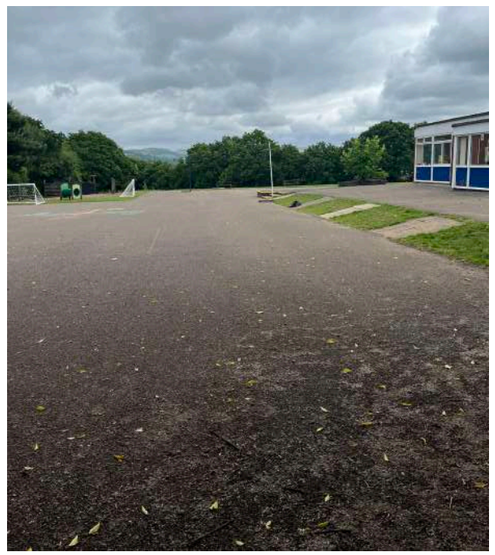


SITE LOCATION IN RELATION TO CARDIFF AND NEWPORT

4. Site and Context

4.2 SITE PHOTOGRAPHS





4. Site and Context

4.3 SITE ANALYSIS

Introduction

This section provides an overview of the site in relation to the surrounding land use, proximity to vehicular and pedestrian site access points, proposed building positioning and orientation etc. that inform the architectural concept design.

Site Location and Context - Caerphilly

Caerphilly is a town in South Wales known for its medieval castle, Caerphilly Castle, which is one of the largest in the country. The town has a rich history tied to coal mining and has a blend of historical charm and modern amenities. The character in Caerphilly reflects its Welsh heritage, with a strong sense of community and a picturesque setting in the Rhymney Valley,

Site Description - Plasyfelin Primary School Area

Plasyfelin School is located in the town of Caerphilly, situated in Rhymney Valley. The area around the school features a mix of residential neighbourhoods and green spaces. The character of this area is likely influenced by its community-centric atmosphere, with families, local businesses, and educational institutions contributing to a sense of close-knit living. The surroundings may showcase a combination of historical elements, such as nearby landmarks or traditional architecture, along with more contemporary developments.

Photographs

1. Site Access (View towards Lewis Drive)
2. Existing School and Car Park
3. Puddle Ducks Childcare Building (To be retained)
4. Maintenance Access (View from Emlyn Drive towards site)
5. Existing Play Area (To be retained)
6. Site Level Changes (View towards north east corner of the site)

1.

2.

3.

4.

5.

6.

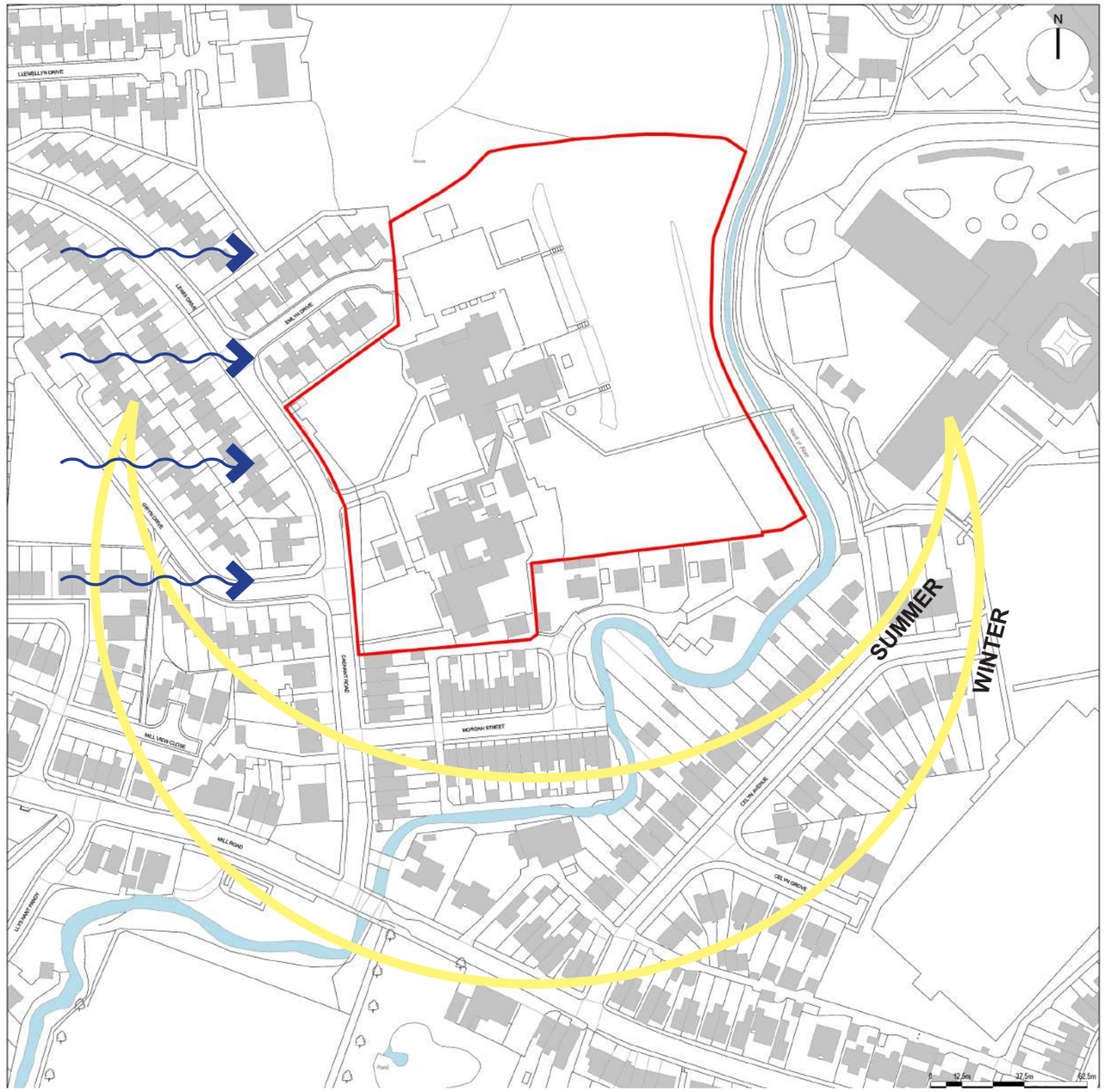
4. Site and Context

4.3 SITE ANALYSIS

CLIMATE AND ENVIRONMENT

In general, South Wales often experiences Westerly winds coming from the Atlantic Ocean, however it can vary depending on the prevailing weather patterns in the region.

Caerphilly, experiences a temperate maritime climate with mild winters and cool summers. Rainfall is evenly distributed throughout the year, and the area occassionally sees snowfall in the winter.



Legend

- Site Boundary
- Wind Direction
- Sun Path

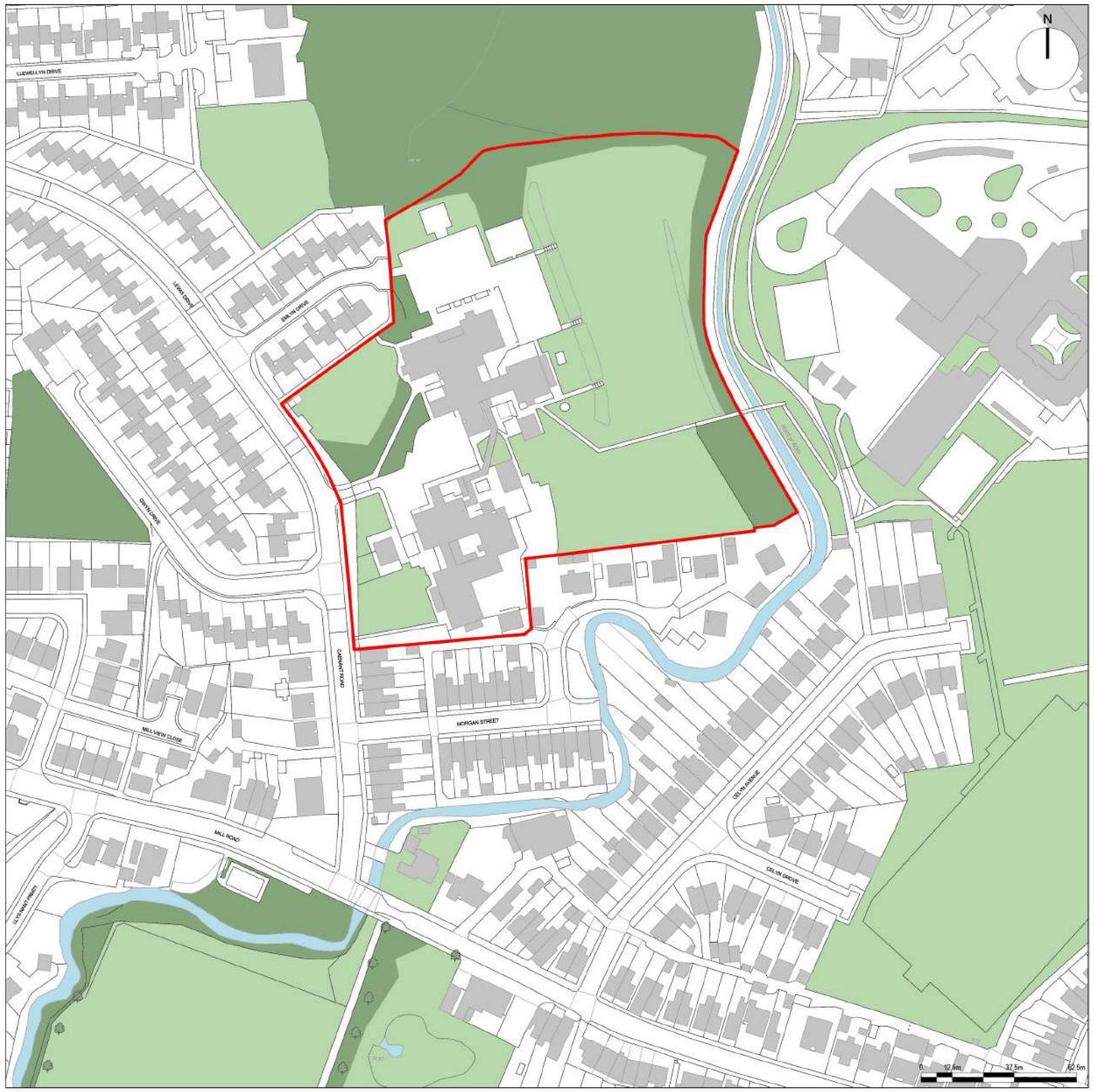
4. Site and Context

4.3 SITE ANALYSIS

GREEN SPACE

Caerphilly is located in the South Wales Valleys, a region known for its rolling hills, green valleys, and picturesque landscapes. There are numerous woodlands, parks, and green spaces in and around Caerphilly. The landscape is dotted with rivers and lakes, contributing to the natural beauty of the region.

South east corner of the site has been highlighted as a potential flood risk zone, this is under further review.



Legend

Site Boundary

Grassland

Woodland

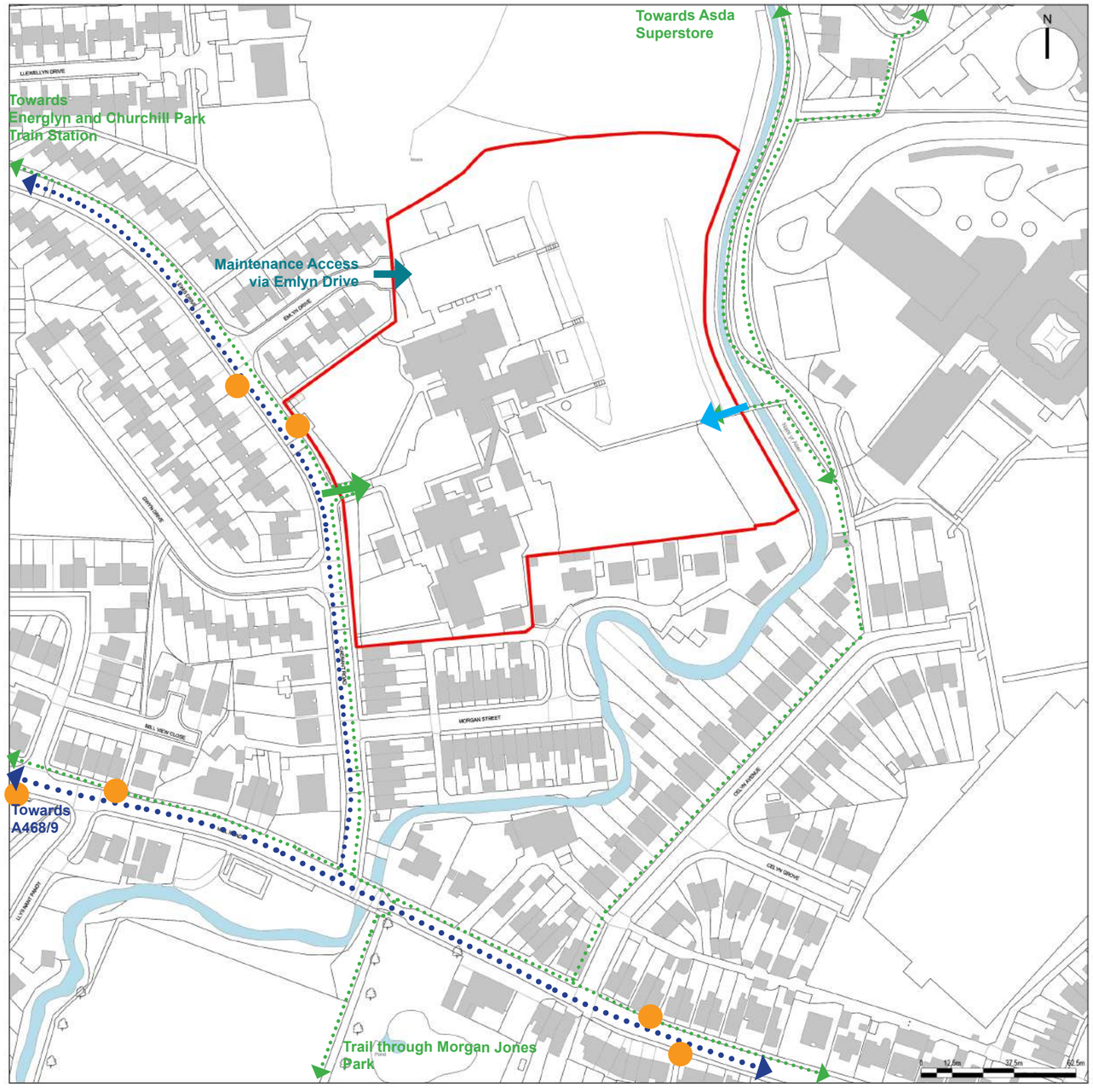
4. Site and Context

4.3 SITE ANALYSIS

ACCESS AND MOVEMENT

Caerphilly is well-connected by road. The A468 and A469 are major roads that pass through the town, providing access to neighbouring areas. Within walking distance from the site there is Energlyn and Churchill Park train station on the Rhymney Line. Buses in Caerphilly operated by various companies provide extensive public transportation within the town and to nearby areas. Caerphilly offers pedestrian-friendly paths and cycling routes, making it possible to navigate the town on foot or by bicycle. Currently there are no dedicated cycle lanes around the site.

The main entrance to the site is from Caenant Road. Maintenance Access is from Emlyn Drive and this is to be retained to enable vehicle access for cutting the grass and other site activities.



Legend

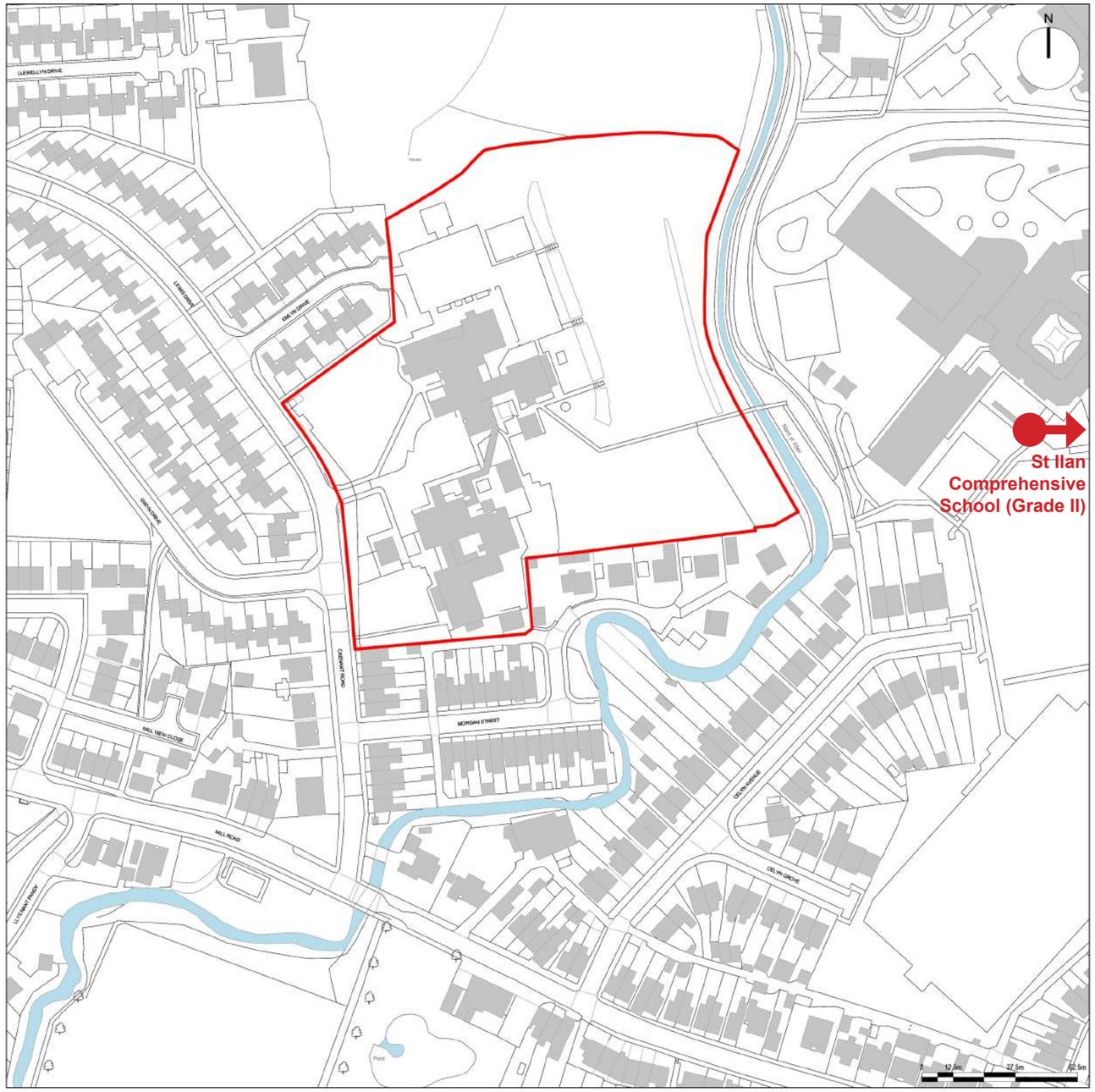
- Site Boundary
- Vehicular Routes
- Pedestrian Routes
- Bus Stops
- Main Site Entrance
- Secondary Site Entrance
- Maintenance Site Entrance

4. Site and Context

4.3 SITE ANALYSIS

HISTORICAL BUILDINGS

The only listed building in close proximity to the site is St Ilan Comprehensive School, listed for its architectural interest as a well preserved example of a 1930s school of distinctive single-storey plan-form. Caerphilly itself has several listed buildings of historical and architectural significance. Some notable ones include: Caerphilly Castle (Grade I), St. Martin's Church (Grade II), Ty Twyn (Grade II), and Ty'n-y-parc (Grade II).



Legend

Site Boundary

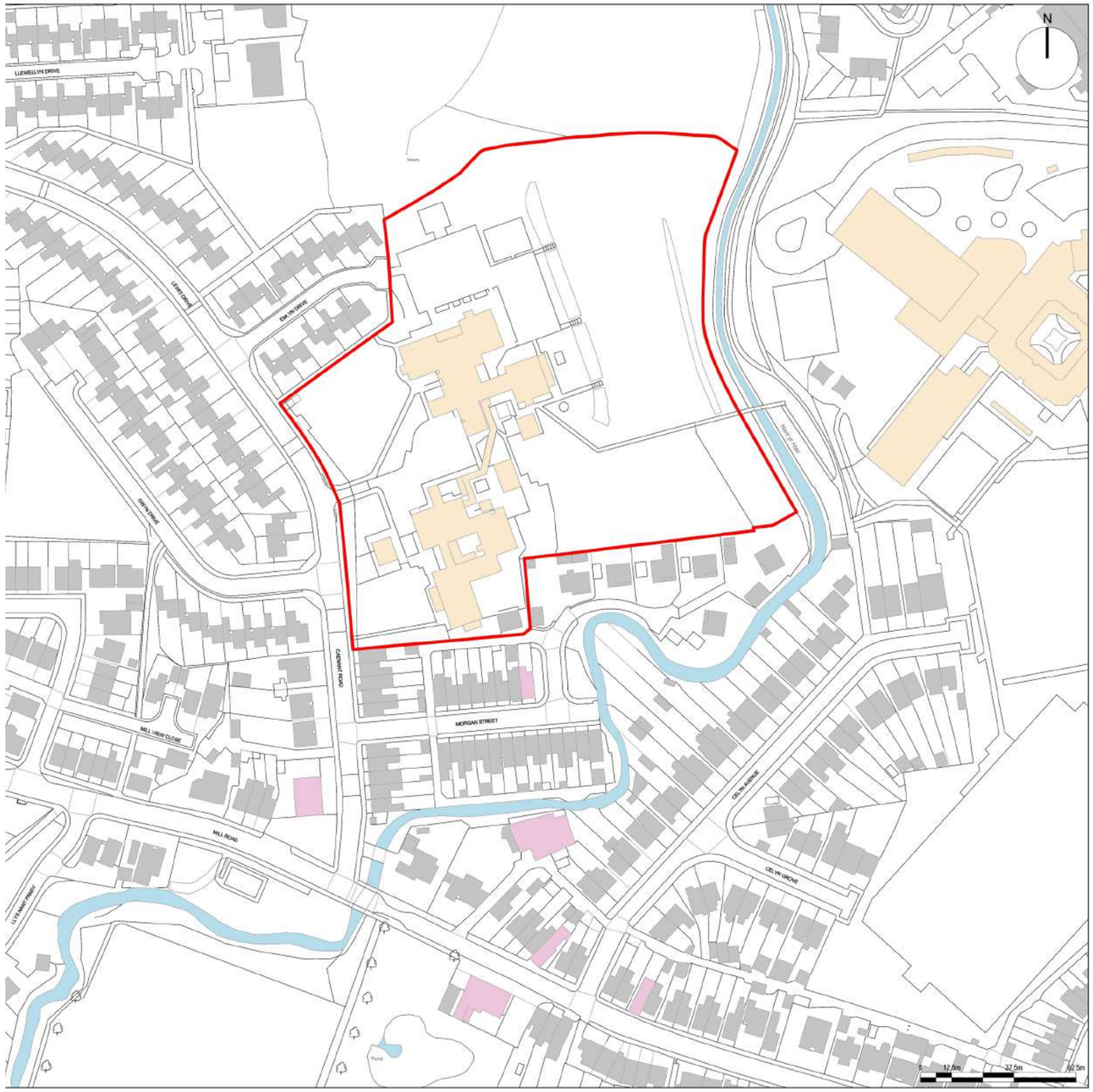
Grade II Listed Building

4. Site and Context

4.3 SITE ANALYSIS

LAND USE

Much of the land around the site is used for residential purposes, primarily two storey homes with a few bungalows. There are also a few commercial/retail properties adjacent to school as well as Ysgol Gyfun Cwm Rhymni, a Welsh medium school.



Legend

- Site Boundary
- Residential
- Commercial/Retail
- Education

4. Site and Context

4.3 SITE ANALYSIS

SCALE AND BUILDING HEIGHT

Residential areas around the site are primarily two storey. Plas-Y-Felin Primary School on site is a single storey building.

Adjacent Ysgol Gyfun Cwm Rhymni School has a medium height of 8m, with its highest point at 10.2m.

Legend

Site Boundary

15m Building Heights

0m

4. Site and Context

4.4 SITE CONSTRAINTS AND OPPORTUNITIES

From the project outset the design team undertook an extensive review of the site and outlined a number of constraints;

- Existing school – the school is to remain live during construction. The existing buildings are the old 'Clasp' construction which contain a considerable amount of asbestos. Childcare facility at the front of the site is to be retained and remain live during construction. Existing play area to the north of the site is to be retained if possible. Existing memorial garden and school growing area located near the infant block – potential for these to be relocated.
- Restricted access – the site is land locked by woods to the North, the river to the East and residential properties to the South. This restricts access for construction. Other than the main school site access point from Caenant Road, there is an access from Emlyn Drive – but these provide potential issues due to it being a narrow residential street, with cars parked either side of the road on a regular basis.
- Levels – There is a significant level difference across the site, this limits the potential positioning of the new school building.
- Trees – The tree survey outlined the majority of the existing trees on site need to be retained.
- Ecological Restrictions – the initial PEA outlined areas of ecological concern to predominantly the woodland areas to the north and east boundaries of the site. The pond on site and the adjacent river Nant y Aber (a Site of Importance for Nature Conservation) will need protection from pollution.
- Invasive Species – the initial PEA outlined areas of invasive species to predominantly the north and east boundaries of the site. Japanese Knotweed and Montbretia on site and within 10m of the site. Himalayan balsam is also within 10 of the site.
- Flood risk – low flood risk identified to the South-East corner of the site.
- NZC Strategy – the optimum orientation for the building is to be set on an East-West axis with classrooms located north and south facing to maximise passive design measures.

To ensure we provide the best possible solution in terms of learner experience, accessibility, value for money, adaptability and decarbonisation the proposed development needs to address and/or mitigate the above mentioned constraints.

CONSTRAINTS:

- Live school environment during construction
- Existing childcare facility to remain in use throughout
- Restricted access
- Significant level difference
- Ecological restrictions
- Existing trees to remain
- Invasive species
- Flood risk in SE corner

OPPORTUNITIES:

- Create a community asset for the local area
- Improve education provision for the catchment
- Improved passive supervision of site
- Potential for improved site access, parent drop-off etc
- Direct access to play areas from all ground floor classrooms
- Potential to create a new green corridor

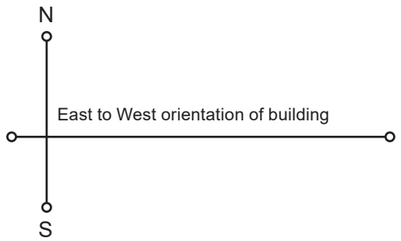
4. Site and Context

4.4 SITE CONSTRAINTS AND OPPORTUNITIES

Pond on site and Nant y Aber river will need protection from pollution.

Existing play area.

Woodland areas to the Northern and Eastern boundaries to be protected.



Flood risk in South-East corner of site.

Existing childcare facility to be retained.

Legend

- Site Boundary
- Category B trees — To be retained
- Category C trees — Can be removed if it is a significant constraint
- Category U trees — To be removed as part of any site development
- +85 Levels
- Slopes down
- Buildings
- No-Build Zone — Approximately 2m around existing structures (TBC)

5. Design Development

5.1 Initial Test for Fit Options

5.2 Site Spatial Requirements

5.3 Services and Emergency Access

5.4. Site Security

5.5 Site Movement

5. Design Development

5.1 INITIAL TEST FOR FIT OPTIONS

Following early discussions the design team developed an initial option appraisal to establish a preferred location for the school site within the overall site boundary, testing the positioning of the building in relation to the site access points, the BB99 External space requirements, maximising passive design to achieve the sustainability targets as well as the existing site constraints, as outlined in the previous section.

Utilising the existing school main access point has been favoured when exploring all options.

Option 01 CCBC Original Concept – Discounted due to the large distance from the main school access point, the restricted width of that part of the site for hard play areas and the risk to planning approval.

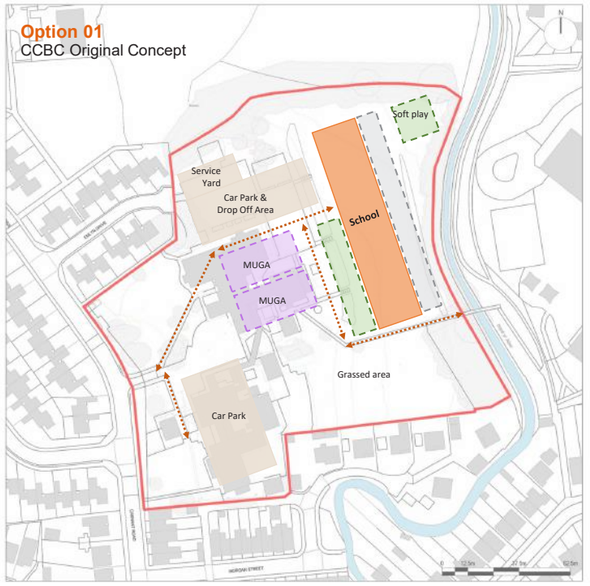
Option 02 Single Storey Option – Discounted due to the large building footprint on a restricted site and the level difference across the site.

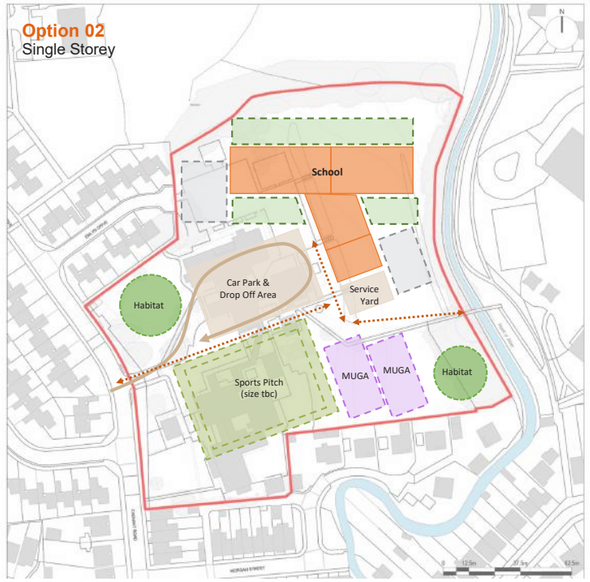
Option 03 Two Storey Option - Discounted due to the position across the level difference, the clash with existing trees to be retained and the loss of existing green space.

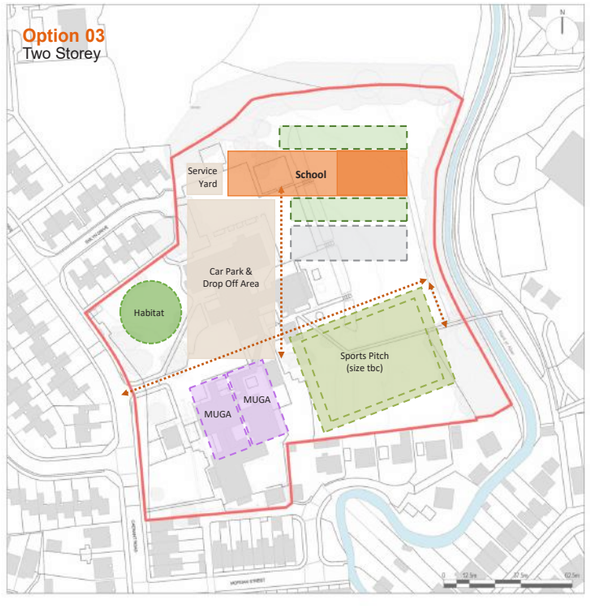
Option 04 Phased Development – Taken forward.

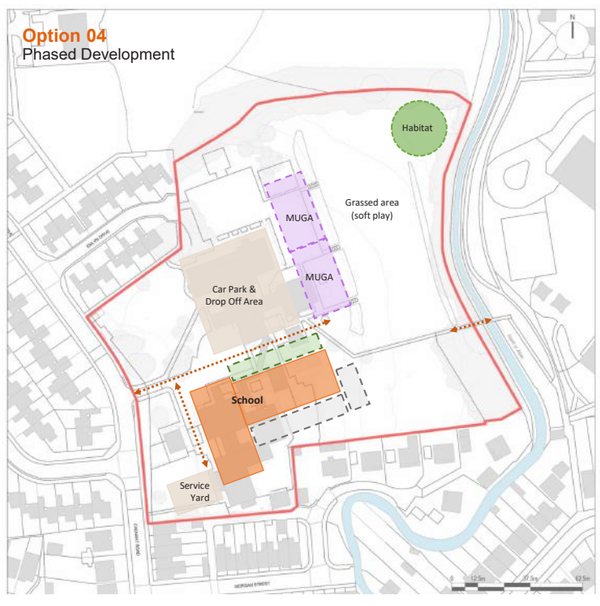
Following the test fit exercise and consultation with CCBC project team, Headteacher and School Governors, the preferred option for all was to proceed with the phased development option and locate the new school building in the position of the existing infant block.

The design team have conducted workshops to assess the viability of this option in terms of the structural, civils, mechanical, electrical and health & safety strategies. In addition meetings have been held with CCBC, Headteacher and the school governors in regards to the management of this phased development option focusing on the capacity of the existing Junior block, the requirement for temporary accommodation and the operation of the school when construction is underway. This will all continue to be developed during RIBA Stage 3.









5. Design Development

5.2 SITE SPATIAL REQUIREMENTS

The external areas have been based on 420 pupils, plus 60 Nursery places in accordance with BB99 functions. The sports area is based on the clients brief for the existing grassed area to be used as a sports pitch.

There is a Multi-Use Games Area (MUGA) as well as a games court marked out on hard standing adjacent. The remaining space is split into informal hard, informal soft and habitat areas. These have been prioritised into all-weather surfacing such as tarmac and safety surfacing located immediately around the building; the green spaces will be multi-functional creating interactive habitat spaces for the children to engage with, whilst also forming part of the green infrastructure and sustainable drainage strategy.

The school's existing memorial garden and growing area will be repositioned on the site, location to be confirmed following further consultation.

5. Design Development

5.3 SERVICES AND EMERGENCY ACCESS

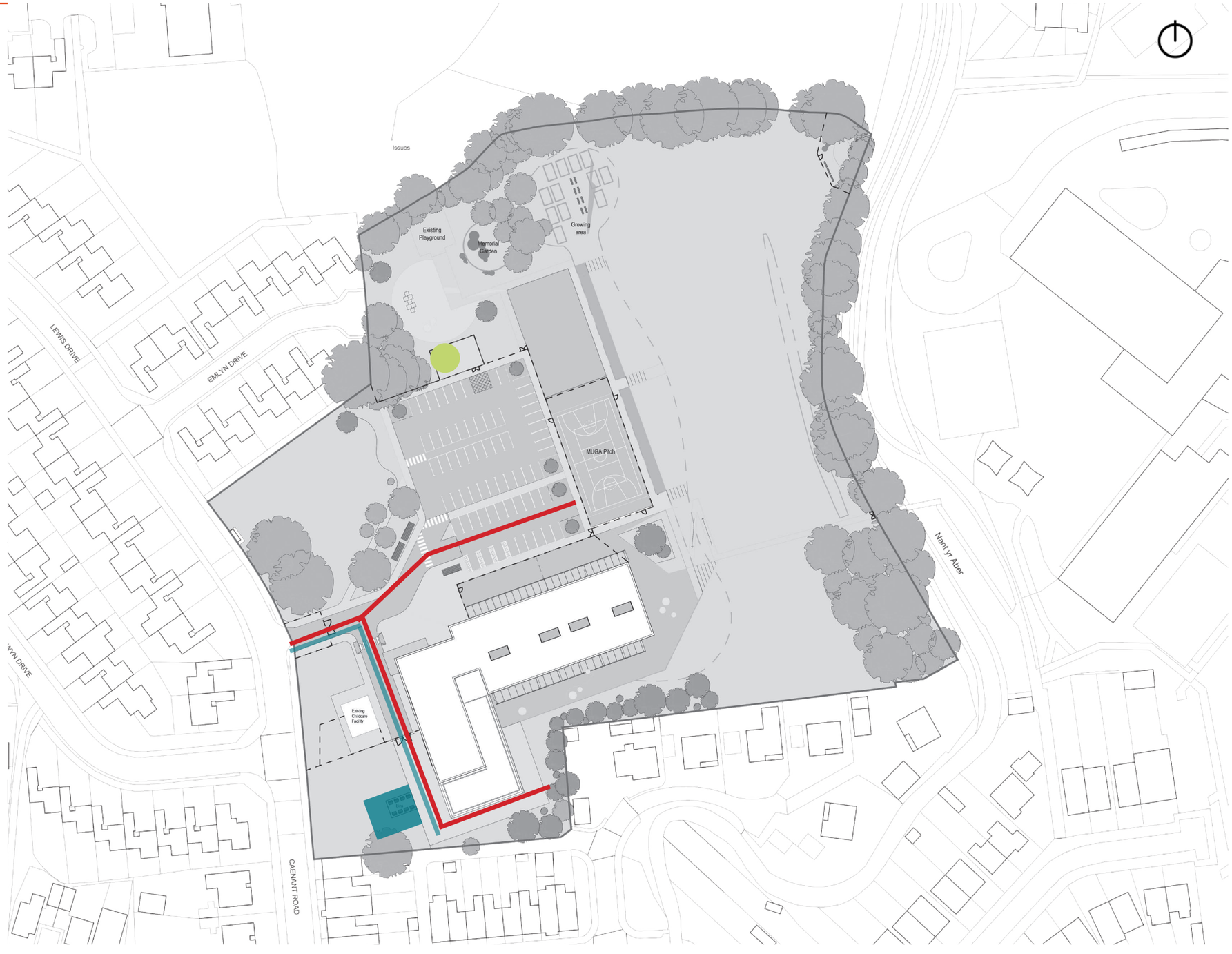
Initial swept-path analysis has been undertaken to ensure that adequate access is available for refuse vehicles, delivery lorries and of course emergency services vehicles.

Primary access is from the main gate and turning down the side of the school building adjacent to the main hall and kitchen.

Larger vehicles will need to utilitse the refuse store road to reverse exit the site via the main entrance where they came in.

Kitchen deliveries and access to M&E plant can also arrive in close proximity to the relevant external parts of the building.

In addition to the above route, emergency vehicles can also drive across the car park to get closer to the outdoor PE areas such as the MUGA, hard play and informal lawns.



Legend

- Bin store (Fenced enclosure)
- Services/Deliveries access
- Emergency Services access
- Sprinkler Tank

5. Design Development

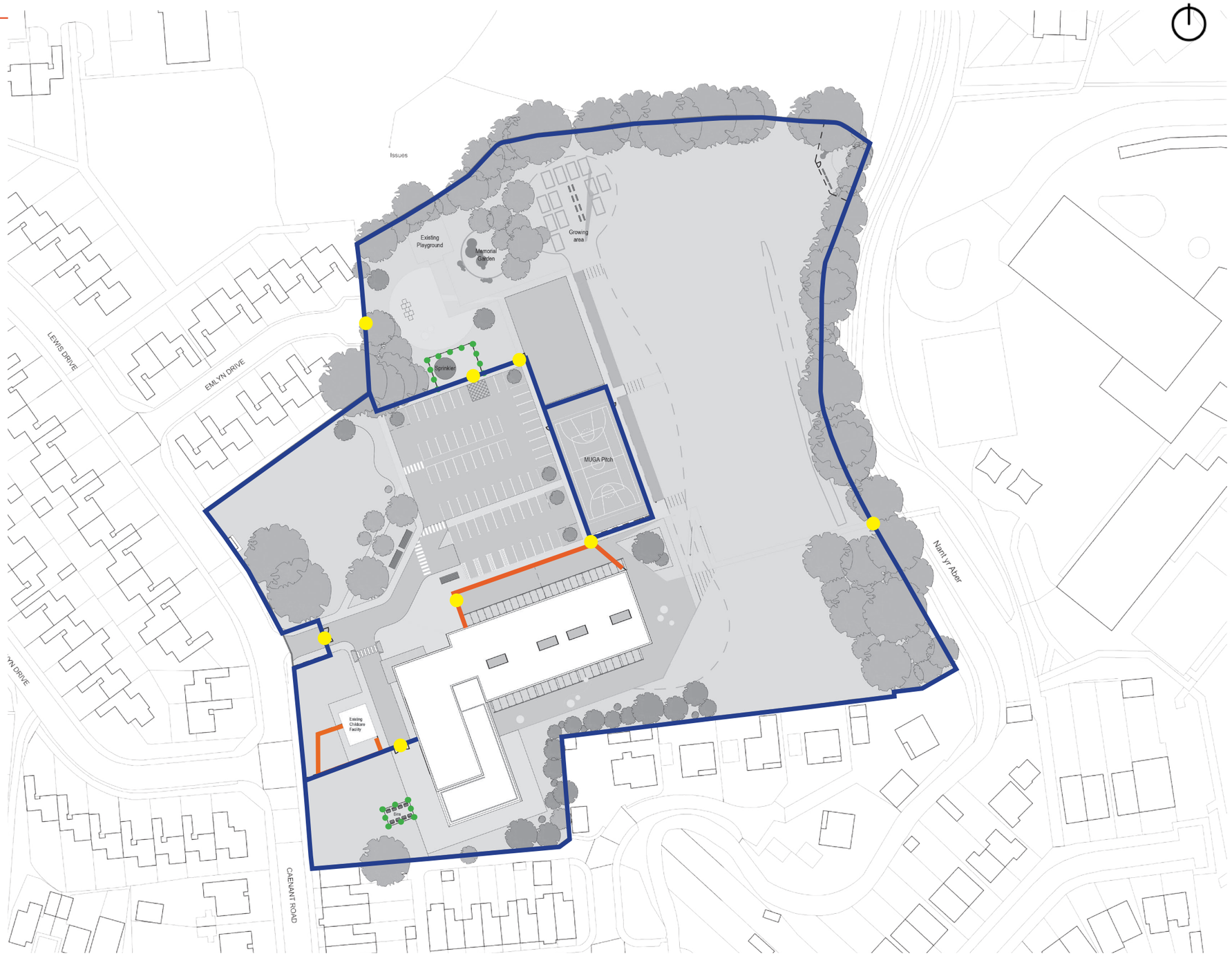
5.4 SITE SECURITY

The school site will be secure and gated with a high black weldmesh fence (height indicative; to be determined as Stage 3 develops). This will include the school, car parks, MUGA and external play areas.

Within the school grounds the landscape design looks to create a welcoming approach to the new school whilst ensuring secure and manageable spaces for the school and staff to run easily on a day to day basis.

Native hedges and low maintenance shrub planting will help soften the visual impact of the secure boundary and a solid timber fence line to provide screening to the bin store and sprinkler tank.

Site security to be developed further with the Designing Out Crime Officer as RIBA Stage 3 progresses; an initial consultation has already taken place with the officer whose comments were very positive. They were happy to progress the scheme on this basis.



Legend

- Timber Combi Fence (Bin & sprinkler enclosures)
- Black Weld Mesh Fence (2.4m)
- Black Weld Mesh Fence with Planting (1.2m)
- Controlled Access Points

5. Design Development

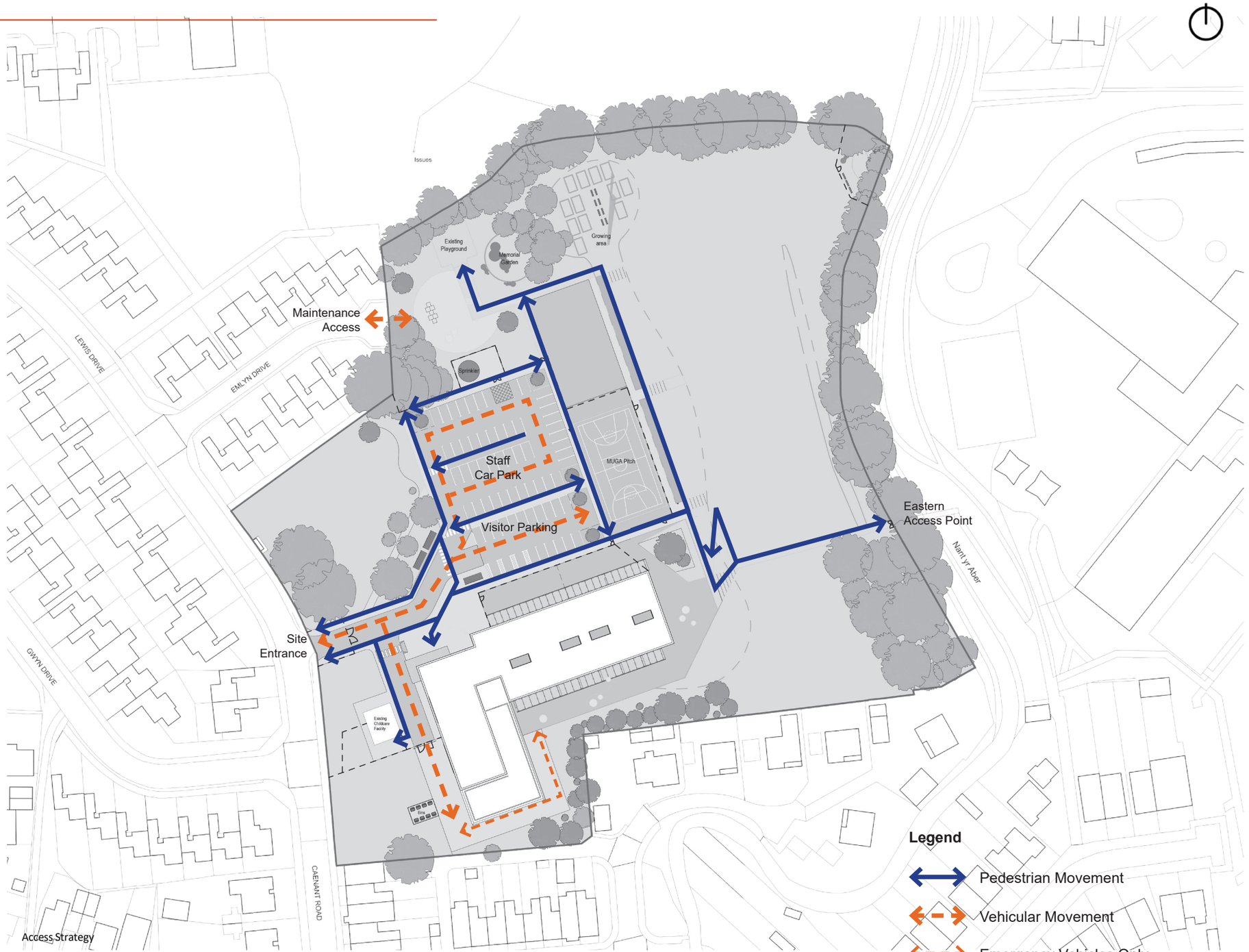
5.5 SITE MOVEMENT

Vehicle Access – The new scheme will utilise the existing school site entrance, but likely increase in width to allow two-way movement. This will be reviewed further with Highways in Stage 3. This will lead to two car parks, one closest to the school will include 3 disabled spaces amongst its visitor provision and the other main car park will be for staff and will include 10% EV charging points. Parking numbers will be provided in line with an agreed Transport strategy.

A separate service yard access point is located between the new school and the childcare facility, this allows access to the bin store, plant rooms and kitchen (for deliveries). This access road will allow for delivery vehicles, refuse vehicles and emergency fire engines. Suitable paving will be provided to allow fire engine access to the rear of the school.

Pedestrian Access – The existing pedestrian access to the site from Caenant Road will be retained as well as the access via the footbridge over Nant y Aber to the east of the site. Paths will be enhanced in line with the new proposals.

Cycle Provision – Secure, covered storage will allow for children's bicycles, scooters and staff bicycles located within the secure boundary line of the school grounds. Exact numbers to be confirmed by the Learner Travel Assessment.



Access Strategy

6. Design Proposal - Building Design

6.1 Critical Adjacencies

6.2 Design Concept

6.3 General Arrangement Plan

6.4 Access & Movement

6.5 Character

6.6 Community Safety

6.7 Environmental Sustainability

6. Design Proposal - Building Design

6.1 CRITICAL ADJACENCIES

The floor plans have been set out to enable a secure line within the school, allowing free movement for pupils between classrooms, heart space, group rooms and food tech. Nursery and Reception have been located to the North of the building close to the main site access point to allow ease for pick up / drop off at different times throughout the day. In addition to Early Years, Reception and Key Stage 1 classrooms have all been located on the ground floor to allow direct access to the outdoors which supports the new curriculum.

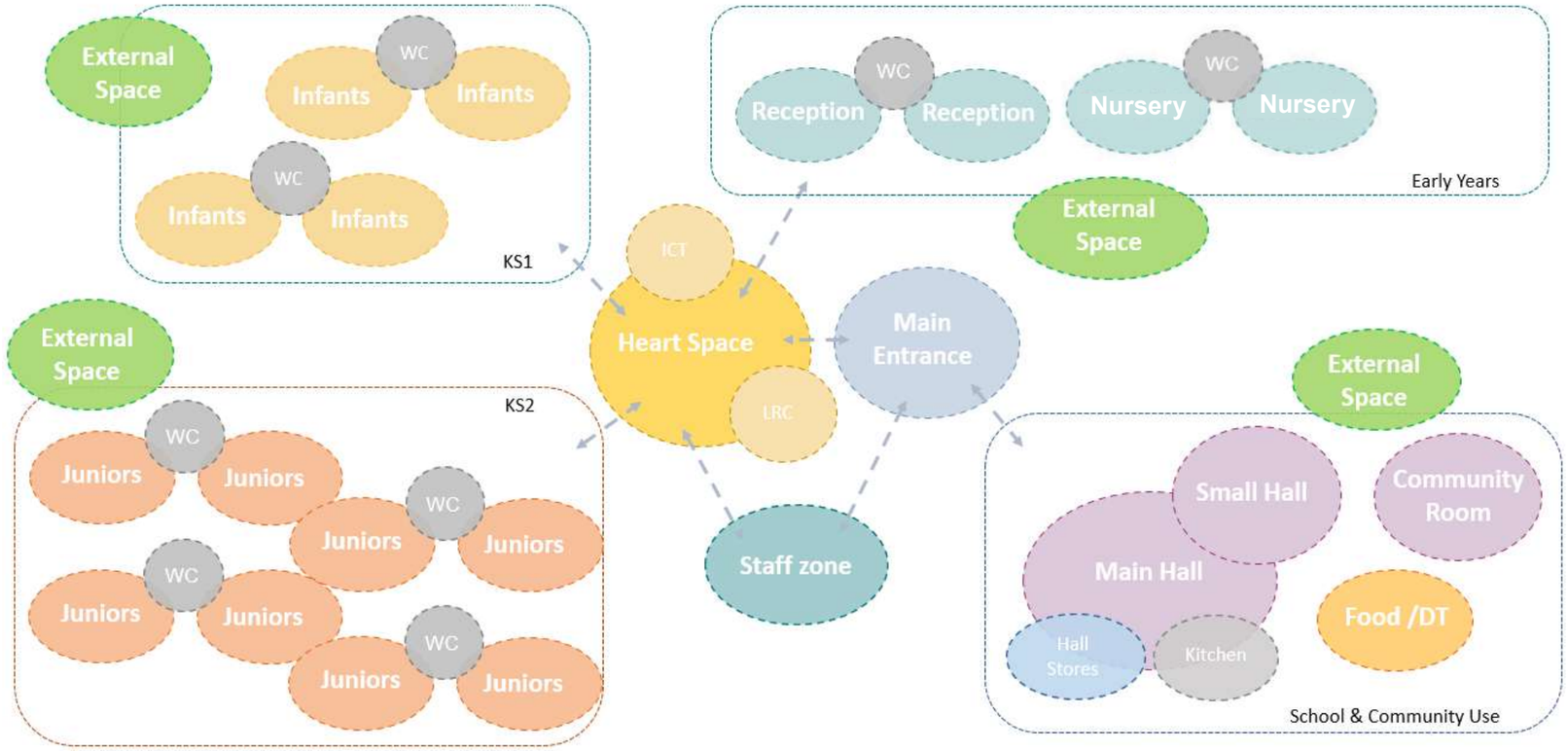
Due to the restricted space on site and the requirement to lower the embodied carbon, all Key Stage 2 classrooms have been located on the first floor. These classrooms have direct access to the resource areas with the heart space at first floor and ground floor via the stair to the South East corner of the building.

The ‘heart’ space (or ‘School Street’) allows for an efficient use of space combining areas of additional learning resource i.e. library and IT zones with areas for breakout learning or 1-1 teaching. The flexibility of these spaces combined with access to outdoor spaces extends learning beyond the classroom walls supporting the requirement of the Curriculum for Wales.

The Main Hall, small hall, community room and changing rooms have been positioned on the ground floor with access via the main entrance. The Main Hall benefits from a secondary access externally, supporting out of hours use.

SEN provision has been positioned on first floor close to staff areas to allow further supervision and ease of access.

Rather than a designated Special Resource Base (SRB), it has been requested by CCBC to provide an enlarged Infants classroom at ground floor, complete with it's own hygiene room in order to future proof the scheme should functional requirements change in the coming years.



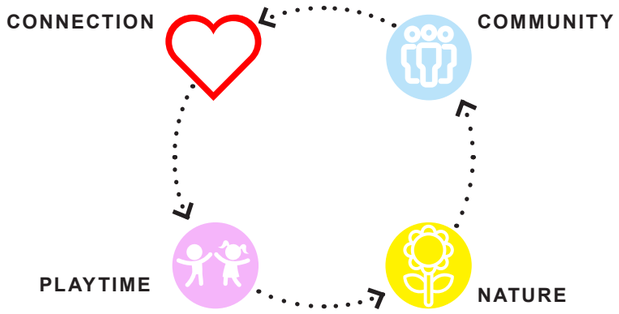
Adjacencies Diagram

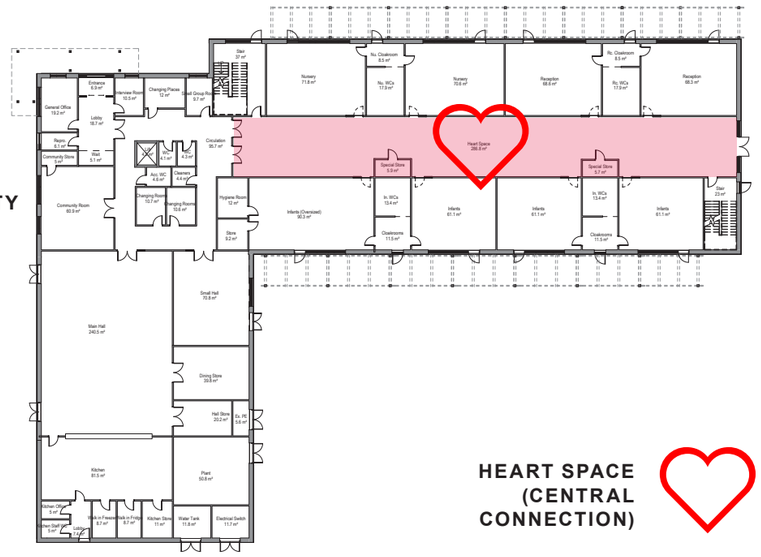
Precedent Images demonstrating multi-functional use of a school heart space

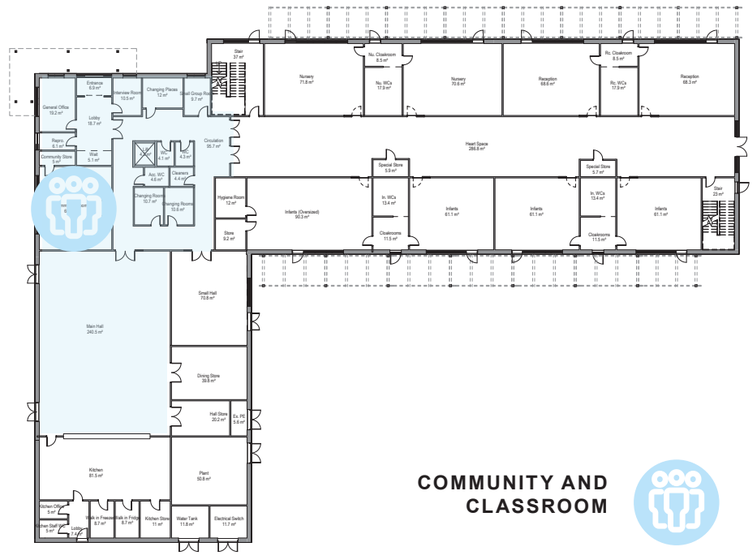



6. Design Proposal - Building Design

6.2 DESIGN CONCEPT





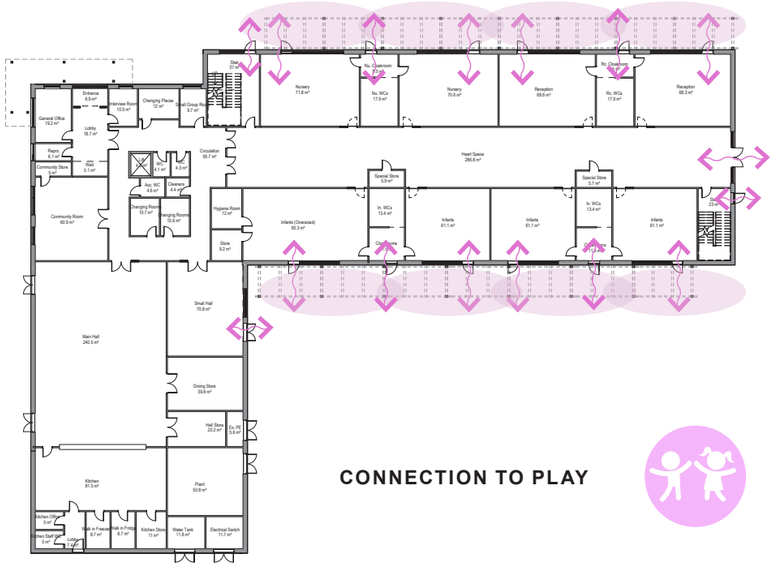


The school seeks to be a building which puts well-being and community at the centre. Direct access to the outdoors has been prioritised wherever possible as well as optimising natural daylight too. Connection to play continues on this theme, with direct access to playgrounds at ground floor an essential aspect of the floorplan design. Vertical circulation routes to the Junior classrooms at first floor have also been minimised in order to reduce the time to get downstairs to enjoy outside learning and play.

A designated community room sits at the front of the building close to the entrance lobby and foyer, allowing a clear secure line to be in place during out-of-hours use. The community room is adjacent to the Main Hall and two changing rooms are located in between so as to facilitate community use outside of the school timetable.

By way of a central connection, the school street is envisioned as a heart space for students to relax, read, explore, investigate, spend time as a group or have a quiet moment to themselves. Library resources and an I.C.T suite will be amongst its flexible provisions whilst also giving classes the opportunity to personalise and take ownership of their classroom entrances.

The teaching wing connects back via the community zone to the main hall where assemblies and school dinners will take place.

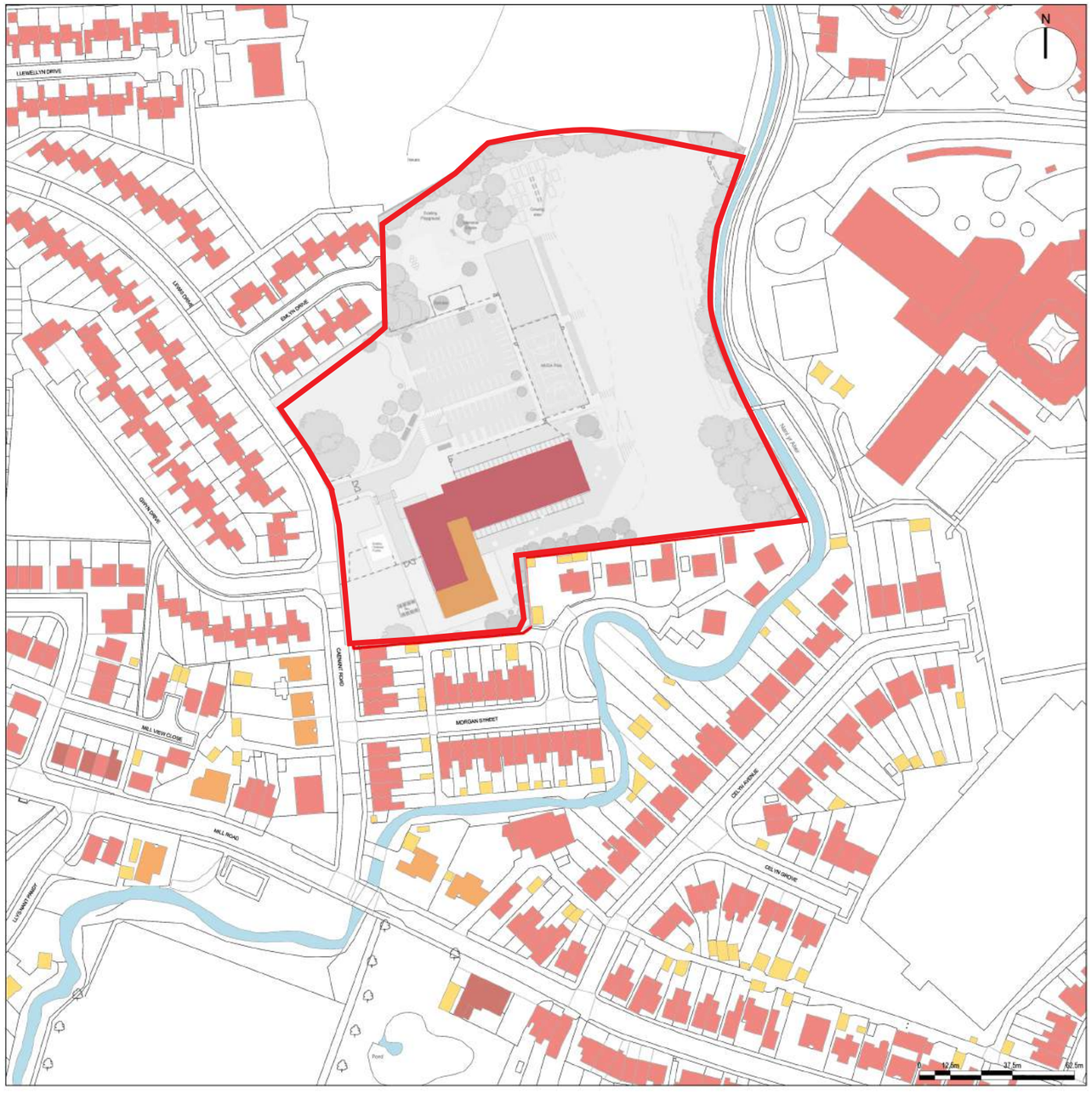


6. Design Proposal - Building Design

6.2 DESIGN CONCEPT

SCALE AND MASSING

The proposed new school building is to be similar in mass and scale to the surrounding context. It is a neat two storey building with a double height space to the main hall. The proposed concept is simple in form, with two wings: one for teaching and one for community/staff use. Signage on the front elevation provides a clear welcome to the school whilst a discrete covered entrance assists with navigating visitors to Reception. The subtle canopy also provides a shelter to the entrance during wet wetaher



Legend

Site Boundary

15m Building Heights

0m

6. Design Proposal - Building Design

6.3 GENERAL ARRANGEMENT PLAN - GROUND

1:200 Plan Development

The basis of the proposed design is in accordance with the schedule of accommodation produced in line with BB99 guidance and the additional requirements outlined by CCBC project team.

6. Design Proposal - Building Design

6.3 GENERAL ARRANGEMENT PLAN - FIRST

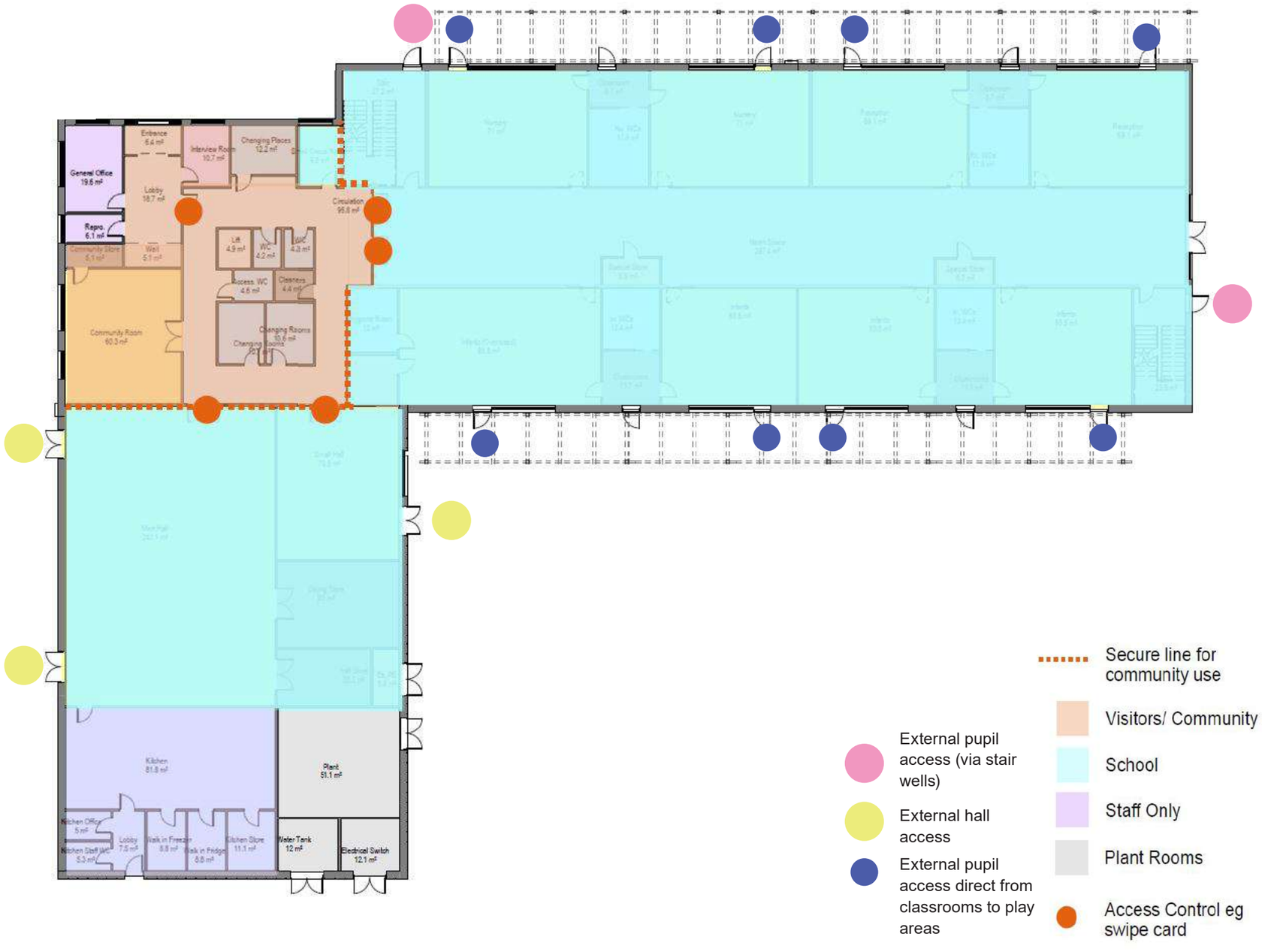
6. Design Proposal - Building Design

6.4 ACCESS & MOVEMENT - GROUND

Access into the building for visitors will be via the main entrance doors and an additional set of doors which will form an entrance foyer that is supervised and controlled directly from Reception. This will ensure visitors are unable to freely enter into staff or pupil only areas. A small waiting area has been been provided in this entrance zone, as well as access to an interview room. The arrangement of the plan is to allow a clear division between the public and private areas of the school, therefore maintain access to community useable spaces like the Halls and Community room out of hours without compromising other areas of the school.

The assumption at this stage is that the reception will be staffed or supervised at all times and access beyond the reception area is controlled using an access control system (i.e. proximity card reader).

Access to the main hall, small hall and community room for pupils will be supervised by teaching staff.



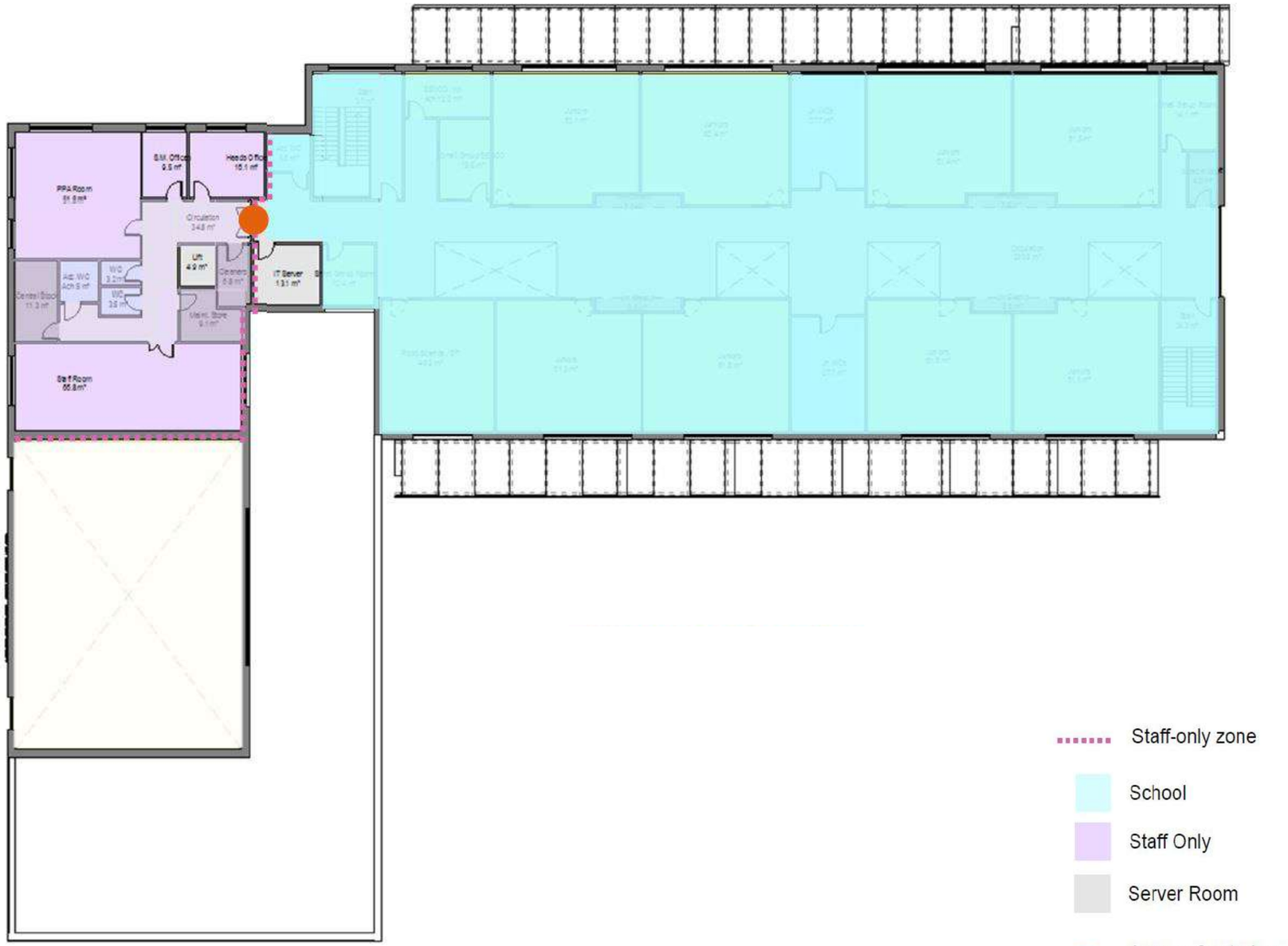
6. Design Proposal - Building Design

6.4 ACCESS & MOVEMENT - FIRST

Early years and Key Stage 1 pupils have direct external access to their classrooms at ground floor and internal access between the classrooms and heart space. Key Stage 2 classrooms are located on the first floor, pupils gain access via either of the stair cores or the lift which is clearly visible when moving from Reception/Lobby into the rest of the school. Pupils can also either access directly from ground level or from elsewhere inside the building.

SEND provision is located on the first floor in close proximity to the stair and lift directly accessed from the main entrance.

There is a service yard and access route to the west of the building allowing access to the plant room, kitchen, and bin stores. The sprinkler tank is located to the north of the site in a more discreet location, but accessible from the proposed car park. These are all located outside of the school external play areas.



6. Design Proposal - Building Design

6.5 CHARACTER - FORM AND MATERIALITY

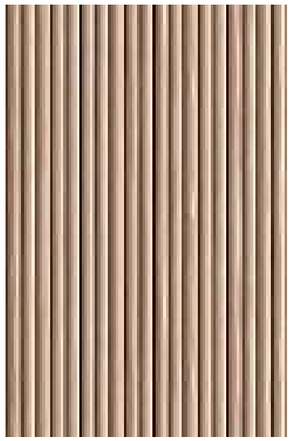
The proposed new school building is to be a two storey building with a double height space to the main hall and greater footprint to the ground floor. The two storey option has optimised the building position in relation to the level difference across the site. The new building will be mostly positioned in place of the existing infant block reducing the impact on the existing green space. The proposed concept is simple in form, whilst creating a feature of the entrance, which not only assists with navigating visitors to the main entrance but the oversailing roof also provides shelter to the entrance embedded within the form of the building. The form also supports the preferred steel frame structural strategy.

To minimise the impact of the building on the surrounding landscape, the current design proposal is for flat roofs with an 1100mm high perimeter parapet, this avoiding the need for maintenance/safety railings. The expanse of flat roof area will at the same time maximise the potential space utilisation for PV panels.

In addition to this, other fundamental design considerations under ongoing development are:

- Environmental aspects and decarbonisation
- Budget Constraints
- Future adaptability and expansion where possible
- A systematic structural grid to enable clear zones of accommodation and circulation
- An integrated MEP strategy
- Façade articulation that responds to the accommodation in plan
- Clear architectural lines that ensure it works well with the surrounding context
- The surrounding context in terms of massing, proximity and materiality
- Creating a clear and logical building mass that is orientated to maximise passive design measures

The proposed material treatment will reflect the character of the area, whilst still distinct in its function and purpose, but also respond to the decarbonisation strategy of reducing the embodied carbon. The intention is that only high quality materials will be utilised for this scheme with not only a focus on embodied carbon but also durability, robustness and ease of maintenance. For example, traditional brick at Ground Floor with timber cladding at First Floor.





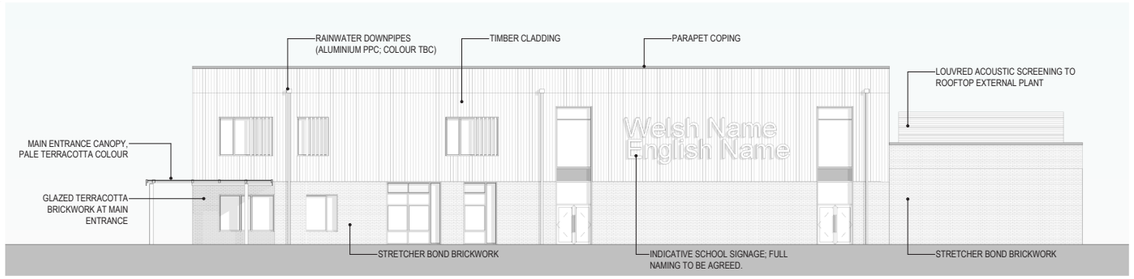
Precedent Images

6. Design Proposal - Building Design

6.5 CHARACTER

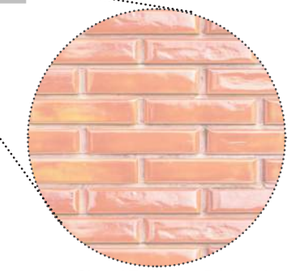
NORTH-WEST ELEVATION
1 : 100

Timber Canopy | Broxap

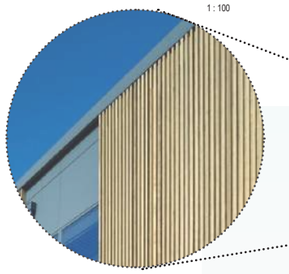


SOUTH-WEST ELEVATION
1 : 100

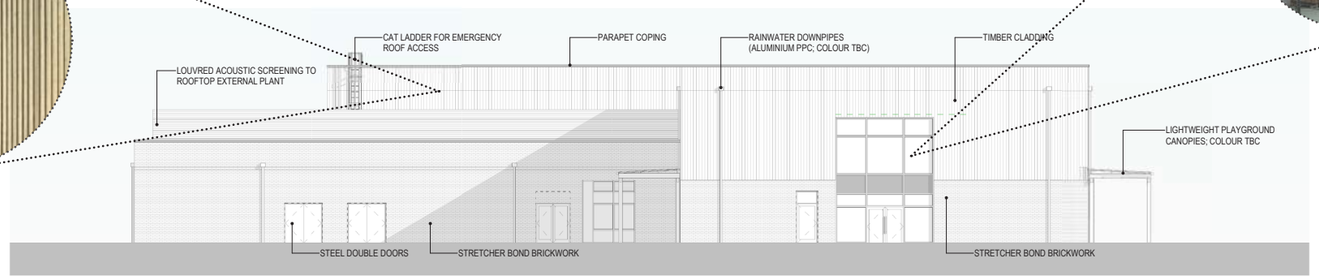
Kawneer Curtain Walling | Murphy Philipps Associates



Glazed Terracotta Brickwork at Main Entrance



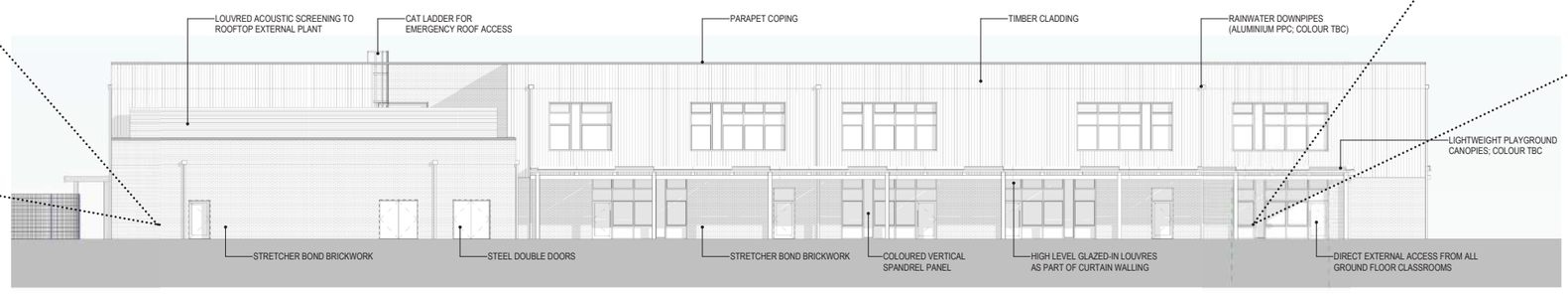
Timber cladding | Threesixty Architecture



NORTH-EAST ELEVATION
1 : 100

Coloured Spandrels | FAUN Architecture

Buff multi-brick | Morgan Sindall



SOUTH-EAST ELEVATION
1 : 100

6. Design Proposal - Building Design

6.5 CHARACTER

INDICATIVE EXTERNAL VISUAL

6. Design Proposal - Building Design

6.6 COMMUNITY SAFETY

The security requirements have been a key consideration of the design. The design team held a workshop with the Designing Out Crime Officer at the end of RIBA Stage 2 to explain the approach to community safety on this project:

- Perimeter fencing will prevent theft/burglary and antisocial behaviour.
- Planting height will be controlled to prevent surveillance over the site being compromised.
- Access to the building will be controlled by administration staff to prevent unauthorised access / theft.
- Staff rooms and offices have been strategically located to allow passive supervision of the school and playing areas wherever possible in order to prevent against anti social behaviour.
- Clear signage will be displayed to direct visitors to the main reception.
- All windows and doors will be in accordance with SBD recommendations.
- Roofs, canopies and rain water pipes will be designed so that they cannot be used to climb.
- External lighting and CCTV will be provided in accordance with SBD and DOCO recommendations.

6.7 ENVIRONMENTAL SUSTAINABILITY

The client has stipulated achieving a Net Zero Carbon Operational building compliant with Welsh Assembly Government requirements with a reduced embodied energy target of 600kgCO_2m^2. The design team will hold a workshop on sustainability as RIBA 3 progresses in order to explain the dedicated approach to this project.

The design team have considered Passivhaus principles where it has been practically possible. The proposals also consider the maximisation of the roof area that can be utilised for PV panels to provide solar electricity generation, and the design balances the need for natural daylight whilst minimising potential overheating by considering solar shading elements.

The scheme is targeting BREEAM Excellent which takes a holistic approach to the design, procurement construction and running of the building. RIBA Stage 2 BREEAM workshops have taken place and more will follow as RIBA Stage 3 progresses.

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