



Bridgend West Primary Cluster - Welsh Medium (Cornelly Site)

Pre - Application Document - Design and Access Statement

September 2023

BR0201-SRA-01-XX-RP-A-00001

Suitability Code: S2 For Information / Revision: P03



SHEPPARD ROBSON



Precedent image - 'Street' spaces

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1.0 INTRODUCTION

1.1 Overview

This Design and Access Statement (DAS) has been prepared by Sheppard Robson (SR) on behalf of the Welsh Education Partnership Company (WEPCo) and Bridgend County Borough Council (BCBC) Education and Family Support services. Additional input has been provided by Ares Landscape Architects, The Urbanists (planning consultants) and TTP (highways consultants). It accompanies and supports the Planning Application for the 'Bridgend Primary School - Cornelly Site' to the Bridgend Local Planning Authority (LPA). The statement explains how the proposed development is a suitable response to the educational brief, the site and context.

In addition to the above, the key purpose of the Design and Access Statement is to ensure responsive design, supporting the role in the delivery of sustainable development through the planning system.

This document has been developed in conjunction with feedback received (to date) from various pre-application meetings held with the relevant stakeholders, Statutory Authorities and various consultants.



Existing Cornelly Site Plan

1.2 Development Brief

The 'Bridgend Primary School - Cornelly Site' project, is to provide a new Welsh Medium primary school. The below sets out the key project information, as follows:

Welsh Medium Primary School - Cornelli

Participant:	Bridgend County Borough Council
Name of project:	Bridgend West - MIM Project - Cornelly Site
Site and Location:	Land off Greenfield Terrace, north Cornelli
Proposed age range:	3-11
Proposed capacity:	420 primary places and 60 nursery places
Proposed no. of teaching staff:	45 teaching staff (full time) and 29 ancillary staff (3 full time and 26 part time)

The proposed site for the Welsh Medium school - Cornelly site, currently comprises three buildings; the existing Cornelly Primary School, Ysgol Y Ferch o'r Sgêr and the Children's Centre. Whilst the two school buildings will be demolished as part of this project, the Children's Centre is to remain and continue its operation throughout the project.

The new primary school will consist of: 2 Nursery classrooms, 2 Reception classrooms, 4 Infant classrooms and 8 Junior classrooms. Direct access into the younger years classrooms require these class spaces to be located on the Ground Floor. External play areas will also be located directly adjacent to classroom spaces. The Juniors on the upper floor require a separate entrance.

Clear arrangements for access / egress and security from the site (for pupils, staff, parents and visitors) have been a fundamental aspect of the brief and therefore, careful consideration has been given to site and landscaping arrangements throughout.

1.3 Summary of Overarching Project Constraints and Design Considerations

The below sets out the key constraints / design considerations for the site:

Category	Key constraints / design considerations
Construction	<ul style="list-style-type: none"> Existing primary schools to remain operational throughout the construction of the new facility. Minimal disruption to the delivery of education at the schools. Clear separation between construction activities and and the operation of the schools. Construction traffic and deliveries need to be managed throughout the construction period.
School organisation	<ul style="list-style-type: none"> 'Steet' space requirement. If the school is to be used out of hours by the community, associated security to be considered. Flexibility of teaching arrangements for future pedagogies - opportunity to efficiently allow for change. Relationship between the internal arrangements and the outdoor learning and social spaces - opportunity to improve landscapes.



Existing Site Context Plan with Current School Buildings Located

1.4 Stakeholder Engagement

1.4.1 Client Engagement Meetings (CEM's)

Below outlines a list of the key Client Engagement Meetings that have taken place. In attendance have been Bridgend CBC, current school Head Teachers, Technical Advisors (on behalf of the Welsh Government), WEPCo Project Managers and the wider Design Team.

Stage 1 -

- 30/03/22 CEM 01
- 13/04/22 CEM 02
- 27/04/22 CEM 03
- 12/05/22 CEM 04
- 26/05/22 CEM 05
- 21/07/22 CEM 06
- Workshops with Welsh Government Technical Advisors Team

Stage 2 -

- 11/07/23 CEM 07
- 25/07/23 CEM 08
- 09/08/23 CEM 09
- 22/08/23 CEM 10
- 05/09/23 CEM 11
- Workshops with Welsh Government Technical Advisors Team

1.4.2 Pre-Application Meetings

In addition to the above, the following preliminary Planning meetings have taken place:

- Pre-Application meeting with the LPA - June 2022,
- Pre-Application meeting with LPA – July 2023
- Highways Officer meeting (Local Highways Authority) – August 2023

Engagement Number & Date (WEPCo Stage 2)	Discipline	Outcome	Notes
Kick off 12/06/23	General	Review of Stage 1 – Architectural layouts, Landscape Masterplan, MEP update, Fire * Identify key risks/opportunities* Next Steps* (LG has issued next steps and actions 12/06/23 following kick-off meeting)	(* denotes WEPCo inclusion by LG)

Engagement Number & Date (WEPCo Stage 2)	Discipline	Outcome	Notes
First 1.5 hours CEM01 - Re-Introductory Meeting - Chris & Gaynor - 04/07/23	Architecture	GA recap, classrooms, cloaks and WCs, main hall, kitchens and development to GAs	
	Architecture	Areas - NIA & GIA	
	Landscape	Site recap and pre-app comments.*	
	Structures	Introduction, general update embodied carbon target	
	Structures	Civils and SAB update	
	M&E	Introduction, general update, NZC, ventilation	
	M&E	Heating and vent strategy, daylighting and acoustics*	
	Fire	Introduction, general update	
	Fire	Review of overall strategy including Street ACR compliance strategy review*	
	AOB (WEPCo, CDM,BREEAM, Embodied Carbon, planning, building regs, ACRs, TA clarifications, highways)	PAC/ Planning timescales*, part demolition of Corneli Overall programme & timescales	
Second 1.5 hours CEM01 - 11/07/23	Architecture	Progression through School concept diagram	
	Architecture	Library/ street review, balustrade type/ heights and stairs	
	Architecture	Security strategy diagrams for internal and external access	
	Architecture	Discuss external façade updates, material selection	
	Architecture	Main entrance/ canopy design & visibility, secondary entrances	
	Architecture/ Landscape	Planning & residential adjacencies	
	Landscape	Site access - security/ community access/ out of hours access	
	Landscape	Site access, secure line, fences	
	Landscape	Vehicle tracking by TTP, pedestrian vs. vehicular site movement	
	Landscape	School entrances, hard and soft play areas, forest zones, community garden and site levels	
AOB (WEPCo, CDM,BREEAM, Embodied Carbon, planning, building regs, ACRs, TA clarifications, highways)			

CEM02 - 25/07/23	Architecture	Typical classroom design	Potentially remove from CEM02 Plan if SR/ ABM meet with teacher on 20/07/23
	Architecture	Discuss external strategy/ identity of each school etc, doors & windows design, canopy design	
	Landscape	Update to Landscape proposals incorporating CEM01 comments	
	M&E	Discuss heating strategy	
	FF&E	FF&E initial layouts classroom and WC	Potentially remove from CEM02 Plan if SR/ ABM meet with teacher on 20/07/23
	IT	Introduction & ICT requirements (including Annex 7 of PA)	ICT consultants appointed?
	E&S	BREEAM update and discuss targeted credits	
Fire	Review of fire strategy		

CEM03 - 08/08/23	Architecture	Semi-freeze layouts/ internals - review/ comment	
	Architecture	Discuss interior design strategy, floor finishes, acoustic strategy, internal glazing & door strategy	
	Architecture	Typical layouts for hall, studio, food room, ALN classroom, library/street, staff room	
	Architecture	Semi-freeze externals - review/ comment	
	Architecture	Review external window and door design development	
	Architecture	Discuss main school entrances and corridors	
	Architecture	Discuss external materials	
	Landscape	SUDS	Moved from CEM02
	Structures	Structural strategy (columns exposed vs encased), embodied carbon	
	M&E	PV strategy	
	M&E	Typical ventilation and acoustics for classrooms/ street including ceilings, louvres and MVHR	
	M&E	Review heating strategy/ radiator locations	
	M&E	Internal lighting	
	Catering	First draft kitchen design	Moved from CEM02
	Fire	Out of hours community use, zoning and escape	
IT	Review ICT proposals		
Architecture/ Landscape/ contractor	Discuss site enabling works, including temporary site access, hoarding lines, demolition	LG to confirm whether contractor will be on board at this by this point.	
AOB (WEPCo, CDM,BREEAM, Embodied Carbon, planning, building regs, ACRs, TA clarifications, highways)			

CEM04 - 22/08/23	Architecture	Freeze layouts - review typical classroom design, main hall, food room, staff room	
	Architecture	Review interior design strategy, floor finishes, acoustic strategy, internal glazing & door strategy.	
	Architecture	Discuss internal wayfinding strategy	
	Architecture	Review elevational treatment, roof design & proposed materials	
	Architecture	Review CAM strategy	
	Architecture	BREEAM update	
	Landscape	Planting and maintenance strategy*	
	FF&E	Review of FF&E strategy	
	Catering	N/A	
	Structures	Structural strategy of site e.g. retaining walls	
M&E	Plant allocation		
Architecture/ Landscape/ contractor	Review site enabling works, including temporary site access, hoarding lines, demolition		
AOB (WEPCo, CDM,BREEAM, Embodied Carbon, planning, building regs, ACRs, TA clarifications, highways)			

CEM05 - 05/09/23	Architecture	Presentation of proposals, both external and internal strategies	
	Architecture	Review wayfinding and signage proposals	
	Landscape	Presentation of landscape proposals	
	FF&E	Presentation of final FFE scheme	
	Catering	Presentation of kitchen proposals	
	IT	Presentation of IT proposals	
	Structures	Presentation of structural strategy	
	M&E	Presentation of ventilation and acoustics, embodied & operational carbon	
	Fire	Presentation of fire strategy	
	Architecture/ Landscape/ contractor	Presentation of phasing plan, and site routes/access	
AOB (WEPCo, CDM,BREEAM, Embodied Carbon, planning, building regs, ACRs, TA clarifications, highways)			

CEM Plan - Stage 2

1.5 Key Site Considerations

The Cornelly site is located to the North of Porthcawl and to the West of Bridgend. The site is bounded by the Pyle railway station to the north and the M4 motorway to the south. The immediate surroundings are mainly two storey residential buildings with arable land and the Kenfig National Nature reserve beyond.

Cornelly is currently occupied by educational buildings, including the Cornelly Children's Centre. Densely planted vegetation / trees occupy the South East corner of the site, with two separate vehicular access points to the north and south. Due to safe guarding measures for the schools and Childrens Centre, the site has a series of secure boundaries and pedestrian routes. The existing school buildings are in poor condition with complex and inefficient site layout.

Site analysis is discussed in more detail later in the document, however, the below summarises the overarching site considerations that have been explored, their constraints and the opportunities afforded:

- Position of existing school buildings in relation to other site constraints,
- Proximity to neighbouring buildings and no-build zones,
- Site analysis including: orientation, wind and sun paths, noise, existing biodiversity, views in and out,
- Site opportunities / constraints including : surface water, underground services and existing drainage, wayleaves, topography, surrounding roads, access points, pedestrian routes,
- Opportunities for 'buildable areas',
- Both schools and the Childrens Centre remaining operational during construction,
- Landscape strategies, including car parking, vehicular / pedestrian access, servicing. pedestrian movement.



Cornelly Site



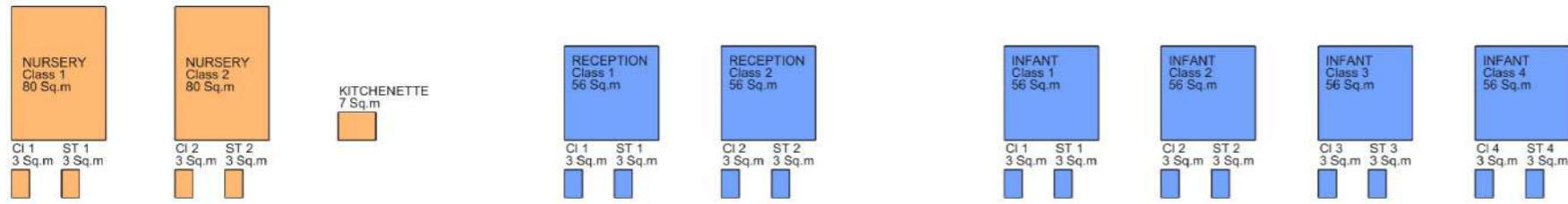
Cornelly Site Photos

2.0 EDUCATIONAL BRIEF

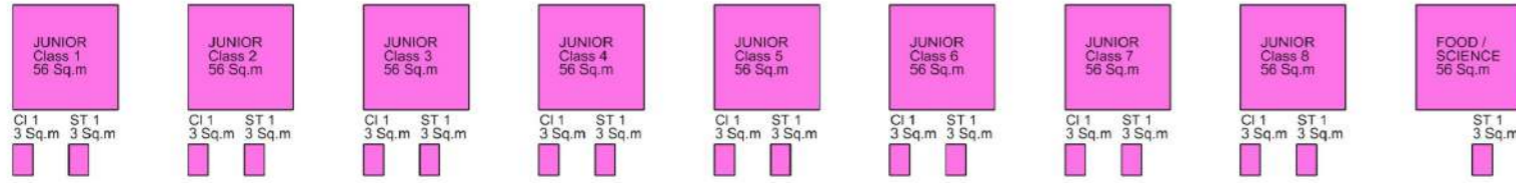
Below is a visual representation of the Schedule of Accommodation with rooms categorised by department and drawn to scale.

2.1 Welsh Medium (Cornelly Site) SoA

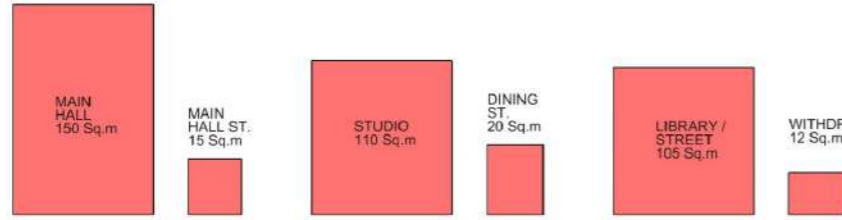
NURSERY, RECEPTION & INFANT



JUNIOR



HALLS & LEARNING RESOURCE



STAFF & ADMIN.



TOILETS & CHANGE

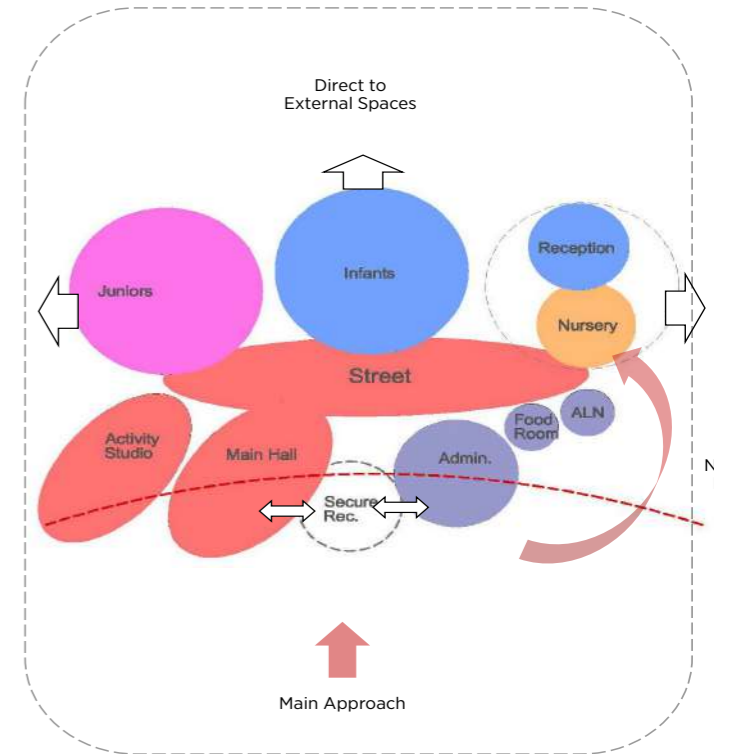


KITCHEN, SERVERY & PLANT

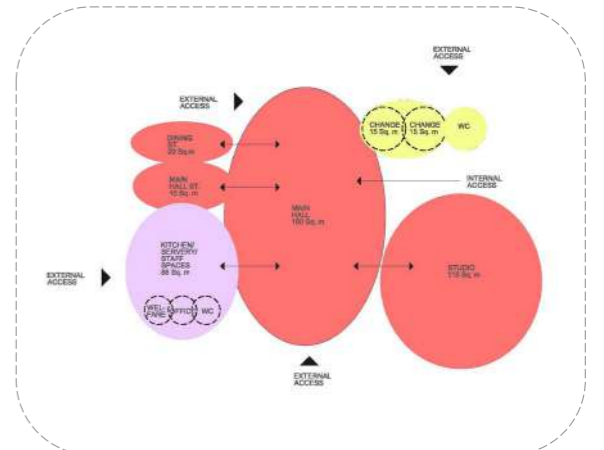


CIRCULATION
389 Sq.m

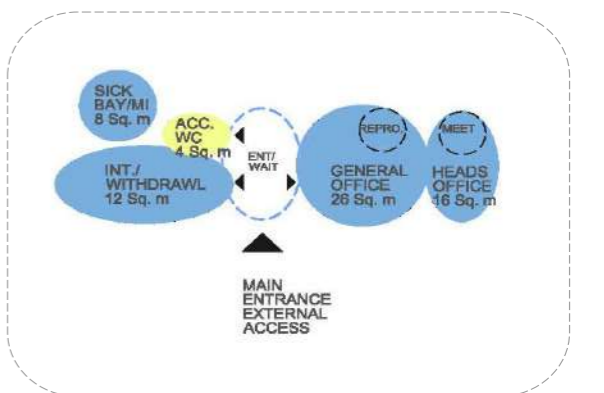
INTERNAL PARTITIONS
76 Sq.m



Overall Adjacency Diagram



Main Hall and Studio Adjacency Diagram



Main Entrance Adjacency Diagram

2.3 Key Educational Objectives

2.3.1 Core Teaching Spaces

- 2 x Nursery - 80 m²
- 2 x Reception - 56 m²
- 4 x Infants - 56 m²
- 8 x Juniors - 56 m²
- Withdrawal Room - 12 m²
- Main Hall - 150 m² and Studio - 110 m²
- Food Science - 56 m²
- Street - 105 m²

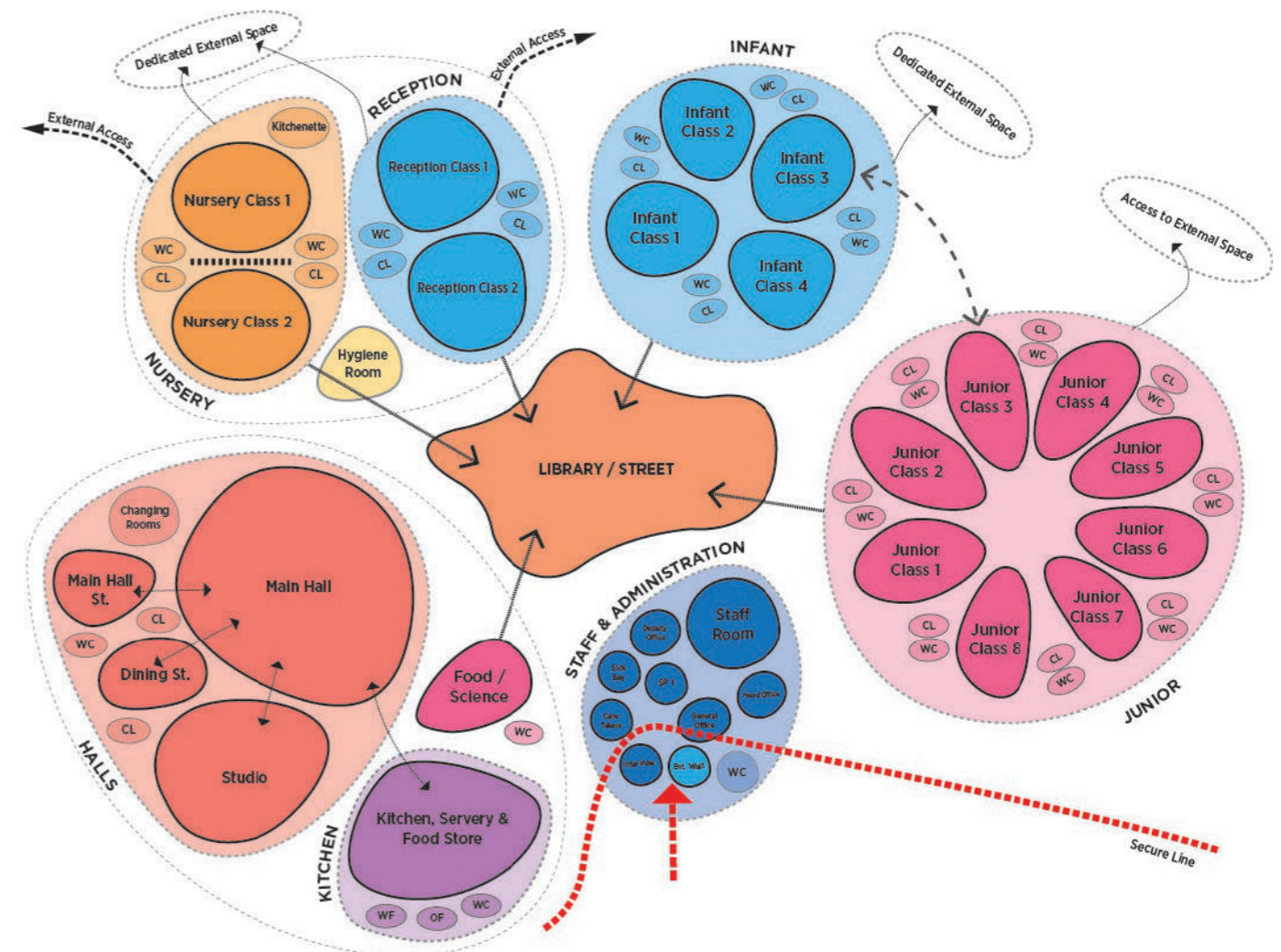
2.4 Educational Vision

- The school should be engaging and welcoming, a place that users will make their own with an atmosphere and sense of scale that is not overpowering, impersonal, or institutional.
- The internal spaces must be flexible along with being secure and controllable.
- The learner will be at the heart of the school.
- The teaching, learning and social spaces shall be considered from the point of view of the learner; maximizing the benefit that their new schools and facilities offer to make their experience as varied as possible.
- The school shall support the changing role of the teacher enabling them to develop their role as facilitators of learning through access to flexible and adaptable learning spaces that will support a wide variety of different ways of learning and teaching.

2.2 Educational Pedagogy

The new school will support a range of learning and teaching methodologies including:

- Independent study,
- Collaborative team work in small and mid-size groups,
- 1:1 learning,
- Peer mentoring,
- Performance and role play,
- Practical and art based learning, including experiential/hands on learning,
- Open learning and potential for mixed groups,
- Outdoor play/learning spaces.



Welsh Medium Primary (Cornelly) - Adjacency Diagram

2.5 Design Requirements

2.5.1 Connections & Shared Spaces

One main entrance to be accommodated for the school. The general office and the interview room to be located adjacent to the main school entrance, off the secure lobby. Equally, access in to an accessible WC is to also be located off the secure lobby.

- The studio, main hall and kitchen to be zoned such that these rooms can easily be accessed during the day without disruption to teaching.
- Street spaces to be created predominantly on the ground floor. The street spaces to be centrally located for ease of access and passive supervision. The layout and equipment to be flexible in order to cater for different group sizes.

2.5.2 Arrival Points

- Site - The approaches to the main entrances are to bring together routes from across the site following pedestrian desire lines from entrances and the coach drop-off area.
- Main entrance - The main entrance to be an open, welcoming, bright and calm space with visual links to adjacent areas of the school to create a positive first experience.
- Ground floor classrooms - Nursery, Reception and Infant classrooms to have an adjacent cloakroom from which toilets will be accessible and which will form the main pupil entrance to the classrooms at the start and end of the school day.
- Secondary entrance - There will be a secondary entrance in to the school for Junior students. This is located opposite the Main Entrance to the rear of the building. There will also be a visual connection between the Main entrance lobby and the secondary entry point.

2.5.3 Main Entrance

- At the main entrance, visitors and parents to enter via a secure lobby with an “airlock” design. A secure glazed screen to be provided between reception / general office and the entrance areas, before releasing remote access to inner doors into the school.
- Outside school start and finish times, parents to use the main visitor reception to drop off and collect pupils (e.g. for medical appointments) and to gain access to the school for meetings.

2.5.4 Main Hall and Studio

- The Main Hall and Studio are to be used as multi-purpose spaces that will be used for the following functions on a daily basis: Assembly / Dining / Sports and PE / Drama and performance.
- The Kitchen is to be located adjacent to the Main Hall with the servery connecting both areas.
- For drama and performance, the Main Hall shall accommodate a collapsible raised stage; fixed performance lighting; a retractable screen and ceiling mounted projector.
- The Studio is adjacent to the Main Hall. A retractable partition has been located between the two spaces, to enable flexibility.

2.5.5 Classroom Spaces

The Nursery classrooms to be linked via a retractable partition between two classrooms to enable a larger single space to be created. A hygiene room to be directly accessible from one of the Nursery rooms and also from the main circulation area. All Foundation Phase classrooms to have direct access to the protected outside play area.

Infant classroom FF&E to be flexible to allow different learning zones to be laid out. Practical work and learning will be undertaken in the classroom rather than in specialist spaces.

In Junior classrooms, practical work and learning will be undertaken in the classroom rather than in specialist spaces. Classrooms to have an adjacent cloakroom and toilets.

2.5.6 Street Space

It is anticipated that the street will be heavily used at ground floor level, predominantly by the students in Reception and infant classes. The space will also be used for independent learning and small group work, working with teachers and learning support staff.

The ‘Street’ will be an engaging space for the students to occupy, learn and play. It will form a pivotal space within the teaching wing, allowing for a ‘home base’ for the students to gather. This space will be supported by the FF&E consultant to create the vibrancy intended in the design.



2.5.7 Flexibility & Adaptability

The proposal has been designed with the ability to accommodate flexibility and future adaptability.

This expands from the design of the building form, through to structure, MEP strategies and the various other building components.

The building design should be capable of allowing internal spaces to expand or contract, as necessary. Primarily, the cross wall between classrooms are to be of light weight construction (avoiding concrete or block-work) to enable the flexibility of spatial reconfiguration - in line with evolving pedagogies. Structure, MEP and other disciplines are to be designed with this in mind, to support and future proof potential changes.

2.5.8 External Areas

Free flow play areas to nursery and reception classrooms to be separated and fenced from other external spaces. These areas shall also be provided with a soft play surface and sheltered area. External play areas for infant and junior classrooms to be provided adjacent to the pupil entrances.

External pupil areas to be restricted from access from parents and third parties during the school day whilst pupils have free access to these areas.

Provision of bin storage is to include for storage of recycled materials.

The location of external plant areas are to be included in the overall maintenance and access strategy.

2.5.9 Benchmark Project - Pencoed

As suggested by the Bridgend Council Team, Pencoed Primary School was visited and referred to as a benchmarking scheme. A number of similarities in the brief can be seen between Pencoed and the English Medium requirements.



3.0 HISTORIC CONTEXT

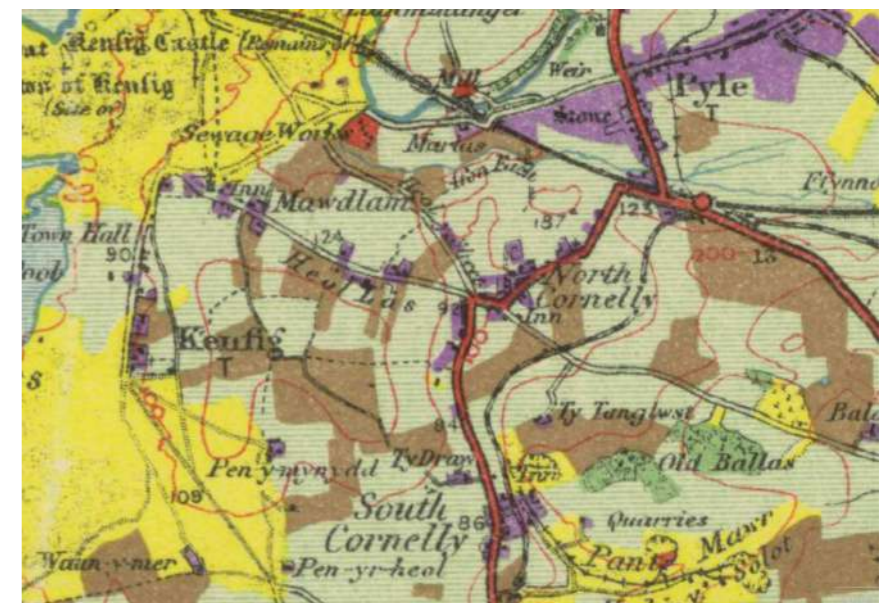
3.5.1 Bridgend

Historically a part of Glamorgan, Bridgend town has expanded in size since the 1980s and is currently undergoing a redevelopment project.

Named after the medieval bridge over the river Ogmore, in Roman times, Bridgend was a route from Cardiff to the forts and harbour at Neath. This road has now become a section of the A48.

The 17th Century saw the discovery and mining of Coal in the South Wales Valleys. Just north of the town this mining led to industrialisation and consequently, to the great western railway. The town grew predominantly as an agricultural market town with a large farmers market remaining until the 1970s.

Since the millennium the town has invested in its public realm, restoration of buildings and a new bus station. The pedestrianisation of the town centre has led to many continental markets and festivals. Alongside this, European funding was used to create a riverside café culture along the River Ogmore.



3.5.2 Cornelly

Cornelly, which was formed of two villages (North and South Cornelly) was created following the Bridgend Cynffig, Cornelly and Pyle Communities electoral changes order in 2002. This saw the division of Cynffig into Cornelly and Pyle, which sit either side of the mainline railway.

The first record of North Cornelly is from the 12th Century as 'The Vill of Walter Lupellus'. The name Cornelly arose probably due to its proximity to the Cornelly Cross crossroads where the road to the original village branched off from the main road.

Cornelly Primary School has stood on the site next to greenfield terrace since 1958. Ysgol Y Ferch O'r Sger a later addition opening in 1982 and finally the early years centre constructed in the middle of the site.



4.0 LOCATION AND CONTEXT APPRAISAL

4.1 Cornelly Existing Site Plan



4.2 Cornelly Site Photos



5.0 SITE ANALYSIS

5.1 Wider Context and Surroundings

The Cornelly and Marlas sites are in close proximity to each other, located to the North of Porthcawl and to the West of Bridgend.

The sites are bounded by the Pyle railway station to the north and the M4 motorway to the south. The immediate surroundings of both sites are mainly residential with arable land and Kenfig National Nature reserve beyond.

Predominantly, both sites sit within residential areas of two storey buildings. To the East of the Marlas site, larger residential blocks form a cul-de-sac with roads surrounding both.

Densely planted vegetation / trees occupy a corner of the South East area of the Cornelly site, whilst on the Marlas site tree planting is sparse. The predominant feature of the Marlas site is the change in topography levels. Beyond the red line boundary, residential buildings occupy the higher levels outside of the site.



Site Context Map



5.2 Immediate Existing Sites

Cornelly - Four roads wrap around the Cornelly site with residential housing bounding all sides. A number of secondary roads filter into the site for either pedestrian or vehicular access.

Within the Cornelly site, two Primary Schools and a Children's Centre are located in different areas. To the South East, a green space wraps the corner of the site.

Vehicular access to Cornelly Primary School is by Hall Drive; pedestrian access is by Hall Drive and Greenfield Terrace

Vehicle and pedestrian access for Ysgol Y Ferch o'r Sger the Childrens Centre is by Greenfield, vehicle access along this road includes a school bus drop area.

Major services cross the site underground, also requiring easements either side to be kept clear above ground.



Existing accesses (vehicular and pedestrian) to the site



Cornelly Primary School access from Hall Drive, Google Street Images



Ysgol Y Ferch o'r Sger access from Greenfield Terrace, Google Street Images

5.3 Site Constraints

From inception, the site constraints and opportunities for both sites were reviewed and assessed. The various constraints were ordered and prioritised to gain an understanding of the aspects that were flexible, and others that were not.

As discussed previously in the document, these can be summarised as follows:

Cornelly:

- Cornelly primary school continuing to operate during construction,
- Existing sewer service easements running east to south-west,
- Surface flood zone within the existing playing fields,
- Existing Children’s Centre retaining and continuing to operate during construction,
- Existing culvert and easement running north to south-east,
- Proximity of adjacent residential properties.



5.4 Topography

There are no major level changes on the Cornelly site.

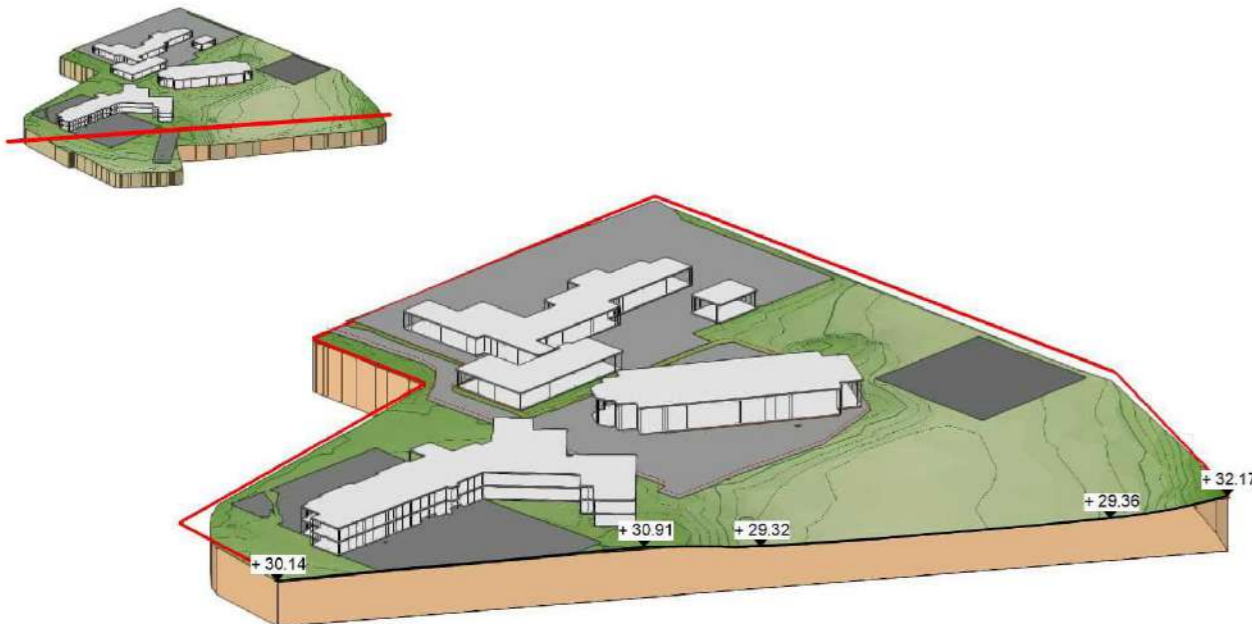
There is a gentle depression in the south east of the site where an existing sports pitch is located.

A small mound with mature trees sits to the east of the site and is intended to be retained.

The north of the site sits slightly higher than south with a fall of roughly 1.5m from north to south. This is most notable on the approach from Hall Drive.



Cornelly Existing Topography



Cornelly Existing Terrain Model

5.5 Buildable Areas on the Sites

A thorough analysis was carried out by overlaying the site constraints, client's requirements and initial massing exercises to build a picture of the areas that could potentially be problematic, unachivable and costly - should construction take place in that particular zone. This included incorporating comments from the Pre-Planning consultation and Technical Workshops.

Fundamentally, the importance of the schools remaining operational throughout the construction process also fed in to the establishment of the 'buildable areas' defined on the sites.

These led to a zone being identified as the most optimum solution for the new build school. As below, the key factors for selection were as follows:

Buildable Area -

- Both existing schools and Childrens centre to remain in operation during construction,
- Avoidance of existing services easements and surface flooding area,
- Existing accesses to the site servicing the existing buildings.



6.0 MASSING AND BUILDING FORM - TESTING

6.1 Massing on Site

Post the establishment of 'developable areas' - massing was tested on the site. This was initially tested via 'block massing' to understand the extent of foot print. A combination of the building's orientation for daylighting/heat gain/PVs etc, the site constraints/parameters and the buildings area requirement - were all tested to find the optimum position.

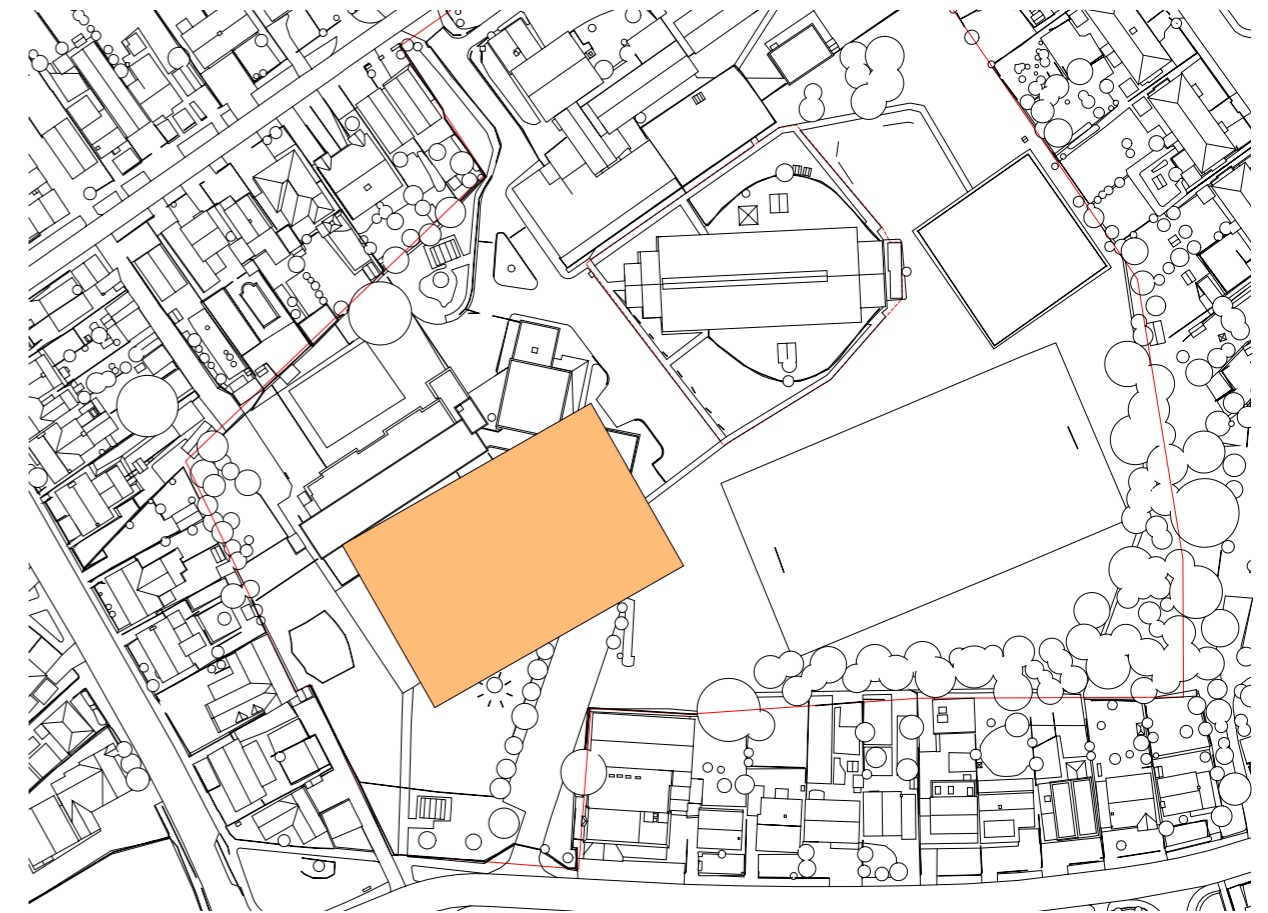
Both single storey and two storeys were tested to ensure the footprint sat as close to the 'build-able area' as possible - allowing for context and surrounding parameters, as follows:

In relation to the site constraints, two storeys were concluded early on in the process. Due to the density and location of existing buildings on the site, there was little flexibility in establishing a build-able area. The proximity to the operational school building and other constraints such as easements, were all fundamental in establishing massing and height.

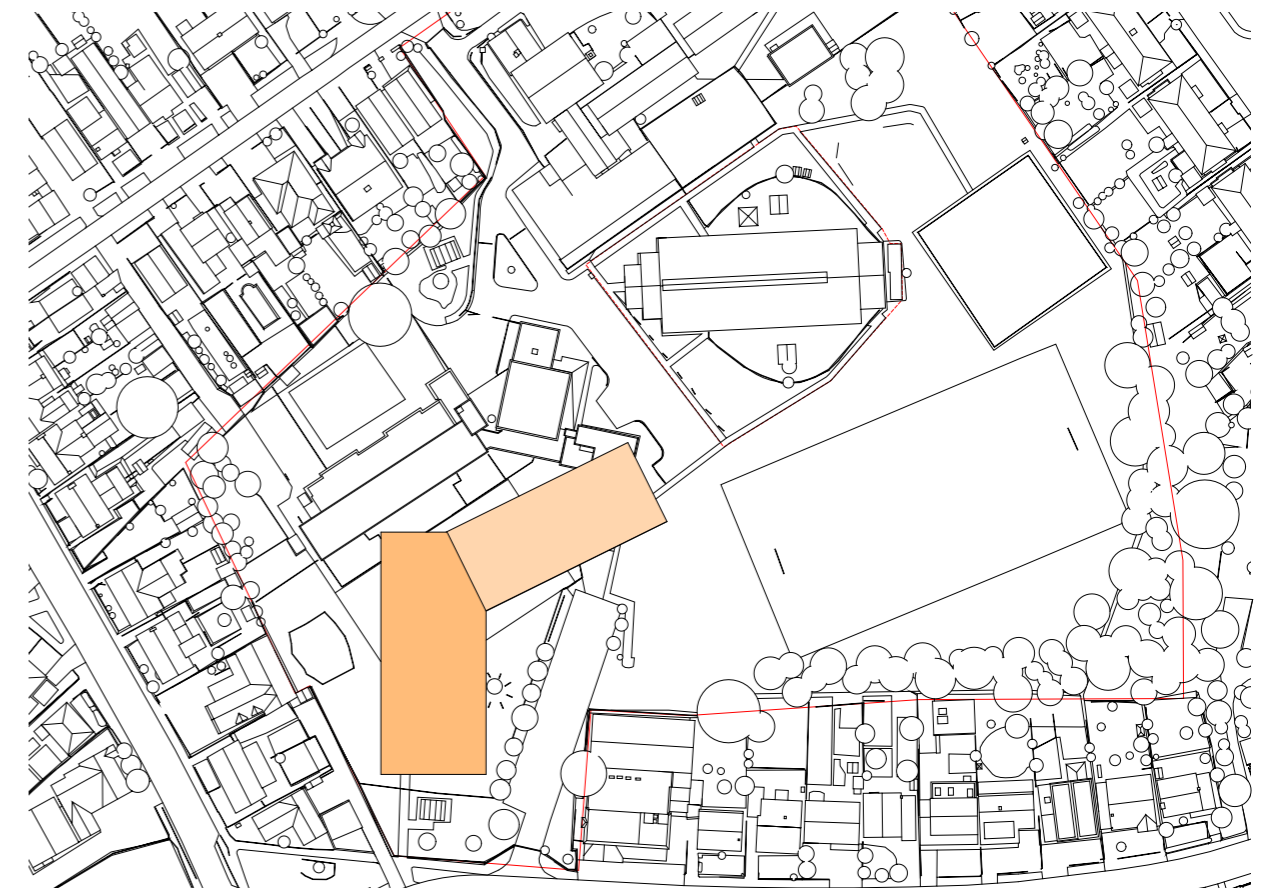
Ensuring the teaching wing of classrooms had the preferential orientation was considered important with climate control.

In addition, ensuring the building had a civic presence and was more visible to the community meant the existing staff entrance to the south of the site was preferable. The site entrance to the north would still be active.

The building form and massing sits well on the site and through careful consideration of the site and its boundaries, the current proposal has maximised its potential. One way this has been achieved is via the entrance plaza, which allows the community to clearly see the school building and its grounds.



One storey massing



Two storey massing

6.2 Tested Building Forms and Typologies

The team tested building forms in a logical and methodical way. This included understanding (from the outset) the educational drivers in the form components (i.e. cluster / courtyard / finger approaches) and which of the configurations best suited the educational requirements.

The building forms were discussed with the team educationalist to understand the opportunities and constraints these would offer, whilst maintaining an overview to keep the building form simple and legible.

Spatial adjacencies, functionality and the positioning of the street space were reviewed against each typology. Main circulation routes, access / egress and relationships with the external spaces - were also all considered when carrying out the analysis.

The site was tested simultaneously with the same building form / typology, to establish an approach to standardisation but with the ability to apply flexibility for site specific requirements.

The following forms / typology were tested across the board:

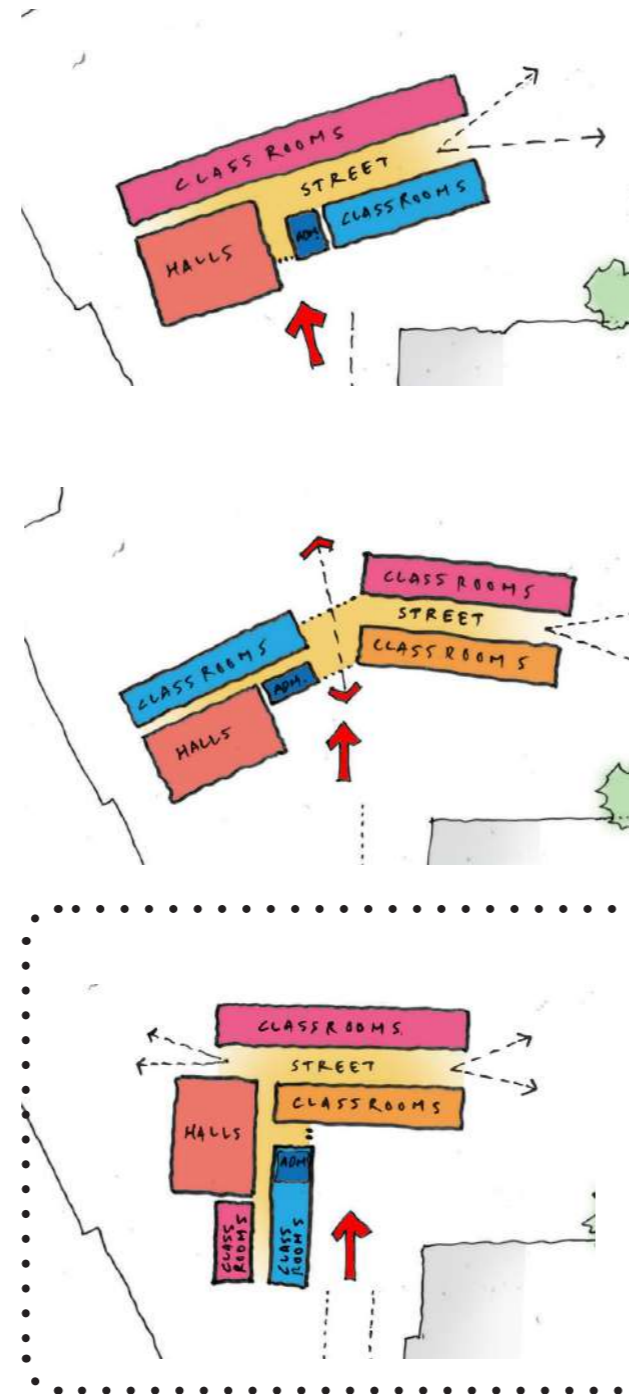
- The Linear
- The crank
- The 'L'

The preferred option ('L') provided a number of benefits and merits which could be translated to different sites. As described previously, the 'L' was able to provide an efficient and standardised form - whilst being flexible and adaptable.

The street space (key to the design) was able to be located as part of the teaching wing, allowing for good access and visibility across the building - as described :

- L approach: One wing of classrooms, with street space between classrooms adjacent to an assembly wing mostly comprising of administration, entrance spaces, Studio and adjacent Main hall - at the 'elbow' of the two wings.

6.2.1 Tested Massing Forms



6.3 Testing and Concept Design Development of the 'L' Option

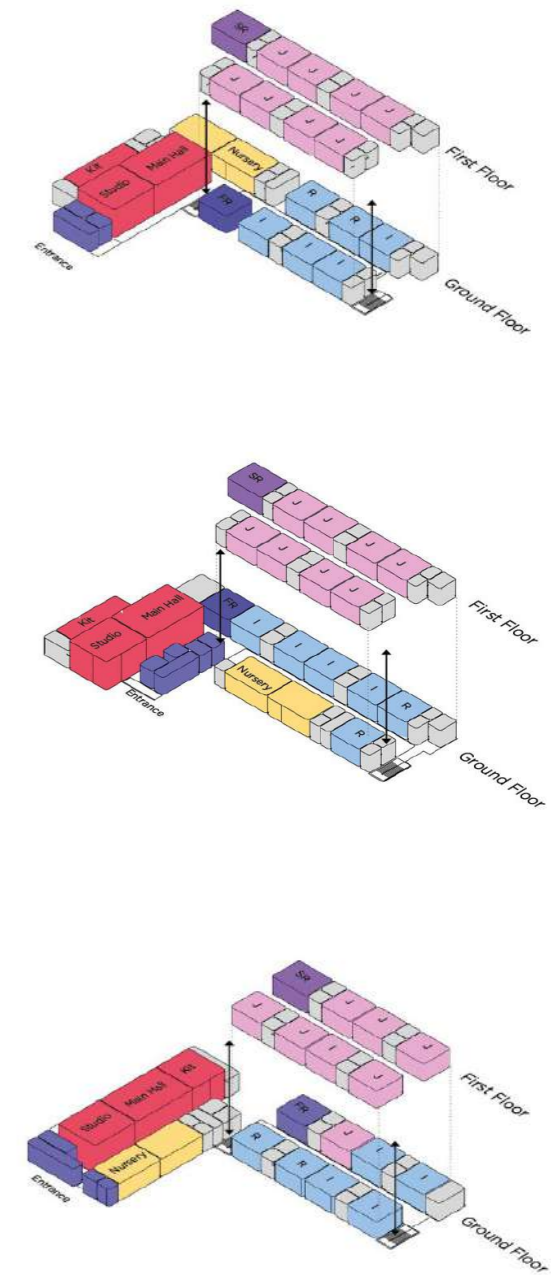
Following on from the preferred building form, variations of adjacencies were tested. The location of the Main Hall and Studio (suite of spaces), in conjunction with the inter-connecting Nursery classrooms, were positioned at various points. This was to understand the optimum location for main entrance, security lines and routes to the Nursery entrances. In conjunction with site access and movement, the placing of these spaces was important to establish.

Testing the location of the above spaces also assisted in understanding volume (double heights), form and massing.

The location of the nursery spaces was also important to establish early, in order to determine the route of 'progression' throughout the school.

The 'Street' was located in the centre of the 'teaching wing' between the classrooms. This offered the maximum access, visibility and good passive supervision. The 'teaching wing' developed effectively, by stacking classroom suites (including WC's and cloaks) and working in conjunction with the structural approaches and ventilation strategies.

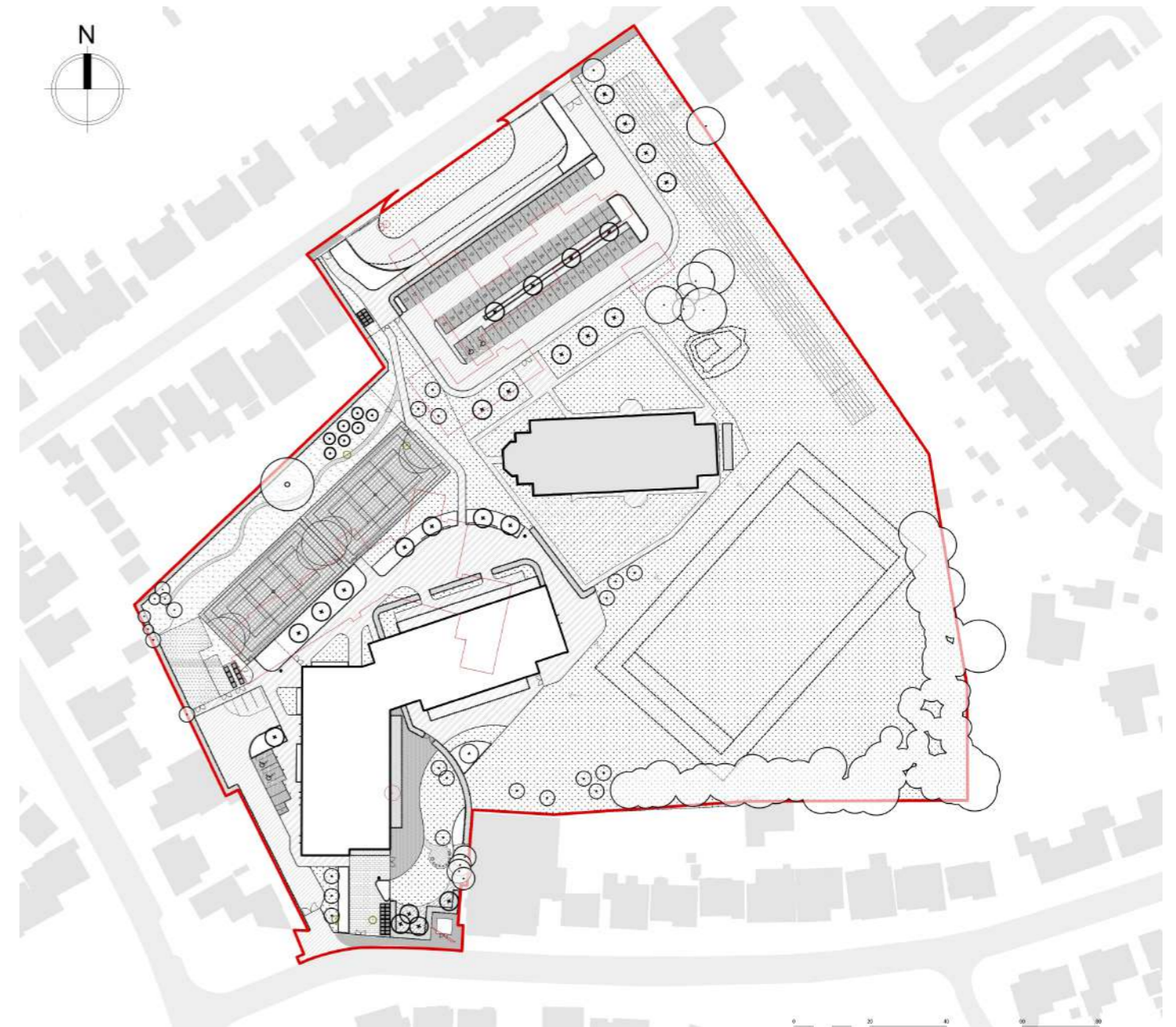
The development of the 'L' also aided good access points in to the building for both Main Entrance and other secondary entrances. This, alongside establishing a visual connection with the outside, enabled the ends of the 'teaching wing' and at the 'knuckle' of the building to open out.



7.0 MASTERPLAN CORE OBJECTIVES

7.1 Welsh Medium Primary School (Cornelly Site) - Proposed Masterplan

- The perimeter of the site (red line boundary) will have high level fencing around it, as will other inner parts of the site to delineate zones.
- The new school building has been off-set (as far as possible) from residential properties within the constraints of the site.
- The proposed MUGAs have been located to ensure easy access from the building and supervision of staff from the adjacent external play provision.
- The existing rugby pitch will be retained as part of the new design.
- The majority of existing trees have been retained, maintaining a high level of screening into the site.
- New buffer hedging to sensitive parts of the boundary will also help to mitigate against views into the site from adjacent residential properties.
- It is intended that the southern (main) entrance on Hall Drive, will be predominantly a pedestrian entrance, with limited vehicular access. The main entrance will lead to a plaza which provides the school with a strong presence within the local context and surroundings.
- The entrance to the north will be mainly for vehicular access and coach drop-off. The coach drop-off will have increased capacity within the site to meet the additional pupil numbers. This ensures efficient access into the site. A path from the coach drop-off will have a dedicated pedestrian route for pupils to enter the school play spaces and building.
- The 'Children's Centre' will have a dedicated carparking area. A boundary will continue to separate the Childrens Centre from the Welsh Medium primary school. The Childrens Centre will be managed independently.



KEY

Site	Planting	Paving	Furniture
Planning Application Boundary	Proposed Tree Refer to Planting Strategy Drawing	Pedestrian Macadam (Ref P1) Tollinger's Specification	82 Cycle Stands Specification TSC
Proposed Building	Hedge Planting Refer to Planting Strategy Drawing	Vehicular Macadam (Ref P2) Tollinger's Specification	83 Cycle Shelter Specification TSC
Existing Building to be demolished	Amenity Planting Refer to Planting Strategy Drawing	Concrete Block Paving (Ref P3) Specification TSC	84 Door Protection Barrier 1020x400mm Specification TSC
Cemetery / Building Over-hang	Grass Seed Refer to Planting Strategy Drawing	Permeable Block Paving (Ref P4) Specification TSC	85 Seating Bench 800 x 200mm Specification TSC
Existing Tree	Meadow Planting Refer to Planting Strategy Drawing	Play bark (Ref P5) Specification TSC	86 Litter Bin 800 x 200mm Specification TSC
Existing Tree to be removed	Buffer Planting Refer to Planting Strategy Drawing	Wheelbar surface (Ref P6) Specification TSC	87 Bollards Specification TSC
		MUGA Permeable Surface (Ref P7) Tollinger's Specification	Fencing and Structures
		Concrete Surface (Ref P8) Tollinger's Specification	Proposed Fencing Refer to Fencing Central Management for details
			Proposed Gates Refer to Fencing Central Management for details

8.0 LANDSCAPE AND SITE LAYOUT OVERVIEW

8.1 BB99 Analysis

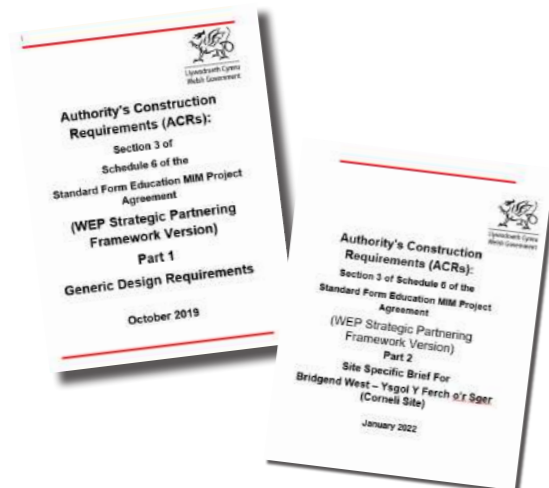
The proposed landscape design will meet the requirements as set out in the New Project Request and as described in the Authority Construction Requirements (ACR's) and the Site Specific Brief (SSB).











A standardised approach has been taken towards the provision of external outdoor spaces whilst corresponding to each site character and surrounding context.

Access to the site, and circulation strategies were carefully considered to make sure it is easy and legible for pupils, staff and visitors to move around.

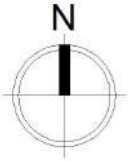
The footprint of the building provides opportunity to create external spaces for each of the schools and key stages, and the building façade itself will form part of a natural secure line within the site to separate publicly accessible areas of the site, such as the carpark from the external pupil sport and social spaces.

An analysis of externals areas has been undertaken in relation to Building Bulletin 99. This gives us confidence that the site can accommodate all the hard and soft social spaces, and hard courts for a site with this number of pupils.



BB99 MIN REQUIREMENTS	PROPOSED
 Hard Informal 620 square metre	 Hard Informal 1420 square metre
 Hard Outdoor PE 1030 square metre	 Hard Outdoor PE 1363 square metre
 Soft Informal 1440 square metre	 Soft Informal 1616 square metre
 Habitat 210 square metre	 Habitat 2510 square metre
 Soft Outdoor 8400 square metre	 Soft Outdoor 9125 square metre

9.0 CORNELLY ILLUSTRATIVE MASTERPLAN



Cycle Shelter
10no. spaces

Secondary Pedestrian Entrance

Greenfield Terrace

Proposed Orchard

Existing Children's
Center

MUGA
2no. Courts

Sprinkler tank
enclosure

Bin Store

Heol Fach

Proposed
Building

Pedestrian access to Childrens Centerpark
Vehicle access to car park

Bus Drop Off

School car park
39no. parking bays for staff
5no. parking bays for visitors

Children's Center Car Park
20no. parking bays

Heol-Y-Parc

Playing Fields

Existing vegetation to be
retained

Vehicular
Entrance

Hall Dr

Main Pedestrian
Entrance
Cycle Shelter
20no. spaces

9.1 Pupil social spaces

All external play areas are entirely secure and during the school day can only be accessed from the school.

The nursery, reception and infants have free flow to external play areas from classrooms. The nursery and reception play is to the south east of the building. The infant play areas are to the north and east.

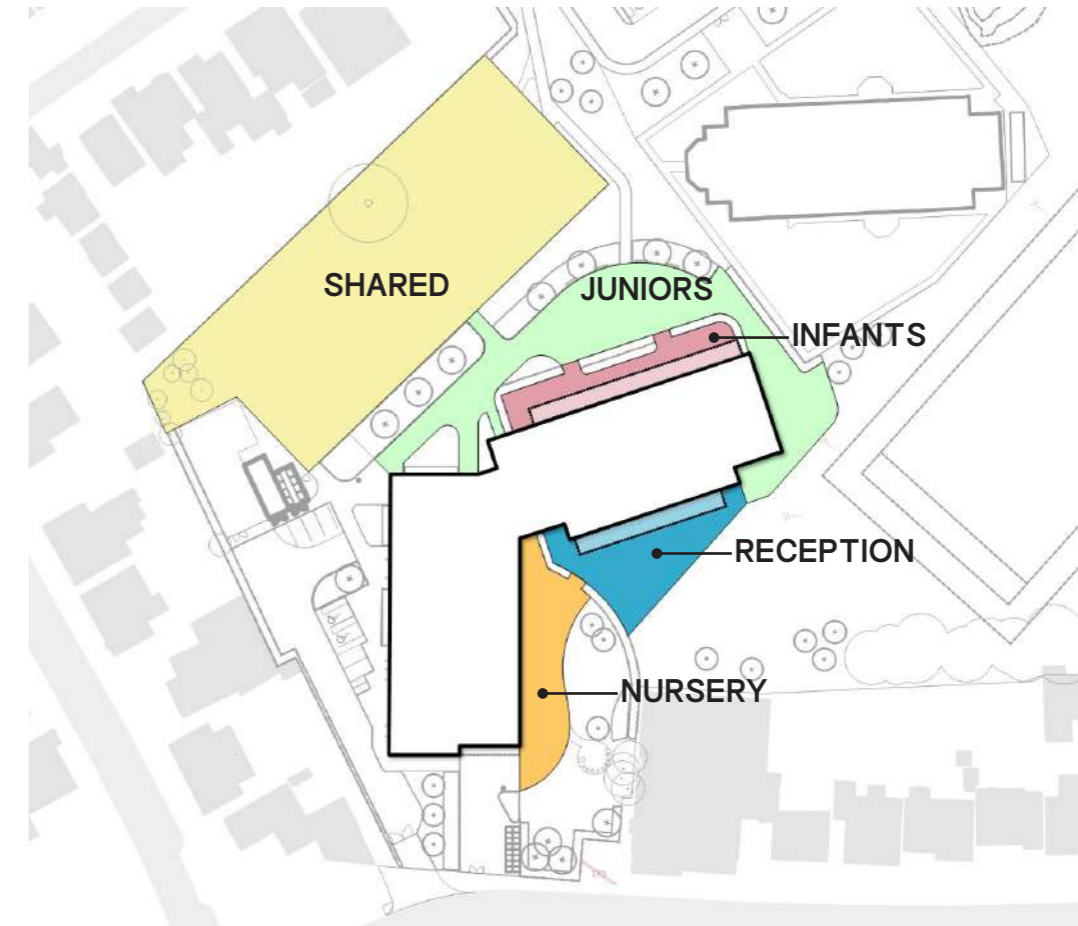
An external area for the juniors wraps around the infant play areas with a strong relationship to the internal 'Street'.

The play areas comprise hard surface finishes, grass areas, planting and trees. Care has been taken in the design to place any grass and planting, so it responds to pupil movement and play.

Hard surfaces in play areas are generally macadam but with wet pour surfaces to nursery spaces.

Shelter structures for external spaces are integrated within the building façade.

Shared spaces include the MUGA, orchard and existing garden area.



External play provision

9.2 External sport

A new Multi Use Games Area (MUGA Macadam) is proposed. This will be a fully fenced 2 court space with a macadam hard surface.

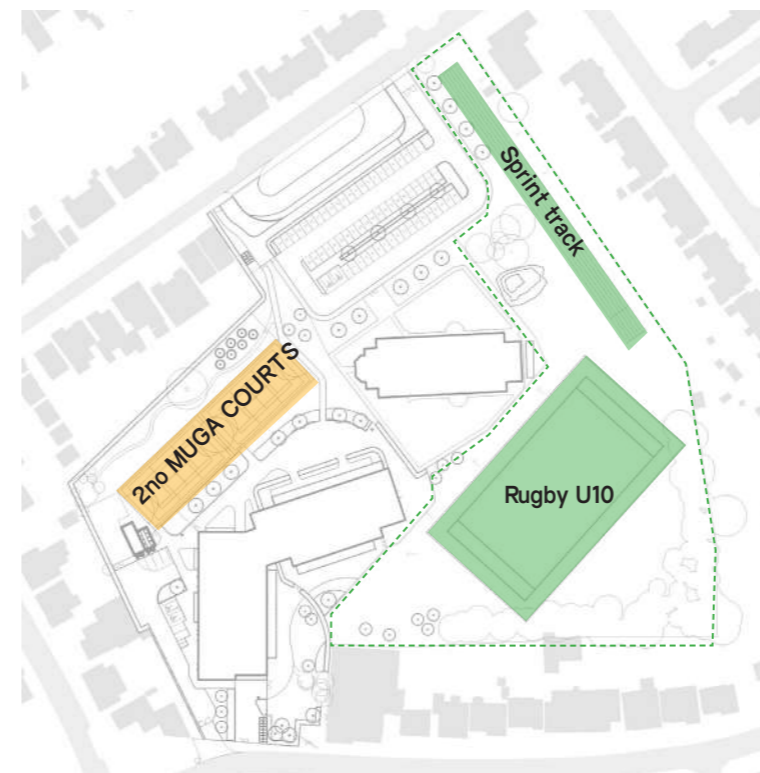
The MUGA will be located in the north west of the site with direct access to the hard play areas surrounding the school building.

Soft PE comprises an U10 Rugby Union pitch (70 x 35m) and 100 m sprint track.

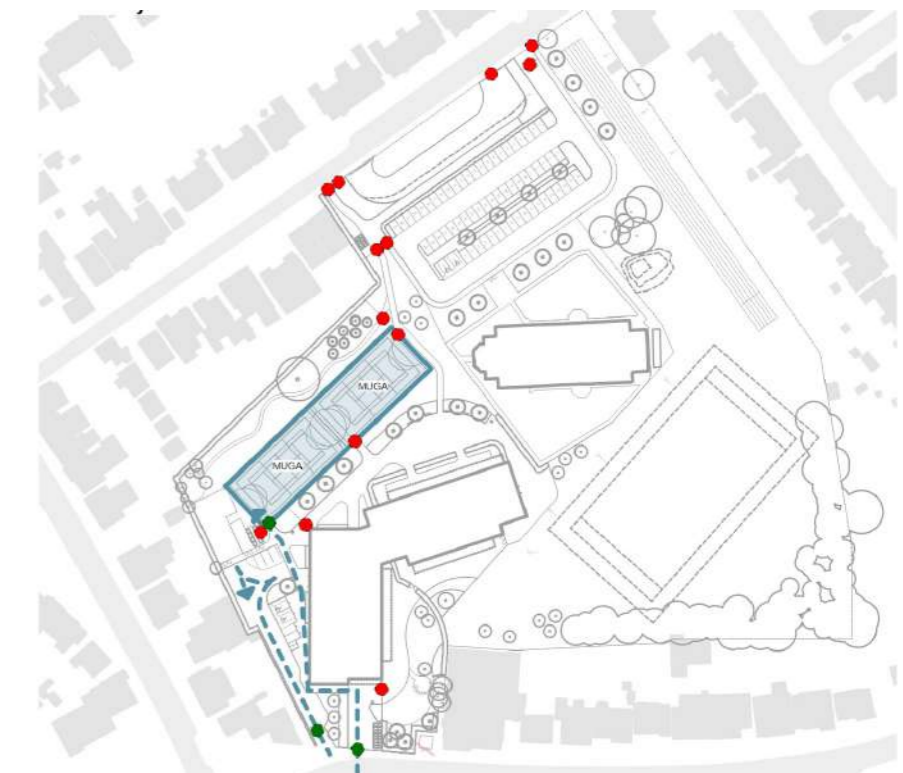
9.3 Potential Community Use

The external MUGA's could be designed to allow for use by the local community if required.

These could be accessed from the Hall Drive access with a secure line separating them from the rest of the school for out-of-hours use.



School Use - School Hours



Potential out-of-hours community use

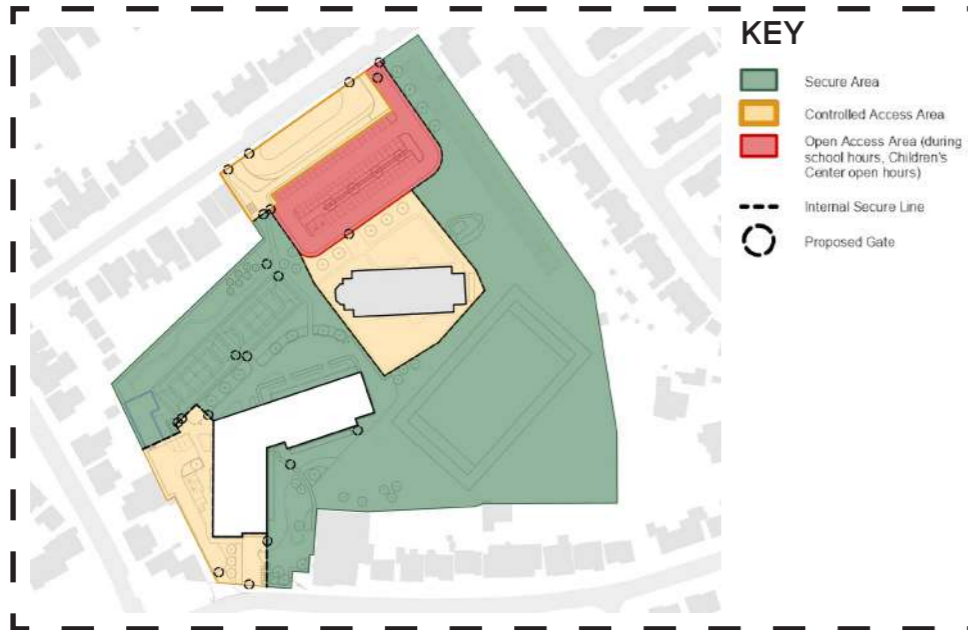
9.4 Secure Line and Fencing

The objective is to provide a safe site that provides maximum security and safeguarding for pupils, whilst also recognising the importance of the school to the local community and ensuring that the site is welcoming to visitors.

The overall strategy includes a secure area (in green) that can be locked during school hours and opened at the beginning and end of the day only. In addition to this secure area, there are two controlled zones (in yellow) which provide vehicle access to coach drop off area, visitor and disabled car park and delivery/ services area. A publicly accessible area (in red) remains open to provide access during the day to the car park and Childrens Center entrance, as this operates at different times than the school pick up and drop off times.

The above strategy will be managed through the fencing arrangement and operational management by the school.

- KEY**
- - - - - 1.2m high playground fence
 - - - - - 1.8m high internal security fence
 - - - - - 2.4m high perimeter fence
 - - - - - 3.0m high sport fence
 - - - - - 1.8m high timber fence
 - - - - - 3.0m high timber fence



9.5 Access and Circulation

The site access for vehicles will be via Hall Drive or Greenfield Terrace.

Vehicle access via Hall Drive is proposed to be dedicated for school visitors, disabled parking bays, taxis drop off and deliveries and bin collections.

Vehicle access via Greenfield Terrace allows access to the school coach drop off area, the staff car park and Childrens Centre car park.

At this stage the design proposals includes the following parking provision in the northern car park:

- 39no staff parking spaces
- 5no visitors parking spaces
- 20no parking spaces dedicated to the Childrens Centre

30 covered cycle spaces are provided. These numbers are based on Bridgend CBC planning policy.

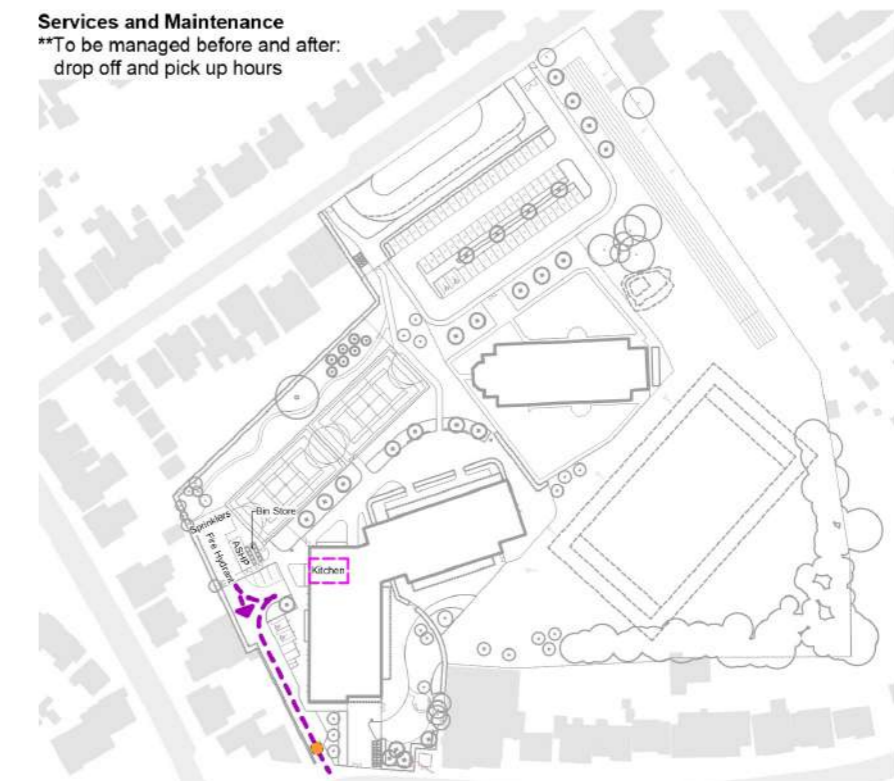
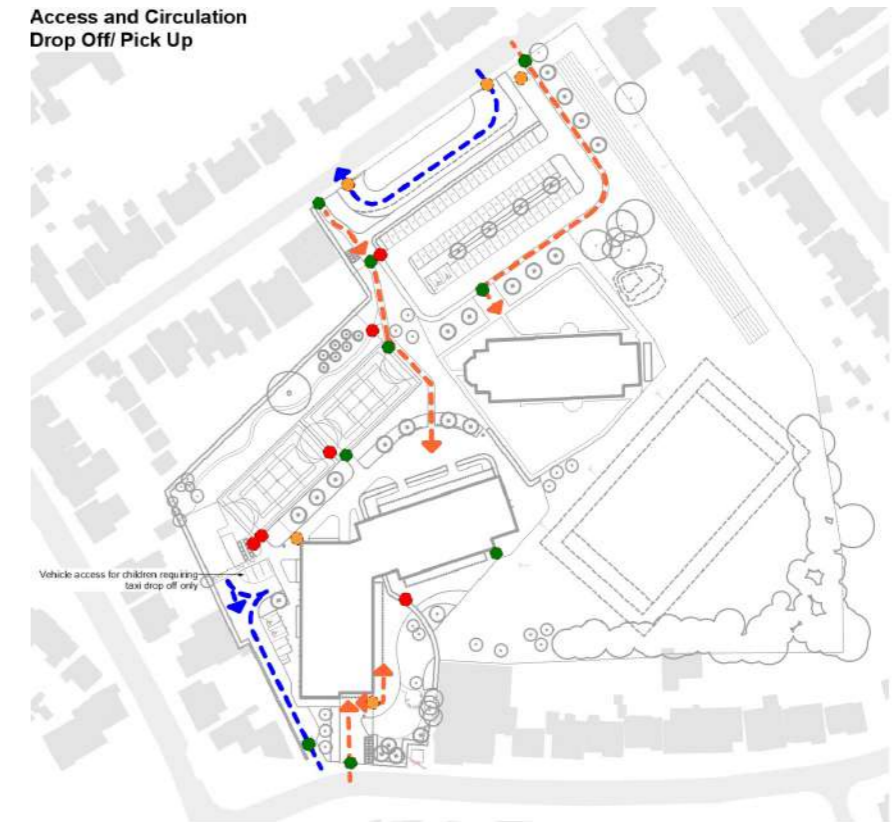
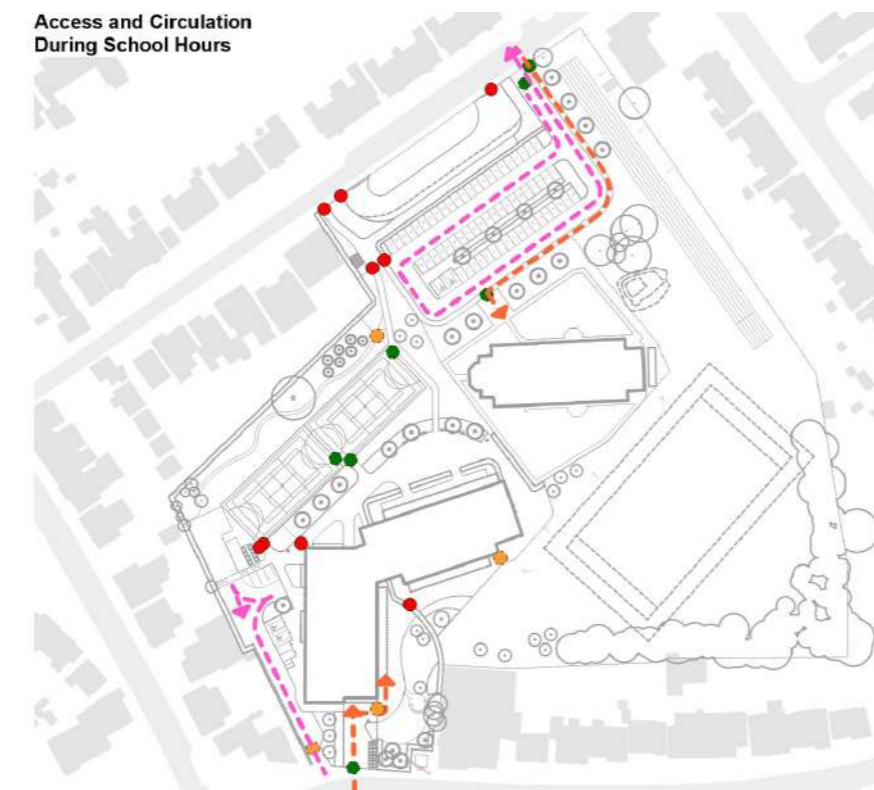
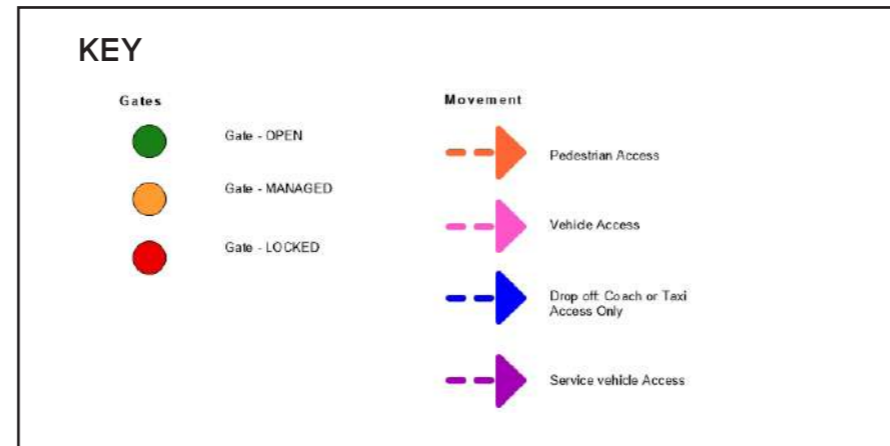
The southern car park (accessed via Hall Dr) is organised to provide two accessible parking bays and visitor parking (2no), taxi drop off bays and 2no motorcycle parking spaces. This southern car park also gives access to kitchen deliveries, bins and maintenance access to air source heat pumps and sprinkler tanks.

The bin store will be located to the east of the building for ease of access by bin lorries and close proximity to the kitchen.

The site layout will place an emphasis on pedestrians and cycles and ensure the approach to the building from the site access points is not dominated by vehicles. A pedestrian plaza space is created at the main entrance.

The Nursey is at the front of site with an independent access for parent pick/up drop off during the main school day.

There is a secondary pedestrian access from Greenfield Terrace to the play areas for older pupils allowing for classroom pick up / drop off at end and start of school day that does not cross the play space for nursery or reception.












9.6 Planting Strategy

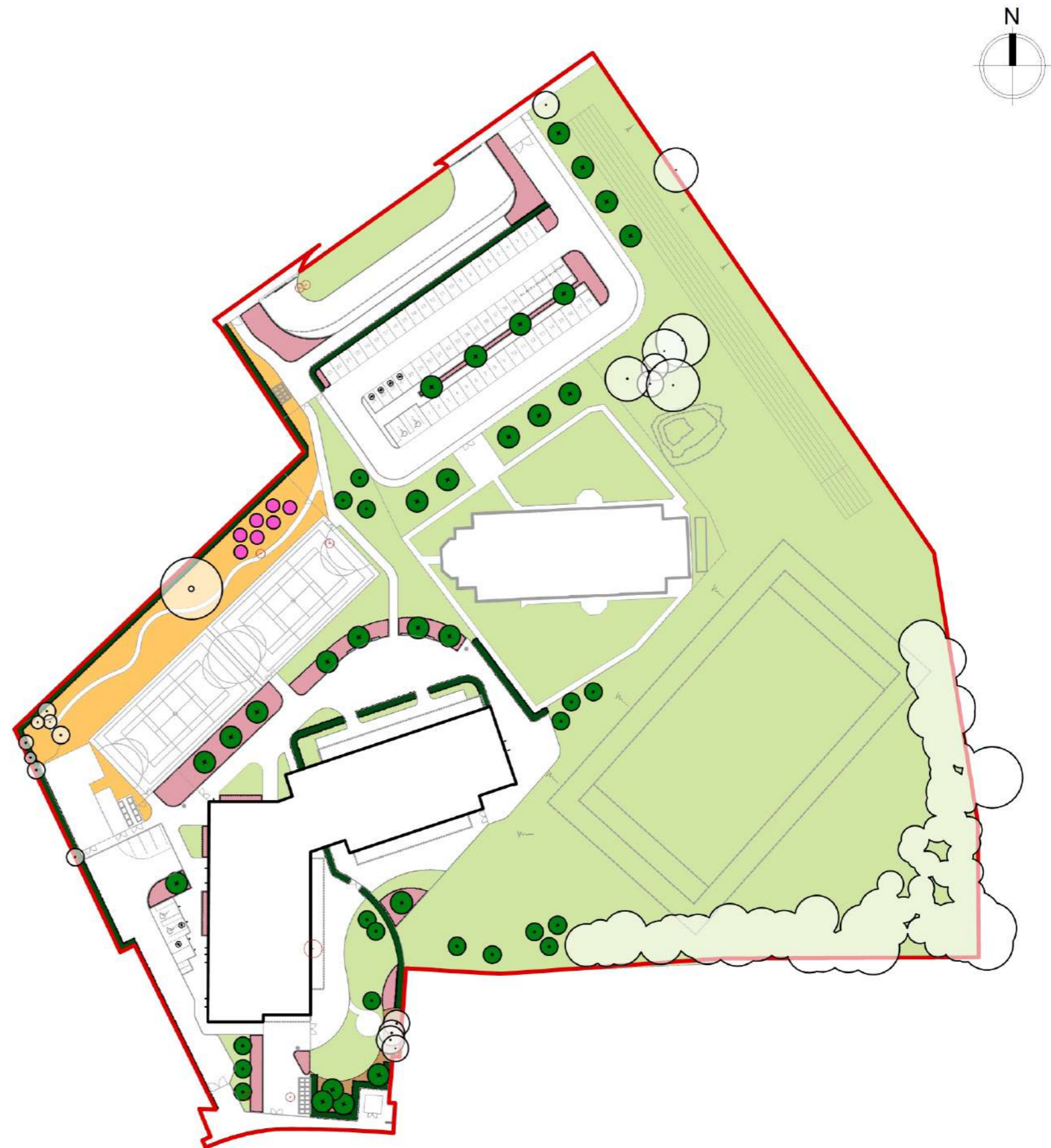
The plan opposite shows the proposed planting strategy for the school. The planting design has been designed to meet the brief as set out in the Welsh Government Authority Construction Requirements (ACR's) and also through Consultation with the school and Bridgend CBC.

The intention is that the proposed planting is appropriate for its intended use in a school environment taking into account:

- Year round interest
- Educational value
- Integration with Sustainable Drainage Systems,
- Maintenance
- Biodiversity (Ecological enhancements in coordination with Ecological Impact Assessment Report)
- Safety & Security

KEY

-  Trees to be retained
-  Trees to be removed
-  Proposed trees, species to comprise a mix of native (to increase biodiversity values) and non-native species (for a resilient to climate change scheme). The proposed species will not comprise more than 10% of a single specie.
-  Proposed Orchard Trees, species to include heritage species of fruit trees. These species will contribute to biodiversity and heritage conservation. The proposed trees will also provide outdoor learning opportunities.
-  Hedge Planting, proposed hedges and hedgerows across the site have two main objectives:
 - Screening, evergreen species will be proposed to support privacy to sensitive playground areas, species proposed without berries and thorns will be specified.
 - Supporting biodiversity, native species will be included. these will need to be in areas where students will not have access, as native species include berries and thorns.
-  Amenity Planting and Rain Gardens, rich shrub and perennial planting with seasonal change interest, sensory. Species to be no toxic, with no berries and without thorns.
-  Grass Seed, low maintenance mix, with uniform seed head growth for low cutting regimens. Amenity grass areas with low accessibility areas will be planted with bulbs to increase biodiversity.
-  Meadow /rich species grass, located in areas with restricted access, species to include native species.
-  Buffer Planting, shrub planting located to screen nursery play, native species to be included.













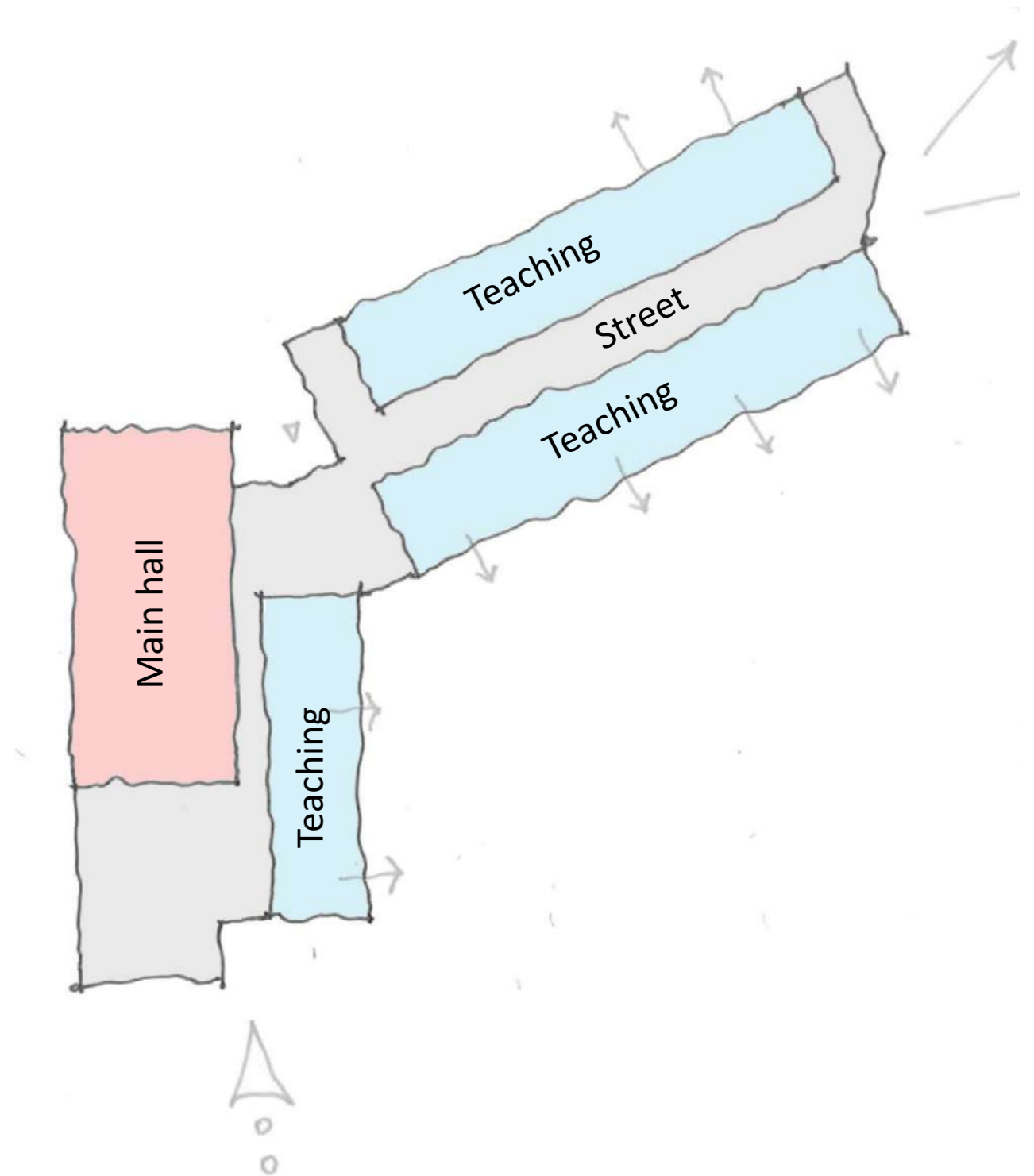
10.0 DESIGN STATEMENT - BUILDING DESIGN

10.1 Cornelly Building Design Principles

A number of key design aspects were set by the Project Brief:

- That the new primary school building would be low rise. The school would be efficient & compact in form to maximise external play space.
- The entrance to the site & Main Reception would be visible & welcoming. Good views across the entrance 'Plaza' would be provided for the General Office, to ensure passive supervision.
- Sight lines & security zoning would be a focus for the landscaping proposals.
- The Ground Floor classrooms would have direct access to outdoor (dedicated) play areas.
- A 'Street' would be at the buildings core.
- The new building would be of robust construction (particularly at Ground Floor).
- The new building would have pitched roofs.
- That the shape and form of the building, would be reflective of the educational adjacencies required.

The development of the preferred 'L' option, involved testing the building's orientation to establish the best 'fit' and to maximise adjacencies with the external spaces. Due to the site constraints for the Cornelly site - the building was rotated at the intersection between teaching and assembly wings of the building.



10.1.1 Vertical Stacking

The General Arrangement (GA) proposal for the Welsh Medium primary school, has been in response to the educational brief, the required adjacencies & site context. Having tested the buildable area & massing, it was quickly established that the new build would need to progress as a two storey building - to allow the existing school to remain operational during the construction phase.

The premise of the buildings stacking model, has required the younger years (Nursery, Reception & Infants) to remain at ground floor level for accessibility, whilst the Juniors have been located on first floor.

The larger volume spaces such as Main Hall and Studio, are a single storey element.

10.1.2 Adjacencies

The main entrance and pedestrian plaza area have been located opposite the primary entrance to the site. This allows for good visibility. It also enables pupils, parents & visitors to clearly identify the entrance to the school.

Entrances into the Nursery and Reception areas, have been well positioned for passive supervision from the main entrance and general office.

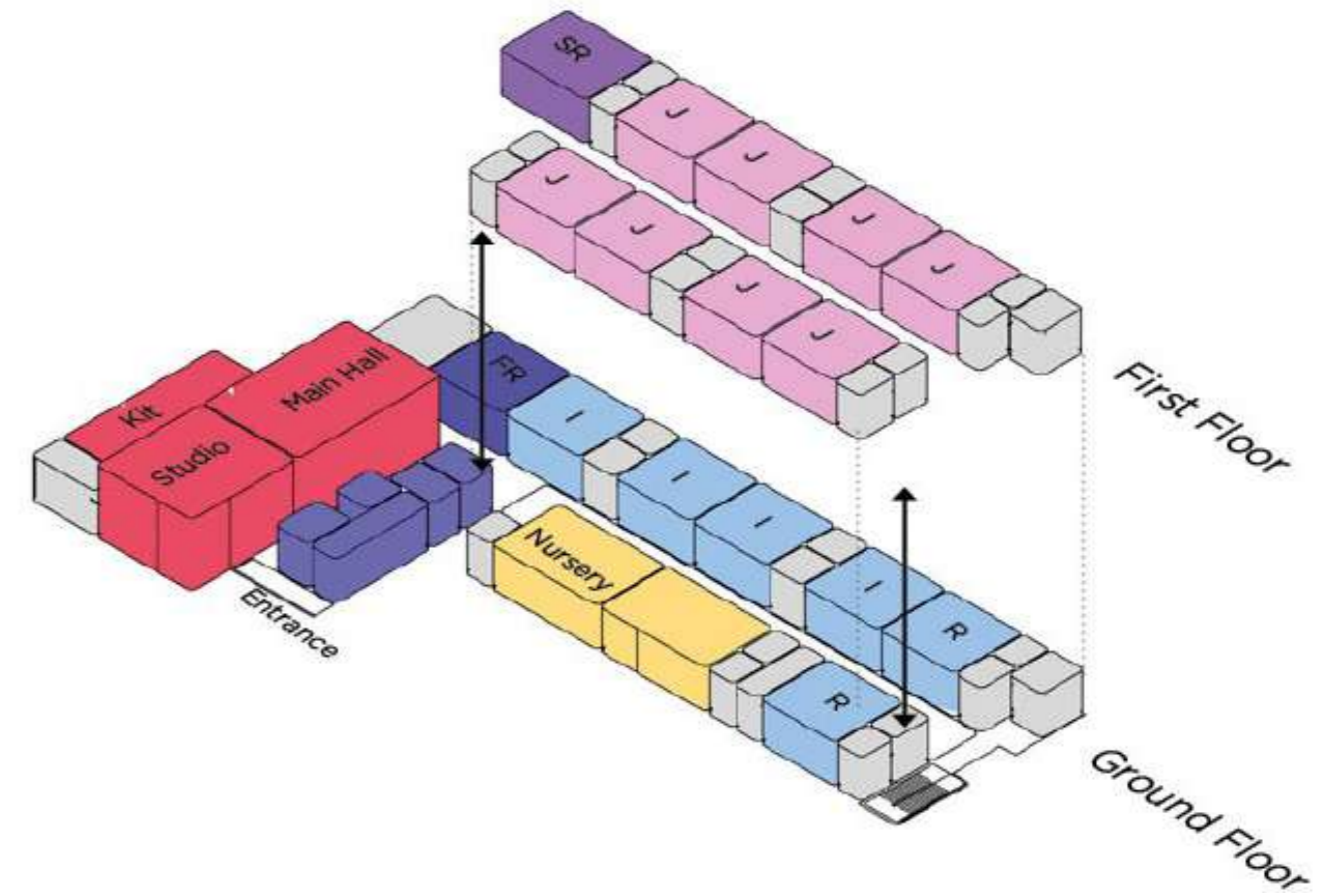
The 'Street' space has been positioned at ground floor between Reception and Infant classrooms, although the Street is to be utilised by all pupils. This centralised location would allow natural light to penetrate whilst providing views out.

The teaching 'wings' have been located perpendicular and open at the end for access, natural light and views out. The 'wings' are organised to allow for a graduation of age groups, as pupils 'snake' around the building and gradually progress to the first floor. This arrangement was carefully developed to

enhance a 'whole school' culture but equally provide smaller areas of age group clusters.

The Main Hall, Studio and kitchen spaces are located adjacent to main entrance. This predominantly allows for good access but also enables a clear zoning for (potential) out-of-hours community use.

The locations for the different parts of the school building have been carefully considered - in line with their dedicated external learn/play spaces. These were developed in parallel with the site security strategy.



10.2 Cornelly Building General Arrangement Plans

The following plans illustrate the overarching functional layouts of the teaching and support spaces. These have been developed from required key adjacencies, feedback during the CEM process and lesson learnt.

The sequence of spaces reflect the educational requirements and have been developed in a simple and legible form.

10.2.1 Ground Floor Plan

An entrance canopy defines the arrival point to the school and provides shading to the south facing administrative spaces. These rooms have been arranged to provide a suite of spaces to the schools entrance.

Surrounding the entrances to the classrooms at ground floor level, canopies sit above to provide shelter and additional play space for the younger years (as per the ACR's).

A sequence of spaces have been developed for the 'Main Hall wing', including adjacencies with the Food Room, Kitchen and storage spaces. These adjacencies work well for the school, as well as the community for Out-of-Hours' use.

The 'teaching wing' sits perpendicular, with the 'Street' located centrally. This offers maximum access to the 'Street', whilst maintaining a relationship with the classroom spaces above via the floor voids.



10.2.2 First Floor Plan

Two stair cores and lift serve the eight junior classrooms which either share or have their own cloakroom and WCs. Voids adjacent to the classrooms and along the circulation route, enable views of the 'Street' below .

Access to the first floor classrooms is provided through the cloakroom or directly into the classrooms from the corridor.

Passive supervision is retained through the presence of the deputy head's office on first floor.

The first floor corridor is punctuated with voids, which aid with providing natural daylight to ground floor 'Street' space and form a vital part of the ventilation strategy for the 'teaching wing'.

Small break out space may be provided in the corridor (if possible to accommodate) through the inclusion of furniture which will be developed during the next stage. The breakout spaces would provide an opportunity for informal (small) groups to gather outside of the classroom.

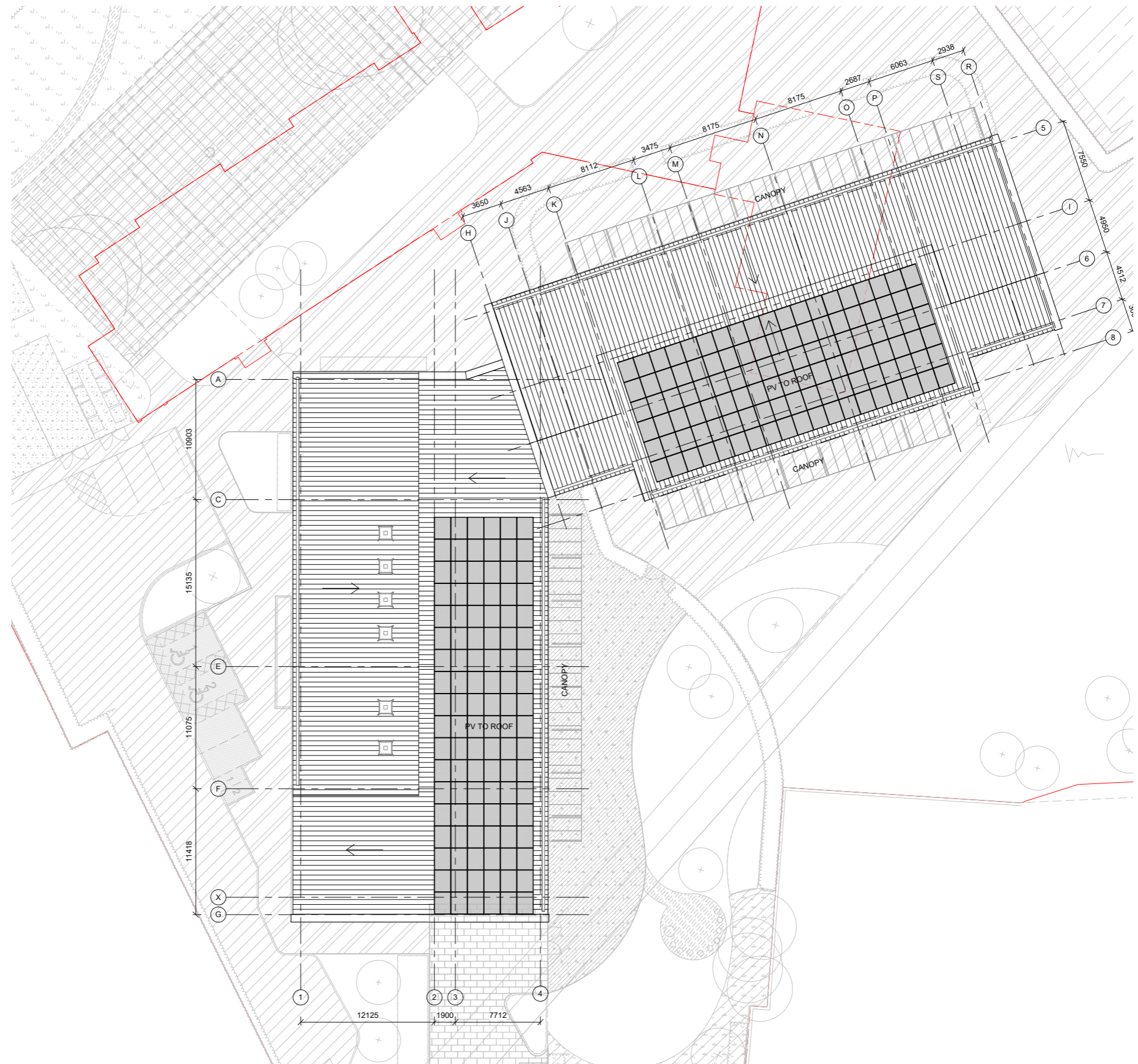


10.2.3 Roof Plan

The roof forms have been developed considering the following, - definition of building entrances, views of the schools, most suitable orientation for PV efficiencies, daylight provision to shared spaces, prevailing wind and simple roof forms to aid with thermal performance of the building envelope. The roofs will be populated with PV, roof lights and windcatchers where needed.

The roof over the Main Hall and Studio spaces projects above the single storey rooms of the nursery classrooms, to provide the floor to ceiling height required of the larger spaces.

The teaching wing has a pitched roof with a pop-up from the ridge above the 'Street' space. This projection aids the ventilation strategy through vertical faces for louvres/windows openings, in addition to providing daylight to the 'Street'.

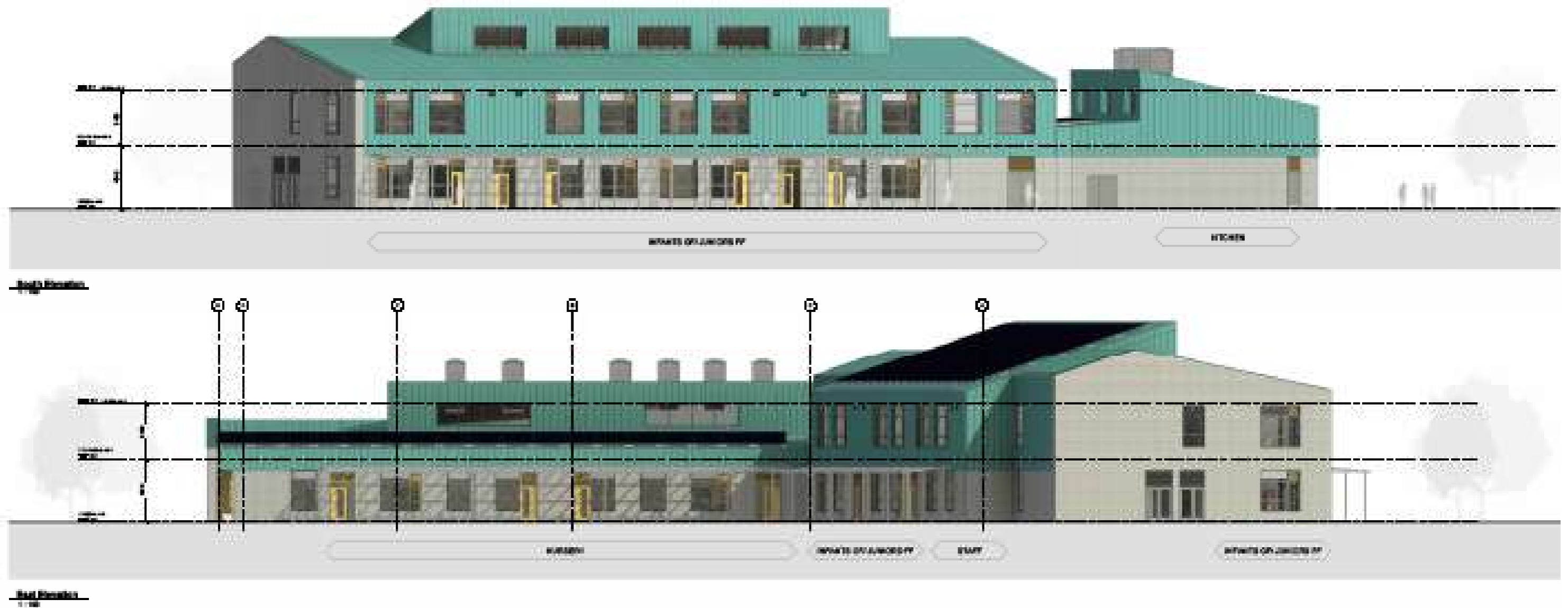


10.2.4 Internal Strategies

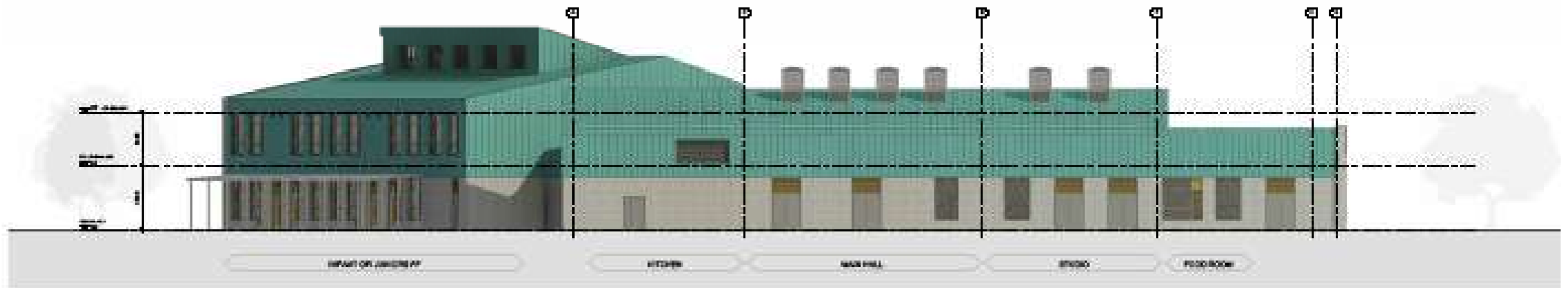


10.3 Cornelly Elevations

10.3.1 Long Elevations



NOTE: Colours are indicative only and may change



West Elevation



North Elevation

NOTE: Colours are indicative only and may change

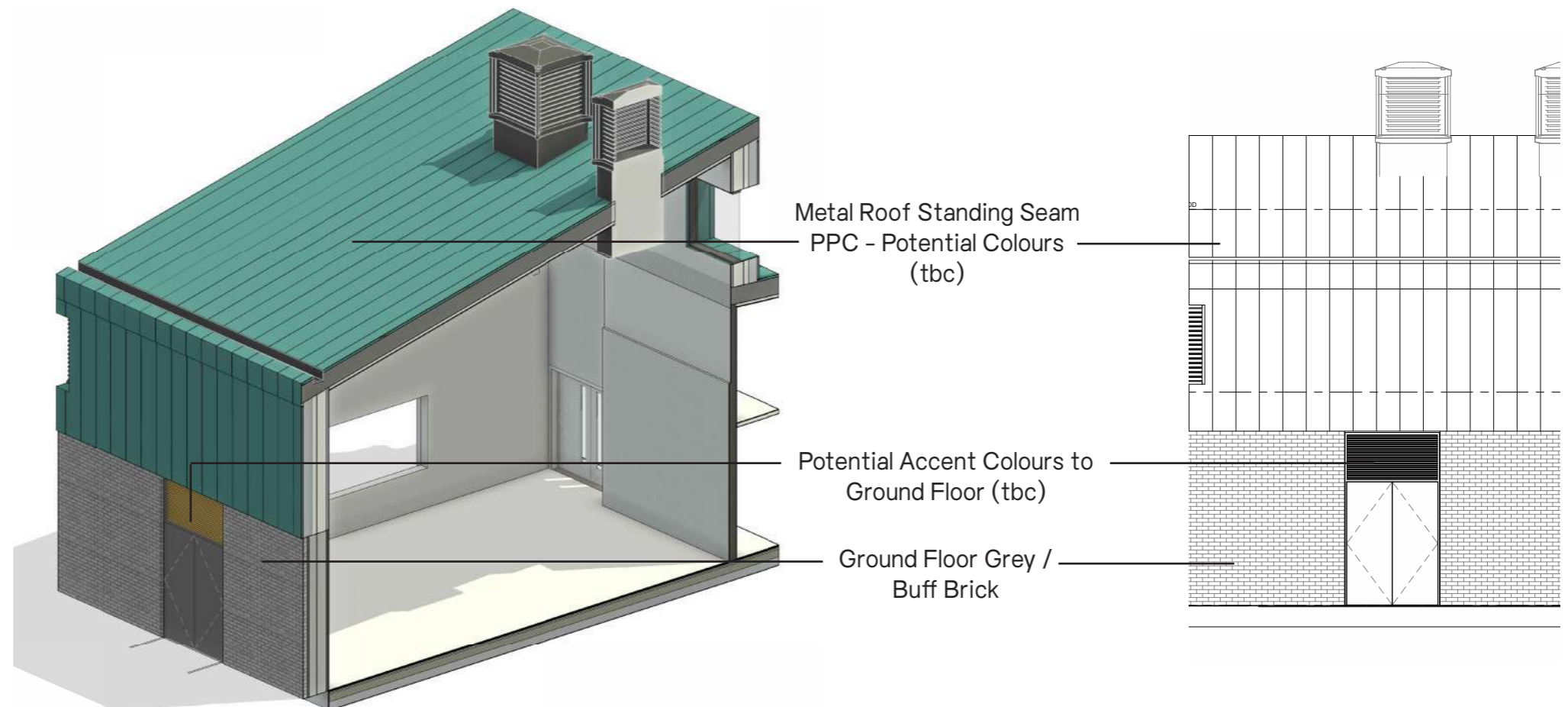
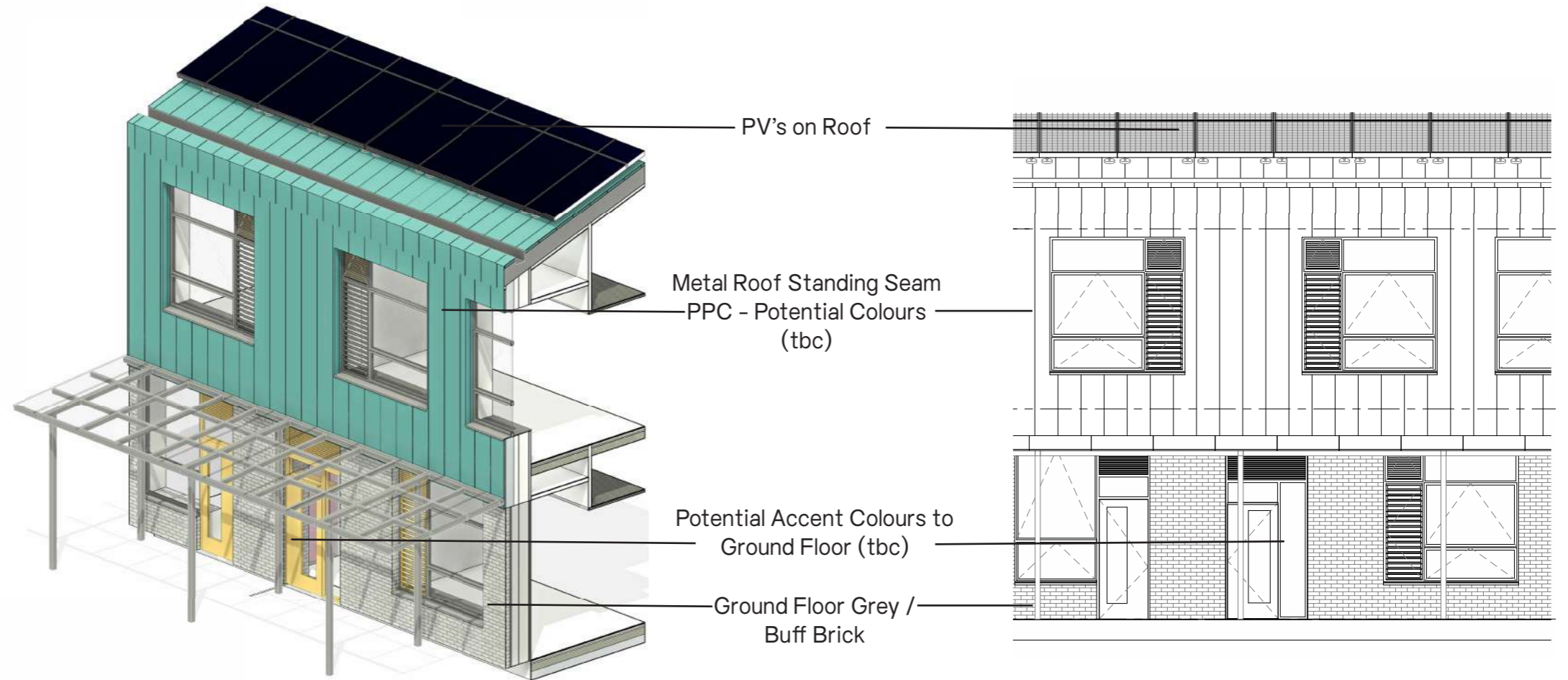
10.3.2 Bay Studies

The standing seam roof and first floor facade is proposed in coloured standing seam aluminium. Final colour tone tbc.

The ground floor and gable ends to the school have been proposed in a grey / buff brick. The exact brick is yet to be selected and a final colour tone is tbc.

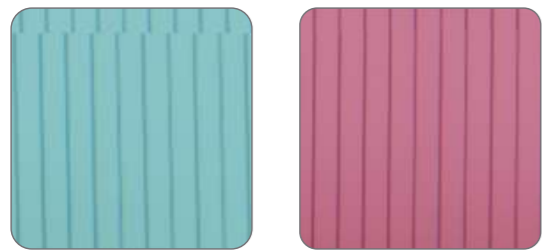
Generally doors, windows and louvres are to be metal. The colour to the door frames and louvres at ground floor are proposed in an accent colour – tbc. The windows to first floor level are proposed in a simple grey.

A sample board with the final selection of the above materials, will be provided at a later determined date.



NOTE: Colours are indicative only and may change

10.3.3 Materials



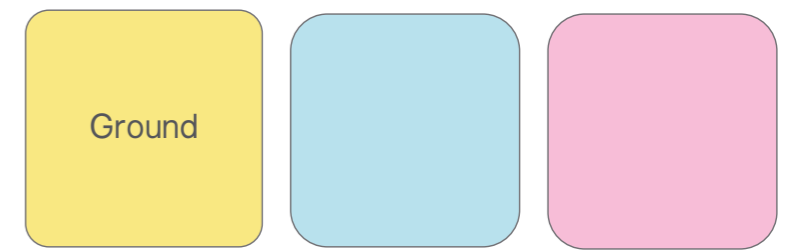
Metal Roof Standing Seam
PPC - Potential Colours
(tbc)



Ground Floor Brick
in a Grey / Buff
Colour



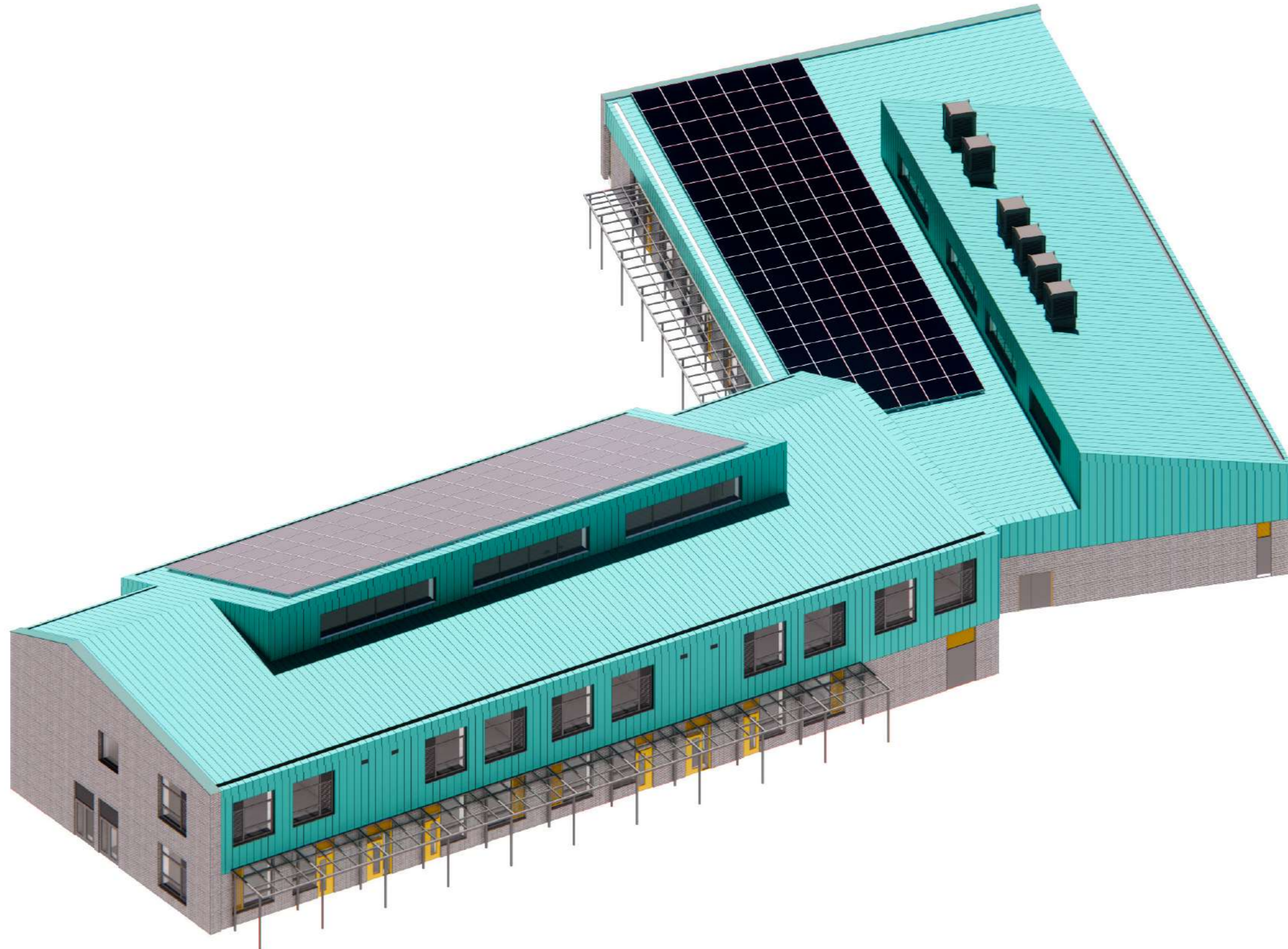
Metal Window
Frames PPC



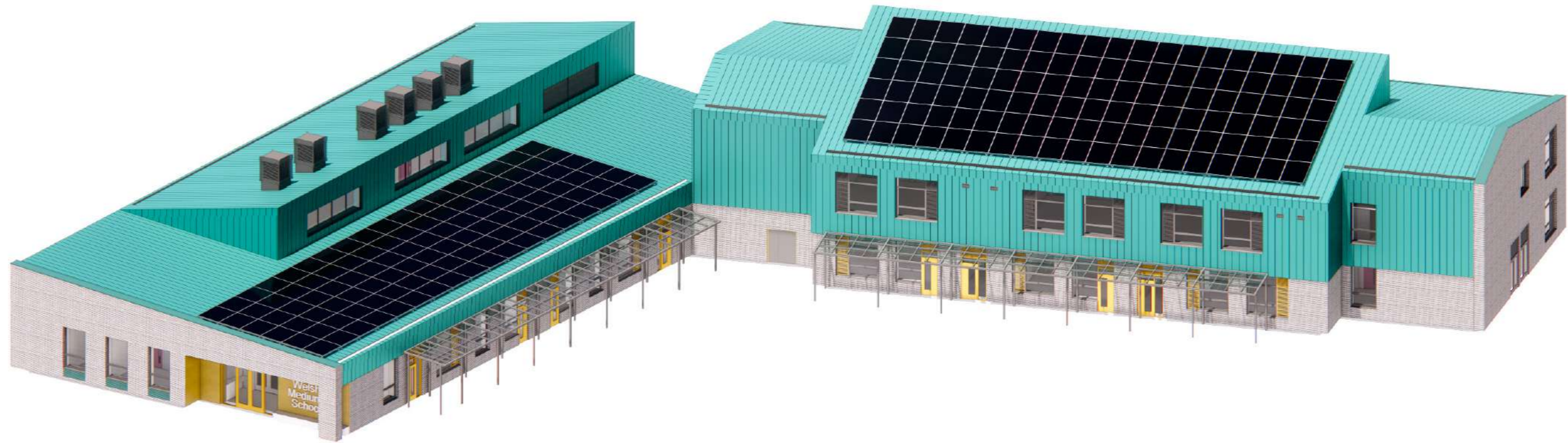
Potential Accent Colours to
Ground Floor (tbc)

NOTE: Colours are indicative only
and may change

10.4 External Appearance



NOTE: Colours are indicative only
and may change

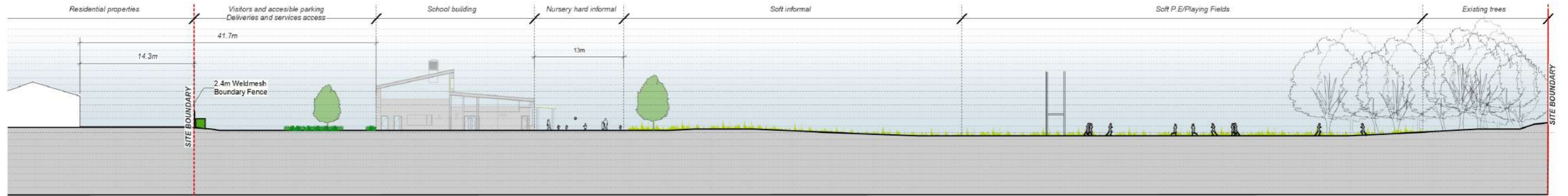


NOTE: Colours are indicative only
and may change

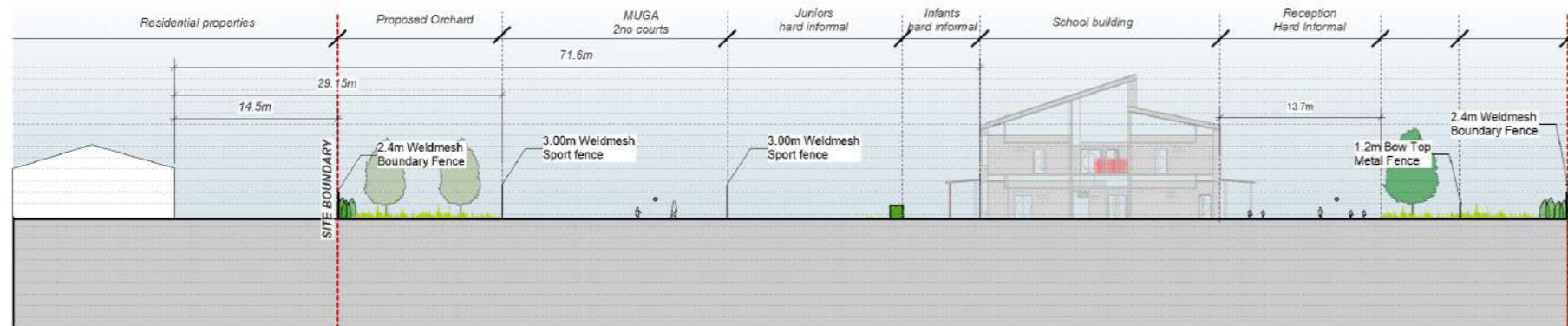
10.5 Cornelly Proposal - Proximity to Adjacent Residences



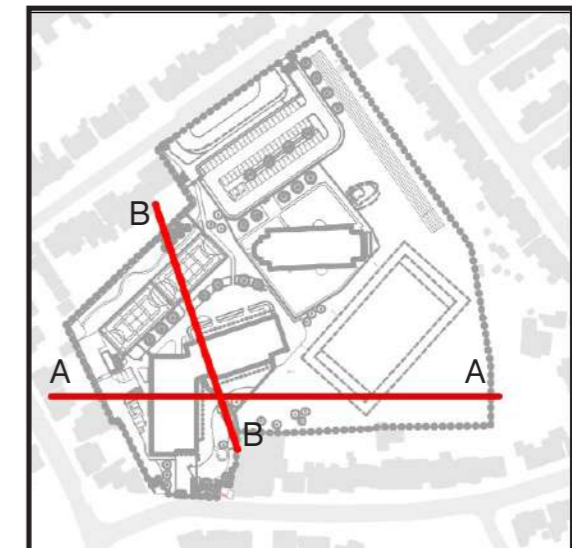
10.6 Cornelly Proposal - Site Sections



SECTION A-A



SECTION B-B



LOCATION PLAN

11.0 SUSTAINABILITY STATEMENT

11.1 Approach

This school has been designed as part of a batch of two similar schools for Bridgend CBC under the MIM WEP framework. The approach to sustainability in the design of the Bridgend West schools is largely common and the ambitions of the project are challenging across a wide range of areas.

Each building has been assessed against BREEAM criteria with the goal of achieving an Excellent rating, this in turn assists in the specification of low carbon materials and many aspects of the design.

Furthermore there is target of Net Zero Carbon (NZC) in operation, and for measured and optimised Embodied Carbon relative to Welsh Government and framework targets. Extensive modelling and assessment has been conducted to date to assess these areas.

11.2 Specification of Materials

To align with the agreed BREEAM targets, specification of materials will consider a number of sustainability aspects, including:

- Timber – all timber and timber-based products used during construction must be legal and sustainable timber (following the UK Government’s definition as outlined in the Central Point of Timber (CPET) 5th Edition of the UK Government Timber Procurement Policy (TPP))
- Volatile Organic Compounds (VOCs) – at least three out of the five product types listed in BREEAM Hea 02 shall meet the emission limits, testing requirements and any additional requirements listed in the Hea 02 criteria in order to achieve one credit for Hea 02 Emissions from Construction Products
- Responsible sourcing certifications – specifications will require that more than 20% of available BREEAM Mat 03 points will be achieved through procurement of materials from manufacturers with a BREEAM Mat 03-recognised responsible sourcing certifications for their products (e.g. BES 6001, ISO 14001 certification).

The Sustainable Procurement Plan and associated procedures will assist in driving the above and wider sustainability considerations associated with procurement of materials. The BREEAM Mat 01 Life Cycle Assessment (LCA) options appraisal and RICS-scope study will also investigate the embodied carbon impact associated with key building elements. Where possible, alternative material specifications will be modelled for materials which are found to have a substantial impact, in order to allow for the environmental impacts of different specifications to be considered in decision-making, alongside other factors.

11.3 BREEAM

The Bridgend West Primaries Batch aspire to achieve BREEAM Excellent ratings which reflect the commitment to a holistic sustainability approach for the project from inception through construction and in-use energy consumption. The buildings have been registered with the BRE and are being assessed against BREEAM 2018 UK New Construction.

The target scoring required to achieve the Excellent rating for each school was agreed at a BREEAM pre-assessment workshop, and these targets continue to be adjusted and refined in line with design development. Scoring is being tracked via a live tracker, TrackerPlus.

Target	
77.18	(TBC)
Excellent	

11.4 Environmental Engineering

In order to minimise the buildings overall energy usage and CO2 emissions a three-stage approach has been adopted to the design of the school and the associated systems. The three stages are:

1. Passive design – reduce the need for energy
2. Active Design – supply energy efficiently and recover energy wherever practical
3. Use of renewable technologies

The passive design stage is crucial in helping to achieve a low energy building as it looks to reduce the need for energy to be generated in the first instance. Following the early stages of design development, close attention was paid to co-ordinating and integrating the structure and the occupied areas to:

- Design energy efficient mechanical ventilation with supplementation of natural ventilation in summer months.
- Minimise direct solar gain to reduce unwanted overheating, but balance to maximise daylight factors in all areas.
- Maximise utilisation of plant and systems.
- Maximise control and flexibility of the installations.
- Improve the performance of the building thermal envelope (reducing fabric u-values and optimising glazing g-values).
- Reduce air permeability.

In terms of active design these are systems that allow the generation and delivery of energy in an efficient way have been incorporated, including:

- High efficiency lighting systems.
- Use of LED lighting.
- Lighting controls with perimeter areas switched separately from internal areas possibly with daylight linking.

- Absence detection for lighting control rather than presence detection.
- Low velocity pipework and ductwork where possible to reduce fan and pump power consumption.
- High efficiency motors with variable speed drives.
- Specification of high-performance Mechanical, Electrical and Power plant.
- Local control of heating systems to prevent overheating.
- Equipment will be zoned in such a way as to allow plant to be turned off or enable out of hours setback in appropriate unoccupied spaces.
- Separate metering on power, lighting systems, ventilation systems, heating systems and domestic water systems.
- Central Building Management Control system (BMS) and Energy Management System (EMS) with monitoring of key system parameters. This allows the facilities/building managers to gain insights into the collected data as well as highlight any inefficient practices, aiding them in making better informed decisions affecting energy usage.

In terms of renewable technologies, air source heat pumps (ASHPs) and a photovoltaic (PV) array were found to be the most beneficial systems for the project and have therefore been incorporated into the design. The photovoltaic arrays required to achieve net zero carbon (NZC) are likely to be substantial in size for this project and will likely occupy a large percentage of the roof space.

There is an environmental and carbon footprint associated with potable water consumption, this is attributed to the energy and resources that are required to extract, treat, and pump this water from its source to where it is needed.

The first priority is to reduce the demand for water through the use of water economic fittings and fixtures, the second is to match demand to use. Not all uses require water to drinking standards and some demands can be met using rainwater or greywater, depending on its quality.

To meet the BREEAM requirements, the following demand management and water efficiency measures have been considered to develop a water conservation strategy that is sustainable and reduces the economic, environmental and social impacts of developing water sources and waste stream discharges:

- Match non-potable supply to non-potable demand
- Consider supply of water from local sources
- Conservation measures e.g. WCs with low water volume dual flush cisterns, low water use appliances and fittings, flow restrictors, automated supply shut-off where practical
- Management of water consumption through metering & monitoring via the BMS – such as leak identification

A hierarchical approach has been used to define the storm water drainage strategy for the proposed development's runoff in compliance with 'Statutory standards for sustainable drainage systems - designing, constructing, operating and maintaining surface water drainage systems 2018'.

One of the key aspirations to the project is to be net zero carbon in operation and in addition the team recognises the importance of embodied carbon, and thus a target of 800kgCO₂/m² has been agreed.

11.5 Heating & Cooling Strategy

The schools space heating requirements will be fulfilled by a series of air source heat pumps (ASHP's) located adjacent to the plantrooms. A thermal storage buffer vessel will be included on the primary return side to meet the minimum system water content required by the ASHP's. This water content is required to limit the on/off cycling of the units and to aid with the defrost cycles during cold weather.

The mechanical cooling within the school will be limited wherever possible. There are some areas within the building such as the IT server rooms which traditionally experience high heat gains.

Design of these systems will be explored with the intention to utilise the cloud for offsite processing, reducing the need for 'active' equipment within the school server room. With this approach the aim will be to maintain room temperatures via a extract ventilation system only, compared to a traditional refrigerant cooling system.

11.6 Energy Usage

Each of the Bridgend West schools have been designed to meet a strict operational net zero carbon target, whereby all annual operational energy consumed on site (both regulated and unregulated) shall be matched with annual generation from an extensive roof mounted solar photovoltaic (PV) array.

This array shall offset 100% of the carbon emissions annually for the energy usage of the buildings, thus being 'net zero carbon' in operation in line with the UKGBC definition. In addition, the school has been designed to minimise energy demands through extensive modelling and assessment of the building (in line with contract requirements, the BREEAM assessment and a detailed energy prediction study).

The current proposals outline generation of 100% of the annual energy consumption via roof mounted photovoltaic arrays at each of the schools. However, discussions are ongoing with the local grid operator as the electrical infrastructure at each of the school sites has limited capacity to accept surplus energy generation. Mitigation steps are being developed such as upgrading said infrastructure where possible as the preference would be on-site generation.

12.0 ACCESS STATEMENT

12.1 Access and Inclusion

The proposal has been designed to meet the requirements of current Building Regulations, The Equality Act and other relevant regulations and standards, including those accessibility standards specific to Welsh policy.

Access & inclusion have been integral to the design from inception, through to the current level of detail. Starting with the masterplan & external spaces, through to access points, circulation & internal spaces - all aspects have been monitored.

12.2 Access to Site

12.2.1 Access by Roads

The Welsh Medium (Cornelly Site) primary school site is bounded by roads. The primary road, Heol Fech, is a B road (B4283) which connects south and north Cornelly. Hall Drive is adjacent to the site and would be used by visitors requiring access to the new school main entrance. The other adjacent roads are predominantly residential roads.



Cornelly Site - Proposed Masterplan

12.2.2 Coach Drop-Off

The current school is served by a coach drop-off area to the north of the site. It is envisaged that the coach drop-off provision will continue to be the main means of access to the new school, once completed. The proposal for the new drop-off has improved its position, access points and has increased capacity. A separate path will be created to provide a pedestrian route to the new school. As part of the new proposals, the drop-off will be re-landscaped.



Cornelly Site - Coach drop-off area

12.2.3 Main Pedestrian Entrance

The main pedestrian entrance to the school building, will be off Hall Drive. An entrance plaza will be created in front of Main Reception, where clear visibility and passive supervision can be maintained. A separate vehicular entrance will be segregated by vegetation.



Cornelly Site - Main Entrance Plaza

12.3 Parking & Cycle Provision

As part of the new proposals, parking provision has been located to the north and south of the Cornelly site. To the north, the vast majority of car parking spaces for staff sit adjacent to the coach drop-off zone. This allows for a vehicular zone, where the majority of cars are collected in to one space.

To the south, spaces have been allocated for disabled bays and visitors car parking. These are within close proximity of the main entrance.

Covered cycle provision has been allocated within the main entrance plaza.



Cornelly Site - Coach drop-off area and parking to the north



Cornelly Site - Parking to the south adjacent to the Main Entrance

12.4 Access Points in to the New School

The Main Entrance and Reception are directly off the plaza to the front of the school. A gentle slope will navigate the differences in ground levels externally, to provide a level threshold. Once within the building, there will be no level change.

Other than the main entrance, the new Welsh Medium Cornelly site primary school will have a number of other entrances in to classrooms for the lower years. These will be primarily in to classrooms for drop-off and pick-up times. Secondary access doors in to the building will be used by Junior year pupils and are close to stair cores for access to the first floor classrooms.

Around the perimeter of the new building where there are entrances or access routes - all access points will have a level threshold. Entrances in to the building are shown below.



- Secondary entrances / access
- Circulation
- Cores
- Primary Entrance
- Secondary Entrance
- Cloakroom Entrance
- Classroom Access
- Multi-use Entrance
- BOH Entrance
- FF Escape Access

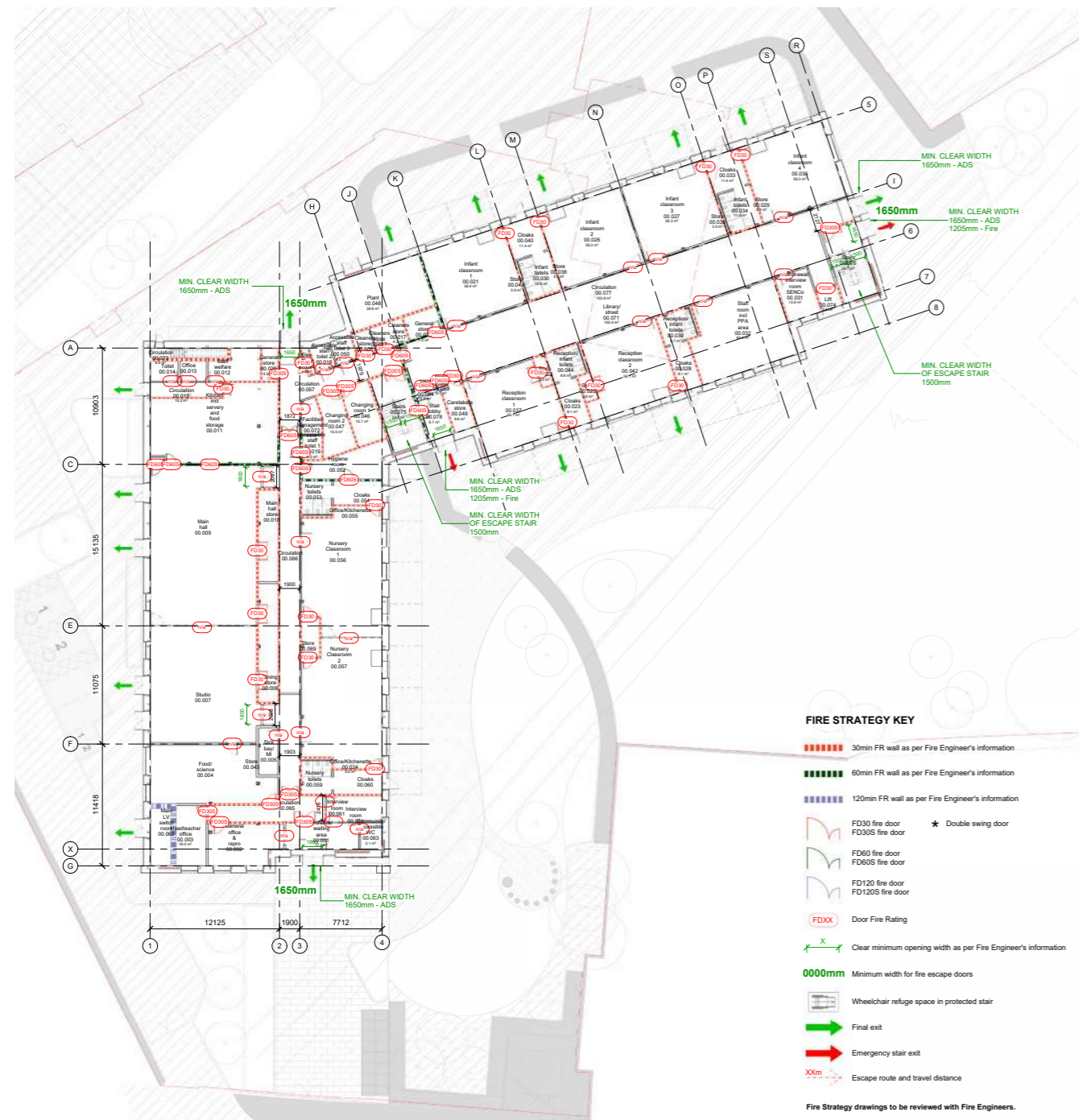
Cornelly Site - Ground Floor showing access points

12.5 Emergency Escape

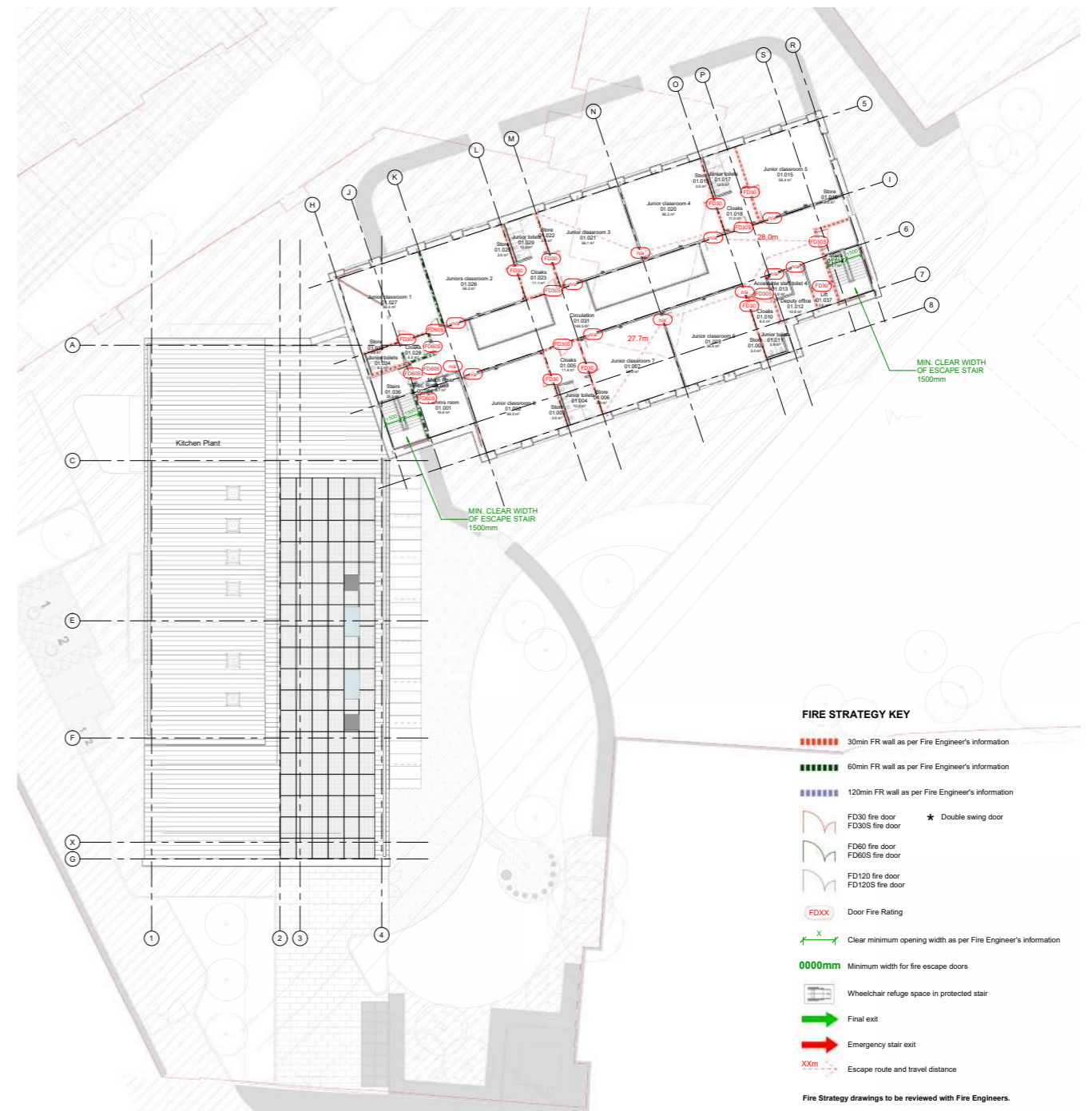
It is anticipated that emergency escape at ground floor level, will be predominantly via classroom doors, although the vast majority of other spaces also have an external door. There will be an access door to the ends of circulation routes at ground and final exits to cores.

On the first floor, there will be classrooms which require escape via an adjacent classroom, to pass the voids along the corridor. Once in the corridor, there are 2 escape cores at each end of the building.

The Fire Strategy Report will be submitted by the Fire Consultant as part of the Building Regulations application.



Cornelly Site - Ground floor Fire Strategy



Cornelly Site - First floor Fire Strategy

12.6 Internal Accessibility

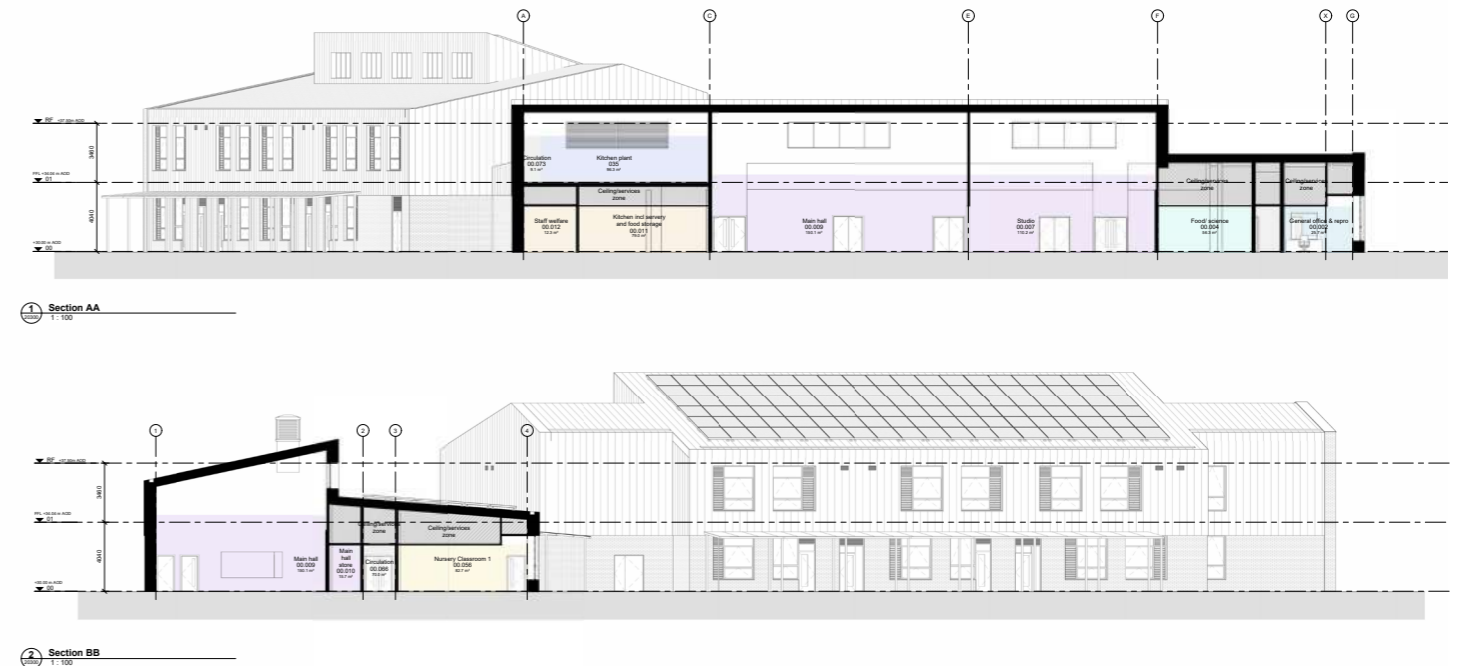
The building layout and finishes will be designed to be fully usable by occupants with a range of accessibility needs. The buildings elements and components will be designed to be the appropriate dimensions, heights, weights and to be suitable for a primary school. These will include:

- Windows will be at the correct heights to offer views out for small children.
- The weight of doorsets will be suitable for primary school occupants.
- Doors will be detailed without creating finger traps etc.
- In addition to specifying finishes which are of a suitable robustness for a school, the Design Team will also specify to the correct level of slip resistance for floors.
- Teaching spaces will have desks suitable for wheelchair users and teaching rooms will have space for wheelchairs to turn.
- The Reception desk will have a dropped height section for wheelchair users.
- Hearing loops are currently under discussion. If required, this information will be identified on the services engineers information.
- Included are: a lift, Accessible toilets & Hygiene Room.

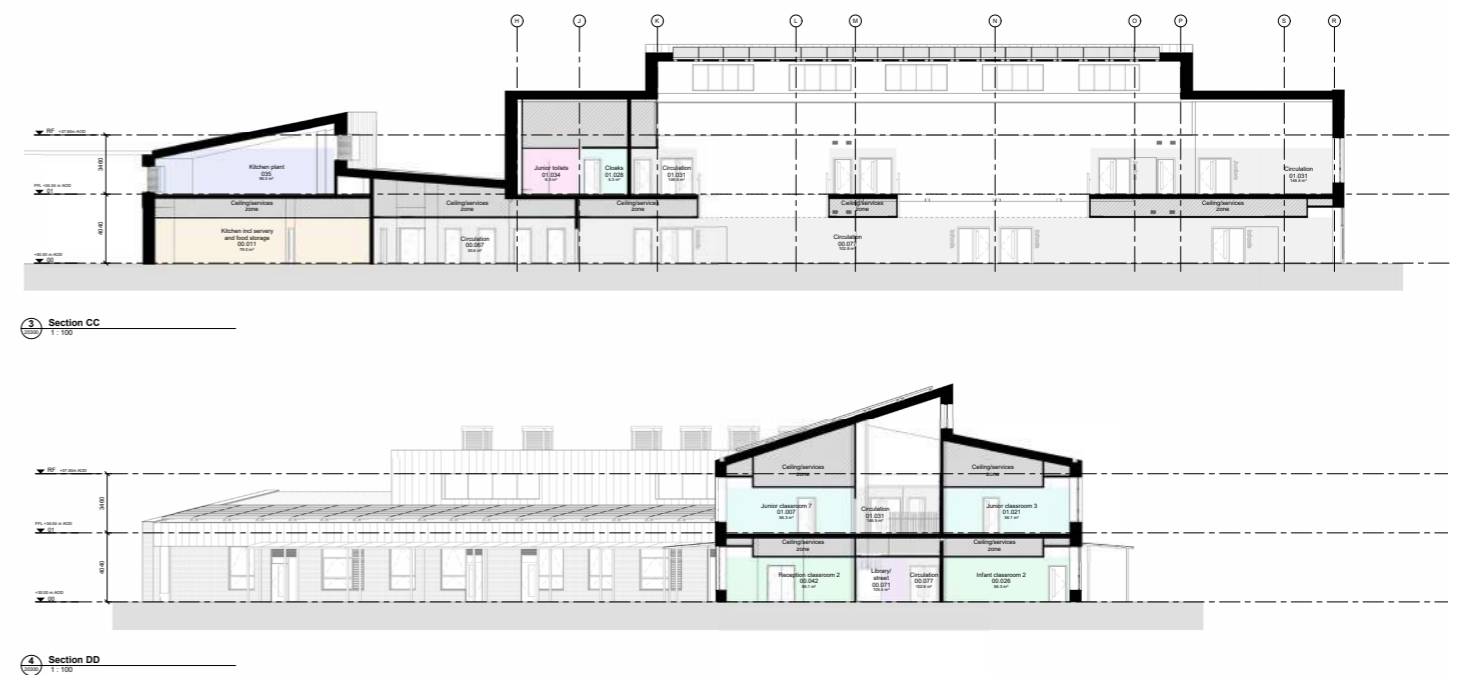
Main thoroughfare corridor widths have been stipulated by the brief to be a minimum of 1900mm and are generous to allow for peak flow at busy times of the day. Corridors will, as a minimum, meet the widths required in Approved Doc. Part M.



Cornelly Site - Circulation sketch



Cornelly Site - Sections



Cornelly Site - Sections

12.7 Horizontal Circulation

The new Welsh Medium Cornelly school footprint, occupies a substantial portion of the site. At ground floor level, key access points have been strategically located for staff / parents / visitors, as well as for direct access in to classrooms for pupils. All access points will be detailed to provide level access from the adjacent ground.

In summary, these are as follows:

- Main Entrance in to the school is via the external 'Plaza'.
- Secondary entrances in to the school, predominantly for the Juniors, from the external play areas in to the 'Street' space.
- Direct access in to the classrooms from the adjacent external play spaces.
- Access at the ends of the circulation routes.
- Additional access points in to the Main Hall and Studio.
- Access doors leading out from stair cores.

The Main Entrance in to the school is at the gable end of one of the wings and will be accessed via the adjacent hard landscaped 'Plaza'. An entrance portal will be provided above, to protect against weather.

Upon entry, the lobby is located adjacent to the administration suite of spaces. It is anticipated that the Main Entrance will be predominantly used by staff, parents and visitors during the day.

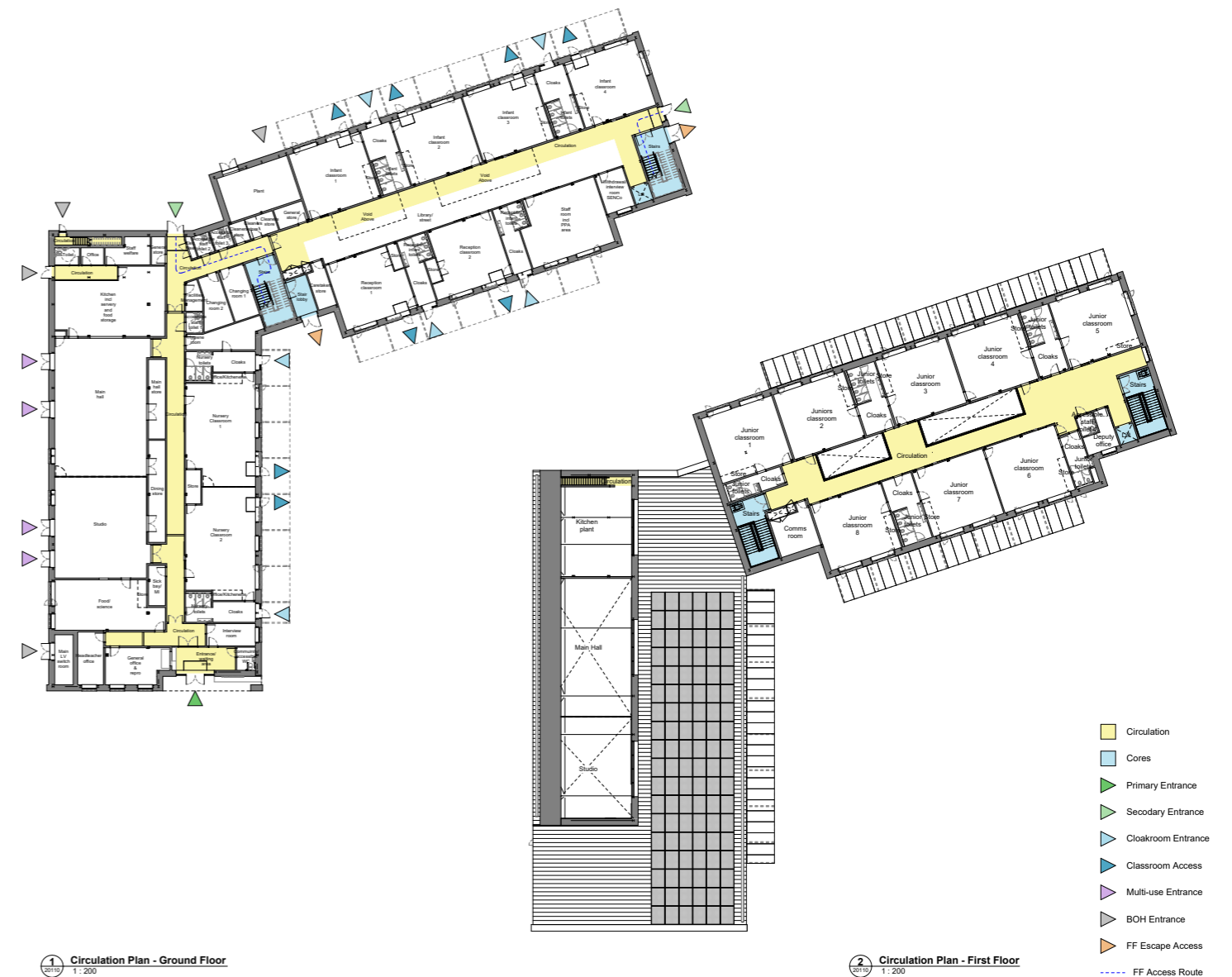
The secondary entrances in to the school, are via the external play areas in to the 'Street'. As the Junior classrooms are located on the first floor, these secondary entrances will be used by the older (Key Stage 2) pupils upon arrival, during the day for access to the play spaces and at the end of the day.

Entrances in to classrooms, will also be accessed via the external landscape. A canopy will be provided above entry points to protect against weather. These will be predominantly used by pupils during the day for direct access to their play space. The entrances in to the Nursery classrooms will have good sight lines & visibility from the Main Entrance for security & passive supervision.

Escape doors leading out from the stair cores at ground floor level have been provided at both ends of the teaching wing.

For additional access, the Main Hall and Studio have a set of double doors leading to the external. These provide potential out-of-hours and community use.

The circulation has been kept as simple, direct and efficient as possible to provide clear views & passive supervision.

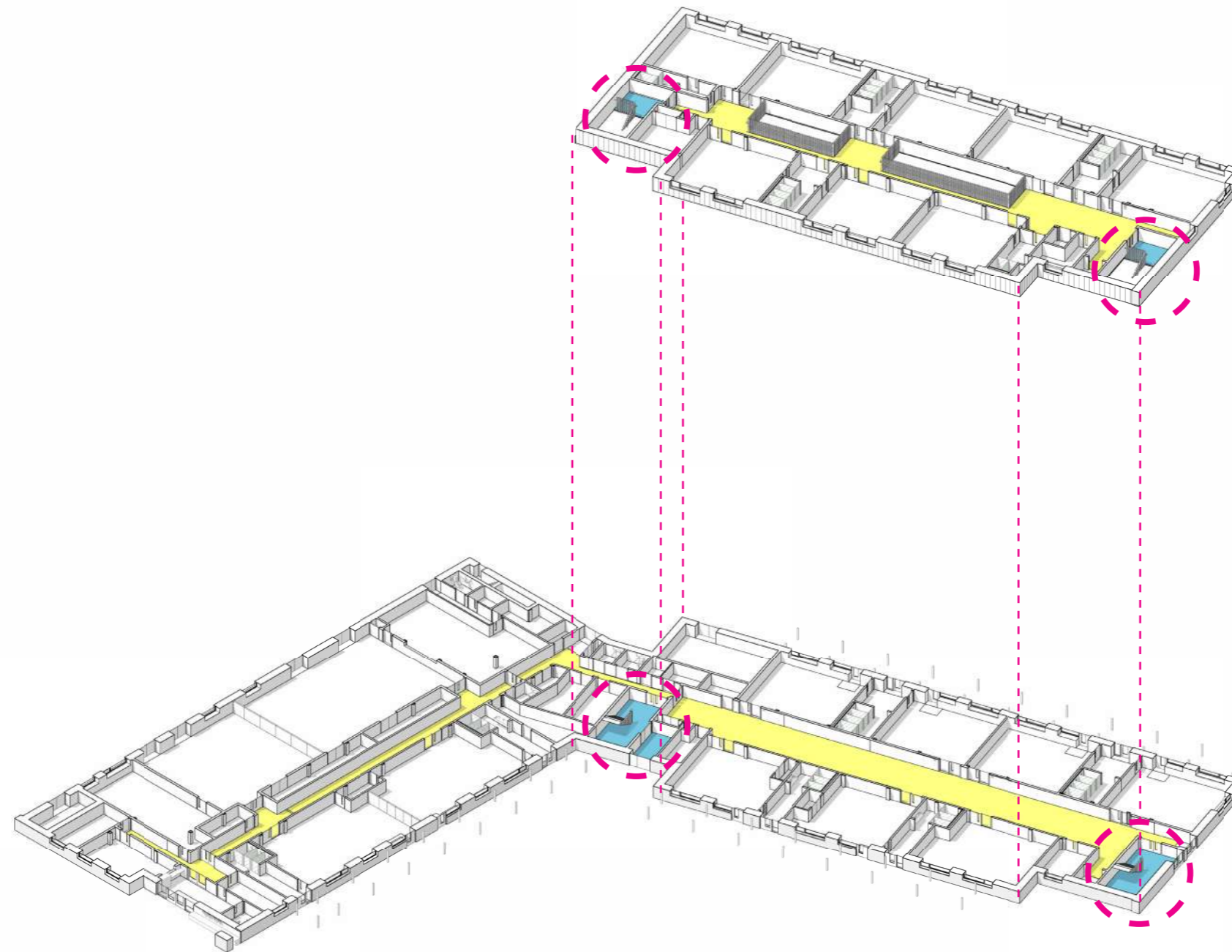


12.8 Vertical Circulation

The school design has incorporated stair cores at the ends of the classroom wing. The stair cores connect the ground to the first floor primarily for Junior & staff access. The cores will also be used as escape routes, in the case of an emergency. Both cores have refuge areas and a door at ground floor level, directly leading to the external.

A lift has been located adjacent to the stair core with a clear lobby provided in addition to the circulation route.

Corridors will have a minimum width of 1900mm along the two circulation spines. Secondary corridors off the main spine, have been minimised wherever possible.



Cornelly Site - Vertical circulation sketch - ground floor

Cornelly Site - Vertical circulation sketch - first floor

12.9 WC Accommodation

The WC layouts have been designed in line with the Local Authorities standard arrangement for the WC and cloak rooms areas. They have been arranged to form a suite of spaces which are clustered and located in between classrooms. The briefed ACR, SSB & Schedule of Accommodation noted the areas (sqm) to be provided for the pupil WC's, per age group. The following is the provision shown at RIBA Stage 3.

Compliance with: BS6465-1 / SPR 1999 / BB99.

Accessible toilets/ Hygiene facilities: Accessible toilets and a Hygiene facility have been provided. The Accessible WC's are on both levels of the school.

Staff toilets: Staff WC's are via the Accessible toilet provision provided on both levels.

Visitors / community toilet: There will be an Accessible toilet suite within the Main Entrance secure line – available for visitors and located adjacent to the Main Reception.

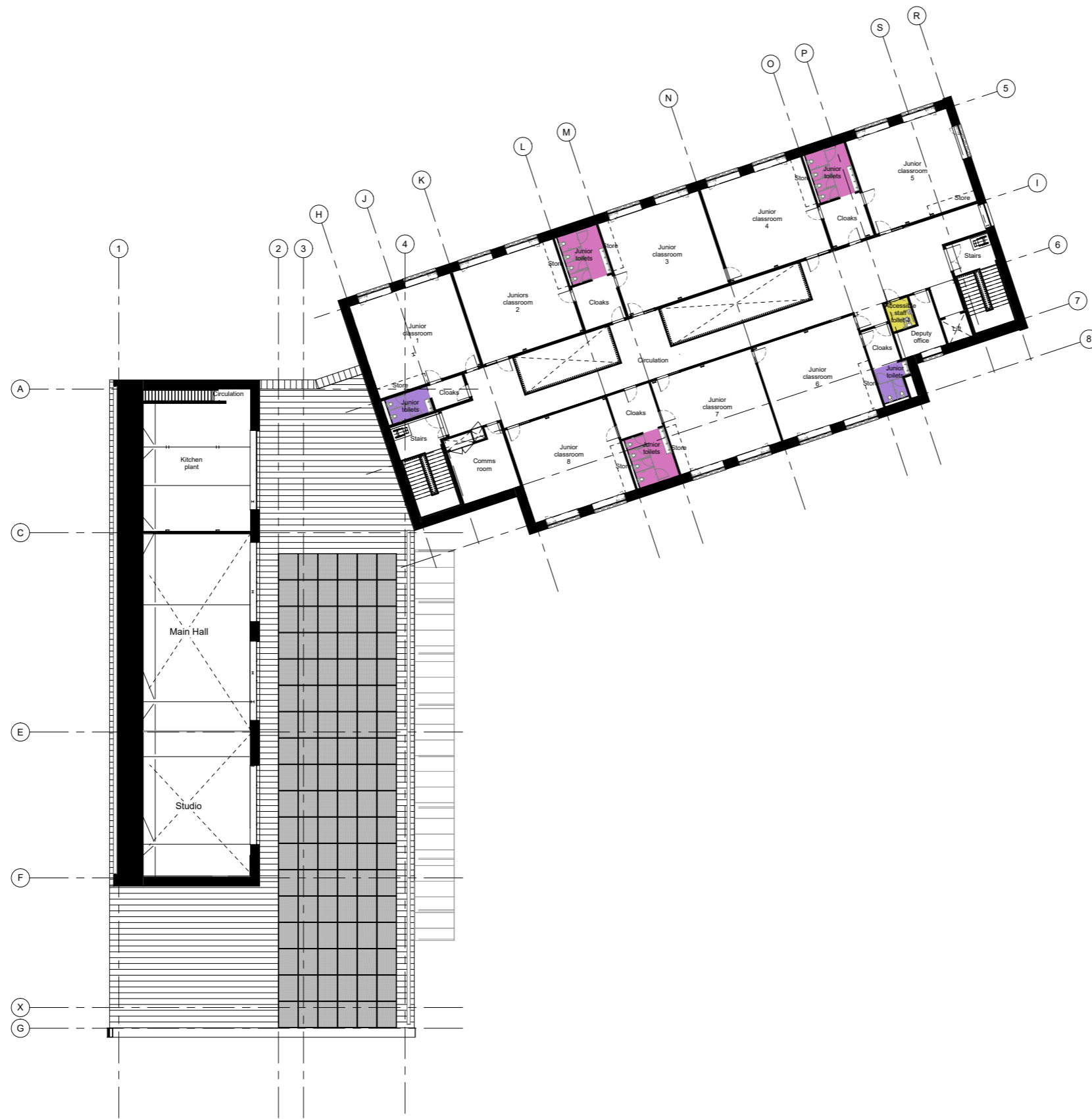
Pupil Toilets -

Nursery, Reception and Infants: Non-gendered toilets with half height cubicle partition system, as appropriate. Toilets and cloaks are arranged in a central blocks between classrooms.

Juniors: Non-gendered toilets with 1900mm high cubicle partition system for privacy. Toilets and cloaks are arranged in a central block, accessed from the corridor & classroom, allowing for:

- Good proximity from the classroom / teacher,
- Good passive supervision from the Cloak room areas,
- Openness & working towards anti-bullying spaces.





Sanitary Key

WC Type 1 - Nursery - 3 WCs See BR0301-SRA-XX-00-DR-A-74201
WC Type 2 - Reception - 3 WCs See BR0301-SRA-XX-00-DR-A-74202
WC Type 3 - Infants - 3 WCs See BR0301-SRA-XX-00-DR-A-74203
WC Type 4 - Infants - 2 WCs N/A
WC Type 5 - Juniors - 3 WCs See BR0101-SRA-XX-01-DR-A-74204
WC Type 6 - Juniors - 2 WCs N/A
Staff N/A
Accessible N/A
Hygiene Room See BR0101-SRA-XX-00-DR-A-74205

13.0 SUMMARY

This Design and Access Statement sets out the background to the proposed development of a Welsh Medium primary school on the Cornelly Site; describing the site and its character and also the extent of the development proposed. The DAS should be read alongside the planning statement prepared for the proposed development, which demonstrates how the development, and its design, meets the relevant planning policy and design guidance. On this basis it is considered that the Statement meets the legislative requirements of a Design and Access Statement.

The proposed development marks a significant investment into local education provision and would future proof the delivery of education in the local area for current and future generations. In light of the considered design approach that is respectful to the site and local area, and the significant benefits that would be delivered from the development, it is considered that the proposed development is suitable on design and policy grounds and suitable to be granted planning permission.



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