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Architects



Caerleon Comprehensive School
Design and Access Statement

Revision: P04

Suitability: S2 - Information

Date: 18.06.2025

The Team



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01

Introduction and Brief

Building Areas

The school's existing areas have been evaluated against Building Bulletin 98 (BB98)*1 "Building Framework for Secondary School Projects".

This diagram summarises the areas recommended for 1,250 pupils in years 7-11, plus 256 sixth form students.

An additional net 'float' allowance of 727 m² is included, and can be allocated as required by the project specific brief.

During initial consultation we recommended that this is allocated as follows:

Sports Hall - extra 96m²

- An enlarged 4-court sports hall, recommended by Sport England *2, of 690 m², instead of the 594m² in BB98. This increase from 33x18 m to 34.5 x 20 m allows for a fit-for-purpose space allowing intra and inter-school competitions in an appropriate environment. Programmes geared to delivering governing-body-compliant community participation through to club competition need the hall to be this size.

Changing Rooms - extra 130m²

- 4 Changing Rooms have been requested in the initial brief, rather than the 2 allowed for in BB98. This allows for dedicated indoor / outdoor change, or an overlap of age groups / gender / teams during school and community use.

Additional Learning Needs (ALN)

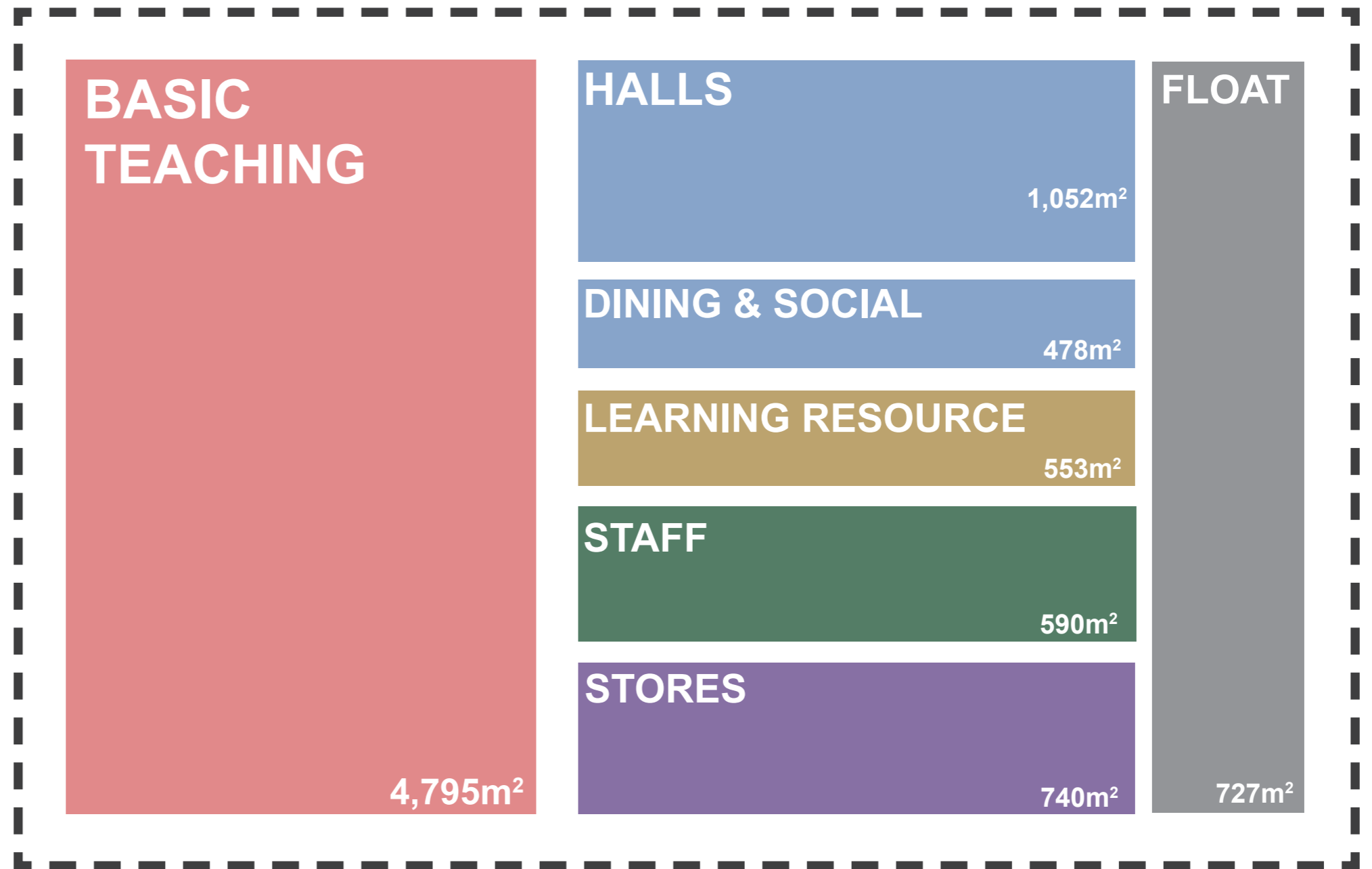
- Some of the demountables earmarked for demolition, contain learning resource spaces that are over and above those recommended in BB98. However as the school currently use these spaces, it is desirable to replace the equivalent area.

Existing Buildings

- The existing buildings are inefficient, therefore the overall area is larger than in a single new build. Rooms must be evaluated on an individual basis, rather than comparing overall gross areas.

A more detailed area schedule is included later in this report.

*1 BB98 was superseded by BB103 "Area Guidelines for Mainstream Schools" in England, but this does not apply in Wales, where BB98 is still considered current guidance.



RECOMMENDED GROSS INTERNAL (BASED ON ALL NEW BUILD)

12,508-12,955m²

*2 Sport England guidance is used, as there is no equivalent Welsh Guidance. It is written in conjunction with various national and international sports bodies.

01 Introduction and Brief

Newport Location

Newport is the urban centre of the County of Gwent and with a population of almost 146, 000, is it the third-largest city in Wales. Newport is well-connected to England and Wales both by road and rail. The M4 runs through the city, providing direct links to London, and the city's railway station is a connection point for several lines which serve much of mainland UK directly or with minimal changes.

Caerleon is located approximately 4km Northeast of Newport city centre. It lies on the north bank of the river Usk, north of the M4 motorway.

The existing school is set on a fairly level site, bounded by the Roman barracks, a rugby club, football club, golf course, meeting halls for uniformed youth groups, and a cemetery.

The school is accessed from Cold Bath Road, off Lodge Road which is the main road through the west of Caerleon.



01 Introduction and Brief
School Location



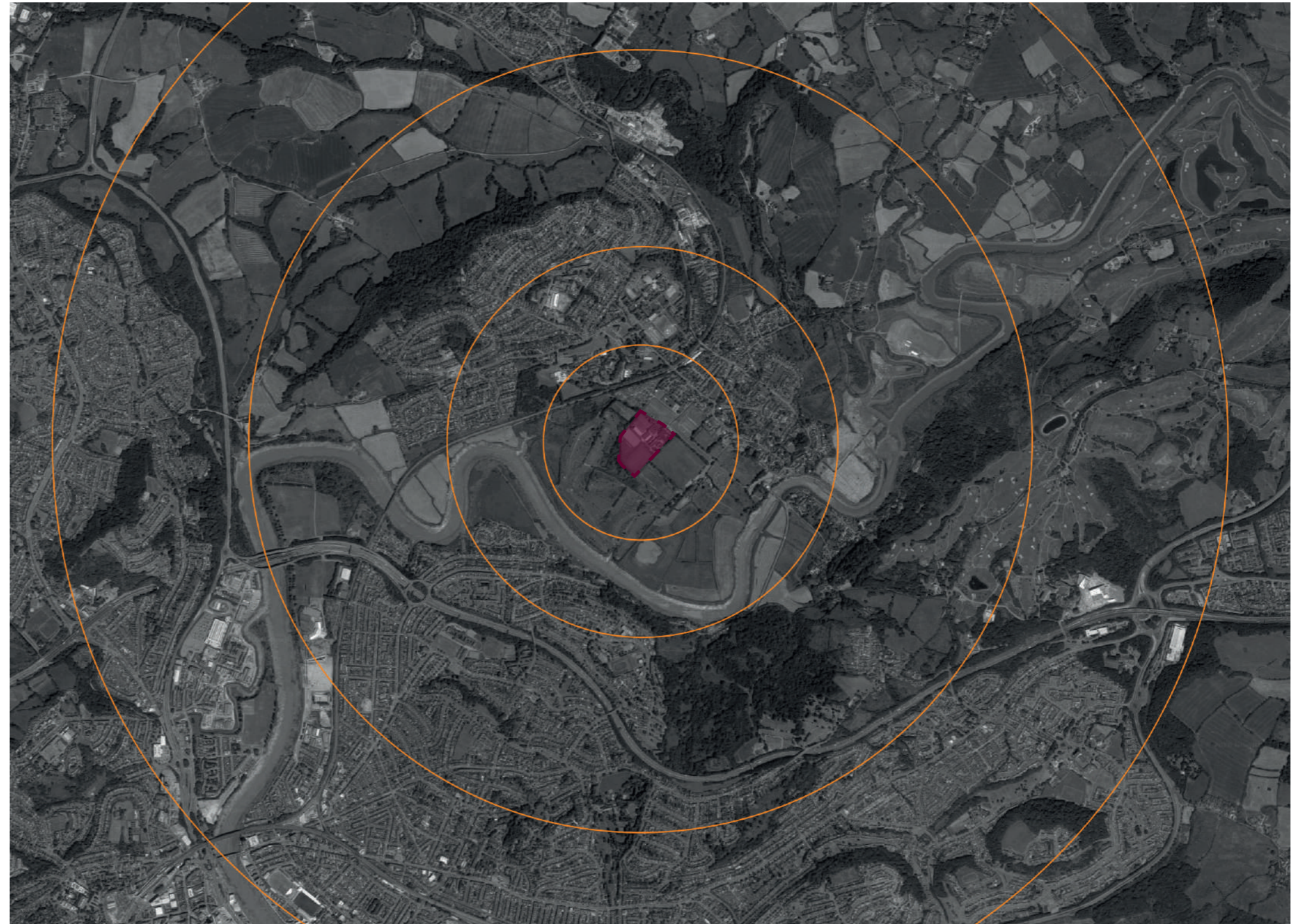
02 Context

02 Context Location

Caerleon

Caerleon was one of the most important military sites in Britain under the Roman Empire, home of the 2nd Augustan Legion and housing 5,000 soldiers and horsemen, with an amphitheatre, baths, shops and temples.

Today Caerleon is an attractive historic town with a selection of pubs, restaurants and tea rooms.



 Caerleon Comprehensive School Site

Flood Risk

Below are the Design Team's initial observations based on the Natural Resources Wales Detailed Flood Risk Map shown here:

A band of river flood risk, from the Usk, covers a significant amount of land surrounding the school site, but only reaches the edge of the boundary itself.

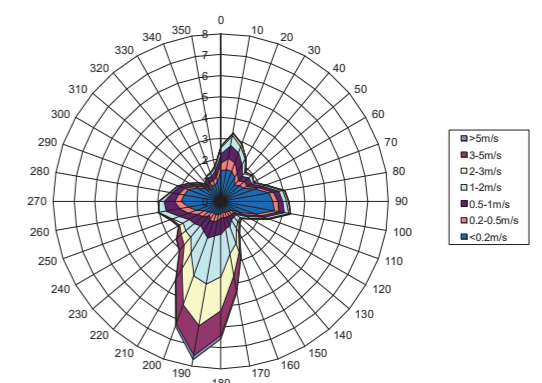
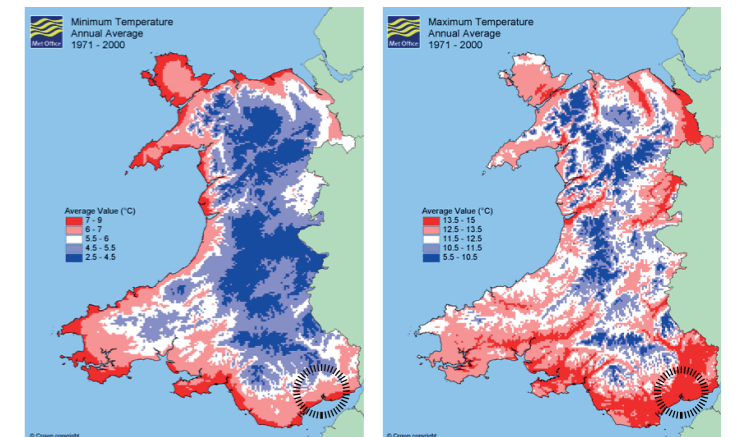
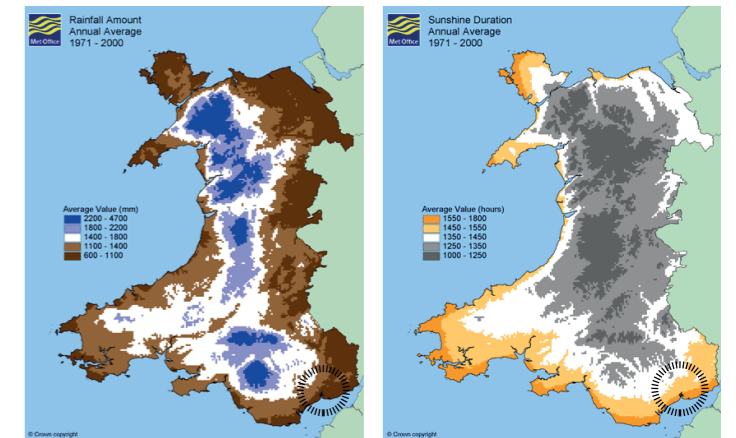
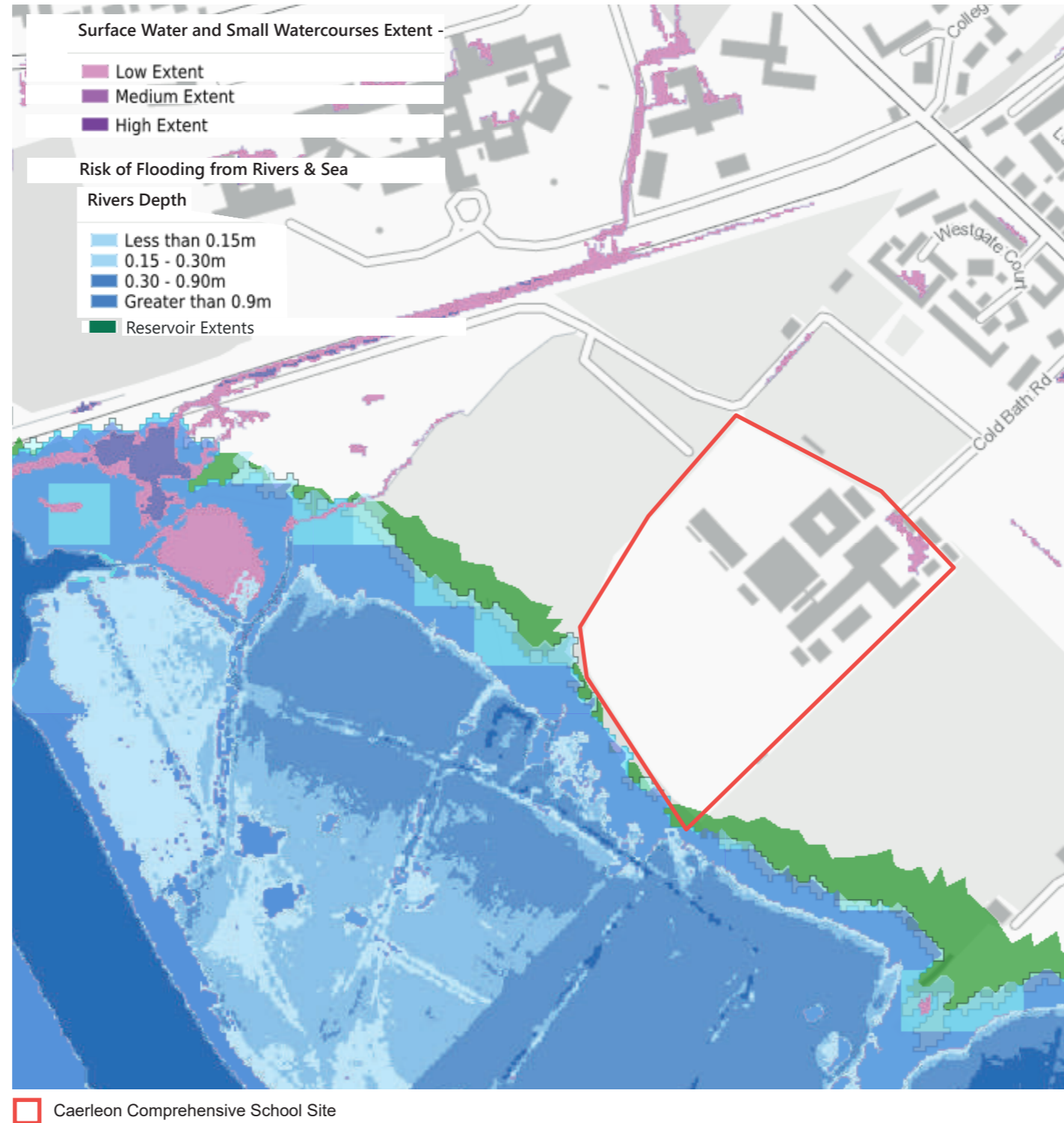
The map also highlights an existing surface water risk to the east of the site, which may correlate with large areas of hard surfacing. Any new hard surfacing is likely to require porous surfacing.

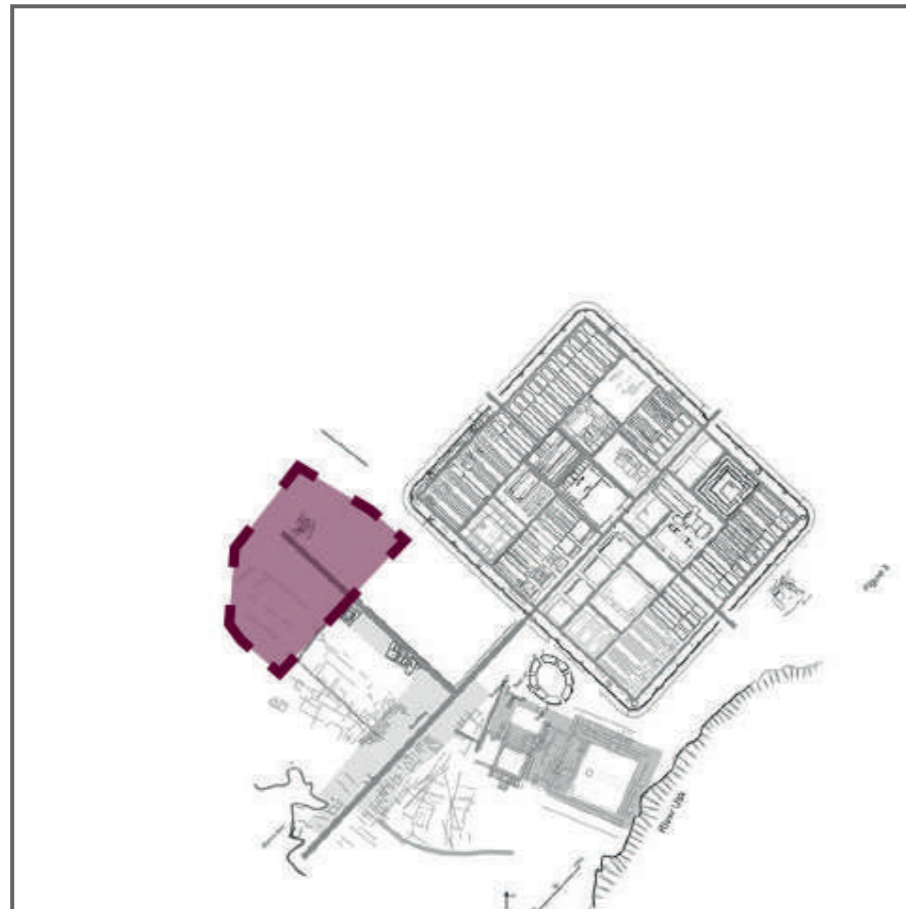
Any new building or hard surfacing is likely to require a combination of SuDS and other attenuation measures to mitigate flooding risks locally and further afield.

A detailed flood risk assessment will be undertaken during the next stage of design.

Climate Considerations

- Maximum temperature remains in the highest band for the region
- Lowest average rainfall for region
- Near-maximum Sunlight
- Prevailing wind from the South.





Caerleon, Geophysical Survey, The Roman Settlement

Archaeological evidence indicates that a Roman fortress was established at Caerleon. It is believed that the amphitheatre dates back to around AD 90. The Roman settlement created strong axes within Caerleon's landscape, the main axis being Broadway which still primarily follows the original Roman plan today. This main route presently links the modern Legionary Museum with the remains of the amphitheatre, barracks and fortress walls.

The first formal excavations of the Roman amphitheatre were carried out in 1909. The map documents the summary interpretation of the Roman archaeology from geophysical surveys between 2006-2011. Detailing historical structures and landscape features, some of which are still present in Caerleon today.

Geophysical Survey, Available from GeoArch Report 2012/05: Geophysical Survey in Caerleon Newport, 2007-2011



Caerleon, 1882

By the 1800's it was already present within Caerleon's landscape that many different settlement phases had produced a visual overlap of varying histories, with the most notable characteristics being Roman and Medieval. The same configuration of streets and a high proportion of green space has remained a common consistent feature of Caerleon since the early 1800's. As development continued urban blocks became more divided, sites got narrower and streetscapes got more compact. However, the overall appearance of Caerleon did not change much between 1840 and 1882. The most notable difference was the addition of the Caerleon train line and station in 1872, positioned north of site, from this point onwards development typically occurred in the north-west direction.

Transport was improved within the area around the time dockland activity grew in Newport, which ultimately drew trade away from Caerleon. Despite this Caerleon remained a prominent settlement.

Ordnance Survey, Available from <https://maps.nls.uk>



Caerleon, 1951

Caerleon's phased development continued in the north-west direction, preserving the historic landscape features and large open spaces adjacent to the town centre. In 1906 Newport Borough Asylum (now St. Cadoc's Hospital) was opened just north of the railway, noticeably the biggest development in the area, from which residential developments started. Due to the narrow historic streetscapes and dominant one way system, as the town grew and the use of cars became more common traffic problems started to arise, which have gotten continually worse as residential and commercial developments continued.

In 1970 Caerleon conservation area was designated in an attempt to retain and conserve the history of the place. As a result dramatic changes to the landscape were restricted between the railway and river usk. Opportunities for enhancement had to be polite and positively contribute to the area. Another reason why development continued to grow around the towns periphery, not negatively impacting prominent historic features.

Ordnance Survey, Available from <https://maps.nls.uk>



Caerleon Comprehensive School Site



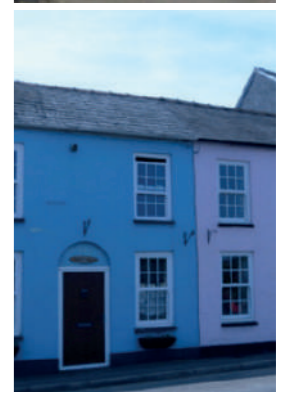
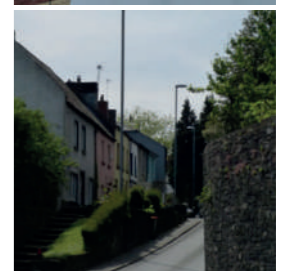
Caerleon Conservation Area



Roman Barracks



Amphitheatre



02 Context
Existing Caerleon Architecture

St Cadoc's Hospital



Caerleon Campus



Robust and Durable



Punctuated Rhythm



Hierarchy and Order



Amphitheatre

Robust material palette



Mill Street

Window Recess



Backhall Street



Consistent Rhythm



Broadwalk



Westgate Court



High Street

02 Context

Newport Local Development Plan

Environmental

- Need to support the sustainable management of natural resources, including energy, trees, minerals and waste, in line with Natural Resource Wales policies and Area Statements. This includes energy, trees, minerals and waste.

- Preserving and enhancing landscape features and protection Special Landscape Areas for their special characteristics

Social

- Promote high-quality development, that is safe and accessible, that will create and regenerate places for people, and will maintain and enhance community and settlement identity.

- Need to support the provision, protection and improvement of open spaces, play spaces and sporting facilities, as well as supporting the provision of the green infrastructure networks.

Cultural

- Promotion of place-making in planning and design to support balanced communities, foster a shared sense of place, and promote community cohesion for both new and existing communities.

- Supporting conservation and enhancement of historic buildings and structures for architectural and historic interest due as they are sources of pride and part of cultural identity. This includes Conservation Areas and other locally defined heritage assets aid our understanding and appreciation of place.

- Securing the conservation and enhancement of archaeological remains, and archaeologically sensitive areas, and support the undertaking of archaeological investigations.

Existing Palette

PS16 Conservation of the Historic Environment

All proposals will need to ensure the protection, conservation and/or enhancement of:

- Newport's rich historic environment, including listed and non-listed assets.

- Newport local culture and local identity.

Strategic Framework

PS3 Sustainable Placemaking and Design

All new development proposals will be required to make a positive contribution to sustainable places to support the high-quality design, health and well-being of communities. They will be assessed as to their contribution towards the following:

- High quality design, which is inclusive and accessible, meeting the full needs of existing and future communities, while protecting and enhancing the built and natural environment.

- A Green Infrastructure led approach, which is informed by the Council's Green Infrastructure Assessment.

- Prioritising access and movement by active and sustainable transport across the city, by route and system integration, reducing dependency on private vehicles for short trips.



Caerleon and the associated conservation area has a rich history which has contributed to its unique character and distinct sense of place. Continued development over time has resulted in no prominent architectural style. However, new additions are expected to respect the existing infrastructure and strong archaeological presence of Caerleon.

Existing Palette

The predominant façade materials in the locality are stone, brick and render. Stone is primarily present in boundary walls and other historic infrastructure located throughout Caerleon. Whereas brick and light-coloured render denote the towns phased development.

The design proposal's fourth elevation sits along the border of Caerleon's conservation area and will be publicly visible from the adjacent sports fields. So, evaluating materials through a lens that is respectful of the existing area is important.

The palette of materials has been selected for a number of key objectives:

- Complement and have a relationship with the existing school buildings.
- High quality and robust scheme that is affordable
- Considers products maintenance requirements
- Considers sustainability credentials of products
- A range of colours and textures available

Robustness is essential to the building typology, which receives weathering daily from its surrounding environments. The materials are likely to come in contact with pupils from time to time and therefore need to be suitable for educational environments.

All images included on this page are sourced from Caerleon Conservation Area Appraisal, February 2020.



Left: Castle Street view of The Mynde showing how stone and rendered structures sit within the area.

Bottom left: Pennant stone wall with battlements. Showcasing vernacular local building materials and elements

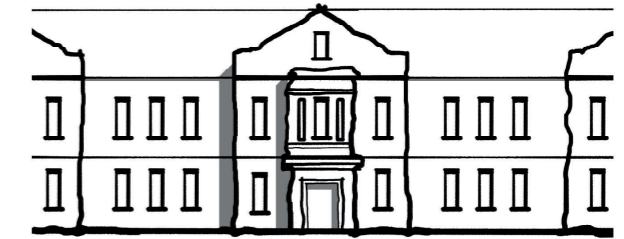
Top right: St Cadoc's front elevation. Full red brick facade broken down by a consistent rhythm of traditional sash windows with stone lintels and sills.

Right: An example of barge-boarding, showing the use of stone, wood and slate detailing.

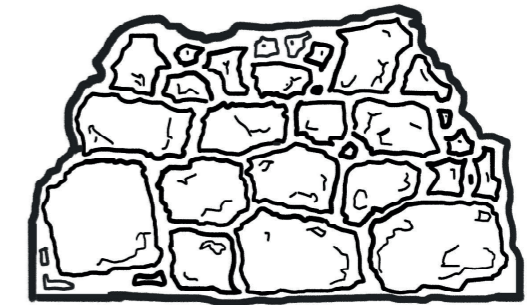
Bottom right: Sets of traditional terraces houses with strong vertical emphasis. Note the use of a blank window recess to achieve consistent and balanced proportions.



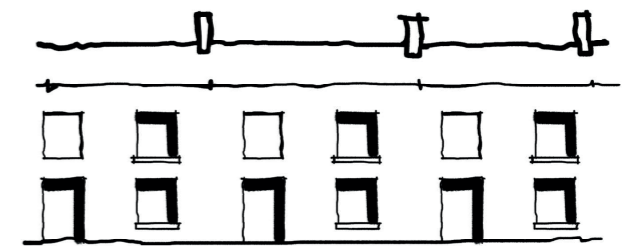
Driving Concepts



ORDER



ROBUST

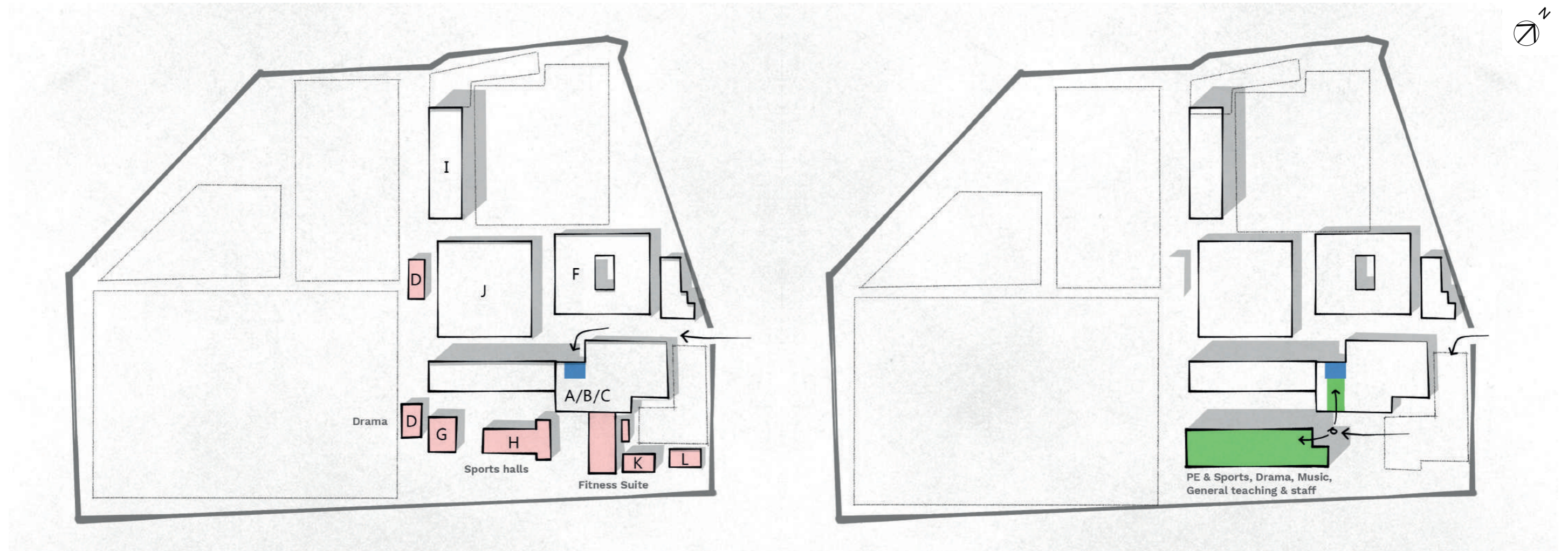


RHYTHM

03 Site Analysis

Existing

Proposed



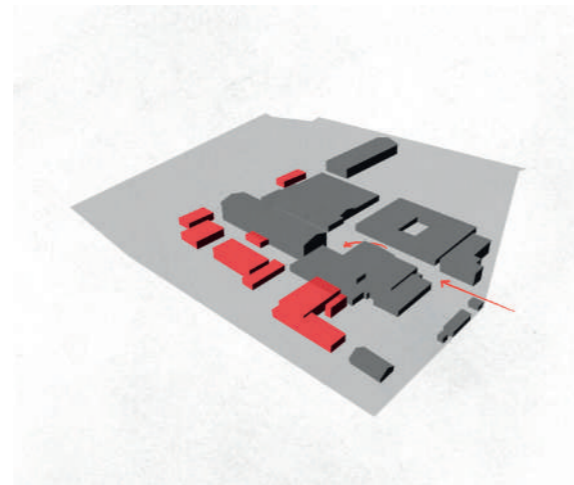
Existing

The school currently has a series of low, single storey buildings, with only 3 of the smaller buildings rising higher. This means that a high proportion of the site area is taken up by building footprint.

The first steps will be to remove the small demountable buildings, as they are poor quality, temporary structures.

The H-block gym building, and the other gym attached to A block, are vastly undersized compared to current sports standards for both school and community use, therefore these must also be replaced.

The conference building (K) and caretaker's house are likely to obstruct construction access to the new build area if they were retained.

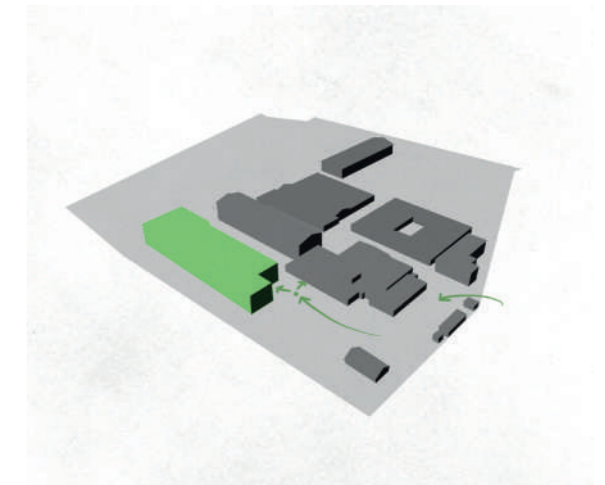


Initial Proposals

The new building must contain a full-size sports hall, associated changing areas, and a series of teaching spaces.

There is also scope to adjust some of the existing buildings to bring them up to the latest accessibility and educational standards.

The main entrance for visitors is currently hidden behind the kitchen and dining spaces. There is opportunity to move this to the other side of the Main building, adjacent to an extended car park, and new building. This would put the out-of-hours access to the sports hall in a similar location.



03 Site Analysis

Views from the Conservation Area

Public views into the site are limited to the road that bounds the Caerleon AFC football pitch, the southern stretch of Cold Bath Road (part of the CCA) and long distance views from the Broadway (also part of the CCA). These long distance views mainly occur in the winter, when the trees that surround the site lose their leaves.

The proposed new building will have minimal impact on views from the north-west, and will make a positive contribution to Caerleon Conservation Area views from Cold Bath Road and the Broadway, particularly during winter.

View 1: Ariel view from the south.



View 2: Ariel view from the West.



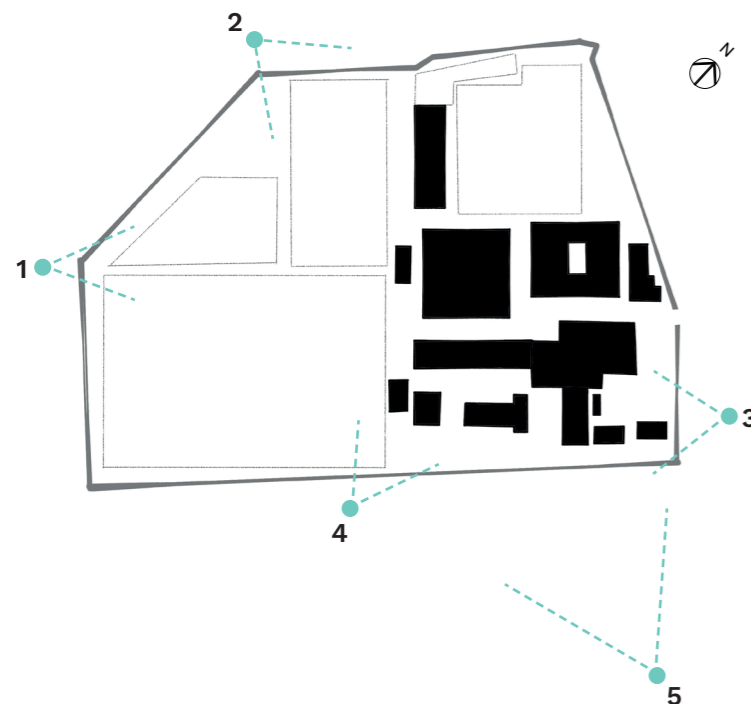
View 3: View of existing school site from the southern stretch of Cold Bath Road, part of CCA. The image begins to show the level of transparency associated with the site's south-eastern tree line border during winter months.



View 4: View of the existing school site from the west corner of the public playing fields which border site.



View 5: View of the existing school site from the east side of the public playing fields. The long distance view from the Broadway would be similar to this view in summer months, a greater



03 Site Analysis

Tree Survey

Categorisation

Trees within proximity of the school site have been surveyed and assessed independently of the design proposal, listing them into four categories.

Category A: Large, high-quality trees which the local authority will want to see retained.

NO CATEGORY A TREES WERE RECORDED ON SITE.

Category B: Prominent in the locality and in general good health and condition with some minor defects. Significant life expectancy and impact on the local environment.

Many of the tree groups on the site perimeter have been categorised as B due to their cohesive screening of views into or out of the site.

The local authority would prefer to see these trees retained, though the removal of occasional specimens may be acceptable.

Category C: These are smaller trees or ones considered to be of low quality. They may have a limited life expectancy or contribute very little to the amenity of the locality. Such trees should not be considered as a constraint against development and their removal will generally be acceptable.

Category U: These trees are recommended for removal due to their poor condition rather than to facilitate development.

NO CATEGORY U TREES WERE RECORDED TO BE IN CLOSE PROXIMITY TO THE BUILDING AREA.

Tree Removal

Four small existing trees (T5, T6, T7, T8) conflict with the design proposal's build area and will need to be removed.

Currently the quality of these trees has been impeded by soil compaction and limited root area due to the school's car parking arrangement.

The removal of these trees would be offset by the introduction of trees and planters in the new courtyard area created.



04

Existing School Analysis

04 Existing School Analysis

Block A/B/C Main Building - Floor Plans - Entrance, Hall & Dining

Entrance, Hall & Dining

The main entrance is generous and welcoming. However, it is hidden from the site entrance and car parking due to its location behind the halls and kitchen.

While the main hall is of sufficient size, the dining hall is undersized for its pupil capacity by approx 150m².

Storage for large items is limited; Exam desks, portable staging, and gym mats are stored in an open space next to the changing rooms.

Gym mats would move to new storage alongside the new sports hall, however a dedicated, secure space is required for the exam desks and staging.



04 Existing School Analysis

Block A/B/C Main Building - Floor Plans - Sports Area

Sports Hall and Changing

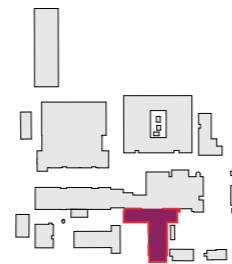
The initial brief marks the sports hall for demolition, as it is vastly undersized.

The school would like to retain the fitness suite, although this would be better situated alongside the new gym and changing rooms.

This gives the opportunity for the fitness/changing room area to be reconfigured for other uses, such as additional dining or storage as noted on the previous page.

This hall also has floor to ceiling glazing, which although beneficial for daylight, is a safety hazard when running or throwing/kicking balls.

The sports halls and some external spaces are currently hired out by the archery club.



04 Existing School Analysis

Block A/B/C Main Building - Floor Plans - Staff And Library

Room Numbering

Unlike other blocks, which keep the same letter designation throughout, this main block uses the following room codes:

A: Ground Floor. B: First Floor. C: Second Floor.

Staff Areas and Library

Across the school, the total area for staff (coloured green) is over the BB98 requirements for a school of this capacity, by 175m². This is partly due to the inefficiency of separate buildings, but also because the conference room (91m²) has been counted within this area.

The staff room has previously been extended, at ground floor only. This extension protrudes into the likely new-build area, so it may be necessary to demolish this.

The staff-rooms in total are 71m² over the recommended area as 'social' spaces, however across the school there is an over-provision of offices (175m² over), and under-provision of work-bases (155m² under). Therefore, overall there would be adequate staff space remaining, although some may need to be re-allocated.

The combination of library and careers office (block I) is only slightly under the recommend area (by approx 13m²), although this also includes the annexe, which is used for 6th form study.

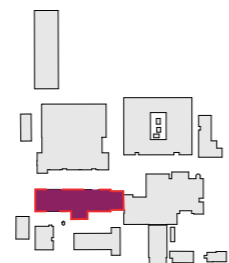
Toilets

There are sets of pupil and staff WCs on the ground floor, and some space has previously been converted into a large accessible toilet.

Overall on site, there are a higher number of staff toilets than required, although the separation of buildings and travel time/distance between each justifies this.

However, this travel time/distance causes an issue with the provision of accessible toilets, for use by people with disabilities that mean they are unable to use standard toilet cubicles. Only blocks A and I currently have these, where the recommendation is that one is within 40m of all spaces.

The external facade is mostly curtain-walling.



04 Existing School Analysis
Block A/B/C Main Building - External Photographs



Top Left: Main Entrance

The entrance is tucked away around the side of the main hall.

Below Left: Curtain Walling

Curtain Walling is used across most of the 3-storey element of this block, which houses science labs and classrooms.

Below: Rear, between Sports Halls

Both sports halls will be demolished, with the red brick area being a potential new entrance.

Below Bottom: Staff Room Extension

This single storey element protrudes into the likely build-zone.

Top Right: Kitchen and external 'Snack Shack'

The blue curved element is the rear of the kitchen, while the timber shed is one of 2 'snack shacks' around the site that act as remote serveries for pupils to buy food outdoors. The route to reception from the site entrance passes past here.

Middle Right: Kitchen

The side of the kitchen faces the car park. The kitchen entrance is adjacent to this to allow deliveries.

Bottom Right: Skylight

The large 'lantern' type pop-up skylight lights the reception area.



04 Existing School Analysis

Block A/B/C Main Building - Internal Photographs - Entrance and Gym

First Column, Below: Reception

The reception area is spacious, with a large roof-light above the centre. The divide between the reception desk and foyer is a partial height screen.

Second Column: PE Classroom

Formerly an SEN classroom, then a PE classroom and now has been connected to adjacent room to form a large fitness suite area. It also contains a sink area.

Third Column: Small Sports Hall

Used for PE and exams. It benefits from natural light, however the low level glazing is a potential problem for ball-sports, and causes children taking exams to be distracted by events outside.

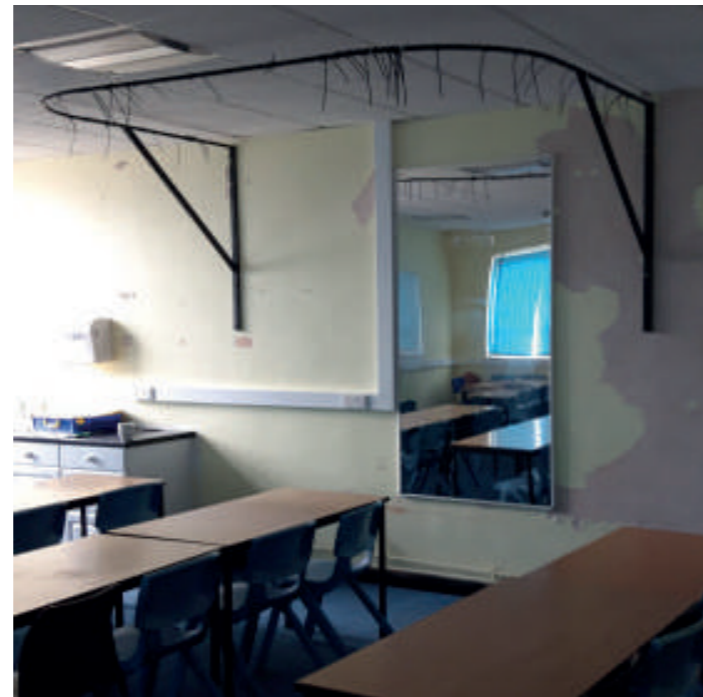
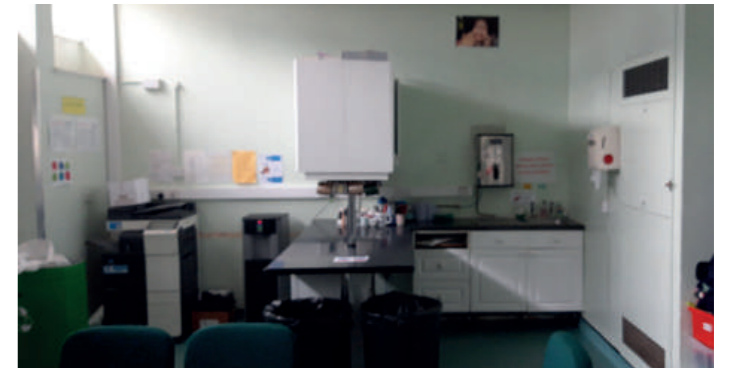
The low ceiling is subject to damage from ball-sports, and restricts other activities such as badminton, and trampolining.

A new location for wall-mounted PE equipment will need to be considered, if still required by the school.

Fourth Column: Main Staff Room

The main staff room has previously been extended, however the extension area may need to be demolished to facilitate the new build.

This room is mostly set up as a social space with low seating and a kitchenette area, although there is a set of tables that doubles as a workspace.



Below: Fitness Suite (weights room)

Panoramic image



04 Existing School Analysis

Block D1 - Learning Hub

Learning Hub

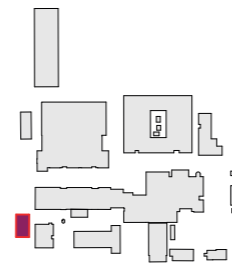
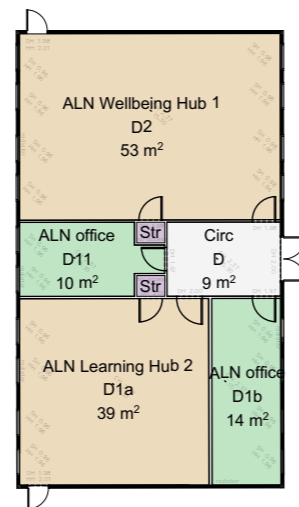
The Learning Hub is part of the school's provision for pupils with Additional Learning needs (ALN).

This block consists of 2 teaching spaces and 2 offices. There are additional ALN teaching areas spread across the school as well.

The total existing ALN provision is over and above that recommended in BB98. However, approaches to provision for pupils with ALN have changed since BB98 was published therefore it is necessary to understand the school's needs here.

Additional ALN provision could be allocated from the BB98 'float' allowance, or combined with other spaces.

This block is proposed to be demolished. The provisions have been provided by J Block's new ALN Hub.



04 Existing School Analysis Block D2 Drama

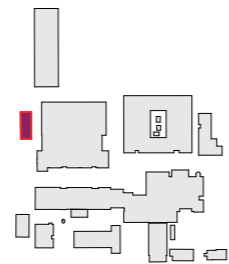
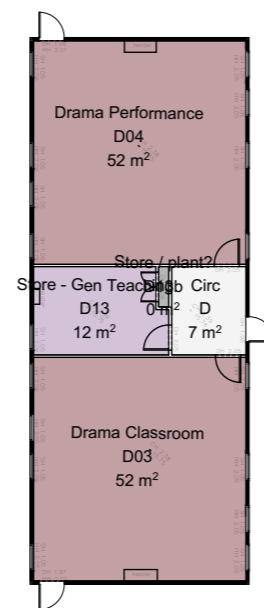
Drama

This single storey building houses the Drama department - 2 undersized classrooms which together add up to just over the single drama studio allowance in BB98, plus a store.

The ceiling height of 2.38m is low for a Drama studio, as it allows little space for overhead studio lighting fixtures.

The building is directly adjacent to a sports pitch, with very little acoustic buffer between the two.

This block is proposed to be demolished. New drama provisions provided in New Block proposal.



04 Existing School Analysis Block D3

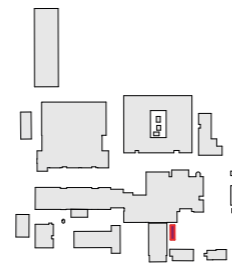
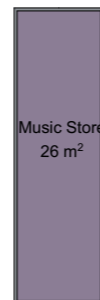
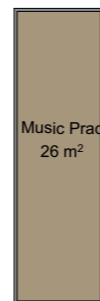
Music Peripatetic

This consists of 2 demountable modular buildings, stacked on top of each other, with the upper one accessed via an external metal staircase.

One is used as storage for musical instruments, and the other by Gwent Music, which offers in-school and weekend music tuition.

These are located near the car park for out-of-hours use, but are remote from the music classrooms and 2 small practise rooms elsewhere on the site.

These are both proposed to be demolished. New Music provisions will be provided in the New Block proposal.



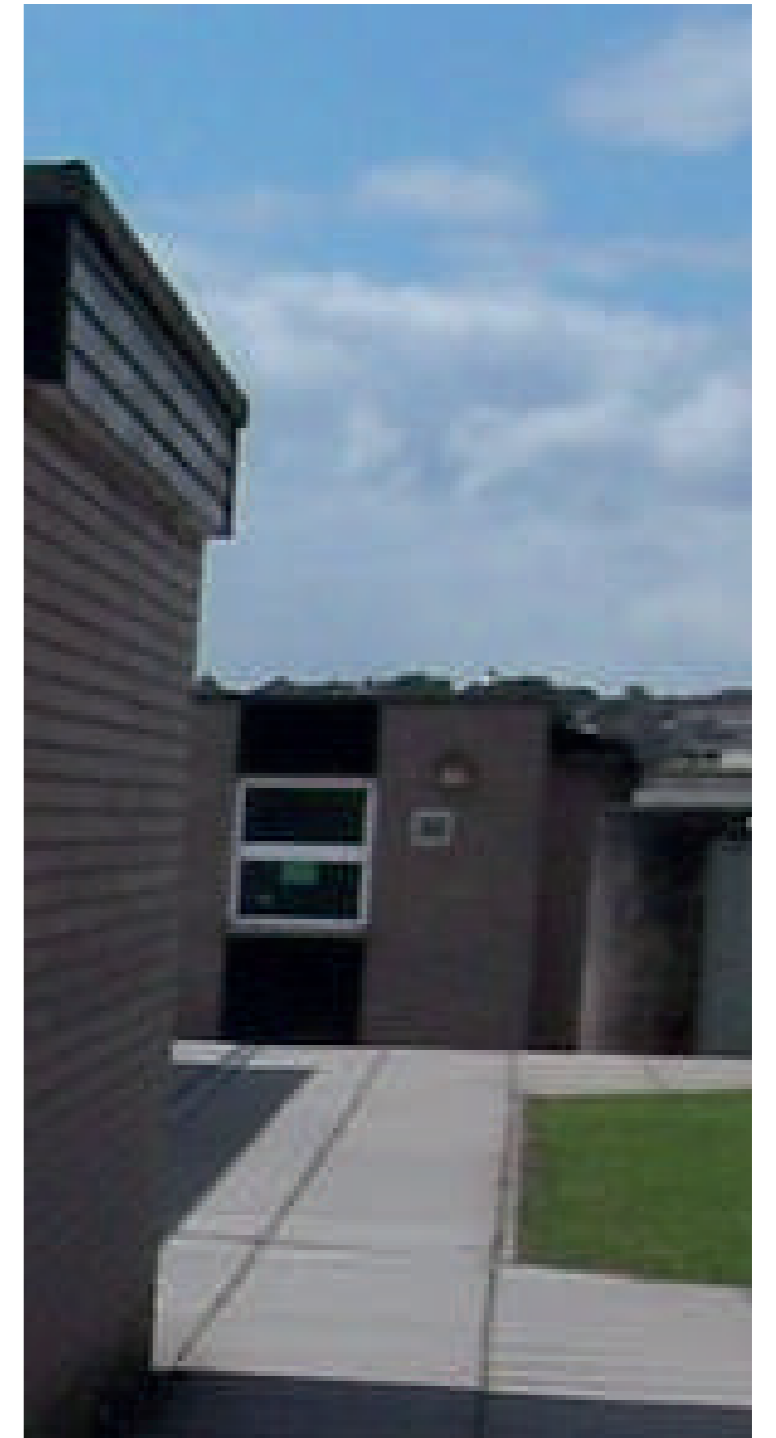
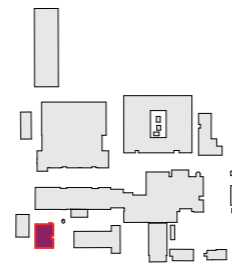
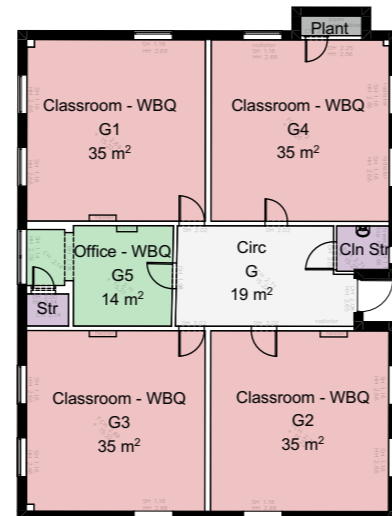
04 Existing School Analysis Block G

Welsh Baccalaureate Qualification (WBQ)

This single storey building houses the WBQ classrooms, which are sized for small groups. A WBQ class capacity is the same as other general teaching - around 30 students, therefore these are significantly undersized

The building itself is a brick-finished building, in the same style as the standalone sports hall.

Proposed to be demolished. New classroom provisions will be provided in the New Block proposal.



04 Existing School Analysis Block F - Photographs



Top Left:
The roof, like most on the site, is a flat roof with a series of roof-lights to bring light into the deep plan.

Middle Left:
The site has a gradual change in level, so many buildings are on raised plinths, with stepped and ramped access between them. Areas of artwork, such as mosaics, decorate the external walls.

Bottom Left:
A raised area of roof, likely housing plant, is seen above the WC area. Strong window Rhythm, resonating with the rest of site

Below:
The sole door into the courtyard, from the corridor. The courtyard currently houses greenhouses and storage sheds for science.

Top Right:
The roof of F, taken from the 6th form block. Showing the multiple roof-light, and roof plant area.

Bottom Right:
F block alongside the rear of ABC block's hall. This is the emergency access route for a fire engine into the central courtyard space to serve the majority of buildings. The change in level is clear here.



04 Existing School Analysis

Block H - Gym - Floor Plans

Sports Hall

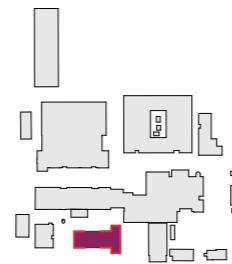
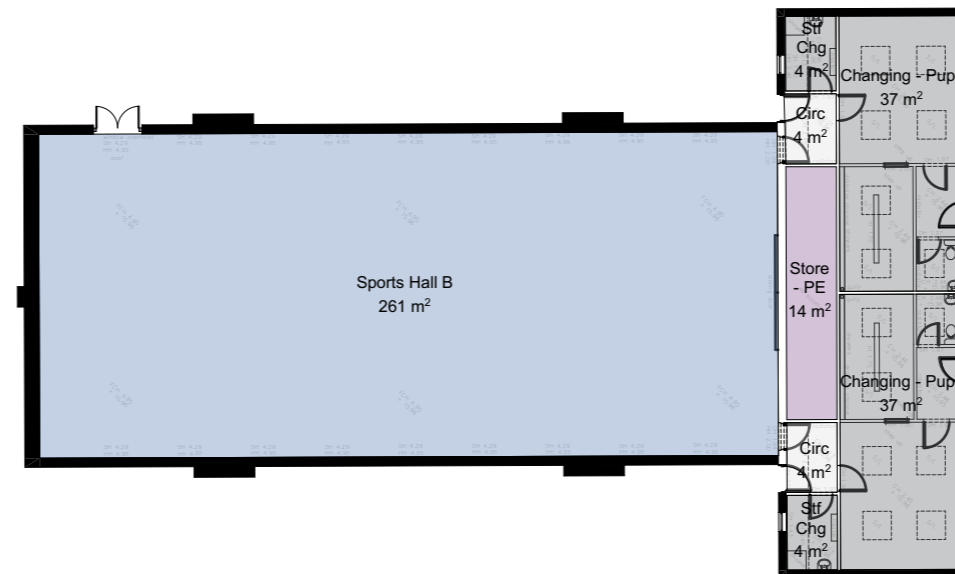
This is the second of 2 sports halls currently on site, each with a set of changing rooms.

The school currently uses this sports hall for exams, as it has no low-level windows which cause distractions to pupils.

Planning History

A Planning Application was submitted in 2011 to extend this block, to include a 75m² 'training room' and 45m² 'lecture room', and combining the 2 changing rooms into 1, however the work was not carried out.

Proposed to be demolished. New sports hall and fitness suite provisions will be provided in the New Block proposal.



04 Existing School Analysis Block H - Photographs



Left:
The sports hall viewed from the public playing fields to the southeast.

Below:
The sports hall as seen from the playing fields. The round turret is a plant room, and the single storey building to the left is the staff-room extension to ABC block.

Top Right:
The sports hall is the building to the far left, showing the end of the taller hall and the lower changing rooms. In the background are ABC block's teaching area (3 storey) staff area (single storey) and the other sports hall (right).

Bottom Right:
The small courtyard, showing the sports hall changing rooms and hall behind.



04 Existing School Analysis

Block J - Art, Design and Technology - Floor Plans

Building Form

Originally 2 separate buildings, a pitch roof was added c2000, to join them. This also added the textiles and technology teaching spaces, and a large display area in the newly created space.

Art, Design and Technology

The majority of the building houses teaching spaces for these departments, along with their associated stores and prep rooms.

Food Tech

Food technology spaces are both vastly undersized according to BB98, as are the prep and storage areas - by approximately 90m² in total.

Art, Textiles and Design Technology

The individual teaching spaces are slightly below the recommended sizes, although there are 2 more rooms than in the BB98 example schedule, and the teaching space is only 24m² less overall (equivalent to approx 2m² per room). This may allow for a more free-flow use of each room's differing facilities.

Some of the teaching rooms do not have windows for a view out, although they do have roof-lights for natural daylight.

There is a large display area, for pupils' work from these departments. This has been noted on the schedule as 'art/design resource area'.

ALN & Learning Resource

This block now houses the new ALN support hub, providing new comprehensive classroom, breakout and staff facilities.

Additionally, 2 small music practise rooms are remote from the music classrooms. The possible future use of these have been consulted with the school. They could be used for 1:1 meeting, small group rooms, or combined into a staff base. It should be noted that only have high-level windows, and it is possible that these were previously toilets.



04 Existing School Analysis
Block J - Photographs



Above. This image highlights the variety of buildings and level changes, between Block J (left) and F (right)



Left. Block J facing the MUGA, with ABC behind, and Isca to the right.

Below. The main entrance and central corridor of this department are a later addition, joining what were originally 2 separate buildings. This results in the deep plan and inner rooms.



Above. ALN Hub, with specialist classroom, breakout and staff facilities.

Top Right, Middle Right. A large space at the entrance features pupils' work and visiting displays.

Bottom Right. The catering / food technology classrooms are tightly packed with storage/worktop pedestals, which services around the perimeter.

04 Existing School Analysis

Block K - Conference Building

Conference Centre

This building is formerly the Caerleon Public Library, until 2015 when that was relocated off-site into the Town Hall. The building is now used by the school and for out-of-hours use.

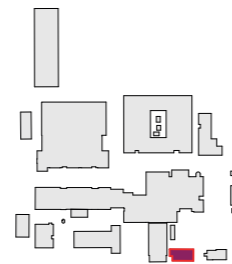
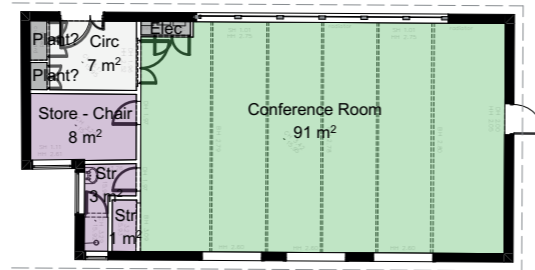
This is one of the areas used by the school for exams, and occasional teaching.

This building has been counted in the existing schedule, however it puts the staff areas (green) significantly over area.

For comparison, a space of equivalent size in the new build would be a drama classroom (teaching category) or part of an activity studio (halls category).

The building is joined to block A by a shared roof.

Proposed to be demolished. New out of hours provisions to be provided in New Block proposal.



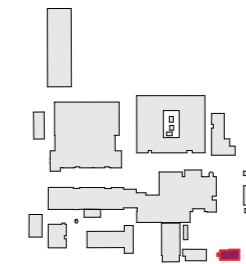
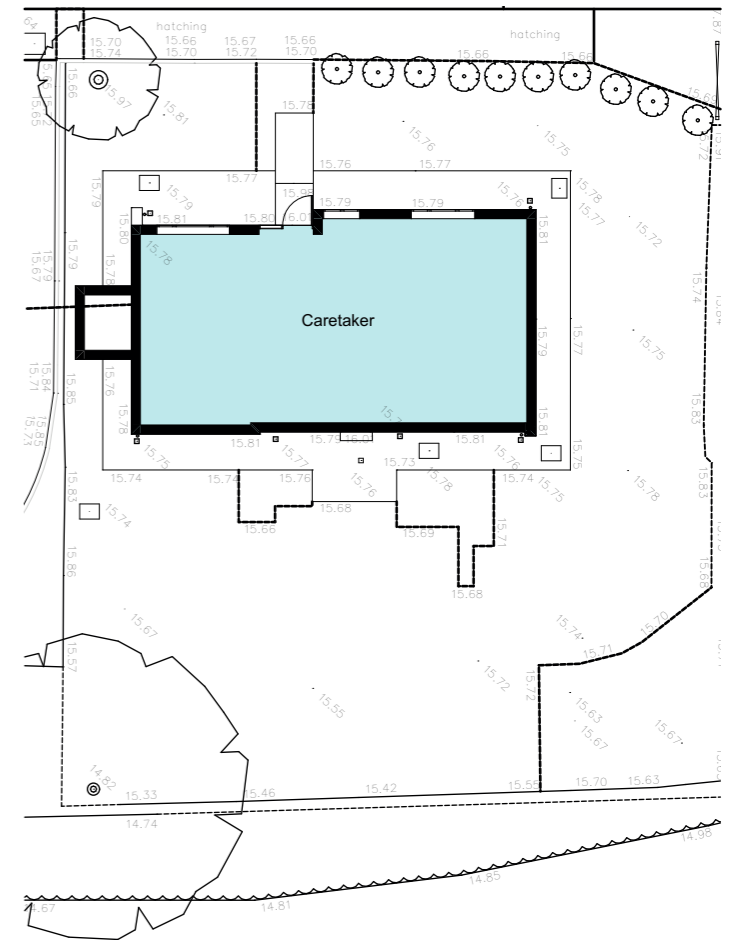
Block L - Caretaker House

Caretaker's House

This bungalow is currently used as a residence for a live-in caretaker, although only for the last couple of years. It had been empty for an unknown period before this.

Due to Covid-19 restrictions, the house is un-surveyed at the time of writing, and the internal layout unknown.

Proposed to be demolished. Providing area for updated landscaping arrangements.



04 Existing School Analysis Summary

Existing Palette

The Caerleon Comprehensive School site hosts a range of existing buildings from different eras, and the new building will need to draw from these materials and colours.

The main building on site is ABC block, which has a 3-storey curtain walling teaching wing, with brick gable ends and plinth, and the brick kitchen area with curtain walling again to the larger hall areas.

The other 3 significant buildings of a similar era, are the single storey J (art/design) and H (science and general teaching), and the matching 2-storey 6th form block.

The newest building on site is I (Isca), a 2-storey red/tan brick teaching block, with blue-framed windows.

The current reception area, which is hidden from view by one of the main halls as you approach the school, attempts to differentiate itself from the other school blocks by use of signage and stone panelling.

The phased development of the school site has created an eclectic range of structures which all differ slightly when it comes to materiality and colour. However, there is a notable amount of brick used throughout every stage of the schools development. Blue colours and tones are another common feature across the existing site. However, buildings have recently been updated and repainted to align with the school's purple logo / theme.



Top Right: Main reception is tucked away around the side of the main hall. Not clearly visible from the site entrance



Right: Block F (left of trees) has pale brick strips, alternating with black and white narrow-frame windows, which are likely to be the originals. Dark painted wood forms a wide band around the top of all the single-storey buildings. The ground floor recesses below the windows are currently painted a mid reddish colour, although they have been repainted many times. The larger northern section of J block matches this building in style and materials.

The Main Building (ABC block, right of trees) has an expanse of brickwork around the hall and dining. The smaller southern section of J block matches this red brick.



Below Right: The majority of ABC block is curtain walling, thought to be the original, with a red brick plinth and ends. The corner of J block can just be seen, with the service 'bridge' connecting them.

Bottom Right: The newest block, Isca, is 2 shades of brick, however these differ to the bricks of the older buildings.



Below: The sixth form block echoes the single storey J & F blocks, although with taller proportions. It shows alternating vertical strips of pale brickwork, with individual windows and panels.

05

Initial Development

05 Initial Development Refurbishment Proposals

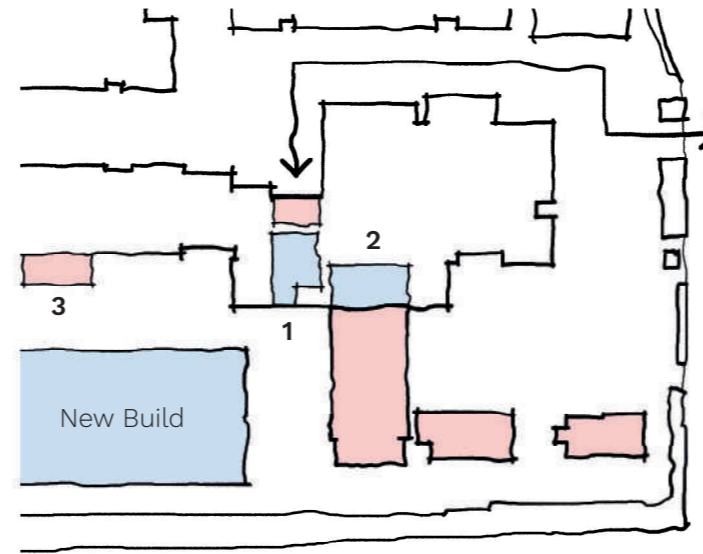
01 - Move Main Entrance

Advantages

- Entrance is directly off visitor car park, not hidden behind hall.
- Visitor area can be segregated from pupil access areas for security / safety.
- Main Visitor Entrance (school hours) and new building entrance (community use) are adjacent.

Disadvantages

- Additional cost compared to leaving entrance in existing location.



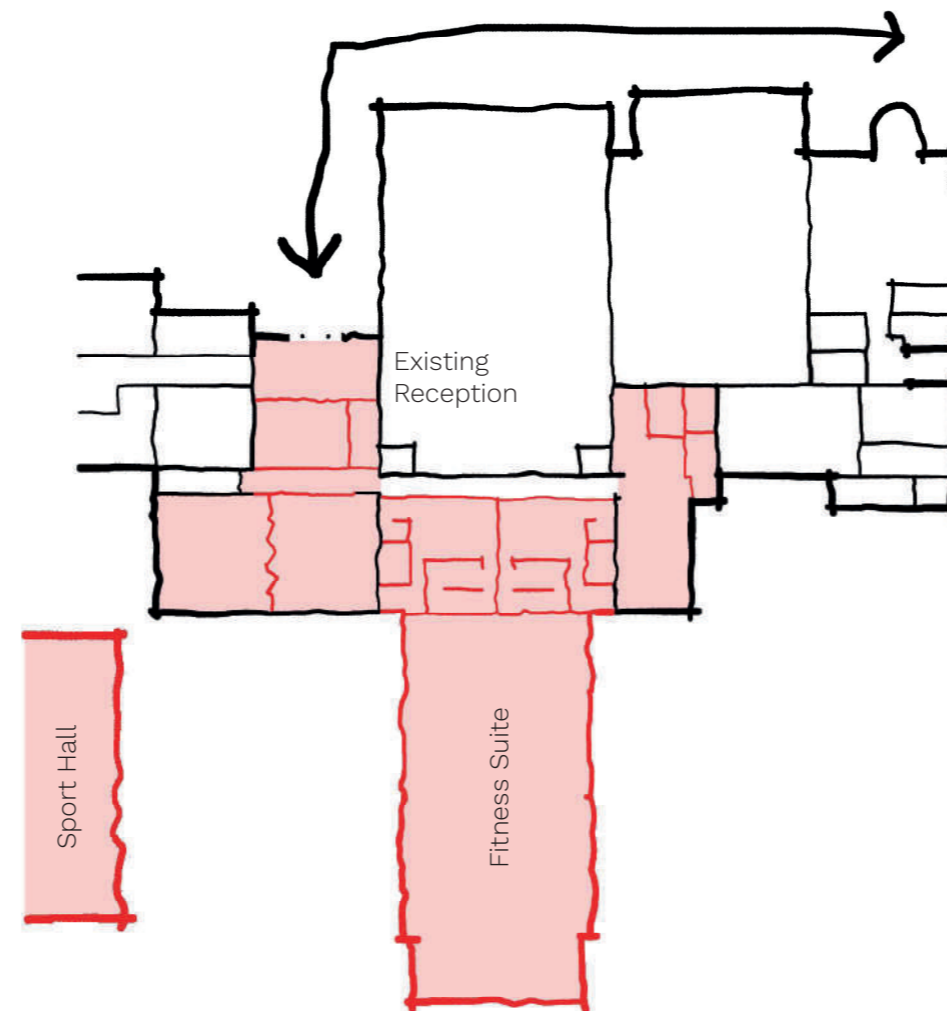
02 - Additional Dining Space

Advantages

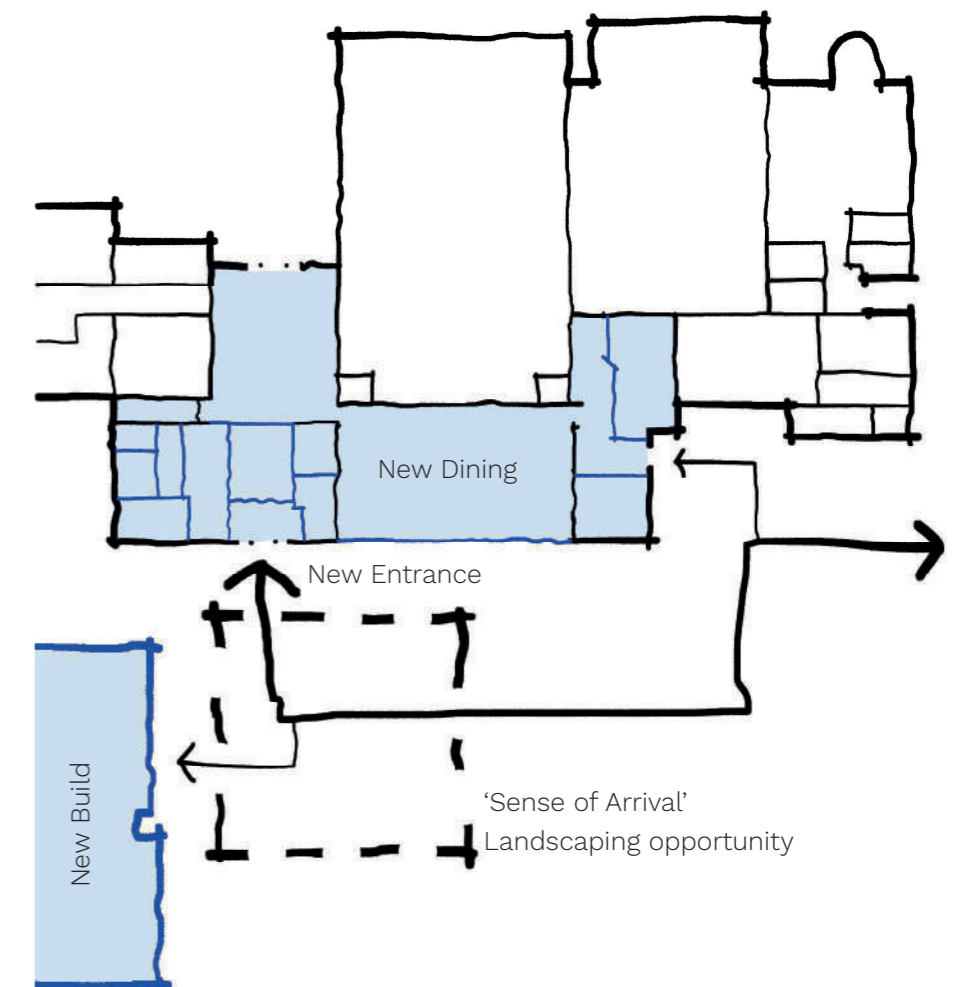
- Provides additional dining space, closer to the total recommended by BB98.
- Space is close to main entrance, and can be used for breakout space outside lunchtimes, school functions, out of hours use.
- Dedicated store rooms for chairs, exam desks, staging. Avoids the fire risk of open storage areas in escape routes.

Disadvantages

- No dedicated changing rooms alongside main hall, for school productions etc, although the dining space could be used with privacy screens.



Existing



Proposed

Structural Summary

Cambria

Block A is to be re-purposed, incorporating a number of room reconfigurations. As part of these reconfigurations, demolition of elements which may be structural elements is required.

The current construction of the existing buildings at Caerleon School is unknown and therefore a site visit, with intrusive investigation, is required at the next RIBA stage to conclude whether structural intervention is required.

Further advice on the likely structural implications shall be provided following a site visit.

For further information, refer to the appendix:
Cambria,
Caerleon School Structural Engineering Stage 2 Report
CB2183-CAM-ZZ-XX-RP-S-0002
section 9 Existing School Reconfiguration

05 Initial Development New Building Proposals

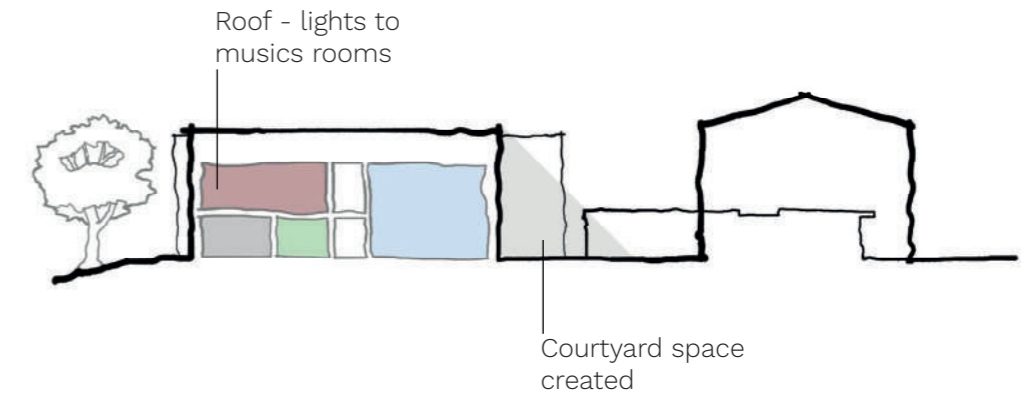
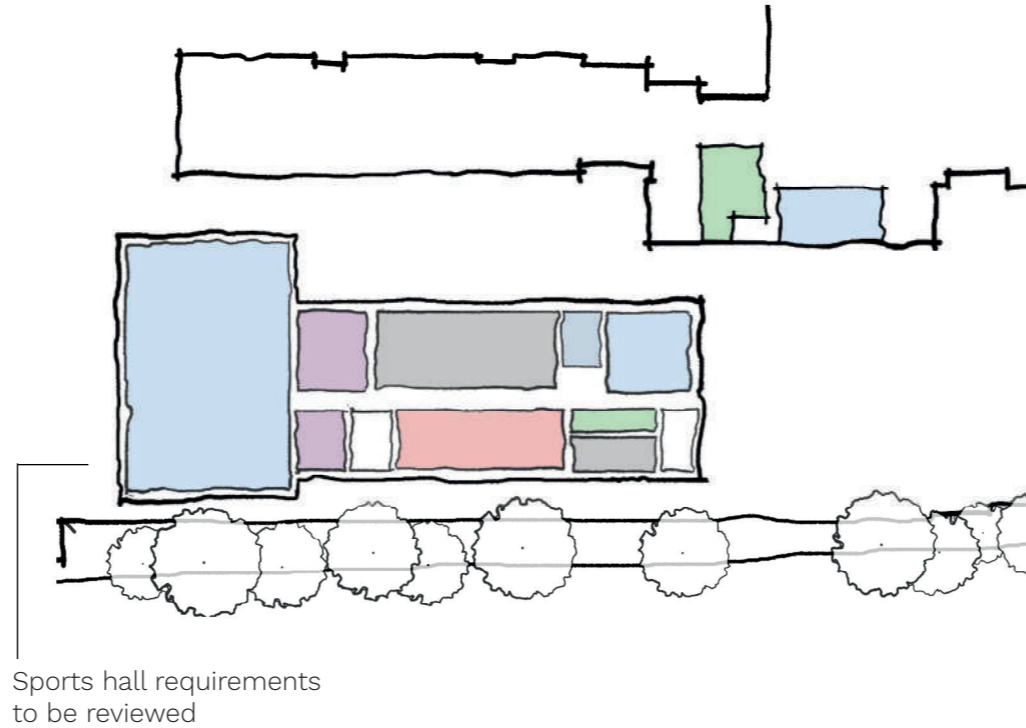
2-storey

Advantages

- Option for roof-lights to music practise rooms.
- The gross internal floor area (GIFA) is slightly smaller, as there is less vertical circulation.
- The shortest height option, means the bundling is less visible from the Roman Barracks ancient monument, and the conservation area.

Disadvantages

- Very close to the existing building.
- General teaching rooms are split over 2 floors.
- The larger footprint on the confined site leaves less external spaces.
- The exact site constraints are unknown at this stage, due to lack of detailed surveys, including an anticipated root protection zone for the adjacent tree lines.
- If the sports hall rotates to create a linear building, it is too long for the plot without major impact on either the sports pitch area, or the car parking and masking the existing building's new entrance.



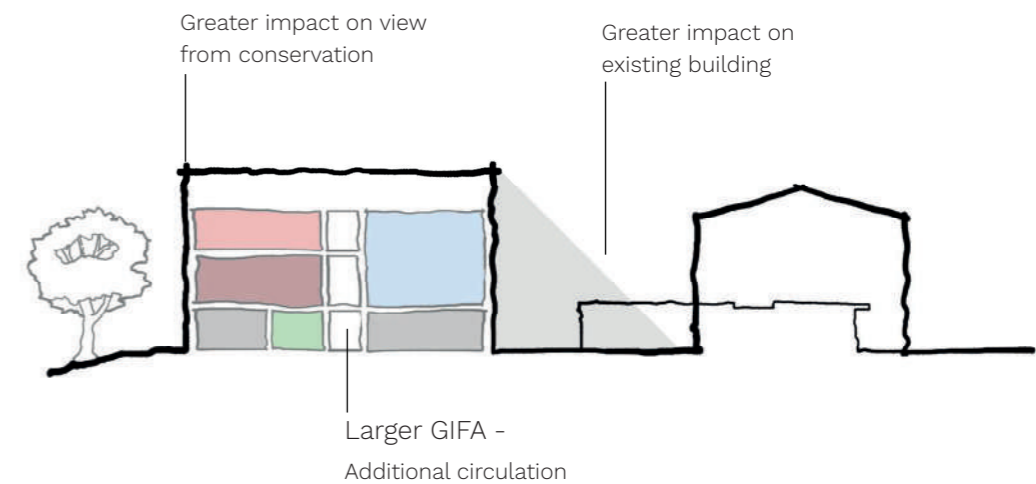
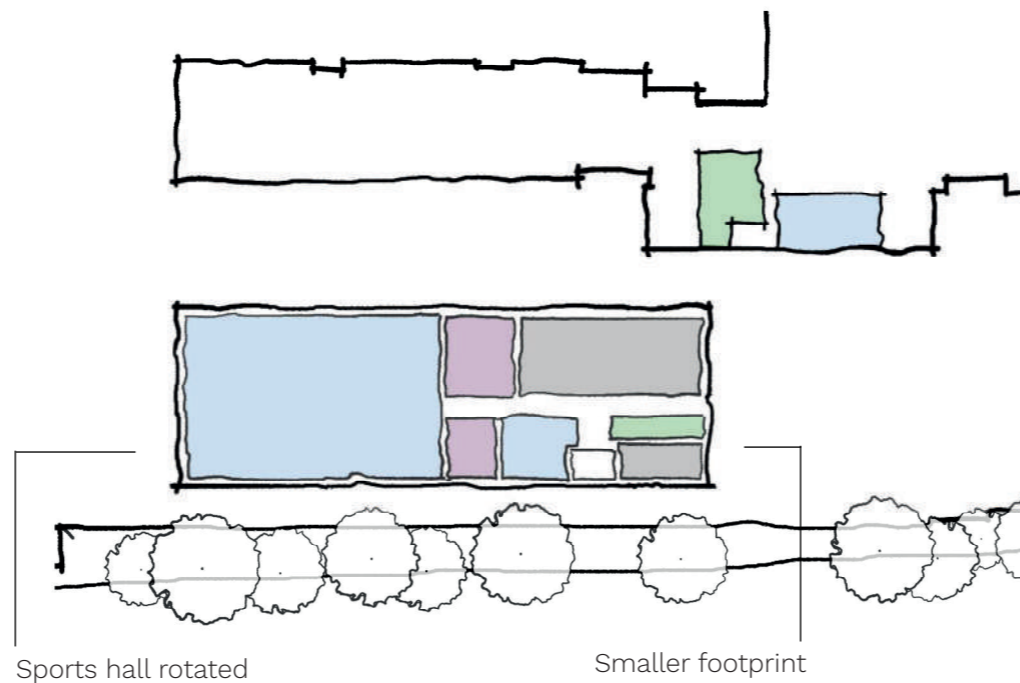
3-storey

Advantages

- Smaller footprint.
- Upper floor can be locked during OoH use.
- All general teaching rooms are clustered together.
- The sports hall element can be rotated either way, and still fit within the site constraints identified at the time.

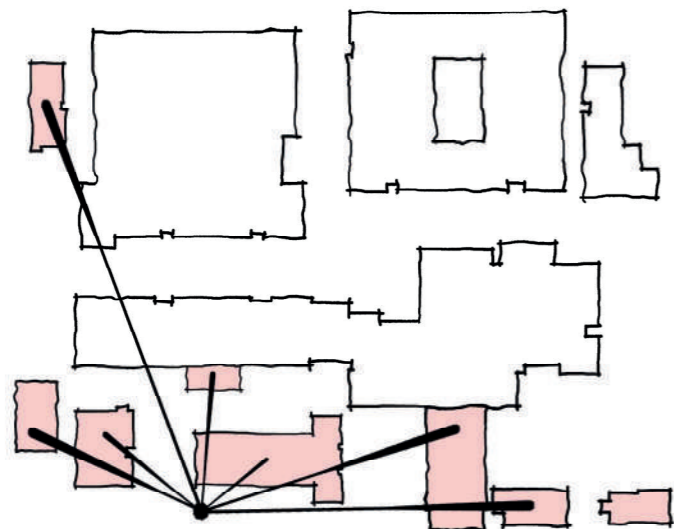
Disadvantages

- GIFA is larger due to additional vertical circulation.
- No opportunity for roof-lights to music practise rooms.
- The building is the tallest option, and has the greatest impact on the view from the ancient monuments and conservation area.

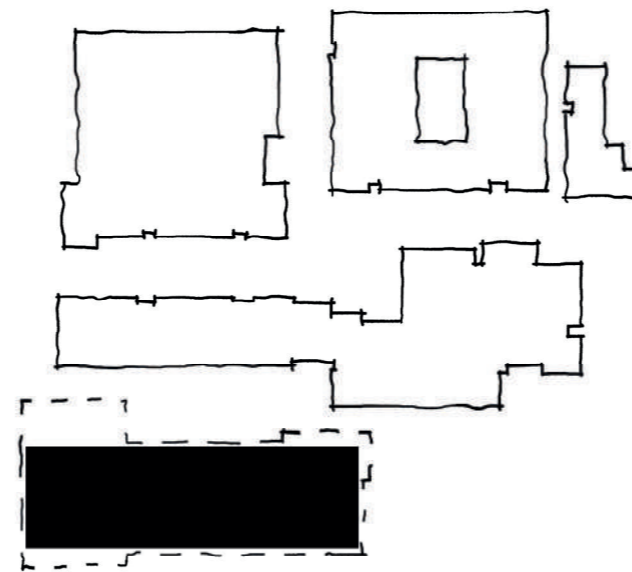
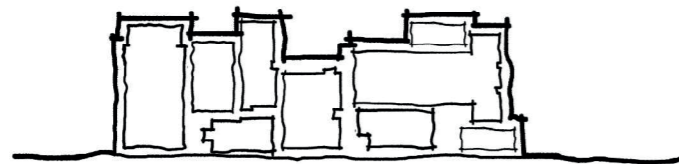


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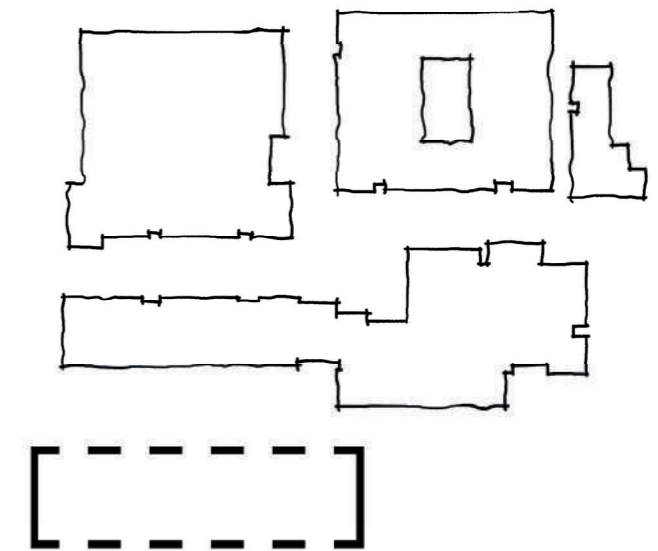
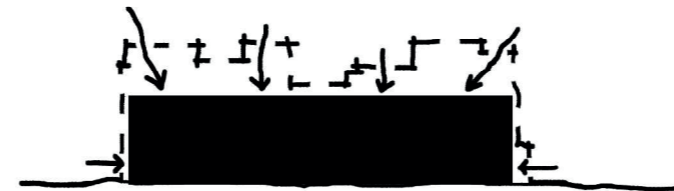
Design Proposal



ORDER

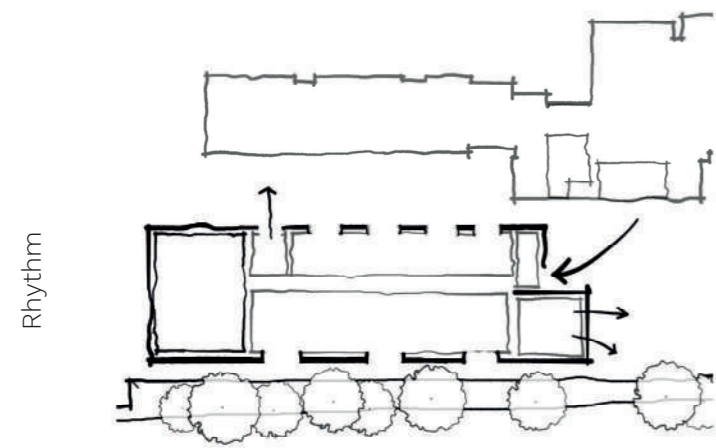
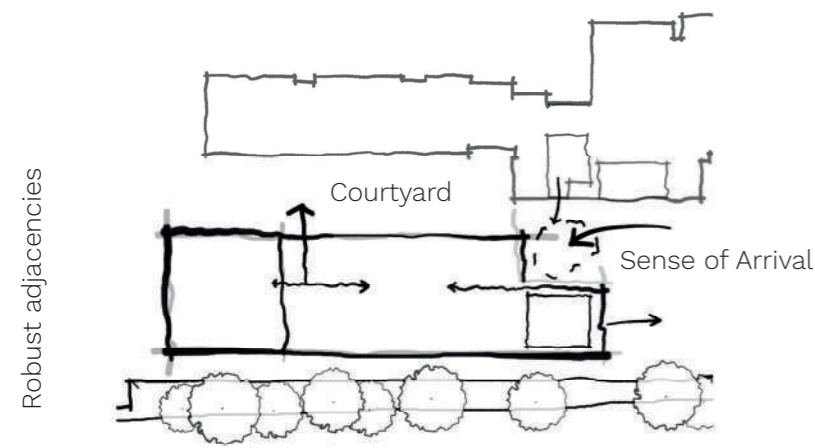
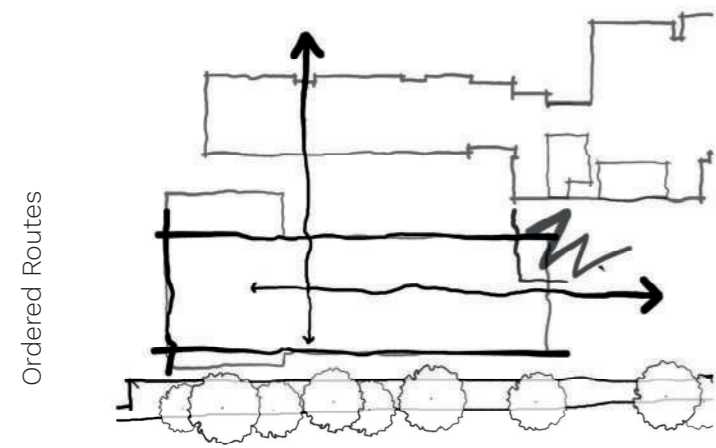


ROBUST

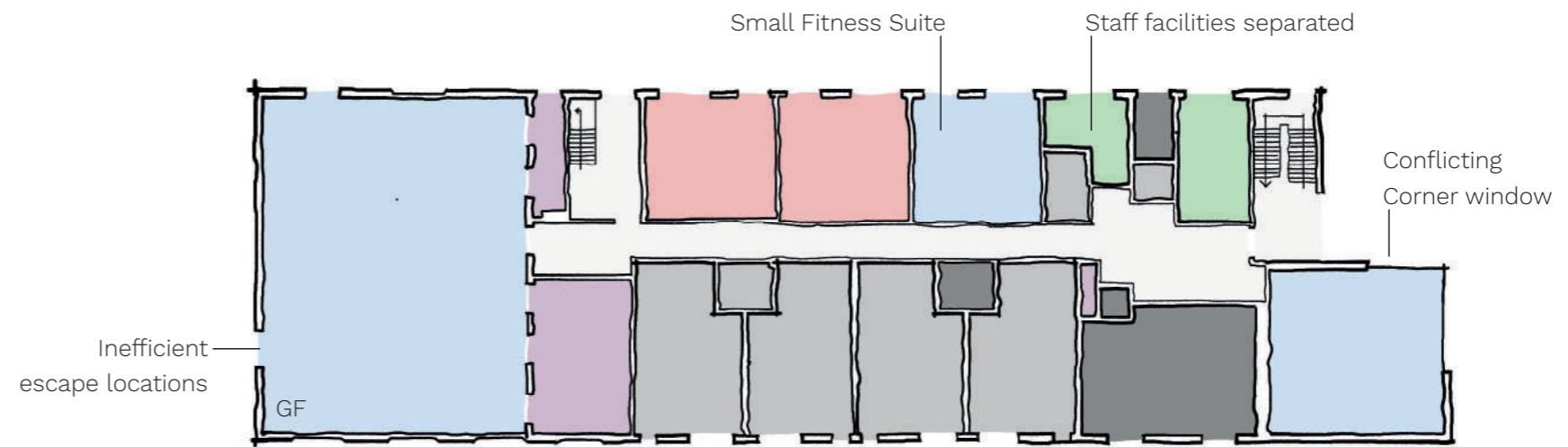


RHYTHM

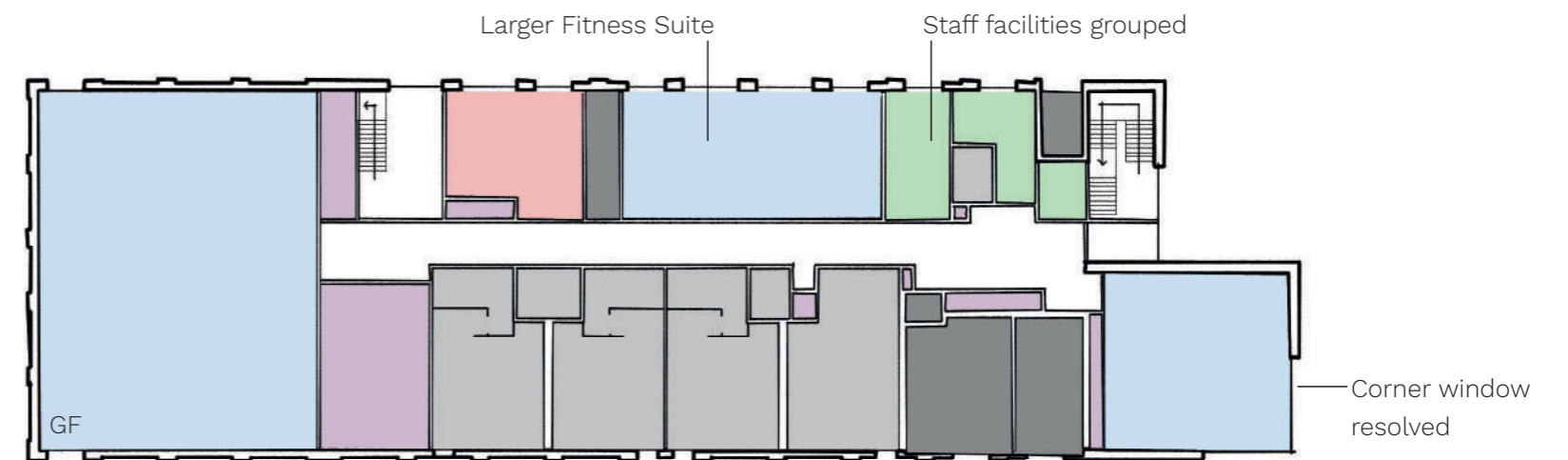




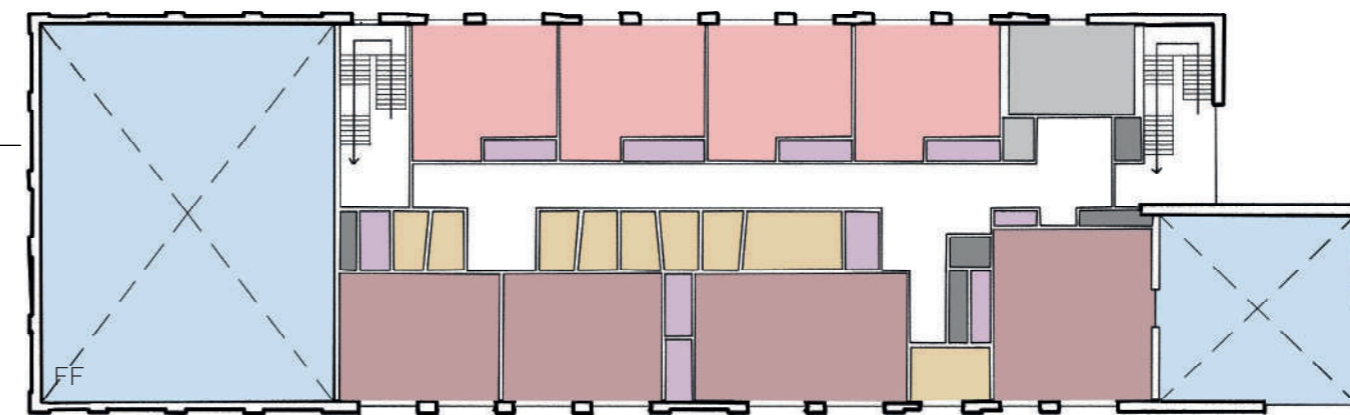
Development Sketches



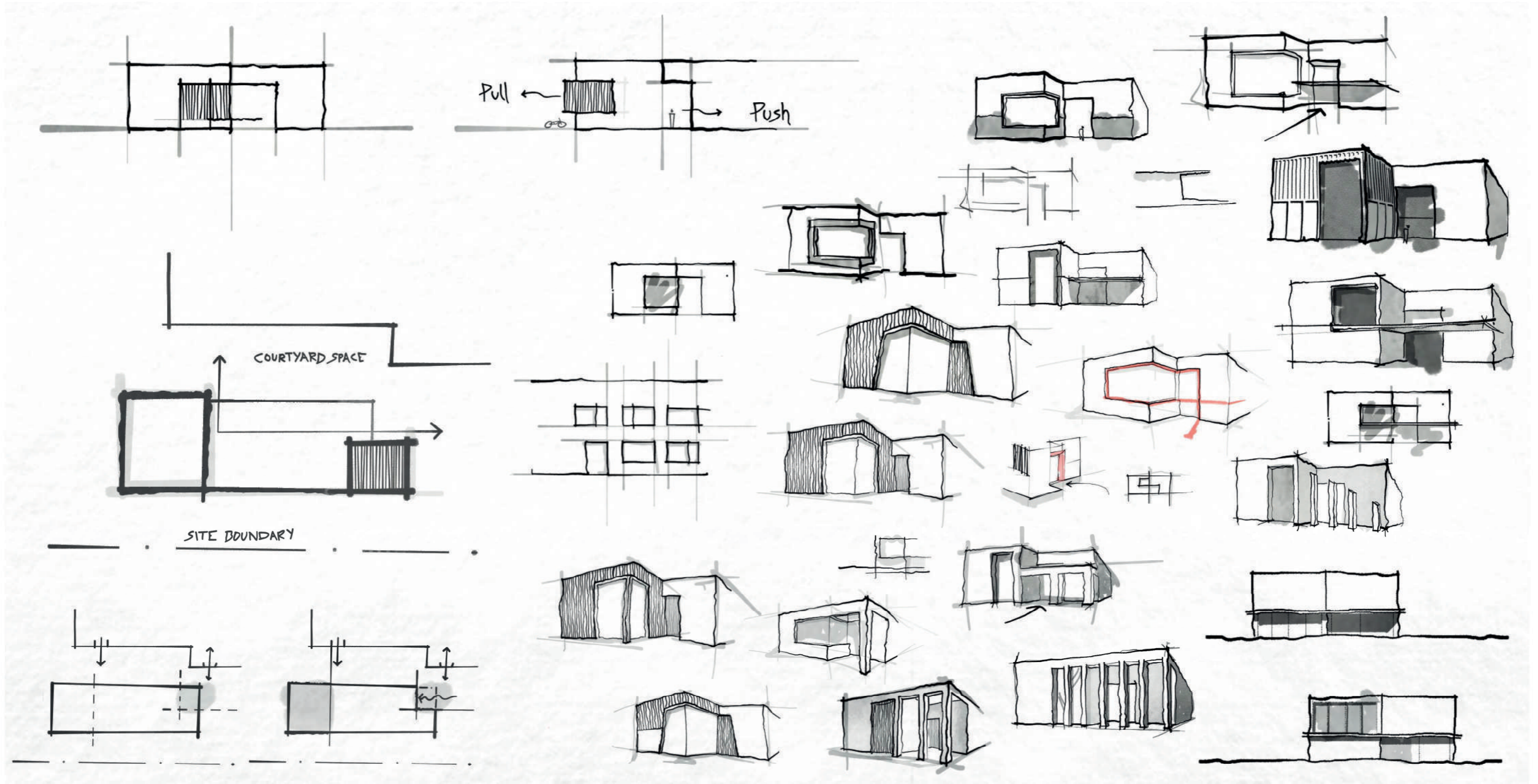
Stage 2



Consistent Rhythm



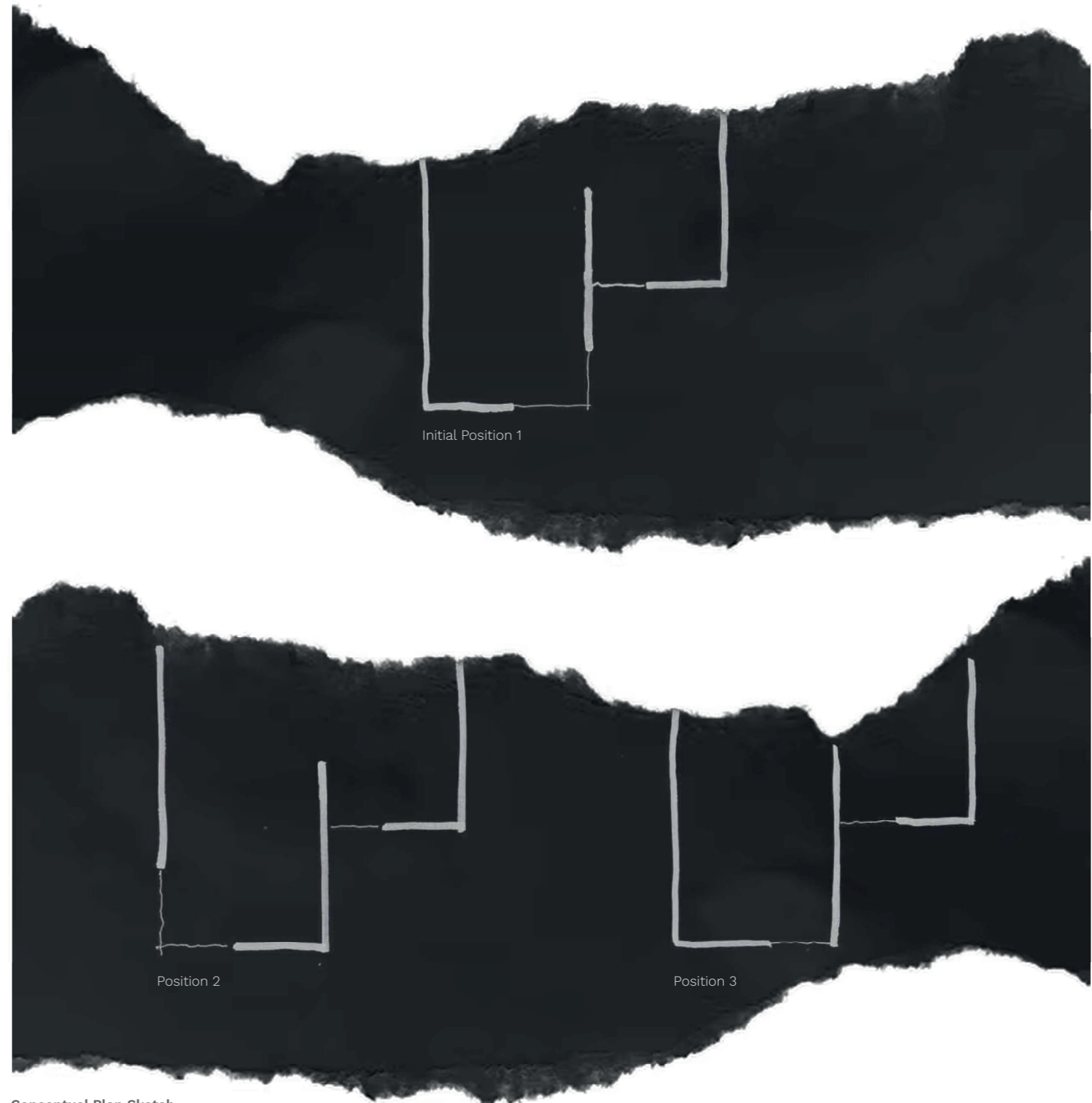
Stage 3



Creating Balance

The initial position of the front facade corner window clashed with the main entrance and canopy.

To create visual balance, the corner window has been relocated to position 2. This allows the activity studio to maintain its need for strong daylighting, provides a better view for the students approaching site from the bus drop off and aligns with the building's rhythm.



Conceptual Plan Sketch

Ground Floor

The ground floor houses the main sports facilities, and staff areas.

The double height sports hall and studio act as ‘bookends’ to the smaller spaces between.

A fitness suite/weights room, and 1 general classrooms face the courtyard, while a strip of built in storage and ventilation stacks above sit between them and the corridor.

For further information on ventilation, refer to the appendix: McCann and Partners, 6868-MCP-V1-ZZ-RP-ME-2015 Stage 2 Report - Section 7 Ventilation Strategy

Changing rooms, plant, and the larger sports hall storage are housed on the wider side, facing the off-site pitches.

There are 4 main changing rooms, which can be allocated to individual classes, teams, age groups, or designated as required. Alongside these are a hygiene room, which is required in all schools, but doubles as a large assisted change or ‘changing places’ for school or community use. A second smaller accessible change/shower room is located near the entrance. These accessible rooms double as staff / referee / coach changing, separate from pupils or community teams for safeguarding.

The first aid room with en-suite accessible WC is suitable as a school ‘sick bay / nurse base’ but is also large enough for stretcher/trolley use for school and sports emergencies.

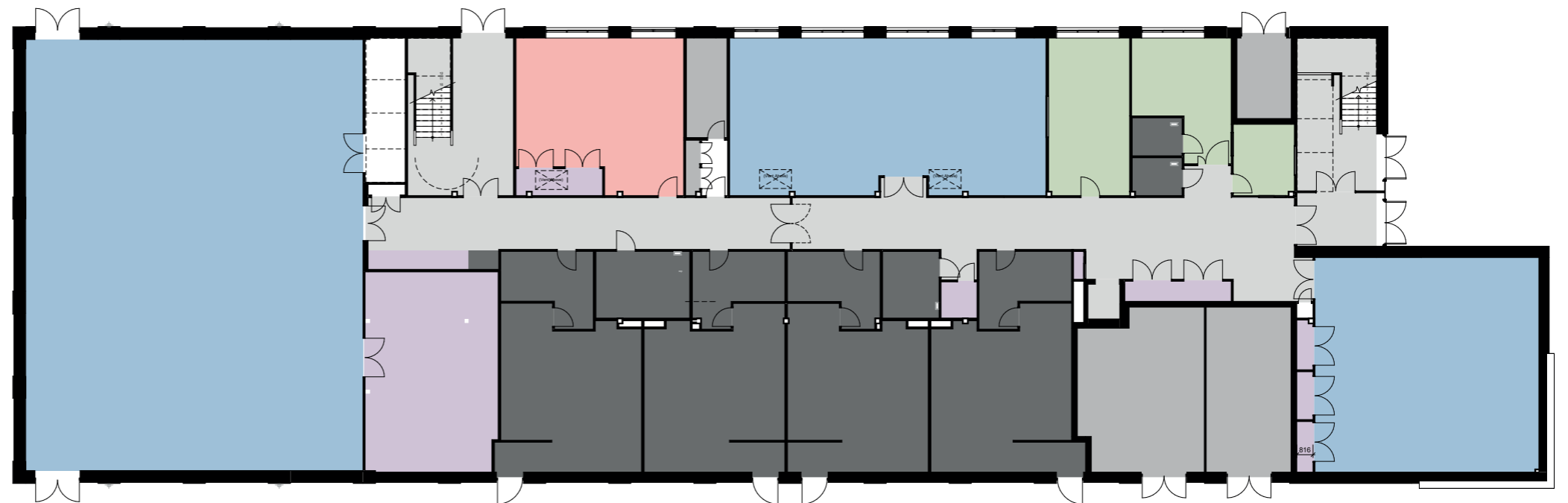
Access Points

The eastern entrance (far right of plan), forms part of the ‘secure line’ across the site, so is anticipated to be closed to pupils during the school day, but may be opened at the start and end of day for pupil and staff access. The staircase would be in use throughout the day.

The staff base is located next to this entrance, allowing it to double up as a reception area outside of school hours.

During lesson times, the northern staircase and entrance (top left of plan) becomes the main pupil access and egress, to the rest of the school via the newly formed courtyard.

Each of the changing rooms has an external door, allowing access directly to the pitches on site, and also through the existing pedestrian gate onto the public pitches if required.



*Note: following initial cost analysis, the brief was amended to reduce the size of the sports hall to a 2-court size, with potential for a future expansion.



First Floor

The first floor houses general classrooms, and a suite of specialist performing arts spaces.

As with the ground floor classrooms, a strip of storage and ventilation sits between them and the corridor.

The drama studio overlooks the top of the activity studio, offering opportunity to use this as a control room for larger performances.

The recording room sits between the larger music and drama rooms, allowing it to be used for both subject to acoustics, and offering good supervision.

The music classrooms are all shown as having 1 practise room accessed directly off each, with the rest of the practise spaces accessed via the corridor for flexibility. The exact arrangements can be amended at a later stage, following consultation with school and department staff. Multiple small rooms can also be combined if this suits the school's teaching methods.

Partitions

Walls between performing arts rooms are slightly thicker than other partitions, to allow for their higher acoustic requirements.

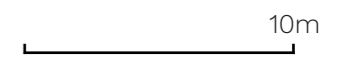
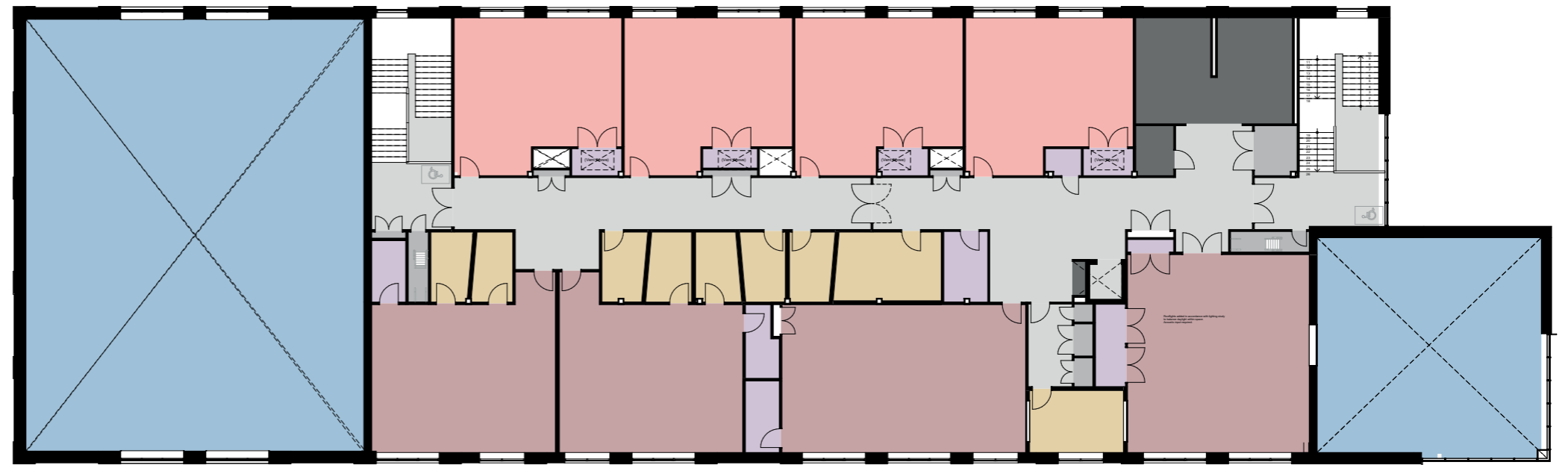
The irregular wall orientation between the practise rooms increases acoustic performance, as non-parallel walls help reduce reverberation.

Walls and partitions between the sports hall, studios, and stair also have a higher thickness to make allowance for structure, ensuring walls are flush on both sides with no protruding columns.

Additional consideration will need to be given to the wall between the sports hall and music room to account for impact sound.

Toilets

A block of pupil toilets, alongside an accessible / staff toilet, and drinking fountains, are also housed on the first floor as this is where the majority of pupils would be. Refer to WC layout options "" on page 89 for more details.



Access

The roof is designed as a flat roof for lowest overall height, and to reflect the majority of buildings on the site. A parapet maximises safety for any maintenance work, reducing the need for fall protection systems on certain maintenance jobs.

Two roof hatch, opposite ends of the proposal, provide primary access and secondary means of escape in emergency.

As an alternative option, the northeast staircase can continue up to the roof, with a secure door at first floor to prevent unauthorised access.

An area has been reserved for roof mounted plant, if required. This is located so it doesn't sit above the drama or activity studios, which have wider clear spans and therefore would need deeper beams to support the plant's additional weight.

Carbon Reduction

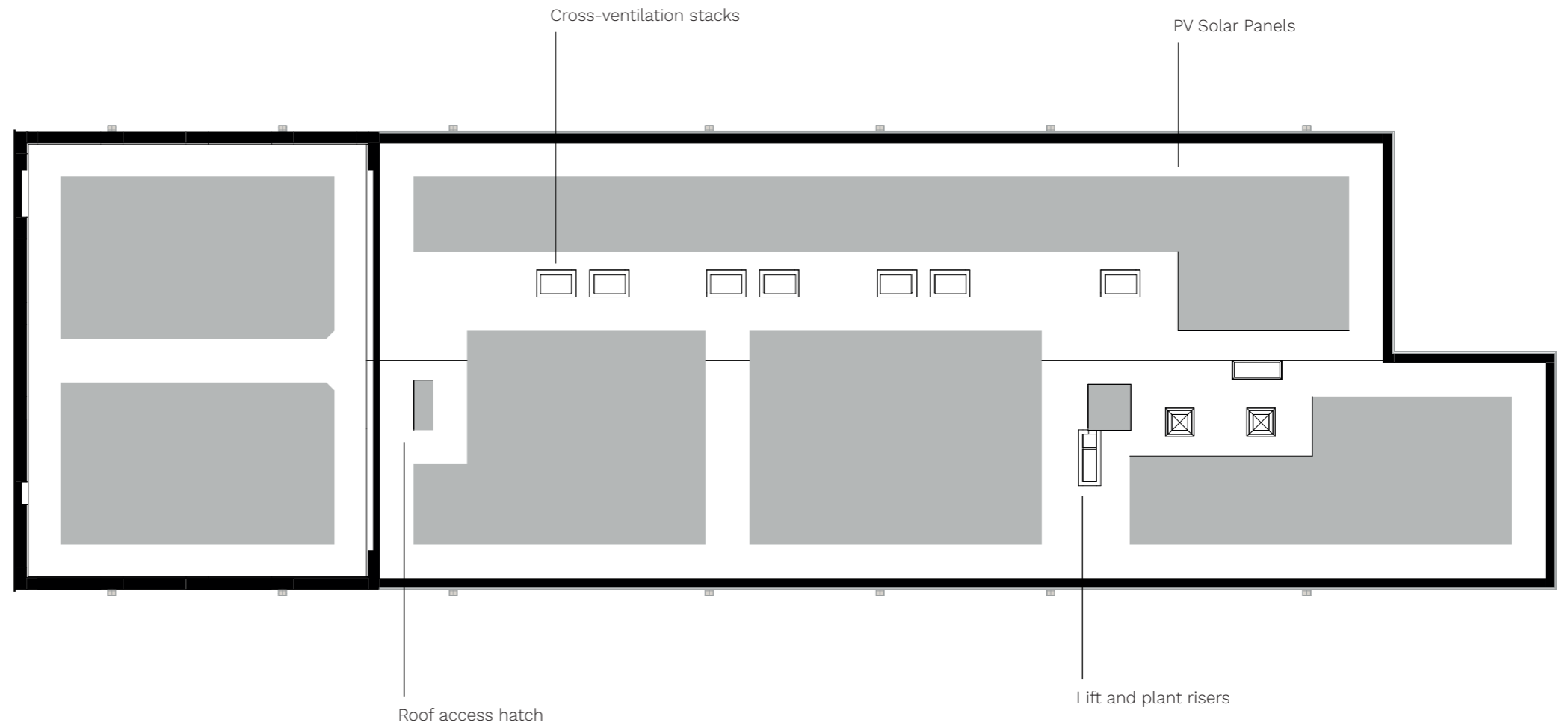
The natural cross-ventilation stacks from the classrooms below, terminate above the roof.

Roof lights have also been included, to provide natural light to the inner practise rooms at first floor.

A green roof

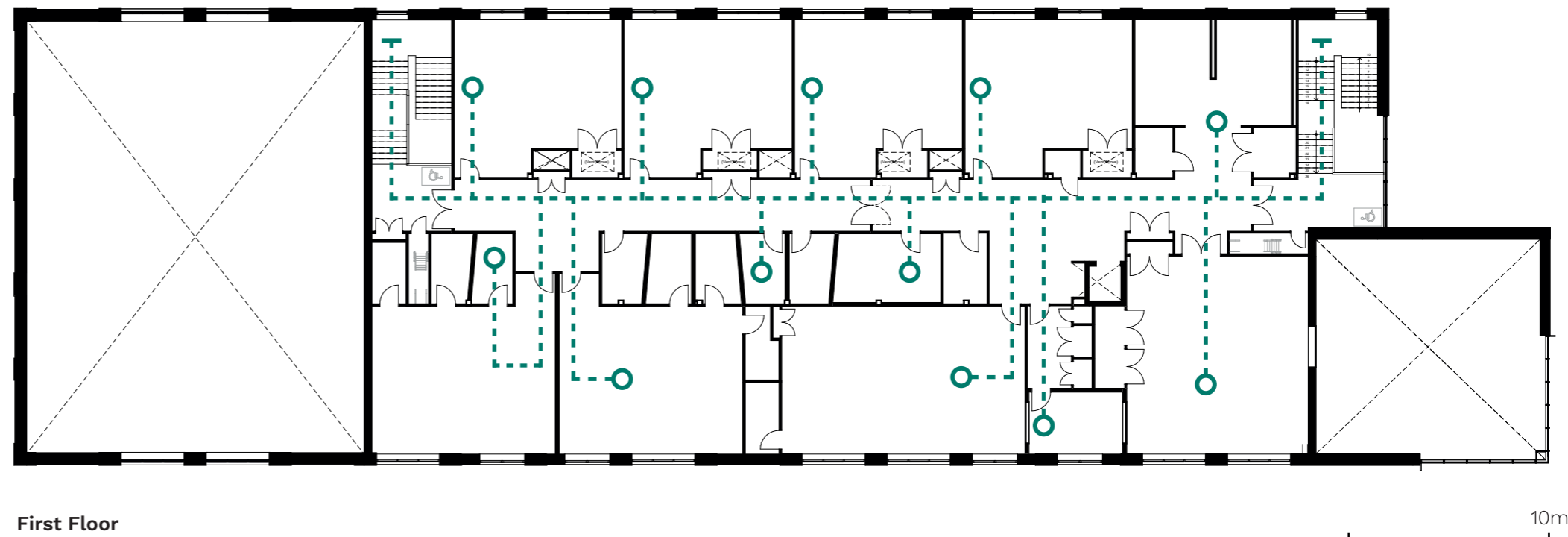
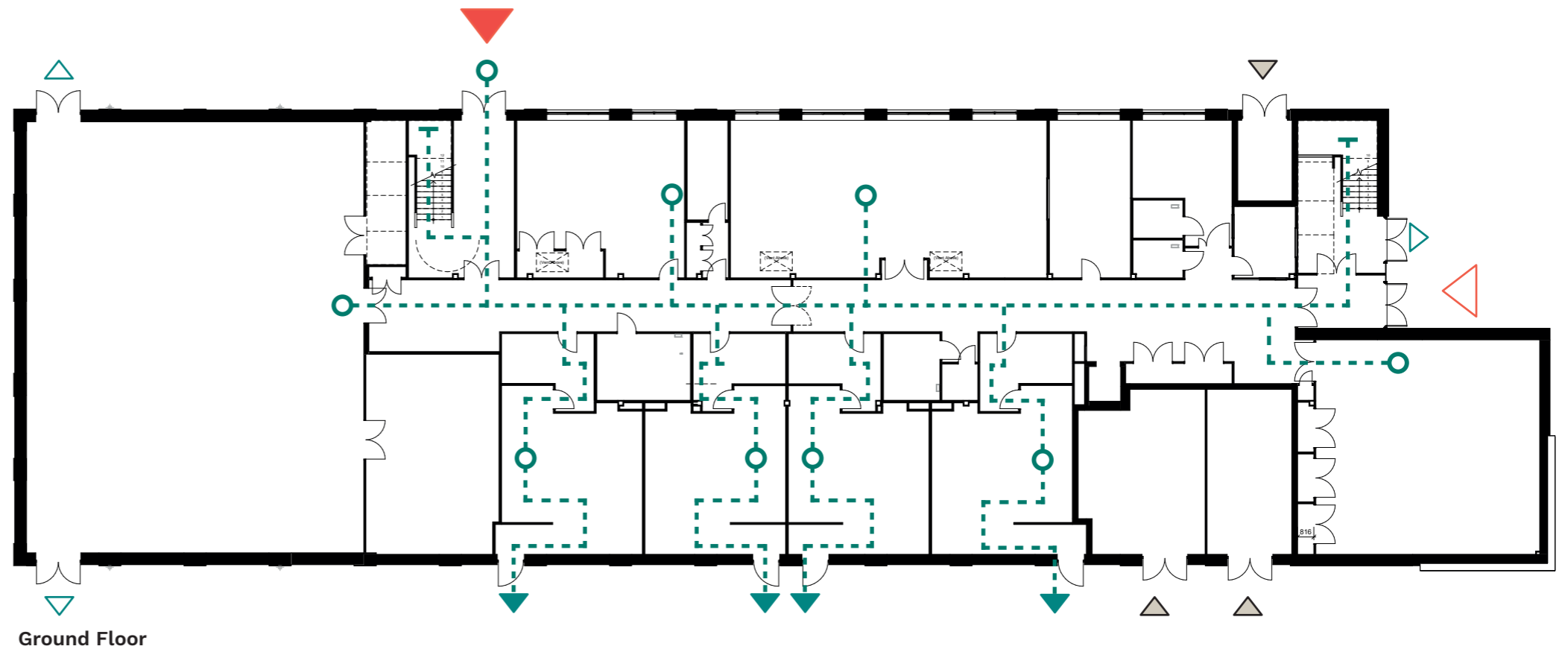
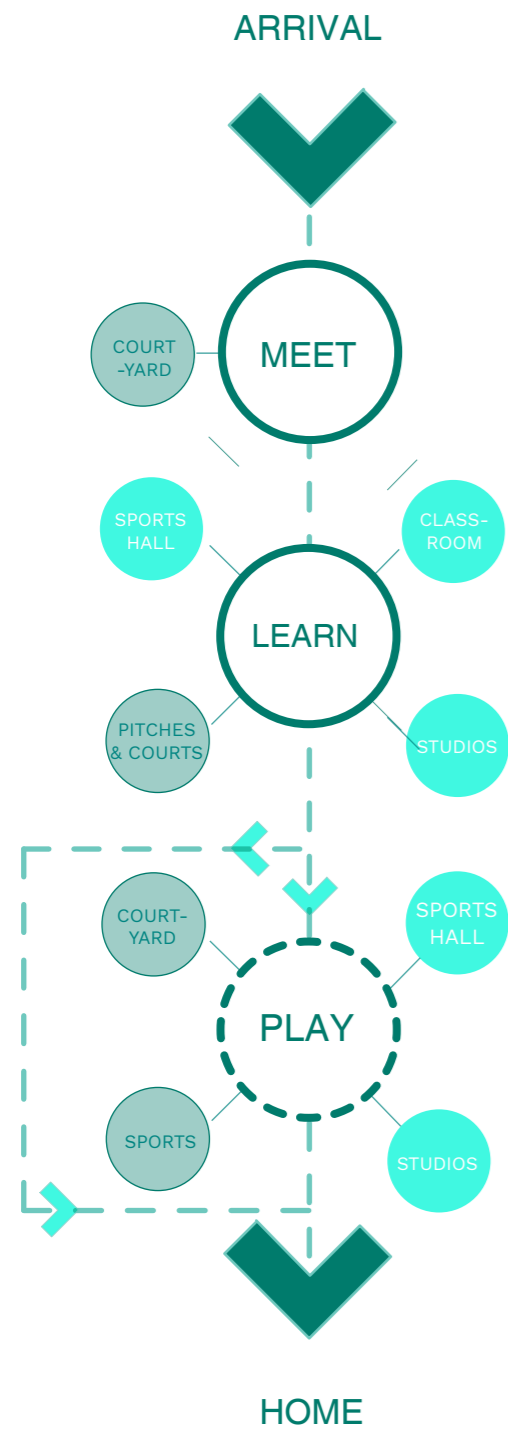
Indicative solar photovoltaic panels have also been shown, although exact requirements and configuration will be developed at later stages.

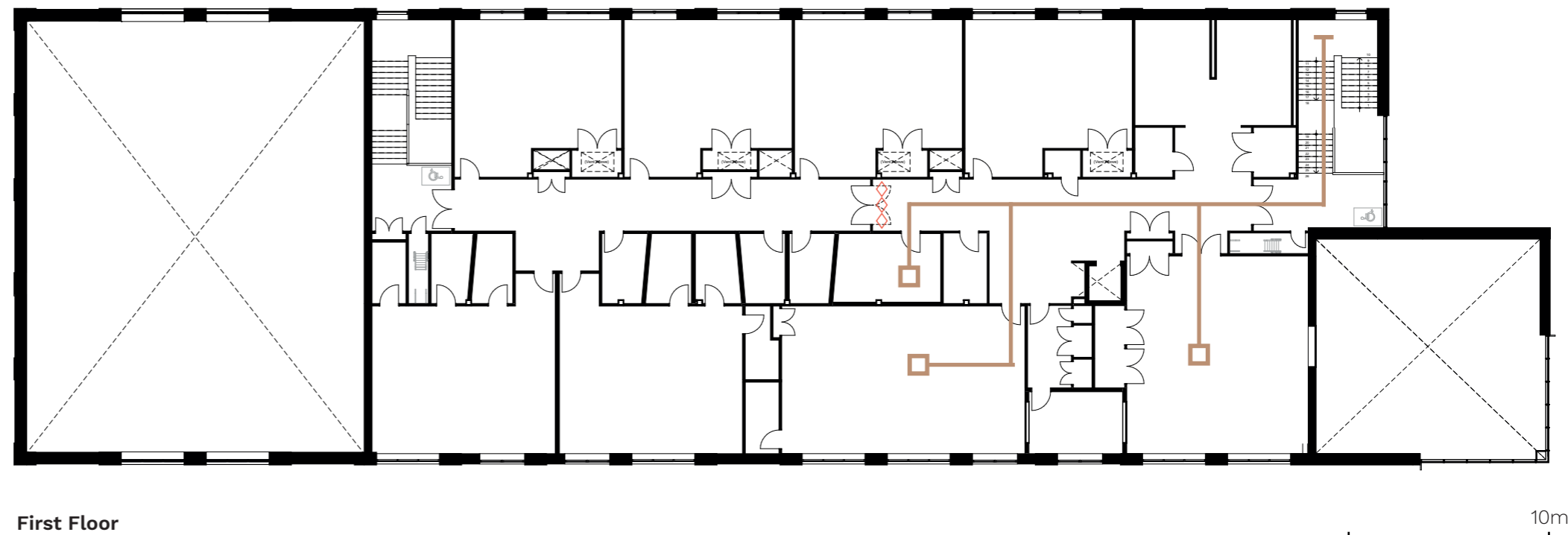
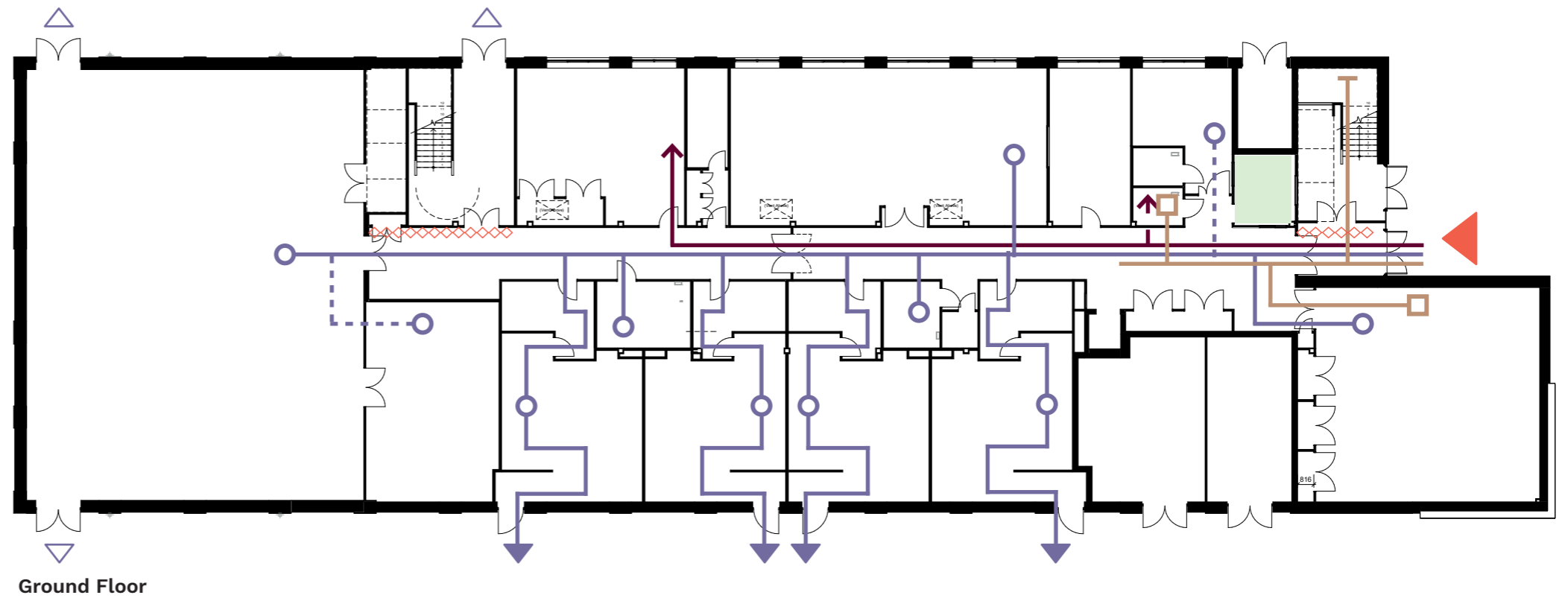
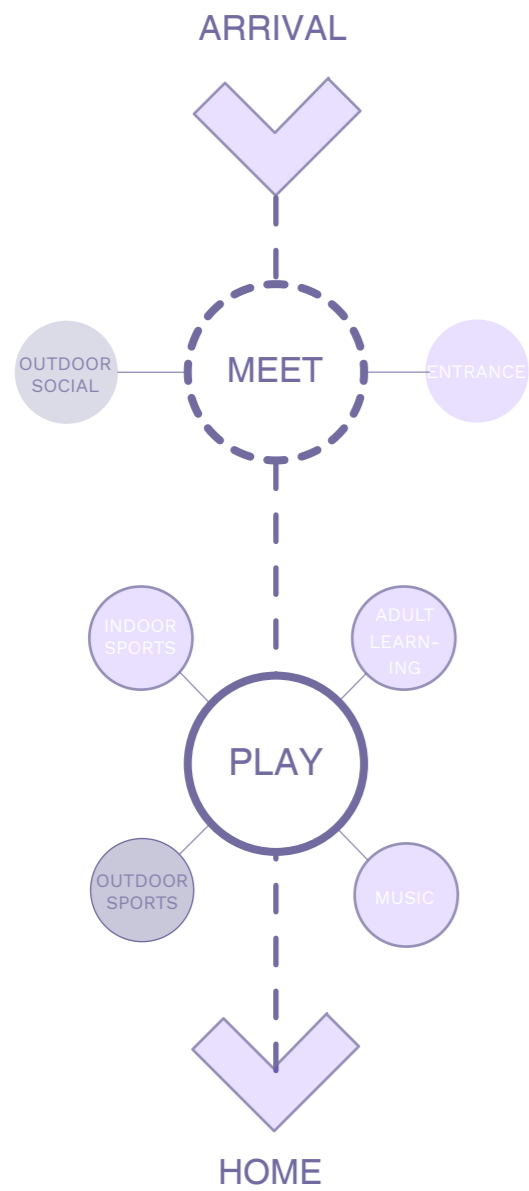
For further information, refer to McCann and Partners' Caerleon Comprehensive School Stage 3 Report 6868-MCP-V1-ZZ-RP-ME-2015 section 4.03 Photovoltaics



10m



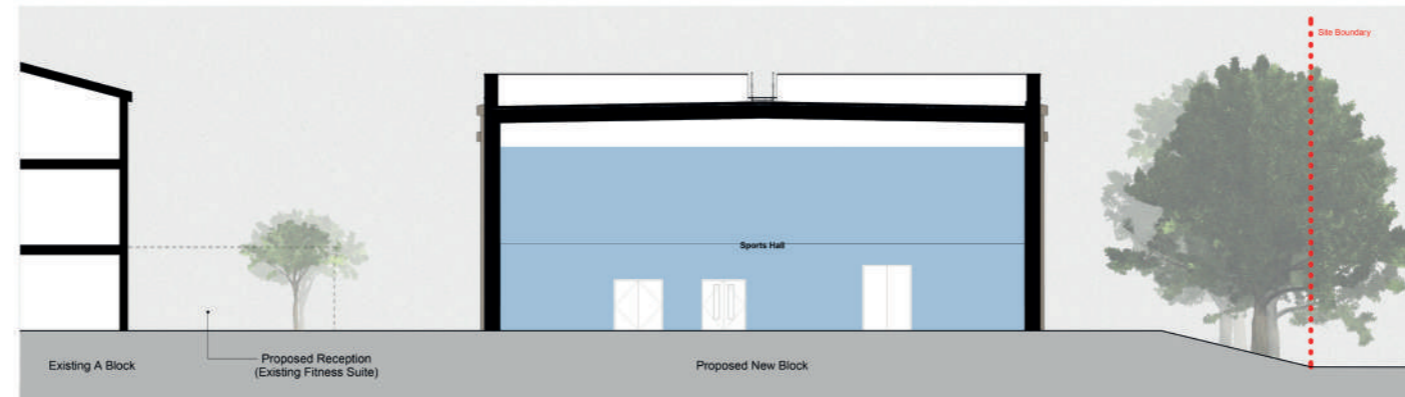
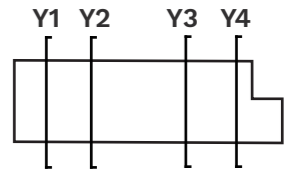




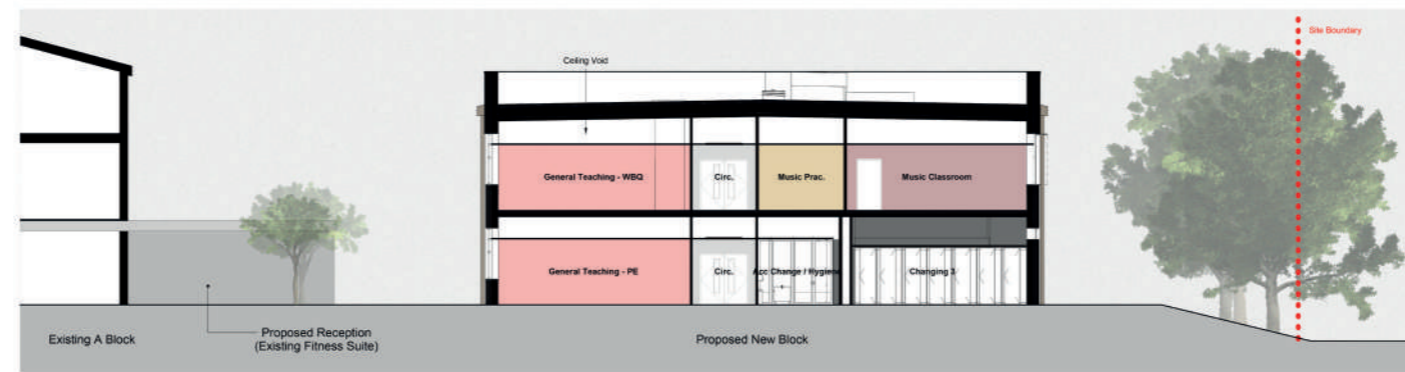
10m

- Community Entrance
- Possible Lock-off Points
- External sports Exit
- Emergency Exit
- Plant Access
- Education Route
- Sport Route
- Arts Route

06 Design Proposal Sections



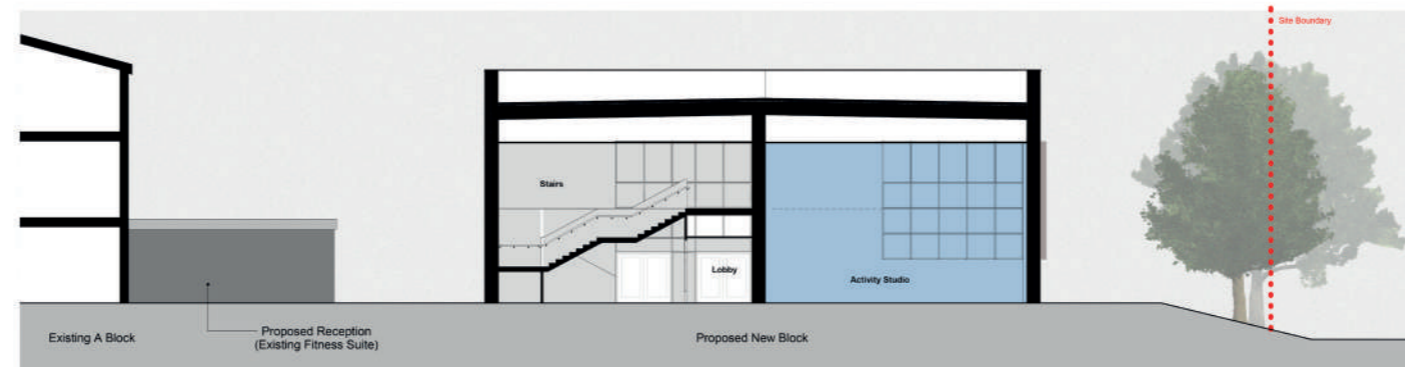
Section Y1 Coloured



Section Y2 Coloured

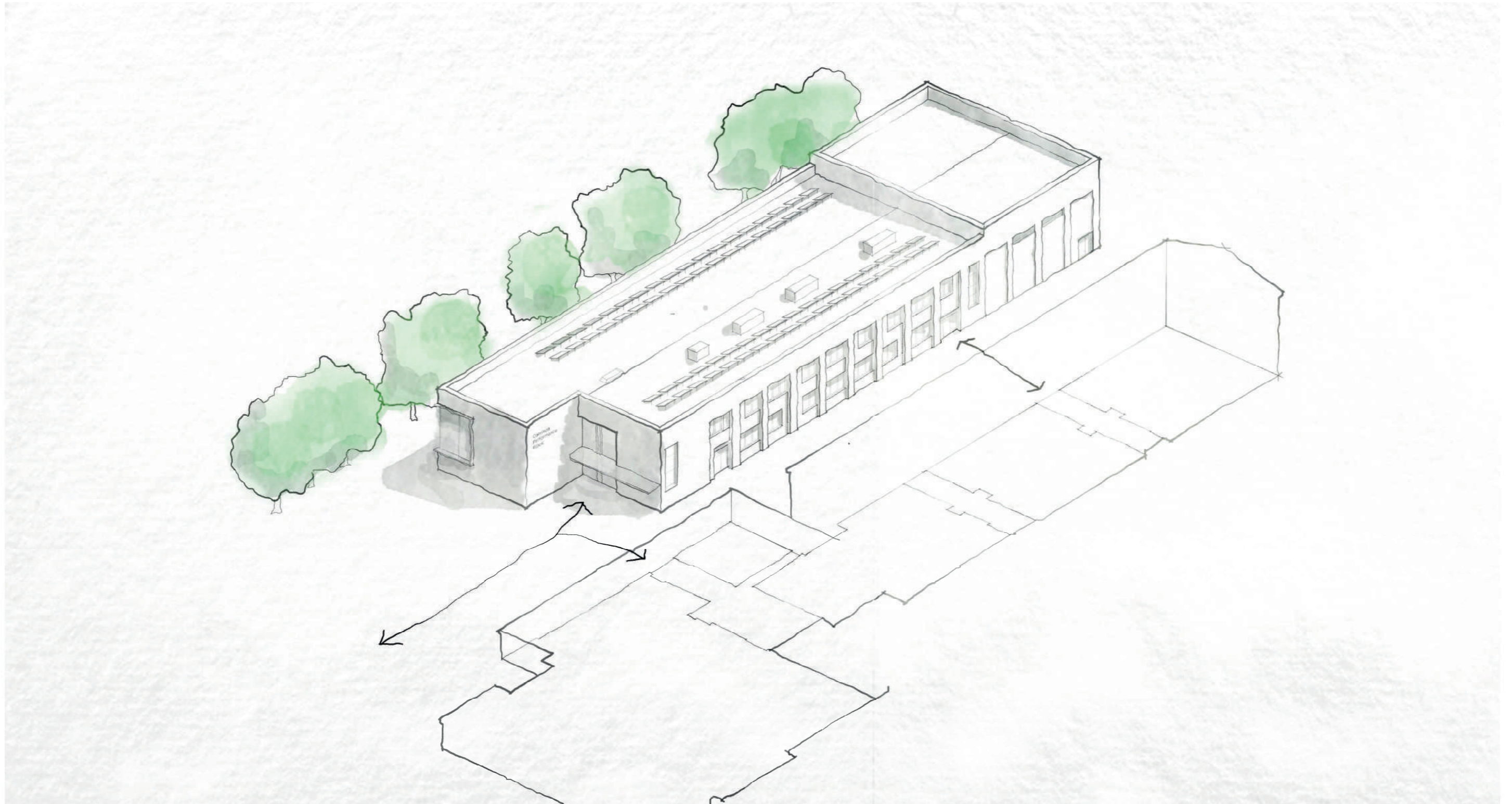


Section Y3 Coloured



Section Y4 Coloured





07

Facade and Materiality



External Materials

The design proposal features one primary volume, with large areas of repeating classroom windows allowing natural daylight and ventilation.

To prevent the facade looking arbitrary, the material chosen will need to provide a strong rhythm and consistency.

The design intention is to visually differentiate the entrance, activity studio from the remainder of the facade with large feature translucent and glazed wall. To ensure the proposal looks balanced, the material chosen will need to be versatile in multiple forms and orders.

Taking into account the programme, the material chosen will need to be suitable durable and robust to withstand a school environment.

Brick was chosen as the most suitable material choice for its versatility, durability and reflection within the surrounding context.

Brick

Main Facade Component

To link the new school block with the existing school infrastructure, brick was chosen as the main external material.

Brick is a versatile material that works well within educational settings as it is robust and durable. It also has low associated maintenance costs, therefore, could provide future cost savings, as the material is not susceptible to extreme damage from weathering.

Aesthetically brick works well in conjunction with contrasting materials.

The image below is from Ysgol Pen Rhos, HLM Architects



Charred Timber

Sports Hall Option

To visually differentiate the sports hall from the rest of the new block, contrasting external materials are to be investigated.

Timber is not commonly found as a facade material in the locality. However, it has been suggested that the Roman's used charred timber frequently to combat decay, weather and age, linking back to the Roman origins of Caerleon.

A few of the advantages of charred timber include: increased durability, improved weatherproofing, enhanced fire resistance, added strength and aesthetic appeal when compared to alternative timber solutions.

Alternatively a vertical curtain walling panelling system could be used in a similar arrangement. The decision is dependant on the desired aesthetic finish and material qualities.

The image below are sourced from: Dezeen - VVKH Architecten (<https://www.dezeen.com/2016/12/06/vvkh-architecten-villa-meijendel-the-hague-netherlands-charred-timber/>)



Stone

Sports Hall Option

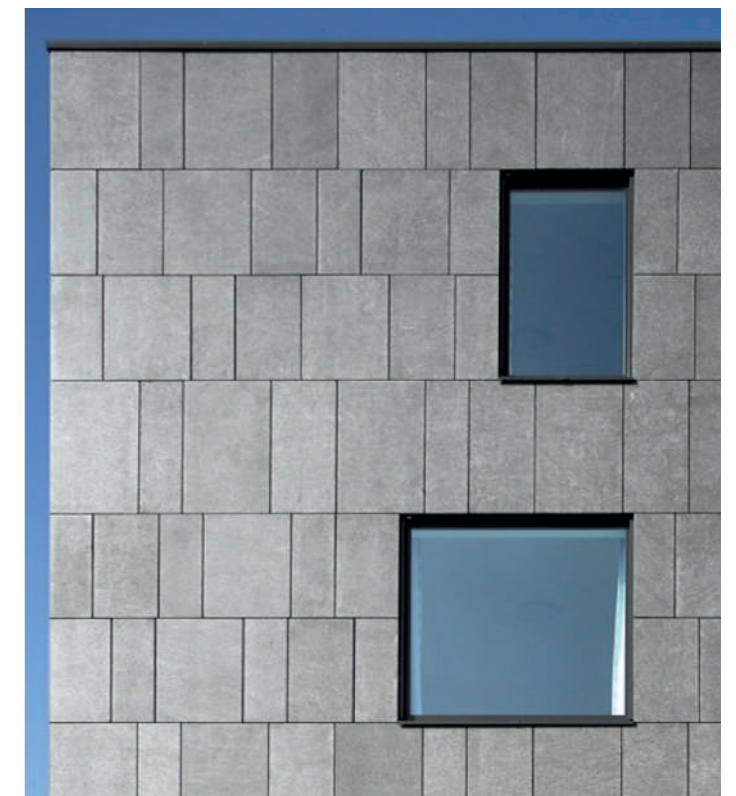
Similarly to charred timber, stone was suggested to visually differentiate the sports hall.

Unlike, charred timber stone has a strong presence within Caerleon and is even used briefly on the existing school site. The use of stone panels would link the history of Caerleon in a contemporary way. Stone is commonly used in conservation areas as it has a natural finish that complements and harmonises with its surroundings.

If a stone cladding system is used, panels can easily be interchanged for coloured ones, increasing the facade possibilities and avoiding difficult and expensive connecting details. The flexibility of form also promotes the use of grid or random pattern design.

A disadvantage is the comparative increased cost of the material.

The image below are sourced from: Architizer - Carehotel Middelpunt (<https://architizer.com/projects/carehotel-middelpunt-3/>)



	BRICK	TIMBER	STONE
ORDER	✓	✓	
ROBUST	✓		✓
RHYTHM	✓	✓	

07 Facade and Materiality

Complimentary elements

Translucent Cladding

Activity Studio Option

Translucent cladding adds a prominent visual feature to the facade drawing attention to the activity studio and building entrance, creating a welcoming gesture. It also provides diffused light for internal environments which is good for activity spaces.

The colours and tones can be specifically designed to match the suggested colour palette.

The image below are sourced from:
Steven Holl Architects, Nelson-Atkins Museum of Art (<https://www.architonic.com/en/story/sascha-peters-translucent-insulated-glass/7000122>)

Curtain Walling or Large Glazing

Classroom Option

The use of curtain walling or large glazing elements splits up the building mass and has the potential to make the building more visually appealing.

As previously mentioned, a lot of the existing school buildings utilise a combination of curtain walling and glazing. The elevation facing the courtyard and existing school infrastructure could benefit from a strategy that utilises curtain walling to provide pops of colour, encouraging visual links between the new and the existing.

The image below are sourced from:
Barjane - Aeroliansparis Logistics Park (<https://www.barjane.com/aerolians-paris-logistics-park/?lang=en>)

Solar Shading

Music Rooms

To split the horizontal mass of the new building, solar shading which projects slightly from the facade could be utilised to create a more dynamic and engaging elevation.

The south-east elevation borders the public fields. There is merit to explore a more engaging facade on the fourth elevation as this is one of the key public views. The addition of solar shading may also be a more sustainable option that reduces future operational costs and the need for artificial lighting.

The images below are sourced from:
Baunetz Wissen - Grundschule in Neubiberg (<https://www.baunetzwissen.de/sonnenschutz/objekte/bildung---forschung/grundschule-in-neubiberg-781197?img=6&layout=galerie>)
Buildcorp Commercial - Dandenong High School (<http://www.buildcorpcommercial.com.au/blog/project/dandenong-education-precinct/>)



07 Facade and Materiality

Stage 2 - Material Combinations

Early stage material investigations showed how the proposal could be visually broken down into fragments.

Full brick was selected as preferred for its coherency and practicality in design.



Full Timber



Split Stone



Complex cladding to brick detail



Incoherent split



Split Timber



Box Shading

Low level timber lacks robustness



Vertical vs horizontal order clash



Vertical Shading



Full control of order and rhythm



Robust material suitable for school site

Full Brick

Visual Interest

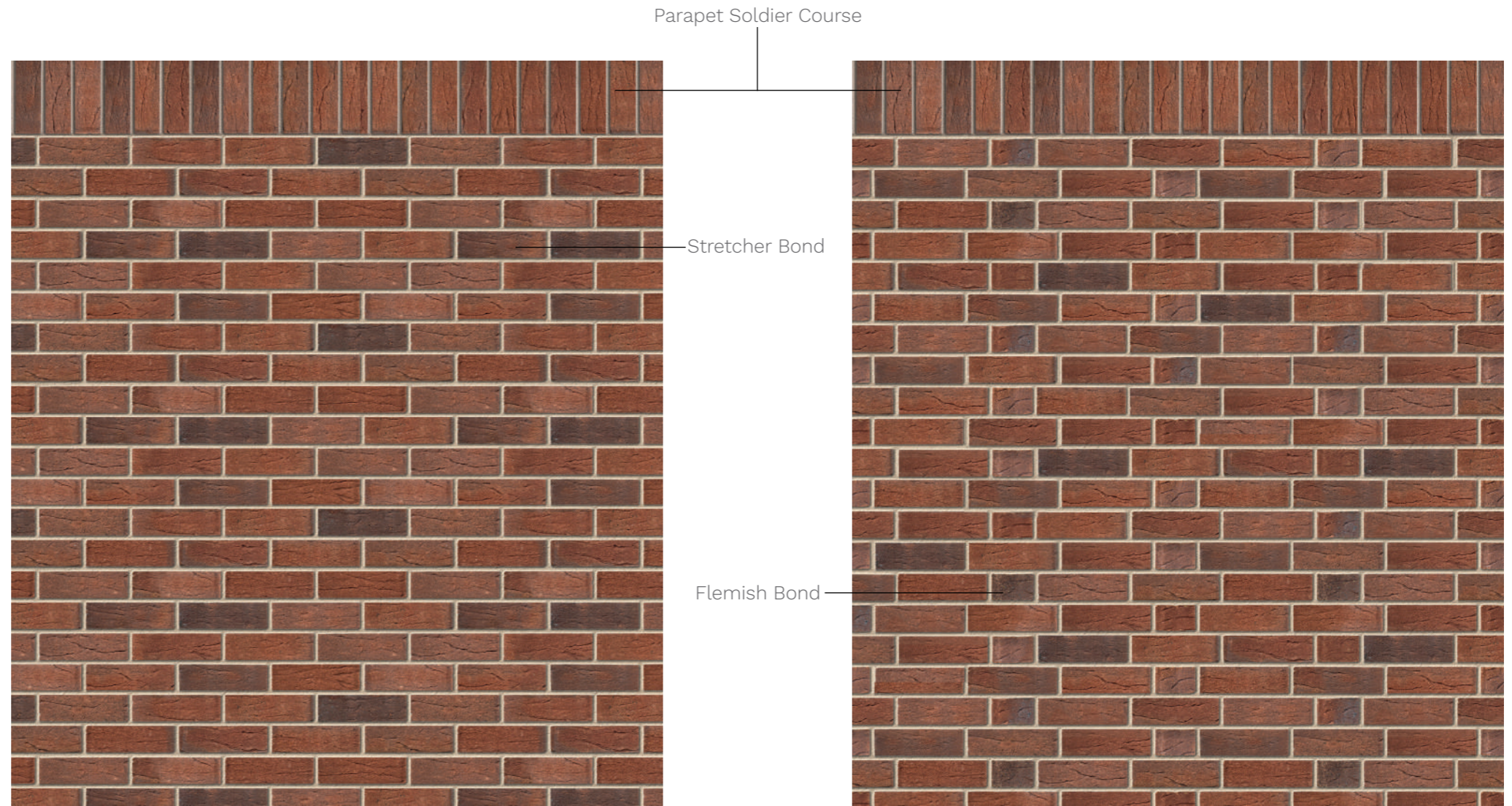
After analysis of material combinations, a full brick option has been developed further as the preferred option.

Whilst initially chosen as the most suitable material choice for its versatility, durability and reflection within the surrounding context, brick also provides greater cost effectiveness, efficiency in detailing and it meets all 3 of the driving principles.

(Order, Robust, Rhythm)

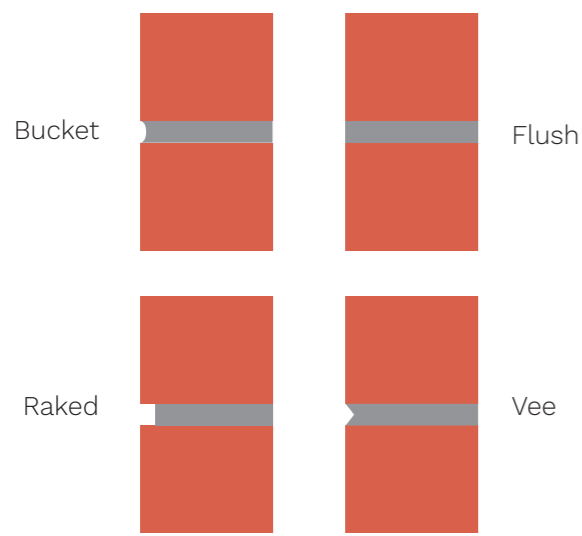
Options to create visual interest in the facade include experimenting with the brick colour or texture, using different brick bond types or joints and adding soldier courses at lintel or parapet height.

The following precedent studies provide a catalogue of the possibilities for the application of brick in similar school buildings.



Brunswick Antique Red a0635A - Stretch Bond

Brunswick Antique Red a0635A - Flemish Bond



Mortar Joint Types



Townhouse Blend A2623A



Bexhill Purple Multi a4033a Flemish



New Chailey Stock A4501A

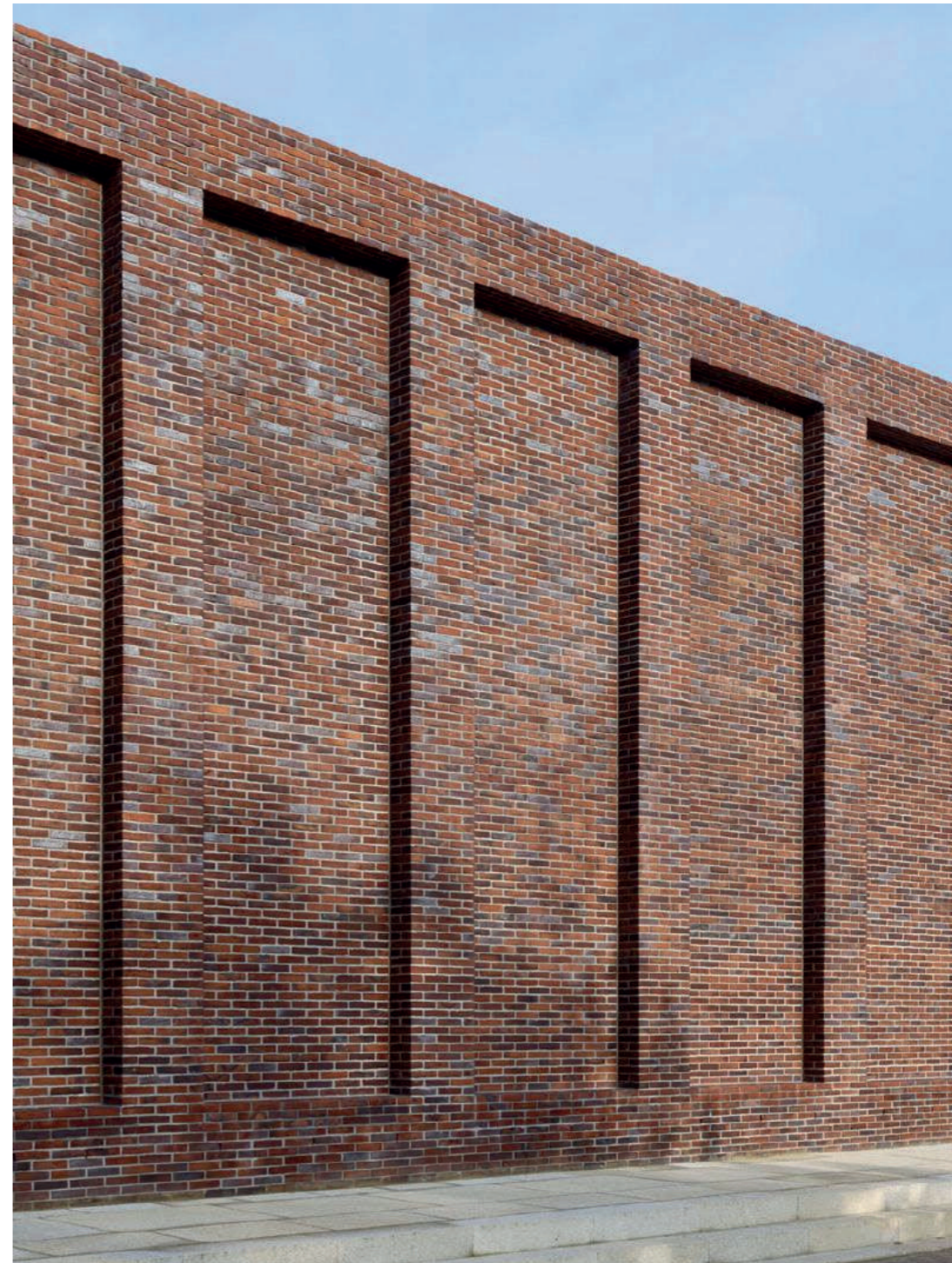
07 Facade and Materiality
Early Facade Activation Precedents



Window reveals and integrated shading surround
Montreal Duplex
Naturehumaine



Brick details



Brick with consistent Rhythm
Jacobs University Sports Centre
Dietrich Architects + Ingenieure, Max Dudler

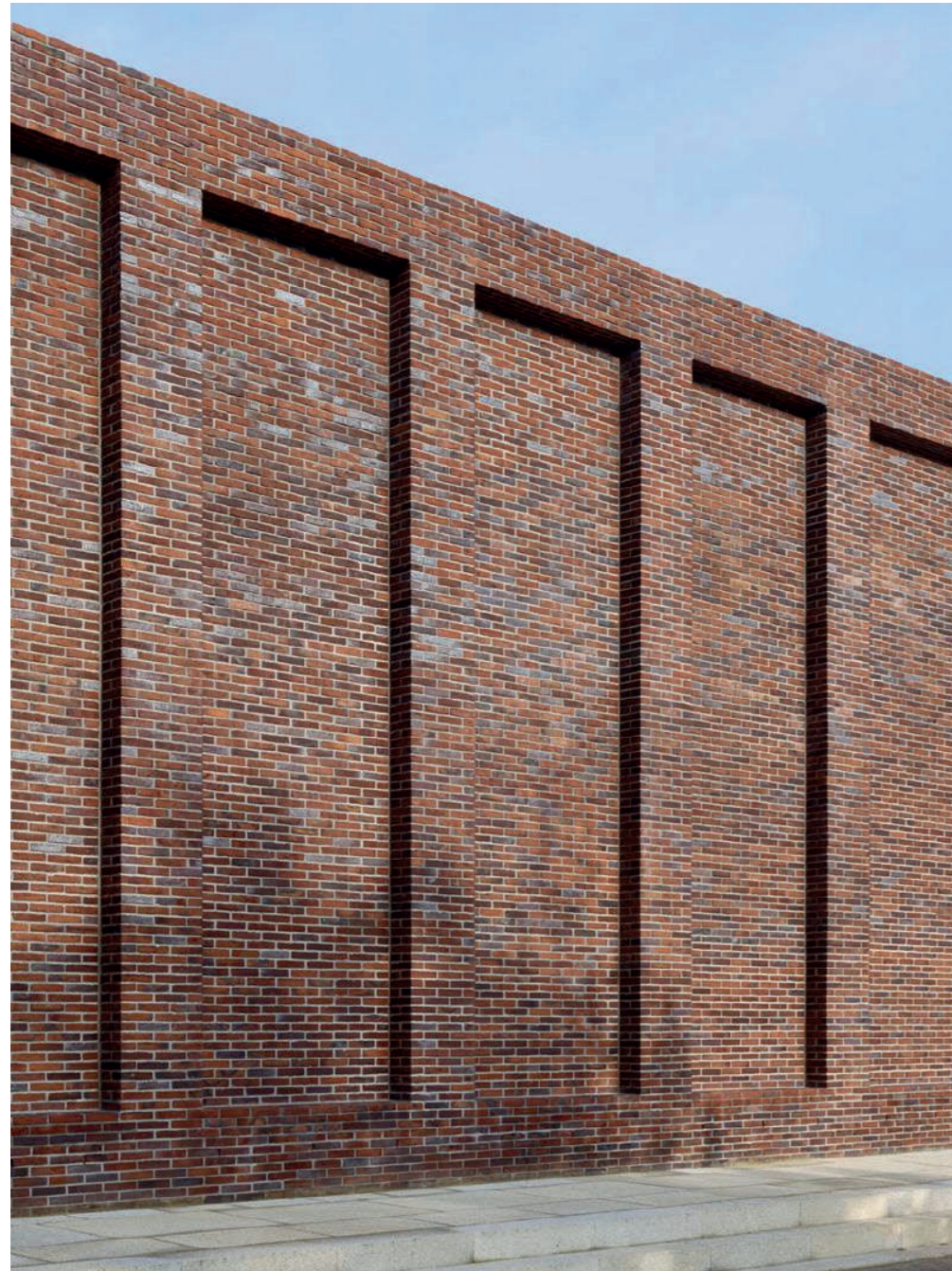
07 Facade and Materiality

Precedent - Brick with vertical recesses - Godolphin & Latymer Sports Building - Walters & Cohen



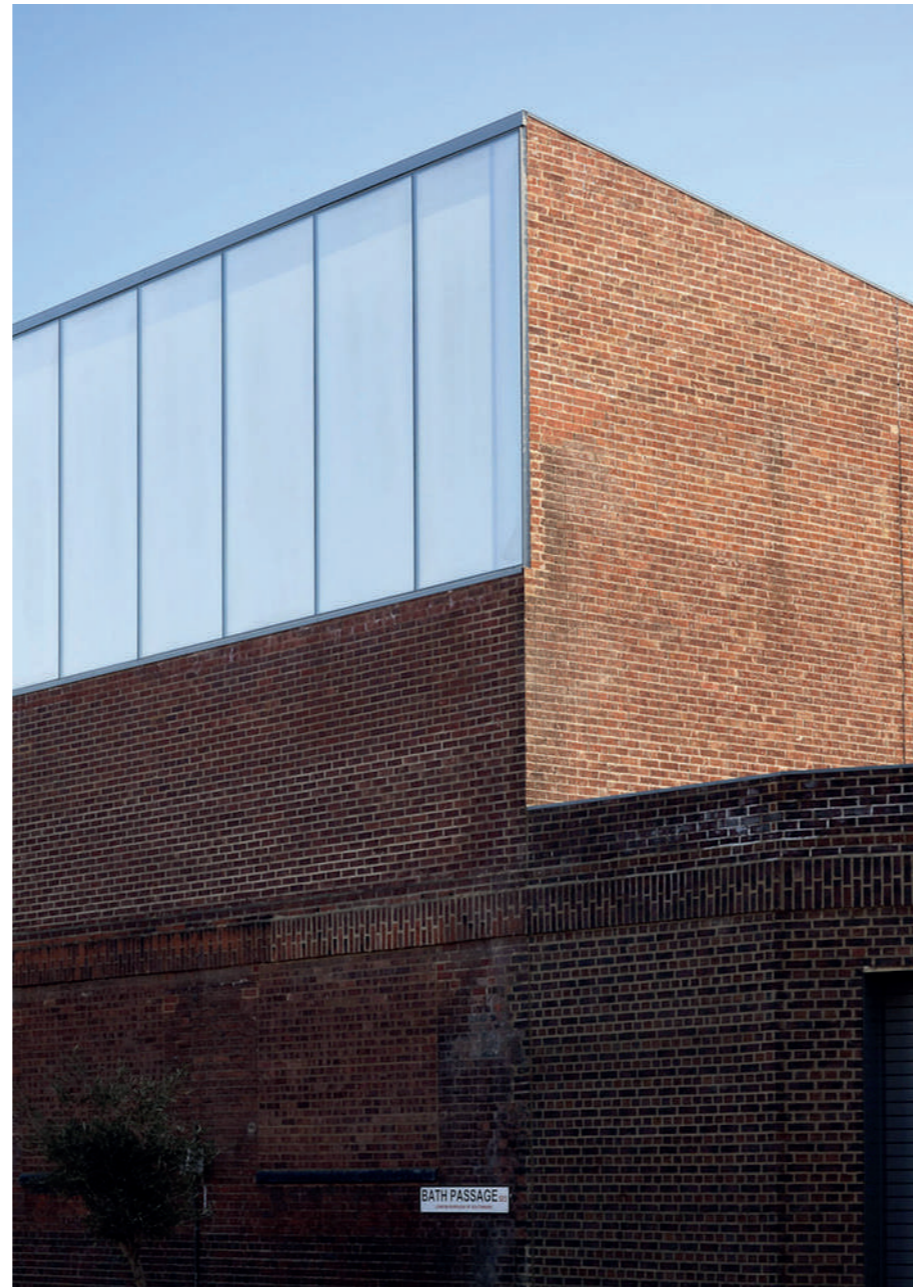
07 Facade and Materiality

Precedent - Brick with consistent Rhythm - Jacobs University Sports Centre - Dietrich Architects + Ingenieure, Max Dudler



07 Facade and Materiality

Precedent - Statement Window - Kapoor Studio - Caseyferro Architects



07 Facade and Materiality

Precedent - Soldier Course Banding & Repeated Vertical Rhythm - Queen's University Belfast Student Hub - Todd Architects



07 Facade and Materiality

Precedent - Double Height Flat Brick Facade - Charles Dicken's School - Maccreeanor Lavington

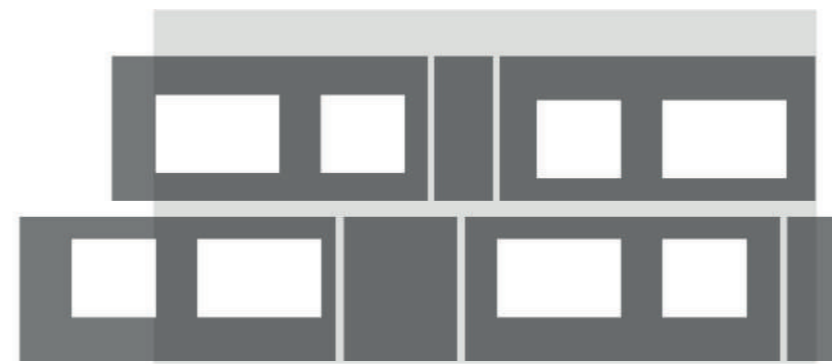


Window Recess

The Design proposals programme includes departments which require a variety of different room shapes and sizes. This initial differentiation prevents external openings from aligning naturally.

In response to this, all windows and doors have been aligned through a grid system, preventing the window positions seeming arbitrary and creating a consistent Rhythm throughout the whole facade.

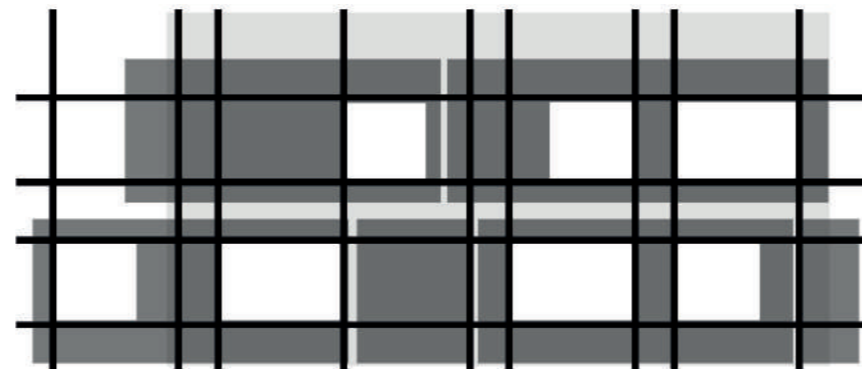
This early concept has been experimented and expanded upon, being used as a design driver to coordinate and order a robust rhythm through the full design proposal.



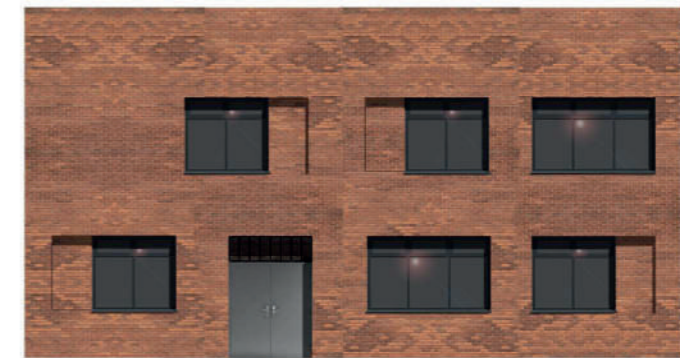
Floor variation



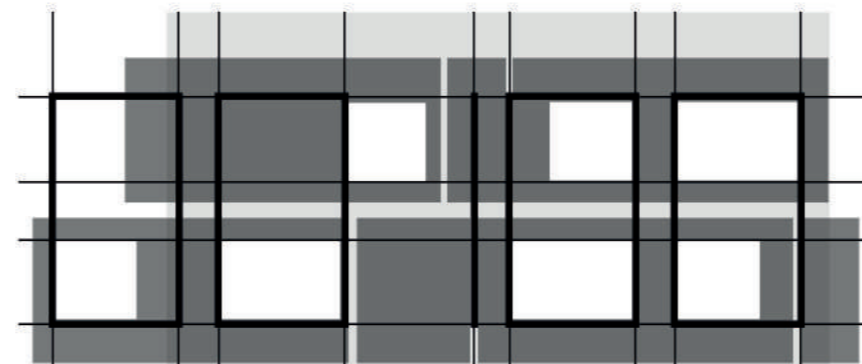
Initial



Rhythm grid



Recess



Vertical Emphasis

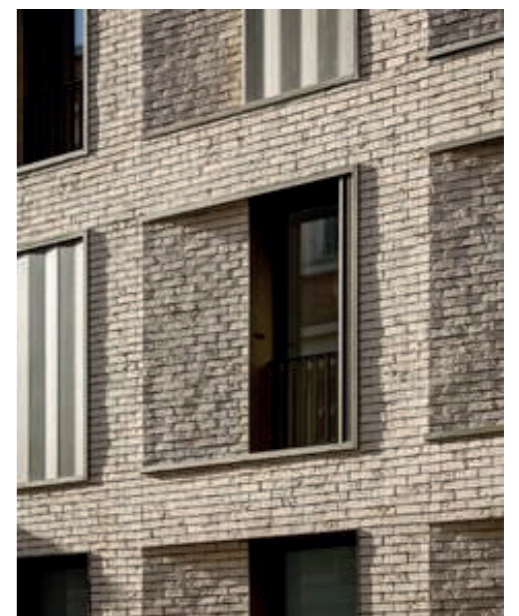
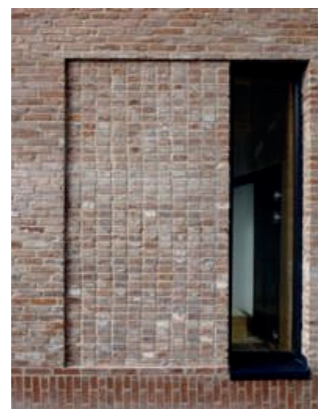
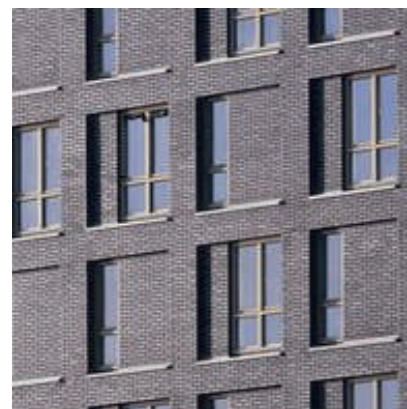
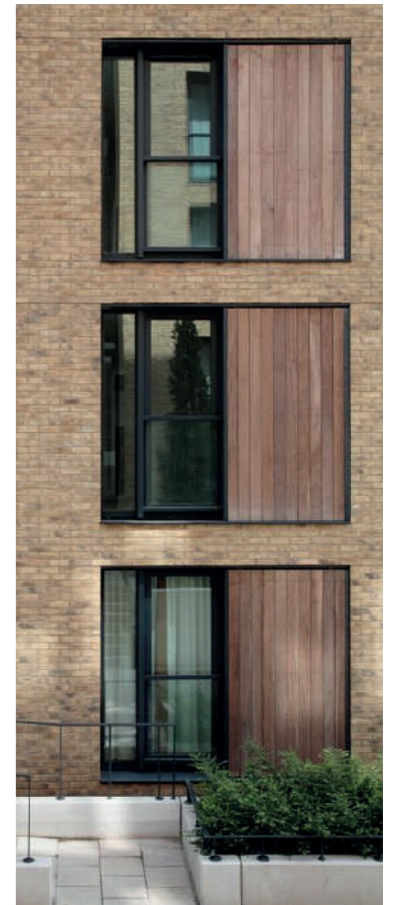
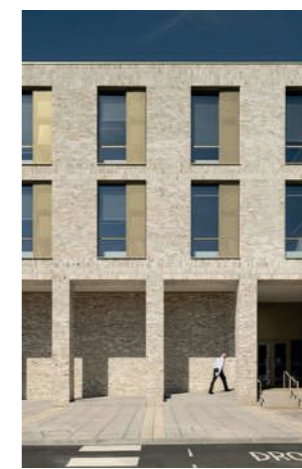
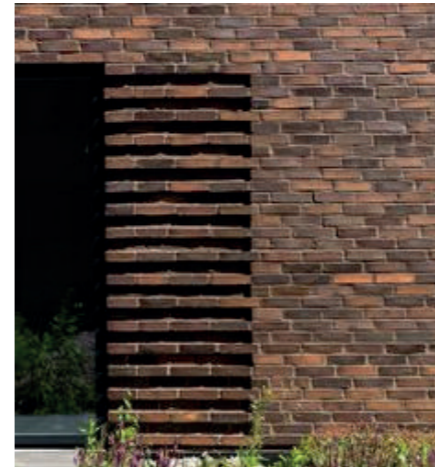
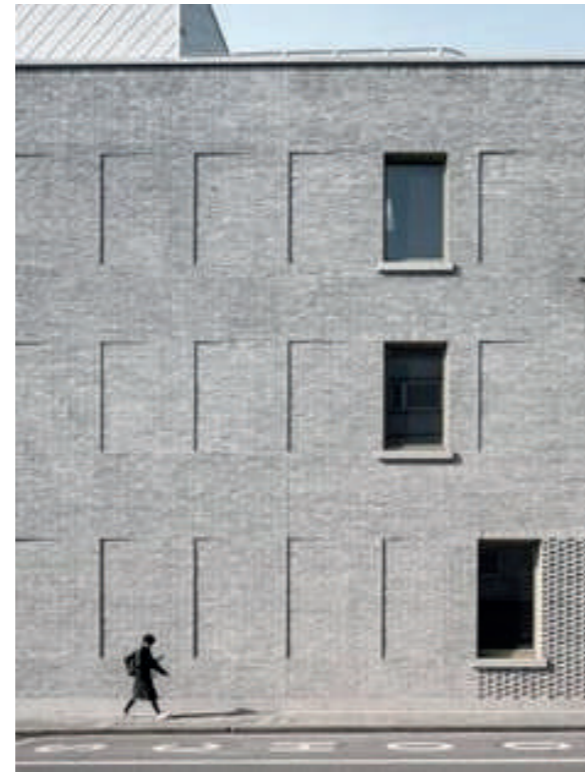
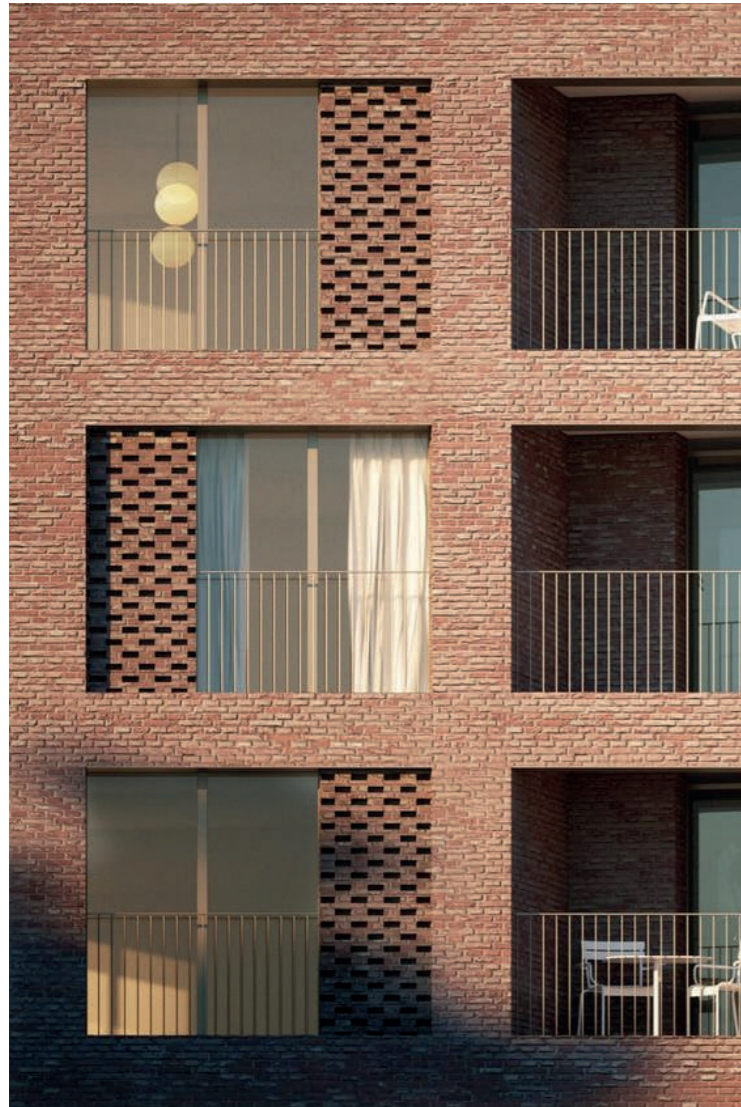


Grouped Recess

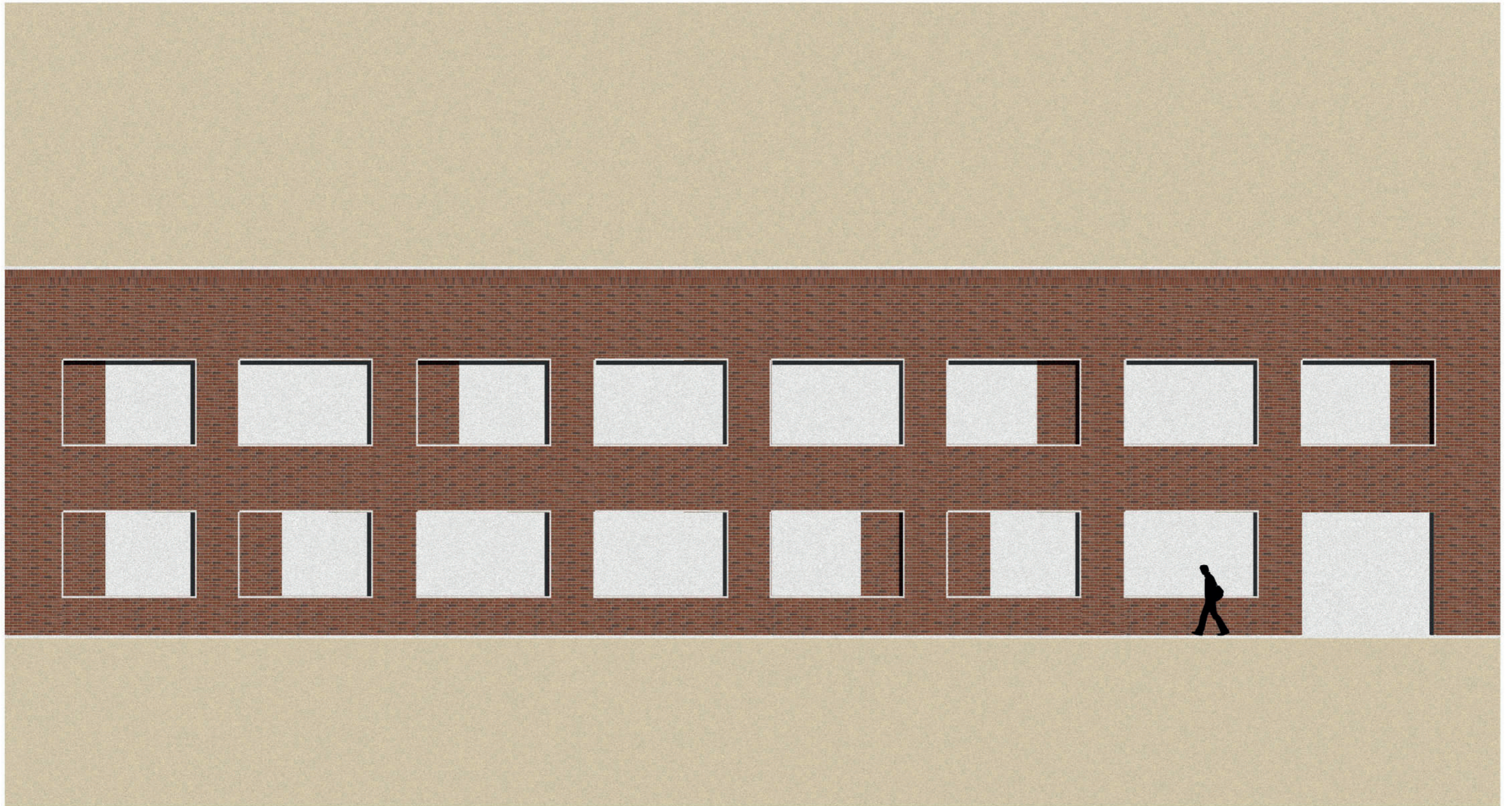
Window Recess

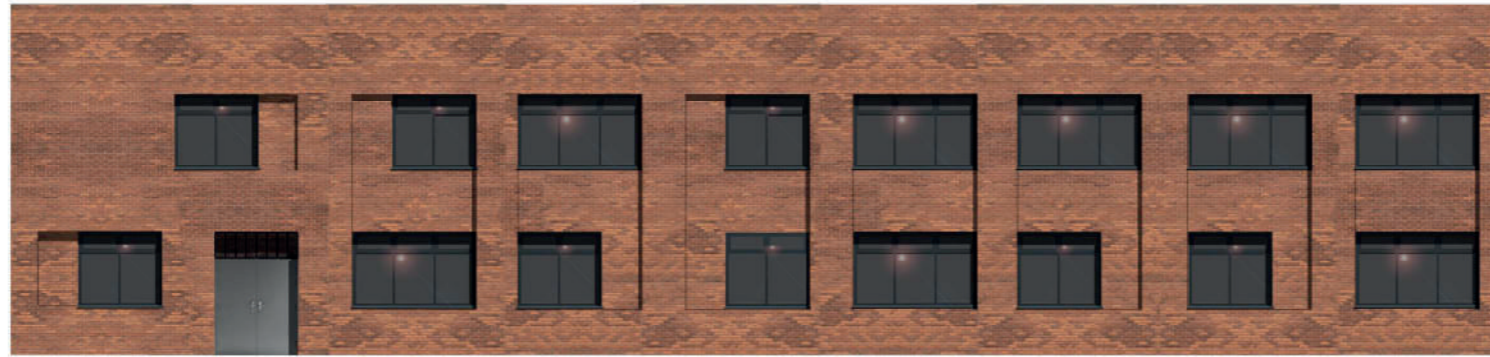


Context Recap
(p.18)

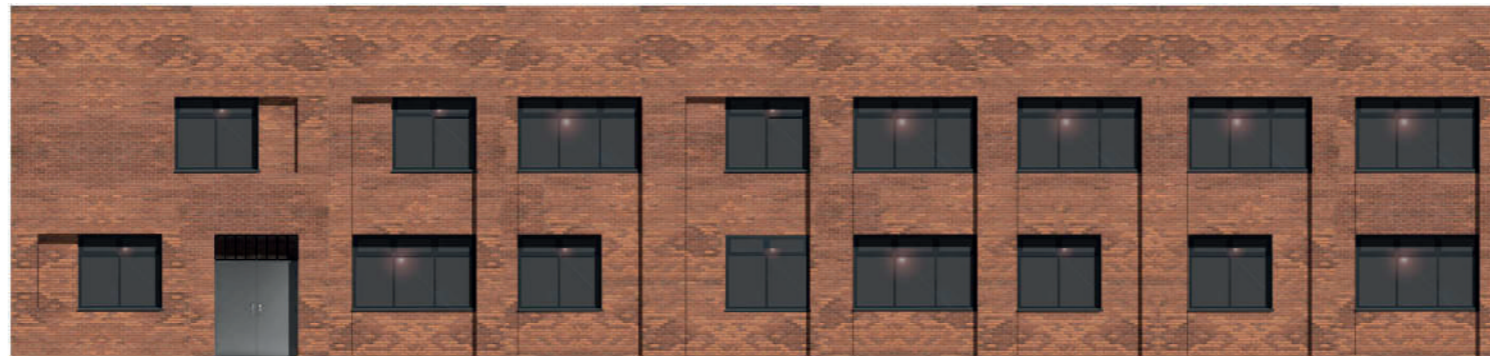




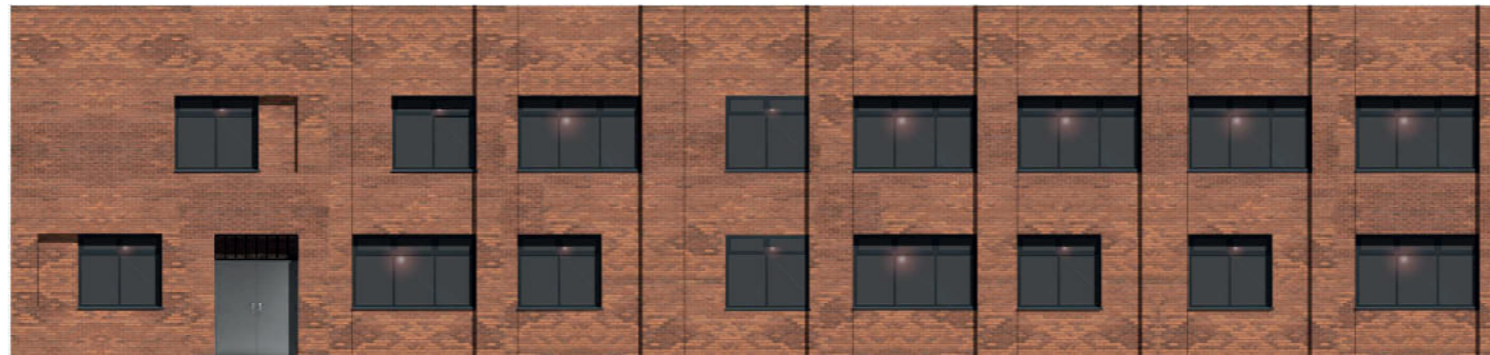




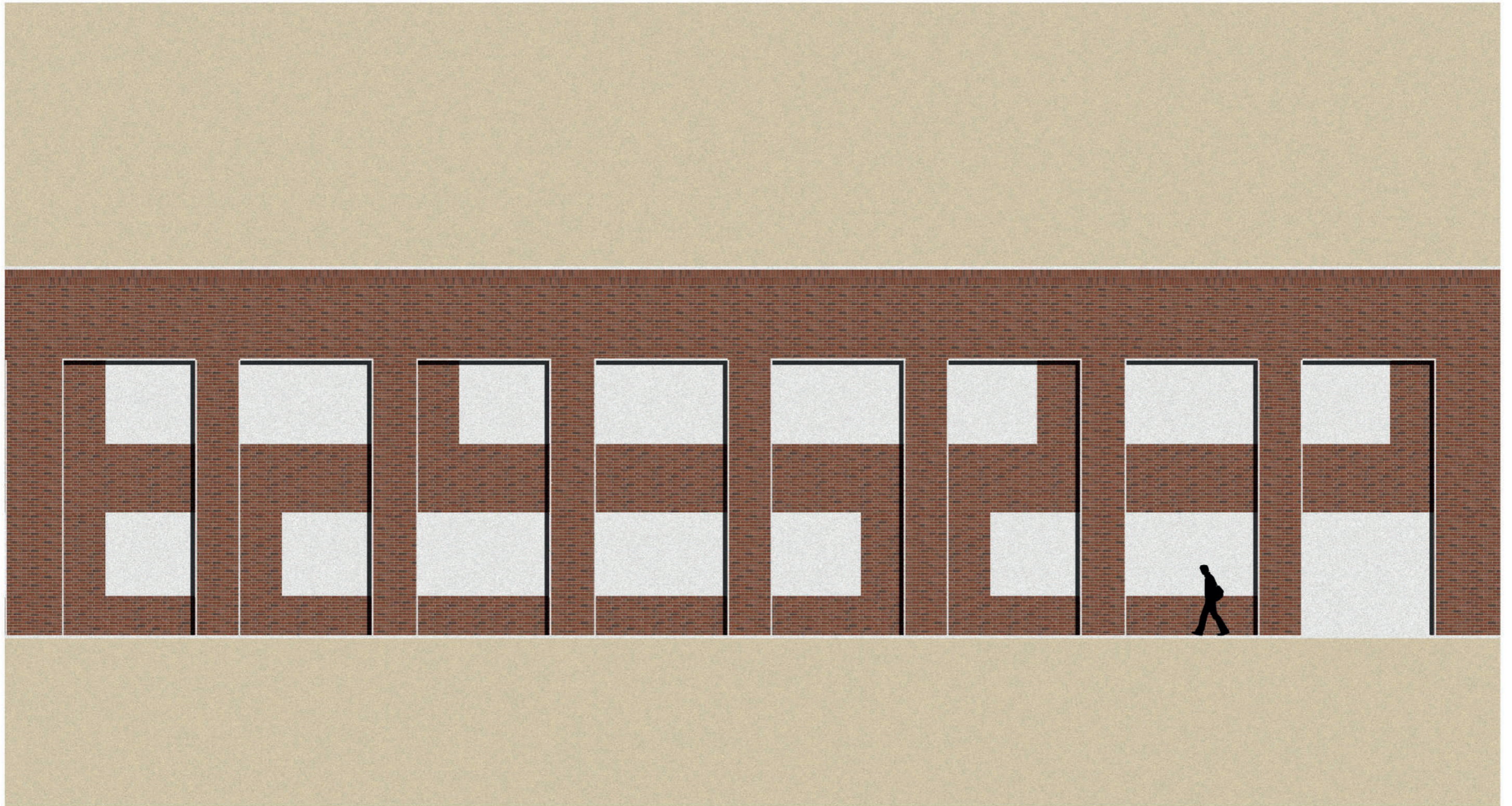
Sill to Lintel

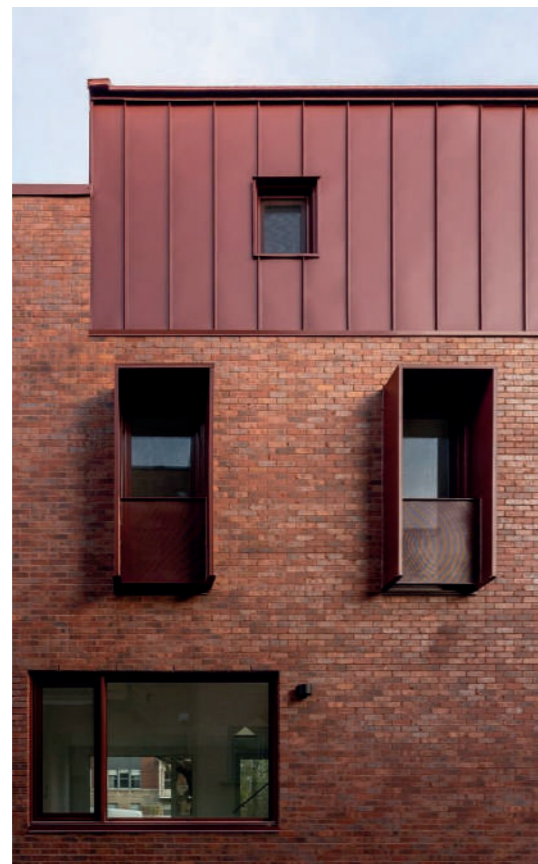


Ground to Lintel

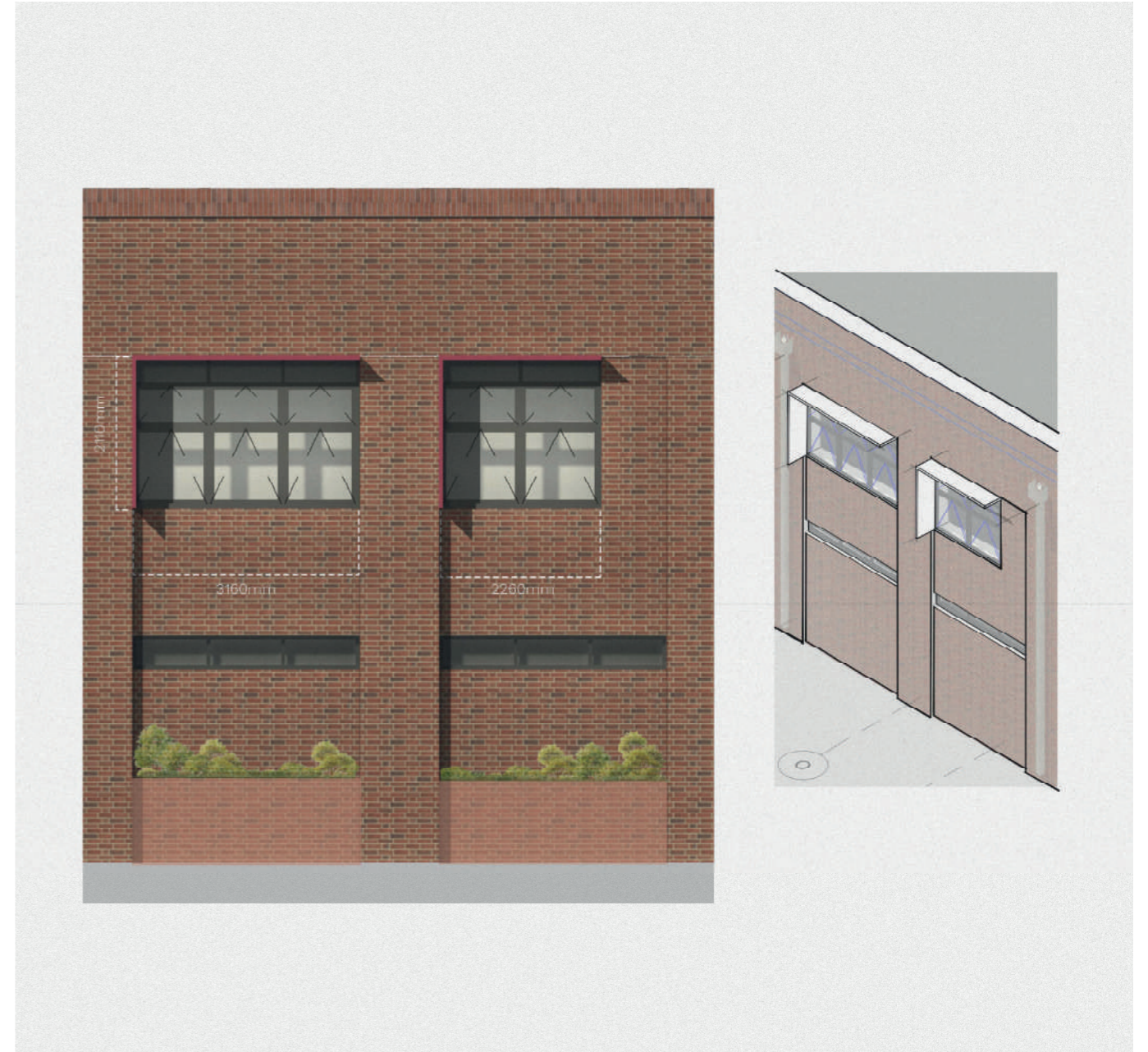


Ground to Parapet

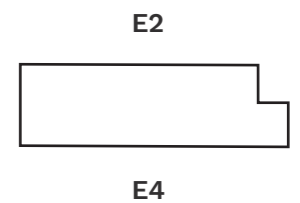




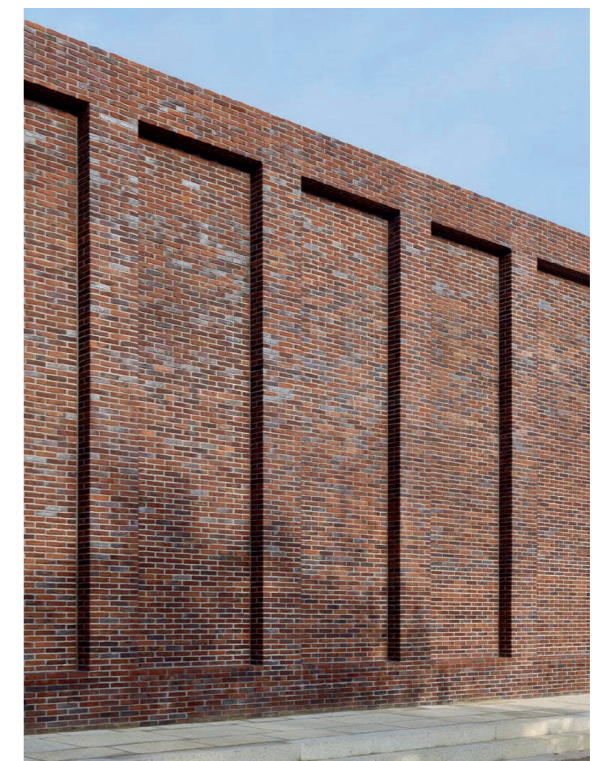
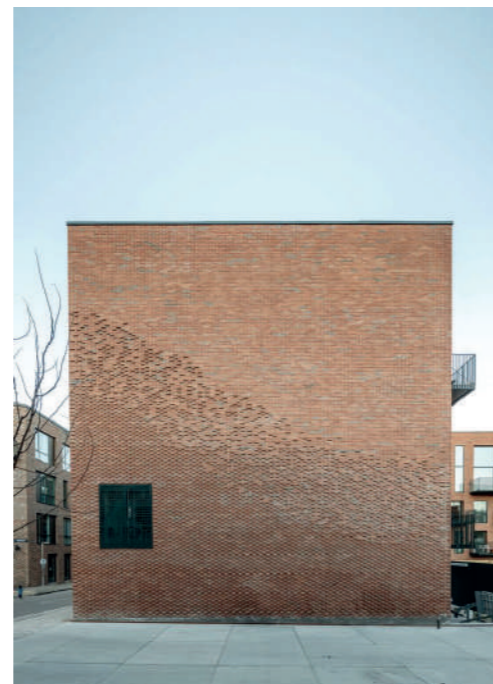
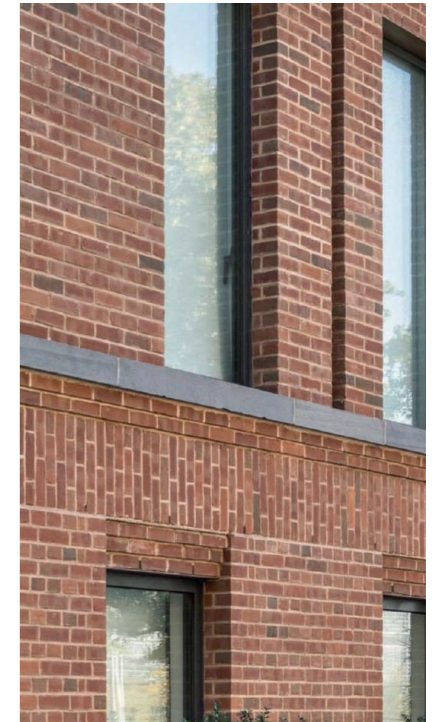
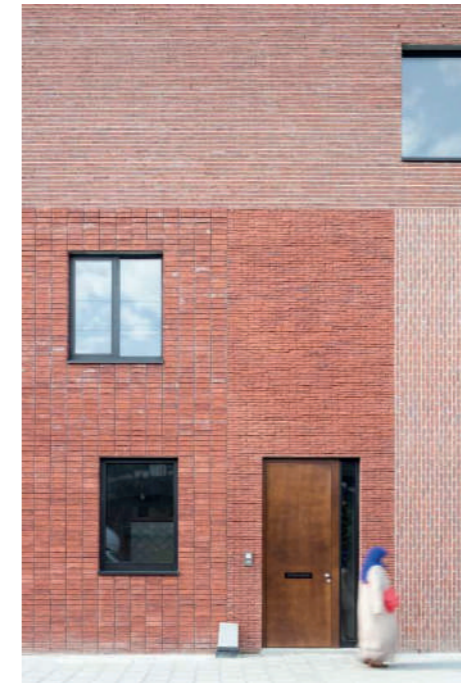
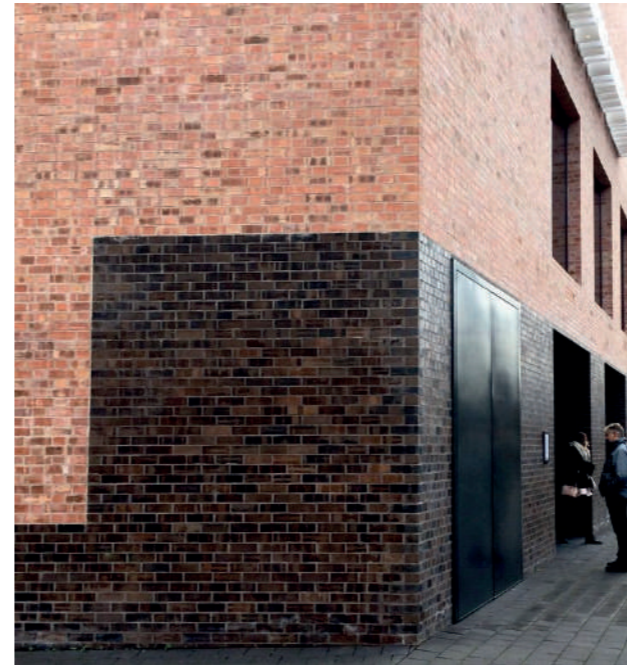
EXTENDED WINDOW FRAME REVEALS
Reduces use of brick in reveals, keeping material palette simple.

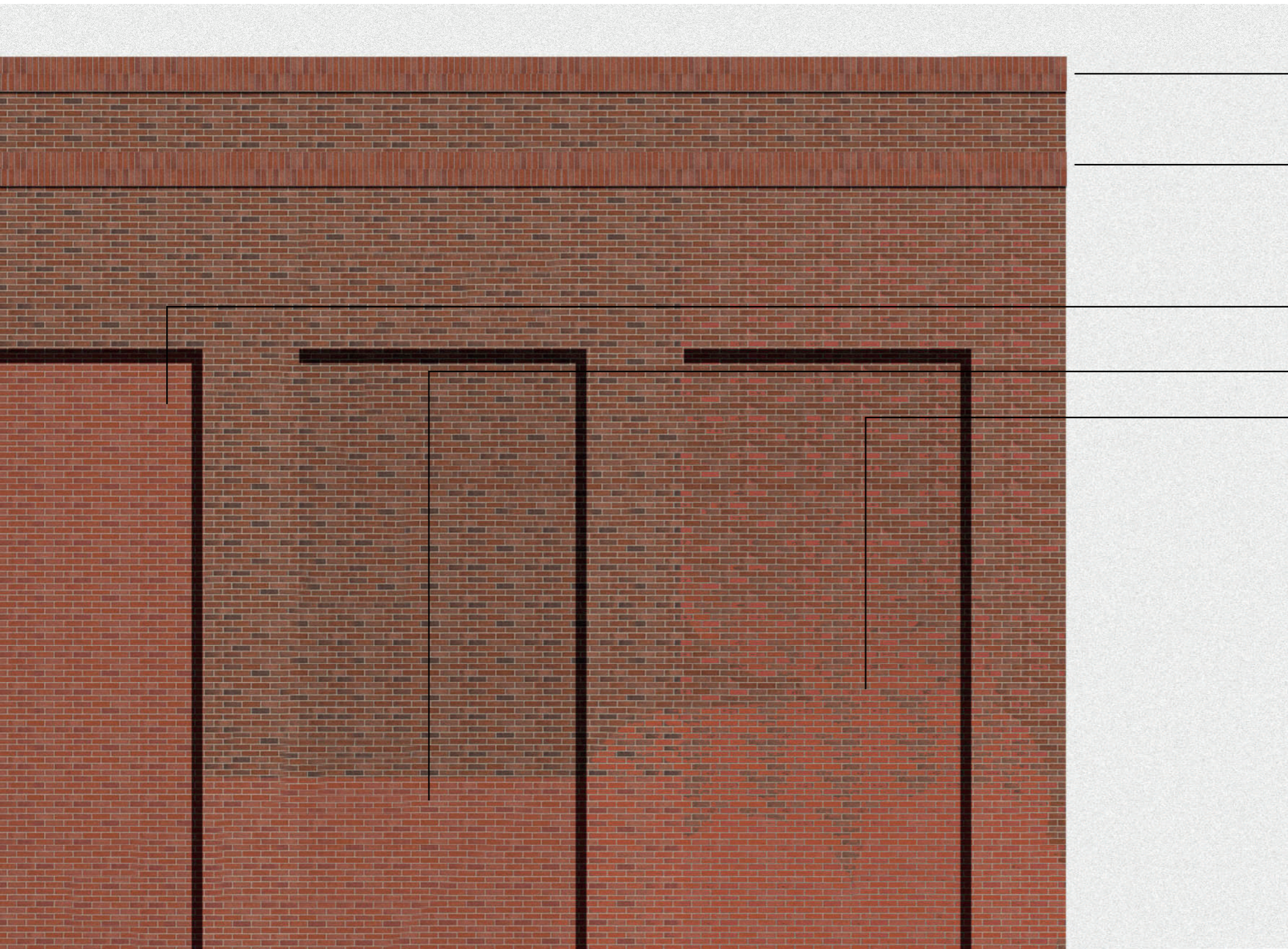


SHADING DESIGNS
Integrated shading on south elevation is currently being designed. Will break up and activate the facade further.









SOLIDER COURSE CAPPING
Solider course detailing for the sport hall parapet

SECOND SOLIDER COURSE
Solider course detailing continued from the main building parapet to provide articulation required by planning

SECONDARY BRICK COLOUR OPTIONS

REVEAL EMPHASIS
Secondary brick colour to emphasize the consistent recesses throughout the façades

SOLID PLINTH
Secondary brick colour to divide facade.

FADED MIXED COURSES
Subtle mix of secondary brick colour to provide more interest required by planning



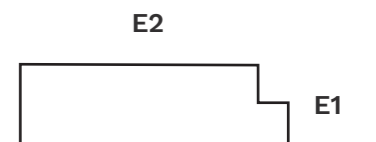
Initial Brick colour variation studies



Elevation 1



Elevation 2





Elevation 3



Elevation 4

07 Facade and Materiality Initial Visualisation

It is expected that the proposed two storey building would have a minimum impact on views from the north-west, and would make a positive contribution to CCA views from Cold Bath Road and the Broadway, particularly during winter. It is not anticipated that the proposal would have any negative impact on private views, both within and outside of the CCA.

1. Entrance

The proposals entrance is to be used as a new school and community out of school hours entrance. To comply with Building regulations M, accessible entrances must be easily recognisable, therefore suitable attention drawing strategies need to be implemented such as a dominate leading wall, canopy and bicycle hoops. The implemented landscape and paving strategies could be utilised to advantageously direct user flow to the building.

2. Courtyard

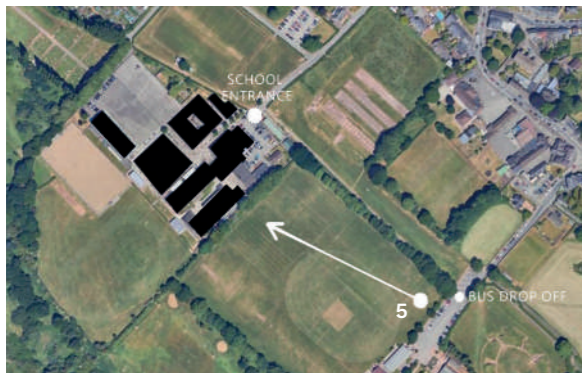
The courtyard acts as external circulation and social space throughout the school day. The primary entrance used by pupils is located off the stairwell, highlighted by the building's vertical window.

The strong rhythm created from the brick recess breaks down the length of the building, creating depth and visual interest to the proposal's facade.









08

Landscape Opportunities

08 Landscape Opportunities Opportunities through Demolition

The proposed demolition and development works provide the opportunity to create a more coherent, accessible, and pleasant site overall.

Building Demolition

Block A's Fitness Suite:

Demolition of this hall will improve the clarity of approach and access the new entrance, creating a cohesive 'Sense of arrival'. Furthermore, this provides the opportunity for accessible parking within the required distances, and additional cycle spaces for staff, visitors, and community users.

Block A staffroom extension:

Removal of this will allow space to safely construct the new building. Furthermore, this will provide a large open courtyard between block A and the new building, for teaching and break-time use.

Buildings D1, G & H Sports Hall:

Their removal provides space to construct the new building, replacing the old and temporary buildings with one meeting the latest educational, environmental, and accessibility standards.

D2 Drama:

While proposed to be removed, this is likely to be retained only during construction to minimise school disruption. Once the drama provision in the new building is completed, its removal will provide additional grassed informal space, on a bank overlooking the sports pitches.

Caretakers House & Block K, Conference Building:

Removal of the caretaker's house and former village library opens up the approach to the new main entrance, allows construction access and further landscaping opportunities.



Strategy

The existing secondary school site will undergo a range of changes involving the introduction of new built form and sports facilities, and improved access points. Areas of soft and hard landscape specifically for secondary pupils will integrate with the new building and existing site, to create a coherent site plan. The landscape strategy will address a number of aspects essential to the development of a high quality and well functioning facility with the needs and care of children and young adults at its core.

These include:

- General Landscape Principles
- Access and Movement
- Security and Safety
- Hard Informal and Social Areas
- Soft Informal, Social and Habitat Areas
- Hard and Soft Outdoor PE Areas

Construction work will inevitably reduce the Secondary school's external spaces temporarily. Therefore, careful consideration must be given to phasing to provide access to as much of the external environment as is deemed safe during construction.

Access and Movement

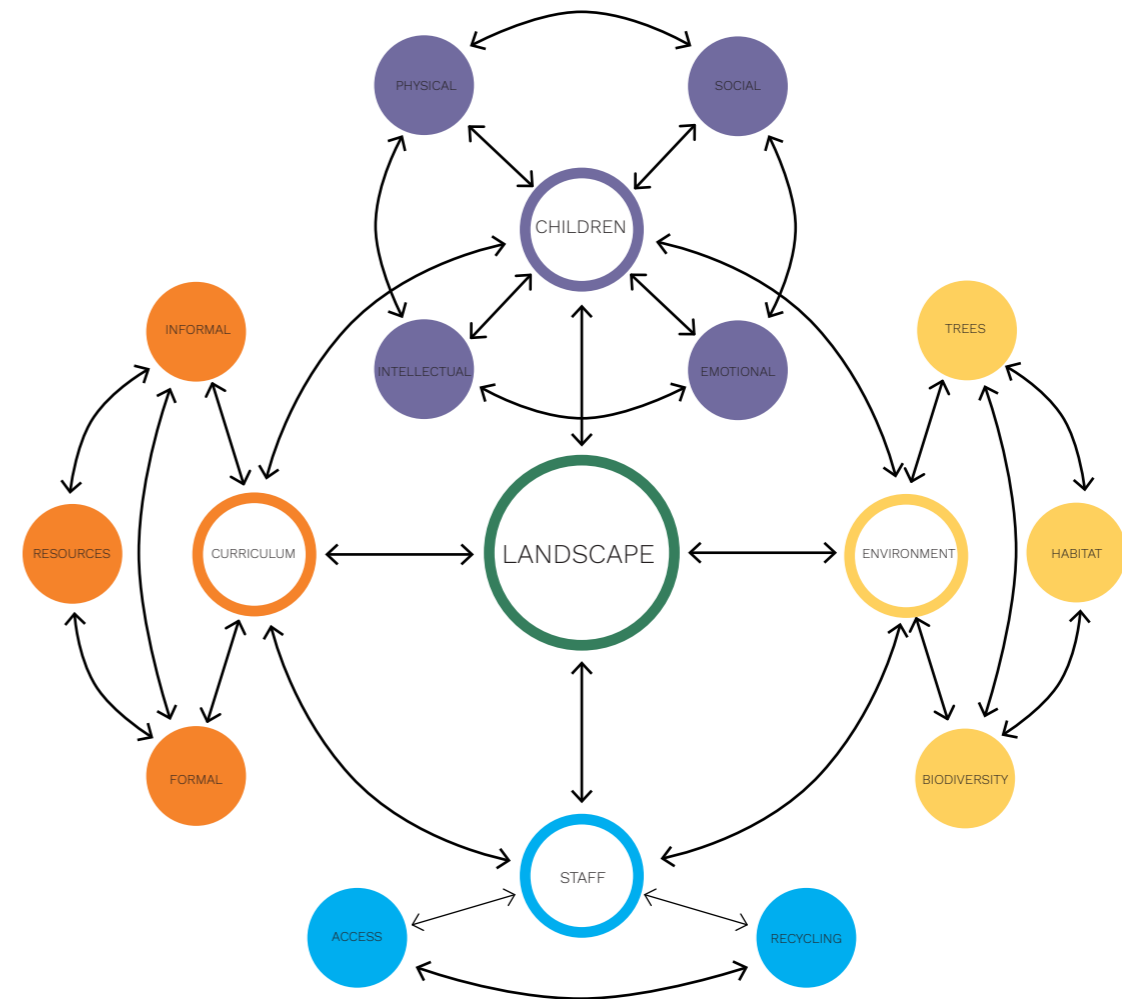
All abilities should be able to easily enter into and move through the landscape and each space within it via level or where necessary ramped entry points. Existing footpaths and roads may be re-aligned to suit new desire lines and entry points. The hard landscape materials used combined with a sensitive design will encourage users to take advantage of the opportunities to experience the landscape first-hand, not simply observing it from a distance.

Security and Safety

Where the construction works impact the existing secure boundary, bollards and gates will be used at entrance points in combination with perimeter fencing to create a consistent and secure boundary whilst not creating an oppressive atmosphere. Boundaries will be softened where possible using planting. Natural surveillance from surrounding walkways and windows should be used where possible to create a sense of supervision and safety. This should be balanced against the need for more enclosed areas that provide an element of privacy for study, relaxation and reflection.

Sustainability

Sustainability should be a priority in design and in the choice of materials along with their adaptability and future-proofing.



Historic Principles

The local landscape character is home to some notable features which have informed the landscape design, such as:

- The Amphitheatre
- The Roman Barracks
- The Roman Baths
- Local native species



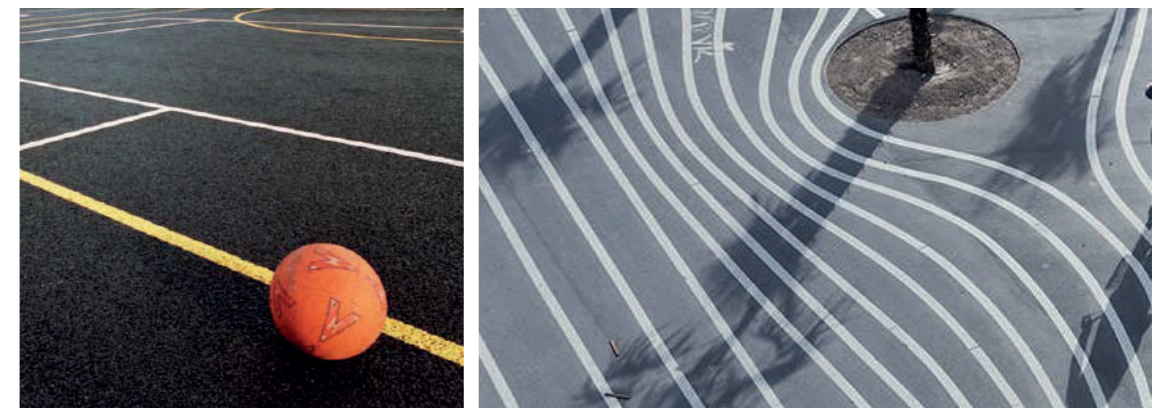
08 Landscape Opportunities Landscape Strategies

Hard Landscape

The external landscape will aim to function as an extension to the school buildings by offering teaching and study spaces as well as areas for sport, play, socialising, relaxation and reflection. These external spaces will incorporate entrance points providing access to the buildings' circulatory spaces across the site and areas for congregation during break times. The areas will have to cater for large numbers of children whilst providing a variety of scales of space and types of activity.

The external school environment has the potential to include:

- A safe, secure and inclusive environment
- A range of scales of space allowing for informal activity and/or social areas including seating for varying sizes of group
- Opportunities for children to be calm and quiet and also where they may be able to interact with others
- A variety of provision available to cater for a range of ages.
- Areas of hard surfacing subdivided by planting to provide interest, shelter and seasonal change
- Proposed Multi-Use Games Areas to ensure playable surfaces for sport throughout the year.



Soft Landscape

The soft landscape strategy will create a framework to connect the new school building with the external context of the existing school, and to create a cohesive landscape character within the site.

Planting provides seasonal and sensory diversity with chosen species providing visual interest, through form, colour, texture and movement. Tree and shrub planting could provide shelter from the weather and create a sense of enclosure. Planting areas can be used to subdivide areas of surfacing and tree planting may be sited in planting beds to enable access to adequate air and water and reduce reliance on artificial irrigation. Existing trees will be retained where possible, and new planting species will be selected to diversify existing species on-site and encourage wildlife such as birds, bees and other insects.

The soft landscape for the school will provide opportunities for play, exploration and study, increase the biodiversity of the site and provide:

- Area in which to socialise & dine
- Place for relaxation and calm with seating and shelter from the elements
- Areas of tree and shrub planting for shelter, seasonal interest and biodiversity
- Picnic tables and seats for learning/ dining outdoors
- A safe, accessible and stimulating environment with fencing where appropriate
- A high-quality attention to design and materials choice.



08 Landscape Opportunities

Landscape Master plan

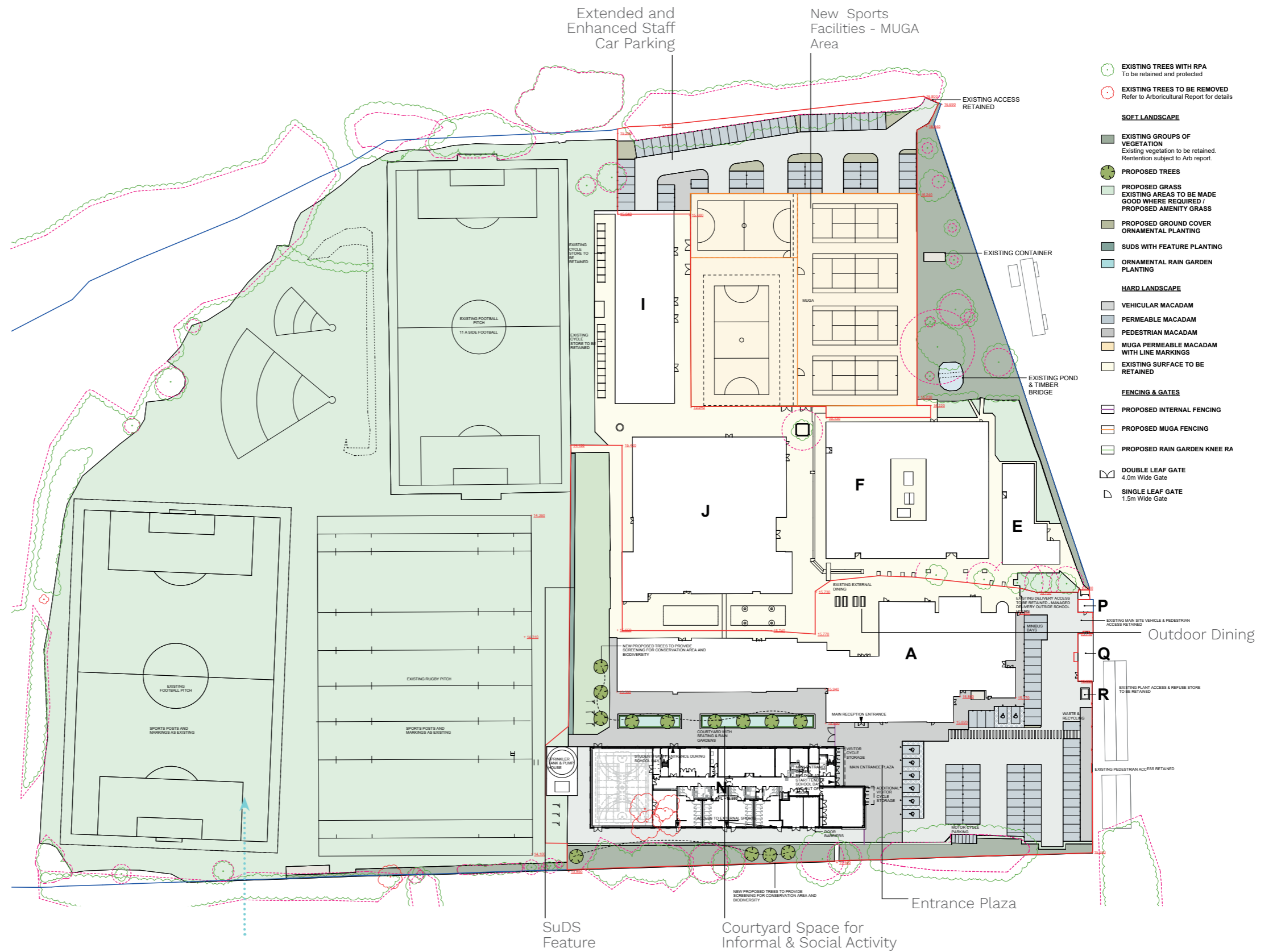
The landscape will connect with and respond to the new school building creating a cohesive and positive environment. The design will introduce new areas for outdoor teaching, sport, play, socialising, and relaxation. The overall site plan will also connect the new school building to existing facilities. New landscape areas and features will sit sensitively within the site and will be robust in nature and of a high aesthetic quality. Careful consideration of maintenance and material longevity will influence the choice of hard and soft landscape materials.

Key Areas

- New Entrance Plaza,
- Outdoor Dining,
- Courtyard Space for Informal and Social Activity,
- New Sports Facilities,

Drainage and site levels

Site levels and drainage will influence the design and the possibility of incorporating sustainable drainage must be considered, to reduce the impact on flood risk. Drainage should be linked to the existing infrastructure. Rainfall could potentially be captured and stored on site for irrigation. Hard surfaces, such as car parking bays, may be permeable to reduce potential standing water and might be part of a sustainable drainage system (SuDS). As well as permeable surfacing, a range of soft landscape features such as rain gardens and planted swales may be part of the SuDS design.



50m

08 Landscape Opportunities Parking Provision

BREEAM Tra 02 Sustainable Transport Measures.

Private Transport Measures

The following private transport measures will be provided:

- Car sharing spaces for at least 5% of the total car parking capacity.

Active Travel Measures

At least 1 cycle storage space will be provided per 10 staff and pupils/students in total, subject to the sliding scale of compliance for larger capacities.

- Cycles will be secured within spaces in racks;
- Racks will be covered overhead and set in or fixed to a permanent structure (hard standing);
- The distance between each cycle rack, and cycle racks and other obstructions will allow for appropriate access to the cycle storage space to enable bikes to be easily stored and accessed;
- The storage facility or entrance to the facility is in a predominant site location that is viewable/ overlooked from either an occupied building or main access to a building.

Cycle Facilities will be compliant with the following:

At least 1 locker will be provided per every cycle storage space;

The current design indicates 2 areas for lockers, close to the changing rooms. These can be used within school hours for pupils and staff who cycle, plus by the community for secure possessions storage during out-of-hours use.

Lockers are not located inside changing rooms, to allow more flexibility in use.

The current plan shows over 10 linear metres of lockers, which is equivalent to 96 lockers at 3-high, or 128 lockers at 4-high. Some of this space may be replaced by other storage or display areas, as long as the total number of lockers is not lower than the number of cycle spaces required by BREEAM.

At least 1 shower will be provided for every 100 staff, subject to minimum of one shower being provided.

Appropriately sized changing facilities will be provided for staff.

Number of Pupils	Total	1,506
Years 7-11		1,250
6th Form		256

Number of Staff (FTE)	Total	134
Teaching		78
Ancillary - School		45
Ancillary - Catering		10

	Existing		Newport City Council		BREEAM 2018		Proposed	
	Notes	Total	Requirement	Total	Requirement	Total	Highest of NCC & BREEAM	
Car Parking			Parking Standards SPG August 2015 (Zone 2-4)					
Staff	fulltime equivalent		1 per teaching staff	79				
Pupils	fulltime equivalent		1 per 2 ancillary staff	28				
Visitor			1 per 20 age 17+	13				
			3 total	3				
Total	<i>Counted from topo survey. Approx. usable spaces</i>	90		123				123
Of the above:								
Standard bays							2.4 x 4.8 m	95
Accessible (Blue Badge)			6%	8			6 x 3.6 m	8
Electric Charging			10%	13		10%		13
Car Share			n/a			5% (nearest entrance)		7
Short fall against NCC standards		33						
Commercial Vehicle		unknown		1			2.65 X 12 (allows for refrigerated rigid vehicle)	1
Motorcycle		unknown	5%	7			2.8 x 1.3	7
Minibus	2 on topo survey	2						2
Cycle Parking			Sustainable Travel SPG July 2020		Sliding Scale of Compliance (all users)		Proposed on-site	
			1 per 10 students	151	1 per 10 for first 200	20	Existing - near I-block	54
			1 per 4 staff	34	1 per 15 for 201-300	7	New - locations tbc	28
			Visitor / Short Stay: 1 per 10 students	151	1 per 20 for 301-400	5		
					1 per 25 for 401+	50		
Total		54		336		82		82

Some may be provided off-site

potential for additional off-site

The current design allows for 2 unisex accessible changing rooms, each of which includes a shower. These are also intended for use by staff, for safeguarding reasons, as they are separate from pupil changing rooms.

Although the 2 staff shower rooms satisfy BREEAM, Some of the 4 main changing rooms could also be made available for staff at peak staff-arrival time, to ease queueing.

The proposed provisions and additional opportunities will be reviewed thoroughly with the Design Team, School and NCC in the next stage of design.

09

Interior Design Opportunities

09 Interior Design Opportunities

Interior Design Principles

A coherent design approach that provides continuity for visitors and users from the moment they arrive on the premises should be striven for. The strategy for Caerleon Comprehensive School should aim to meet the needs of both pupils and staff alike in a cohesive manner. The objective; to create an environment that will allow users to feel at ease within their day to day surroundings but that will also provide a functional and stimulating environment for teaching and learning. This will be achieved through the careful consideration and use of light, colour, texture and materials for each space, and the application of innovative design solutions to improve people's experience where possible.

Lighting

Correct lighting levels are vital within learning environments and research has proven that peoples attention capacity is improved when they have increased natural light and views into nature. As well as improving well-being and the overall experience, maximising views and maintaining good visual connections with the environment orientates pupils and connects them with the landscape. Natural daylight should be utilised throughout the building and be complimented with the intelligent use of artificial lighting where required. When used correctly, this combination of light sources can subtly increase the impact of variation in colour and contrast, and can provide visual clues to help pupils orientate within the spaces.

Application of Colour

A base palette of neutral tones, textures and materials that can be enhanced in key areas through the use of departmental or level based colour, textures and graphics creates a scheme that is not only engaging but also lends itself to the practicalities of an education environment and adds longevity to the overall Interior Design.

Way-finding

The way-finding strategy should be more than just applied signage to the building. Key navigation indicators can be included within the fabric of the building through the use of colours, shapes, symbols, text and graphics to create an overall strategy that caters for all ages and abilities.



09 Interior Design Opportunities

Interior Design Principles

Furniture Fixtures and Equipment (FF&E)

The FF&E should form part of the design strategy and a focus needs to be put on ensuring items are functional and fit for purpose, while also enhancing the internal environment and daily life for staff and pupils alike. Furniture that is flexible and assists in the teaching of the curriculum should be explored for each age group, and the individual needs of each space dependent on the activities that will take place within them need to be taken into account.

Acoustics

The overall acoustic performance of a space can have a large impact on a member of staff's ability to teach effectively and a pupil's ability to learn. In the next stage it would be advised that relevant parties are worked with closely, such as acoustic engineers, to ensure that measures are taken to address any potential acoustic issues by specifying the appropriate finishes materials, including any additional absorption/deflection that is required. These elements can often be worked into the Interior Design of a space to bring aesthetic enhancement, rather than being purely functional.

Sanitary Facilities

The design of WC and changing areas should aim to provide facilities and levels of privacy that are appropriate to each user group, and ensure pupils and out of hours sports visitors are comfortable using them. In order to discourage anti-social behaviour within the toilet facility, free space needs to be kept to a minimum, and hand-washing facilities should be made visible and potentially unisex by being moved out of the cubicle area as a direct extension to the circulation or classroom space. This also allows for passive supervision of the common areas from the circulation space, so that pupils can feel safe when using the toilets.

Materials and Finishes

The performance, sustainability and maintenance regimes for the internal materials and finishes must be considered to ensure that all proposals are practical, can be easily managed over their lifespan and tie in with the schools operational policies.



09 Interior Design Opportunities

Typical General Teaching Classroom Layout

Flexible Layout

The general classroom layout must be suitable for teaching multiple subjects.

The fixed elements of the room include built-in storage cupboards below the ventilation stacks, a teaching wall with space for a projector and/or interactive whiteboard alongside standard whiteboards, and teacher's desk with wired power and data connection to the teaching wall.

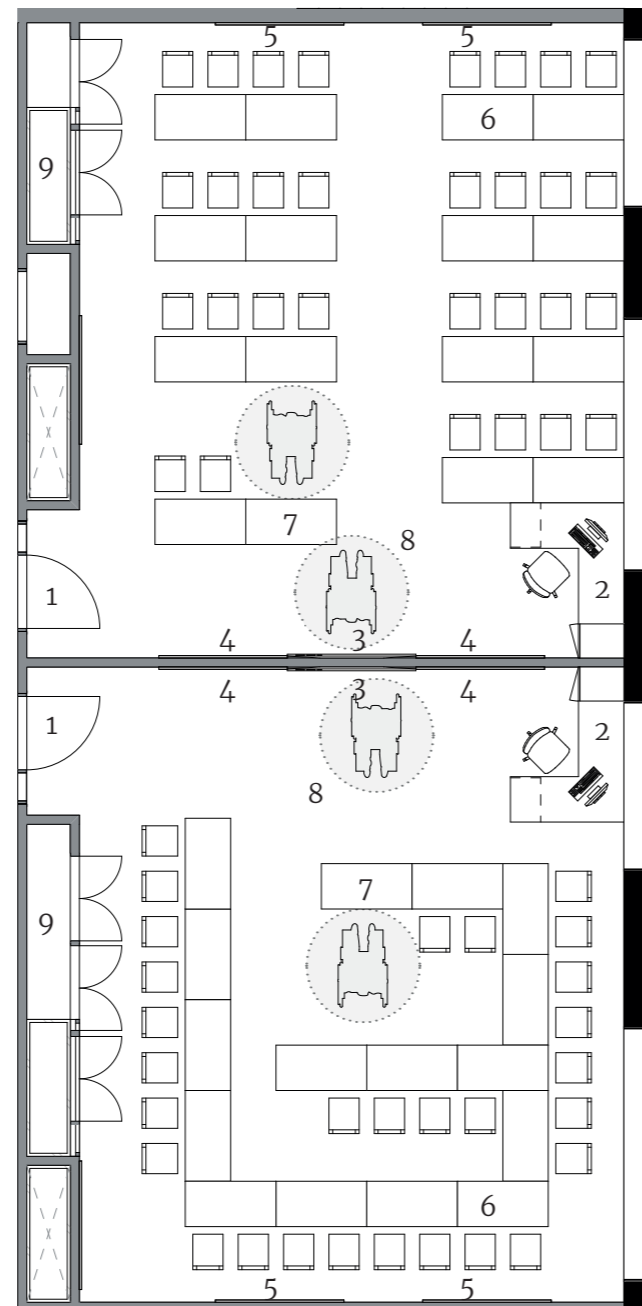
The teaching wall is at one end of the classroom, rather than opposite the windows, to reduce glare. It is also at the same end as the door, so the teacher has control of any entering and existing the classroom.

The floor plans here demonstrate 2 possible layouts of the loose pupil desks and chairs, which can be adjusted to suit varying teaching styles.

Both layouts allow space for a pupil or teacher who uses a wheelchair, or with other mobility difficulties, to manoeuvre around the entrance, whiteboard, their own desk, and to the teacher's desk.

Some loose FF&E layouts are more suitable than others for a wheelchair user to access the whole classroom, therefore consideration should be given to the FF&E layouts when this is required, for example in the case of a staff member with mobility issues.

Although most 'sitting' desks in secondary schools are suitable for the majority of wheelchairs, it is best practice to include 1 adjustable height desk per classroom, to allow for a multitude of disabilities, including use by people of short stature, or those with larger wheelchairs.



- 1 - Classroom entrance door
- 2 - Teacher's desk with fixed trunking for power/data
- 3 - Whiteboard and projector/interactive whiteboard
- 4 - Whiteboard
- 5 - Display board
- 6 - Loose pupil desk and chairs. Indicative arrangements
- 7 - Indicative desk space for wheelchair user
- 8 - Manoeuvring space for wheelchair user
- 9 - Built in storage, with ventilation outlet above



09 Interior Design Opportunities

Typical Music Classroom Layout

Music Classroom

The music classroom must accommodate additional equipment, such as large or multiple musical instruments and often computers.

As with the general classrooms, the teaching wall is at one end of the classroom, rather than opposite the windows, to reduce glare. It is also at the same end as the door, so the teacher has control of any entering and existing the classroom.

The layout allows space for a pupil or teacher who uses a wheelchair, or with other mobility difficulties, to manoeuvre around the entrance, whiteboard, their own desk, to the teacher's desk, and to a practise room.

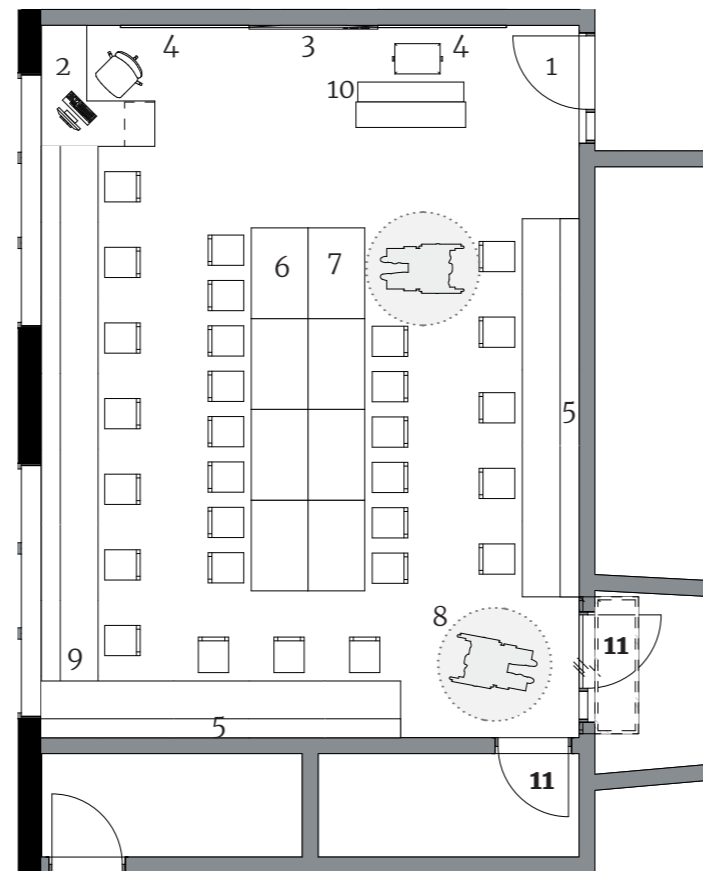
The perimeter of the room shows fixed benching to accommodate keyboards, with a narrow raised shelf at the back for a monitor or computer keyboard. Alternatives include lift-up desks or slide-out shelves. These would all have fixed power/data.

The exact perimeter configuration varies depending on the exact location of store and practice room doors.

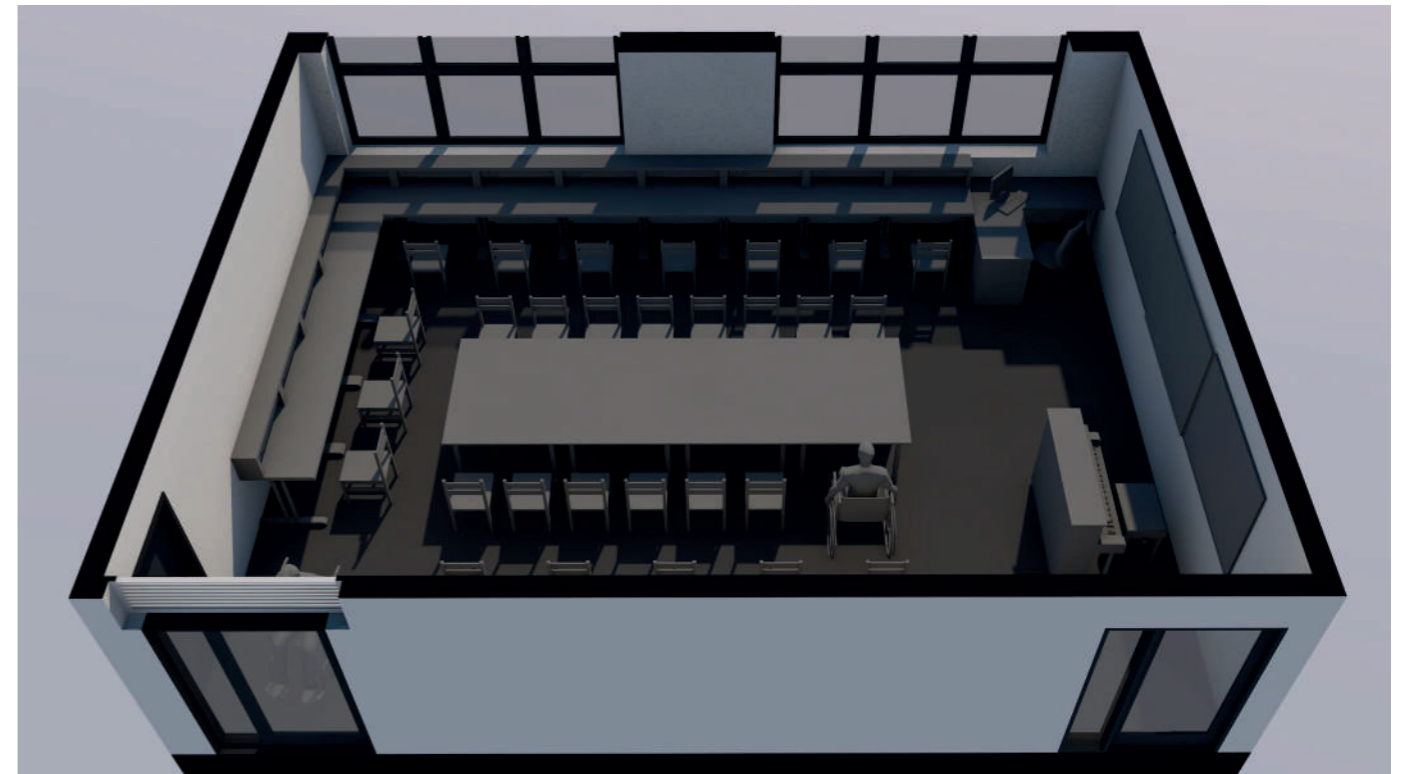
The centre of the classroom shows loose desks and chairs to match a standard classroom, as this offers the most flexible layout for all teaching methods.

Consideration should be given to whether power is required to the centre tables – this could be in the form of drop-down power, floor boxes, or fixed poles. Further discussion should take place at stage 3, to ensure all strategies align.

As with the general classrooms, it is best practice to include 1 adjustable height desk of each type per classroom.



- 1 - Classroom entrance door
- 2 - Teacher's desk with fixed trunking for power/data
- 3 - Whiteboard and projector/interactive whiteboard
- 4 - Whiteboard
- 5 - Display board
- 6 - Loose pupil desk and chairs. Indicative arrangements
- 7 - Indicative desk space for wheelchair user
- 8 - Manoeuvring space for wheelchair user
- 9 - Fixed perimeter benching for music keyboards and computers
- 10 - Space for piano or equivalent
- 11 - Door to store or practice room - location varies



09 Interior Design Opportunities

Typical Changing Room Layout

Class/Team Changing

Each of the 4 main changing rooms are sized for a class of 30+ or a sports squad. They all have WC cubicles, not urinals, so can be designated as male/female, or per team/age group as required for each session.

They feature fixed benching, individual showers, and toilets. The enlarged shower cubicle is suitable for someone with an injury, anyone with a disability who needs extra space or privacy but not necessarily a separate room, a carer, or a parent and child.

Accessible Changing

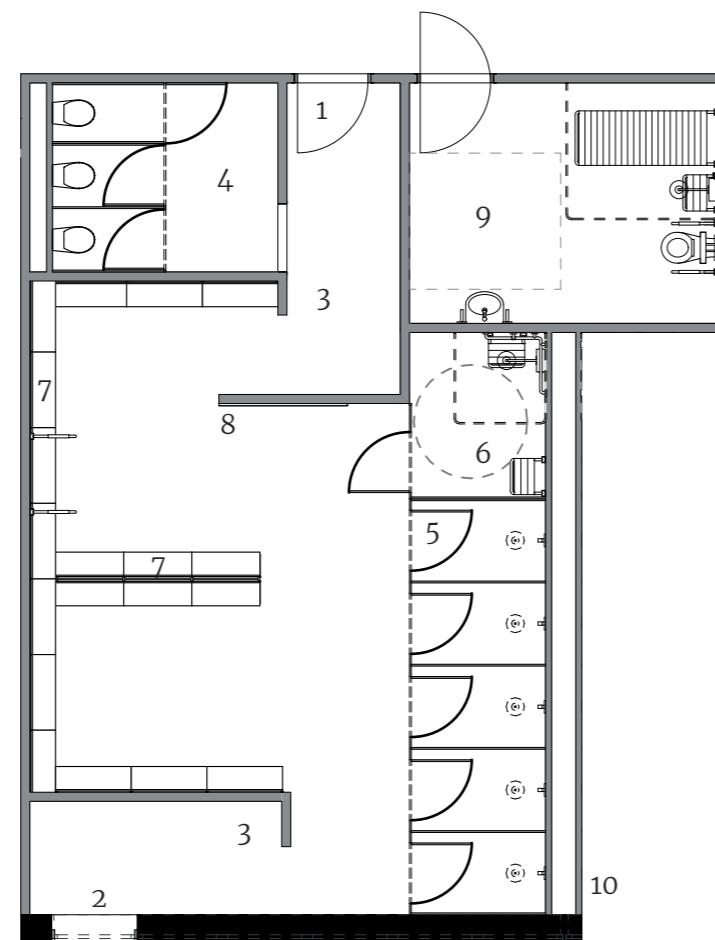
In addition to the full size hygiene room/changing places room shown here, there is also a second unisex accessible shower/changing room near the entrance.

During school time, these can be used by staff, cyclists, and any pupils with disabilities which prevent them using the main changing rooms.

During community use, these can be used by people with disabilities, referees, coaches and the like, who need to change separately from teams.

Lockers

To allow maximum flexibility, lockers are positioned in the shared corridor, not within the changing rooms.



- 1 - Door from corridor
- 2 - External door to pitches
- 3 - Privacy lobby
- 4 - WC & sink area
- 5 - Full-height shower cubicles
- 6 - Full-height enlarged shower cubicle with shower seat & drying seat
- 7 - Changing benches with hooks above
- 8 - Wall-mounted whiteboard for theory/tactics
- 9 - Self-enclosed unisex hygiene room/changing places, accessed directly from corridor
- 10 - IPS (Integrated Plumbing System)



09 Interior Design Opportunities

WC Layout Options

The block of Pupil WCs on the first floor has been sized to accommodate several potential configurations of the hand-washing area, with some examples shown here.

All options use full-height cubicles for privacy, which would require individual lighting and ventilation.

The final layout should be chosen after consultation with staff and pupils, and taking into account existing provision elsewhere on site.

Example A - Left

All cubicles can be used by all pupils, reducing queueing for one side while the other is empty.

Unisex cubicles cater for all pupils, reducing difficulties for those who may be transgender or non-binary.

Maximum supervision of the hand-washing area from the corridor.

Example B - Centre

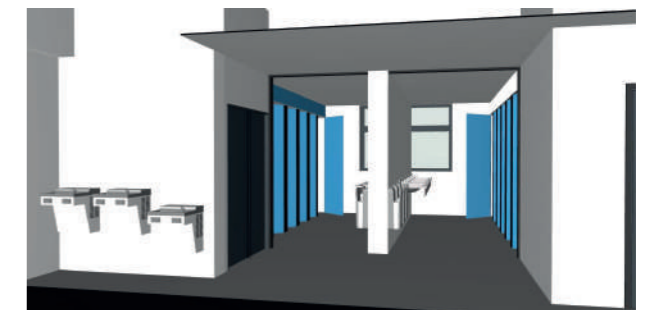
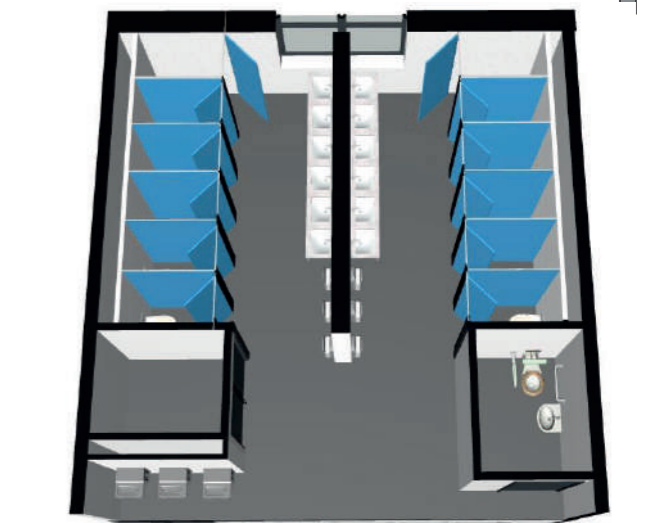
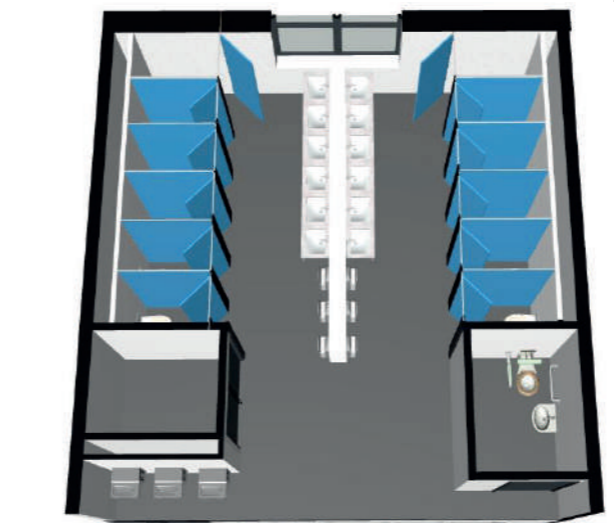
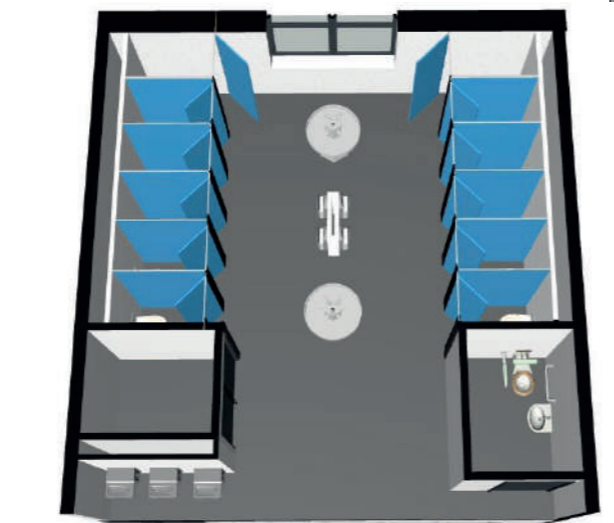
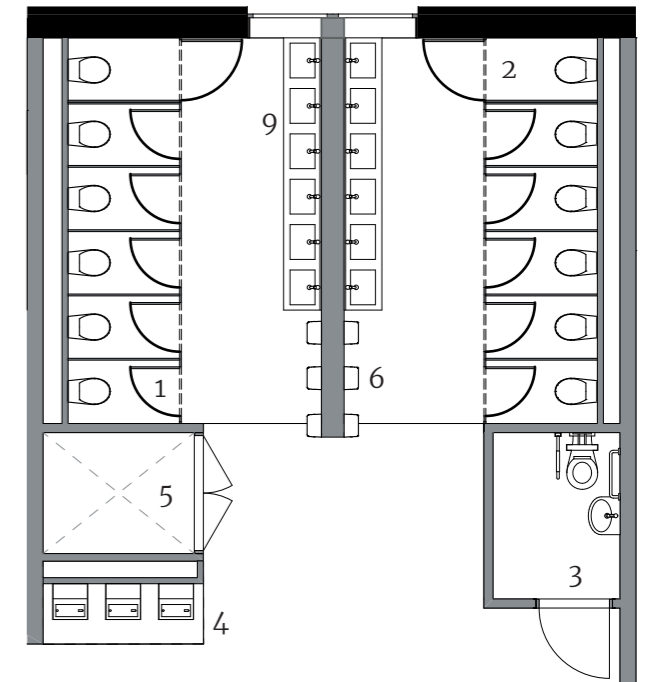
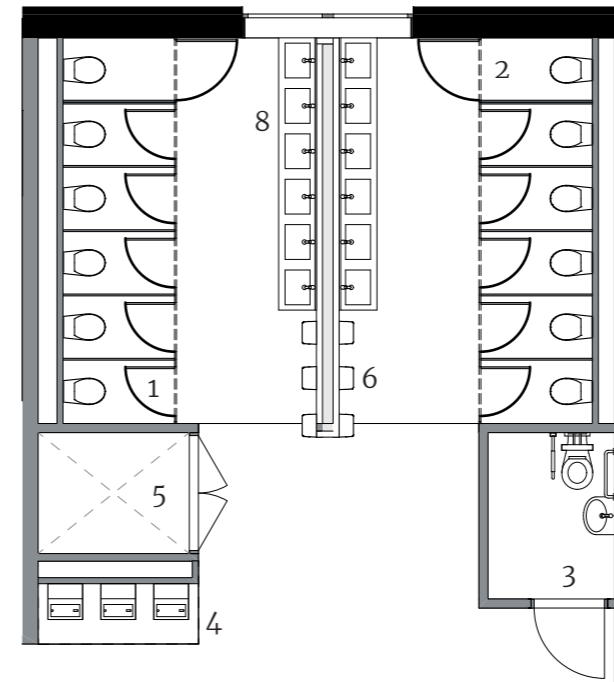
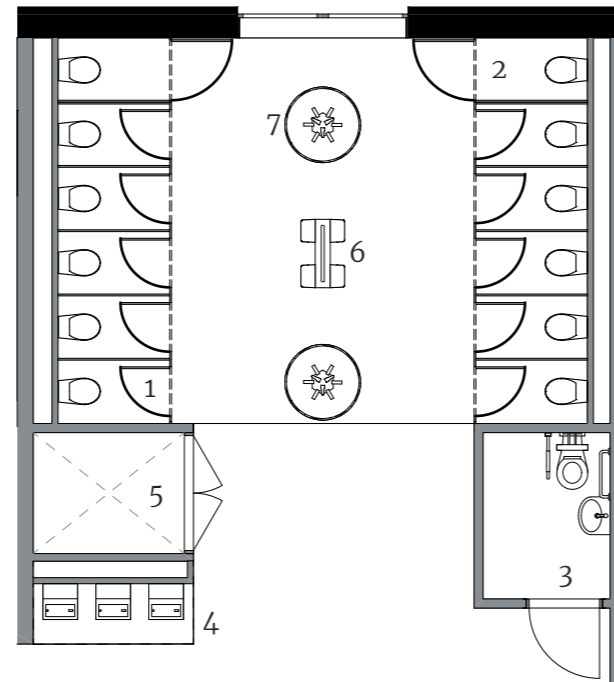
Cubicles could be unisex, and provide the advantages of option 1, or they could be designated male / female through use of signage. This could be changed easily in future without major modifications.

The half-height wall still allows supervision from the corridor as it doesn't block views.

Example C - Right

The full-height wall separates the area into 2 distinct sides, although both can still be viewed from the corridor.

- 1 - WC in full-height cubicle, for pupil use
- 2 - Ambulant WC in full-height cubicle, for pupil use
- 3 - Unisex accessible WC in separate room - for all staff, and any pupils who require it
- 4 - Drinking fountains/water bottle refill points
- 5 - MEP riser - locked shut
- 6 - Hand driers
- 7 - Open plan hand-wash area, with shared through sinks
WC cubicles can all be used by any pupil, or they can be designated male/female through signage.
- 8 - Visibly open hand-wash area, with half-height wall between sinks for notional separation
WC cubicles can all be used by any pupil, or they can be designated male/female through signage.
- 9 - Full-height wall, visibly divides both sides. View into both sides of the hand-wash area from the corridor is still maintained for supervision.



10 Appendices

10 Appendices

List of Appendices



HLM

Architecture, Landscape Architecture

Document Number	Title	Revision
Site & Landscape		
CCS-HLM-00-00-DR-L-00007	LANDSCAPE GA PLAN	PO9
CCS-HLM-00-00-DR-L-00007	EXISTING SITE PLAN	PO6
CCS-HLM-AA-00-DR-A-00101	Block A - Ground Floor Plan - Existing	PO9
CCS-HLM-AA-XX-DR-A-00301	Block A - Main Building - Elevations - Existing	PO1
New Building		
CCS-HLM-NN-00-DR-A-00111	New Block - Ground Floor Plan	PO2
CCS-HLM-NN-01-DR-A-00121	New Block - First Floor Plan	PO2
CCS-HLM-NN-R1-DR-A-00131	New Block - Roof Plan	PO2
CCS-HLM-NN-XX-DR-A-00201	New Block - Sections - Sheet 1	PO2
CCS-HLM-NN-XX-DR-A-00202	New Block - Sections - Sheet 2	PO2
CCS-HLM-NN-ZZ-DR-A-00300	New Block - Elevations	PO2

