



# River Academy

Design and Access Statement



MAIDEN ERLEGH  
TRUST



River Academy

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Executive Summary

Bowmer + Kirkland have been commissioned by the Department for Education (DfE) to build a new 11-18 year secondary school in North Reading, just over 1km from the town centre & main station.

River Academy will provide much needed school places for 1500 pupils when full, including sixth form. The school is projected to open in September 2023 for a new year 7 cohort, with occupancy building towards full capacity with each new annual intake.

The school will be operated by the Maiden Erlegh Trust, who successfully operate multiple schools in the area.

The proposals have previously been presented and discussed verbally with Reading Borough Council and have been guided through consultation with the Maiden Erlegh Trust, the DfE and their technical and design advisers.

- The works associated with this scheme include:
- Clearing the existing site, including removal of the existing buildings.
  - Construction of a new building for 1500 pupils aged 11–19, containing teaching and study areas, staff accommodation, ancillary and supporting space and a new sports facility.
  - New hard and soft landscaping including trees, social spaces, and security fencing.
  - Main entrance plaza, bridge and approach avenue to the south.
  - Car parking, including accessible spaces, areas for taxi & accessible drop-off and pick up and refuse collection.

This Design and Access Statement supports the formal planning application submission and describes the design's response to the site and consultation undertaken, as well as the measures taken to address access and inclusivity. It forms part of a suite of documents and drawings submitted under this application and should be read in conjunction with these. The statement has been prepared by architects Jestico + Whiles with input from other members of the project team, including landscape architects Ares, service engineers CPWP, FF+E consultant Form Design, and structural engineers Hexa Consulting and Innovare. Nexus planning are acting as planning consultants and are leading the planning process.

Please note that all illustrations contained within this report do not constitute part of the Planning Application, and are intended as visual representation only.



View of the Main Entrance Approach

The Brief

2.1 The Brief

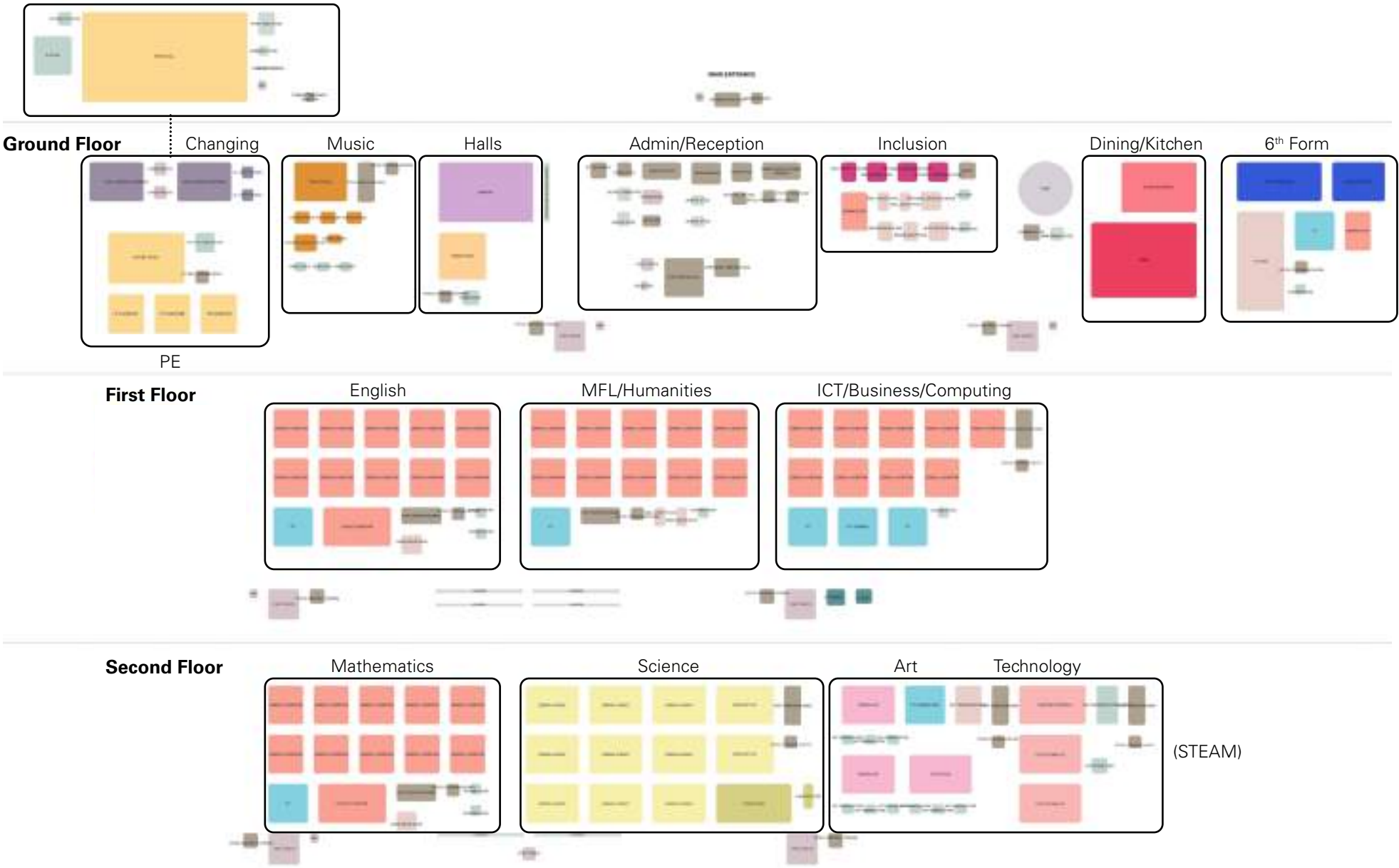
The brief is to create a new secondary school that will provide a much needed education facility for pupils aged 11-19.

The initial brief was provided by the DfE and was given to Bowmer + Kirkland during the ITT process. This consisted of a set of documents, including the Output Specification (OS) which defines what the DfE requires as a minimum in its new school buildings, and a schedule of accommodation which highlights the rooms required by the school. The OS places strong emphasis on the quality of the learning environment, particularly in terms of daylight and ventilation.

This brief was developed during the client engagement process, which involved key stakeholders including the DfE and The Maiden Erlegh Trust. Some of the key items raised include;

- River Academy core curriculum areas:
- Core (English, Maths, Science);
  - Global (MFL, Humanities);
  - Performance, Presentation & Self (PPS) – (Performing Arts, PE, PSMSC)
  - Creative & Digital Enterprise (CDE) – (Visual and Digital Arts, Computing, Food, Business, Economics)
- 
- Hall & drama arranged for performances
  - Separate sports facilities to enable community use
  - Dining areas sited for good external access
  - SEN and 6<sup>th</sup> form areas to be sited on dedicated circulation routes with dedicated external space
  - Excellent building circulation including external areas, particularly arrival and departure at the beginning and end of school day.

Sports Hall



A visual representation of the brief approximately locating departments around the building

Location and Context

3.1 Site Location and Planning Context

The site is located to the north west of Reading town centre, off Richfield Avenue and directly to the south of the River Thames, approximately 1-1.5km from the town centre and mainline station.

The site is owned by Reading Borough Council.

It is bounded to the west by farmland used for the Reading Festival, to the south by a triangle of land that is currently used by Festival Republic for access and logistics to the main festival site and the Caversham Bridge Garden Centre. The the east is the existing Rivermead Leisure Centre. The River Thames and adjacent green space lies directly to the north of the site boundary.

The site has previously been used as a driving range.

There is a watercourse running to the west and south boundaries of the site, limiting access points but providing excellent existing biodiversity and green context



Location and Context

Planning Context

The site is within the Thames Valley Major Landscape Area designation and within a Local Green Space. (Planing policies EN13 and EN7). The design of the proposal has responded to these policies to ensure the qualities of the open space surrounding the site are not eroded or harmed by the development.

The new school building and sports hall will be located at the southern extremity of the site, aligned with the existing (and redeveloped) leisure centre buildings. This positioning protects the open character to the north of the site adjacent to the publicly accessible open space. It is considered that the proposals will retain the majority of the open space of the site, with new built form comprising only 9.3 % of the site.

Substantially enhanced landscaping accompany the proposals, it is therefore considered that the development proposals will result in an enhancement of the quality of the open space on the site, in particular the northern area, closest to the River Thames, which will benefit from additional landscaping, ecological areas, new fencing. The site will also benefit from regular maintenance, which will address the presently rundown appearance of the site.

A Landscape Visual Assessment accompanies the application which demonstrates that the proposed new school development will not detract from the character or appearance of the Thames Valley Major Landscape Feature. The Visual Assessment includes views of the Mayor Landscape Feature both from within and from beyond the area. The proposals will not detract from the character or appearance of the Major Landscape Feature, due to the distance of the proposed buildings from important visual receptors, lack of intervisibility due to distance and intervening trees and vegetation.

The form and appearance of the building has been carefully considered in respect of the situation of the site within the Thames Valley Major Landscape Designation and in consideration of the site context within the open expanse along the southern bank of the River Thames, which opens up from the Reading Town Centre and Caversham Bridge towards the west. More detail on the design response is provided over the following sections however a key summary is provided below in response to the planning context.

The accommodation is split between a central block with two main wings to the north. The sports accommodation is located in a smaller block to the southeastern corner of the site. This building form concentrates the main elevation to the south, where it is of most value providing the school with a positive public prescence. The set back courtyard between the wings on the north side provides depth and articulation to the building form, breaking down the mass and integrating it within the open landscape toward the River.

The materials palette has been selected to reflect the location of the site and the aspirational ethos of the school. The school is to be clad at ground floor level with a robust light brick finish, with the upper level treated with continuous cladding panels in a mix of deep grey tone accented by coloured panels around the entrance area and feature panels in line with windows. A natural colour palette of greens, blues and yellows has been selected to compliment the tones of the landscape surrounding the building.



Site Location



Northern boundary with River Thames beyond



Boundary fence to Rivermead Leisure Complex



View from north eastern boundary toward Reading



Western boundary to Cow Lane



Southern 'triangle' hardstanding of site



Overgrown watercourse with fly tipping

Location and Context

3.2 Site Analysis

Analysis of the site through research and technical surveys has been commissioned by the DfE as part of the site selection and feasibility study. These have been studied and have informed the proposals and supplemented by additional surveys carried out by Bowmer & Kirkland.

The surveys undertaken are listed below:

- Arboricultural Survey
- Ecology Survey
- Environmental Noise Survey
- Flood Risk Review
- Geo-Environmental and Geotechnical Site Investigation Survey
- Ground Investigation Desk Study
- Topographical Survey
- Underground Utility Survey

The majority of the site is situated on level 2 or 3 flood zones. Detailed analysis of the predicted flooding levels has been carried out to inform the design response.

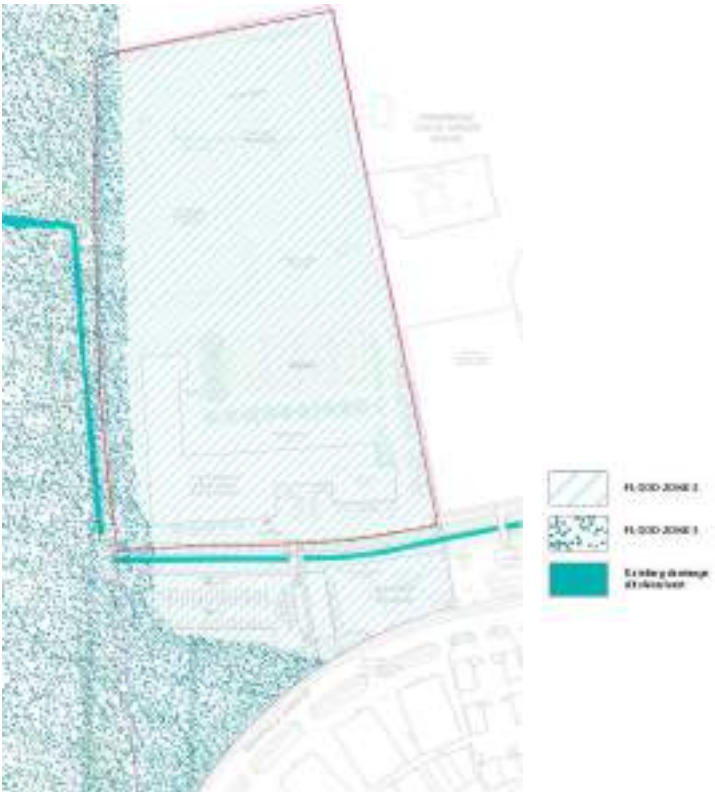
The site is also comprised of historical landfill. Additional surveys have been carried out to establish the depth, content and capping material for this landfill in order to inform mitigation measures.



Map of existing habitat & planting



Roach noise impact & solar path



Flood risk overlay



Site Access Opportunities

Design Process

4.1 Design Approach

The Bowmer + Kirkland design team embarked on the challenge of developing the design for River Academy through a series of engagements with the DfE, their technical advisors and the Maiden Erlegh Trust. Meetings were held weekly over a six-week period, to review the development of the design, which includes development of the brief, room adjacency, concept design and technical design.

As a team, we look at the project with a top down, bottom up approach. Top down is where we look at the site, its location and the context, while bottom up is where we work with the clients’ brief, their drivers and their vision.

From the top down: we studied the available site information and context; we carefully reviewed the available technical surveys; developed site masterplanning strategies to reconcile the differing needs of the major pieces: the building, access, levels and the space available for external landscape design. We have also carefully considered site access for both construction traffic and general school use.

From the bottom up: we began with a thorough reading of the briefing documentation and informative discussions during the early briefing engagements, developing organisational strategy diagrams and concept options in response to requirements established by the Schedule of Accommodation (SoA) and adjacency diagram. Testing of options has been key to the development of our design to meet the curriculum requirements of the school.

4.2 Consultation

Throughout the design period leading up to this application, several consultations have taken place with various stakeholders, which will continue throughout the development of the project. To date, these have all had a positive impact on developing the scheme.

- To date we have discussed the scheme with the following parties:
- Staff and representatives of The Maiden Erlegh Trust,
  - Representatives from the DfE and their technical advisors Mace,
  - Planning officers from Reading Borough Council,
  - Festival Republic
  - Caversham Bridge Garden Centre
  - Ward Councillors and other community representatives,
  - Neighbours,
  - Local residents with an interest in the proposals.

Initial proposals were tabled to Reading Borough Council during a pre-application meeting in October 2021.

The project team have also engaged with the local community. The scope of the engagement exercise was to inform local residents and stakeholders about the plans and to seek their feedback.

The Statement of Community Involvement will be submitted in support of the planning application and provides details of the engagement undertaken, analysis of community feedback and responses from the project team.

Our engagement activity included;

- Detailed project website, for people to review and provide comments
- Flyers circulated to the local area
- Two webinars for immediate stakeholders and the general public



**Bowmer + Kirkland (B+K) has been selected by the Department for Education (DfE) as the main contractor to build River Academy, Reading.**

The plans are for a site off Richfield Avenue adjacent to the Rivermead Leisure Complex, which was transferred at no cost by Reading Borough Council in order to cater for the demand for additional school places in Reading and to serve the needs of children and the local community.

The new school will cater for 1500 students between 11 and 18 years of all abilities and backgrounds. The project team are seeking community feedback on the detailed plans before submitting a planning application to Reading Borough Council.

## PUBLIC WEBINAR

B+K will be presenting the plans in a public webinar on:

**Monday 29th November 2021, 6.30pm – 8.00pm.**

You can register to attend on the project website

**[riveracademyreadingplans.co.uk](https://riveracademyreadingplans.co.uk)**

If you are unable to attend, the presentation will be available on the website after the event. If you do not have internet access please leave a message with your name and address on 07592 570528.

[riveracademyreadingplans.co.uk](https://riveracademyreadingplans.co.uk)

9

Landscape Strategy

The principle strategy for the site is to maximise the areas of external curriculum space by ensuring areas of infrastructure, car parking and service yard are efficiently sited and designed.

Through the early design development and associated client engagement, the design team have developed a site plan that balances the specific needs of the School Trust, Festival Republic and the existing Garden Centre team, as well as considering the specific site characteristics:

- 1 The staff car park provides 76 spaces; there are 6 accessible bays in proximity to the building main entrance.
- 2 Level and accessible access to entrances to ensure inclusion of all pupils
- 3 Separate external areas for sixth form and inclusion pupils
- 4 Larger area of external sports field with 400mm athletics track
- 5 4 x MUGAs
- 6 Landscaping and sustainable drainage systems integrated within play area design
- 7 Provision has been made for Festival access during festival period
- 8 120 covered cycle parking
- 9 Garden center loading bay
- 10 Service yard and bin store

External Social Areas

Within the school secure boundary, all external areas provided are for designated formal and informal social use by pupils throughout the school day. Externally, spaces have been created to allow students of all ages and abilities to relax, learn, socialise and play. The proposed trees, soft landscaping and high quality surface treatments complete the entrance area creating a welcoming frontage.

Hard and Soft informal spaces are also provided outside of the dining hall to cater for outdoor dining and play during lunch when the weather permits. Terraced seating has been intergrated into the ramp from internal dining to provide further seating for pupils

Sixth form pupils require their own entrance with a separate external area that includes seating and soft landscaping, with integrated terraced seating. Inclusion students can also enjoy as separate private external area with seating.



Design Proposals

Site Access & Circulation

Vehicle Entry & Car Park

The main vehicle entry point into the school site is from Richfield Avenue, via the new road running parallel to Cow Lane, leading to the car park that is situated in the southern triangle. The car park is legibly laid out and provides safe and easily managed space that mitigates against the potential for conflict with vehicles and pedestrians. There is a one way system which ensure vehicles enter and exit from the same point.

There are 76 spaces provided on site for school staff and visitors, with 8 EV charging points and 6 disabled bays.

Pedestrian Arrival

The main pedestrian entrance is from Richfield Avenue, leading pupils and visitors along a wide entrance pathway which is securely designed for pupils to safely cross through the car park area, with fencing and bollards providing protection.

Pupils cross the newly designed bridge, passing through open gates in the morning and afternoons, leading into the school playground at the rear of the site. Visitors can easily access the main reception from the entrance pathway.

Sixth form pupils have their own private entrance to the west of the building, which is accessible through an access controlled gate.

- Gate location - OPEN
- Gate Location - MANAGED
- Gate Location - LOCKED
- ↔ Visitor Pedestrian Access
- ↔ Student and Staff Pedestrian Circulation
- ↔ Vehicular Circulation



Design Proposals

Festival and Garden Center Access

Festival Access

Provision has been made for vehicular access on both the eastern and western side for Festival Republic's disabled camping use during the Reading Festival period.

Pedestrian festival access is required to the southern triangle for access into and out of the festival site in the adjacent field. This area has been designed to accommodate a 14m wide access route known as 'O'Malley Alley', allowing the festival goers to enter and exit the site from Richfield Avenue.

Garden Center Access

The existing garden center to the east of the southern triangle requires access for delivery vehicles at varying times of day. A loading bay has been provided with gate access that ensures the safety of the pupils while also allowing for artic vehicles to enter and exit the site safely via Richfield Avenue.

- Festival Access to sports field
- Student and Staff Pedestrian Circulation
- General Garden Centre Vehicles
- Artic Route for Garden Centre Access
- Unloading Bay for Garden Centre Vehicles
- Garden Centre Staff Unloading
- Pedestrian Festival Access Route (Entrance and Exit)
- Gate location - OPEN
- Gate Location - MANAGED
- Gate Location - LOCKED



Design Proposals

Service, Refuse and Recycling Strategy

The bin store is situated within the service yard to the western side of the building, with easy access to the kitchen. Refuse vehicles will have access to the site from Richfield Avenue and enter the school site from the south west corner, leading into the service yard.



Design Proposals

Site Security

Fencing Strategy

There is new 2.4m weldmesh perimeter fence providing a secure site boundary to the external play areas, as well as providing segregation to the service yard and external inclusion zone. There will be 3m tall weldmesh fencing to the MUGAs.

To ensure the safety of public from the slope down to the water course, a timber post and rail fence is proposed along the south side.

Within the car park there is a post and rail fence ensuring segregation between the car park and the main pedestrian route through the site, and a 1.8m weldmesh to segregate the garden center loading bay when it's out of use.

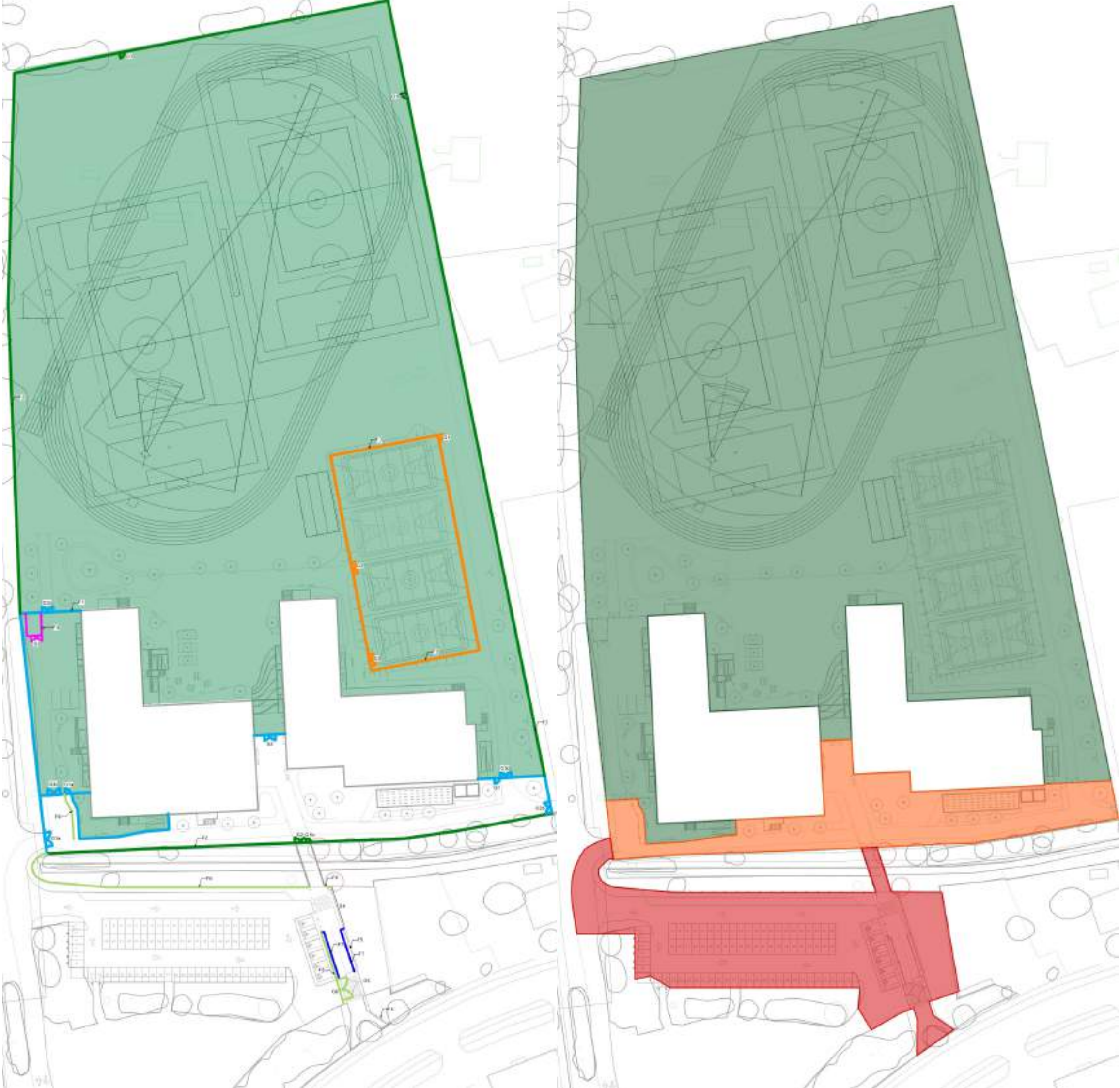
Timber knee rails are provided as planting protection to the main pedestrian entrance route.

- F1 2.4m Weldmesh Fencing
- F2 2.4m Weldmesh Fencing
- F3 3.0m Weldmesh Fencing to MUGA
- F4 2.4m Timber Close Board Fence
- F5 1.8m Weldmesh Fencing
- F6 1.0m Timber Post & Rail fence
- F7 0.6m Timber Knee Rail

Secure Line

The secure and non-secure areas are highlighted on the diagram to the right in green and red respectively. Whilst the school is in use, pupils are situated within the secure line primarily, gaining access to the MUGA whilst under supervision. The orange area represents the managed access area will be controlled by the school which will be able to give out of hours access to the available amenities. This strategy is supported by the fencing layout throughout.

- SECURE AREA
- CONTROLLED ACCESS
- PUBLICLY ACCESSIBLE AREA

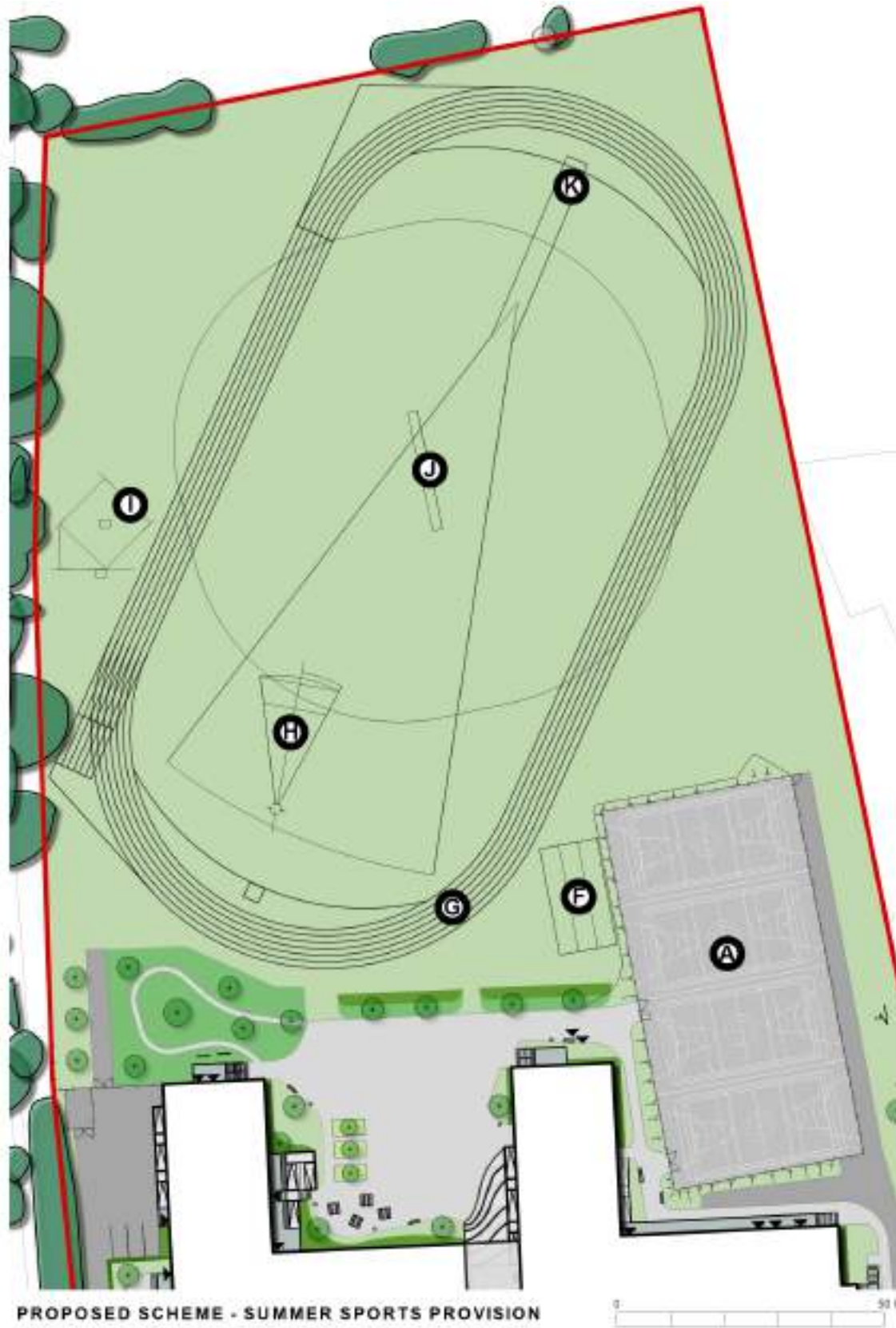
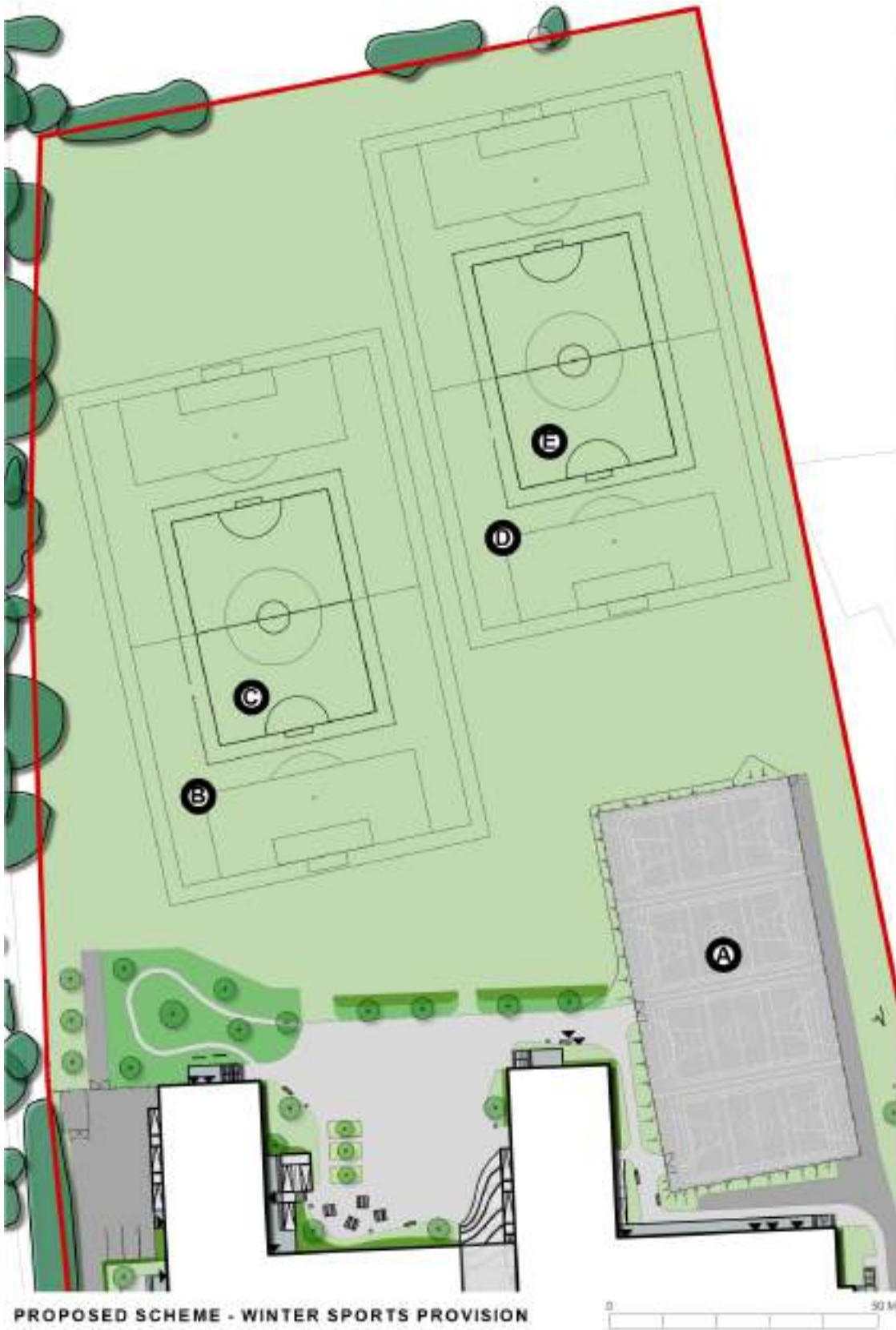


Winter Sports

- (A) 4 NO. MUGA COURTS
- (B) DRAINED 11-A-SIDE FOOTBALL PITCH (U15/U16)
- (C) DRAINED 5-A-SIDE FOOTBALL PITCH
- (D) FREE DRAINING 11-A-SIDE FOOTBALL PITCH (U15/U16)
- (E) FREE DRAINING 5-A-SIDE FOOTBALL PITCH

Summer Sports

- (A) 4 NO. MUGA COURTS
- (B) DRAINED 11-A-SIDE FOOTBALL PITCH (U15/U16)
- (C) DRAINED 5-A-SIDE FOOTBALL PITCH
- (D) FREE DRAINING 11-A-SIDE FOOTBALL PITCH (U15/U16)
- (E) FREE DRAINING 5-A-SIDE FOOTBALL PITCH
- (F) CRICKET NETS
- (G) 400M ATHLETICS TRACK
- (H) SHOTPUT
- (I) ROUNDERS
- (J) CRICKET PITCH
- (K) JAVELIN



Planting & Habitat

Tree Planting

Trees have been used to provide a sense of definition or enclosure to the external spaces, as well as some noise mitigation to the front of the site. This palette has been developed for: its robustness to site conditions, extended seasonal variety and its ability to quickly give a sense of presence and structure to the landscape.

Structural Planting and Amenity Grass

The planting design aims to increase verdancy and improve ecological value across site. This will not only be achieved through the introduction of additional species but also through maintenance operations in the form of differential mowing regimes and the creation of additional habitat amenity.

At ground level, a robust palette of plant species that are safe for school environments will be used, ensuring a variety of forms, colour and seasonal interest is provided throughout the planting beds.

A habitat area is also provided to the south of the site with meadows and tree planting creating a more quiet space. This area of long grass and wildflowers will not just provide sensory interest but it will also greatly increase the biodiversity and wildlife presence on site

Existing Vegetation

Whilst most of the existing trees on site are located around the boundary, the landscape has been designed strategically to ensure as much existing vegetation is retained as possible.



TREE PLANTING



STRUCTURAL PLANTING  
Hedging



Ornamental grasses



Perennials



MEADOW & AMENITY PLANTING  
Wildflower meadow seed



Grass sports pitches



Mown grass areas



Main pedestrian entrance from Richfield Avenue



Main entrance and new bridge crossing over water course



Steps leading from main entrance into external play



Integrated ramp and seating from dining hall



View of external dining area



External play with integrated soft landscape



Habitat area



View of MUGAs and playing fields

Design Proposals

5.1 Use and Amount

The building comprises approximately 11333m<sup>2</sup> total internal accommodation area. This includes sports facilities comprising a 4 court sports hall, 150m<sup>2</sup> activity studio and supporting spaces.

The main teaching accommodation is arranged over three storeys, with the sports block being a lower, single storey wing to the east.

The building and landscaping have been designed as one and will include a new multi-use games area and sports pitches on the fields to the north.



Elevated view of the main approach from the south & arrival from Richfield avenue. The design of the building and the landscaping of the approach has been developed in tandem to create a welcoming, practical and aspirational arrival experience for students and visitors.

Design Proposals

5.2 Scale and Massing

The form and mass of the new building is to a certain degree a result from designing the building to the school's brief and responding to the site's constraints.

The main teaching accommodation is arranged in a 'C' shape around a central courtyard. This is a positive layout for a building of this size, offering excellent circulation and movement around the building, departmental layouts as well as unifying the school around the central landscaped courtyard and shared central services.

Of particular focus is the pupil experience. The southern elevation, visible on approach, gives precedence to the covered entrance way at ground floor that allows for a direct landscaped route into the central courtyard . This route will serve as the main arrival and departure point for students at the beginning and end of the day.

Entrance sequence - the visitor entrance via main reception is sized to be slightly smaller than the student entrances beyond, whilst still offering a focal point, it does not distract from the design which gives precedence to the pupil experience which is key to making this an aspirational building for the 1500 pupils that will use the building on a daily basis.



5.3 Building Layout

Ground Floor

The ground floor of the building appears to be split into two, but is joined on the upper floors forming a single building, with a generous covered route through the block at ground floor, joining up the landscape design.

This allows effective placement of the three main entrances - pupils through the centre and public/ visitor through a secure reception area to the left, and a dedicated out-of-hours community reception to the right.

The ground floor utilises the courtyard typology to give separation and excellent external links to the dining hall, whilst optimising the delivery area to the west.

The central block includes a ring of circulation around the main assembly hall, collocated with drama & music to facilitate performances.

Both the 6<sup>th</sup> form accommodation and SEN cluster have been located on the south/western side of the block, offering dedicated circulation and external space.

The sports accommodation is located on the east giving excellent access to the external sports facilities and also creating a logical adjacency with the existing leisure centre to the east.



Ground Floor

5.3 Building Layout

First Floor

The first floor contains most of the general teaching classrooms, arranged in clear departmental groupings with associated staff and ancillary accommodation.

WC layouts for students align on each floor offering a clear and well supervised layout including accessible WCs.

Staff accommodation is distributed around the plan to maximise passive supervision.

ICT classrooms are strategically distributed around the plans to align with the School's vision for the curriculum ensuring each department has access to ICT-rich teaching space.



First Floor

5.3 Building Layout

Second Floor

The second floor accommodation includes the science department, and the remainder of the general teaching classrooms forming the maths department.

The art rooms occupy the favourable central portion of the block offering views out across the playing fields towards the River Thames.



Second Floor

Circulation

The main building access is in the centre of the blocks. Additional access is provided to the west for deliveries to the kitchen, as well as a dedicated sixth form access into the social room.

The sports hall has direct external access from the changing rooms.

Additional external access points are located at each main stairwell and at other key locations to ensure good mobility around the school, particularly at lesson changeovers.

Two main stairwells in the centre of the block adjacent to triple-height open light wells provide focal points within the circulation, assisting orientation and maximising natural light with two additional main stairs at the ends of the wings.

Clear wide corridors have been provided on all floors ranging between 2 and 3 metres wide depending on the accommodations served, providing generous width for high capacity movement where required.

There is a passenger lift in the building, located close to the entrance reception, and off a secondary circulation route.

Ancillary Areas

Two main Pupil WC blocks are located in the middle of the building on all floors. All typical pupil WC blocks contain an accessible WC and are oriented perpendicular to the circulation, offering privacy within cubicles but allowing passive supervision of the hand washing and circulation space.

An AWC on the ground floor is located next to the main entrance to double up as a visitor toilet. All AWC provisions comply with Part M.

Changing facilities are located on the ground floor with accessible changing and showers provided. A Staff shower / accessible changing facility has also been provided outside of the main pupil changing block, along with a hygiene room.

The main kitchen servery is positioned next to the dining hall with a secondary servery within the sixth form social room.

Passive Supervision and Staff Areas

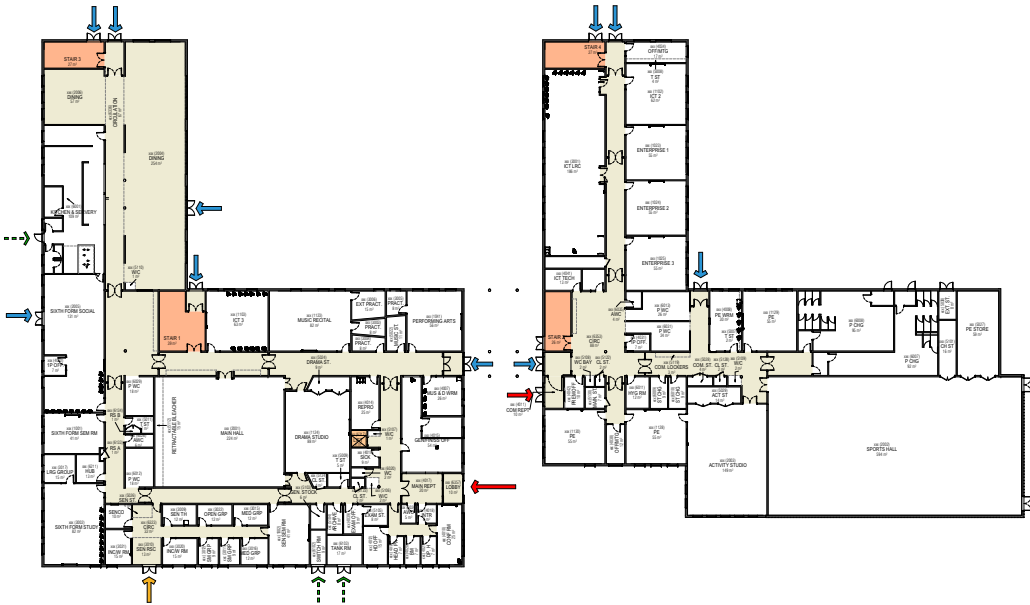
A key part of school design is to provide good passive supervision both internally and externally. This helps to create a calm and safe environment across the school. Staff spaces have been distributed where required across the plan to monitor dead-end corridors.

Core administration areas including the visitor and pupil reception areas are clustered on the ground floor offering supervision of all the entrances and supported by the principal’s office and conference room.

On the upper floors the staff room is located in the centre of the plan with great south-eastern aspect, with staff work rooms strategically located at the ends of the wings offering supervision of the external play areas to the north.

Community Use

The building has been designed so that the eastern side of the building can be closed off securely and used by the community out of hours. This includes spaces all of the sports facilities including the main hall, activity studio and changing rooms, along with the hygiene room and accessible changing.



Circulation - Ground Floor



Community Use - Ground Floor

5.5 Building Form and Appearance

As previously mentioned the form of the building has been carefully considered to articulate the function of the building, placing emphasis on key areas such as the main entrance and sports hall.

The external appearance has been developed alongside this to support and enhance the school's aspirational image.

The cladding is formed of a light brick slip system at ground floor providing a robust finish but also grounding the building in the landscape. The upper floors of the building are treated with continuous cladding panels, generally in a deep grey tone which provides a mature and businesslike image for the secondary school. This is accentuated by localised areas of coloured cladding panels, placed above key areas such as the main student entrance but also in line with the windows to add variation and structure to the main teaching accommodation.

The window and doors are of generous proportions, with areas of curtain walling provided to the dining hall, main entrance and corridors to enhance views and connectivity with the landscape. These are proposed to be framed in a light silvery finish to contrast with and accent the dark cladding.



South Elevation - with canopy at main entrance



A key view of the landscaped courtyard at the centre of the new school, open to the playing fields to the north and the River Thames beyond. The wide circulation route under the building to the main entrance can be seen at the left hand side along with the dining hall on the right.

Key Building Sections



Several sections drawings have been provided with the full planning application pack to help articulate the design of the school. The section above shows how the landscape has been integrated with the route through the centre of the building, linking the main entrance approach with the courtyard between the wings to the north.



The lower section on the page, taken at right angles to the section above, shows the proportion and height of the wings and their relationship with the courtyard. Sunlight access is key - the central courtyard has been made as wide as possible to bring light into the classrooms which face it and also maximise sunlight to the external spaces.

Design Proposals



View of Dining Hall



View of Main Hall from South



View of Building from South West



View of Main Entrance

Design Proposals

5.6 Cleaning and Maintenance

The design for River Academy has been carefully considered in terms of maintenance, with hard-wearing finishes which require little to no cleaning being specified to all façades.

Hard surfaces are provided around the building perimeter. The hard surfaces provide an access route for servicing or MEWPs for high level access, or to build temporary scaffolding from. It is proposed that the windows will be cleaned from ground level, using a water-fed pole system.

The main plant room is located on the second floor, as there is no large components located within, it is easy to access and maintain when required.

The roofs have been designed with a minimum 1100mm parapet to all sides, thereby providing a safe environment for maintenance. All roofs will be accessed via doors from internal spaces with additional external stairs leading from there up to higher roof levels.

Internally, robust and low maintenance finishes will be specified. In high level spaces, LED lights will be specified to minimise access requirements and working at height. A detailed Cleaning and Maintenance Strategy will be developed as the project progresses.

5.8 Safety and Security

River Academy needs to be able to offer an attractive and safe environment for all users. It is necessary to balance the desire for improved security whilst still retaining a welcoming, soft and natural appearance. The buildings have been designed to be open and welcoming to all whilst still ensuring adequate levels of security, thus promoting a sense of inclusion throughout.

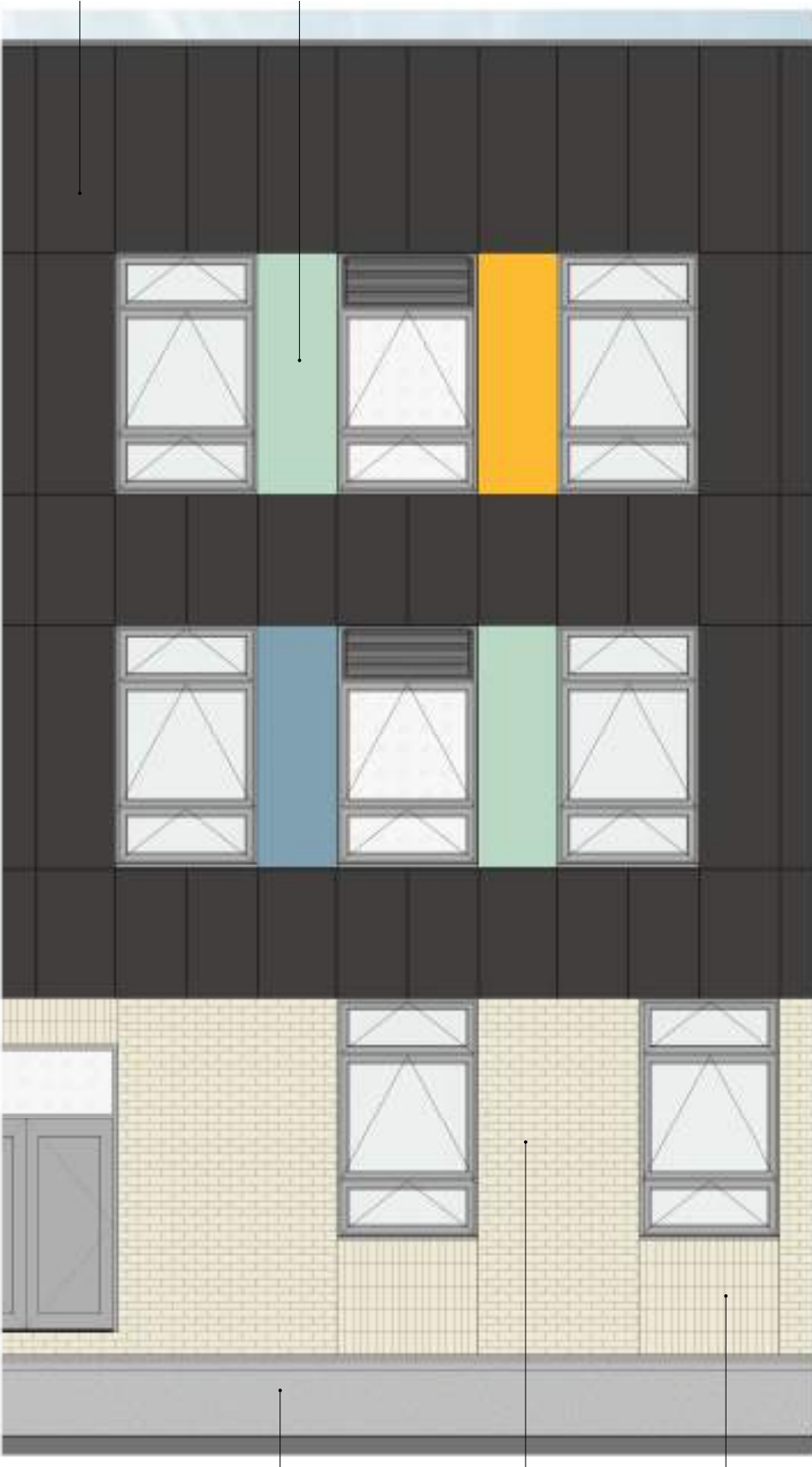
The principles of Secured by Design have informed the design process. The new buildings should establish and maintain a safe and secure environment, and in particular reduce the opportunity for crime and antisocial behaviour, in turn reducing the fear of crime. The site has been arranged such that there is a clear divide between secure and non-secure areas, and the entire site can be safely locked at night.

Pupils will primarily access the school at the beginning of the day via the main pupil entrance from Richfield Avenue, through to the central courtyard of the building from where they can directly access the building.

During the school day, gates between the visitor entrance and the student entrances are closed and locked allowing visitors late pupils to enter the building through the secure and monitored main entrance reception.

The main entrance is designed to act as an ‘air lock’, which controls visitors entering the school. The reception desk is located behind a glazed sliding screen and provides a high level of supervision of the space. Adjacent is an interview room, where parents can be met by staff without having to pass through the secure line.

Planting will be maintained so as not to reduce the effectiveness of CCTV. Trees will not be allowed to mask lighting columns nor placed too close to buildings to provide climbing aids. Secluded spaces and corners in both the interior and exterior design have been designed out as far as possible, whilst trees and shrubs will be pruned to ensure clear lines of vision around the site. Planting will be maintained to create the impression of a well-cared for environment, which it is hoped, will discourage anti-social behaviour.



Access

7.1 Transport and Travel Plan

The proposed school includes the provision of 82 car parking spaces accessed from an upgraded junction onto Cow Lane and shared with occasional garden centre delivery vehicles, though these shall be coordinated and timed to take place outside of the school peak periods. The plans also include 120 secure and sheltered cycle parking spaces which can be accessed by a new segregated pedestrian and cycle access point from Richfield Avenue.

The level of car parking and cycle parking are provided in line with design guidance published by Reading Borough Council and have been designed to support the uptake of sustainable travel modes by not incentivising travel to the site by private vehicle. In addition to new and improved site access arrangements, proposals also include pedestrian and cycle crossing upgrades on Cow Lane.

The proposed school site is located in an area which benefits from excellent levels of accessibility by sustainable modes of travel. The majority of the 1,500 pupils shall travel to the site either on foot, by public transport or cycle. Approximately 20% of pupils are anticipated to travel to the site by private vehicle and when car sharing siblings and friends are taken into account, this would result in circa 190 pupil vehicle trips to the site.

It is anticipated that the majority of staff will travel to the site by private vehicle however the preparation and implementation of a School Travel Plan will promote measures and incentives that reduce the number of staff arriving on site by car and the resultant demand for parking on site.

It is considered the proposed site represents a suitable location for the new school. It is located in an accessible location and within acceptable walking distances from established residential communities. Alongside local infrastructure improvements, the implementation of the School Travel Plan will ensure any potential residual traffic impacts are minimised and are considered to be acceptable in terms of their impact.

7.2 Inclusive Access

The new building has been designed to be fully accessible and inclusive. All spaces in the new building will be accessible to all; the floors and thresholds are level and there is a lift serving both floors.

The design proposals have been developed with reference to Approved Document Part M (AD-M), the DfE Building Bulletin 91 ‘Access for Disabled People to School Buildings’, Building Bulletin 102 ‘Designing for disabled children and children with special educational needs’ and BS8300:2018 ‘Design of an Accessible and Inclusive Built Environment.’

It is envisaged that the lift will be accessible to all students, staff and visitors, who may require its use, by way of key operated or swipe card-controlled access. The lift is not intended for everyday circulation, but only for mobility impaired persons or for moving heavy and bulky items between floors.

All of the spaces will be designed to comply with BB93 and good practice acoustic design. Poor acoustics can have a significant negative impact on the educational development of children. Whilst adults can make guesses at words missed, children often find it harder to do so, and so wherever possible improvements will be made to the room acoustics, including sound insulation between spaces (airborne and impact), reverberation within teaching and study spaces and adequate sound absorption for corridors, stairwells and entrance halls.

Colour contrast will be used to define areas and highlight differences where appropriate. An inclusive design needs to consider all disabilities, and the design will cater for the visually impaired, those with poor manual dexterity and physical disabilities. Good practice design guidelines will be followed at all times, including:

- Full level access to all areas
- Strategically located lift and accommodation staircases to cater for step-free vertical circulation
- Part M compliant doorways in terms of clear width and vision panels
- Flush thresholds across all entry and egress points.
- Generous circulation widths to allow crossovers of movement.
- Visual manifestation considered through changes of material.
- Ironmongery and taps specified to ensure ease of use and good ergonomics.
- Suitable shower and changing facilities
- WC facilities on all floors of the buildings, including accessible WC facilities.
- Acoustic treatment to meet acoustic standards within learning areas
- Contrasting switches located for ease of use by all

**Parking**  
The car park includes accessible parking spaces located close to the main entrance, properly lit and with appropriate markings. Their use will be managed for visitors, staff and students who may require these spaces.

**Approach**  
The routes into the buildings are clear and will be signed and demarcated appropriately using landscape treatments. There are no abrupt changes in level on the approach to the new proposed building.

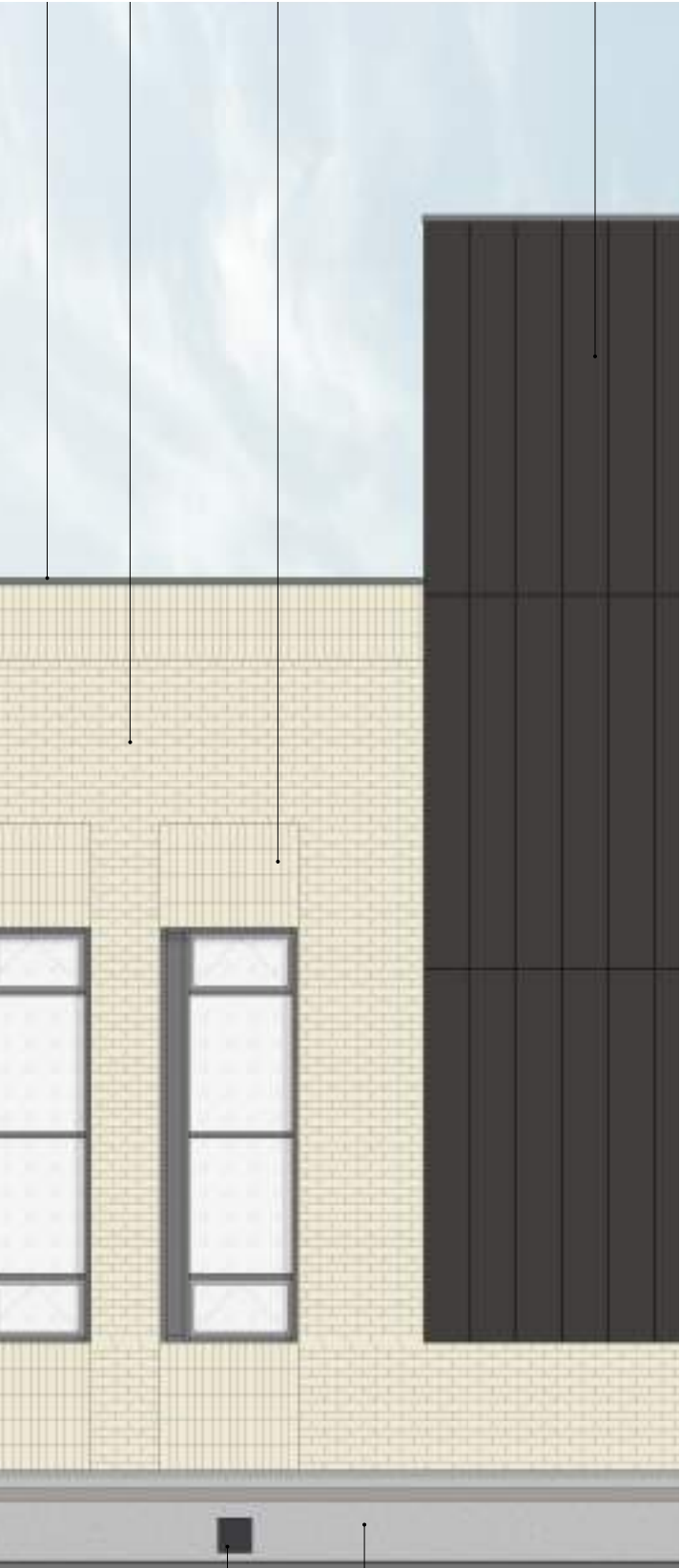
**Entrances**  
The entrances are clearly defined. Powered entrance doors to the main entrance will be provided. The main entrance is staffed by a receptionist. Induction loops will be incorporated where required.

**Staircases**  
The staircases are wide and designed to ambulant standards with handrails of appropriate type and position, closed risers and contrasting nosing.

**Lifts**  
There is a passenger lift large enough for a wheelchair.

**Learning Spaces**  
All learning spaces will be designed to accessible standards, be appropriately lit, incorporate height-adjustable furniture where required and have acoustic attenuation to meet or exceed BB93. Mobile induction loops may be provided for use in classrooms and shared activity spaces as required.

**Emergency Evacuation**  
The buildings are designed with appropriate refuges to allow for managed and assisted evacuation. All refuge areas will feature an alert and intercom link.



8.0 Sustainability

The building has been design in accordance with the requirements of the Department for Education's Output Specification November 2020 Update which sets targets for sustainable design, summarised over the following sections

8.1 Operational Carbon  
(emissions arising from running the building)

The energy strategy for the building is a fabric first approach where the focus is on reducing energy requirement through good practice means of improving the building fabric. Good levels of insulation and air tightness will reduce the heat loss from the building. High efficiency boilers will provide space heating and domestic hot water. LED lighting with occupancy and daylight controls will reduce lighting energy. Ventilation systems will include heat recovery to reduce heat loss. Heating systems shall be designed to allow future changeover to LZC technology by operating at temperatures suitable for heat pumps and will also include connection points to the centralised energy centre for LZC systems for ease of changeover.

Energy metering shall be closely monitored and has been sub-divided to facilitate review of energy consumption. Out of range alarms shall be provided for sub metering to highlight were energy consumption is higher than targeted values to aid facilities staff operate an energy conscious and efficient building.

The building services have been designed to both provide enhanced learning spaces that are comfortable and also energy efficient. Hybrid ventilation is provided within teaching spaces to allow automatically operated ventilation systems that reacts to the internal conditions of the rooms, whilst providing opportunity to open windows and also some degree of control such as boosted ventilation rates. This allows the maximum opportunity for ventilation during the summer to avoid overheating whilst also allowing the flexibility to close windows during winter to avoid cold draughts, reduce heat loss via heat recovery and isolate from external noise sources such as traffic and lawnmowers. Mechanical ventilation with heat recovery is provided throughout the building. Overheating risk assessment has been undertaken to show that hybrid ventilation systems, night time ventilation and use of thermal mass keeps the building cool during summer in accordance with BB101 overheating risk criteria without the need for active cooling systems. Active cooling systems has been restricted to server rooms, hub rooms and control rooms. Space heating and domestic hot water shall be delivered by high efficiency, low NO<sub>x</sub> condensing boilers. Heat is delivered by the ventilation systems in teaching and larger spaces, whilst radiators are provided in smaller rooms such as offices, group rooms, etc. Low Surface Temperature radiators shall be provided in spaces where the occupants are at greater risk of scolding such as SEN spaces. Provision of daylight has been designed to comply with the DfE's Output Specification. Teaching spaces are located around the perimeter where a balance between useful daylight excessive solar gain has been reviewed as part of Dynamic Simulation Modelling. LED lighting, along with absence detection and daylight controls are included to reduce lighting energy consumption.

The energy and sustainability proposals have been discussed with the LPA during pre-app engagement. The Reading Borough Local Plan states that ‘some types of development, such as industrial uses,

warehouses and schools might find it more difficult to meet these standards. In these cases, developments must demonstrate that the standard to be achieved is the highest possible for the development, and at a minimum meets the BREEAM ‘Very Good’ standard.’ Therefore, the proposal for this development is to meet BREEAM ‘Very Good’ standards.

Roof mounted photo-voltaic panels or other on-site renewables are not proposed. Focussing available funding on reducing on-site energy consumption using efficient building systems and a high quality thermal envelope is considered the most cost effective method of reducing the carbon emissions associated with operating the new building. Design of the heating systems has included futureproofing to allow connection of Low and Zero Carbon (LZC) technology such as heat pumps and also free roof space for a PV array will give the school the ability to reduce carbon emissions in line with future commitments.

8.2 Embodied Carbon  
(Emissions arising from the construction of the building)

Whilst these emissions are not currently controlled by the Building Regulations, the proposed building has been designed with measures that reduce overall construction emissions.

The external walls and internal partitions are formed from timber framed panels, offering a significant reduction in energy intensive steel and aluminium traditionally used to construct schools in recent years.

The building layout and structure has been designed in accordance with the DfE's standard building grid which maximises opportunity for the building to be adapted to support future changes, reducing the risk that the building will need to be demolished in future.

The timber panel system used is constructed offsite, offering more efficient processes, reducing material wastage.

8.3 Sustainable Water Cycle

Sanitary fittings in the building are designed to reduce water usage.

A sustainable surface water drainage system is proposed. Refer to the drainage design engineering section on the following page.

8.4 Sustainable Connectivity & Transport

The new school site is well placed near to the centre of Reading for pupils and staff to reach the site by foot, bicycle or existing public transport links. This approach is encouraged by the new infrastructure and facilities provided on site, which will include generous covered and secure cycle storage plus showering and changing facilities including staff provision & lockers for all pupils.

Refer to the transport section on the previous page for more details.

8.5 Sustainable Land Use & Ecology

The proposed school site includes a number of existing habitat and ecological features which are being retained in the new development, including established trees surrounding the site and the watercourses to the west and south side of the site.

The retention of these features plus provision of new trees and habitat areas represent an exciting opportunity for educational benefit from areas which are currently underutilised with limited or no public access.

8.6 Good Health & Wellbeing

Wellbeing of building users is fundamental to the design of good educational buildings and also has the opportunity to enhance educational potential. The DfE Output Specification places high performance standards on natural daylight provision, good views and links to external spaces, air quality and thermal comfort. These have all been responded to in the design of the building fabric and systems which include good ventilation with localised controls in each room and large windows to let in high levels of natural light.

In addition to this, the form of the building, planned around a central courtyard, promotes access to external areas throughout the day, providing an attractive external play and dining space at break times and when moving between lessons during the day.

8.7 Sustainable Communities & Social Value

The new school will provide much needed additional school places for Reading. The proposed building and landscaping has been designed to provide a secure, welcoming environment and to promote social engagement. In addition to this, the new facilities will be available for

8.8 Drainage Design

A new sustainable surface water drainage system is proposed for the site, with discharge of rainfall runoff to an existing ditch running through the site. Discharge rates are proposed to be restricted to be as close to greenfield runoff rates as possible, without causing excessive maintenance issues. Soakaways are considered unviable due to the previous use of the site as landfill. Surface water storage is to be provided on site to ensure no surface water flooding to buildings in storm events up to 1 in 100 years + 40% allowance for climate change. The car park site is to utilise permeable block paving, whilst the school site will benefit from a porous MUGA and below ground attenuation tanks, and filter drains as part of the sustainable surface water drainage strategy.

The foul water network will be pumped from the southern section of the site, discharging to the public Thames Water sewerage system. A private pumping station is to be installed in the south-eastern corner of the site. A private rising main will be installed within Richfield Avenue directly to the Thames Water sewer, or alternatively to a break chamber in the south-western corner of the site where a gravity-fed sewer would be installed to the nearest Thames Water manhole. Both options are under considerations until further surveys are undertaken.

8.9 Flood Risk Assessment

The site lies within Flood Zones 2 and 3. As defined within Table 1 of the Technical Guidance to the National Planning Policy Framework (NPPF), this equates to areas of medium and high probability of flooding from fluvial or tidal sources, respectively. The school building footprint is located in Flood Zone 2. The design of the school building and external site levels have been carefully considered so that no displacement of flood volumes will occur during the ‘design flood event’, as a result of the development. The school building will utilise ground beams as the basis for construction, with provision of voids that are designed to flood at the ‘design flood event’. The Flood Risk Assessment (FRA) demonstrates that through assessment of pre and post development levels, a ‘level for level, volume for volume’ solution has been achieved to ensure no off-site increase in flood risk. The floor level of the school building has been set above the design flood level with an appropriate freeboard. Safe access/egress has also been provided off Richfield Avenue to the front of the school (south).

A Phase II Geo-Environmental Assessment was produced in November 2018. During advancement of boreholes, groundwater strikes were typically encountered within the Kempton Park Gravels at depths of around 3m below ground level (bgl). Resting groundwater levels have previously been recorded at around 2.3m (bgl) to 2.6m bgl, within base of the landfill deposits / top of the Kempton Park Gravels.

The site has been identified as being at low risk of flooding from surface water, groundwater and sewers. The overall flood risk associated with the proposed building is deemed to be low as a result of the evolved design, therefore, the site is considered appropriate for development. A Flood Warning & Evacuation Plan will accompany the Flood Risk Assessment, detailing the necessary considerations around any required evacuation.

8.10 Contaminated Land

It is known that the proposed site is located upon a historical landfill that is understood to have ceased accepting wastes in the early 1970s. On this basis, a comprehensive programme of land contamination investigations have been undertaken and assessment work is currently ongoing. The assessments are being undertaken in accordance with the requirements of the National Planning Policy Framework and the Land Contamination Risk Management (LCRM) guidance, thus ensuring that the final development shall be suitable and safe for its intended use with the mitigation of potential risk to site users and the local water environment.

The landfill extends off-site to the east, where it has already successfully been developed as the Rivermead Leisure Centre. In common with the findings of adjacent Rivermead development, the investigations to date on the study site have established that land contamination matters will not preclude the proposed development, subject to the implementation of widely adopted techniques such as the use of clean soils in landscape and playing field areas. Investigation of the subject site and adjacent Rivermead site has indicated that the landfill has not caused significant pollution of groundwater, nor poses significant risk to the nearby River Thames.

The measures to be adopted to ensure the site will be suitable for its proposed use will be detailed with a remediation strategy document to be submitted in support of the planning application for the site. Liaison with the regulatory authorities is ongoing, to ensure an appropriate level of mitigation is included within the development. During the construction phase, a range of commonly adopted environmental controls shall be adopted to ensure the works do not present a risk of pollution or harm to site neighbours. These shall be documented within a Construction Environmental Management Plan. This will include the implementation of appropriate monitoring during the works including groundwater and air quality monitoring.

8.11 Fire Strategy

The proposed building has been designed to meet the functional requirements of Part B of the Building Regulations 2010 (as amended) by following the guidance of BS 9999 (2017) in the first instance. This document allows for consideration of different occupancy types - such as the public and separate pupil/staff areas - and the relevant mitigations required for each. Means of warning and escape is to be constructed via the provision of automatic detection and alarm, suitable travel distances, sized exit routes and stair widths throughout.

The structure of the building is to be suitably protected for a building of this size and occupancy. Areas of the school comprising increased fire risks or those that are protected escape routes, are to be formed of fire resistant construction. External fire spread both across the surface of the buildings and between the building and neighbouring sites has been considered and suitably mitigated against. Single external escape routes along the building facades will also be protected with fire resistant construction

Firefighting access is provided as per the recommendations of BS 9999 for fire and rescue services. It should be noted that this strategy has been developed based on sprinklers not being provided to the building and meets the functional requirements of the building regulations for life safety without any automatic suppression system being installed

8.12 Acoustic Design

The proposed acoustics design follows Building Bulletin 93 which is the mandatory design guidance standard, as referenced in Building Regulations Part E, to provide a comfortable acoustic environment to aid learning attainment.

An external noise survey was carried out on a typical weekday during time-periods which represent typical teaching hours, i.e. 08:00 – 17:00, and incident façade noise levels were calculated with a 3D modelling software (CadnaA v.2019) based on measured noise data. After creating a prediction of the impact of the recorded noise levels on the façade of the future development, it was considered that noise levels on the northern and western elevations are acceptable for natural ventilation. Rooms on the southern and eastern elevations are to be provided with mixed-mode ventilation which is capable of operating fully mechanically.

Appropriate partitions and doorsets have been specified, which are known to be capable of meeting the required levels of sound insulation (as specified in BB93) based on performance test data received from manufacturers.

In order to meet the target reverberation time criteria, the typical solution within rooms is to provide a combination of sound absorbing ceiling tiles on a bulkhead, combined with acoustic absorption fitted in lighting rafts..

8.13 Transport and Travel Plan

The proposed school includes the provision of 84 car parking spaces accessed from an upgraded junction onto Cow Lane and shared with occasional garden centre delivery vehicles, though these shall be coordinated and timed to take place outside of the school peak periods. The plans also include 120 secure and sheltered cycle parking spaces which can be accessed by a new segregated pedestrian and cycle access point from Richfield Avenue.

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Project Team

**Client**  
**Department for Education**

Sanctuary Buildings  
20 Great Smith Street  
London  
SW1P 3BT

**Client Project Management and Advisors**  
**Mace**

155 Moorgate  
London  
EC2M 6XB

**Contractor**  
**Bowmer + Kirkland Ltd**

High Edge Court  
Church Street  
Belper  
DE56 2BW

**Architect**  
**Jestico + Whiles Associates Ltd.**

Sutton Yard  
65 Goswell Road  
London  
EC1V 7EN

**Landscape Architect**  
**Ares**

Formal House  
60 St Georges Place  
Cheltenham  
GL50 3PN

**Structural & Civil Engineer**  
**Hexa Consulting Ltd**

4 St Mary's Place  
Nottingham  
NG1 1PH

**Innovare**

Unit 3, Siskin Parkway West  
Middlemarch Business Park  
Coventry  
CV3 4PW

**Services Engineer**  
**CPWP**

30 East Street  
St Johns House  
Keicester  
LE1 6NB

**Planning Consultant**  
**Nexus Planning**

Holmes House  
4 Pear Place  
London  
SE1 8BT

**FF+E Consultant**  
**Form Design**

30 Stamford Street  
South Bank  
London  
SE1 9LO

**Fire Engineer**  
**Ashton Fire**

5 St Johns Lane  
London  
EC1M 4BH

**Acoustic Engineer**  
**Buro Happold Engineering**

17 Newman Street  
Fitzrovia  
London  
W1T 1PD

**Daylighting Consultant**  
**Arup**

3 St Paul's Place  
Norfolk Street  
Sheffield  
S1 2JE

**jestico + whites**

Sutton Yard 65 Goswell Road  
London EC1V 7EN  
  
+44 (0) 20 7380 0382  
jesticowhites.com  
architecture + interior design  
london + prague