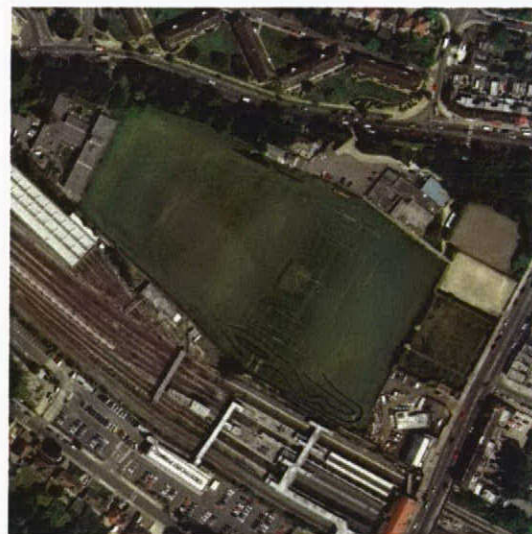


# Ark Academy, Wembley Park



## PLANNING APPLICATION DESIGN & ACCESS STATEMENT



STUDIO **E** ARCHITECTS

OCTOBER 2008

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**PLANNING APPLICATION DRAWINGS**



## 1.0 THE SITE

### Site Appraisal

The site representing an area of approximately 42,000m<sup>2</sup> is bounded by a busy suburban feeder road, Forty Avenue, on the north and a busy high road, Bridge Road, to the east. Railway lines serving the Wembley Park Railway Station located at Bridge Road run along the south perimeter and the adjoining site to the west is occupied by the Kenbrook Care Home. Existing residential estates face the site across both Forty Avenue and Bridge Road.

The existing site facilities fall into the category of communal recreational space and consist of: A sports pavilion facility; a grass football pitch; a motorcycle repair centre and training course; a tarmac multi-use games area.

The site has a considerable asset in the form of a well established belt of trees along its northern boundary expanding into a "woodland" area at its north east corner.

There are also two derelict residential houses on the site.

The principle view out of the site is toward Wembley Stadium less than a kilometre away.

The site is directly in line with Olympic Way, the north-south axial approach to the stadium. Views into the site are primarily from the south along Bridge Road. Potential views from the north are currently blocked by the wooded area in the northeast corner of the site, and the evergreen hedge along Forty Avenue.

The site slopes gently from north to south, with the greatest slope being about 8m along the eastern (Bridge Road) perimeter. The highest point is at the northeast corner of the site and more than 3m of the slope occurs in the nearby wooded area.

### History and Archaeology

An archaeological site assessment was completed by L ~ P: ARCHÆOLOGY on behalf of the Brent Borough Council. This report indicates that there appears to have been very little activity on the site during Prehistoric and Roman periods. During the medieval period a small settlement was established nearby at Forty Hill, but the site remained open fields. Subsequently the site became part of Wembley Park, and was later impacted by the construction of the Metropolitan Railway which borders the site today. Their assessment is that "in general the archaeological potential for the study site can be considered very low."

### Principal constraints

The design implications of this site context have been reviewed both with Brent's Planning Department and through community consultations. The principal considerations are:

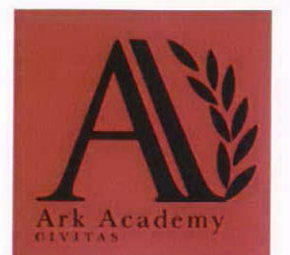
- The views across the site from properties along the North side of Forty



Avenue toward Wembley Arch. These are currently glimpses through the existing well established trees that screen the site from the road. Nonetheless these views are regarded as sensitive and have influenced where buildings may be located and their height.

- The traffic on both Bridge Road and Forty Avenue has significant impact implications of noise, pollution and safety. The designated location of the academy building, close to these roads, requires the designs to address these issues with money needing to be allocated to acoustic attenuation on road facing elevations.
- Forty Avenue suffers from traffic congestion during peak hours. It is also the only viable road to give vehicular access to the proposed school site. Access for parking, deliveries, service maintenance and drop-off needs to be carefully co-ordinated with the proposed new road crossing at the junction with Barn Rise. Vision lines and off road "pull ins" before site entry gates need to be considered.

- The busy nature of Bridge Road needs to be considered in relation to a main school entrance in terms of providing a safe buffer area to cope with arrival and departure peaks of the school population.
- The Railway line presents problems of intermittent noise. However the designated building site is located well away from this site perimeter.
- Views to and from Kenbrook Care Home across the site need to be considered in terms of maintaining privacy for the home as well as offering sympathetic vistas across the proposed school development while at the same time controlling noise and light spill from the sports facilities.
- The existing trees and woodland impose constraints on where proposed new buildings may be located.





View across site to Wembley Arch



## 1.0 THE SITE *CONTINUED*

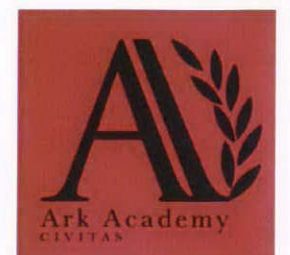
### Principal Opportunities

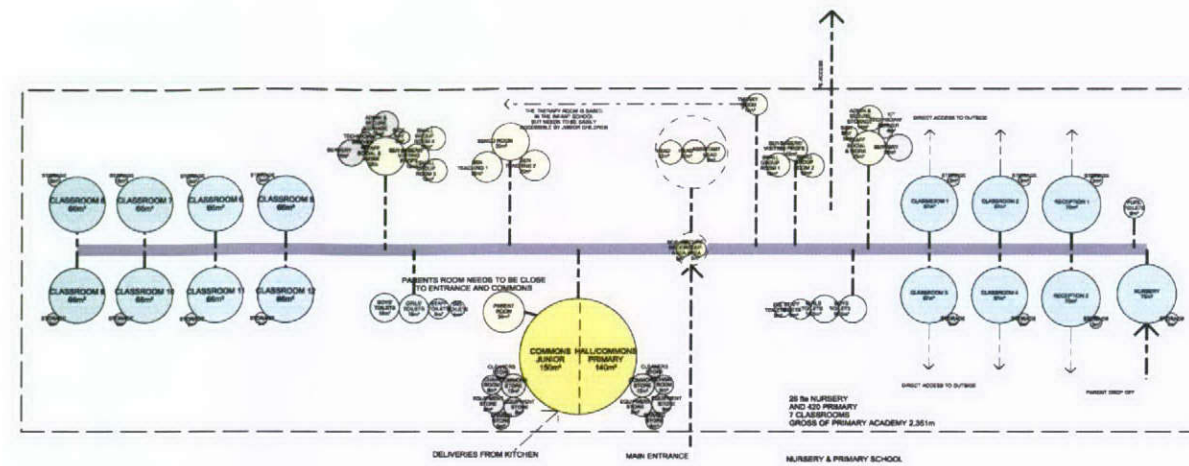
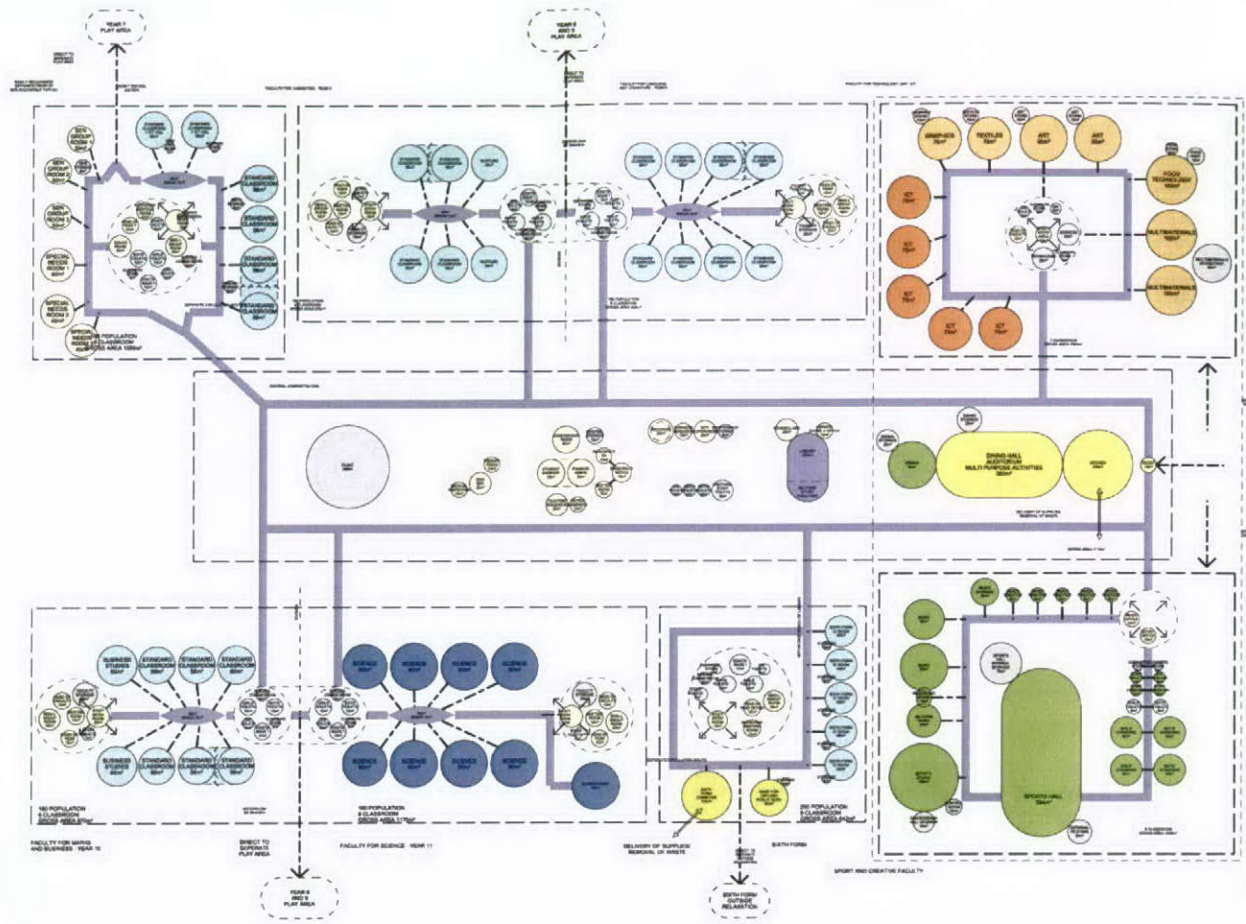
The site offers a number of opportunities including:

- The prominent urban frontage facing Bridge Road: this is the obvious location for the Academy to announce itself visually and to have its main entrance.
- The existing communal recreational space: an opportunity to maintain and improve the existing football pitch and to design-in a wide array of external sports facilities for both school and community use. A sports fields in the southern portion of site and a sports hall which permits convenient allocation of locker rooms and sports facilities for community use.
- The site has a considerable asset in the form of a well established belt of trees along its northern boundary expanding into a "woodland" area at its north east corner. This can be integrated into the external facilities for the school to provide a leafy, green learning areas for learning and recreation.
- The views of the Wembley Stadium Arch provide an aspirational outlook for the proposed new school



Site Plan with constraints





Organization diagram for the secondary school

Organization diagram for the primary school

## 2.0 USE

### Academy

This is a proposal for an entirely new six form entry Academy sponsored by ARK and PFS. The new school provisions will consist of the following:

- A 52 part time place nursery (26FTE)
- New primary school facilities for 420 pupils and requisite teaching/support staff
- New secondary school facilities for 900 pupils (aged 11-16) and requisite teaching/support staff
- A 250 place Sixth Form (aged 17-18) and requisite teaching/support staff
- The re-organisation and re-landscaping of the entire site
- The re-provision of sports facilities consisting of a floodlit 106 x 71 m "third generation" all weather pitch; a 49 x 79 junior turf pitch and a 15.3 x 30m floodlit MUGA (polymeric finish) and supporting change rooms for both school and community use.

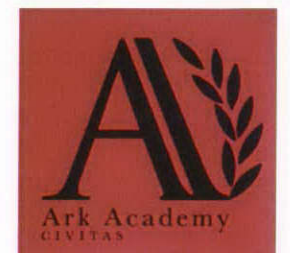
The new Academy will specialise in Citizenship and Mathematics. Key principles for this new Academy will be to:

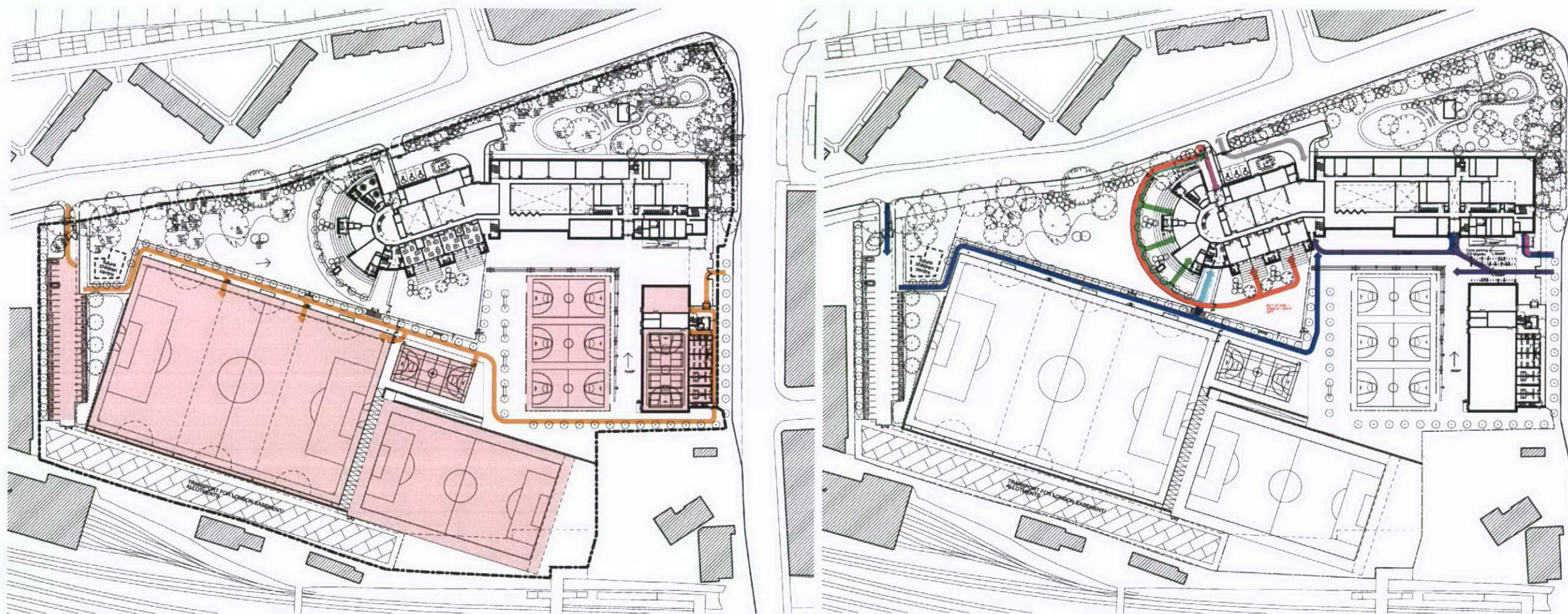
- Support and develop outstanding teachers and leaders who believe in the potential of their students
- Make it a top priority to bring all students up to expected levels of achievement in English and Mathematics
- Create schools with a nurturing environment, positive social norms and a strong school culture in which staff work intensively to teach and reinforce the expected behaviour and instil high aspirations and perseverance
- Create small faculties of 180 - 250 pupils, each with their own head.

The expectation is that the new Academy will open in September 2010 with a year 7 intake. It is intended to open the Academy early in temporary buildings. From September 2008 Reception Year will be admitted, followed by Year 1 in September 2009.

The new facilities will consist of the following:

- General Teaching Classrooms Clustered and with break-out areas
- Vocational Classrooms
- ICT facilities
- Specialist Teaching rooms including Science, Design & Technology, Art, Music and Drama
- Halls, including Sports Hall, Assembly Hall, Activity Studio and Dining
- SEN accommodation
- Library/Resource Area
- Dedicated 6th Form Classrooms and Study and Social Areas
- Support accommodation including Admin, Storage, Changing Facilities and WC's





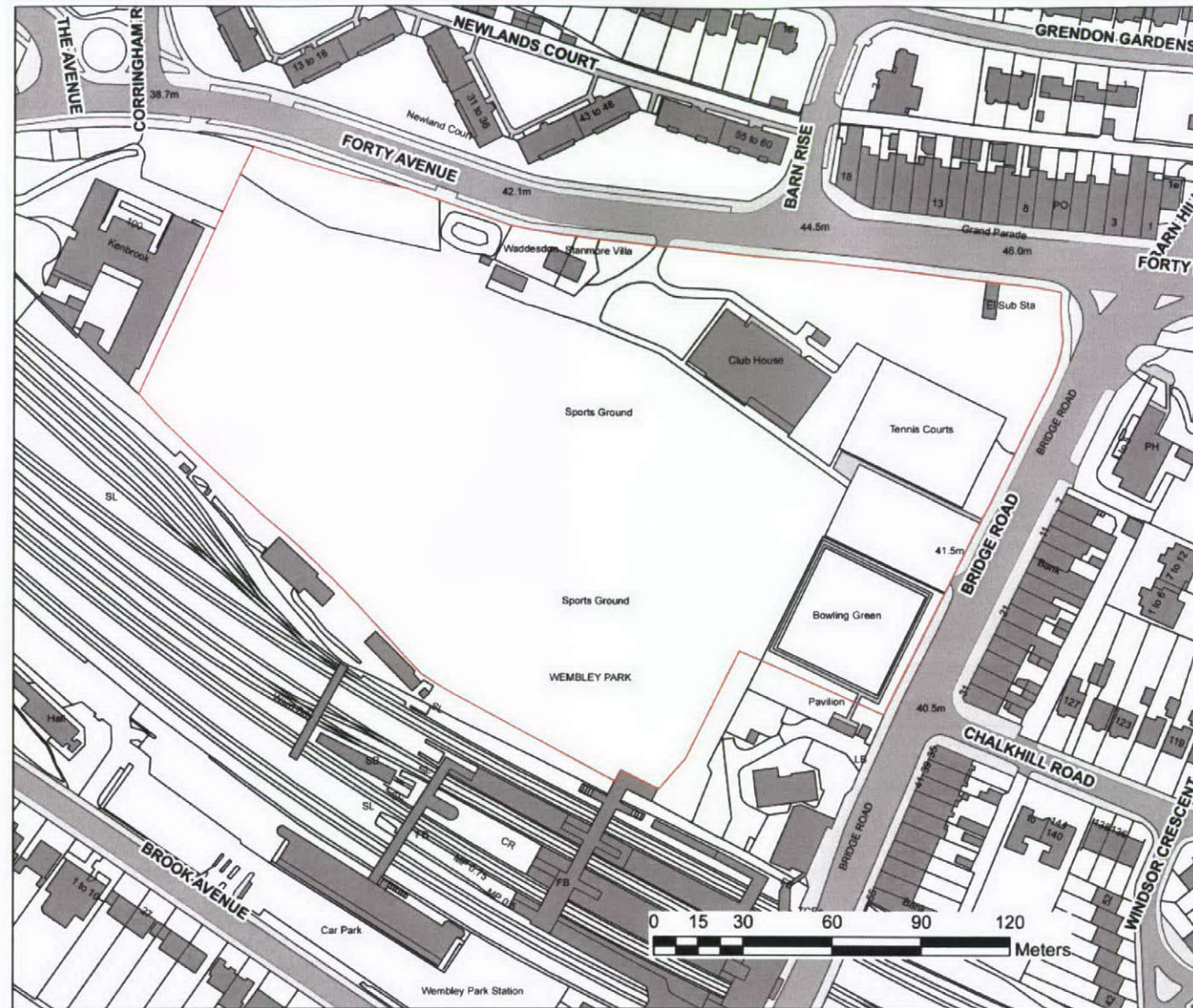
## 2.0 USE CONTINUED

### Community use

The design proposals have been developed along lines that will facilitate community use of a range of facilities out of school hours. Facilities that have been appropriately zoned to permit secure use with the rest of the school closed down are:

- The sports hall, activity studio and change-rooms that have a separate entrance and reception conveniently accessed from Bridge Road.
- A range of external sports fields and MUGAs that include:
  - A full size artificial turf soccer pitch,
  - A synthetic-surface Multi Use Games Area,
  - A combined series of three tarmac surfaced Multi Use Games Areas,
 These sports facilities are supported by external change-rooms located within the sports hall facility.
- A secure car park at the west end of the site accessed from Forty Avenue.
- It will also be possible for the community to access ground floor school halls and kitchen as well as ICT suites all of which have been conveniently located close to the school's main entrance, and which are also accessible from the school's centrally located exterior spaces.
- The possibility of accommodating a future "Children's Centre" has been considered close by the secure car park at the west end of the site





Existing site plan

3.0 AMOUNT

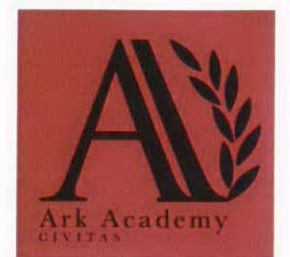
The size of the proposed development is determined by:

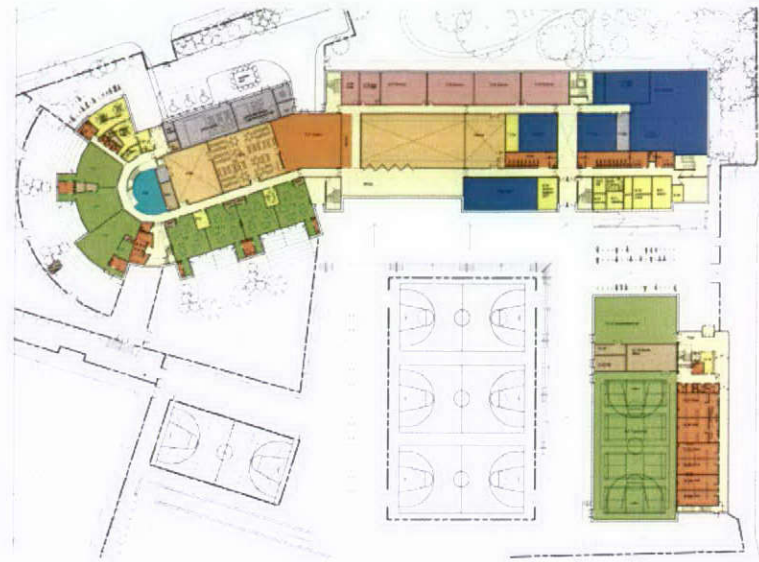
- The 1600 pupils that need to be accommodated by the new academy (446 pupils in the Primary school and 1150 in the Secondary School)
- The DCSF accommodation/area guidelines Building Bulletin 98 and 99 as interpreted by ARK.
- The (re)provision of school/community sports facilities, replacing existing turf sports pitch

The designated gross internal building area for the academy is 12688m<sup>2</sup> and the overall site area for the proposed scheme is of approximately 42,000m<sup>2</sup>. The site zonings emerges from a concept that reconciles the need of the Academy with the constraints and opportunities offered by the site. The site breaks down as follows:

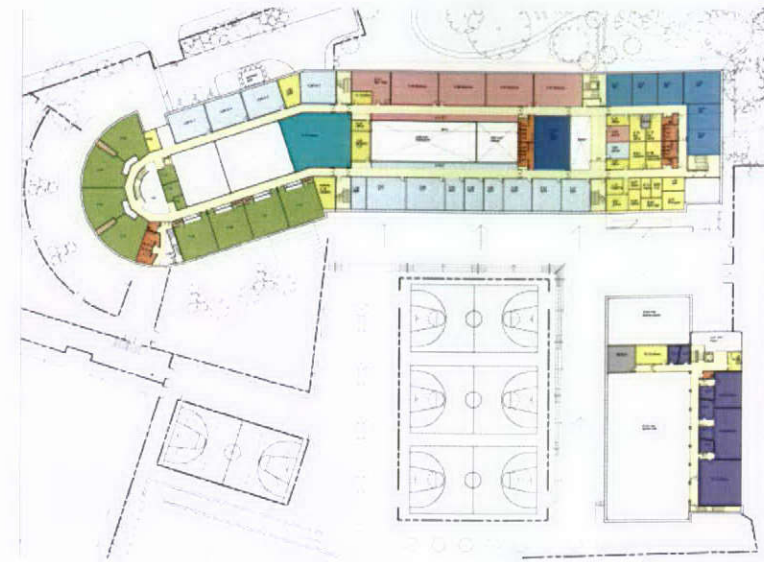
1	Building footprint	5,971 m <sup>2</sup>
2	External recreational space excluding formal sports pitches	15,563 m <sup>2</sup>
3	Sports pitches and dedicated perimeter/view areas	8,601 m <sup>2</sup>
4	Habitat, planting and allotment areas	6,819 m <sup>2</sup>
5	Entrances and dedicated visitor access	1,052 m <sup>2</sup>
6	Car parking and service yard	1,856 m <sup>2</sup>
7	New bus lay-by	(outside) m <sup>2</sup>
	<b>TOTAL SITE AREA</b>	<b>40,448 m<sup>2</sup></b>

The building as a whole represents 14.6% of the total site area has been determined by the legally designated building area as well as by the wish to strike a balance between maximising the extent of external recreational space and minimising the overall building height. The location of the new Academy and its massing, four storeys towards the north-east corner of the site minimises the impact of the buildings on the open spaces to the south and west. The latter areas, dedicated to sports and recreational use, provide an attractive, carefully landscaped new school/community recreational facility..

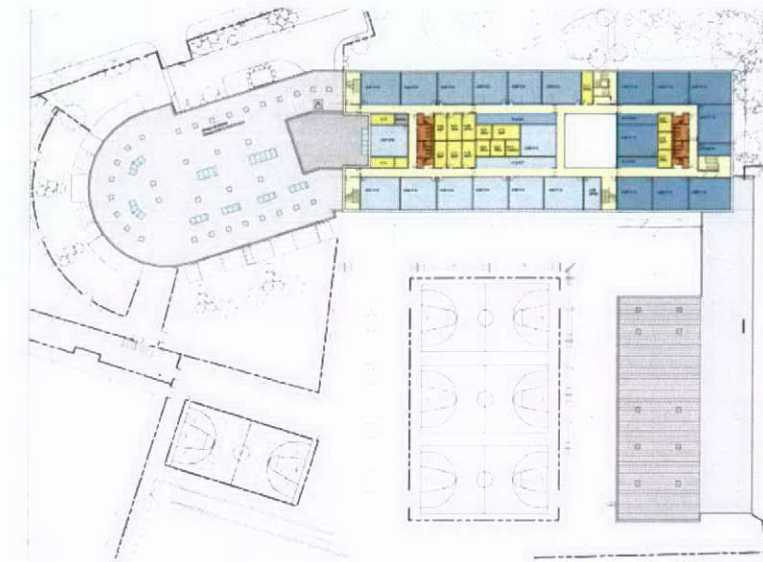




Ground floor plan



First floor plan



Second floor plan

## 4.0 LAYOUT

The principle factors that have influenced the building and site layout have been:

- The building boundary set out in the lease plan imposing an "L" shaped configuration.
- The need to minimise disturbance to significant trees.
- The Sponsor's educational vision in terms of organisation of the various school facilities,
- The interfaces between inside facilities and related outside spaces.
- Ensuring appropriate zoning for primary school, secondary school and community functions.
- Achieving a safe and secure learning environment.
- Achieving the ideal north-south orientation of classrooms to maximise effective use of daylight.
- Ensuring real flexibility where it is important.
- The prescribed sizes of the formal external sports facilities.
- The varying topography of the site.
- The key site access points from Bridge Road and Forty Avenue.

### Key Building Considerations

The orientation consideration placed the main school building in the northern leg of the "L" shaped site, with the sports facility falling logically into the remaining eastern leg. The space between them has been exploited as a natural formed main entrance space from Bridge Road, an approach with a civic presence under an imposing "porte-cochere". The placement of the primary school at the west end of the main academic wing is a recognition of its need to have access to separate and secure external space as well as to have a separate entrance to that of the secondary school.

The confined site area available for building, combined with the height limitations imposed by planning considerations and the preferred classroom orientation has resulted in a deep plan building. Classrooms are generally arranged along the northern and southern perimeters with internal spaces occupied by large double volume halls, and spaces less reliant on daylight, notably IT facilities, toilets and storage/resource provisions. The primary school is arranged over two floors, the secondary school over three/four floors and the sports facility has a sports hall with adjoining change/music accommodation over two floors.

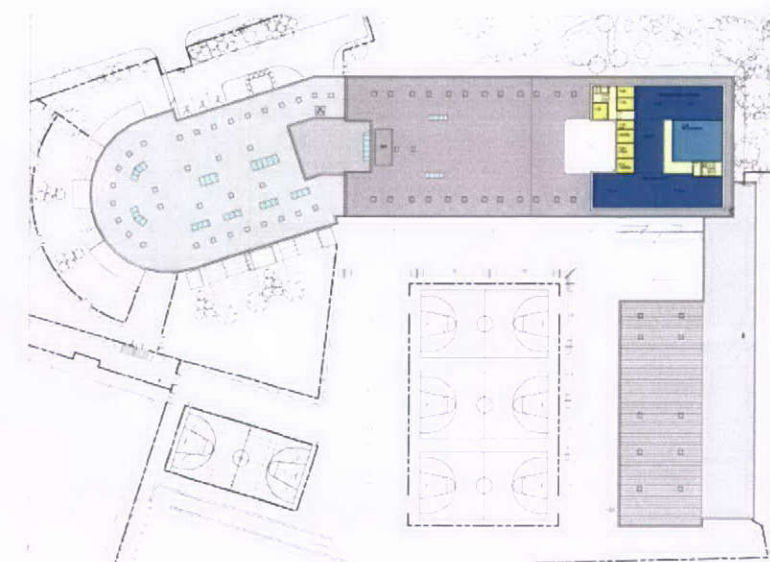
### Secondary School Facilities

Informal recreational space has been provided directly adjoining the secondary school with two access points from the building giving good connectivity for the majority of the student population. It is given definition by the proposed school buildings to the north and east and by proposed tree planting that will soften the perimeter on three edges. The centre of the recreational space is prescribed to a three-court flexi MUGA which can double up between formal sports use and informal kick about space. The school dining hall overlooks the recreational space and is provided with a dedicated external sheltered area for outside dining. This area is also conveniently accessed from the main campus entrance under the Porte Cochere, and so will work well in terms of welcoming the student population before they enter the building.

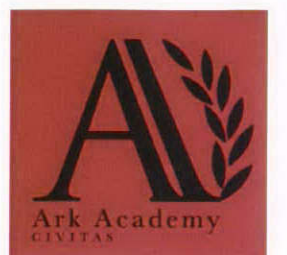
The formal sports spaces, with their prescribed dimensions and perimeter fences have been arranged along the railway line, set back by 15 metres from the boundary as required for railway maintenance access. The level of the sports pitches has been set to minimise the need to remove excavated material off site. This results in a stepped land formations approximately 2 metres and then 1.5 metres moving from north to south. In this location the sports facilities preserve maximum informal recreational space for both

the primary and secondary schools and are at the same time conveniently accessible to both. A pathway linking the car park to the west with school facilities to the east runs between the formal and informal recreational spaces and gives additional definition to the site zoning reinforced with a row of trees and planting to the edge of the primary recreational spaces.

The woodland area at the north east corner of the site has been recognised as an important asset. The intention is to preserve the maximum amount of the existing habitat and to adapt it as a learning resource as well as an informal "green" social area.



Third floor plan





4.0 LAYOUT CONTINUED

PRIMARY SCHOOL EXTERNAL FACILITIES

The primary school external facilities are organised around the inside/outside classroom concept with landscape and building designed to form one coherent learning resource; interior and exterior as one continuum. In this context the primary school facilities can be seen as falling into four distinct zones.

- The building as the heart of the school is the generator for the site design.
- The intensive zone which addresses the areas adjacent to the building, areas that can be directly integrated as classroom extensions.
- The active and passive zone which is allocated to active and passive recreational activities.
- Extensive zone which addresses specialised recreational and learning facilities notably wildlife/habitat areas, allotments and formal sports provisions.

Other activities and provisions interrupt the zonal areas, most significantly access/circulation and site wide landscaping.

OTHER

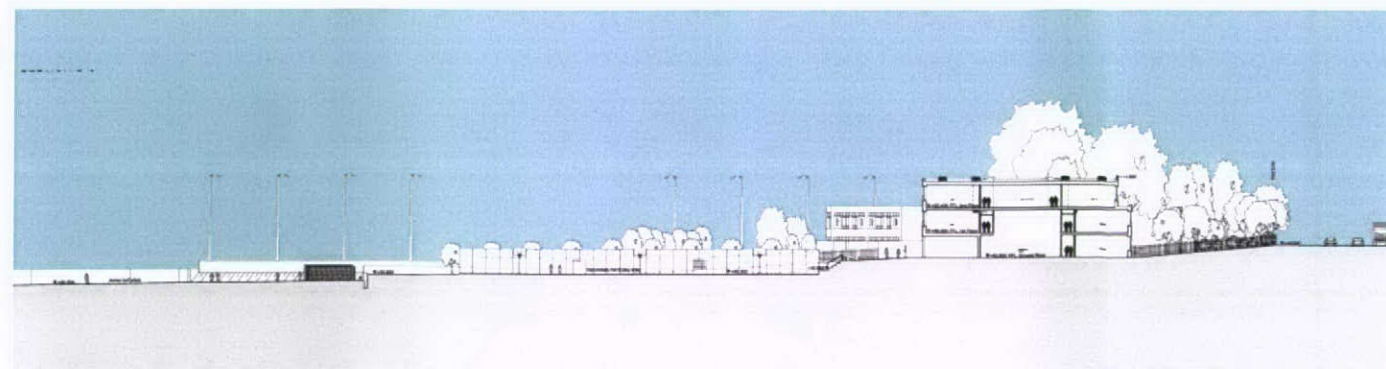
Other external facilities that have been incorporated in the landscape proposals are allotments and the staff/community car park.

The 15-metre railway maintenance access zone along the southern perimeter site has been allocated for allotment use. Located between the perimeter fence and the sports pitch fences, it is a naturally secured area where unsupervised access by students would not be desirable. Allotments present another useful learning resource with a further potential interface with the local community.

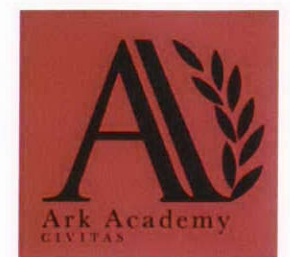
The car park for 48 cars has been intentionally located at the extreme west end of the site. Well clear of student play area, much of its school side is secured by the sports pitch fencing. The perimeter is landscaped with plants and trees that will enhance views from Kenbrook House. Artificial lighting will receive careful consideration to avoid glare pollution to adjoining properties. The car park is designated for day time use by school staff and out of hours use by the community.



Aerial view from the east



Stepped site section





Bridge Road Montage



## 5.0 SCALE

The principle factors influencing the building form and massing have been:

- The Build Boundary in the lease plan. The consequence is an L-shaped footprint.
- Respecting the Planning Department guidelines for massing the building: lower on the west, higher to the east
- The need to orientate the building primarily north-south in order to deliver the most effective day lighting strategy
- The wish to address Bridge Road – the more prominent urban frontage –, giving the Academy the public presence which at the same time helps define the street. It is the most obvious position for the main entrance and for the school to announce itself visually.
- The use of the sports building volume as an environmental buffer to Bridge Road street frontage, at the same time providing a canvas for “banner announcing” the new Academy
- The wish to minimize disturbance to significant trees and to harness the existing green woodland at the northeast corner as an integrated part of the educational concept.
- The wish to restrict the height of the building to no more than 4 storeys to avoid excessive vertical circulation. The consequence of this restricted building area is a deep plan configuration.
- The need to humanise the building scale in relation to external recreational space and to minimise the extent of overshadowing.

The proposed design in its proposed location and orientation, lower on the west (2 storeys), higher to the east (4 storeys) is a response to all these issues.

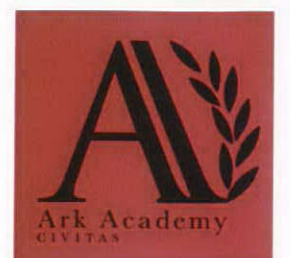
The proposed building adopts a configuration that carefully reconciles internal building functions with external space usage and at the same time applies a massing strategy that not only addresses the Planning guidelines but also delivers a varying scale building that responds sensitively to the range of different users.

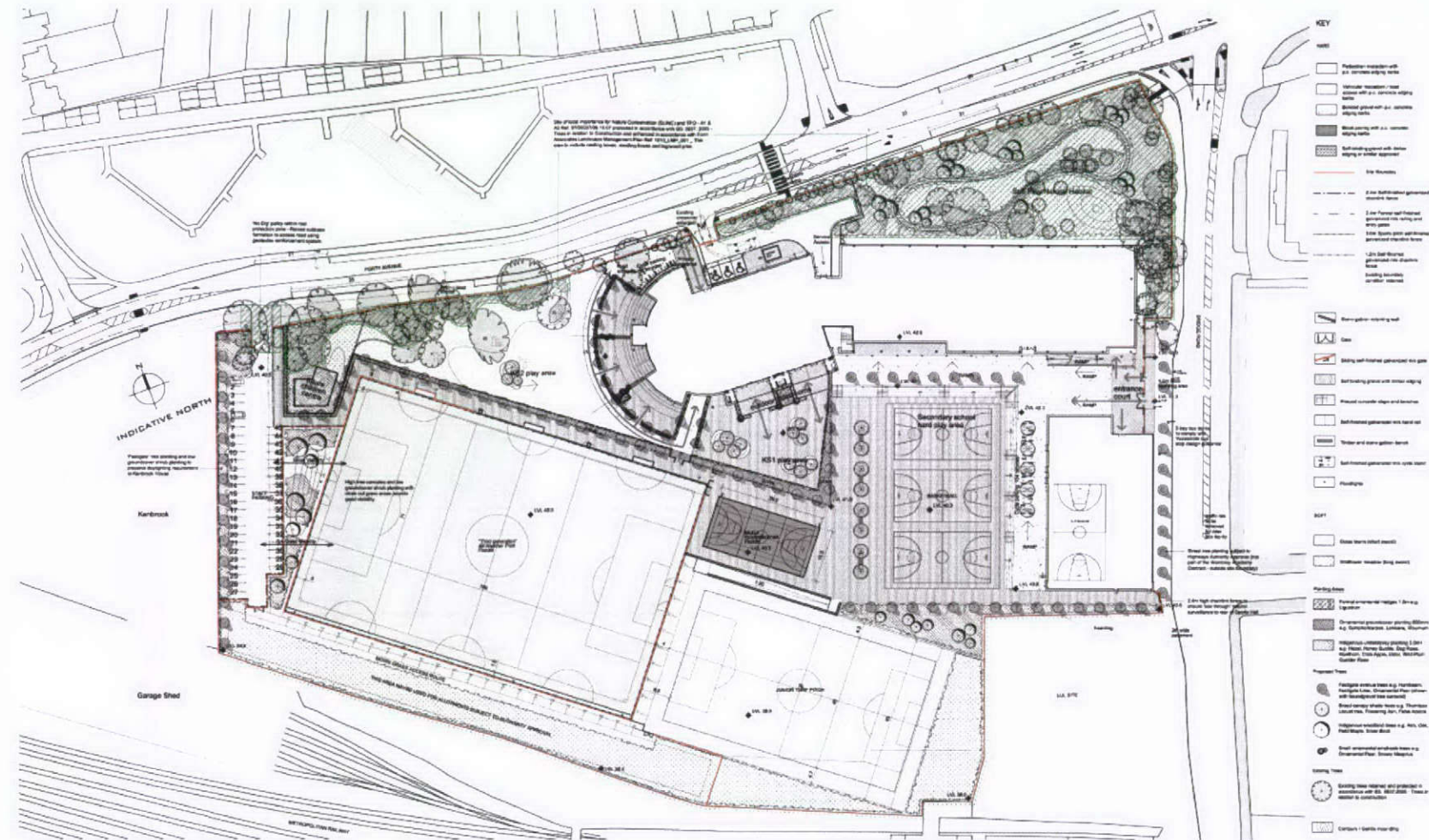
Recognizing that the building should not and would not be a constant height has been turned into a massing concept that sets the Primary school at two storeys, permits the the secondary school to step up through three storeys up to four storeys and then steps down to two storeys for the sports/performing arts facility. In this sense the school building is composed into a series of terraces with the highest four storey mass, facing Bridge Road and giving the school a civic presence, and the building then cascading down to create a more intimate two storey scale for the primary school users. The sports facility height is determined by the height requirements of the sports hall which equates to two generous storeys.

The constraints of the building boundary lease plan have driven the building to adopt an L-shaped plan, and the confined nature of this site area have also driven the scheme towards a deep plan configuration. The desired north-south orientation for the classrooms, representing the bulk of the school accommodation, means that the main school facility occupies the northern

leg of the “L” shaped site and the sports facility, which is less sensitive to orientation has been located within the eastern leg facing Bridge Road. In this position the sports hall, set apart from the main school building, defines an entry point into the site with a covered link roof creating a “porte cochere”. The sports facility also becomes an environmental buffer between the busy Bridge Road and the central school recreational facilities.

At the Western end of the building the two storey primary school, whose external perimeter breaks down to a single storey, brings the whole building composition down into the landscape. Further to the west, views through trees, across the site are preserved.





landscape plan

## 6.0 LANDSCAPING

The layout of the site aims to provide a variety of safe, attractive outdoor spaces for a range of ages and activities. The school will be an important building for the local community and the landscaping will reflect this importance.

Throughout the whole Academy site, spaces and facilities are provided for all forms of play and social interaction during the school day including both active and passive pursuits for groups and individuals. A landscape setting of quality has been created that is in harmony with, and makes a positive contribution to its surrounding. The landscape design respects and responds to the built form of the Academy and exploits the variations in site levels to define spaces, a language of terraces and exciting vistas.

The school building occupies the north eastern corner of the site with the sports hall facility running south alongside Bridge Road. The main secondary school gated access is approached off Bridge Road signalled by street tree planting and formal railings opening onto a paved holding space under the bridged building connection.

The paved holding space opens out into the primary square defined by fastigate trees and a bonded gravel surface. Changes of level are enabled

using DDA compliant ramps and precast concrete steps combined with benches allowing incidental seating overlooking the central MUGA spaces surfaced in macadam. The ball courts are not fenced to perpetuate the feeling of an open and accessible multipurpose square. Both the western and eastern flanks to the square are planted with broad canopied shade trees supplemented by gabion benches and self finished mild steel hoop style cycle stands.

The square runs out to the south, falling to slight gradients culminating in a zone of indigenous screen planting imposed on a transitional embankment to meet lower site levels adjoining the southern boundary.

The southern half of the site is dedicated to sport facilities offering a fenced and floodlit full size 'All Weather pitch, a polymeric surfaced MUGA and a junior turf pitch. Changes of level are achieved through the use of 1 in 3 grassed banking combined with stone filled gabions at the point of ramped access. The 15m wide 'no build' easement is allocated for educational allotment use. The southern boundary utilizes the existing LUL fencing and hoarding.

Located to the west and partially screened from the sports pitches are the macadam surfaced staff parking facilities. The parking area is defined by

low level groundcover planting and ornamental grassed embankments with grouped planting of indigenous trees. Natural surveillance is achieved with clear sightlines below raised tree crowns.

The boundary with Kenbrook House is planted with groundcovers and fastigate trees to preserve the daylight requirements of the existing building. A 2.4m high self finished galvanized chainlink fencing system running from the LUL boundary to Forty Avenue provides site security. Gated access limits access to the car park.

Footpath access surfaced in macadam services the pedestrian link to the school building from the parking area. The planting of fastigate avenue trees along its length augment the visual and directional qualities of the main footpath access. Here a change in level separates the KS1, KS2 'Nursery' and 'Reception' facilities from the sports areas. The embankment is planted with groundcovers and secured with a 2.4m high self finishes galvanized chainlink fence. Gated access into the upper area and central square beyond completes the security requirements.



## 6.0 LANDSCAPING CONT'D

The entrance to the primary schools and nursery is marked by formal self finished mild steel galvanized railings leading to a radius pedestrian access. The collection area is surfaced in bonded gravel with self finished mild steel galvanized hoop cycle stands.

The bonded gravel footpath is flanked by low formal hedging to providing a defined route and boundary delineation to the separate gated entry points and macadam surfaced play grounds beyond. The hedging is supplemented by low self finished galvanized chainlink fencing. Ornamental emphasis trees populate the hedges whilst fastigate avenue trees provide the primary visual enhancement to the footpath access.

Within the confines of each play area precast concrete paving defines the outdoor classroom areas and covered zones. The larger part of the playground areas will be surfaced in macadam augmented with low mounded grass islands surmounted with ornamental tree groupings.

A significant part of the KS2 play area is dedicated to short grass, wildflower meadow and indigenous planting with some earth mounding to add three dimensional relief to the ground plain.

The existing vegetative context to the northern boundary alongside Forty Avenue is retained and augmented with indigenous planting to support and improve the visual amenity of the street scene. Progressive management of retained conifers to exact a change of plant typology (eventual removal) over the forth coming years post completion will ensure increased biodiversity and the perpetuation of an important 'green corridor'. This area is the subject of two Tree Preservation Orders A1 and A2 ref. 07/00037 dated 09.10.07. Some remedial tree surgery to retained existing trees is required. It is intended to retain felled timber on site within the natural habitat zones to supplement bio diversity.

The boundary with Forty Avenue will be made secure using a 2.4m high self finished galvanized chainlink fence turning into Bridge Road and linking back with the school building at the interface with the paved front entrance space.

The area of retained scrub land and existing trees to the north east of the school building is retained and managed to develop its value as a natural habitat area. It is noted that the site as a whole is considered as low ecological value at borough level however certain parts are designated as SLINC (Site of Local Importance for Nature Conversation).

The natural habitat area will be managed to develop enhanced bio diversity over a period of years. The area will be made secure by 2.1m high self finished galvanized chainlink fencing with gated access. An informal footpath using self binding gravel and timber edging will allow incidental access for learning purposes and passive recreation.

It is the intention that on site excavation is retained and utilized as fill to the raised levels under sport pitch facilities. In addition surplus topsoil will be used

to create low level mounding in designated areas including play grounds.

### Drainage Strategy

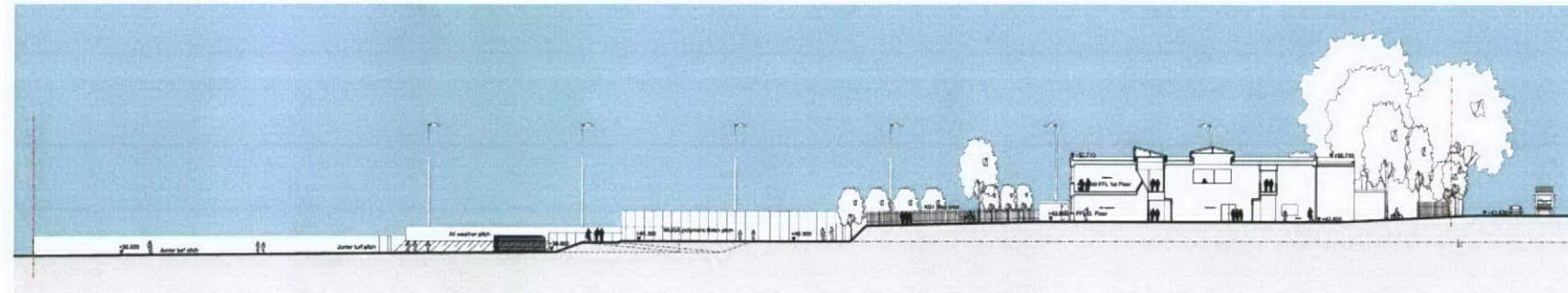
The drainage strategy has been based upon a Sustainable Urban Drainage principle which involves retaining the surface water run off on site. Design will be in accordance with the recommendations of The Interim Code of Practice for Sustainable Drainage.

Surface water discharge into the existing Thames Water sewer system will be calculated using green field run off of 6.8 l/s per hectare. This gives an allowable discharge rate for surface water of 10 l/s.

Drainage will be in line with PPS 25 all drainage feature will be designed to protect against flooding for a 1 in 100 year storm plus 20% for climate change.

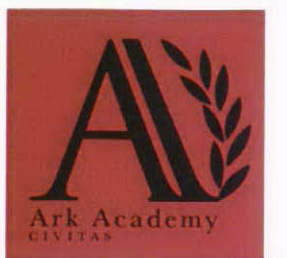
The foul water discharge coupled with the restricted surface water flow will be less that than previously discharged from the existing site. At present the site discharges 45l/s based upon 15mm/hour rain storm.

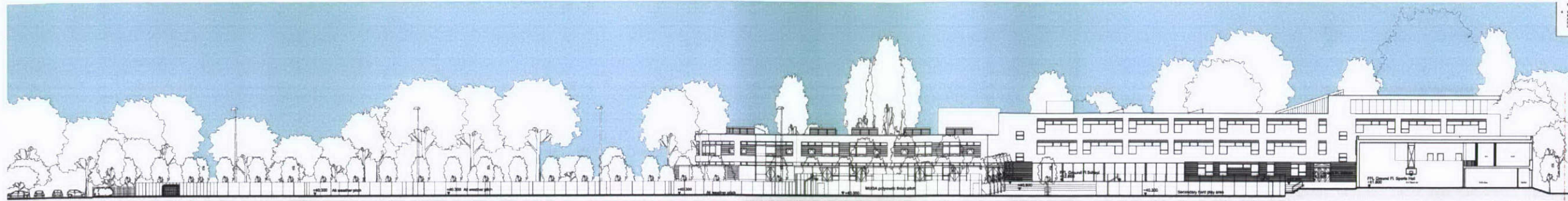
Storage will be provided under the hard standing play areas within a granular layer containing 30% voids.



### SURFACE WATER DISCHARGE

DESCRIPTION	Other information	UNITS	INPUT	SUMMARY		
Rainfall intensity expressed as depth in M per hour		M	0.015	Discharge from site before development using 6.8 L/S PER HECTRE	10	
Storm duration		minutes	60	Discharge from site after development using 90mm/6hr (15mm/hr) (L/S)	142	
Area of impervious surface on the site before the development		M <sup>2</sup>	10890	IF REQUIRED Storage required using 90mm/6hr (15mm/hr) m3	474	
Area of impervious surface on the site after the development		M <sup>2</sup>	34000			
<b>GRANULAR STORAGE</b>						
Discharge allowed from the site based on EA recommendations of 6.8 l/s per hectare		L/S	10	VOLUME OF 30% VOIDS GRANULAR MATERIAL (m3) = STORAGE REQUIRED X100 DIVIDED BY (%VOIDS=30%)	1580	
Discharge from the site after the development		L/S	142	INPUT AREA OF STORAGE (m2)	11846	AREA UNDER HARD PLAY
Difference in discharge		L/S	-132	THICKNESS REQUIRED IN (m)	0.133	
Storage required in cubic metres assuming 1000 litres in a cubic metre	Storage to be provided under hard play areas	M <sup>3</sup>	474			





South Elevation



## 7.0 APPEARANCE

The external design vocabulary for the building has been influenced by a range of key aesthetic and technical considerations. Aesthetically the objective has been to provide and Academy with a strong contemporary image that would not only be in keeping with its strength of purpose and educational orientation, but also be in keeping with its sensitive surroundings.

The key drivers have been:

- Daylight considerations for the building interior.
- Natural ventilation considerations which need to be reconciled with acoustic attenuation addressing road traffic noise from Bridge Road and Forty Avenue.
- Language of materials - their detail and proportions and how these will read with their surroundings.
- Durability and ease of maintenance.
- Standardisation / prefabrication of elements to achieve the highest possible quality within the available budget.
- Sustainable in terms of material selection - renewable resources, recyclable, embodied energy, etc.

- Appearance - use of colour, texture, reflectivity, transparency.
- Appearance in terms of how key building elements might be assembled.

The building that has emerged has galvanised aesthetic objectives and technical responses into one language. Massing and layout, described earlier, underpin the building's overall appearance. The detailed building elements reinforce the overall concept.

The detailed handling of the building elevations seeks to emphasise the linear, terraced quality of the first and second floors. A combination of fenestration and acoustic louvres has been banded into ribbons of colour and natural timber set into rendered facades. The base of the building, which has a more vulnerable user interface, utilizes robust masonry as the facing material with punched openings for windows. The top fourth floor has been set back and largely glazed to give emphasis to the first/second floor linear component of the school.

The facade along Bridge Road is a composition of horizontal and vertical elements. The sports hall at first floor banners the name of the Academy and at ground floor extensive glazing provides a friendly community interface between internal social activities and the public street domain. The "porte-

cochere" is not only an entrance but also a window into the school. The four storey facade of the secondary school combined with the "porte-cochere" gives the school a civic "gravitas" facing the main road.

The northern elevations of the Academy will largely be seen as glimpses through the trees, with the building finally emerging from behind the leaves at the point where the primary school announces its entrance from Forty Avenue.

The single storey string of accommodation around the perimeter of the primary school is interrupted by a series of external "classroom" courtyards covered by retractable textile canopies.

The main school roof is punctuated by a series of rooflights that deliver daylight to the heart of the building. Two ventilation towers give additional emphasis to the terraced steps of the roofscape.



## 8.0 SUSTAINABILITY

A key overall aim for the new Academy is to be an exemplar sustainable educational building.

The design incorporates an energy strategy which is aimed primarily at minimising energy use, employing passive measures as far as possible. The building form and orientation have been used to maximise the potential for exploitation of daylight and natural ventilation and careful consideration is being given to the building fabric to ensure air tightness of construction.

The design also includes provision for energy generation from low carbon sources notably the use of a ground-source heat pump and also solar thermal panels. A separate energy strategy statement accompanies this planning application.

In addition to targeting building carbon emissions through a sustainable energy strategy, sustainability in a broader sense has and will continue to inform all aspects of further design and construction of the Academy. Rainwater harvesting is being incorporated in the designs for the flushing of WC installations and amongst other issues that will be considered will be the specification and sources of building materials, the flexibility of the design to accommodate future changes to teaching methods and technology, transport planning, elimination of waste, recycling, minimisation of pollution and the encouragement of biodiversity. The proposed design will achieve a BREEAM "Very Good" rating and consideration is being given on ways that might improve on this mindful of agreed project budgets.

**WRAP** Material change for a better environment

New Build (Education) - Wembley Park Academy  
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### Recycled Content

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This report shows the impact of your selected quick win substitutions. Either accept these and move on, or click back to change. < Back to Stage 5    Go to Stage 7 >

Recycled Value and Potential <sup>(?)</sup>

Category	Recycled content by value for initial specification	Recycled content by value including selected Quick Wins	Additional recycled content value from selected Quick Wins	Total potential recycled content value from use of 'good' products	Total potential recycled content value from use of 'best' products
<b>Whole Project</b>	<b>09.48%</b>	<b>12.46%</b>	<b>02.98%</b>	<b>12.71%</b>	<b>14.56%</b>
Substructure	00.87%	01.14%	00.28%	01.15%	01.93%
Frame	05.05%	05.05%	00.00%	05.05%	05.05%
Floors	00.03%	00.35%	00.32%	00.35%	00.63%
Roof	00.75%	00.75%	00.00%	00.75%	00.75%
Internal Walls	01.76%	04.07%	02.31%	04.07%	04.75%
Internal Doors	00.15%	00.22%	00.08%	00.40%	00.51%
Services	00.88%	00.88%	00.00%	00.94%	00.94%

< Back to Stage 5    Go to Stage 7 >

### Waste Recovery and Waste Management Requirement

A Site Waste Management Plan (SWMP) will be developed from the pre-design stage to inform the adoption of good practice waste minimisation in design, and for the SWMP to be implemented in all construction site activities in line with good practice published by WRAP. The SWMP will set targets for waste reduction and recovery based on an assessment of the likely composition and quantity of waste arisings and identification of the most significant cost-effective options for improvement (Good Practice Options). This should be supplemented by information on how the targets will be achieved during construction activities and how the actual levels of waste reduction and recovery will be monitored for comparison with the targets set.

A target of no greater than 71m<sup>3</sup> of waste per £100,000 of the contract value is to be produced on this site. This equates to approximately to a maximum figure of 22,700m<sup>3</sup> of waste to be generated. This target figure includes demolition, excavation and construction waste/arising.

#### Waste Management Targets

THE SWMP will record that an initial target of 70% of waste generated on site is to be diverted from landfill – either through segregation and recycling of materials, as well as buy back from suppliers of unused materials.

At this stage of the design it is calculated that approximately 15,000m<sup>3</sup> of spoil will be generated from the construction of the new building. It is planned to keep all of this spoil on site (except where the spoil cannot be retained on site in cases of hot spots of contaminated material, likely to be less than 1% of site material)

Recovery of hard standing materials to be used on site as site access roads, piling mat and fill beneath the main buildings.

The WRAP assessment tool sets a minimum target of 10% RC material to be incorporated into the scheme. The target for this scheme is to be set as 20%.

The assessment tool currently identifies that the scheme is targeting 12.46% without quick wins and these show that the scheme can target 12.71% rising to 14.56% using best practices (as the screen shots provided from the initial assessment).

This figure will be improved upon as the design progresses and further information can be added to the assessment tool.



## 9.0 ACCESS

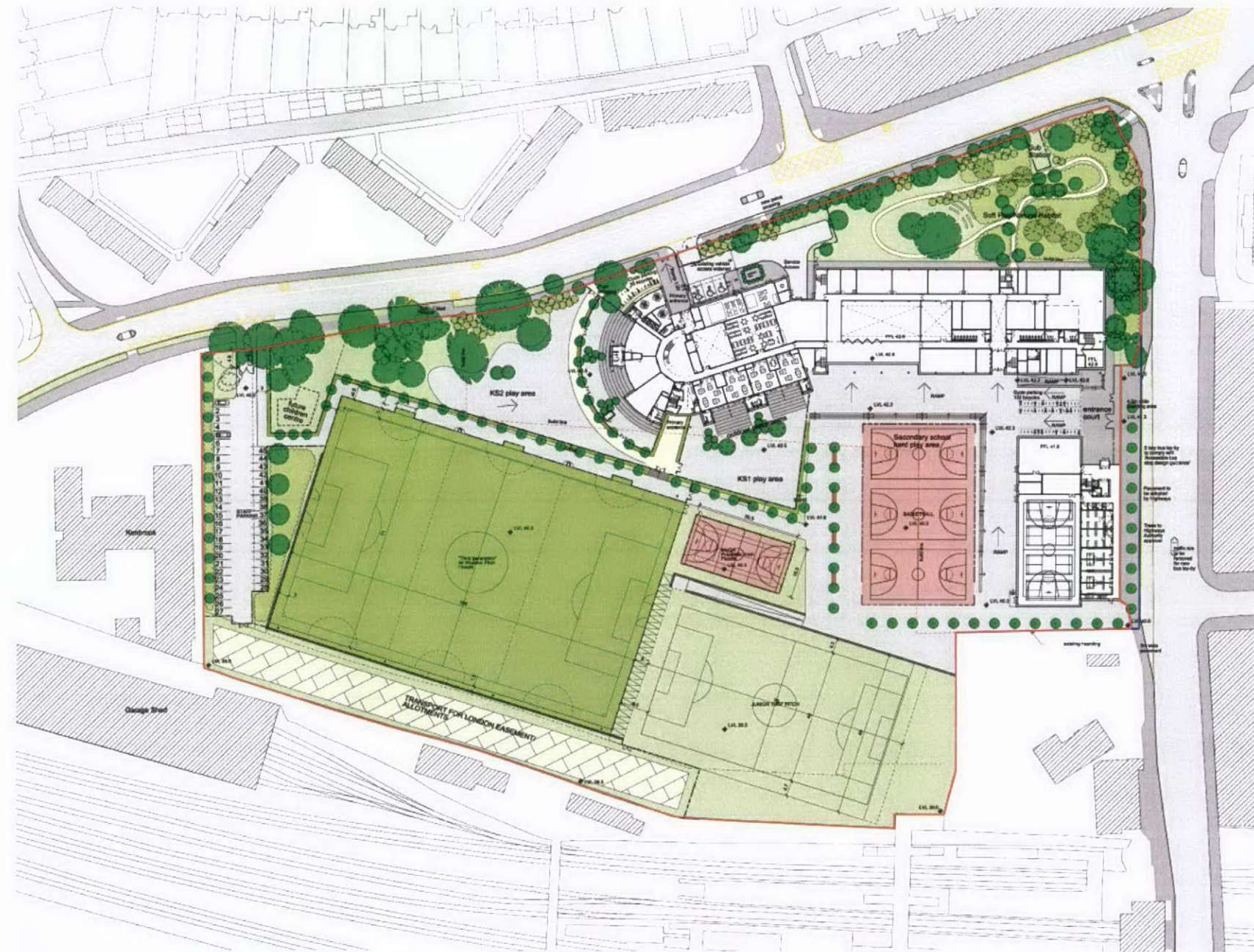
The proposed designs incorporate a fully integrated access strategy that has influenced both the overall concept as well as the detailed planning of the facilities. It has taken into account guidelines laid down for schools in terms of educational access, inclusion and extended use. It has also respected views obtained through public consultation, as well as through consultations with Brent Highways department.

Multiple modes of transportation provide ready access to the facility. The Wembley Park underground station is conveniently located on Bridge Road just to the south of the site, and multiple bus routes pass along Bridge Road and Forty Avenue. The design facilitates access to the site by foot, bicycle, automobile and public transport as follows:

- Creation of a new bus lay-by along Bridge Road. This drop-off point, directly in front of the secondary school entrance and the sports hall, will be convenient for both student and community use.
- A small drive to facilitate service and primary school drop-off is located along the less trafficked Forty Avenue. This entrance location does not interfere with the proposed new zebra crossing at the intersection with Barn Rise.
- A staff and visitors' car park is provided in accordance with council standards.
- Secure bicycle storage is provided at both the primary and secondary school entrances.

Other access considerations that have been taken into account are:

- Emergency ambulance access will be via the drive off of Forty Avenue for the primary school and will utilise the Bridge Road lay – by for the secondary school. Medical rooms are located close to the respective two school entrances.
- Emergency fire fighting access is provided to two fire fighting stairs, one on the northern school perimeter adjoining Forty Avenue and the other by the secondary school main entrance adjoining Bridge Road.
- Building emergency evacuation has been designed to direct the entire Academy population to muster points within the central recreational spaces.
- A 15 metre "no build" easement zone has been maintained along the site's southern boundary, adjoining the railway line, and provides emergency/maintenance access for London Underground.
- Designs have incorporated provisions for disabled access throughout with dropped kerbs at highways crossings, appropriately sized and separated access gates and ramped walkways at recommended gradients to overcome changes in level.



Site Plan



**APPENDIX**

**PLANNING APPLICATION DRAWINGS**

- 1193-PL001 Location Plan
- 1193-PL002 Existing site plan
- 1193-PL003 Site plan
- 1193-PL010 Ground floor plan
- 1193-PL011 First floor plan
- 1193-PL012 Second floor plan
- 1193-PL013 Third Floor plan
- 1193-PL014 Roof Plan
- 1193-PL020 Sections AA, BB & CC
- 1193-PL021 Section DD
- 1193-PL022 Section EE
- 1193-PL030 Elevations
- 1193-PL031 3D images

- 1010\_PL\_001 Landscape strategy, General arrangement
- 1010\_PL\_002 Landscape strategy, Illustrative sections
- 1010\_PL\_003 Landscape strategy, Existing trees to be retained and removed
- Draft Landscape Management Plan for Wembley Academy
- Natural habitat Area along Forty Avenue Site Boundary
- Document ref. : 1010\_LMP\_001

