7.4.6 Landscape - Detail Areas - La Swap & Parliament Hill Entrance

The new sixth form headquarters for La swap is located in this area of the site. A clear fence line delineates this area of the site from the Parliament Hill School Site.

Leading from Highgate Road to the Morant building is the new main pedestrian entrance to Parliament Hill School for Girls. The existing green space and mature trees between the car park and the la swap site is retained. This green space will be partially seeded with a meadow planting mix and some areas of planting to increase biodiversity. An avenue of trees runs alongside the new entranceway defining the route. Ramped access with handrails creates complaint access to the entry plaza to the front of the Morant building.

The La Swap Sixth form building is settled into the landscape at a lower level than Highgate Road with the exception of the main entrance which is level. Planted and grassed slopes surround the building effectively enclosing the building in green on two sides. Green walls and a green roof encase the building further integrating the building into the landscape.

A raised grassed area provides a flat surface in the gently sloping site, The first step up from ground level is permeable grass paving (grasslock) providing an all weather surface, and the next step up is lawn with a few boulders for informal seating. Concrete edges provide seating opportunities and social areas for student and staff.

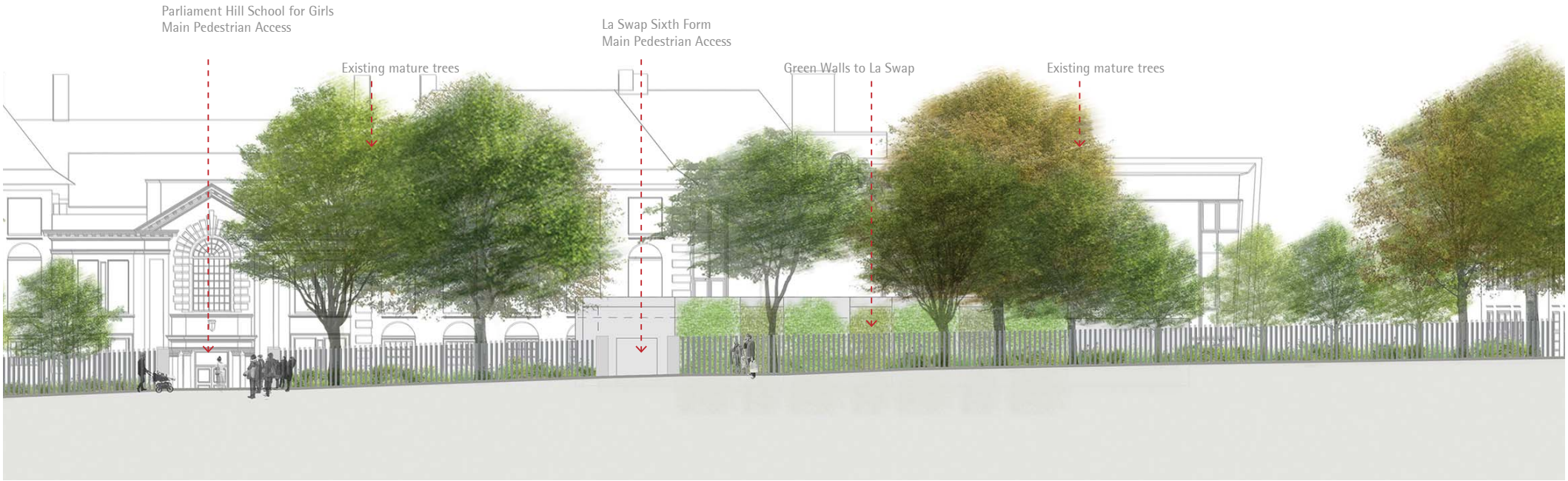
Hard and soft

Biodiverse naturalistic planting

Raised lawn

Sloping edges partially retained by concrete benches

Landscape - Detail - Highgate Road Elevation - La Swap



7.4.7 Landscape - Detail Areas - Parliament Hill Habitat

A significant area of the south edge of the site has been designated as a nature area. This will act as a valuable learning environment.

Large timber picnic benches and smaller circular benches are provided on a grasscrete (all weather) surface treatment.

The contained habitat area is lowered to ecourage controlled areas of natural ponding - which is already a feature of the existing landscape in this part of the site. The area is contained by a perimeter path comprised of timber decking and self binding gravel, feature arches provide height and structure to the space, and sit amongst the existing and proposed trees.

The planting in the contained habitat is a mixture of marginal and native species that can tolerate low levels of water ponding. Species will be a diverse mix and will provide habitat for a variety of species.

As some of the existing trees on site will be felled - either due to redevelopment or poor health - some of the timber should be kept on site as deadwood provides a valuable habitat for a variety of species large trunks and some branches will be carefully placed amongst the stretch of native planting to the boundary with lissenden gardens.

We would encourage the students to build insect hotels and explore natural craft such as willow weaving in this part of the site. The grass and grasscrete area also provide a space for displaying large sculptural work created by the students.

large working tables

Sensory rich planting

Transitional materials

View of Parliament Hill habitat and environmental research garden

7.4.8 Landscape - Detail Areas - Parliament Hill Courtyard & External Dining

A flexible space at the heart of the school, to create a strong identity and form a focal point within the school landscape.

The primary feature of this space is the external dining area, the circular space relates directly to the concave wall of the dining pavilion creating a visual partnership between the two elements.

The dining area is denoted by a series of concentric circles of varying paving type and colour. The space is enclosed by a circumference of trees, the steps around the space create informal seating as well as definition.

Moveable dining tables, seating and boulders will typically populate this space, but these elements can be removed if necessary. A segment of the circle is covered by a pergola type canopy structure, that could potentially be used for a number of things, including hanging set panels and defining a stage for an outdoor performance.

In direct contrast to the circular nature of this space is the formal linear circulation space directly relating to the Morant building, bands of paving relate directly to elements within the landscape catching edges and extending lines and breaks in the buildings.

The landform is one of the defining features of this space; the buildings are set at varying levels with the dining building and dance hall building at the highest point, the Morant building at an intermediate level and the ribbon building extension at a significantly lower level. Turfed and planted landform is sloped, graded, shaped and sculpted to create interesting changes in level and forms.

Planting to the front of the Morant building will be heath-inspired ornamental planting featuring Verbena bonariensius and Japanese blood grass and mexican feather grass.

7.4.9 Landscape - Detail Areas - Parliament Hill Games Court

This area provides a transitional space between the proposed ribbon building and the playing field and heath beyond. A informal games court area with sports markings creates a large flexible surface.

The edges of the court are steeply sloping banks up to the playing field beyond. Concrete walls partially edge the court providing retaining structures and seating and play elements. The area could also be used as an amphitheatre space comfortably accommodating large class groups or audiences.

Opportunities created by this space include possible use by the wider community for fairs and market stalls or outdoor drama classes.

The informal games court and the lower MUGA court fall within the Metropolitan Open Land (MOL) zone which is an extension of Hampstead Heath. MOL is classified as land that that is clearly distinguishable from the built-up area; includes open air facilities, especially for leisure, recreation, sport, arts and cultural activities and tourism which serve the whole or significant parts of London. The use of this zone remains the same providing recreational facilities; the majority of the space remains soft (as per existing) with some area allocated to hard tarmac areas for informal and formal games courts.

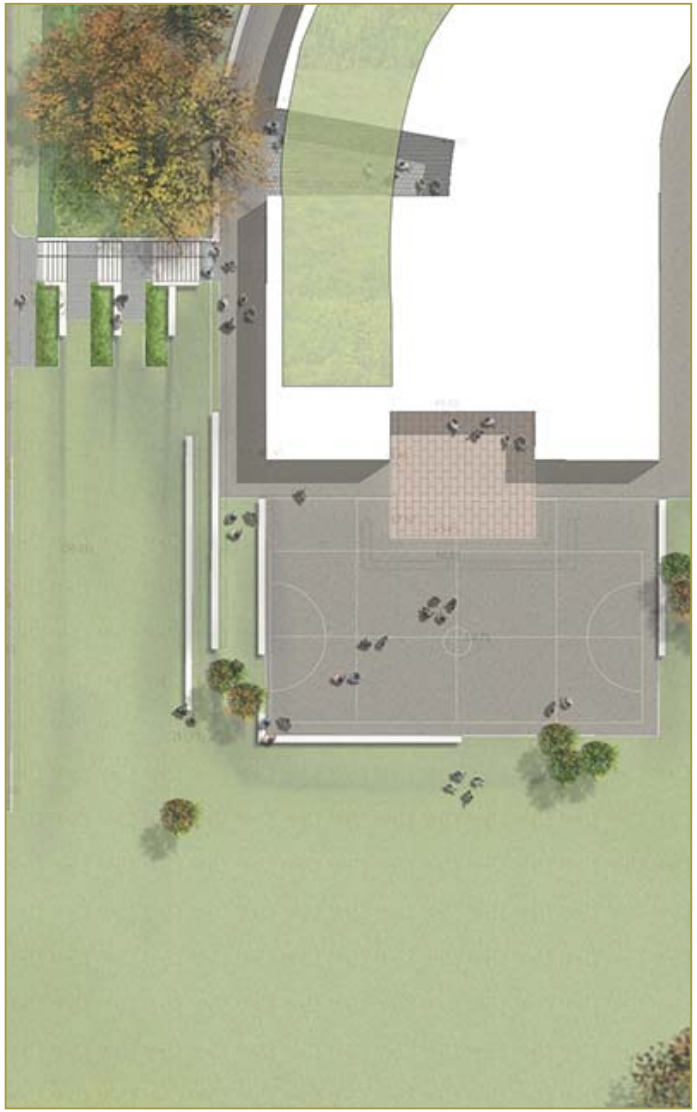
A - Courtyard & External Dining

B- Games Court

Informal sports lines

Sculpted grass

Steps and seating



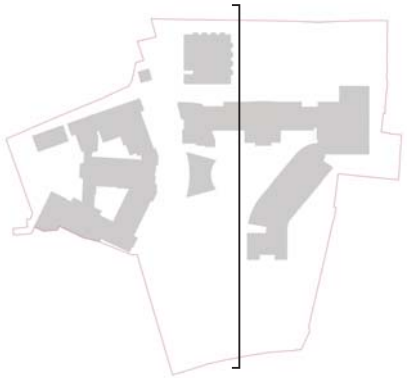
7.5 Site sections - Parliament Hill

Large areas of the site are currently under utilised. This is largely due to changes in level across the site, which is of approximately four and a half metres with the lowest points at the entrance of the Heath Building.

The proposal adjusts these levels to create gentler slopes for access between buildings and more usable flat surfaces for the pupils. Between these flatter spaces will be a variety of slopes some natural curving contours and some sculpted slopes and terracing.

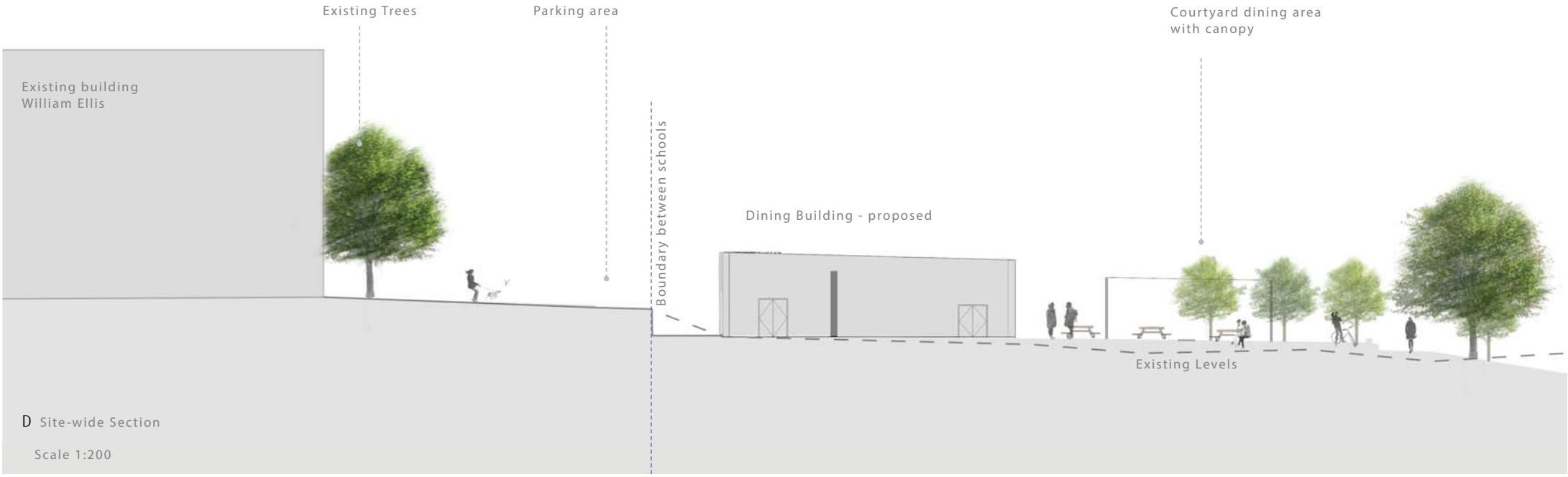
E Site-wide Section

Scale 1:150



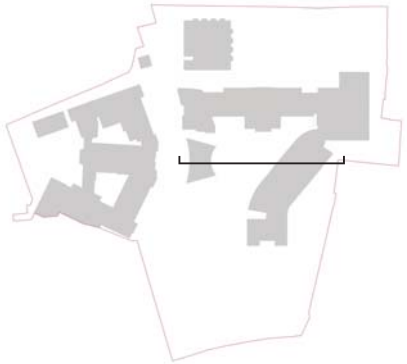

Courtyard dining area
with canopy
Dining Block - proposed
Morant
Building
- existing
Naturalistic woodland
planting
Green walls
Green roof
La Swap Building
- proposed
Boundary to Highgate Road

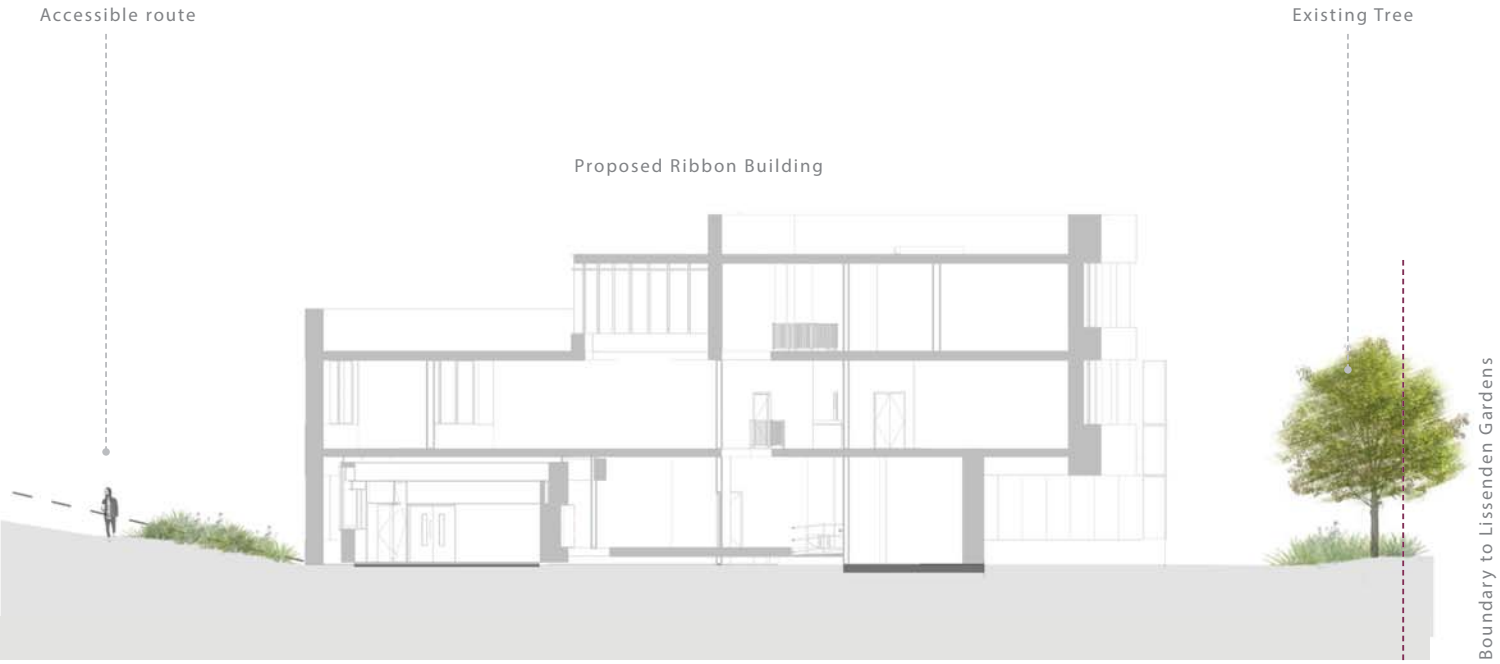
7.5 Site sections - Parliament Hill



D Site-wide Section

Scale 1:200

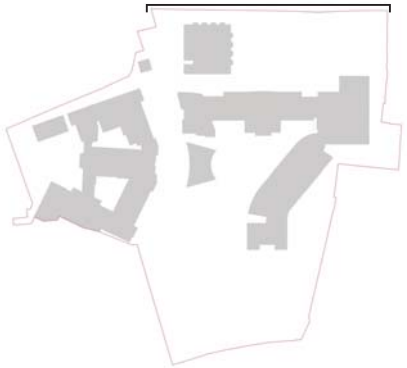



Accessible route
Existing Tree
Proposed Ribbon Building
Boundary to Lissenden Gardens

7.5 Site Elevation - Highgate Road

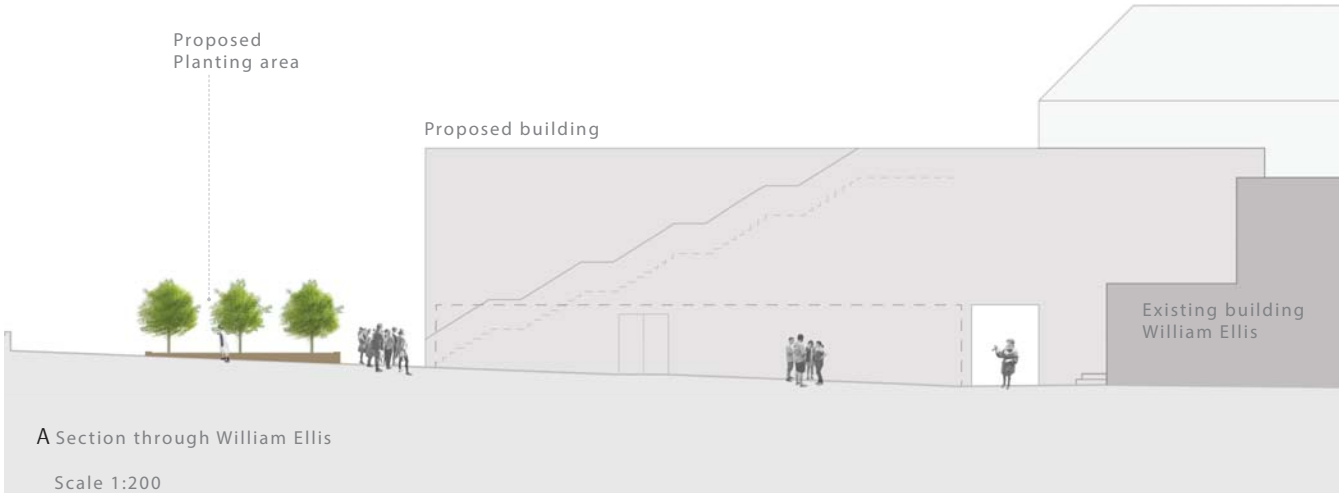
A Highgate Road Elevation

Scale 1:200



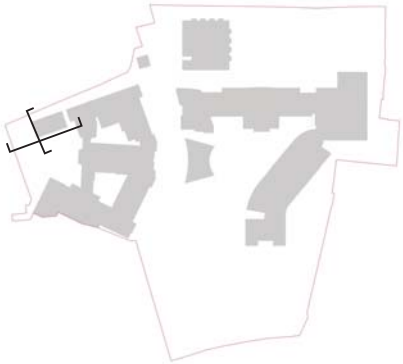

Main Entrance
to La Swap

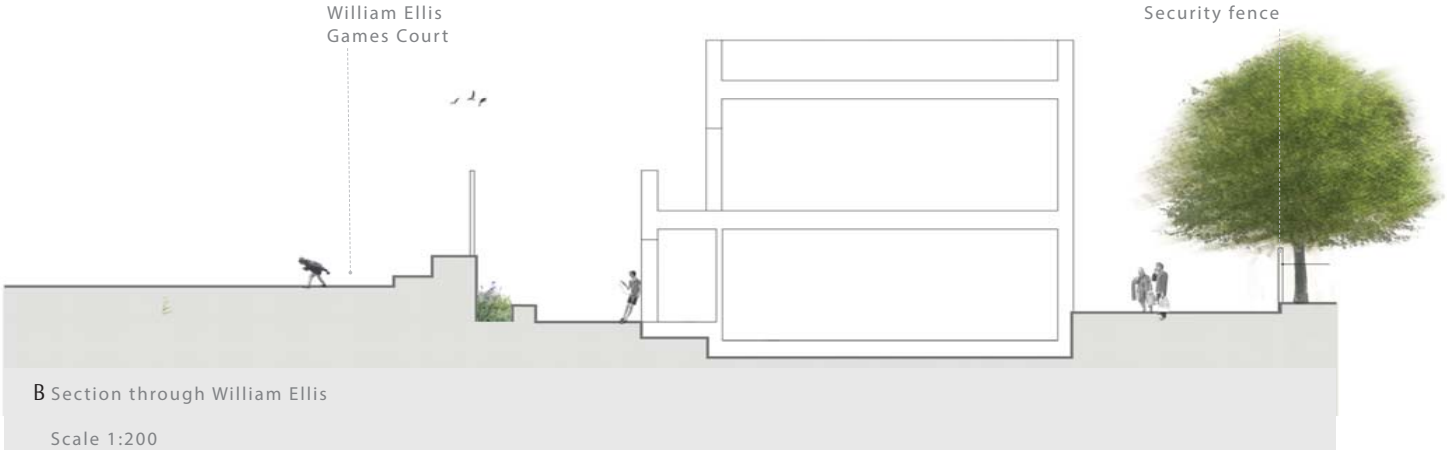
7.5 Site Sections - William Ellis



A Section through William Ellis

Scale 1:200





B Section through William Ellis

Scale 1:200

William Ellis Outdoor Teaching Area

7.6.0 Access Strategy - Site Wide

Pedestrian

The introduction of a new pedestrian gate along Highgate Road will create a clear, grand arrival experience for Parliament Hill School. The existing entrance will be a secondary pupil / cycle / community use entrance for access to the sports hall.

La Swap will have its own designated entrance off Highgate Road.

William Ellis access will remain as existing with shared pedestrian cycle and vehicular access.

Main pedestrian routes are highlighted by solid green lines, and secondary routes are dashed.

Where possible pedestrian and cycle routes are separated from vehicular traffic. Where the two intersect - within the landscape scope - the routes are informally separated by bollards, paving differentiation or painted markings.

All new buildings on site are accessed by DDA compliant routes. All stepped access routes across the site have tactile paving announcing the top and bottom of flights, with handrails to aid movement. Where ramps are implemented a change in paving colour and type is utilized to define the slope with handrails for ease of movement.

7.6.1 Access Proposals

Hazard Warning Tactile Textured
- Natural
by Marshalls
Size: 400x400x50mm

Stainless Steel Handrails to steps

Stainless Steel Handrails to ramps

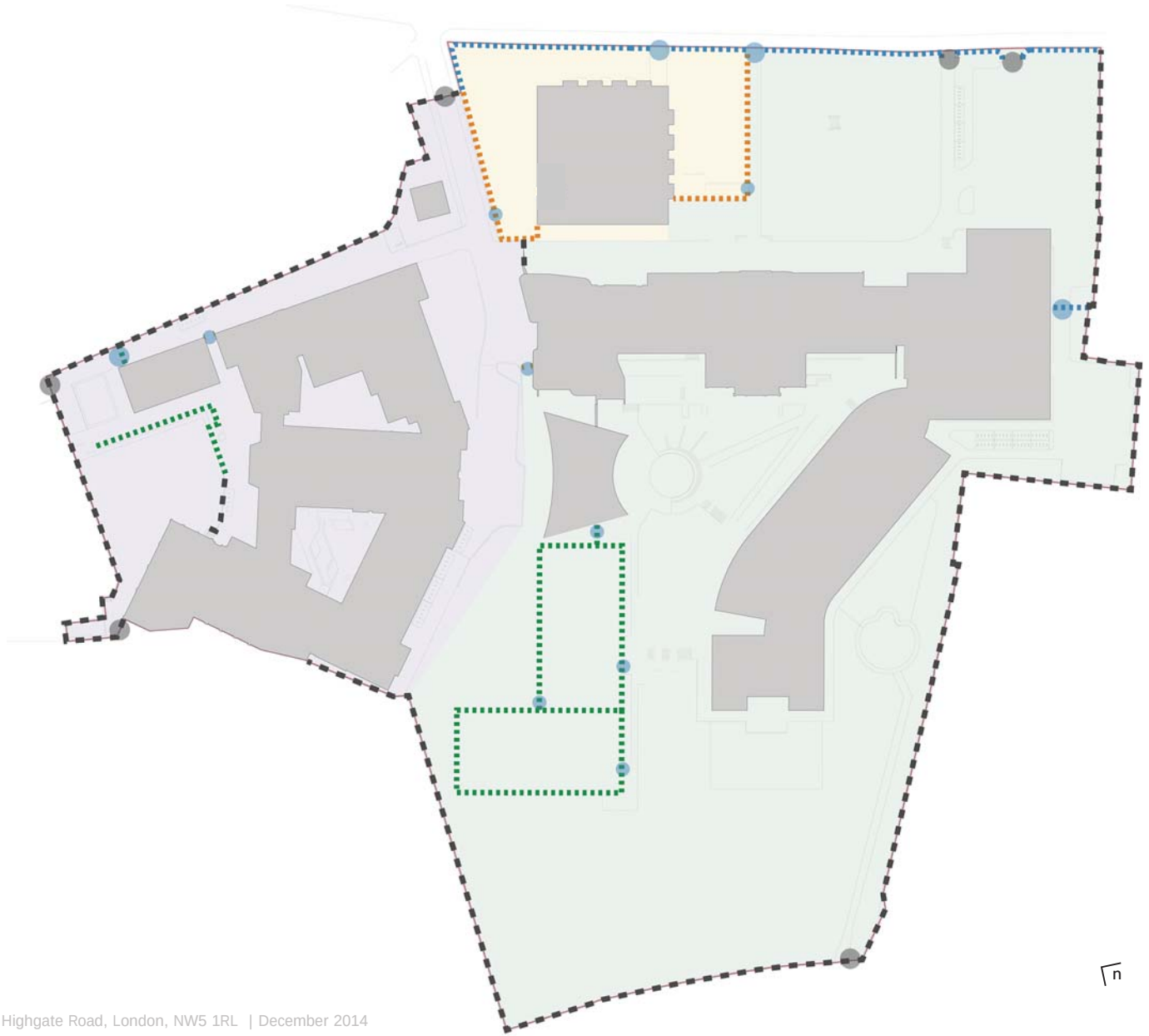
7.7.0 Site Boundary Treatment

The three schools are located in clearly defined spaces, separated by fencing or by planted unwalkable sloping landform. The majority of the existing boundary to the site will be retained; namely the palisade fence to the Heath boundaries and the brick wall and fence boundary to Lissenden Gardens, as well as William Ellis's boundary to the north of the site.

To Highgate Road a new simple black 2m railing will be implemented. The strategy of using this fence to open up views into the site, creating a strong, high quality frontage with the surrounding neighbourhood. It is also a fence that is suitable for a conservation area in that aesthetically it suits the place, and is durable and should need little maintenance over time.

To delineate the boundary between La Swap and Parliament Hill a 1.1m black railing (similarly styled to the Highgate Road 2m fence).
This fence will be set in either hedge or planting to create a distinct solid, yet unintrusive boundary.

3m weldmesh fencing will be introduced to Parliament Hill MUGA courts and as a partial replacement to William Ellis games courts. Some fences will be retained, new fences to match their associated fencing are proposed.



7.7.1 Boundary Treament Proposals

2 m black railing to Highgate Road

1.1 m black railing

3 m weldmesh fence to games courts

7.8.0 Hard Landscape Strategy

The hardscape materials will be robust and chosen to compliment the architecture and are sensitive to the conservation are setting.

Where possible, natural, locally sourced and reusable materials will be used that will improve with age and demonstrate a high standard of environmental sustainability. There will be an emphasis on materials which express natural aggregates.

The majority of the surfacing will take shape in Axo-Gold - a tarmacadam based product which requires a re-texturing process to expose gold and beige toned aggregates. This is a material that is suitable for a conservation area setting and is long-lasting.

Other predominant materials across the site will be concrete slab and sett paving to feature areas across the site - these are used to define spaces.

Self binding gravel is 100% environmentally friendly, a natural limestone material graded 12mm to fines with a high content of naturally occurring marl which gives our product its unique self binding properties.

In selecting materials BREEAM ratings have been considered in advance of BREEAM assessment.

Reference has been made as appropriate to most recent 'Camden's Streetscape Design Guidance'.

7.8.1 Hard Landscape Proposals (selection)

Asphalt / Macadam
Axo Gold: Stone mastic asphalt,vac-blasted to reveal golden gravel aggregate

Concrete block paving
e.g. Andover washed by Charcon
Colour: Silver Grey
Sizes: 200x100x80mm and 300 x 200mm

Concrete block paving
StoneMaster® block paving by Charcon
Colour: Buff mix
300 x 200mm

Concrete sett paving
e.g. Andover washed by Charcon
Colour: Silver Grey
Sizes: 200x100x80mm

Self-Binding Gravel
Breedon Golden Amber
6.3mm top size
or similar approved

Grass Reinforcement System
Grassguard Permeable Paving by Marshalls
or similar approved

Timber Deck
Canterbury style decking by Q-Deck
27 x 144mm (Class 3)
or similar approved

Colors Tarmac ULTICOLOUR
by Lafarge Tarmac
Colour: Classic Green
or similiar approved

7.9.0 Street Furniture Strategy

The furniture on site will be contemporary and minimalist in style, aiming to provide simplicity and cohesion of hardscape palette in a textural naturalistic woodland/heathland setting.

Typical materials in street furniture include concrete with exposed aggregate, hardwood timber, found/recycled timber from felled trees on site, and natural materials used as informal furniture such as boulders and tree trunks.

In selecting materials BREEAM ratings have been considered. Materials should have a high content of recycled or upcycled material and should be locally sourced.

The furniture and equipment will be robust and lasting, but also flexible and moveable to suit changing needs.

7.9.1 Street Furniture Proposals (selection)

Rectangular Picnic Set (1800x1470x(755))
Material. Scandinavian Pinus sylvestris
Model. Standard Picnic Table / Supplier. Pendlewood

Circular Picnic Set (dia1500x(755))
Material. Scandinavian Pinus sylvestris
Model. Orb Picnic Table / Supplier. Pendlewood

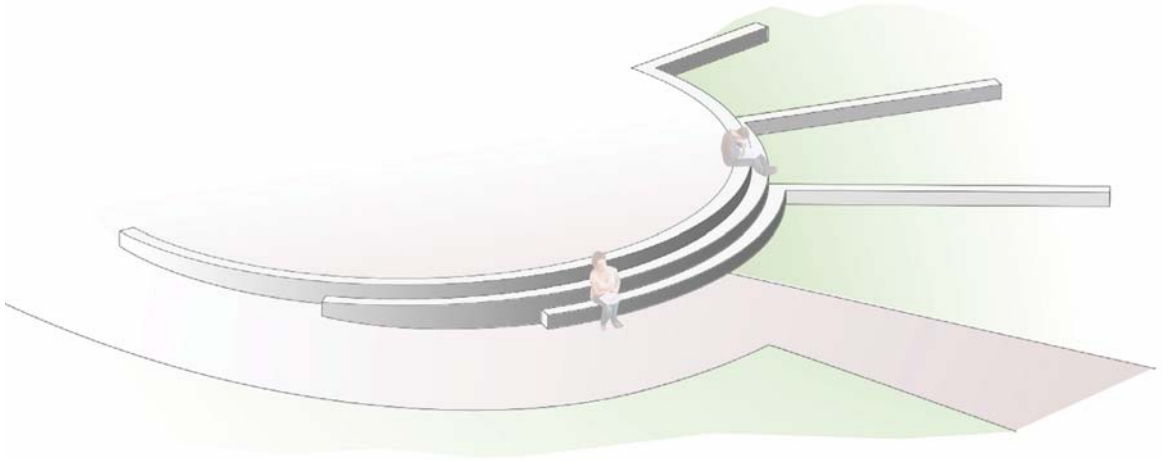
Cast-concrete retaining walls/informal perch/seat
with exposed aggregate

Sheffield Cycle Stand
BXMW/GS/Sheffield-Stand
by Broxap

Sheldon Cycle Shelter SCS304
by Langley Design

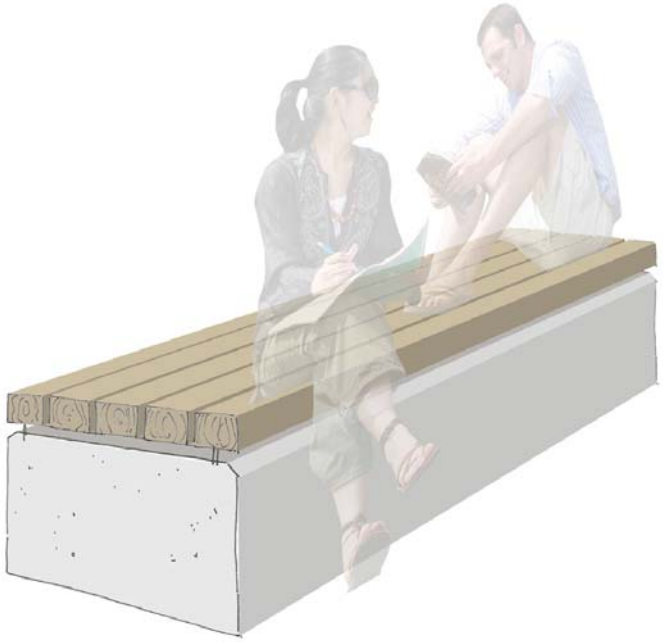
Sheldon Litter Container SLC304
by Langley Design

7.9.2 Street Furniture Strategy (selection)



Impression of cast concrete retaining walls / seating to circular dining area

Timber Archway (2000x3000)
Material. Scandinavian Pinus sylvestris, metal painted in the inner arch
Section size to be confirmed by engineers



Timber Bench without backrest ((different lengths)x500x(450))
Material. Scandinavian Pinus sylvestris + cast concrete base

Timber Bench with backrest ((different lengths)x500x(450))
Material. Scandinavian Pinus sylvestris + cast concrete base

7.10.0 Tree Retention and Removal Strategy

Existing Trees to be retained - no. 118 (approx)

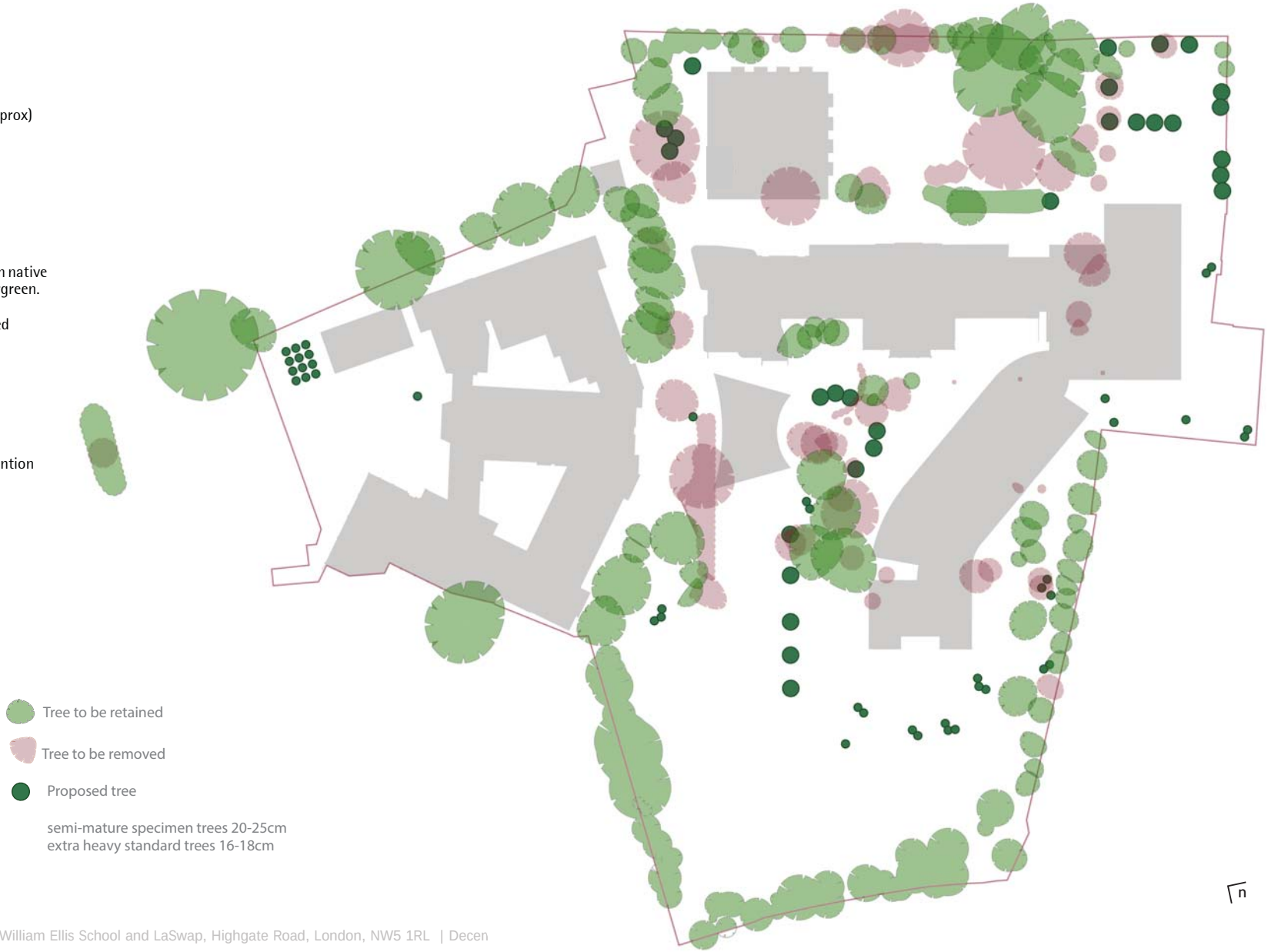
Existing Trees to be removed - no. 44

Proposed Trees - no. 71

Proposed tree species are typically those found in native deciduous broadleaf woodland, with some evergreen.

For every tree that is removed it will be replaced by roughly 1.5 trees.

For more information on tree removal and retention please see the Arboriculture Report



7.10.1 Tree Proposals (selection)

Betula utilis jacquemontii
Himalayan Birch (multi-stem)

Alnus glutinosa
Alder

Quercus robur
English Oak

7.11.0 Soft Landscape Strategy

The planting is designed to fit the scale and character of this unique London landscape adjacent to the Heath. The planting also serves to reinforce the overall design and its aim to create a unifying identity for the different schools it comprises.

The planting typologies will be based on those found on Hampstead Heath, creating natural habitats and wildlife corridors. Ornamental planting will be implemented in a restrained way, adding formality and colour to the native heathland landscape.

Species will be chosen that clearly articulate and celebrate the seasons. Productive planting such as things bearing edible fruit, nuts will be incorporated to allow the opportunity for foraging. The diversity of the planting provides many opportunities for engagement with the curriculum but also importantly the planting provides for a calming environment conducive to social learning.

7.11.1 Planting Proposals (selection)

Woodland understory / shade tolerant planting

Native Hedge

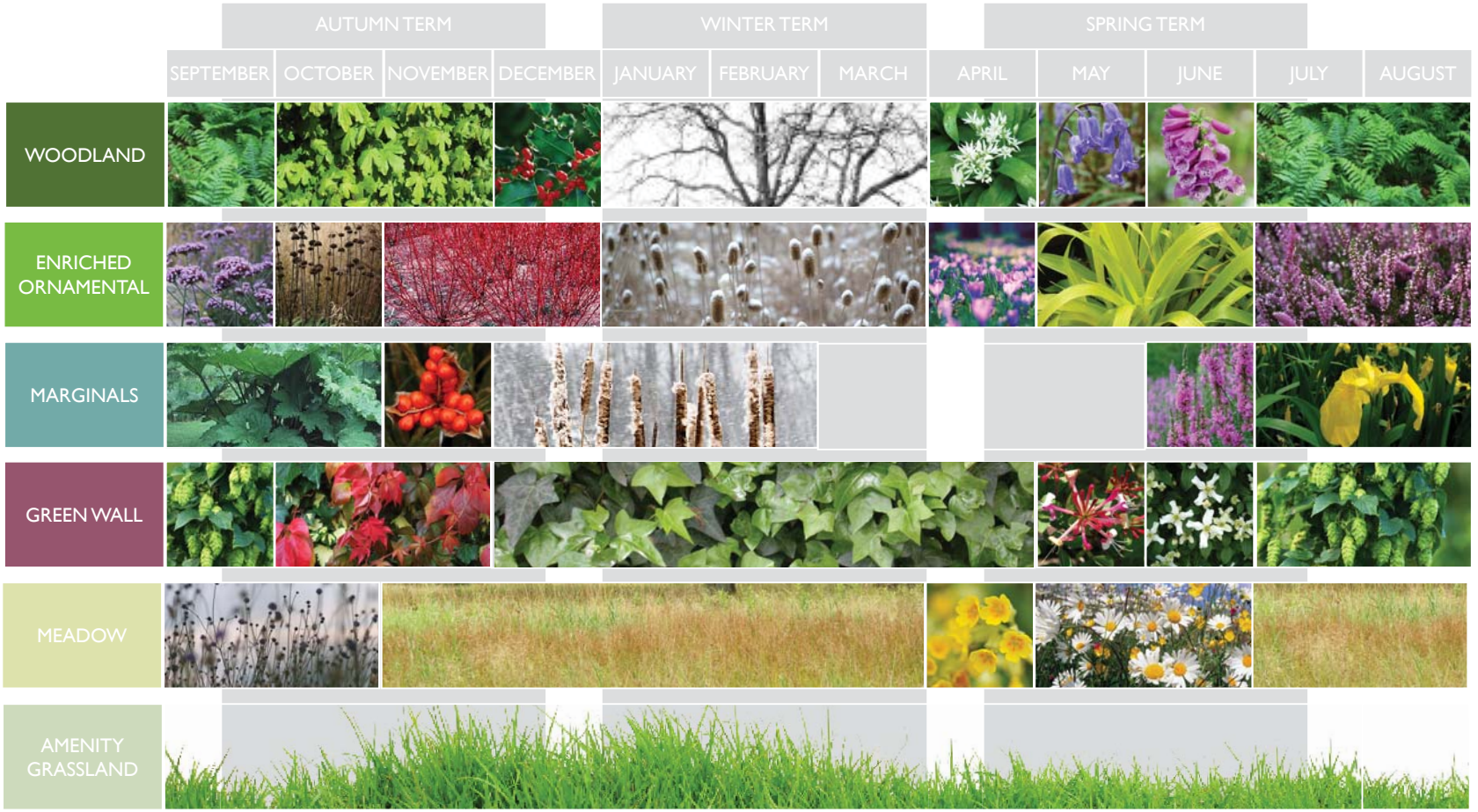
Enriched Ornamental

Meadow / Grasses
Perennial wild flower meadow mix

Marginal

Green wall cable system with twining climbing plants

7.11.2 Planting Calendar



7.11.3 Landscape Ecology

The landscape has been designed to support and foster biodiversity.The planting scheme is rich in native species, taking strong inspiration from the heathland landscape in terms of species and structure. Plants for pollinators and fruiting trees and shrubs have been included in the planting palette to support various species of wildlife.

Wherever possible a suitabily sourced wildflower meadow mix will be implemented as well as the introduction of new native trees and shrubs in order to support and foster biodiversity on and around the site.

Bat and bird boxes will be included in the landscape wherever suitable. Typically existing mature trees will be the best locations as the height and dense canopy will provide suitable shelter for roosts.

The roosting areas allocated for bats will be located a suitable distance from the lighting on site - most notably the area adjacent to the Games Courts Area in Parliament Hill as at times this area will be flood-lit.

The bat survey identified that there is limited commuting and foraging activity across the site; by Common and Soprano Pipistrelle bats. Foraging activity was mainly confined to the boundaries of the site and around trees in the central area.

The tree surveyed were found to have no visual cavities or other suitable roosting opportunities for bats and were classified Category 3.

Any loss of potential roost sites can easily be replaced and enhanced through the erection of new bat boxes in retained trees. There will also be only a slight negative impact on foraging across the site through the loss of some trees required for the new construction. Boundary features will stay intact and new shrubs planting and landscaping with native species suitable to support foraging insects as a food source for bats and birds can mitigate against the loss of the current low value resource.

Assistance will be engaged from an ecologist in the design and location of bird / bat boxes. Boxes will be situated between 4m and 6m above ground level, with entrances facing North, South-east and South-west to allow for use all year round.

7.12 Area Comparisons

*(NOTE) It is inevitable that in giving away a portion of the site to la swap sixth form the total area and its components will decrease in size.

La Swap Sixth Form Site = 2700 m2

*(A) Less than existing provision. The proposed area still meets the BB103 recomendation. With additional indoor provision of sports facilities on site, and those existing off site, PE classes will not be disrupted.

Existing quality of sports provision (tennis courts) and fenced boundary is poor. Connection to other social spaces is poor.

Parliament Hill School for Girls	Key Stage 2-4 = 900 pupils	Site Area 24,509 m2	Site Area 21,809 m2		
Area Type	BB103 Requirements	Existing Areas	Proposed Areas	Ex/Pr Comparison	BB103/Proposed Comparison
Soft Outdoor (sport)	37,500 m2	off site provision	off site provision	as existing	as existing
Hard Outdoor (sport)	1,750 m2	2,200 m2	1,750 m2	- 450 m2 *(A)	as recommended
Soft Informal (social)	2,400 m2	6,562 m2	5,397 m2	-1,165 m2	+2,997 m2
Hard Informal (social)	1,100 m2	2,400 m2	3000 m2	- 600 m2	+1,900 m2
Habitat	450 m2	4,000 m2	3,656 m2	- 344 m2	+3206 m2
Float (project specfic supplementary area)	5,300 m2	NA	2,700 m2	NA	NA
Non- Net Area (building footprint/access for people/carparking/deliveries	6,500 m2	9,346 m2	8,537 m2	- 809 m2	+2,037 m2
Overall Site Area		24,509 m2	24,509 m2		

*(A) Provision both off and on site as proposed on site 'Soft Informal' area is lower than BB103 reccommendation. Existing off site provision must remain. Due to site constraints priority is afforded to areas of Hard informal and Hard Outdoor Areas over Soft Informal. (see pg 44 Part B 'Area guidlines for mainstream schools' Building Bulletin 103 June 2014)

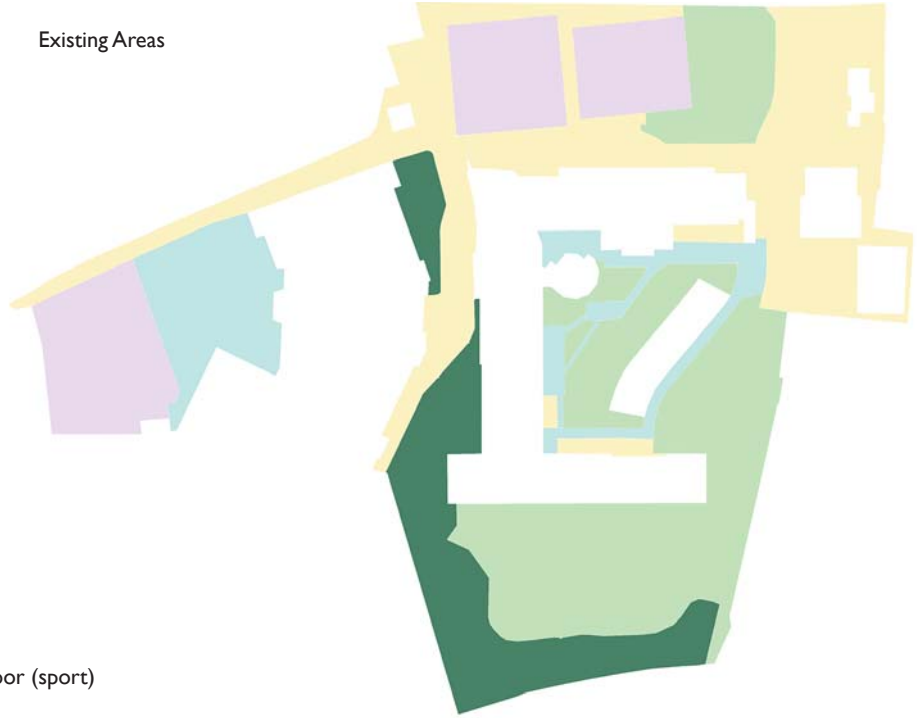
*(B) Slightly less area provided than existing - proposed area still exceeds BB103 reccomendation by over 1,500 m2.

Existing courtyard covered and refurbished to provide useable hard social space. This area offsets the expansion of the building footprint.

William Ellis School for Boys	Key Stage 2-4 = 600 pupils	Site Area 11,011 m2			
Area Type	BB103 Requirements	Existing Areas	Proposed Areas	Ex/Pr Comparison	BB103/Proposed Comparison
Soft Outdoor (sport)	27,000 m2	off site provision	off site provision	as existing	NA
Hard Outdoor (sport)	1,300 m2	1,850 m2	1,850 m2	as existing	NA
Soft Informal (social)	1,800 m2	350 m2 + off site provision	960 m2 + off site provision	+ 610 m2 *(A)	- 1190 m2 *(A)
Hard Informal (social)	800 m2	2,170 m2	2,169 m2	- 1 m2	+ 1,369 m2
Habitat	300 m2	390 m2	735 m2	+ 345 m2	+ 435 m2
Float (project specfic supplementary area)	3,800 m2	NA	Covered Courtyard	NA	NA
Non- Net Area (building footprint/access for people/carparking/deliveries	5,000 m2	5,513 m2	5,847 m2	+ 513 m2	+ 847 m2
Overall Site Area		11,011 m2	11,011 m2		

7.12 Area Comparisons

Existing Areas



Proposed Areas

off site Soft Outdoor (sport)

Hard Outdoor (sport)

Soft Informal (social)

Hard Informal (social)

Habitat

Non- Net Area
(building footprint/access for people/carparking/deliveries

8

access & transport

8. ACCESS & TRANSPORT

Transport Assessment Summary

A Transport Assessment has been carried out, which considers the impact in highways and transport terms, relating to the proposed redevelopment of the existing school site of Parliament Hill School (PHS) and William Ellis School (WES) in Hampstead, London.

This report has been prepared in accordance with national guidance on the preparation of Transport Assessment, produced by DfT. Scoping discussions with Camden Council (CC) who are the relevant Highway Authorities, have additionally informed the assessment.

This assessment considers local, regional as well as national sustainable transport policy, and has found the development to be compliant with such.

The site has been assessed in the context of the local highway and transport network. The site has been found to be well served by pedestrian, cycling and bus modes of travel.

The proposed pedestrian and vehicle access arrangements at the site have been presented in the report and are deemed to be satisfactory from a road safety and sustainability viewpoint.

Detailed consideration has been given to highway safety aspects in the vicinity of the site. Such consideration analysed accident data for a period of three years prior to December 2013 and concluded that the proposed development would not contribute to any existing adverse road safety conditions in the vicinity of the site.

Section 8.0 of the Transport Statement describes the development proposals in terms of access and car parking. There is no change to the number of staff and pupils resulting from the redevelopment. The redevelopment will provide the same quantum of on-site car parking that is currently available, within an improved parking layout that reduces the number of on-site conflict points. A significant increase in the number of cycle parking provision is proposed, in adherence to cycle parking standards set out in the London Plan. The location of the proposed cycle parking areas are served by clear routes from the access points from Highgate Road.

A new sports hall and 2 No. Multi-Use Games Areas (MUGA) are proposed as part of the redevelopment of PHS. As well as providing improved sporting facilities for pupils, it is proposed that these facilities will be available for community use after school hours and during weekends.

The scale and proposed phasing of the related construction has been set out in the report. A draft Construction Management Plan (CMP) has been prepared to support the planning application for PHS and WES.

Refuse collection, deliveries and general servicing will be carried out on site. Relevant swept path assessments have informed the layout of the proposed service areas. The proposed redevelopment site layout provides an on-site route that can accommodate access for a fire tender.

It has been agreed at the scoping stage of this project that Camden Council would secure a School Travel Plan via the S106 process. Two separate TPs will be updated to ensure that on-going monitoring can readily be carried out by the relevant parties. Relevant school Travel Plan measures have to this end been outlined in this TS. It is anticipated that PHS and WES will be required to implement the proposed measures, where appropriate, as part of their respective revised school Travel Plans.

The potential vehicle trip generation at the development has been quantified in Section 12.0 of the report. Considering the fact that there is no proposed changed in the number of staff and pupils at both schools post redevelopment of the school sites, the trip generation exercise is representative of the existing and post redevelopment scenarios. As such, it is considered that no significant impact on the local transport network will result from the proposed redevelopment of the combined school site. An assessment of additional trips generated by the community use of the proposed Sport Hall and MUGA has demonstrated that, assuming a 4 hours spread of use (up to 2 sessions per evening) it is reasonable to expect in the order of 35 vehicles accessing the available on-street parking in the locality at any one time. Pay and Display bays adjacent to the site on Highgate Road can cater for parking and pick-up/drop-off activity relating to afterhours use of the school campus.

In view of the above, it is considered that the development here assessed conforms to requirements set out by local, regional as well as national transport policy. It is therefore considered that this application should be viewed favourably by the local highway authority.

Please refer to the separate Transport Assessment Report for further details.

9

access statement

9 ACCESS STATEMENT

Introduction
This report concerns its self solely with the new build and alterations where Planning or Building Control approval is required.

Consultations have taken place with residents all through the design process and an Access Consultant has been involved with the design.

Guidance has been taken from Building Regulation Approved Documents, BS8300 and Building Bulletin BB102.

Site
The site currently houses two schools Parliament Hill and William Ellis. The works will provide a new sixth form centre to the front of the site, with an extension to William Ellis at the rear of the school. Parliament Hill has a new sports building with

1. External Environment

1.1. Car Parking

1.1.1. The existing car park to Parliament Hill is to be altered as the existing parking provision is being lost due to construction. On William Ellis site car parking is also being altered.

1.1.2. There are 45 parking spaces on Parliament Hill with five of these being designated for Blue Badge holders this equals 11%, which is in excess of current guidance. On William Ellis there are 17 bays in total and one being designated for Blue Badge Holders,this equals 6%.

1.1.3. Cycle parking has been provided to both sites.

1.2 Access Routes - Across Site and Between Buildings

1.2.1 All the buildings are located on one site with the majority of external works focusing on Parliament Hill School and LaSwap, with some external works to the William Ellis School.

1.2.2 A major influencing factor are the levels to the site, from Highgate Rd to the front of the Morant building (Parliament Hill School) there is a height difference of around 2m, then from this point to the rear of the building the site falls for another 650mm. Between the front of William Ellis to the south side of the technology block the total fall is around 4.4m. These level changes impact on all external routes around the buildings and how the buildings join. The approach to William Ellis School remains unchanged in to the site.

1.2.3 The main entrance is step-free. There is a ramp to the bottom with gradients that meet current guidance for gradient and length, along with handrails and colour contrast between ramps and their landings. There is an alternative route with a gradient shallower than 1:20 if required.

1.2.4 Surfaces will be firm and even where they are new or have been relaid/ repaired.

1.2.5 There are a number of steps within the central area (between Dining Area, and Ribbon Building). Tactile warning and handrails are to be provided. There is also an alternative step free route, where the gradient of these alternative routes is at 1:20 or steeper it meets design criteria for ramps.

2. Parliament Hill School

2.1 Ground Floor

2.1.1 The entrance to the Ribbon building has doors that are powered and operate on motion sensors, these will provide in excess of the minimum recommended width for entrances.

2.1.2 Between the doors in to the changing rooms the floor slopes with a gradient of 1:17. The ramp will provide handrails to both sides and the surface will contrast with the landings at the top and bottom.

2.1.3 Doors to all rooms will provide the minimum clear effective width of 800mm on single doors and to both leafs on double and at least one door on asymmetric doors. Doors all provide a minimum 300mm clear space between the latch side of the door and the nearest return wall, to the pull side. Doors will be fitted with lever or D handles.

2.1.4 Staff WC and changing room behind reception are self contained rooms.

2.1.5 Pupil WCs are all unisex, self-contained facilities, providing a WC pan and hand washbasin, with one facility per area having an outward opening door. The staff WCs have the same layout. Taps will be operable with a clenched fist.

2.1.6 There are three accessible WCs with one also being a changing room. These rooms are larger than the minimum recommended size.

2.1.7 Hygiene room with the associated accessible WC and shower.

2.1.8 The corridors provide a width that is in excess of 2000mm wide. There is a short rise flight of stairs within the main corridor, this is to overcome a floor level difference of 600mm. These steps will have handrails to both sides, that extend horizontally 300mm beyond the top and bottom steps along with colour contrasting nosings. The risers and treads will be of even dimensions with a width of 2000mm. The adjacent ramp has a gradient of 1:15 over the two sections with an intermediate landing having a depth of 1500mm; this meets with current design guidance.

2.1.9 Lift: This provides a car measuring 1800 x 2400mm which is in excess of 1500 x 1500mm manoeuvring space in front of it.

2.1.10 There are two staircases within the corridor; these provide a width of 1400mm with handrails to both sides at suitable heights.

2.1.11 At each end of the corridor there is an enclosed staircase. This provides a width of 1600mm; this meets with BB102. The foot and head of the stairs are clear of any door swing as recommended by current guidance.

2.1.12 Finishes to critical surfaces, floor, walls, doors will provide colour contrast of at least 30 points Light Reflective Value where lighting levels are less than 200lux and 20 points where in excess of 200lux.

2.2 First Floor

2.2.1 To this level there are two pupil WC facilities and two accessible WCs. One of the accessible WCs is designated for staff use.

2.2.2 Joining the Morant Building and the Ribbon Building is a series of three ramps, these have the possible shallowest gradient a ramp can have, 1:20, before it becomes a slope. Handrails will be provided to each side. The section of the ramp contained within the Morant building does not provide the recommend level landing clear of any door swing, however, the doors during the day will be held open on catches linked to the alarm system, during evacuation this will have to be part of any PEEP.

2.3 Second Floor

2.3.1 There are two slopes to connect the Morant building to the Ribbon building, these both have gradients of 1:21, which means they are not seen as ramps.

2.3.2 This provides an accessible and pupil WC at one end. The accessible WC is a right transfer. The door opens outwards, as it should in to the corridor but there is in excess of the recommended minimum space for outward opening doors in to circulation routes.

2.4 Emergency Egress

2.4.1 Refuge areas are located within the enclosed staircase with two-way means of communication. Visual alarms as well as audible are to be installed.

3. Dining/Social Studio

3.1 This is a detached, single story building, with a central courtyard. For the courtyard area see external routes.

3.2 There is step free entry in to the building. The doors provide a opening width of 900mm which is seen as acceptable as this is not a main entrance in to the school.

3.3 A single corner unisex accessible WC with a left transfer is provided along with pupil WCs.

4. William Ellis School

4.1 Extension

4.1.1 The entrance approach is to be reconfigured, this is being done by another design team.

4.1.2 To the rear of the school a two-story extension is to be built and an open air internal courtyard is to be covered. The extension is accessed from the rear of the school with an open-air staircase to the first floor, from within the school the extension bridges across the rear yard. There is platform lift access within the school that gives access to this area.

4.1.3 The external steps provide uniform closed height risers and treads of equal depth. A handrail is provided to each side at a suitable height and design.

4.1.4 The entrance door, which is undercover of the first floor, is a one and a half leaf, with the larger leaf providing a clear effective width of 1000mm.

4.1.5 The doors in to the two ground floor rooms provide clear effective widths in excess of 800mm.

4.1.6 At first floor level there is a set of asymmetric doors to enter the new extension. The larger leaf will provide a clear effective width of 800mm. The main room can also be accessed midway along the external flight of steps.

4.1.7 To the first floor there is an accessible WC, this scales at 2580 x 2270mm, but does have an inward opening door, although not ideal, the enlarged room size and width does allow reasonable turning space, this is seen to mitigate the inward opening door and that it will be fitted with double action hinges to allow outward opening in the event of an emergency.

4.1.8 There is the potential for a roof top garden, this does not form part of the current design remit.

4.2 Internal Alterations

4.2.1 A new accessible WC is to be provided adjacent the front entrance. This will be a left transfer facility. The door will open inwards as the facility door will open outwards on to a main corridor and is adjacent the corridor doors. The inward opening door will be capable of being opened outwards in the event of an emergency. The room will provide a width of 2000mm and the length at its shortest is 2600mm.

4.2.2 To the changing rooms a new accessible WC/shower is to be provided. The room measures 2500mm wide with a depth of 2350mm deep. The recommended size is 2400mm x 2500mm. This is a left transfer facility. The room has an outward opening door, which has partial protection from an adjacent wall and the corridor gives access between a staff only area and pupil changing.

4.2.3 To the first floor at the top of the main stairs there are to be new WCs, these include changing rooms and an accessible WC.

4.2.4 The courtyard adjacent the gym is to be covered. The works include the addition of a new platform lift and staircase to the first floor only. The courtyard will also have a short rise flight of steps giving access to the dining extension.

4.3 Courtyard

4.3.1 Courtyard short rise flight of steps: These will have uniform height risers and treads of equal depth. Handrails will be provided to meet with current design guidance.

4.3.2 Platform lift: This will give access to the first floor. There is 1500 x 1500mm space in front of it. The lift has doors at 90° providing increased access to the upper level.

4.3.3 The courtyard has a change in levels, steps with a handrail which can be used from both sides, is provided. The slopes, to overcome the steps, have gradients of 1:22, meaning they are not ramps requiring ramp design detail.

5. Le Swap

5.1 The entrance is off Highgate Rd, but can also be accessed from within the grounds of William Ellis or Parliament Hill schools. These provide step-free approaches.

5.2 The entrance is obvious with double leaf doors leading in to a lobby that allows a clear maneuvering space between the inner and outer doors.

5.3 This is a single storey building.

5.4 There are unisex WCs for students with an outward opening cubicle door per facility. In addition there is a corner accessible WC.

5.5 Means of emergency egress is from one of two exits, both step-free.

10

sustainability

10. SUSTAINABILITY

Introduction

The Camden Schools development comprises of the refurbishment and extension to both the existing William Ellis and Parliament Hill Schools, along with a new-build La Swap sixth form. The Ribbon Building is a large new-build extension to the Parliament Hill School, which will be designed to achieve the Passivhaus standard for exceeding thermal comfort and energy efficiency. The development is located adjacent to Hampstead Heath off of Highgate Road, Camden, London.

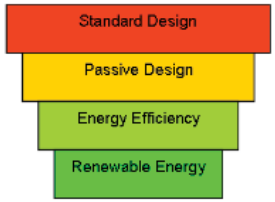
This document reviews the design approach and subsequent sustainability credentials of the project in line with the Camden Planning Guidance 3 (Sustainability) and London Plan 2011 document. This document will also address the following Local Development Framework (LDF) policies – Tackling climate change through promoting higher environmental standards (CS13), Promoting sustainable design and construction (DP22) and Water (DP23).

Camden Council is committed to reducing Camden's carbon emissions and a big driver is to implement sustainability guidance for large scale construction projects. Buildings in Camden account for 88% of Camden's overall carbon dioxide emissions, resulting from their energy usage.

Energy Statement

To design a truly low-carbon building, the most effective approach to reducing operational energy use (and therefore carbon emissions) is to reduce the building's energy demand before then reducing its consumption. This is done by first utilising passive design measures on the building fabric ('Be lean'), before then specifying efficient systems ('Be clean') and low and zero carbon (LZC) technologies ('Be green')

This principal to efficient design can be considered as an 'energy hierarchy' as illustrated in the figure below. The inverted pyramid highlights firstly the energy consumption from a standard design. Passive design techniques should be considered firstly to minimise energy consumption, which also has other benefits such as smaller plant requirements. Then by using efficient plant and equipment, energy consumption can be further reduced. Once the energy demand overall has been minimised, then low and zero carbon technologies in the form of renewable energy can be integrated into the design to provide the remaining energy via sustainable low carbon means.



Roadmap to Efficient Design

Reduce the demand for energy – Be Lean

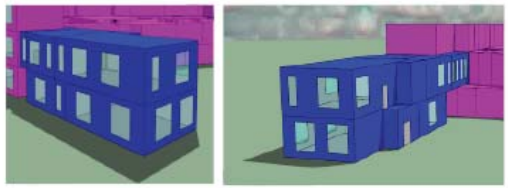
Reducing a building's energy demand requires the use of passive measures predominantly in the design of the fabric. The following has been considered in the baseline design for the proposed new-build elements of Camden Schools:

- Building form and orientation
- Passive ventilation strategy (utilisation of effective natural ventilation where possible)
- Minimising air leakage
- Exposing thermal mass (to benefit natural cooling)
- High efficiency glazing
- External shading (to benefit natural cooling)
- High performance insulation

The glazing is perhaps the aspect of building design that requires the greatest compromise in order to reduce heat loss in the winter and heat gain in the summer, whilst providing sufficient openings to promote natural ventilation and adequate daylight to the interior spaces throughout the year. Thermal modelling is a tool that enables a design team to complete an iterative exercise to achieve the optimum compromise between these four criteria. Specifying glazing with a low G-value (solar energy transmittance) will also reduce the direct solar radiation entering the rooms, which will support the aspiration to utilise natural ventilation in as many of the occupied areas as possible.

For the proposed Camden Schools development a full thermal model for the new-build element of each building has been carried out; the results of which are fully described within the associated Part L reports and energy statements. Some images from the models are shown below: Using this model

Parliament Hill School Ribbon Building and Dining Block IES Model



William Ellis School Extension IES Model

La Swap Sixth Form IES Model

we have evaluated the passive design measures that can be incorporated. The pertinent results of this for Camden Schools are:

- Mechanical ventilation with heat recovery has been assisted by natural ventilation where possible
- BB101 overheating and BREEAM/CIBSE daylighting design criteria's exceeded
- The buildings fabric has been improved in excess of the current Building Regulation Part L
- requirements and for the Ribbon Building in accordance to the Passivhaus 'Gold' standard
- BREEAM 'Excellent' achieved for the Parliament Hill School and La Swap buildings

Supply energy efficiently – Be Clean

Once passive design measures have been exhausted, the remaining energy demand should be utilised efficiently which is achieved primarily through active design. Occupancy & daylight sensors on lighting systems and heat recovery on the mechanical ventilation systems are good examples of energy efficient active design measures that can be incorporated on the mechanical and electrical systems of a building.

Ensuring good controllability and zoning of all systems can also significantly improve the operational efficiency of a building. Various areas of the building that are likely to have different occupancy profiles should be designed to enable the user to heat solely the occupied areas, therefore reducing wasted energy.

The electrical consumption of the lighting is typically a large percentage of any building's regulated operational energy use. It is important to consider the specification of luminaires and control strategy to reduce the operational energy use of this system.

For the Camden Schools development we have incorporated the following where practical:

- Energy monitoring and controls dialogs
- Lighting controls & integration of natural daylight
- Variable speed pumps & fans
- Heat recovery on Air Handling Units (AHU)
- High efficiency boiler plant
- Combined Heat & Power (CHP)

The energy efficiency of the existing retained buildings in Parliament Hill School and William Ellis School will also be addressed.

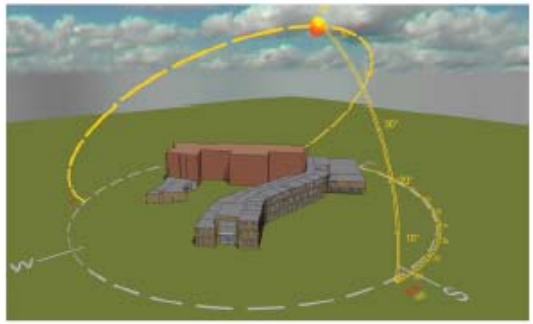
Parliament Hill School will receive new energy efficient boiler plant replacing the old and in-efficient heating system as well as new lighting and lighting controls throughout the building in those areas that have not recently been refurbished. The lighting and heating accounts for a large proportion of the regulated loads in a school building and so this impact of this is significant. William Ellis School has recently had its boiler plant replaced and so replacing this again will not offer much carbon reduction. However, much of the existing lighting installation is aged and so the lighting will be replaced with new control systems in the existing building.

Use renewable energy – Be Green

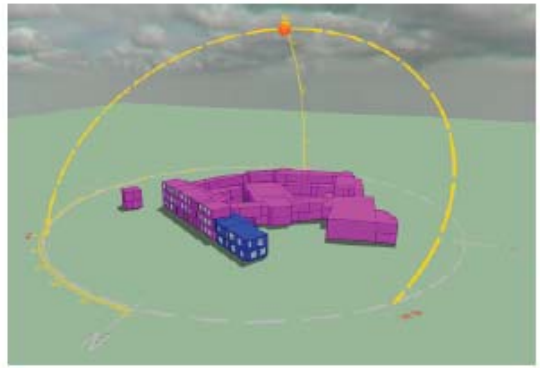
Once all passive and active design measures have been reviewed, a more accurate energy and load profile can be created for a building enabling plant to be suitably sized and specified. Low and Zero Carbon (LZC) technologies can then be assessed for their suitability for any given development. However, an assessment of the lifecycle energy, cost and carbon emissions of each system should be carried out in order to select the most appropriate solution for the development. A requirement has been set by Camden Council for a 20% reduction in carbon dioxide emissions from on-site renewable energy technologies.

With assistance from the high performance of the passive design, this target for the site is exceeded beyond the Building Regulations Part L building emission rate (BER). A LZC technologies assessment has been carried out for each building and the results of which are summarised below.

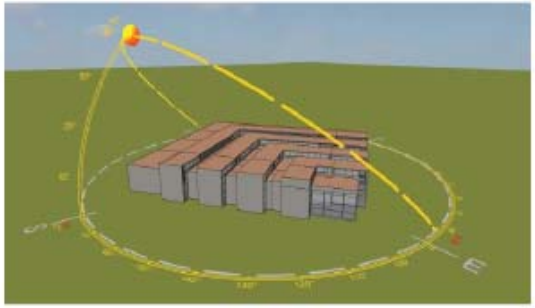
The images below show the thermal model of each building, which has been used to assess various passive & active measures, and LZC technology on the regulated energy consumption (and resulting CO2 emissions) of each building.



Parliament Hill School IES Model



William Ellis School IES Model



La Swap Sixth Form IES Model

The conclusions of the reports are summarised as follows:

- Solar photovoltaic panels have been identified as the most appropriate technology for the scheme to achieve good energy and carbon reductions. The design of the new and existing roofs offers the optimal orientation and incline for the maximum panel output.
- Air source heat pumps (ASHP) are not recommended. Whilst technically feasible, the heat load of the building is predicted to be relatively high, therefore the amount of heat pumps required and total air flow rate will be exceptionally large. This will require a substantial amount of roof/adjoining space, and incur a significant noise disturbance that would require attenuation.
- Due to various site restrictions, hydro, tidal, wave and wind power have all been deemed not suitable for the development.
- Although the non-seasonal heating load (domestic hot water) of the buildings are expected to be relatively low, a suitably sized CHP engine will provide enough carbon emission reduction to make it a feasible low carbon technology to consider. This will be included in the new Parliament Hill School central plant room, sized for the domestic hot water demand of the new changing rooms and toilets.
- There is no district heating network within close proximity to the site to connect to.

Biomass/Biofuel boilers are not recommended because of storage requirements and the increased risk with regard to fuel availability.

LZC Technology	Suitability
Ground Source Heat Pumps	Only in absence of CHP
Air Source Heat Pumps	Not suitable
Combined Heat & Power (CHP)	Recommended
Biomass Boilers	Not suitable
Biofuel Boilers	Not suitable
Community/District Heating	Not suitable at this time
Solar Photovoltaic (PV) Panels	Recommended
Solar Thermal heating Panels	Only in absence of CHP
Wind Turbines	Not suitable
Hydro/Tidal/Wave Power	Not suitable
Water Source Heat Pumps	Not suitable

Solar thermal panels typically have payback periods in excess of 10 years (inclusive of RHI income) whereas CHP plant can pay back within 5-10 years if there is a simultaneous heat and power requirement for over 4500 hours per year. The CHP plant at Parliament Hill School has been sized to meet these criteria, otherwise known as the 'heating baseload' for the building.

The Feed-in Tariff rate has been calculated with an aim of ensuring PV panels have a return on investment (ROI) of 8% giving a payback of around 12 years. As the capital cost of PV panels decrease, the FIT rates decrease to maintain this ROI.

Therefore the scheme incorporates PV and CHP. Further information from the Part L reports and energy statements for each building has been included within the 'Summary' section below.

BREEAM

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings, with over 115,000 buildings certified and nearly 700,000 registered. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance. Credits are awarded in ten categories according to performance. These credits are then added together to produce a single overall score on a scale of Pass, Good, Very Good, Excellent and Outstanding. The operation of BREEAM is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders.

A BREEAM Pre-assessment has been completed on the Parliament Hills School and La Swap buildings and an 'Excellent' rating is targeted in line with the planning requirements for this project. The schemes have been registered under the 2011 BREEAM New Construction assessment methodology (registration numbers BREEAM-0052-3498 for PHS and BREEAM-0052-3506 for La Swap). The William Ellis School development has not been considered for BREEAM assessment due to the new-build extension being less than 500m² and 25% of the overall building floor area. Ribbon Building and the Passivhaus Standard Passivhaus is the most advanced building energy standard in the world, which can result in a 90% reduction in energy demand and usage. Created in Germany in 1990 and originally applied to domestic buildings, it has been applied to more than 20,000 buildings. The two main principles of Passivhaus are to reduce heating and cooling demand as much as practically possible and to seek to reduce all energy uses.

Two important associated advantages over a 'Part L only' approach are that a Passivhaus analysis leads to an assessment of estimated energy consumption in kWh/m²/yr (not only in terms of percentage improvement over a virtual 'notional building') and that contrary to Part L, it captures all energy uses in the building and does not exclude 'unregulated' energy uses, e.g. ICT, equipment.

The Ribbon Building will achieve a 'Gold' energy efficiency standard, which will result in lower energy bills for the school, along with better air quality and comfort through improved quality of design and construction. The building fabric (walls, roofs and floors) will be super-insulated and the windows will be triple glazed. A high air tightness will reduce the heat losses and gains substantially. Energy efficient building services and teaching equipment will further reduce the energy requirements. The key requirements for Passivhaus certification have been assessed at this stage to ensure that the Ribbon Building design complies.

Summary

The following table summarises the sustainability credentials of each of the Camden Schools buildings:

	Parliament Hill School	William Ellis School	La Swap Sixth Form
BREEAM	'Excellent' rating exceeded with a baseline score of 75.11% (5.11% over excellent requirement)	Not feasible for the small area of new-build extension (less than 500m² or 25% of the total building area)	Excellent' rating exceeded with a baseline score of 78.67% (8.67% over excellent requirement)
Part L	Exceeds Part L2A 2013 with a 35% carbon reduction beyond the Target Emission Rate (TER)	Meets Part L2B 2013	Exceeds Part L2A 2013 with a 42% carbon reduction beyond the Target Emission Rate (TER)
Building Emission Rate (BER)	Ribbon Building 10.6 kgCO2/m².annum Dining Block 19.9 kgCO2/m².annum	Not required for Part L2B 2013	12.0 kgCO2/m².annum
Camden Council Target	Exceeds 40% CO2 reduction over Part L2A 2006	Not applicable (less than 500m²)	Exceeds 40% CO2 reduction over Part L2A 2006
London Plan 2011	Exceeds target of 35% emission reduction over Part L 2010	Not applicable (less than 500m²)	Exceeds target of 35% emission reduction over Part L 2010
LZC Tech-nologies	Photovoltaics1 33,340kWh/yr ~ 300m² CHP 30kWthermal 15kWelectrical	Not applicable (less than 500m²)	Photovoltaics1 6,300kWh/yr ~ 55m²
LZC Carbon Reduc-tion	Contribution exceeds 20% of the BER carbon emissions	Not applicable (less than 500m²)	Contribution exceeds 20% of the BER carbon emissions
Pas-sivhaus Standard	'Gold' standard achieved for Ribbon Building only	Not applicable	Not applicable
Over-heating Analysis	Exceeds BB101 criteria	Exceeds BB101 criteria	Exceeds BB101 criteria
Day-lighting	Meets BREEAM criteria	Meets CIBSE criteria	Meets BREEAM criteria

Biodiversity and Landscaping

The landscape has been designed to support and foster biodiversity and seeks to anchor this development into the local green grid acting as a continuation of the adjacent heath.

The planting scheme is rich in native species, taking strong inspiration from the heathland landscape both in terms of species and structure. The proposed tree species are all of native origin and are species found in the local heathland landscape, species such as; Quercus robur, Alnus glutinosa, and Betula pendula.

A heath inspired meadow mix will be implemented around the periphery of the site and will include species such as; Chrysanthemum vulgare, Primula veris, and Sucissa praetensis.

The green roof system will include vegetation chosen to replicate the heath and support the local flora and fauna including species similar to those at ground level; Chrysanthemum vulgare, Primula veris, Daucus carota, Plantago lanceolat, and Achillea millefolium. The biodiverse wildflower mix will make up 75% of the area with the further 25% as sedum.

The proposed green walls will be a low maintenance fixed cable system. There will be a mix of deciduous and hardy evergreen climbing species to offer seasonal interest such as; Lonicera pericylemenum 'Graham Thomas', Humulus lupulus 'Aureus', Parthenocissus henryana.

The species chosen and character of the planting scheme ensure a robust, low maintenance scheme that provides plants for pollinators and fruiting trees and shrubs to support various species of wildlife whilst maintaining a naturalistic aesthetic.

Bat and bird boxes will be included in the landscape wherever suitable. Typically existing mature trees will be the best locations as the height and dense canopy will provide suitable shelter for roosts. The roosting areas allocated for bats will be located a suitable distance from the lighting on site - most notably the area adjacent to the Games Courts Area in Parliament Hill as at times this area will be flood-lit. The bat survey identified that there is limited commuting and foraging activity across the site; by Common and Soprano Pipistrelle bats.

Wildlife foraging activity was mainly confined to the boundaries of the site and around trees in the central area. The trees surveyed were found to have no visual cavities or other suitable roosting opportunities for bats and were classified Category 3.

Any loss of potential roost sites can easily be replaced and enhanced through the erection of new bat boxes in retained trees. There will also be only a slight negative impact on foraging across the site through the loss of some trees required for the new construction. Boundary features will stay intact and new shrubs planting and landscaping with native species suitable to support foraging insects as a food source for bats and birds can mitigate the loss of the current low value resource.

Assistance will be engaged from an ecologist in the design and location of bird / bat boxes. Boxes will be situated between 4m and 6m above ground level, with entrances facing North, South-east and South-west to allow for use all year round.

Stag beetles were not recorded during the survey, as they spend the majority of their life span (3-5 years) as grub and typically emerge above ground as adults typically around June/July. In order to protect the existing Stag Beetle Grub on site where existing trees in shrub areas are felled the stump of the tree should be kept as the grub feed on the deadwood and the root structure below ground. The existing log piles on site should be kept wherever possible also. The proposed logs and log piles (in the habitat area) will make use of the wood from the felled trees across the site and will provide additional food sources for the Stag Beetle Grub.

Adaptation to the impacts of climate change

The phenomenon of climate change is a global problem, affecting both existing buildings, new developments and all aspects of life on earth. Due to the complex nature of climatology, it is difficult to predict the exact course that the global climate will take, although there are a number of key trends, for example rising global temperatures, which are generally agreed upon.

There are two key approaches that can be taken with regards to climate change:

1. Steps can be taken to mitigate the factors which lead to increased climate change.
2. Measures can be implemented to ensure that buildings are resilient enough to cope with the changing climate.

Usually, a combination of these two approaches is adopted; offering the best compromise between ffectiveness and required investment. This section discusses the site's ability to adapt to the predicted effects of climate change and to be designed to be resilient to them.

Key Conditions for Climate Change Adaptations In order to reflect the likely predicted changes in climate, four key primary effects have been identified for consideration when designing for Climate Change Adaptation.

The four key conditions are as follows:

- Hot Summers
- Extreme Snow and Ice
- Floods
- High Winds

In order to evaluate the proposed Camden Schools development site, each of the four conditions will be considered in turn, with the positive and negative features of the site investigated.

Hot Summers
Research has established that the likely average temperature increase by the end of the century will be 4.5ºC, based on the current emissions trajectory; along with a pronounced warming effect in summer, leading to temperatures regularly reaching above 40ºC in the UK.

Within the modelling carried out on Camden Schools the effect of overheating has been studied in-line with the BB101 overheating criteria for schools. There is margin within the natural ventilation system to accommodate increased external temperatures against current design standards.

Extreme Snow and Ice
Along with a predicted increase in average annual summer temperatures, Climate Change is also predicted to lead to an increased frequency of extreme snow and ice conditions.

The Camden Schools development includes additional capacity on the gas supply to allow the boiler capacity to be increased in the future as required. In addition the structure includes for the requirements of future snow loading.

Floods
It is predicted that by the 2080's the predicted level of precipitation during winter could increase by as much as 45%, under a high emissions scenario. Conversely, for the summer conditions it can be seen that the seasonal precipitate could reduce by as much as 45%, based on a high emissions scenario. With such an increase in the level of seasonal precipitation in winter, the likelihood of flooding also increases.

The site is located within Flood Zone 1 (lowest risk of fluvial flooding) with little chance of other sources of flood risk. The site area is approximately 0.8ha, therefore it falls under the 1ha threshold that would necessitate a site specific flood risk assessment to appraise surface water impacts in Zone 1.

Surface water run-off will be managed using source control methods designed in accordance with CIRIA Report C697 'The SuDs Manual' and utilising the infiltration rates set out in the Ground Investigation Report. Drainage pipes will collect flows from rainwater down pipes around the perimeter of the buildings and from impermeable areas of paving.

Permeable paved areas will be designed to accommodate rainwater runoff generated by the critical duration 1 in 100 year (+20% climate change allowance) storm event.

High Winds
It is believed that Climate Change will lead to an increased frequency of the occurrence of extreme weather conditions; a factor which also applies to wind speeds. With a predicted increase in global temperatures, it is thought that this factor contributes to an increased occurrence of high winds.

The structure will be designed to safely withstand wind forces in accordance with the latest UK guidance which consists of a National Annex to the Eurocode. This includes allowances for extreme events and climate change. In addition the low rise buildings within the site are well protected by adjacent trees and buildings.

Use sustainable building methods and materials
The project has a high level of sustainable aspirations. As such the scheme targets:

- All materials used will have a high percentage of recycled content where possible.
- The embodied carbon content of all materials will be evaluated in the material selection and high carbon embodied materials will be avoided if possible.
- Any timber used will be responsibly sourced.
- Where possible off site manufacturer methods will be used for building and M&E elements to reduce the waste and increase the quality.
- Use local suppliers and labour where possible to reduce the carbon used in transport.

When the contractor is appointed the building methodology will be developed further to exploit the expertise of the contractor using their experience.

Recycle construction waste
Where possible the waste produced by the construction of the Camden Schools development will be reduced where possible by careful planning of construction materials, off site manufacturing methods where appropriate and minimising or reusing the packaging for deliveries to site.

Of the remaining construction waste, it will be recycled where practically possible having regard to relevant contractors recycling regimes.

A contractor is yet to be appointed for the scheme and so a final construction waste management plan cannot be fully developed, but when a contractor is appointed this will be formalised.

In addition it is a contract requirement that the contractor adheres to BREEAM WST 01 – construction waste management. They must put a plan in place to meet the BREEAM requirements as a minimum.

Incorporate water conservation measures Water conservation is key to the scheme to minimise the impact of the building on the build environment. The proposed Camden Schools includes:

- Low flow water fittings on sinks, wash hand basins and showers.
- Dual flush low volume WC's.

Conclusion
The proposed scheme has been designed with sustainability and energy efficiency at the heart of the concept.

The scheme has been developed using the energy hierarchy and passive design measures enabling the applicant to achieve the high carbon reduction targets stated.

This is demonstrated through the BREEAM and Passivhaus standards that have been committed to.

The scheme meets the planning guidance for carbon reduction as demonstrated in the summary table.

The scheme also incorporates carbon reduction works to the existing buildings demonstrating the applicant's commitment to total carbon reduction on the site.

Holistic sustainability has also been addressed in the design incorporating construction, biodiversity, water use and the social/economic benefits.

Holistic sustainability has also been addressed in the design demonstrated through commitment to reducing the total impact of a development on the environment and community. The applicant has addressed reducing in use carbon, reducing water usage, built using sustainable materials, adaptable to future climate change and provide a positive contribution to the community.

11

phasing and delivery

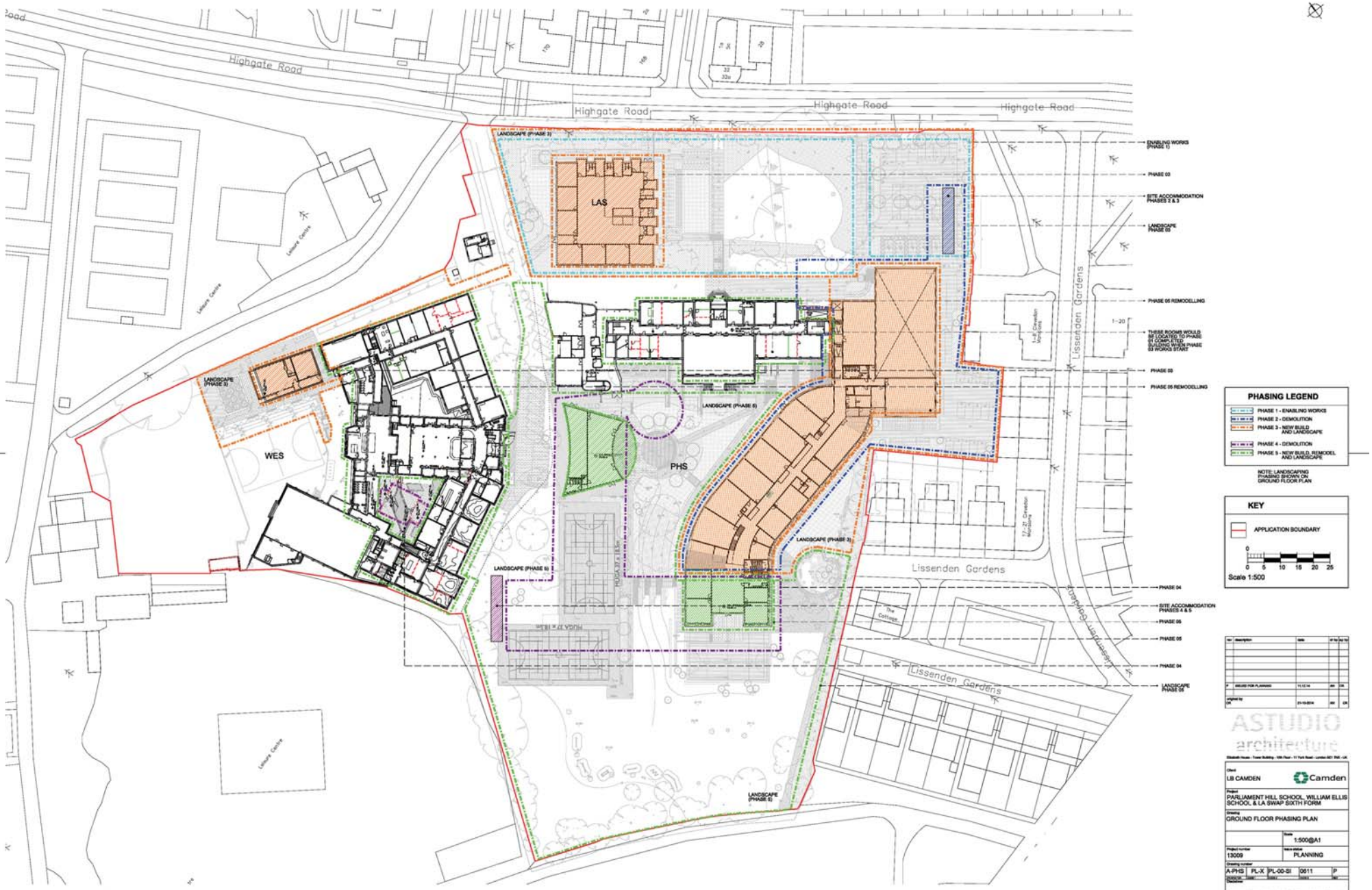
11. PHASING & DELIVERY

A significant factor in defining the design solution for the redevelopment of the Parliament Hill and William Ellis Schools is that these have to be constructed within a 'live' school environment. We have developed a carefully considered phasing strategy, which identifies four key periods of activities:

- Phase 1 – enabling works and minor demolition
- Phase 2 – major new building works
- Phase 3 – demolition works
- Phase 4 – landscape and minor new building works

Key to the sequencing of these phases is that the William Ellis School will use the LaSwap building as temporary accommodation, immediately after completion during phase 2, to enable the refurbishment works of the existing school to take place.

Throughout all phases, vehicle access will be off Highgate Road and managed pedestrian access will take place via the Heath and off Highgate Road. This will be managed by the Schools, subject to timings, events and suitability. School parking will be arranged in liaison with the main contractor.



01 PHASING DIAGRAM GROUND FLOOR
1:500

Ver	Description	Date	BY	Ap'd
P	ISSUED FOR PLANNING	11.12.14	AH	DS
original by DR		21-10-2014	AH	DR

ASTUDIO architecture

Elizabeth House - Tower Building - 10th Floor - 11 York Road - London SE1 7NX - UK

Client
LB CAMDEN

Project
PARLIAMENT HILL SCHOOL, WILLIAM ELLIS SCHOOL & LA SWAP SIXTH FORM

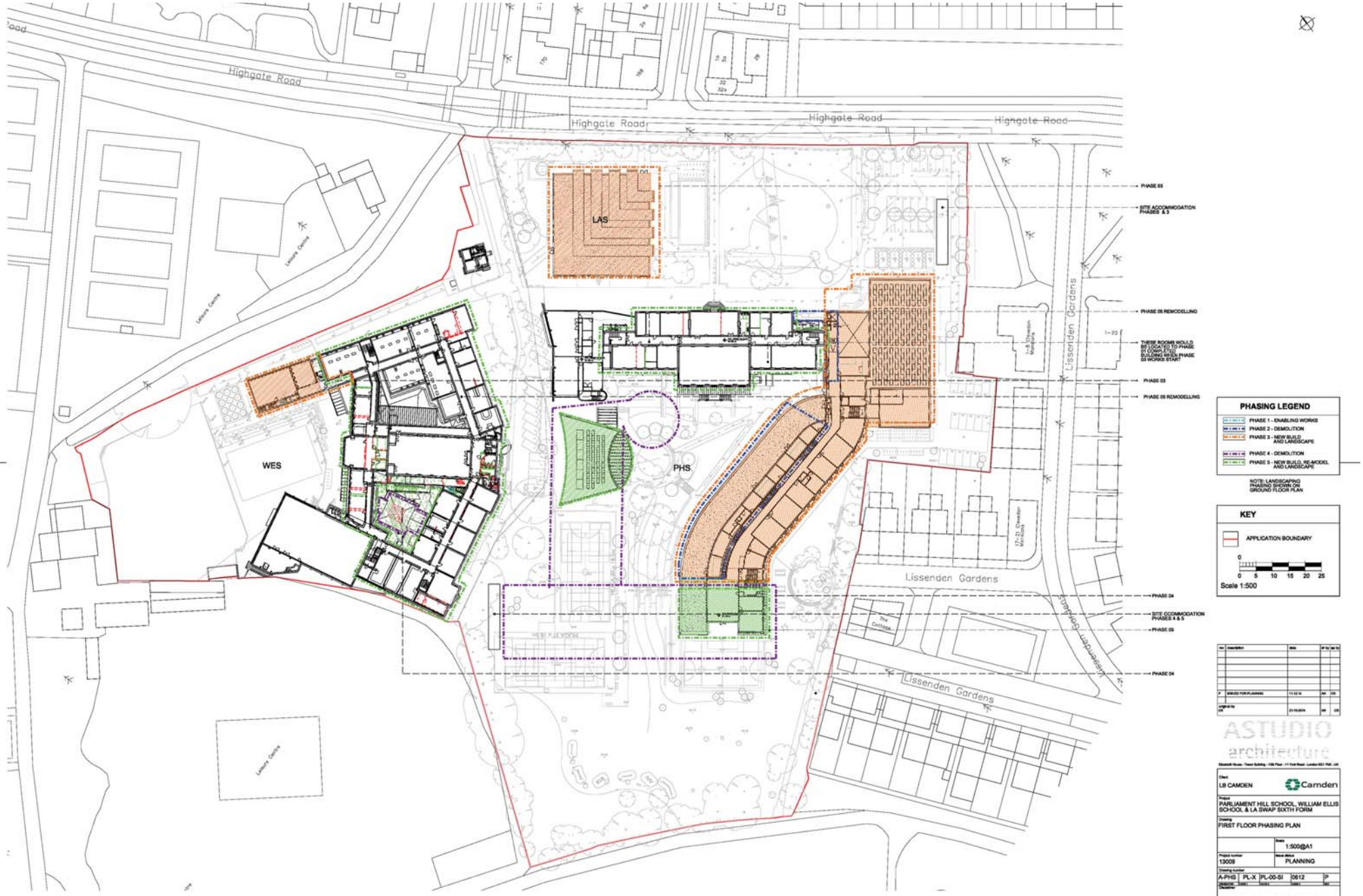
Drawing
GROUND FLOOR PHASING PLAN

Scale
1:500@A1

Project number
13009

Issue status
PLANNING

Drawing number
A-PHS | PL-X | PL-00-SI | 0611 | P



01 PHASING DIAGRAM FIRST FLOOR
1:200

Rev	Description	Date	By	Ch'd
P	ISSUED FOR PLANNING	11.02.14	AR	CR
original PV CR		21-10-2014	AR	CR

ASTUDIO architecture

Client: LB CAMDEN

Project: PARLIAMENT HILL SCHOOL, WILLIAM ELLIS SCHOOL & LA SWAP SIXTH FORM

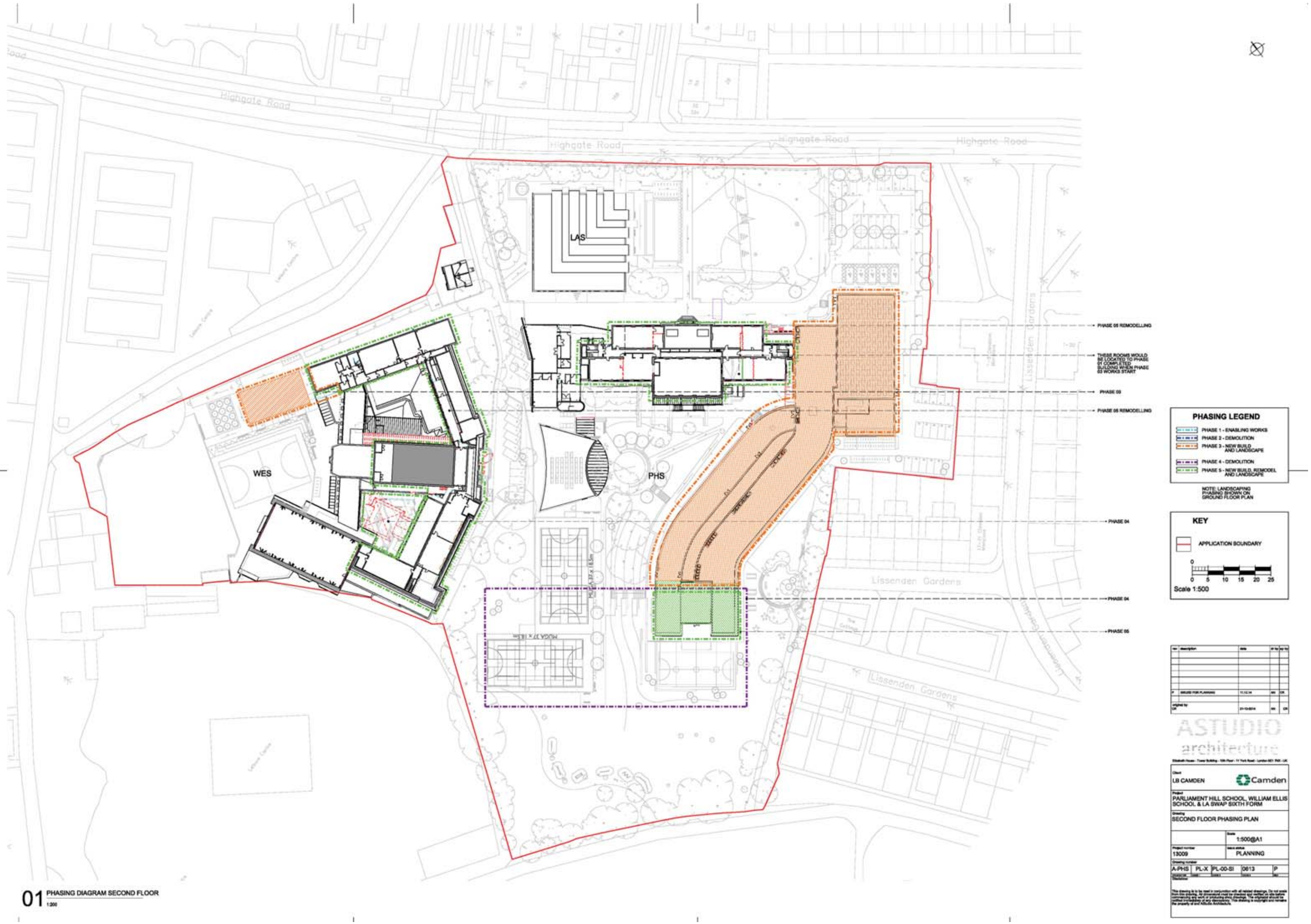
Drawing: FIRST FLOOR PHASING PLAN

Scale: 1:500@A1

Project number: 13009

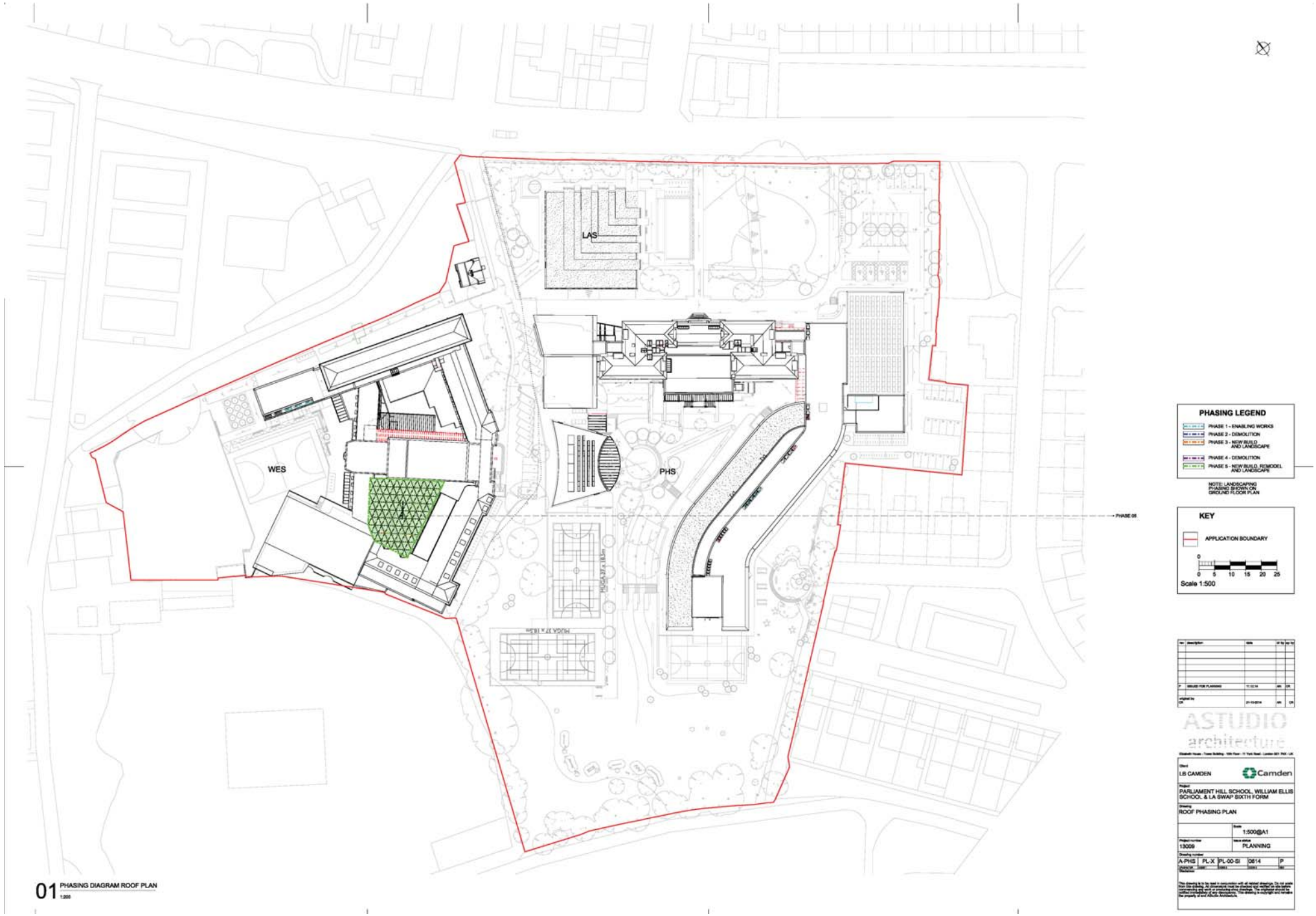
Issue status: PLANNING

Drawing number: A-PHS | PL-X | PL-00-SI | 0612 | P



01 PHASING DIAGRAM SECOND FLOOR

1:200



01 PHASING DIAGRAM ROOF PLAN
1:200

PHASING LEGEND

- PHASE 1 - ENABLING WORKS
- PHASE 2 - DEMOLITION
- PHASE 3 - NEW BUILD AND LANDSCAPE
- PHASE 4 - DEMOLITION
- PHASE 5 - NEW BUILD, REMODEL AND LANDSCAPE

NOTE: LANDSCAPING PHASING SHOWN ON GROUND FLOOR PLAN

KEY

APPLICATION BOUNDARY

0 5 10 15 20 25

Scale 1:500

P	ISSUED FOR PLANNING	17.12.14	AR	DR
original by DR		21-10-2014	AR	DR

ASTUDIO architecture

Elizabeth House - Tower Building - 10th Floor - 11 York Road - London SE1 7NX - UK

Client: LB CAMDEN — Camden

Project: PARLIAMENT HILL SCHOOL, WILLIAM ELLIS SCHOOL & LA SWAP SIXTH FORM

Drawing: ROOF PHASING PLAN

Scale: 1:500@A1

Project number: 13009

Issue status: PLANNING

Drawing number: A-PHS | PL-X | PL-00-SI | 0614 | P

12

summary

12. SUMMARY

Purpose

This Design and Access Statement illustrates the detailed proposals for the redevelopment of the Parliament Hill School, William Ellis School and the La Swap Sixth Form Centre.

The main objective of the redevelopment proposals is to address both short term and long term issues related to LB Camden's Community Investments Programme (CIP) funding criteria for works related to Condition, Suitability and Sustainability of the education facilities.

The need for the redevelopment is different for each school involved:

- The Parliament Hill School accommodation is located in buildings, which no longer meet current standards and requirements, as well as in a poor state of condition and repair. The School is also looking to create a stronger link between the indoor and outdoor areas
- The William Ellis School needs expanding to meet current space standards for the current number of pupils. The new spaces need to offer a range of different learning and teaching spaces as well as curriculum subject areas currently not available at the school.
- The LaSwap Sixth Form Centre is in desperate needs to provide dedicated accommodation for Sixth Form students, who are currently distributed across four Schools in the LB Camden.

The site

The sites of the William Ellis and Parliament Hill Schools are located in the Dartmouth Part Conservation area. The conservation area is mainly residential in character, but with a strong social and physical diversity. The three Schools in this part of the conservation area (William Ellis, Parliament Hill and La Sainte Union) play a distinct role and add to its distinct character. Over time both school sites have developed independently and the need has arisen to create a sustainable long term masterplan for the two sites combined, respecting the nature and individuality of each school. Analysing the development of the range of buildings in the conservation area it appears that each building is representative of its time.

The development of the William Ellis School has been restricted to within the available site area, including court yards and roof infills.

The Parliament Hill School has had some major new buildings added over time.

A significant factor in defining the redevelopment proposals is that they have to be constructed within the context of an existing school environment. Taking into account existing buildings, trees, level changes and the MOL, both sites fall into the category of tight urban sites.

The redevelopment proposals for the site(s) offer the following benefits:

- Improved relationship between the school(s) and their surroundings, including
  - The Heath, screening external school activities at WES and opening views at PHS
  - Highgate Road, re-connecting the Morant building with the conservation area, adding to the vibrant social character with the LaSwap building and defining the entrance to the William Ellis School visible from Highgate Road
  - Lissenden Gardens, changing its relationship with the school, avoiding overlooking the school grounds
- Improved safety and access, creating clear sight lines, identity and passive supervision
- Improved use of the available site(s) for learning, games and social activities.

Building designs

Each of the new buildings is representative of its time, whilst contributing to their setting.

The materials selected are robust, high quality and good to last, including:

- Brickwork to the new teaching building at the William Ellis School, appropriate for the scale of the building as a modern extension to the current school campus, fronting the Heath.
- Copper cladding to the new teaching building at the Parliament Hill School, defining the building as a mature contemporary addition within the context of the Parliament Hill School and the adjacent Lissenden Gardens.
- 'Green' planting on s.s trellis on a rendered/panelised backing wall to the LaSwap building, dining building and Sports Hall, relating the new buildings to the green character of the site.

In order to release the maximum site area for learning, games and social activities, whilst minimising disruption to the Parliament Hill School and the need for temporary accommodation, the new teaching wing is located over and directly adjacent to the existing single storey Design Technology building. Designed to Passivhaus standards, the triple glazed windows are set back in the south facing external walls and partially screened with perforated copper panels, to provide privacy, glare protection, avoid solar gain in the summer and create a high quality acoustic separation between inside and outside. Located to the North of Lissenden Gardens, this solution complies with standards and requirements of sunlight and daylight to the residential properties. New sports facilities are located at the frontage of Highgate Road, facilitating good community access out of school hours. A new Dining building is located at the footprint of the existing dining hall and also defines the setting of the main entrance to the William Ellis School.

The new teaching block at the William Ellis School is a continuation of the diagrammatic layout of the school and as such forms a 'natural' extension. The new accommodation can be built without too much disruption to the school. The location of the new building screens outdoor school activities and the configuration of windows relates to the existing building it connects to.

The design proposal at the William Ellis School further includes the roofing over of an existing court yard and the demolition of the existing buildings within it, providing more flexible outdoor space available to the school.

The location of the LaSwap building at Highgate Road ensures a strong civic presence for the LaSwap in the community. The stepped massing and design of the external envelope refers to the open character of the site, defined by boundary treatments of hedges, shrubs, planting and trees. Windows are set back in the reveals of the stepped massing, emphasizing the solid green walling of the building whilst still maintaining a level of passive supervision. The LaSwap building is provided with a green roof to further address the 'green' character of the site