Access

Access: Accessibility Statement

Introduction
This access statement aims to explain how the needs of disabled people and the general public are incorporated into the design and arrangements of the scheme, and how the principles of inclusive design have been implemented. However, these proposals are tempered by noting specific arrangements that have been found to be necessary in providing safey and robustness in the precedent SEBD schools visited and from the staff's experience.

Inclusive Design
The design recognises that people are very different in their needs and the way that they use the built environment. An inclusive environment recognises and accommodates these differences in a way that is universal. The principle of an inclusive environment will be one that is:

- Easily used by all people without undue effort, special treatment or separation
- Able to offer people the freedom to choose how they access the buildings and allow them to participate equally in all activities it may host
- Able to embrace diversity and difference
- Safe
- Fit for purpose
- Compliant with legal and best practice

However, our approach also recognises that the SEBD provision cannot have disabled students or teachers due to the physicality of the environment and rarely even has disabled visitors. When it does it is in a tightly managed situation with high staffing levels to ensure safety.

Scope Covered by Statement
The statement confirms the development's conformance with access requirements and covers the approach to the building, external areas, entrances, horizontal circulation, internal areas and facilities within the buildings.

Design Appropriate to SEBD Function
There have been repeated discussions with the current site manager and a series of visits have been carried out to learn from other SEBD and PRU schools. This highlighted that there are some issues that are specific to SEBD that we need to address. For example:

- Doors swings should open into corridors where they don't form an unreasonable obstruction. This is because the children often kick the doors to try and gain access to the classrooms. By swinging into the corridor the force of the kick is taken harmlessly on the door rebate rather damaging the lock which can lead to students and teachers becoming trapped in classrooms.

- The door handles will be knob handles rather than lever handles. These are more difficult to grasp for older or disabled people but they are also significantly more difficult to damage as the lever handles can be over extended until they break.

- All glazing has to be above waist height so that it more difficult to be kicked. The glass specification will be toughened and laminated for strength and security.

- Windows will be easy to use, sliding action windows with robust grilles to allow large opening areas for ventilation without the risk of falling out the window.

Parking
There is currently provision for a few car parking places but the limitations of the site mean that this will now be limited to one parking space sized for both disabled and minibus use in the proposal. This is adjacent to the main entrance.

Cycle storage
There is currently no cycle storage provision but extensive new bicycle storage spaces will be provided. Some of these will be open sheffield stands and others will be stands within secure and covered facilities.

Main entrances
Each of the two sides of the building has a well marked entry point with canopies sheltering the entrances. Each has a manned reception with clear supervision of entry areas.

The contractor will ensure that on completion:
- All external routes are level and provide for wheelchair access
- All new gates provided will give a minimum of 800mm clear opening width through one leaf
- External surfaces will be firm and even. External surfaces are smooth and firm with level junctions between different materials.

Horizontal circulation
The proposals offer level access to all areas, and consolidate the plan so that circulation routes flow with DDA compliant access throughout.

Vertical circulation
There will be lift access to the new build first floor element which has three general classrooms spaces for around 8 children each. Lift access is not being provided to the small store on the separate existing first floor.

Sanitary accommodation
In all the sanitary installations, taps will be either push fittings on a time delay or sensor fittings. The importance of visual contrast will be taken into account.

Means of escape for disabled people – principles
Safe, efficient egress depends upon a combination of management procedures and building design. Specific evacuation strategies will be devised for people who need assistance, and these strategies will take into account the building design, the known needs of people occupying the building, as well as the unknown needs of visitors.

Management Issues
The following management and maintenance issues will be considered to ensure that access is achieved and maintained:

- external routes – keeping in good repair and free of obstructions, ice, snow and surface water;

- doors – adjustment of door closers, ironmongery kept in good working order;

- horizontal circulation – keeping routes free from obstructions, keeping furniture layouts and seating arrangements accessible;

- WCs – ensuring that manoeuvring space in accessible compartments are not obstructed by bins, sanitary disposal equipment etc., replenishment of toilet paper and paper towels in accessible WCs as well as other WCs;

- communication – new good quality signage to integrate with the existing sign system, and all information is to be kept up-to-date, signers and translation services provided as necessary, appropriate provision accurate access information and other literature;

- alarm systems – checking and staff training in procedures;

- surfaces – ensuring that cleaning does not cause slippery surfacesmaintaining junctions to avoid worn surfaces becoming trip hazards, replacing like with like, maintaining colour contrast in redecoration;

- lighting – replacing of bulbs, keeping windows and light fittings clean;

- means of escape – specific evacuation strategies to be devised for people who need assistance, including staff, pupils and visitors. Also consider staff training, regular practices, maintenance of fittings and equipment, reviewing evacuation procedures;

- training –staff training is critical to maintain access and to provide accessible services and employment opportunities.

Environmental Design

Environmental Design: Requirements and Strategy

Key Policy Requirements
Camden Council requirements are:
BREEAM Very Good.
Aspiration of 40% carbon reduction.

Existing Environmental Performance and Issues
The existing buildings have many environmental performance issues that we are trying to address. This is particularly important due to the sensitivity of the students to poor environmental performance e.g. poor ventilation leading to lack of concentration. Some of these issues are:

Insufficient Ventilation - This is due to a series of reasons including that the sash windows can't be opened and where they can they can only be opened by 100mm. This doesn't allow sufficient ventilation. The high level Victorian ventilation systems have also been fixed shut. This means that all areas and particularly corridors are stuffy and overheat.

Overheating is amplified by the very large glazed areas that face South, East and West. Because much of the glass is single glazed this can also mean excess heat loss in the winter time

The single glazed, poorly sealed windows and general poor air tightness causes a draughty environment in the winter.

There is a general lack of insulation throughout the existing buildings. This causes significant heat losses and allows the temperature to fluctuate rapidly which is then an issue for student comfort.

Proposed Overall Strategy
The overall strategy takes a balanced approach between high performance elements for the new build extensions and upgrading the inefficient original building. The focus is on achieving the best results for energy consumption and efficiency of the overall building within the budget available. This will be achieved by:

Fabric first strategy - Architype follow a fabric first strategy of insulation and air tightness. The priority is in reducing losses and creating a more stable environment.

Ventilation, Solar Gain and Glazing - Each room has to be assessed to ensure a balance between the natural ventilation and solar gain of the windows, while also allowing for a high level of daylight thoughout the room.

Replacement of services - The existing services are inefficient and from a variety of eras. They will all be replaced with a single, coherent, efficient system designed for low energy usage.

Mechanical Ventilation with heat recovery - This is to be provided in key rooms to ensure that a high level of fresh air is provided even in winter.

Energy generation e.g. Photovoltaics - this will be considered as part of the council requirements but the emphasis will be on reducing usage rather than generating more. Fabric alterations are more difficult to achieve at a later date whereas micro-generation can be added fairly simply at a later date. We have shaped the roofs to optimise the south elevation, ideal for installation of photovoltaics.

Existing sash windows are now inoperable. Large areas of South facing glazing causes significant overheating

Environmental Design: Specific Strategy Elements

Proposed Strategy for Works to Existing Building
The significant upgrade to the existing building will be balanced against the needs to conserve the original appearance as the school is in a convservation area and also ensuring the robustness and ease of use required in an SEBD specialism school.

Insulation - will be fitted within the existing roof spaces. The type of insulation will be a natural material such as sheeps wool so that it is hygroscopic and is able to breath in the same way as the original fabric. We are not currently proposing internal insulation of the existing masonry walls due to concerns over disproportionate cost and potential subsequent damp issues caused by interstitial condensation.

Air Tightness - will be achieved using traditional wet plaster but with modern air tightness tapes and seals e.g. around windows.

Windows - on the North elevation that faces the street the existing windows will be replaced with double glazed, well sealed, sliding sash windows that match the original windows. On the East, West and South elevations the windows will be replaced with extremely robust sliding aluminium windows with integrated security grilles in the opening element. Their dimensions and divisions will be similar to the original windows. The robustness is essential for impacts from the playground and from internally and allows the existing large metal security meshes to be removed.

Materials - the materials to be used will be non-toxic, low embodied energy, recyclable materials wherever possible. These are also being chosen for their robustness due to the unusually high level of maintenence required by SEBD provision schools.

Replacement of services - All the existing services are to be replaced as they are extremely inefficient and originate from a variety of eras which complicates integration of new systems. They will all be replaced with a single, coherent, efficient system designed for low energy usage.

Mechanical ventilation with heat recovery - This is being provided in key rooms and the ventilation runs will be carefully integrated for minimum impact on the original spaces. It is intended to provide a background level of ventilation when windows are closed. To prevent overheating in summer the strategy is to use natural ventilation. The protective grilles on the new windows also allow them to be securely left open at night allowing night cooling.

Proposed Strategy for Works to New Extensions
Similar strategies are being followed in the new build extensions as in the existing building. This is to ensure that they function as a single building and provide economies of scale both in construction and maintenance. Specific issues are:

Energy generation - Photovoltaics are being included as part of the council requirements. In addition, we have shaped the roofs to optimise the South elevation for further future photovoltaics.

Windows - throughout the new build element the windows will be the extremely robust sliding aluminium windows with integrated security grilles in the opening element. The grilles allow the windows to be securely left open at night allowing night cooling. Also in the new build will be rooflights to allow a high level of natural light throughout and a low to high flow of air from the windows.

Detailing - The new building will be detailed with high levels of air tightness using wet plaster and modern air tightness tapes. It will also be designed to have minimal cold bridges to ensure a very thermally efficient envelope.

Soft Landings - our post-occupancy studies have shown that there can be significant fluctuation in environmental performance depending on user engagement and knowledge. Tt is crucial that the users are well informed as to how the building works so that they can save the maximum amount of energy. For this reason, Architype have recommended that the client undertake the Soft Landings programme, which aids users in settling into a new building and sets up an energy management routine.

Completed and Construction photographs of Robert FitzRoy Academy, Croydon by Architype.
The original ceilings were removed which allowed them to be insulated and have acoustic treatments applied - a similar strategy to that proposed for CCfL.

Appendix 1: Daylight Study

Appendix 1: Daylight Study

Evaluation of Daylight Study
Daylight modelling has been carried out to assess the impact of the building on its neighbours. Daylight modelling has also been carried out of the daylighting and potential for overheating of each room so that the windows and ventilation can be sized appropriately.

Opposite is the summary of the daylight modelling. This was carried out with particular focus on the neighbouring Fleet School whose playground is adjacent to the new building. The neighbour to the West, Camden Ambulance, has a three storey high brick wall running the length of the boundary but this thankfully does not cause undue shadowing of our site.

The key result of the modelling was that through most of the year the playground is not in shadow during the school day. It is only after the end of the school day that the playground is overshadowed.

Spring Equinox - 21 March

Summer Solstice - 21 June

Autumn Equinox - 21 September

Winter Solstice - 21 December

Appendix 2: Transport

Parking Management Plan

Parking Management Plan
The school is keen to develop a policy for reducing the number of cars arriving at their site, and for their school to promote an environmentally responsible travel plan.

With this in mind, it is now agreed that staff will not bring their cars to work. They will make use of the excellent public transport links or they will cycle to work.

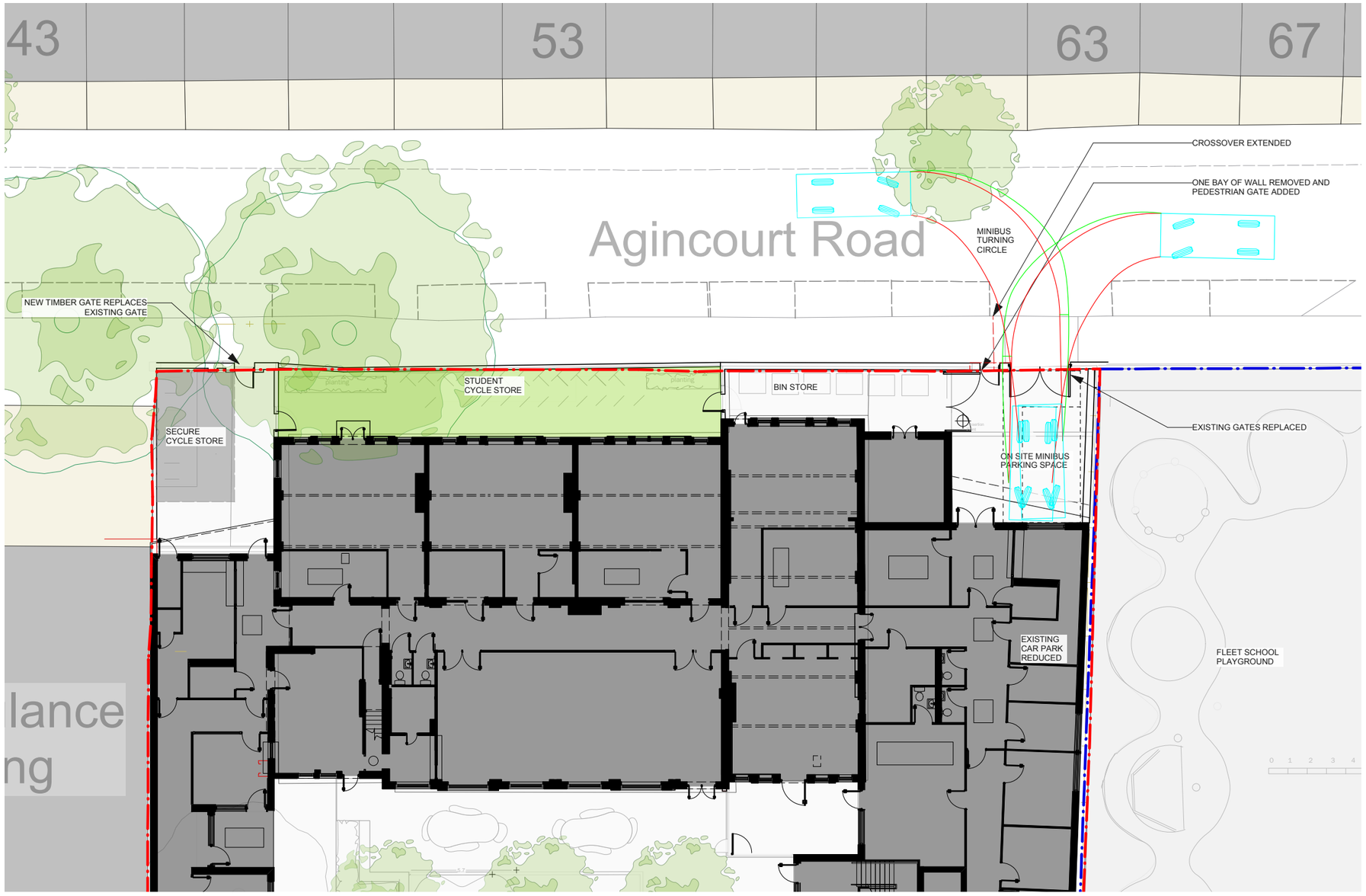
Students will arrive by minibus or by taxi. Those students living nearby will be encouraged to cycle or walk to the school.

The Transport Plan alludes to the environmental policies, and the school's Travel Plan will be developed to incorporate this intention.

The number of public parking spaces on Agincourt Road has been maintained as before, as there are no new crossovers.

Parking Spaces on Site
The existing car park is re-organised to situate a car parking space for the school's minibus. This would also be the dedicated car parking space for disabled users when it was needed.

The minibus will often be away from the site, and will follow a timetable known by the school. This means that occasionally a visitor will be able to use this parking space if required. However, there are very few visitors making their way to this site: parents will be requested to come by other means than arriving by car.



Add Travel Report by Architype

Add Travel Report by Architype

Appendix 3: Aboricultural

Appendix 5: Arboricultural

Arboricultural Summary

One of the main issues raised during the community consultations was regarding trees. It was strongly felt that the on street, trees needed to be more maintained by the Council and perhaps pollarded as many others nearby had been. However, that is outwith this report.

The proposed removal of the trees to the rear was not considered as contentious during the community consultations as the trees can hardly be seen by the public and we are replacing them with other trees. The new trees will be of a variety of species that will increase the bio-diversity of the site and provide year round interest at the rear of the school.

The trees need to be removed as they are unfortunately in one of the few places where it is possible to build an extension on the site. The trees that are proposed to replace them will be semi-mature so that they can very quickly have a good impact but also so that they can be robust enough to thrive in this demanding school environment.

Arboricultural Report by Liam Vincent, Arboricultural Officer - Sept 2012

BRITISH STANDARD BS 5837:2012

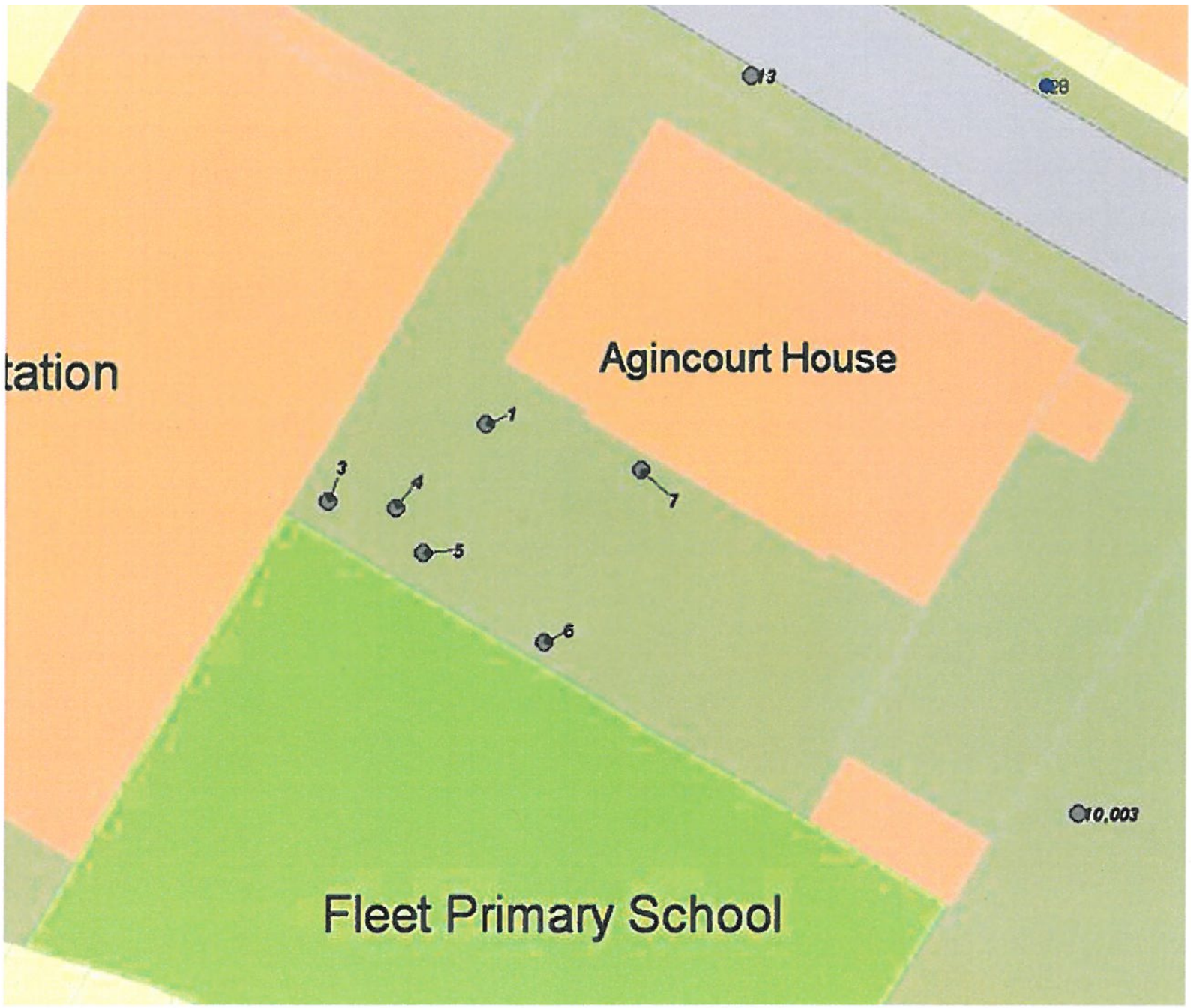
Table 1 ***Cascade chart for tree quality assessment***

Category and definition	**Criteria (including subcategories where appropriate)**		
Trees unsuitable for retention (see Note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see* ***4.5.7****.*		
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**
Trees to be considered for retention			
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

Silver Birch and Cockspur Thorn to be removed

On street tree that has not been pollarded

Top of birch tree canopies seen from playground



Tree ref	Species	Height (M)	Stem Diam @ 1.5M (MM)	Crown spread (Diam, M)	Life stage (see below)	General observations – structural / physiological + *preliminary management recommendations	Estimated remaining contribution (Years)	Assessment Category (see Table 1)
1	Cockspur Thorn	9.7	300	6	Over Mature	Overall fair condition; Historic wound 150mm from base, NW side. Caloused, wood sounds okay, of no concern, monitor; Heavy lean and unbalanced crown toward Southern aspect. *Reduce crown 30% - bias to reduce southern aspect to address lean / crown weight issue.	10+	B1,3
3	Silver Birch	17	410	8	Mature	Close proximity to adjacent build – appears that previous pruning undertaken to clear this structure; Only 'fair' overall physiology due to evidence of Included Bark Union (IBU). *Reduce crown 30% to clear light post and address IBU.	10+	B1,2,3
4	Silver Birch	20	410	10	Mature	Middle tree of group in very good physiological state; Does not appear to have been significantly pruned /reduced apart from small amount on SW aspect to clear light post. *General Prune 1 – Prune back from light post; Deadwood; Remove crossing branches etc	10+	B1,2,3
5	Silver Birch	18.5	380	7	Mature	End tree of group in fair physiological state – mostly due to aesthetic of crown structure; Does not appear to have been significantly pruned /reduced apart from small amount on W aspect to clear light post. *General Prune 1 – Prune back from light post; Deadwood; Remove crossing branches etc	10+	B1,2,3
6	GONE	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	Mimosa	8	200	8	Middle-aged	Although healthy, the tree is of a fair physiological condition having been heavily pruned in past. Stem is in direct contact with building footing, lean of stem would suggest damage to foundations highly likely. *Remove – tree will require repeated significant pruning to retain, i.e. will never be able to attain full maturity. It is likely to cause on-going damage to the built structure.	20+	B1

Life stage categories – Juvenile, Middle-aged, Mature, Over-mature, Veteran

Appendix 4: Sustainability Statement

Add Sustainability Statement by MP

Add Sustainability Statement by MP

CPG1 Item 7 and 8: Water Eficiency and Sustainable Use of Materials

Sanitary Fittings
Low water usage fittings or adapters will be specified throughout wherever possible. For example, one of the options being investigated for students is the Wallgate handwash drier which has low and adjustable water usage applied by spray for greater effectiveness.

Pipework
Fittings and pipework will also comply with the BREEAM requirements on water efficiency.

Sustainable Use of Materials
Architype have traditionally had a very materials led approach to sustainability, believing in fabric first solutions. This has led us to develop a palette of materials that we use characterised by the following:

• Careful specifiation of materials to ensure Low Global Warming potential.
• All materials to be Green Guide A rated wherever possible
• Careful control of contractor in terms of sourcing of materials
• All timber to be FSC approved or reclaimed
• Materials will be sourced so as to have the lowest possible environmental impact. The design team are committed to specifying natural and recycled materials over synthetic and high energy alternatives. For example, a recent project used locally grown thatch as its cladding due to its extremely low embodied energy.

However, we are also having to customise the palette of materials to suit the requirements of these particular users. For example, the clay based paints that we would prefer to use are not sufficiently robust and cleanable so washable, but still water based, paints will be used instead.

Oakmeadow School by Architype. Natural, sustainable finishes used throughout.

CPG1 Item 9 and 10: Assessment Tools and Green/Brown Roofs

Sustainability Assessment Tools
BREEAM is to be used as a sustainability assessment tool with the aim of achieving BREEAM Very Good. A BREEAM consultant has been appointed to formulate the custom BREEAM assessment necessary for the specialist function of the building. Currently we are predicted to achieve an extremely high Very Good score that would achieve Excellent but for lacking some of the mandatory elements needed for an Excellent score.

Brown Roofs, Green Roofs and Green Walls
Architype have completed many brown and green roofs and green walls in the past. Examples of these are shown to the right. However, we do not think them appropriate in this instance due to the high risk that pupils will gain access to the roofs without permission. This has been an issue in the past and so we are concerned that there should be nothing that is either a trip hazard or be able to be thrown from the roof. The edging stones or clods of earth used in green or brown roofs could be used as missiles and a green wall could be the perfect ladder to climb onto the roof. Therefore no living roofs or walls are being included in the project but extensive planting is being included elsewhere on the site to replace expanses of tarmac.

Green wall at Redriff School's Mayflower Centre by Architype

Planted extensive brown roof at Redriff School's Mayflower Centre by Architype

CPG1 Item 11, 12 and 13: Flooding, Adapting to Climate Change, and Biodiversity

Flooding
The flood risk maps of the Environment Agency have been consulted and there is no flood risk either on the site or in the surrounding area. Despite the relative proximity of the ponds on Hampstead Heath and the buried Fleet River, the area is on high ground rising towards Hampstead.

There is no basement to either the existing or proposed building.

Adapting to Climate Change
The approach taken with the building is a long life, durable strategy. Architype have had extensive experience with sustainable, low energy schools and have been carrying out detailed post-occupancy evaluations of them. This has allowed us to find the elements that have been successful in practice in a school environment rather than just in theory. Complicated mechanical systems have been a repeated issue so the building is being designed to have simple, user friendly systems that will be easy to maintain and understand. This will enable it to respond, and the users to adapt it, to the greater fluctuations and climate instability that is expected with climate change. Examples of the robust systems are:

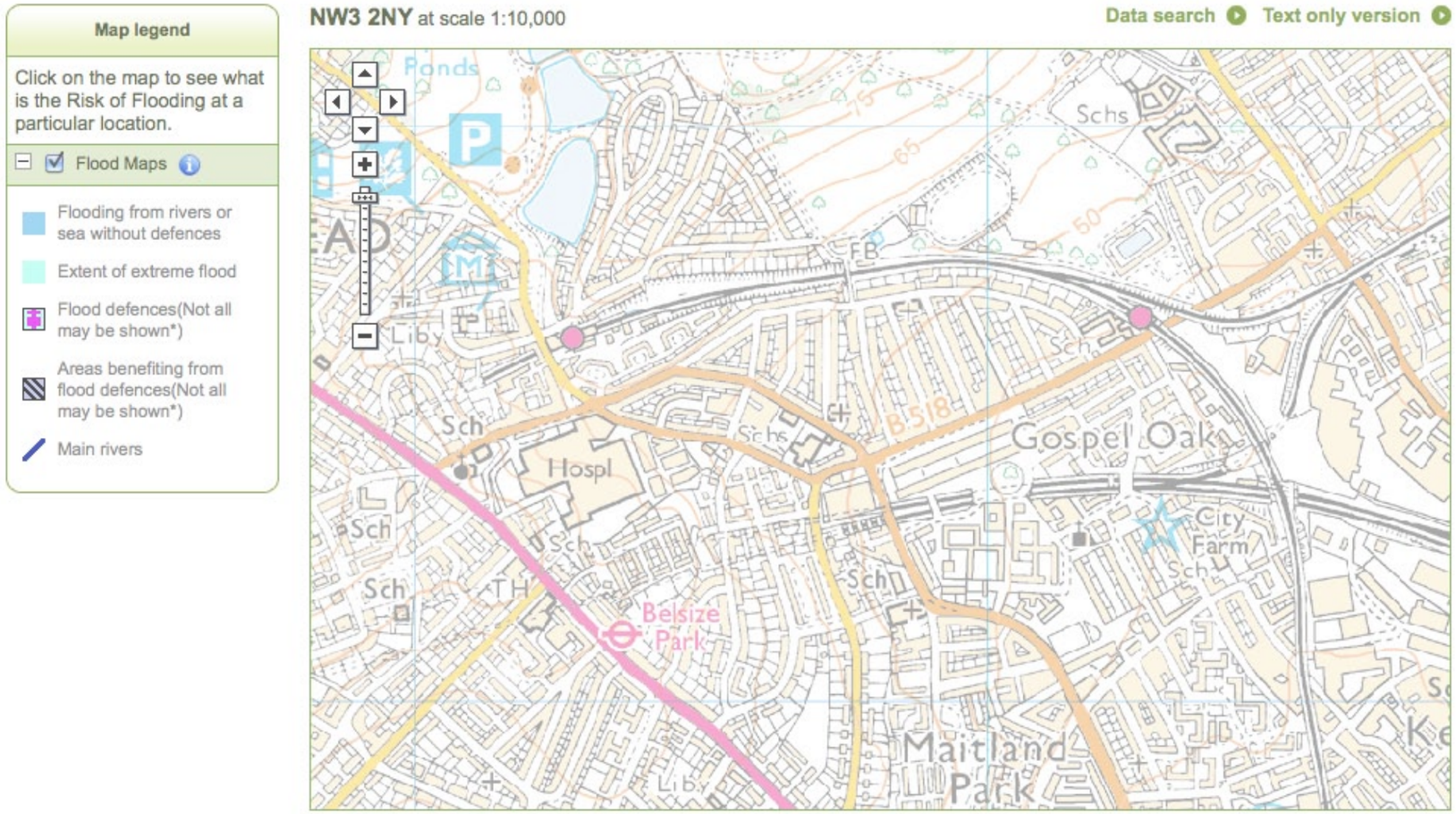
The building has been carefully modelled so that natural ventilation from easy to use windows can cool the rooms. This includes the use of shading and planting to reduce heat gain in summer but utilise it in winter.

MVHR is provided to allow ventilation with heat recovery. This will provide energy efficient ventilation in the unpredicatble colder winters that are one of the results of climate change.

A range of external areas including external dining and sports areas enable users to choose an environment to adapt to the weather.

The roofscape has been shaped for future addition of solar hot water collectors or more photovoltaics as required. The possibilities for reducing run-off and water consumption, e.g. by storage and utilisation, are limited by the SEBD issues of the students.

Biodiversity
The biodiversity of the site will be significantly increased. Currently there are only a few underused planting beds poorly located underneath some birch trees and a cockspur thorn tree. The proposal involves replacing these trees with a greater variety of trees to provide a diverse habitat and interest at the rear of the school throughout the year. There will also be a dense, defensive planting bed/hedge to divide the two areas of the playground. This will provide useful cover and nesting habitat for a wide range of small birds and animals. There will be larger planted beds spread throughout the play area and planting beds at the front of the school too. The result will be a great diversity



Screenshot of the Flood Risk Map for the area around the Agincourt site -http://maps.environment-agency.gov.uk/ - accessed 28 Nov 12.

CPG1 Item 14: Local Food Growing

Food as an Education Tool
During the consultations that we carried out both the staff and students raised that they would like to have an area for growing food or flowers. This is particularly important as Camden is densely populated with the opportunity to have a garden limited. In addition, it helps as a teaching resource and encourages resonsibility.

The restricted external area available means that planting will be in raised beds. This protects them but also allows them to drain well.

In addition to the planting beds, the south elevation of the two storey general classroom extension will be available for use like a greenhouse. It is designed to protect the classrooms from balls from the multi-use games area (MUGA) and allow ventilation of the classrooms. It will be sized to allow access to trough type planters by small groups of pupils. They will be against the windows so that the planting provides a feature to be seen from the classrooms.

Raised planters to form robust, successful school garden

Trough type planters used for vegetable growing

Appendix 5: Existing Drainage Plan

INFORMATION TAKEN FROM CCTV SURVEY AS CARRIED OUT BY KENCLEAN Ltd, DATED 22nd NOVEMBER 2012

DO NOT SCALE FROM THIS DRAWING IN EITHER PAPER OR DIGITAL FORM.

Revision	Date	Details
n/a	28-11-12	Issued for information

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Project
CAMDEN CENTRE FOR LEARNING
AGINCOURT SCHOOL

Drawing Title
EXISTING DRAINAGE FROM CCTV SURVEY INFORMATION

Scale	Drawing by	Checked
1/100 @ A0	NJB	xx

Date	Drawing No	Revision
November 2012	661/PH/01	n/a

MichaelPopper

Appendix 6: M+E Acoustics Information

Michael Popper Associates LLP
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Ventilation & Extraction Statement

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AGINCOURT HOUSE - CAMDEN

INTRODUCTION

Michael Popper Associates have been appointed as the mechanical, electrical and environmental engineering consultants for the refurbishment and extension of an existing school, Agincourt House, by Camden Council.

It should be noted that, at this stage of the design, the approaches outlined in this report are strategic and where equipment specifically defined it is subject to review and change as the design develops.

However, the design team shall remain committed to the principles herein.

This document will outline the systems to be used in both the new and the existing buildings and indicate what measures are to be put in place to minimize the impact of the plant on:-

- Local air quality
- Noise emanating from the site

The following ventilation or extraction systems have been identified:-

- Catering kitchen extract
- Process related extraction (for example, from design and technology workshop)
- General ventilation

In addition, there will be several boilers and water heaters requiring flues to discharge to atmosphere.

BOILERS & FLUES

New boilers and –potentially- domestic hot water generators will be provided. The boilers will be modern condensing type with ultra-low NOx emissions (<40 mg/kWh).

Flues will be run to terminate above the roof of the plant room.

WORKSHOPS AND OTHER PROCESS RELATED EXTRACTION

In addition to the removal of low concentrations of fumes and moisture mechanical ventilation systems for some classrooms will also be used to assist in the control of summer overheating.

The fan systems will, under manual or automatic control, draw air from the classrooms and discharge at high level either through cowls or louvred turrets.

Replacement air is generally drawn in through the classroom windows.

In all cases the equipment will be located within the building envelope and equipped with attenuation as necessary under the direction of a qualified acoustician.

KITCHEN AREA

The existing kitchen extract system consists of a cooking canopy close-coupled to an extract fan discharging through the roof.

This will be replaced with a new system consisting of a canopy and fan –complete with attenuation as necessary- which will discharge at high level at approximately the height of the ridgeline of the building in which it is housed.

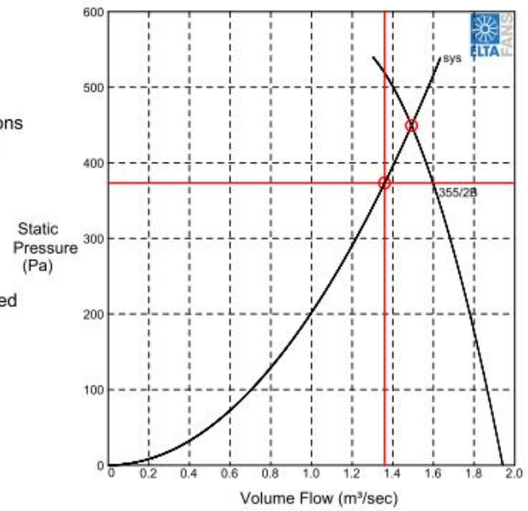
At present the precise duty for the fan is not known however below is information for a suitable fan unit and attenuator combination that is likely to meet requirements.

ELTA FAN DATA FOR MODEL SLC355/2-3B

Fan Code: **SLC355/2-3B**

Requirements

Volume:	1.36 m³/s
Static Pressure:	300 Pa
Selection Pressure:	373 Pa at std conditions
Operating Duty:	1.493 m³/s at 449 Pa
Temperature:	20 deg C
Altitude:	0 m



Fan Data (at STP)

Type:	Revolution Long Cased Axial Fan
Diameter:	355 mm
Speed:	2840 RPM
Weight:	26 kg
Specific Fan Power:	1.84 W/(l/s)

Density: 1.2 kg/m³

Motor Data (at STP)

Motor Power	2.2 kW
Electrical Supply:	415V@50Hz
Motor Speed Poles:	2 Poles

SOUND DATA - with 2DP Silencer Adjustment

Spectrum (Hz)	63	125	250	500	1K	2K	4K	8K	dBA @ 3m
Sound Power (dB)	75	74	69	61	52	51	50	47	44

Note: Levels are quoted as in-duct values. dBA values are average spherical free-field for comparitive use only.

Being a school kitchen, it is unlikely to generate high levels of odour or grease that would be present in other types of kitchen and therefore, other than the standard grease baffles, no further controls on the discharged air are proposed.

GENERAL VENTILATION

A number of heat recovery ventilation units will be utilised in the development. Again, these will be located within the building envelope and fitted with attenuation as necessary.

The details below are for a typical HRVU unit as manufactured by VES Ltd.

ECO NRG P Sizes 0, 1&2

- Compact construction, with 15mm double skinned case and Class O rated thermal/acoustic infill.
- Fitted dual fan speed controller as standard for commissioning, max/min speed, 0-10volt control, and compatible with the AQ air quality sensor.
- High spec fans with backward curved single inlet impellor and external rotor motor.
- High efficiency cross flow heat exchanger with fitted bypass damper and 230 volt actuator.
- Plantroom / ceiling void unit flat orientation with top or bottom access, and weatherproof construction with top access and powder coat paint finish in Signal Grey to RAL 7004.
  - Filter fitted to both supply and extract inlet, pleated, synthetic, grade G4.
  - Circular spigot connections with rubber duct seal.
  - Built in LPHW coil or EHB.
  - Drain pan suitable for use with optional peristaltic pump.
  - Fitted prewired isolator as standard.
  - Units can be hung with drop rods or supplied with optional self levelling feet.
  - Optional fitted and wired control system with touch screen remote.
  - Fans and bypass damper motor fitted with quick change plug connectors for easy maintenance.

Sound Data

Ecovent NRG P	Sound Spectrum dB re10⁻¹²w PWL Centre Frequency Hz								Casing Noise Breakout	
	63	125	250	500	1k	2k	4k	8k	NR @ 1m	NR @ 3m
Size 0	64	72	66	66	63	59	60	55	35	30
Size 1	62	68	66	68	65	60	61	57	35	30
Size 2	64	70	68	70	67	62	63	59	40	35
Silencer IL, dB	6	8	12	19	28	30	24	21	n/a	n/a

Sound Power Level PWL, dB, linear, in accordance with ISO13347-1:2004
Silencer model ALS 5/1200/STD/CS designed to meet NR 35/40 within conditioned space.

MPA- 28th November 2012

Appendix 7: BREEAM

Insert BREEAM