

Design and Access Statement

DOCUMENT 2016 16 PL08

National Autistic Society Academies Trust

NAS Thames Valley School, Conwy Close, Tilehurst, Reading RG30 4BZ



Prepared on behalf of The National Autistic Society Academies Trust and Thames Valley School by Mark Ellerby Architects & Simul Consultants Ltd.
December 2017

01 Introduction

This Design and Access Statement is submitted on behalf of the National Autistic Society Academies Trust and Thames Valley School in support of a Full Planning Application for the expansion of the school at first floor level over the existing ground floor structure as a planned phased expansion from the original 2013 development.

The document describes the design approach and planning context of the proposals for specialist autistic teaching space provision to supplement the existing accommodation.

The new design has been undertaken by Mark Ellerby Architects working in conjunction with and with supplementary documentation from:

Thames Valley School,
The National Autistic Society,
Structural Solutions Ltd.
Simul Consultants Ltd.

Document Structure

The structure of the Design & Access Statement document is based on guidelines originally published in the DCLG Circular 01/06 (as amended March 2010) and CABE.

The statement covers the following:

Assessment

A description of the Site, the context and an assessment of the site's wider and immediate context as well as an assessment of educational need.

Design Process

A summary of the design options considered and the approach taken on the preferred option

Design Evaluation

A summary of the evaluation of the information gathered as part of the assessment stage

Sustainability Statement

This is added as an appendix to the D&AS as a stand alone document but in reality forms an integral part of the design approach and refers to the assessment, involvement and evaluation of information gathered as well as access issues.

Supporting documentation

This document refers to other documents submitted with and forming part of the Planning Application notably the Planning Drawings, Planning Statement, Transport Statement, Travel Plan, Arboricultural Statement and Sustainability Statement

A comprehensive list of all drawings and documents is also contained within the Planning Statement.

Documents

- Application Form
- Community Infrastructure Charge Levy questionnaire
- 117 01 10 Planning Statement (A4 doc)
- 2016 16 PL08 Design & Access Statement (A4 doc - this document)
- 2016 16 PL09 Sustainability & Energy Statement (A4 doc)
- IT 1288TA Transport Statement and Travel Plan (A4 doc)
- 117 01 11 Arboricultural Impact & Method Statement (A4 doc)

Drawings

- 2016 16 PL01 Ground Floor Layout as existing (1 100@A1 1 200@A3)
- 2016 16 PL02 First Floor Layout as existing (1 100@A1 1 200@A3)
- 2016 16 PL03 Elevations as existing (1 100@A1 1 200@A3)
- 2016 16 PL04A Elevations as Proposed (1 100@A1 1 200@A3)
- 2016 16 PL05A Sections as Proposed (1 100@A1 1 200@A3)
- 2016 16 PL06A Ground Floor Layout as Proposed (1 100@A1 1 200@A3)
- 2016 16 PL07A First Floor Layout as Proposed (1 100@A1 1 200@A3)
- 117 01 20 rev04 Site Layout Phase 1 (1:250 @A1; 1 500 @ A3)
- 117 01 21 Location Plan (1 : 1250 @ A3)

All of these documents must be read together. All information remains copyright of the authors 2017/2018.

02 Assessment

02.1 Description

Thames Valley School is a specialist Free School forming part of a network of Free Schools and Academies sponsored by The National Autistic Society and is owned and operated by NAS Academies Trust.

The school was established as a collaboration between the NAS, Local Authorities, voluntary groups, schools, and parents. These groups have come together from Reading, West Berkshire, Wokingham and Windsor & Maidenhead.

The current school buildings were constructed in 2013 on the site of the former comprehensive school and were designed to be expanded as the new Free school became established. The school currently offers 50 Day places to pupils between the ages of 4 to 16 who are on the Autistic spectrum (including Aspergers) and are fully supported by an experienced specialist staff as well as complementary support of physiotherapy, educational psychology, occupational therapists, and speech and language therapists.

02.2 Site Location

Site Address:	NAS Thames Valley School, Conwy Close, Tilehurst, Reading, Berkshire RG30 4BZ
NGR:	SU 67536 73073
Application Site Area:	0.7533 Ha (additional floorspace 733 sm)
Local Authority:	Reading Borough Council



The TVS School seen from Conwy Close

02.3 Physical Context

The NAS Thames Valley School was completed in 2013 on the site of a former secondary school believed to have been originally called The Meadway before various mergers with other schools and prior to demolition on the site.

The new Thames Valley School occupies a much smaller footprint than the original buildings and land from the original school has been dispersed to other uses including an access road (Conwy Close), housing land, car parking for adding sports centre etc. Part of the original site is now used as a Nursery/pre school and the original sixth form buildings are used for this purpose.

The new (2013) Thames Valley School building is a modular off-site constructed part single part two storey structure with access and car parking taken from the new Conwy Close. The previous school was accessed from Dunsford Road on the north side of the current buildings where the current playground (formerly a car park) retains the original access.

The 2013 building is clad in a mixture of a white render with panels of Larch render and grey aluminium windows. The main entrance is on the east side with an entrance canopy facing Conwy Close. To the south of the main entrance the building is single storey accommodation whilst north of the entrance the building is a flat roofed (single ply membrane) two storey structure.

The single storey building structure was designed to be capable of taking an additional storey.

The school external environment is characterised by essential security fencing with minimal landscape planting and a mixture of hard paved areas for parking as well as turfed areas. The site is flat.



View of the single storey TVS building from the east. It is proposed to expand the two storey accommodation over the top of the single storey area.



View of the Meadway and Conwy Close junction. TVS is to the right of the photograph.



The adjoining nursery school in the former secondary school buildings viewed from the Meadway boundary north of the site

Playground areas lie to the west side of the building and occupy the former car park areas. mature trees form the boundary line with Dunsford Road. The northern boundary is in part car parking screened from The Meadway by smaller mature trees and planting as well as the Nursery school in the retained old school buildings. Mature trees adjoin the nursery school and the Meadway.



Car parking/drop off, arrival and exit to the front of the site looking towards the Meadway Sports Centre



View of the two storey TVS building from the east

02.4 Educational Need and Brief

The TVS school has been hugely successful in delivering SEND education to its original intake of 50 ASD pupils and the demand across the immediate Reading area as well as from neighbouring areas has increased. The school currently employs 43.5 Full Time staff covering various teaching and Therapy disciplines

The school wish to expand the capacity of the school with an incremental increase of 30 pupils (and an additional 15 staff members) from the original 50 students. This brings the total pupils in the 4 -16 age groups to 80 with a combined staff of 58.5.

This creates a sustainable and practical level of students for a specialist ASD school as well as responding to the defined local need worked out in conjunction with the Education Authority and neighbouring areas.

The brief is relatively self determining by view of the facts relating to the predetermined physical size of the existing building and the 'extension ready' nature of the structure. The spaces and area brief are discussed more fully in the Design Section of this report.

The implications of staffing and numbers are dealt with comprehensively within the revised Travel Plan and Transport Analysis.

03 Design

03.1 Options

The Thames Valley School site is very constraining on physical space with defined areas required for parking and vehicle arrival departure and drop off. The external spaces for play and outdoors education are also highly important to the educational role of the facility.

The building was originally conceived to be extended with a second storey over the original single storey 'south' wing and therefore any true design options were really pre determined by the site constraints and earlier design thinking by the original design team pre 2013.

The scheme proposed within this planning application creates an additional 750m² of teaching space and some ancillary accommodation. Various arrangements of rooms and spaces have been considered but the layout and spaces closely follow the layout of the ground floor arrangement and apart from considerations relating to services positions and Means of Escape the scheme follows the ground floor design.

03.2 Building Form

The current building uses throughout its design a flat roof solution at both the ground and first floor level using a single ply membrane waterproofing layer. For reasons of achieving better daylighting, natural ventilation and optimising potential for placing of PV if required, based on previous designs for NAS on other school projects, the new first floor scheme uses a north light approach and creates a stepped roof format. The covering material may be a single ply membrane or a standing seam metal roof. This design creates clerestory windows that assist with natural ventilation.

03.3 Acoustics and Road Noise issues

No road noise issues have been identified. The site is shielded from the main road by other buildings and trees. The acoustic design of the building will meet criteria set out in DE Building Bulletin 93. The acoustics within SEN Education of great importance.

03.4 Ecology

The site is not identified as having any specific ecological or biodiversity interest and the existing buildings are not suitable habitats. Arboricultural issues are dealt with separately.

03.5 Flood Risk and Rainwater

There are no flood risk issues. The new roof will replicate the area of the existing roof and rainwater systems for the new floor will utilise the existing surface water/rainwater drainage systems on site. Similarly car parking areas are reusing existing hard surfaces. Where possible improvements will be made to ensure a SUDS approach to drainage if and where needed.

03.6 Heritage

There are no Heritage constraints within the site.

04 Design Evaluation

04.01 Outline Development Statement

The proposed scheme maximises the potential space of the existing school buildings as originally envisaged by 2013 design by using the vacant roof of the single storey building and linking the new spaces to the existing first floor circulation, with some minor modifications to ensure compliance with Means of Escape etc.

The design improves on the existing facilities by using a better roof profile to improve daylighting and ventilation as well as thermal performance.

04.02 Use

The new building is entirely consistent with the existing site use (SEN Education) and extends that use to meet community needs.

04.03 Amount

The amount of accommodation is determined by the available space over the ground floor accommodation which in turn dictates the additional pupil and staffing numbers.

• Music Recording Studio	25m ²
• Music Classroom	49m ²
• Music Store/Practice	8m ²
• Calm Room 1	11m ²
• Calm Room 2	15m ²
• General Teaching Classroom	45m ²
• Large Humanities Classroom	45m ² (includes circulation for fire escape)
• Large English Classroom	50m ²
• Calm Room 3	12m ²
• Speech & Language Therapy Office	18m ²
• Calm Room 4	9m ²
• Large Art Room	65m ²
• Library	37m ²
• Rooftop Play space	(190m ²)

Total Gross Internal Area (GIA) 522m²

Total Gross External Area (GEA) 563m²

Total Gross External Area (incl. roof garden) 752m²

04.04 Layout

The layout as described previously, is optimised with the existing circulation and structural pattern of floor below. Room layouts and arrangement suit the schools requirements for curriculum, subject areas, and requirements for flexible break out spaces and 'quiet' rooms for calming students.

Additionally use is made of the enclosed roof area over the ground floor hall to create an external sheltered and secure play area/external teaching space with shading.

04.05 Siting

The siting of the new building is pre determined. Best use is made of the orientation for daylight

04.06 Scale & Massing

The new building follows the scale and design language used in the original building and there is therefore no change or measurable impact caused by the extension.

04.07 Landscaping

The site layout will be adjusted to suit the additional parking requirements identified within the Transportation Statement. Where possible use is made of existing hardstanding. Adjustments and adaptation of the existing landscaping scheme will be made to accommodate the additional parking. The building itself has no impact or landscaping requirement.

04.08 Appearance

The deliberately stepped section to the 'northlight' roof approach adds a degree of interest to the external appearance of the building, but otherwise the design is intended to read as part of the overall original design identity. Materials will be kept to the same pallet of materials for consistency.

05 Drawings

05.01 Existing Building: these are extracts from the Planning Drawings to inform the text of the Access and Design Statement.



East Elevation as Existing 1:100 @ A1 1:200 @ A3



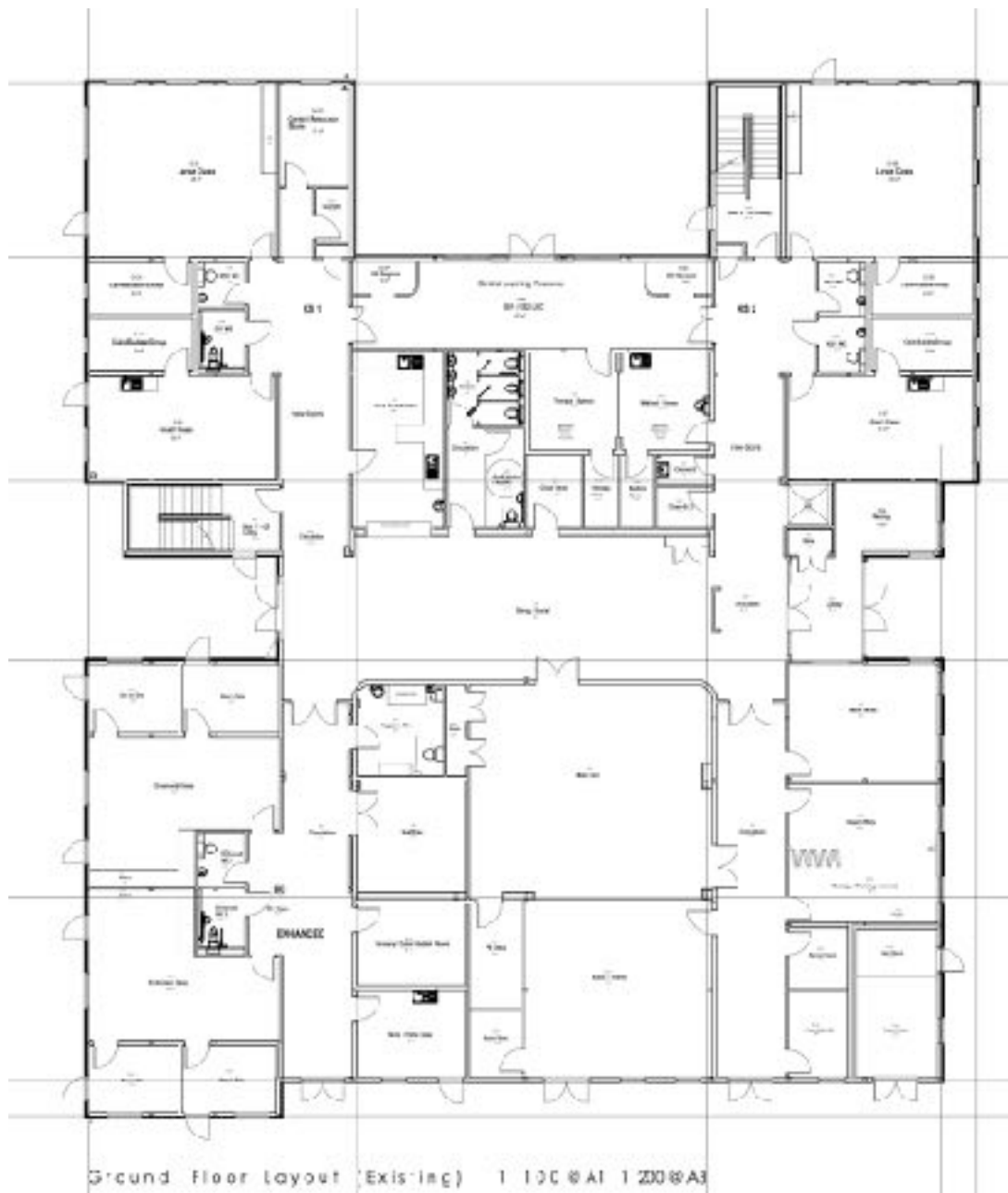
South Elevation as Existing 1:100 @ A1 1:200 @ A3



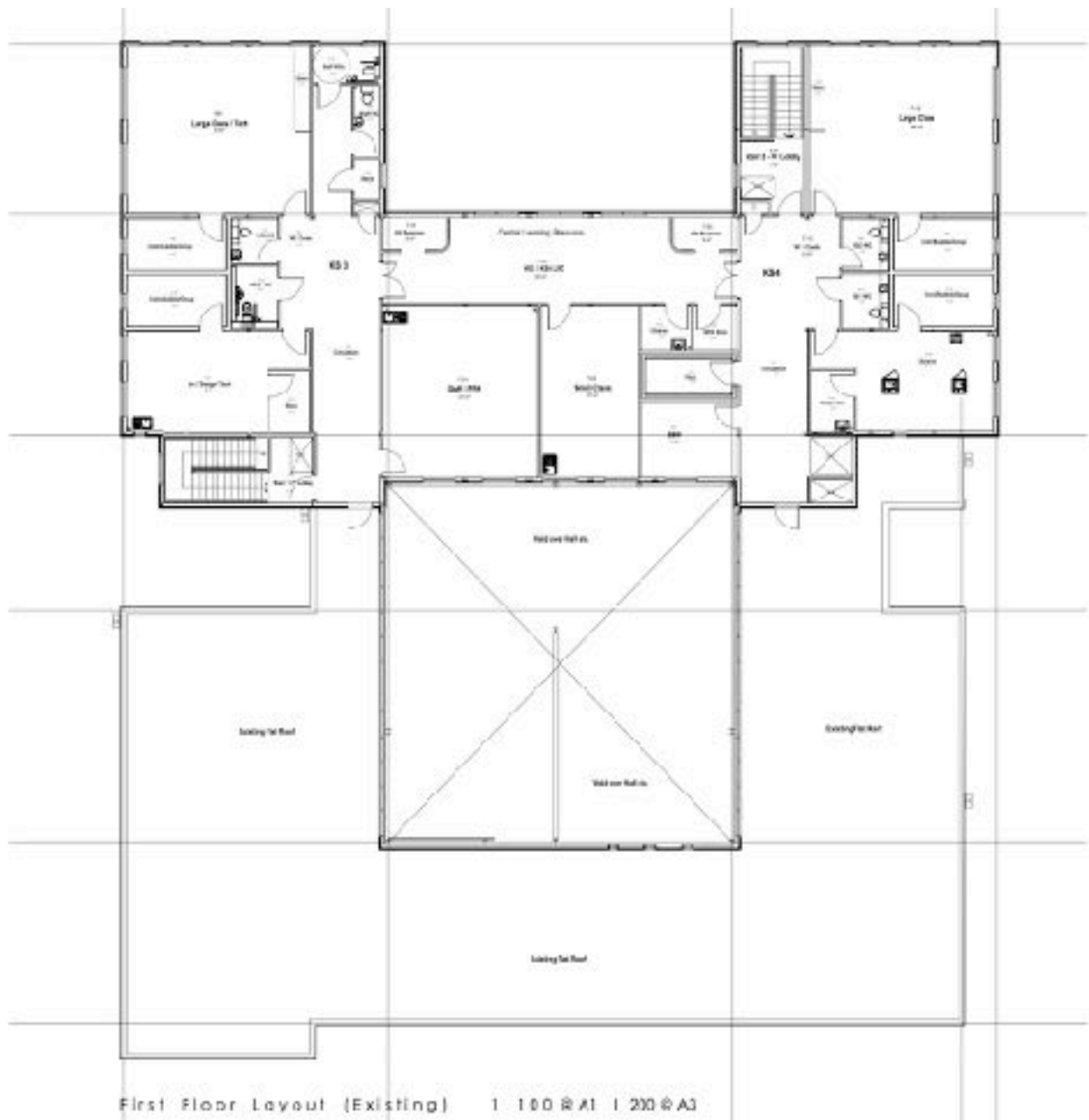
West Elevation as Existing 1:100 @ A1 1:200 @ A3



Section C-C of Existing 1:100 @ A1 1:200 @ A3

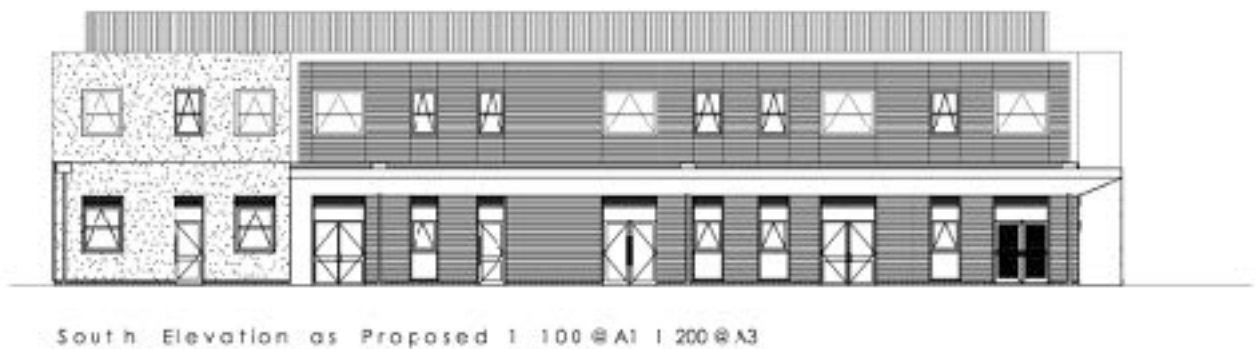


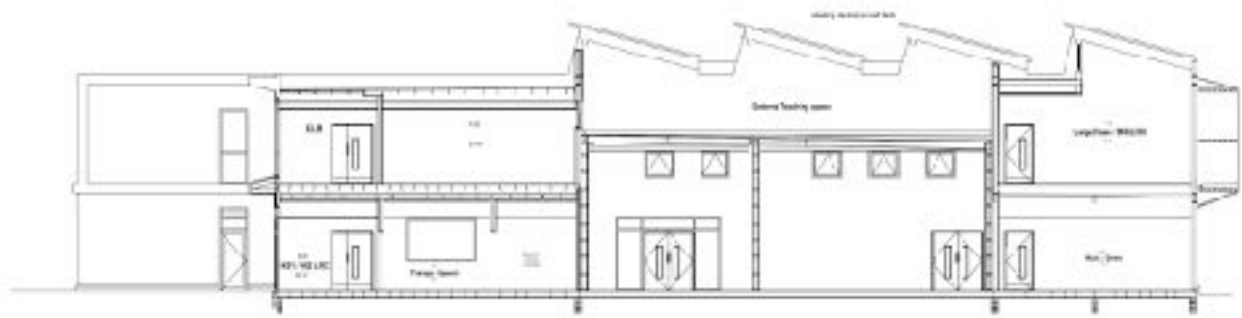
Ground Floor Layout (Existing) 1:100 @ A1 1:200 @ A3



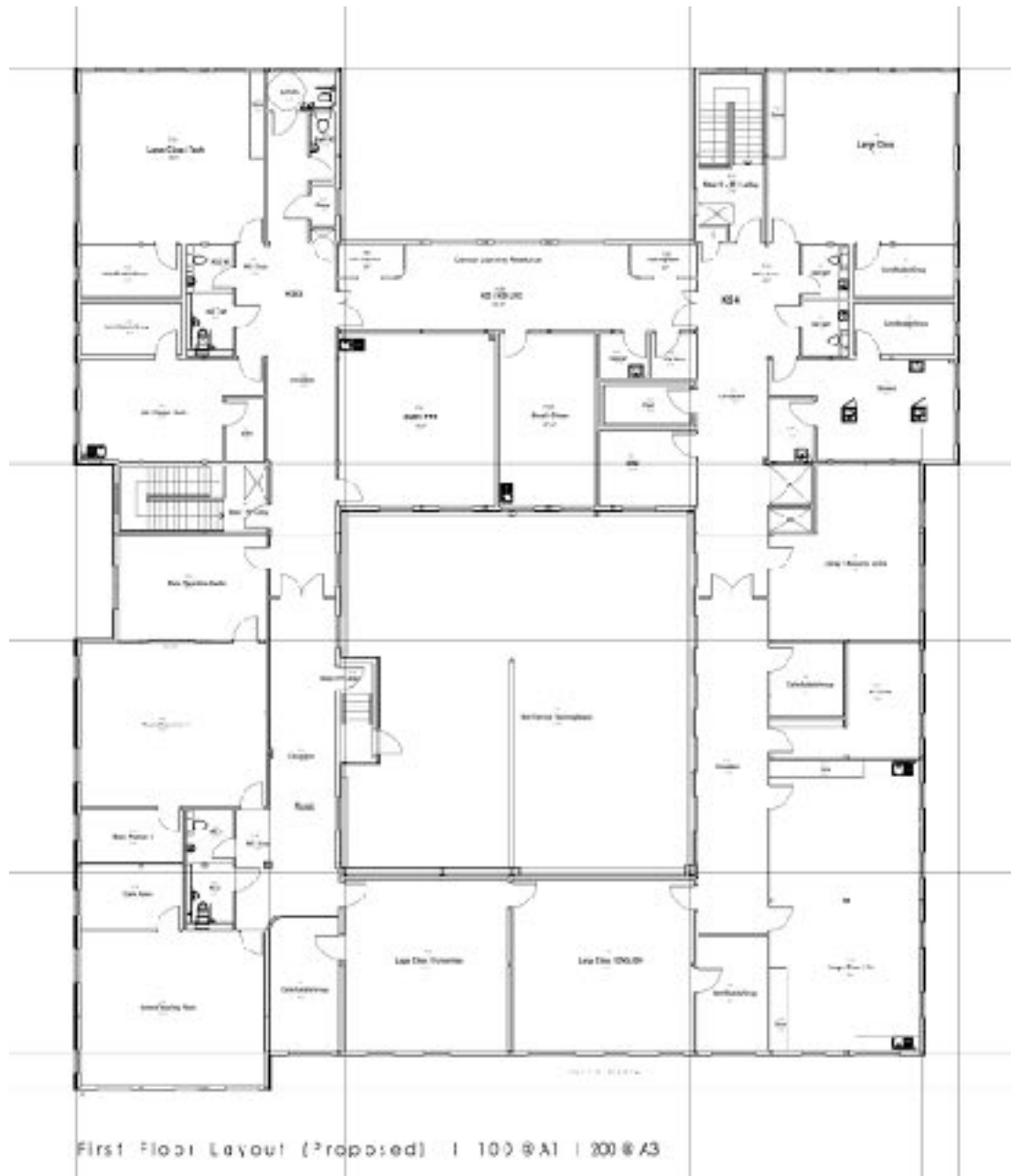
05 Drawings

05.02 Proposed Building: these are extracts from the Planning Drawings to inform the text of the Access and Design Statement.

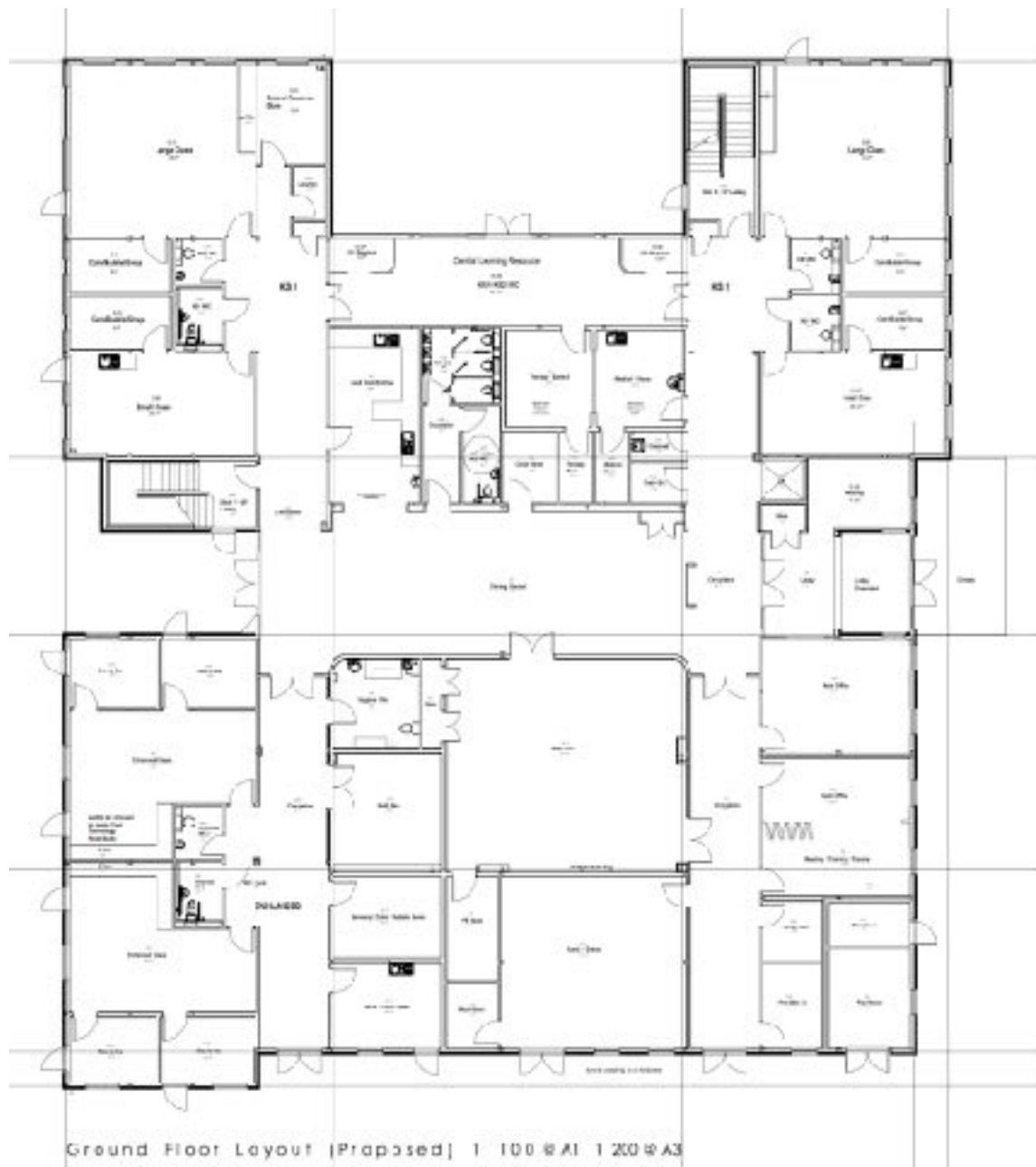




Section C-C as Proposed | 100@A1 | 200@A3



First Floor Layout (Proposed) | 100@A1 | 200@A3



Sustainability Statement

DOCUMENT 2016 16 PL09

National Autistic Society

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01 Sustainability

Reference has been made to Reading Borough Council's Appendix 5 of 'Revised Sustainable Design & Construction Adopted SPD Document July 2011'. The new extension necessarily follows the design philosophy of the original 2013 building and the same principles are followed in the new design. The key sustainability issues are:

- reuse of an existing building footprint and no new land used
- use of lightweight timber frame and off-site construction minimising waste, ensuring high insulation values, minimising construction times and working with the available structural support of the existing building without further strengthening.
- improved thermal performance through better thermal envelope
- improved natural ventilation strategy and daylighting through an improved roof profile
- stand alone heating system with some active cooling as required

The design has yet to be thermally modelled and designed to a detailed level for building regulations Part L compliance. Sustainability M & E consultants will explore in detail the best options for heating and ventilation as part of the construction stage.

01.01 Materials

All materials for the project are selected for sustainability criteria as well as building appearance.

The design approach uses a 'fabric first' approach which works on the basis that if the external fabric of the building works well then other benefits will follow. Designer and contractor have extensive track record for designing and building to very low energy standards including passivhaus.

- Floor wall & roof insulation levels will be significantly better than minimum standards (0.15W/M2/K)
- High specification windows with high performance glazing for preventing solar gain will be used.
- High efficiency heating and hot water services
- 100% low energy LED lighting
- Good daylighting design optimising light from roof windows
- Use of low carbon technologies to reduce emissions
- Water conservation measures.

01.02 Walls and fabric

The building will use a high performing off-site constructed timber frame combining SIP insulated panel system combined with a new foil and mineral wool composite lining insulation to achieve very low u values together with an airtightness of below 3m2/m3/hr. Rainscreen cladding will consist of a through coloured render system and natural untreated planed Larch. Larch is a sustainable and renewable material and minimising treatments eg paint minimises use of harmful products. Insulation products are generally not rigid foam, but inert mineral/rockwool products.

01.03 Ventilation

The building will use a combination of stack ventilation and possibly MVHR systems and some limited active cooling to ensure best solution to comply with the ventilation strategy in Building Bulletin BB 101

01.04 Renewable Energy

The building does not propose any 'additional' renewable energy to meet Part L requirements on the basis that the fabric first approach should ensure a very low action building. The approach is to minimise energy consumption rather than offsetting with 'new' energy. The roof is appropriate for PV panels as an additional 'nice to have'

01.05 Water & Rainwater

The rainwater connects to existing surface water drains. If new surfaces are required permeable drainage systems and SUDS will be used. All water appliances (there are very few) will all be selected for efficiency and to comply with strict Building Regulation requirements. There are no increased risks to any flood issues.