SHAFTON ADVANCED LEARNING CENTRE, BARNSLEY

Design and Access Statement



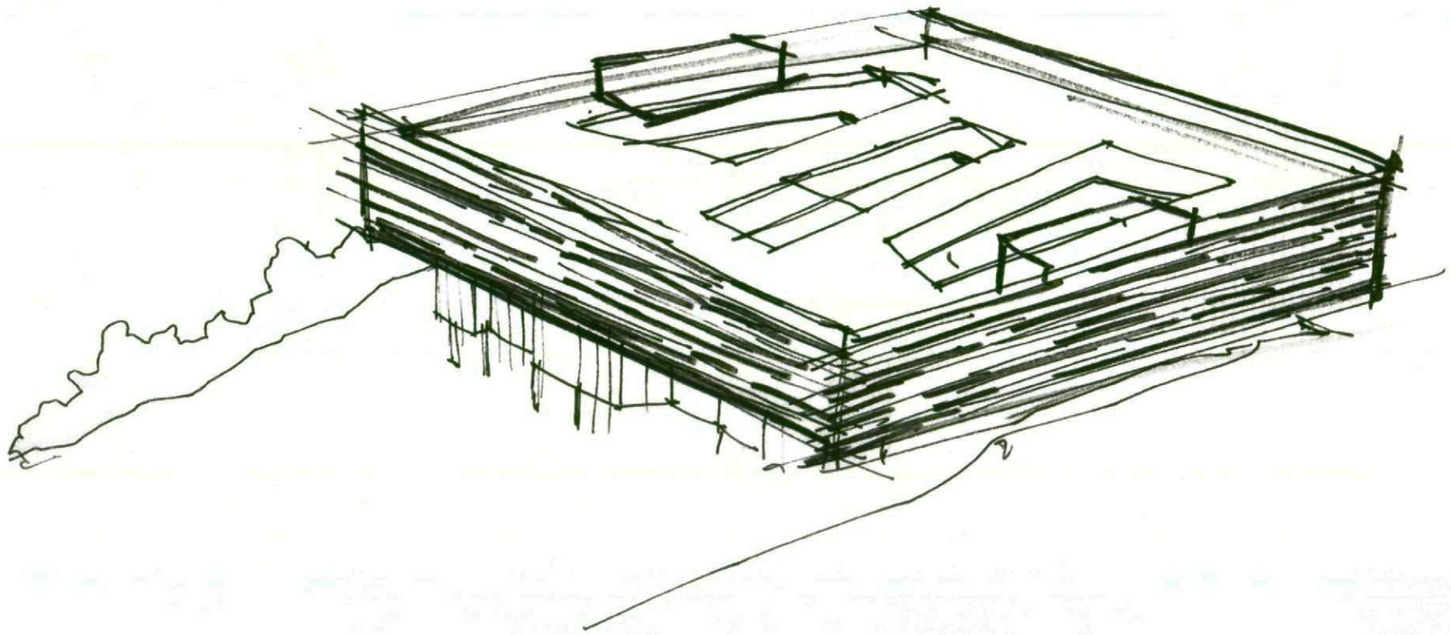
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BDP.

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1.0 Introduction



1.1 Shafton ALC

This Design and Access Statement forms part of the Reserved Matters Approval submission pursuant to outline planning permission 2007/0822. It describes the approach taken to the following reserved matters:

- Layout of the proposed development
- Scale of the buildings
- Design and external appearance;
- Landscaping.

1.1.1 Planning status

The Outline Planning Consent for the development of a new school on the site allows for a building of a mixture of 2, 3 & 4 storeys in height located at the northern end of the site, with access provided from the recently constructed roundabout between Engine Lane and Collier Road.

Application number: 2007/0822

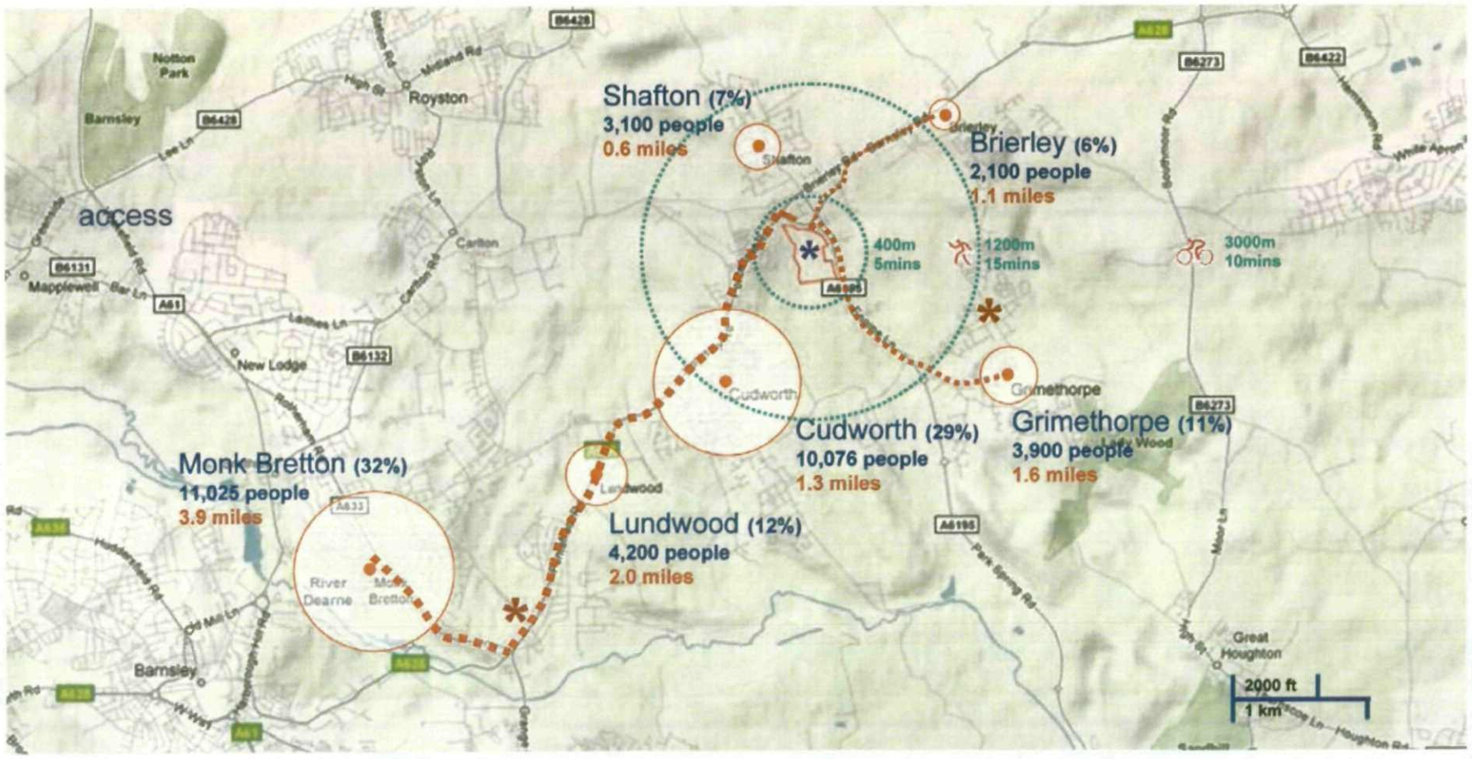
Through discussion with Barnsley's Planning Department it has ascertained that these proposals for Shafton ALC are broadly in line with the existing Consent subject to discharge of the various planning conditions.

1.1.2 Location

The site for the new Shafton ALC is off the new round-about joining Collier Road and Engine Lane near the villages of Shafton-Two-Gates and Cudworth. It is in the green-belt roughly four miles from Priory School & Sports College and two miles from Willowgarth High School.

The site area is approximately 28 acres, 11.3 hectares, and is currently predominately pasture land.

Site location plan



1.1.3 The existing schools

The new ALC proposed for Shafton will be achieved through the merger of the two existing schools of Priory and Willowgarth. The new ALC will be located on a new site in the village of Shafton. Each School has its own proud traditions and history, but the Governors are keen to ensure that the ALC is seen by all as a new school building on the strengths and successes of the previous two schools and their respective communities. By way of background, the following is a brief introduction to the two existing schools.

The existing Willowgarth High School is a mixed, community school occupying a large open site set in extremely pleasant countryside between the villages of Grimethorpe and Brierley. Priory School and Sports College is currently located in the Lundwood area of Barnsley.

1.1.4 The team

BDP form part of the consortium led by Laing O'Rourke for the design and delivery of eleven secondary schools to be procured in three phases under the Barnsley BSF program. Shafton Advanced Learning Centre is one of three schools forming Phase 2 of the program.

BDP are appointed for Architectural services, Civil and Structural Engineering and Mechanical and Electrical engineer. AWP are appointed for Landscape Design and SRL for Acoustic Engineering. The Planning Consultant is Turley Associates.

This report summarises the RIBA Stage D design for the development being submitted for Planning Approval.

1.1.5 Key aspects of the proposals

The architectural design for Shafton ALC has been developed through significant dialogue with the Heads and key staff from the two existing schools, Priory School and Sports College and Willowgarth High School and with key representatives from the Local Authority.

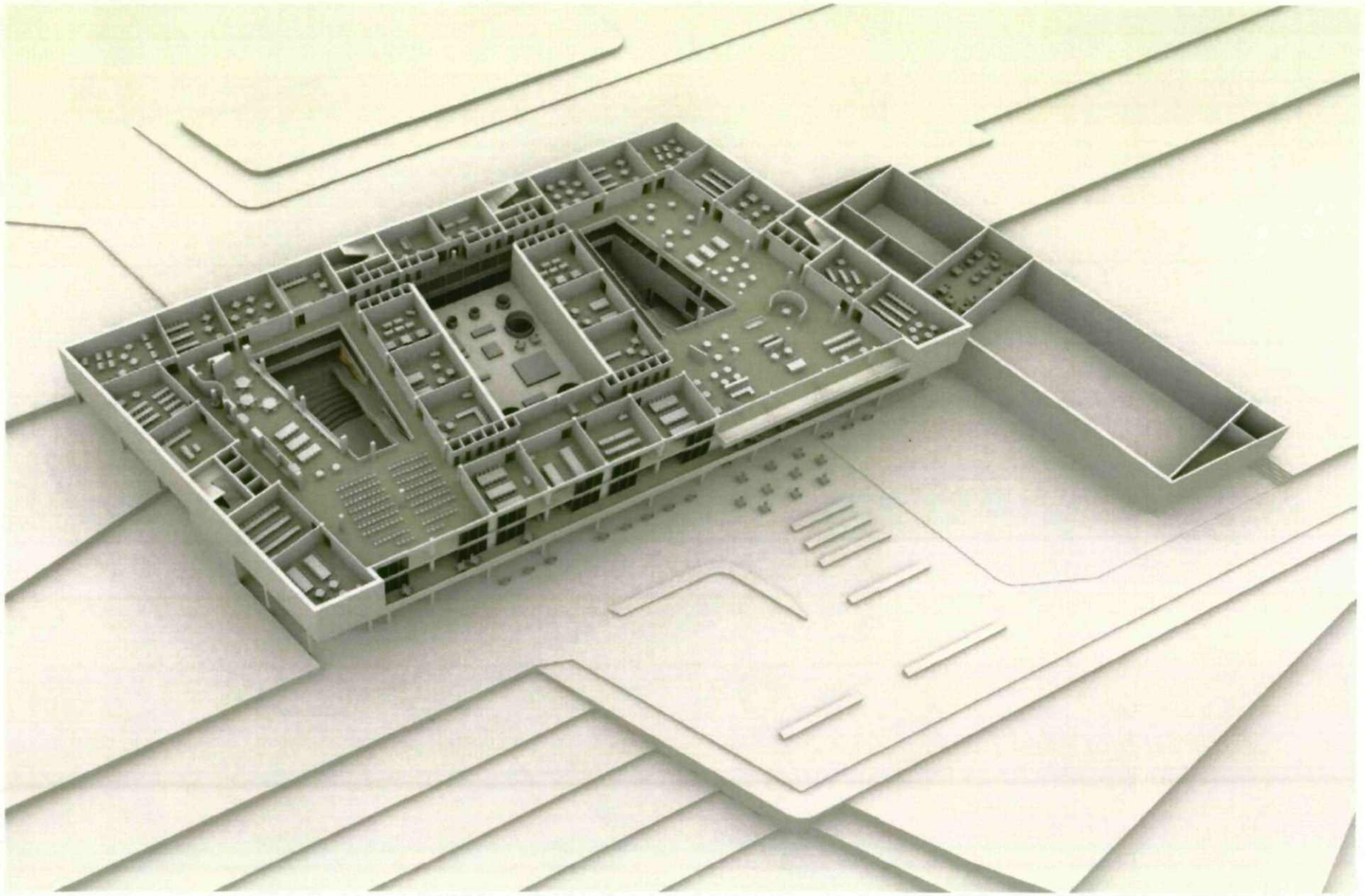
Our understanding of the vision and ethos of the two existing schools has evolved through these engagements and we believe the design captures the vision, ethos and aspirations for the new school.

One of the key driver's in development of the proposals has been the concept of flexibility. As the two schools do have different learning philosophies, Shafton ALC has been developed to accommodate the specific preferences of both. It also provides opportunities for significant future change and development that is likely to be required as transformational learning objectives impact the schools' philosophies.

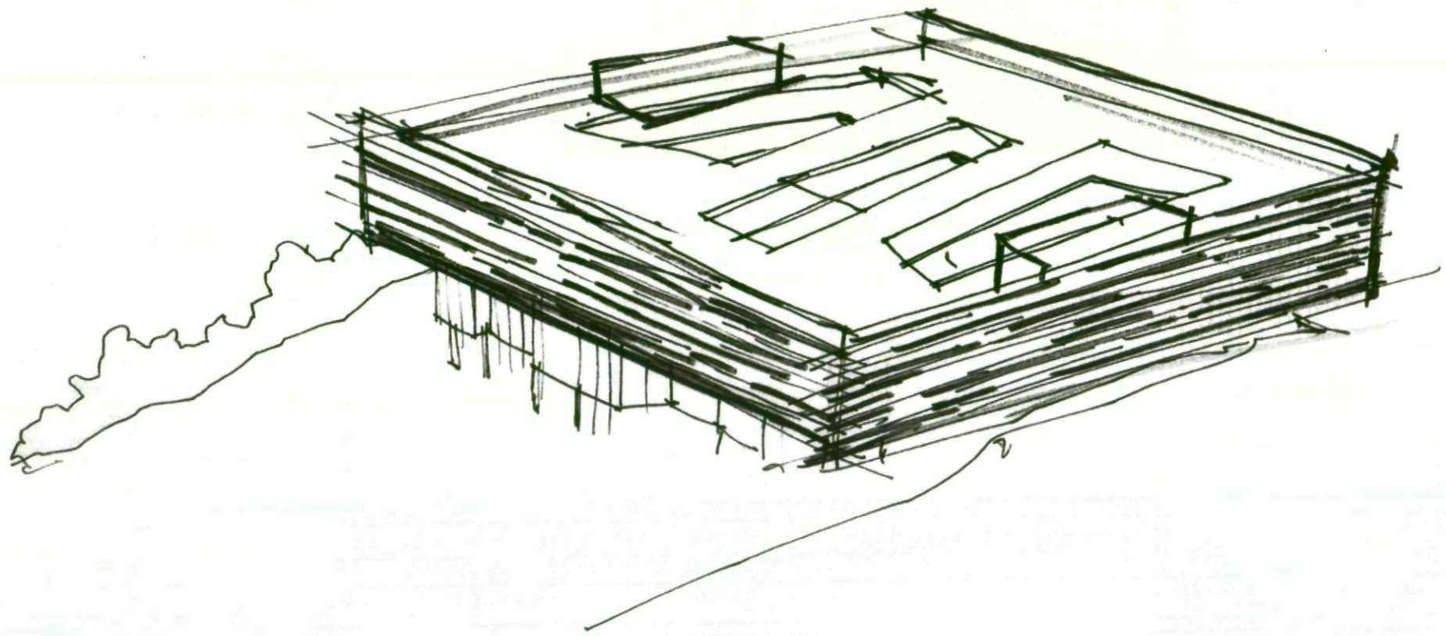
The following summarises the key aspects of the proposals:

- The position and orientation of the building maximises views from learning spaces into the inspirational green belt landscape.
- The section of the building utilises the existing topography to create open, flexible spaces on the lower floors and support opportunities for views out into the landscape.
- The treatment of the elevations enhances the concept of the building's section by expressing the upper floors as a solid learning space floating above the more transparent community areas on the ground floor.
- The Heartspace is a key area of the building that has seen significant design development to reflect the school vision and operational requirements. Much time has been invested into this space, looking in detail at the layouts, acoustics, catering requirements and opportunities for community use.
- The design of the landscape creates a variety social, educational, habitat, sports and learning areas around the building and across the site.
- Where possible, existing trees and hedgerows will be retained and protected during the construction works.
- *Parking is located to the east of the site minimising its impact of the school* building.

Concept model of the building in the landscape



2.0 Assessment & Appraisal



2.1 The Brief

2.1.1 Output Specification

The Output Specification Volume 2 for Shafton School Advanced Learning Centre schedules the specific requirements of the new school in some detail.

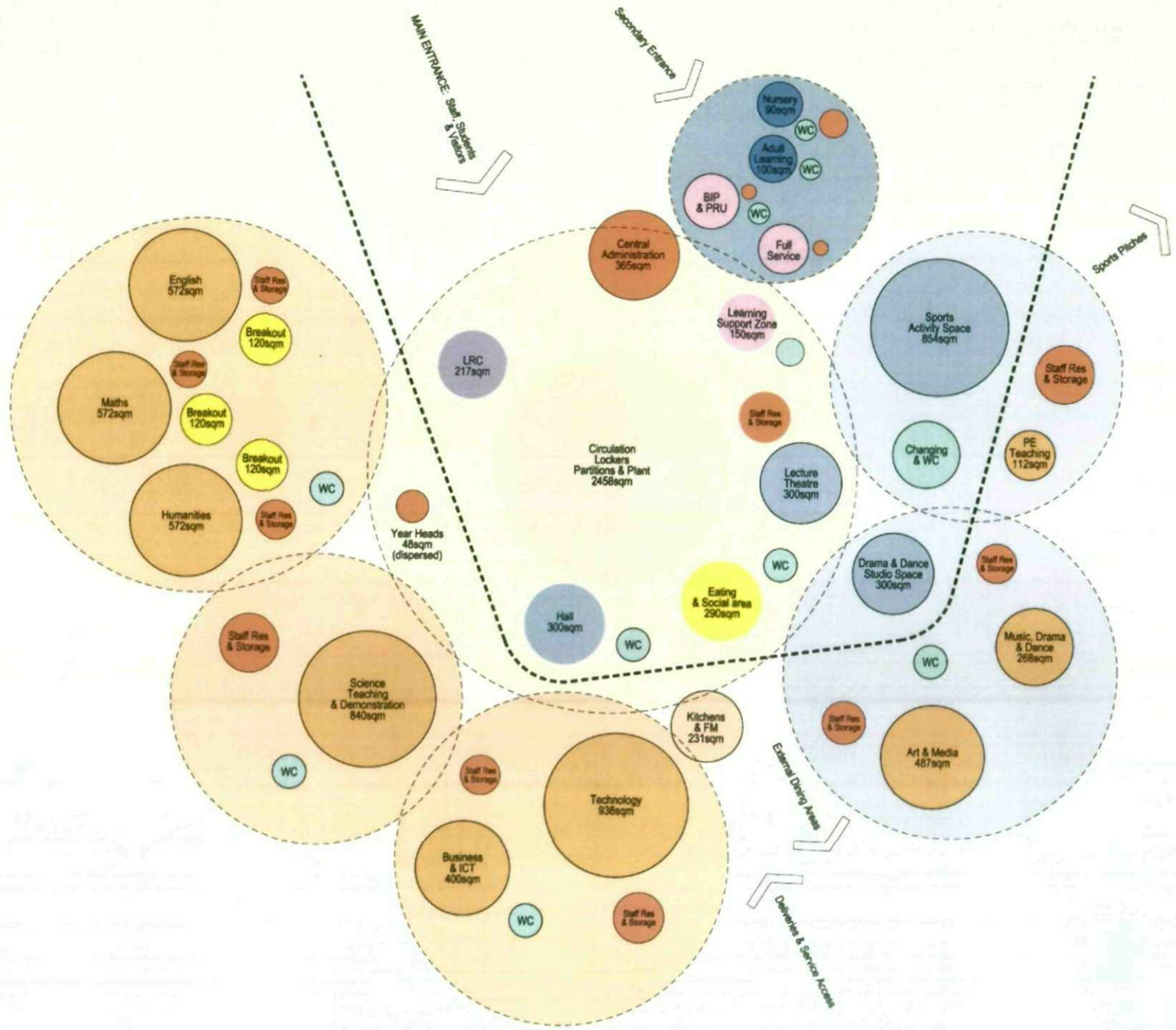
Areas of the brief were analysed by BDP to create a series of accommodation requirement diagrams. Through the use of graphics and colour, these diagrams were produced to scale and assisted BDP in communicating the organisational principles for the spaces into a specific relationship for the proposed school.

In rationalising the areas identified in the brief, the concepts for the school began to take shape and a spatial relationship diagram assisted BDP in developing the key principles and strategies seen in today's proposed design such as access, community usage and the ALC's planning strategy.

2.1.2 Size and population

The new Advanced Learning Centre will accommodate 1500 pupils aged 11 to 16 and a further 154 post-16 pupils. There will be approximately 200 staff.

The Gross Internal Floor Area for the ALC defined within the brief is 13, 421m^2.



2.2 The Site

2.2.1 Existing site

The existing site is within the greenbelt and is currently agricultural land grazed by livestock. It appears to have been used as such for sometime.

The site lies within the Green Belt for Barnsley and benefits from outline planning permission as referred to previously. Therefore the principle of development is established and it is the design response to the location of the site within Green Belt that is of interest within this document."

2.2.2 Information provided

At the start of the project BDP were provided with a digital topographical survey of the site detailing levels, vegetation and the few features on the site.

2.2.3 Topography

The site is a large undulating field with a fall of 21meters in 480meters north to south and 9meters in 28metres east to west.

2.2.4 History

The earliest map available, published 1854, shows the site and surrounding fields in a rural, agricultural setting. The site is split up into numerous small fields. The settlements of Shafton and Upper Cudworth are shown approximately 1km north and 900m south-west of the site respectively. Small sandstone quarries and old coal pits and shafts are shown within 1km of the site but not within the site area. Shafton Colliery is mapped 700m to the north-east of the site and moor land 700m to the south-east. An isolated building is located on the eastern boundary of the site, later to be known as Hazledene Farm.

Prior to 1894, Shafton Colliery closed and the village of Shafton Two Gates became established 300m to the north of the site. A stream along the western boundary, and a well close to the buildings on the eastern side is mapped.

Before 1906 the Dearne Valley Railway was constructed 200m east of the site as well as a sewage treatment works in the north-western area of the site. A number of clay/marl pits were mapped within the area, the closest being 100m to the west of the site.

A tramway was constructed 500m to the east of the site and the onsite sewage works increased in size corresponding to the growth of nearby towns and villages prior to 1938. The tramway was dismantled prior to 1955, a new sewage works opened 600m south-east of the site and pylon-mounted electricity transmission lines installed immediately to the east of the site.

Prior to 1967 a large works was built 300m to the east of the site with rail links to the Dearne Valley railway and a plantation to the south of the works. Between 1975 and 1981, the expansion of the sewage works to the south-east of the site saw the removal of the onsite sewage works. Around this time the Dearne Valley Railway was also dismantled along with the sidings for the works to the east.

Since 2000 internal field boundaries have been removed forming one large agricultural field. The A628 Shafton by-pass has also been constructed along the northern boundary of the site.

The site looking south



2.2.5 Hydrology

From the CC Geotechnical Report of September 2006, carried out on behalf of Barnsley MBC, the nearest surface watercourse is a stream which flows in a southerly direction and forms the western boundary of the site. The documented lithology underlying the site may be represented as a series of discrete units as follows:

- Made Ground: Probable permeable strata may store perched groundwater
- Coal Measures: Relatively impermeable strata; Minor Aquifer (minor aquifers seldom produce viable quatities of water for abstraction, although they may be important in providing base flows to rivers).

2.2.6 Geology and Geotechnics

From the CC Geotechnical Report of September 2006, carried out on behalf of Barnsley MBC, the published geology, as summarised on British Geological Survey Sheets is:

- Drift Geology: No drift geology present
- Solid Geology: Middle Coal Measures of Upper Carboniferous Origins.

The site investigation detected localised mining voids at 16m depth in the area of the proposed building. On this basis it is proposed to grout any voids beneath building footprint area. Otherwise bearing capacities at high level are relatively good, with presumed bearing values increasing rapidly from approximately 200kN/m2 at 2.0m depth to 400kN/m2 at 4.0m depth and beyond.

2.2.7 Contamination

From the CC Geotechnical Report of September 2006, carried out on behalf of Barnsley MBC, the site is not affected by levels of contamination that would pose a risk to the health of future worker occupants of the proposed developments.

The gas monitoring data obtained on this site indicates that the site complies with Characteristic Situation 1 as defined in SA Wilson and GB Card document Reliability and Risk in Gas Protection Design. As such no special gas measures are required. Concrete in the ground should be specified in accordance with Design Chemical Class DC-1 as defined in BRE Special Digest 1:2005. Water mains should be of PE/Al/PE type laid in a sterile trench. Spoil from the site would classify as 'non-hazardous' for disposal purposes.

2.2.8 Existing Buildings

There are no existing buildings on the site.

2.2.9 Site Boundary Conditions / Constraints

The site is bounded to the north and east by Engine Lane, the recently expanded A6195 that acts as a by-pass to local villages. To the east the site is separated from Engine Lane by a hawthorn hedgerow and to the north it is separated by a large embankment formed during construction of the road and planted with sapling trees. There is a small stream running along the west perimeter of the site which is general overgrown. To the south edge is a typical local hedgerow.

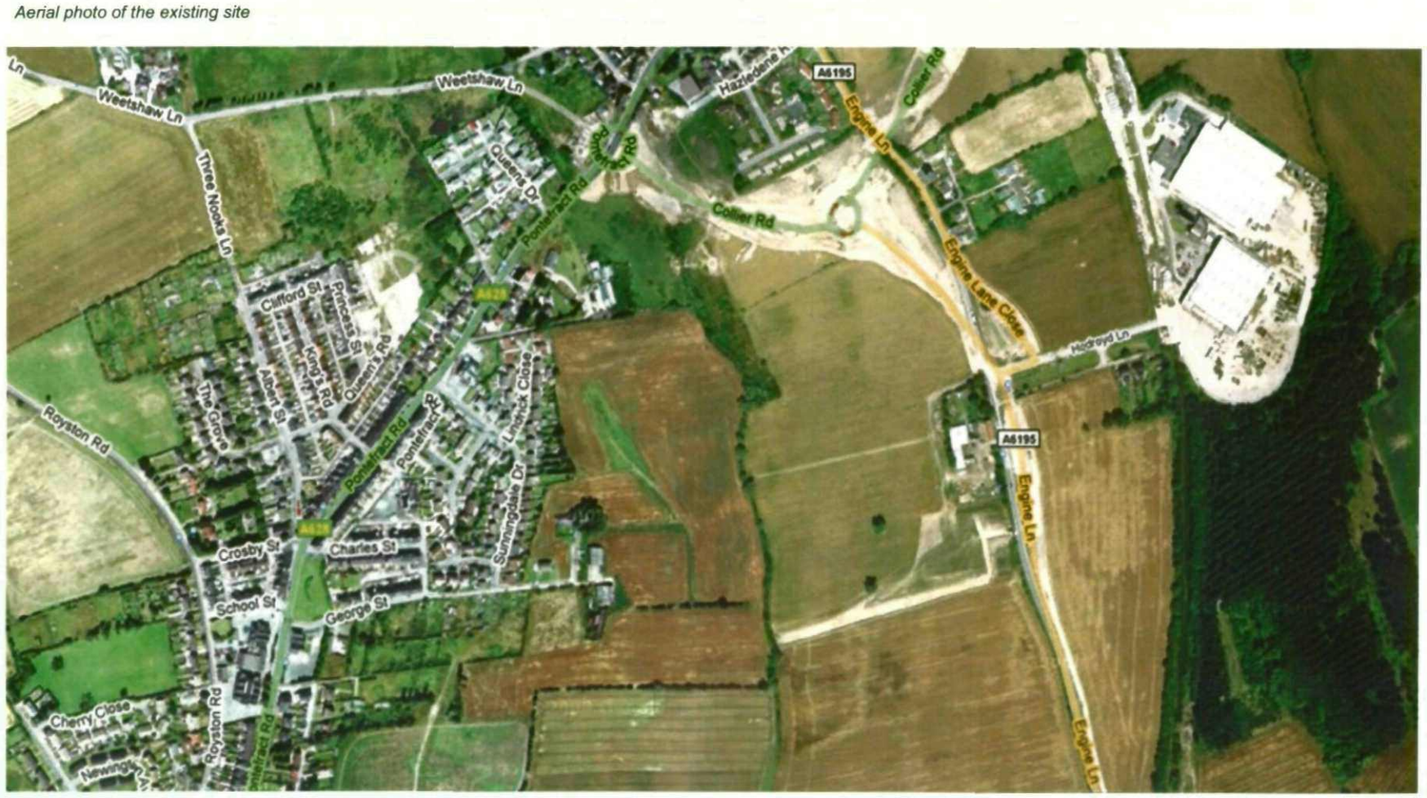
2.2.10 Surrounding area

The site is predominantly surrounded by agricultural land. Part way along the western boundary with Engine Lane is an existing brick farmhouse with a selection of barns and out-buildings.

2.2.11 Other Constraints

There is an existing 11KV ring supply which cuts across the site in the form of overhead pylons which also supplies the local farm with an LV supply. As an Enabling works package this 11KV ring is to diverted within the adjacent land around the proposed site for the new project, and also to re supply the existing farm. The new supply to the project shall also be derived from this low level diverted below ground HV supply.

Aerial photo of the existing site



2.3 Analysis, assessment & initial concepts

2.3.1 *Orientation.*

The open nature of the site gives full exposure to the sun path. The proposals make the most of this factor by placing all external social areas to the south of the building

The emphasis placed by a sustainable approach to design on the incorporation of effective daylighting, sensitive orientation, and natural ventilation, also contributes to a light, airy and pleasant teaching and learning environment. This will improve the morale, performance and attainment of all who use the new facilities, contributing to a shared sense of pride and ownership. The proposed section and plan also make the most of the opportunity to have extended vistas through the building interior to the landscape in the south.

2.3.2 Views

The majority of the views into the site are long-range from Pontefract Road as it passes through Cudworth and from a small number of houses on Engine Close. For this reason it is important that the building reads as a simple, expressive form within the landscape.

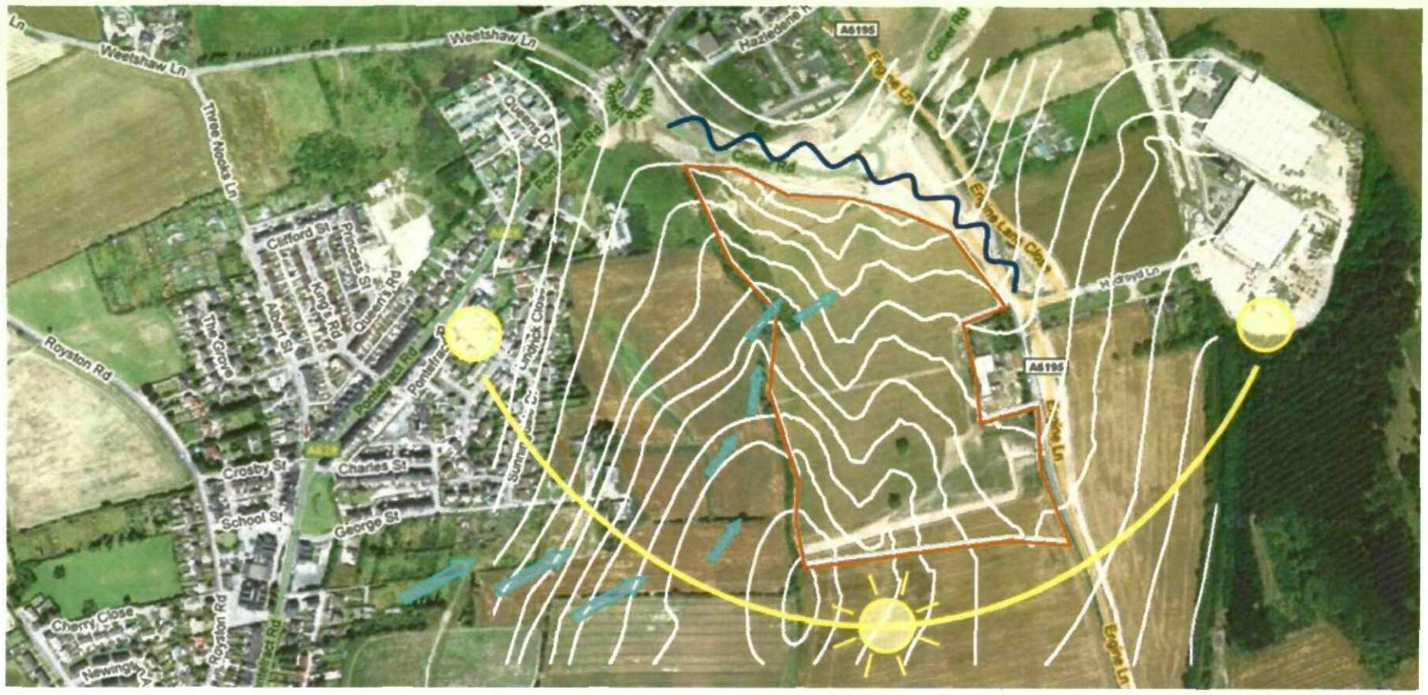
The only-short range views are from a short section of Collier Road where the site, road and embankment that separates them all come together at the same level to enable a clear line of sight. This has informed the orientation of the arrival piazza and the location of the main entrance to the building.

The clear form of the building will be enhanced by a selection of materials for the elevations that marry the contemporary nature of the building to the green-belt landscape. The materials will be robust, durable and will weather enable the building to weather with the landscape. They will enhance the overall standard of the building, providing interest, enjoyment and a sense of permanence to building users.

View of the site from Pontefract Road



Sun path, wind & noise



Views into and out of the site



2.3.3 Topography & section

In direct response to the significant changes in level, the building has been designed primarily in section and changes from a three storey structure on the north to a four storey structure on the south. This positively promotes the relationship of internal and external spaces as a core design concept. The ground floor terraces down through the building enabling the creation of a double-height 'heartspace' in the centre of the plan at the lower floors.

The section places the more dynamic learning spaces such as art, music and the LRC all on the south elevation where they can be well integrated with external, south-facing social spaces and benefit from the inspirational views.

The section is supported by a plan that also maximises views into the surrounding landscape, particular from the more open-plan flexible learning spaces.

2.3.4 Building mass

Driven by the green-belt character of the site, its topography and the pedagogical concept of the 'super-cluster' (described later) the building has been conceived as a singular object within the landscape. One concept analogy for this is the Yorkshire 'erratic': an object that is alien to its surroundings yet strangely comfortable as it floats slightly detached from the landscape. The concept and strength of the 'object' reflects the building's function as an ALC at the centre of the community.

2.3.5 Social aspirations

One of the key aims of the new School will be to ensure the continued support of their existing communities and the new community in Shafton. Priory School currently acts as a focus for much community activity; there is a close partnership with the nearby Priory Campus and appropriate contacts with the Monk Bretton and Lundwood Community Partnership.

The ALC will be provided with a full service provision which will allow for the collocation of support services to pupils and their families, including education, social care, health, youth service, and the police. The facilities include for office space, conference and meeting facilities for use by these support services. The ALC will also incorporate an adult learning centre for use by the community during the school day.

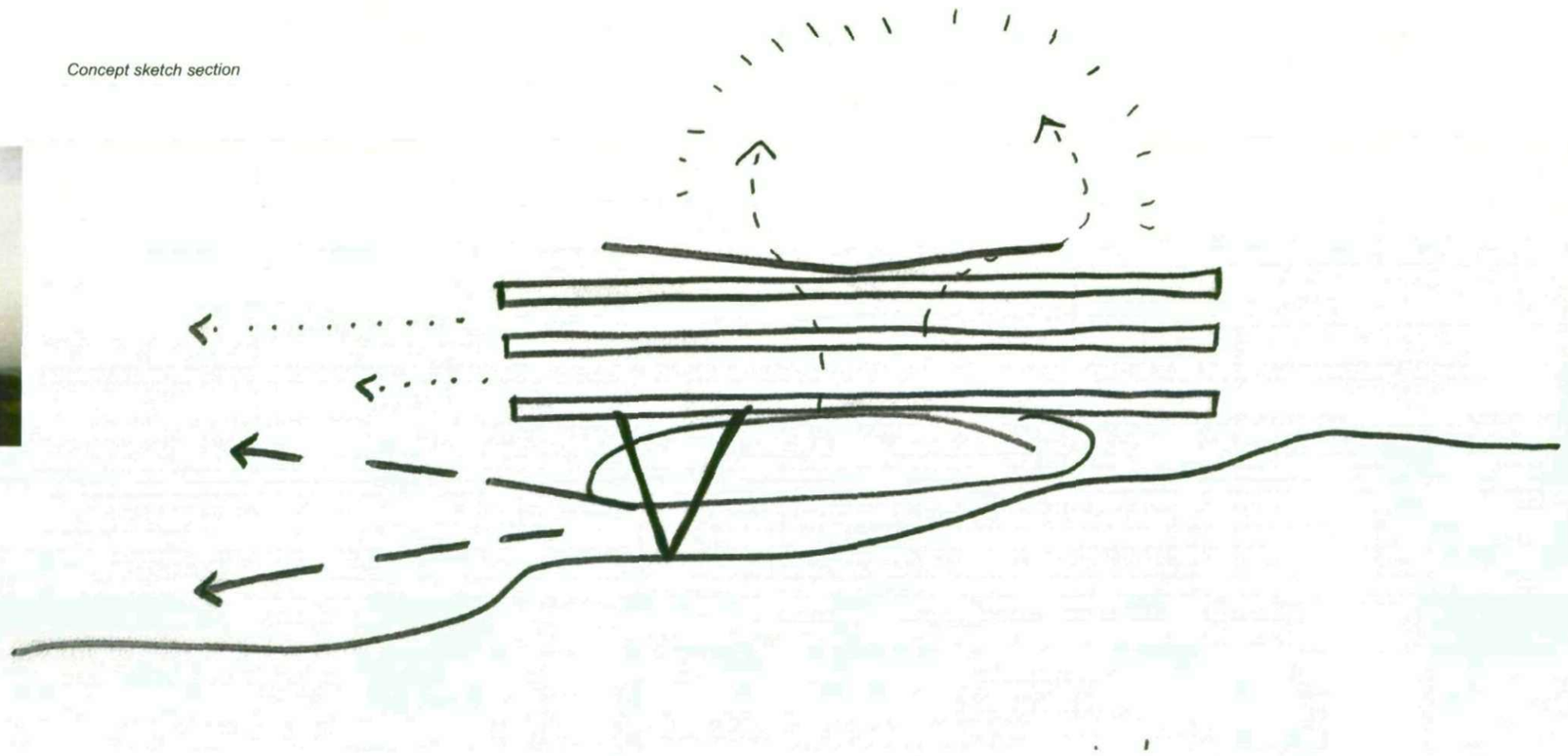
The design for the school aims to make it a building where students and staff want to be on a daily basis, a place to be enthused by and be happy and comfortable in. It will also have spaces also that are business-like, respectful and reinforce a culture of quiet and serious learning. It will be a place of different textures and cultures.

The ALC is a specialist sports college, and the school are keen to see the impact of sport and achievement pervading throughout the school. The ALC also aims to maximise the health, fitness and well-being opportunities within the local community.

Concept analogy



Concept sketch section



2.4 Planning Policy Context

PPS1: Creating Sustainable Communities

2.4.1 PPS1 sets out the Government's commitment to sustainable development, highlighting the importance of urban regeneration, prioritising the re-use of previously developed land, securing mixed-use development and concentrating new development in town centres and locations similarly well-served by public transport. It also promotes the efficient use of land through higher density mixed use development.

2.4..2 PPS1 states that to ensure sustainable development, high priority should be given to development proposals in locations that are easily accessible by foot, by bicycle or by public transport, rather than by car. This includes access to jobs, health, education, shopping, leisure and community facilities.

2.4.3 Within PPS1, Local Planning Authorities are encouraged to:

- Give priority to re-using previously developed land;
- Create sustainable patterns of development;
- Create usable, durable and adaptable places;
- Make more efficient use of land; and
- Promote good design in development.

PPS1: Climate Change Supplement

2.4.4 This statement supplements PPS1 by setting out how planning should contribute to reducing emissions and stabilising climate change and take into account any unavoidable consequences of planning.

2.4.5 Consideration of the environmental performance of a proposed development, particularly taking into account the climate that the development is expected to experience of its projected lifetime, is encouraged.

2.4.6 The design of new development should therefore:

- Take account of landform, layout, buildings orientation, massing and *landscaping to minimise energy consumption*
- Deliver a high quality local environment
- Provide public and private open space as appropriate
- Give priority to the use of sustainable drainage systems
- Provide for sustainable waste management; and
- Create and secure opportunities for sustainable transport

2.4.7 The effects of the proposal on existing and proposed development in close proximity should also be taken into consideration.

PPG2 – Green Belts

2.4.8 The site benefits from the grant of outline planning permission for new development within the Green Belt. By classification the development is inappropriate but very special circumstances have been demonstrated that have justified the grant of outline planning permission. Whilst the PPG does not contain specific guidance on design principles, due regard should be had to maintaining openness and safeguarding visual amenities associated with it.
By Design (DETR/CABE)

2.4.9 It is now a requirement of PPS1 that regard should be given to good practice guidance set out in 'By Design'.

2.4.10 'By Design' highlights the fact that good design is important everywhere and the creation of successful places depends on the skills of designers and commitment from those who employ them, as well as input from the planning system.

2.4.11 The key aspect it focuses upon includes the design of buildings and spaces, landscapes, roads and movement systems. It also ties in with both PPS3 and the Urban Task Force report by seeking to enhance the quality of urban development through a move from reliance on prescriptive development standards towards a more design led approach with a positive emphasis on place making.

2.4.12 'By Design' states that successful streets, spaces, villages, towns and cities tend to have characteristics in common. These factors have been analysed to produce principles or objectives of good urban design. They help to remind us what should be sought to create a successful place. 'By Design' lists the objectives of urban design as follows:

- Character – a place with its own identity. Planning should promote character in townscape and landscape by responding to and reinforcing locally distinctive patterns of development, landscape and culture.
- Continuity and enclosure – a place where public and private spaces are clearly distinguished. Planning should promote continuity of street frontages and enclosure of space by development which clearly defines private and public areas.
- *Quality of the public realm – a place with attractive and successful outdoor* areas. Planning should promote public spaces and routes that are attractive, safe, uncluttered and work effectively for all in society, including disabled and elderly people.
- Ease of movement – a place that is easy to get to and move through. Planning should promote accessibility and local permeability by making places that connect with each other and are easy to move through, putting people before traffic and integrating land uses and transport.
- Legibility – a place that has a clear image and is easy to understand. Planning should promote legibility through development that provides recognises routes, intersections and landmarks to help people find their way around.
- Adaptability – a place that can change easily. Planning should promote *adaptability through development that can respond to changing social*, technological and economic conditions.
- Diversity – a place with variety and choice. Planning should promote diversity and choice through a mix of compatible developments and uses that work together to create viable places that respond to local needs.

CABE Schools Design Panel

2.4.13 CABE also produce specific guidance on the design of Schools brought forward under the BSF programme. In this regard schemes are assessed against 10 criteria as they relate to design and form:

- Identity and context: making a school the students and community can be proud of;
- Site plan: making the best use of the site;
- School grounds: making assets of the outdoor spaces;
- Organisation: creating a clear diagram for the buildings;
- Buildings: making form, massing and appearance work together;
- Interiors: creating excellent spaces for learning and teaching;
- Resources: deploying convincing environmental strategies;
- Feeling safe: creating a secure and welcoming place;
- Long life, loose fit: creating a school that can adapt and evolve in the future; and
- Successful whole: making a design that works in the round.

2.4.14 CABE assess proposals and each scheme is given an overall rating of 'excellent', 'good', 'not yet good enough', 'mediocre' or 'poor'. CABE consider that only schemes with an overall design quality rating of 'excellent' or 'good' are regarded as acceptable.

PPG 13

2.4.15 PPG 13 sets out the government's objectives that integrate planning and transport at the national, regional and local level. The guidance seeks to:

- *promote more sustainable transport choices;*
- promote accessibility to jobs, shopping, leisure facilities and services by public transport,
- reduce the need to travel, especially by car.

2.4.16 A key objective of PPG 13 is to ensure that jobs, shopping, leisure facilities and services are accessible by public transport, walking and cycling. Local Planning Authorities should give particular emphasis to accessibility, in identifying preferred areas and sites where such land uses should be located, to ensure that they are located where they will offer realistic, safe and easy access by a range of transport modes, not exclusively by the car .

The Development Plan Regional Spatial Strategy

2.4.17 The issued RSS offers little in terms of design guidance which is relevant to this proposal. Policy ENV5 seeks to encourage green technologies and requires 10% of energy to be sourced from decentralised or renewable / low carbon sources. This policy also encourages the orientation and layout of development to maximise passive solar heating.

Barnsley UDP (2000)

2.4.18 In accordance with Policy GS8, the construction of new buildings in the green belt will not be permitted unless these are for:

- Agriculture or forestry;
- Essential facilities for sport and recreation, for cemeteries, or for other uses which preserve the openness of the green belt and which do not conflict with the purposes of including land within it;
- The replacement of existing dwellings.

2.4.19 Other development in the green belt is not acceptable except in 'very special circumstances'. Policy GS9 requires that any development within the green belt should be an appropriate design and siting so that it does not incur significant harm to the visual amenity of it.

2.4.20 In terms of landscape design, Policies GS22, GS23 seek the retention of existing trees and the creation of new woodland, hedgerows and habitats as part of development proposals.

2.4.21 Policy BE6 requires that the council achieve good design standards for all types of development. Proposals will be assessed according to:

- The quality of layout and suitability of scale of the development;
- The use, quality, design and landscape treatment of open land within the site and the area around buildings;
- The standard of detailed design and facing materials of proposed buildings;
- The suitability of the whole development for its proposed context and tis relationship with adjoining land uses.

Supplementary Planning Guidance 25 Landscape Design

2.4.22 This supplementary planning guidance note provides further details on landscape design. This document sets out that good landscape design should:

- Soften the impact of new buildings on the surroundings;
- Integrate new development into its surroundings; and
- Provide an environment which is pleasant to live and work in.

2.5 Involvement

2.5.1 School Engagements

The design for Shafton ALC has has evolved through continuing dialogue with the schools and through their detailed feedback on the ITCD submission. Between December 2008 and July 2009 we held a series of fortnightly Engagement Meetings with the schools as illustrated by the program below. These were attended by all key stakeholders including the Heads of both schools, key Heads of Departments from both schools as appropriate, the chairman of the Governors for the new ALC and key representatives from various departments from Barnsley Metropolitan Borough Council.

Participation is a must not a luxury. It can also make great educational sense. Not only does this participatory process result in better buildings, it can act as a catalyst for change within the school, creating empowerment through an increased sense of ownership. We believe that consultation, and where possible, participation with the ALC has encouraged a sense of ownership and empowered contributions.

The engagement sessions which have taken place during the first phase have been invaluable in the development of the design. These meeting were used to develop the all aspects of the proposals from the earliest site layouts and exploration of the building plan and form through to the detail of the landscape and the appearance of the elevations. In particular the have given the participants the opportunity to contribute their views on:

- The education philosophy and strategy for the new school
- The sorts of messages the ALC needs to get to their users
- How those messages might be delivered
- What this means for how the school portrays itself and its identity in its community
- What they want to see in a new ALC
- What they want to avoid in a new ALC

Following the initial round of Engagements we have continued to meet with the schools on a regular basis and have developed the detailed layouts of the school and individual departments. We are now in the process of finalising the detail of furniture, fittings and equipment.

Our understanding of the vision and ethos of the two existing schools, Priory School & Sports College and Willowgarth High School, has continued to evolve through these engagements with the schools and the Local Authority. We have found these extremely productive, informative and positive. Through these we believe the design continues to capture the vision, ethos and aspirations for the school.

2.5.2 Design Panel Reviews

As the design has developed we have also presented the proposals to a local Design Panel consisting of CABE enablers, Educational Specialists, Academics specialising in the design and philosophy of school design and representatives of the Local Authority. Design reviews were held on:

- 12 May 2009
- 10 August 2009

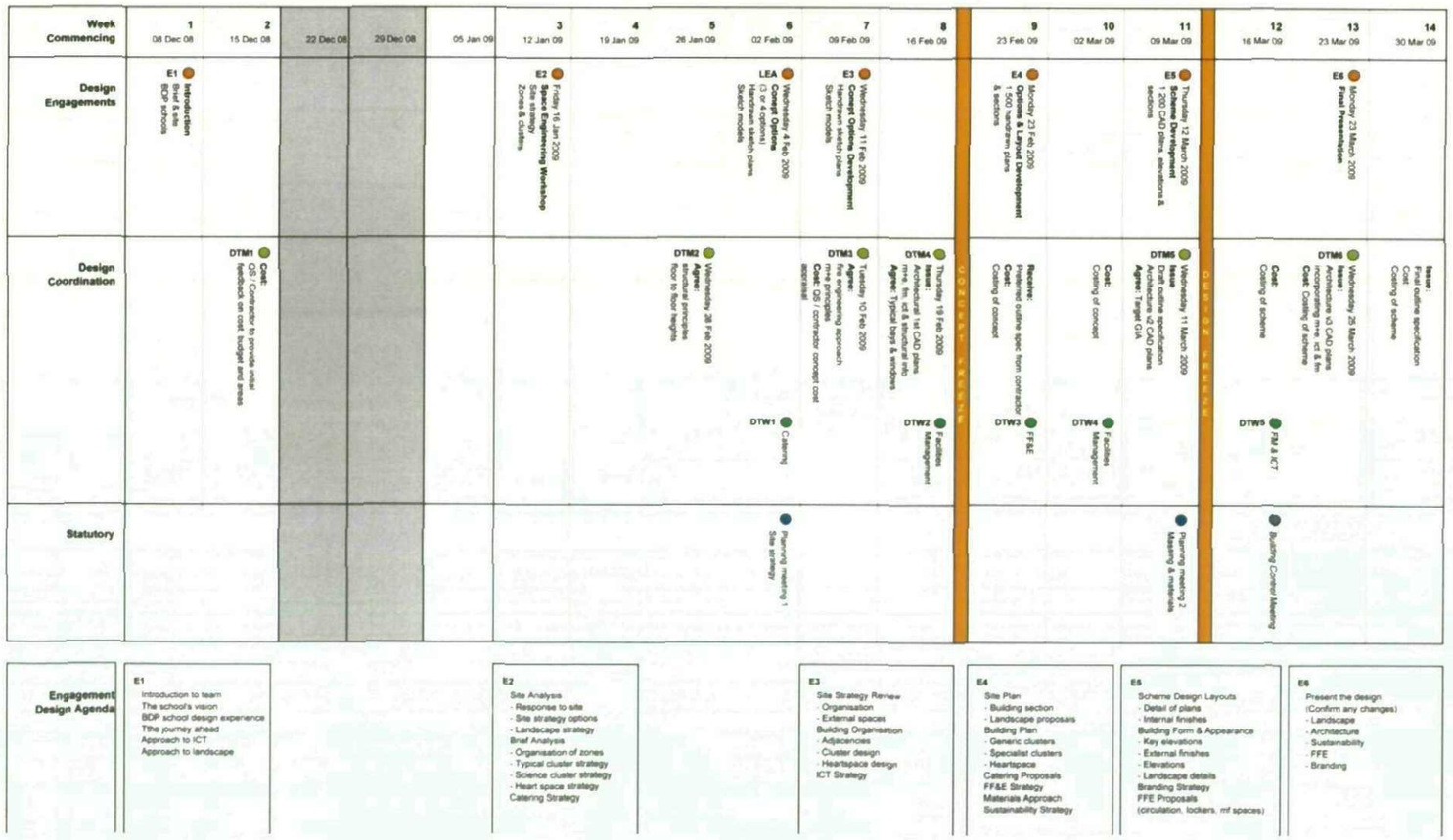
The comments received at these reviews were, on the whole, very positive and encouraging about both the architectural and pedagogical ideas for the new ALC. Suggestions were received about how certain aspects of the proposals could be improved and we believe that these have been dealt with through subsequent design development. Details of the comments from these reviews are documented in separate minutes.

2.5.3 Meetings with BMBC Planning Department

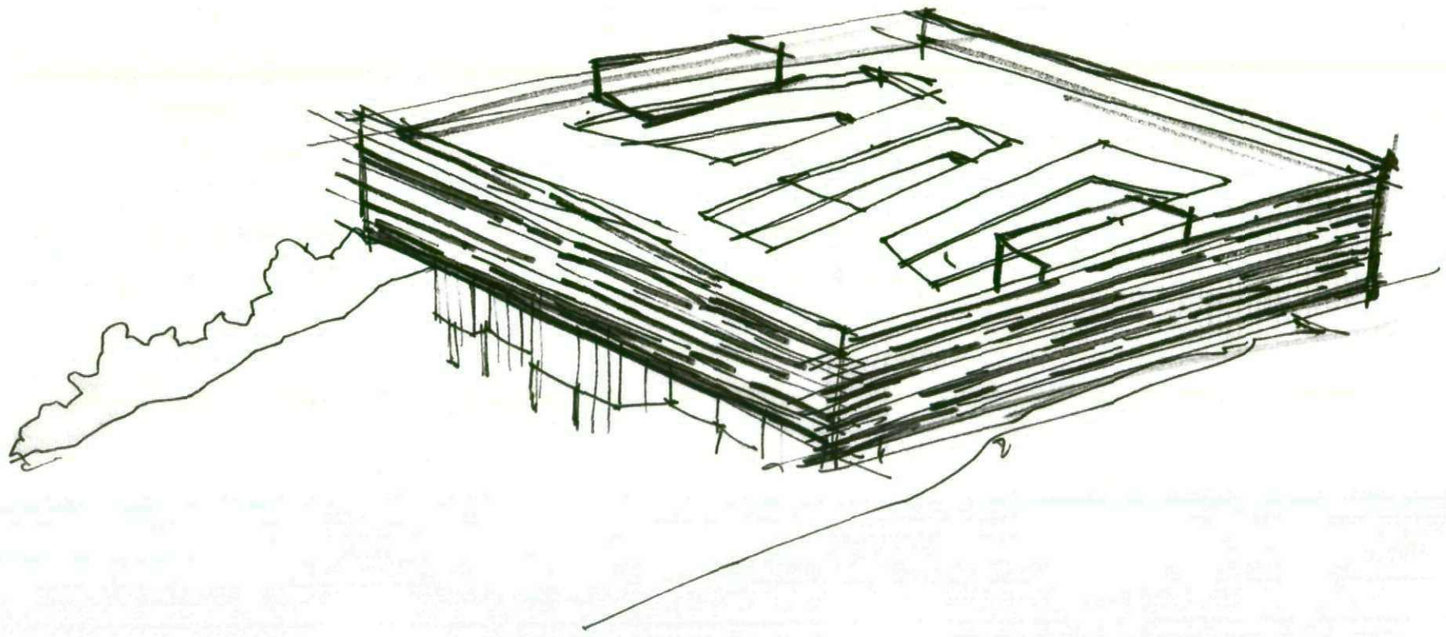
During the development of these proposals the design team has met on several occasions with key representatives from Barnsley's Planning Department including the planning officers, design advisors, highways consultants, landscape architects and crime reduction officers. The dates of these meeting are set out below. The evolving proposals have been presented at each meeting and details of the discussions are documented within separate minutes.

- 21 January 2009 Planning review
- 20 April 2009 Planning review
- 18 May 2009 Planning review
- 20 May 2009 Highways review
- 23 September 2009 Planning review

First stage design – school engagement programme



3.0 Architectural Proposals



3.1 Response to site

3.1.1 Initial ideas

From the outset the concept for the building aimed to respond directly to key aspects of the site including:

- The inspirational views
- The sloping topography
- Access issues associated with a virgin site

Based on our understanding of the brief and analysis of the site we developed a number of strategies which showed how the project's accommodation requirements could sit on the site in relation to key site issues (access /noise /microclimate /visibility /views etc) and also on the proposed location identified in the outline planning permission. These concepts were presented at School Engagement Meeting 2, 16 January 2009,and a critique received on the schemes from the school leadership teams and representatives from BMBC BSF team.

3.1.2 Key factors

In essence the critique came down to a number of key points and all parties noted a clear preference for Site Study 3:

- Entrance piazza created to north-west of the site for pedestrians and cyclists arriving from the nearby villages of Cudworth and Shafton..
- Car parking located to the east of the site as a buffer between the building and main road.
- Habitat zone created along the shallow valley on the western boundary.
- Building positioned across the slope of the site and maximising views into the greenbelt landscape.

3.1.3 Building & site studies

Having agreed a strategy for the site we looked at a number of ways of developing the scheme in accordance with the basic planning principles. We developed a series of thematic studies to explore opportunities for how the schools' requirements could be interpreted into a built form. The differences lay in the relationship between density and external/internal space. Clearly a compact scheme compresses the accommodation into a smaller part of the site making the building taller and more dense, but freeing up more of the site for externals. Conversely a clustered approach spreads the building out using more of the site area, but also creates more space between the clusters giving each one more chance to 'breathe'.

These building studies were developed in parallel with ideas on how the internal spaces of the building could support a flexible and transformational learning environment. Through the internal studies, described on the next few pages, it soon became apparent that only a compact 'super-cluster' scheme offered the levels of flexibility required. This defined the preferred solution for the building form, therefore, as Strategy 5 below.

Strategic studies for organising the site

site study 1

site study 2

site study 3

site study 4

Early studies for organising the site with different building forms



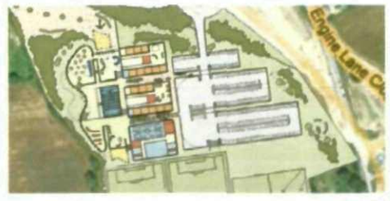
site & building strategy 2



site & building strategy 4



site & building strategy 1



site & building strategy 3



site & building strategy 5

Summary of site strategy principles

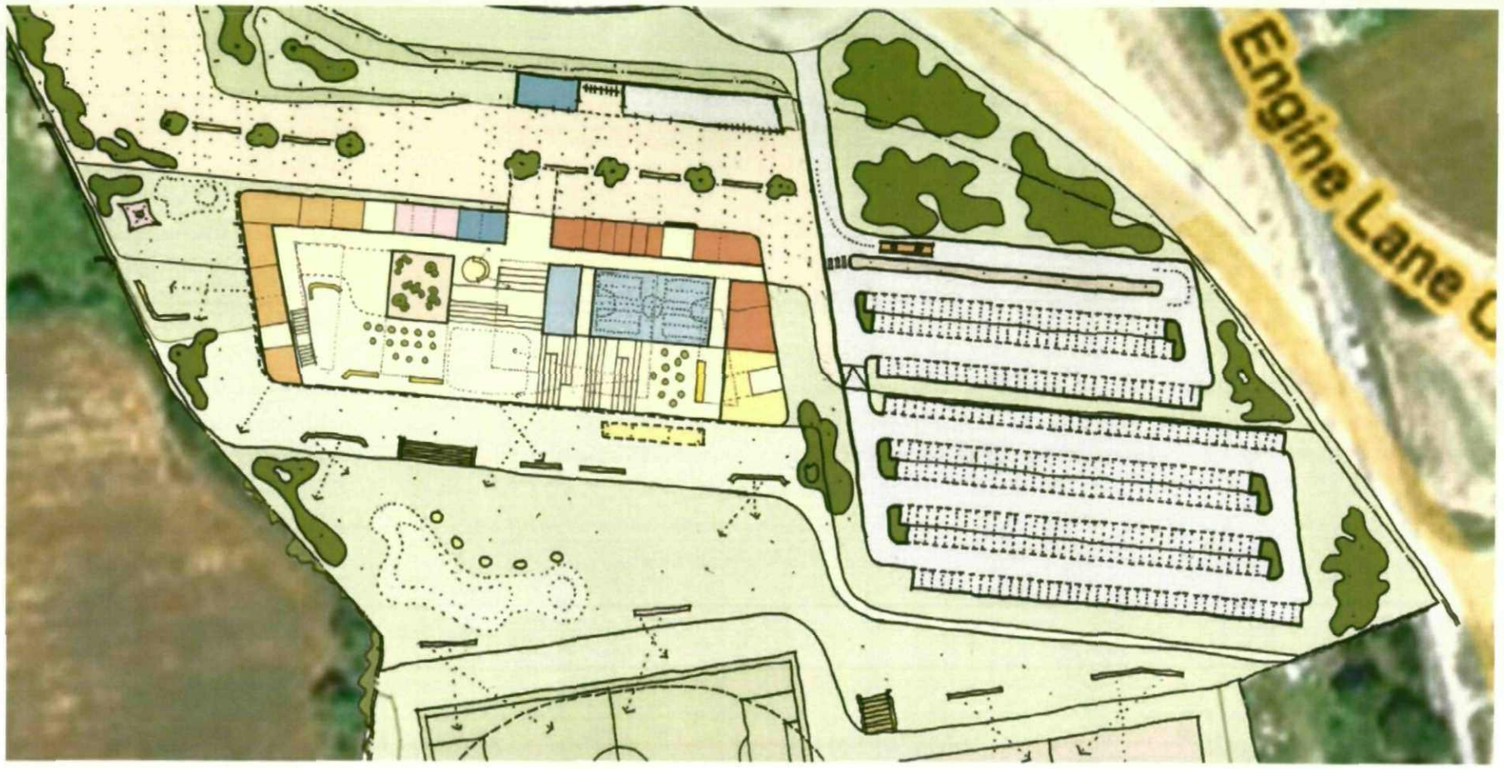


3.1.4 Proposed site layout

Access has been a key consideration in developing the site strategy. The new school is located a short distance from the neighbouring villages, up to four miles away from where some pupils will be travelling and without any strong public transport connectivity to local conurbations, particularly Barnsley, where teachers may be likely to travel from. As a result of these factors the access strategy to the site consists of the following:

- Pedestrian piazza to the north-west linking into an existing path from the roundabout junction of Collier Road and Pontefract Road. The aim of this is to provide safe access, away from the bounding main road, for pupils, staff and visitors arriving from Cudworth and Shafton.
- The potential for an additional access point into the south of the site to limit exposure to Engine Lane for cyclists and pedestrians travelling from Grimethorpe.
- Vehicular access from the roundabout junction of Collier Road and Engine Lane as per the Outline Planning Consent with the parking area located to the east of the site away from the school building.
- The provision for ten school buses to safely park on the site.
- The provision of a dedicated parent drop-off area for pupils arriving by car.
- A clearly defined one-way traffic flow system that ensures all pupils arriving by car or bus are dropped off on the 'safe' side of the road and that the need to cross traffic routes is minimised.

Early layout for the building & site



Views of the existing approach towards the new piazza





3.2 Response to the brief

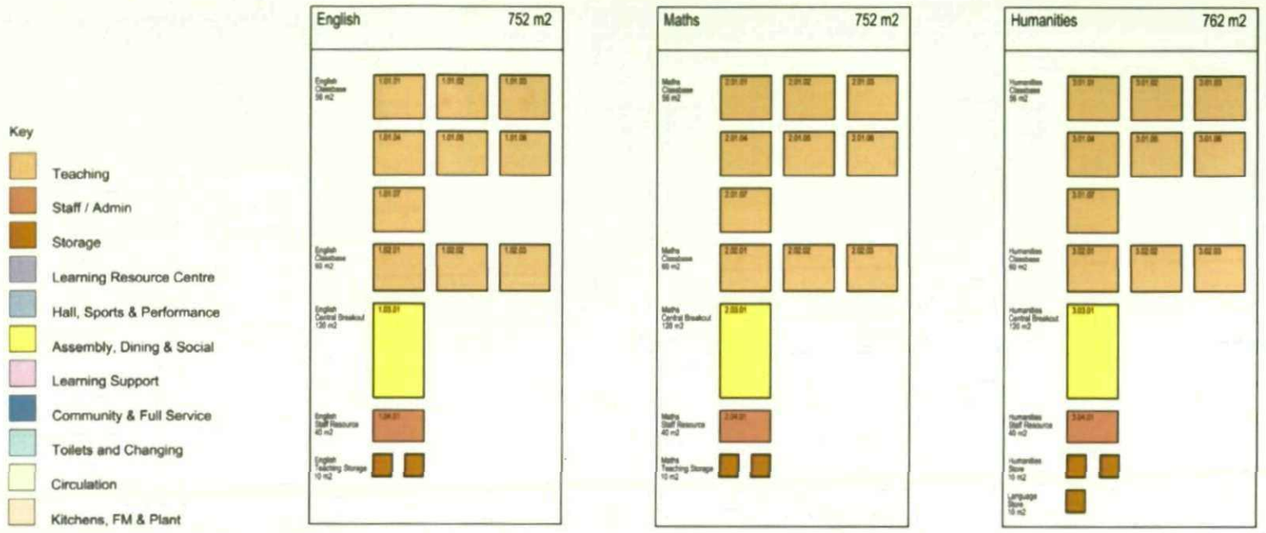
3.2.1 Analysis

Perhaps the most important aspect of the engagement process was exploring ideas for how the schools' requirements for flexible and adaptable space could manifest themselves in both the physical and pedagogical relationships between different faculties.

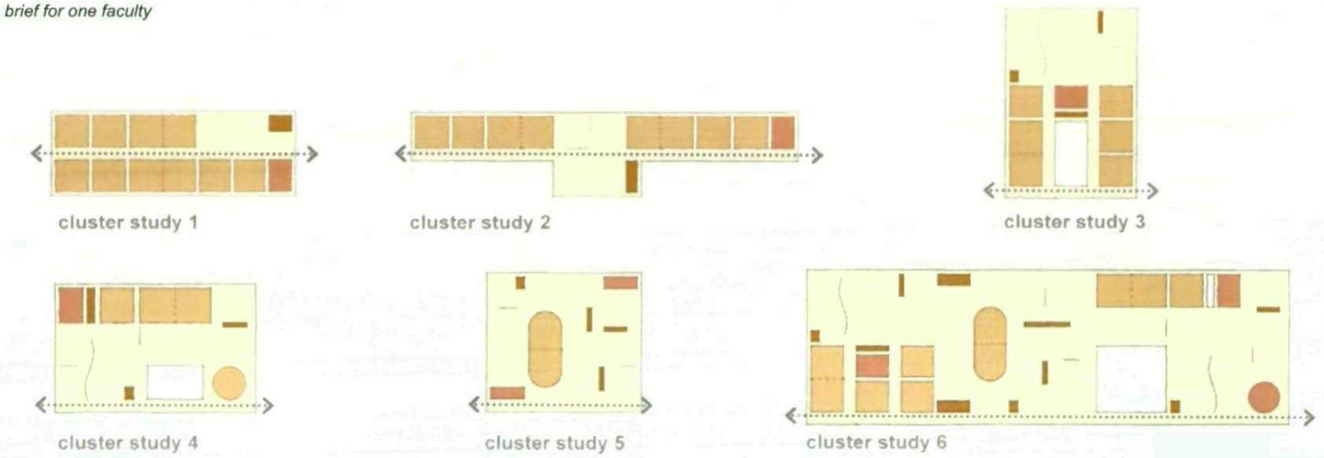
The starting point was to challenge the brief provided by the school and ascertain if it was an accurate representation of their perceived spatial requirements or whether an alternative interpretation of the brief could offer an improved educational opportunity supporting the transformation learning agenda. Early studies looked at the brief for the 'generic' faculties: maths, English and humanities. We questioned whether the ten cellular spaces identified for each of these really supported the school's philosophies for learning or whether some of the enclosed spaces could be 'sacrificed' to facilitate a greater diversity of spaces.

We also questioned whether the different faculties should be seen as separate and clearly defined entities.

Graphical representation of part of the brief



Analysis of the brief for one faculty

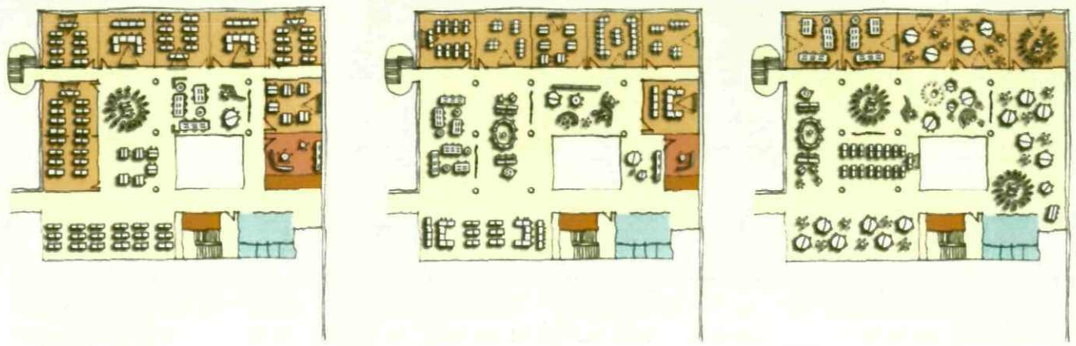


3.2.2 Generic cluster studies – transformational evolution

It soon became apparent that the number of cellular spaces described in the brief for the 'generic' faculties was not necessarily the most effective provision for day 1 (occupation in September 2011) It was agreed that each faculty would require a minimum of eight cellular spaces and two of the spaces could be translated into more open-plan flexible space.

The opportunity for adding or subtracting cellular classrooms was also considered important to the schools to facilitating the gradual evolution towards more transformational learning methods.

Studies exploring the transformation of a cluster through time

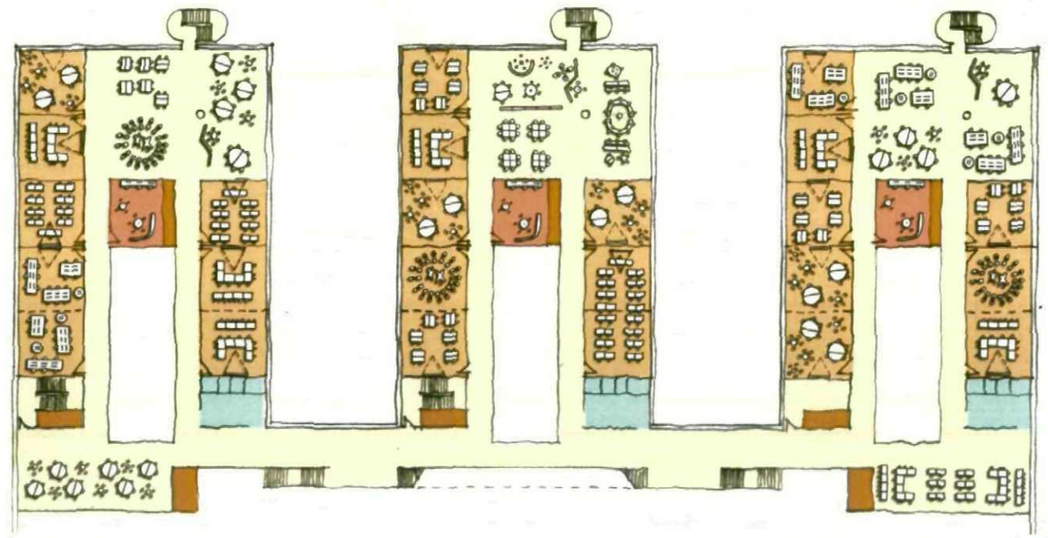


3.2.3 Generic cluster studies – integration

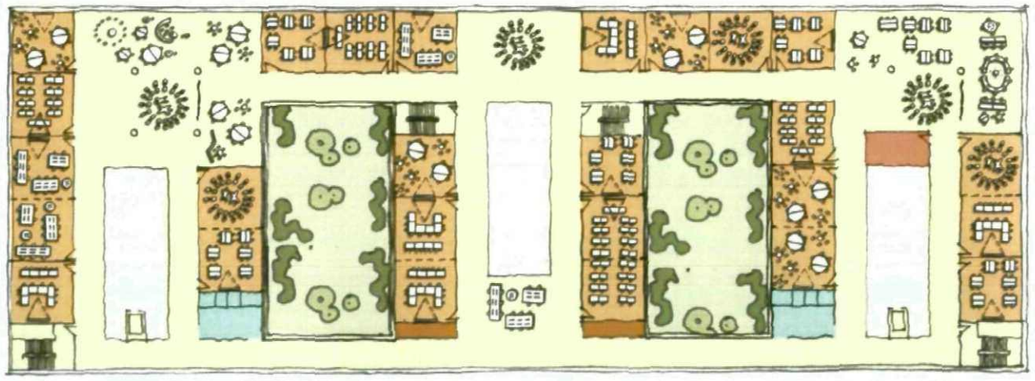
It also soon became apparent that considering each of the faculties as separate was not necessary and that increased integration would enable greater learning opportunities and improved flexibility.

These studies led to the idea of a 'super-cluster' where 'generic' subjects such as maths, English, humanities and modern languages are all accommodated within the same space rather than in their own individual 'domain'. This has the benefit that different departments can expand or contract on a daily or yearly basis to accommodate changes in curricula, varying pupil numbers and specific timetabling preferences. It also has the benefit of increasing interaction between different departments and maximising the opportunities for cross-curricula learning.

Studies showing the move from a more traditional faculty layout to a 'super-cluster'



First draft 'super-cluster'



3.2.4 The Preferred Strategy

There was virtual unanimity from the Stakeholders and a strong preference expressed for one scheme; the 'super cluster' approach. The reasons for this can be summarised as follows:

- Flexibility
- Diversity of space
- Opportunity to accommodate different learning philosophies
- Access arrangements
- Response to physical context

3.3 Designing for the curriculum

3.3.1 Curriculum demands

The design reflects the current requirements of the ALC and acknowledges the stakeholders' views that curriculum areas are changing and will continue to change. The arrangement of learning spaces at Shafton enables the provision of a wide ranging curriculum encompassing National Curriculum requirements at all key stages and meets the requirements of the accommodation schedule through an arrangement of closed, open and flexible arrangements with learning hub spaces.

3.3.2 Sports specialism

Priory School is already a Specialist Sports College and the new Shafton ALC aspires to develop a second specialism within Maths and Computing. It was considered fundamental to the design that the sports facilities were incorporated as closely as possible into the heart of the building. The aim has been to express the specialism and the health and well-being that results from an active lifestyle.

Initial studies looked at locating the sports facilities ate the very centre of the building with teaching spaces above and the heartspace to one side. This proved to be economically unfeasible so the proposals now link the sports facilities directly to the upper and lower ground floors of the 'heartspace'. They include a highly-visible fitness suite overlooking the dining space and external social areas and will readily accessible to the school community.

3.3.3 Flexibility and adaptability

Also fundamental to the design of the school has been the concept of flexibility. The 'generic' cluster studies described aboveled to the idea of a 'super-cluster' where maths, English, humanities and modern languages are all accommodated on a continuous floor rather than in their own individual 'domain'. This creates the opportunity for departments to expand or contract on a daily or yearly basis to accommodate changes in curricula, varying pupil numbers and specific timetabling preferences.

The layout of rooms and proposed construction of the building in a pre-cast concrete frame with non-load bearing partition walls will also ensure the building has an inherent adaptability. This will enable the building itself and the provision of spaces to evolve with changing educational requirements as explain in section E8 below.

3.3.4 Diversity

Linked to this concept has been the creation of large, open-plan flexible spaces that create opportunities for teaching different groups of significantly varying sizes in a diversity of ways. Spaces have been created that could accommodate:

- Half the school in one place for an assembly or social get together
- A whole year group for an educational event
- A half year group for a lecture or for group project
- A typical class in the classroom or in a more dynamic open-plan space
- Smaller groups of five or six pupils
- The individual who needs particular support

This diversity and flexibility is reinforced by the positioning of ICT hubs and hardware provision which taken together with wireless technology ensures maximum resource support for learning. The latter will ensure that the schools aspirations to further develop personalised learning can be achieved.

3.3.5 Transformation

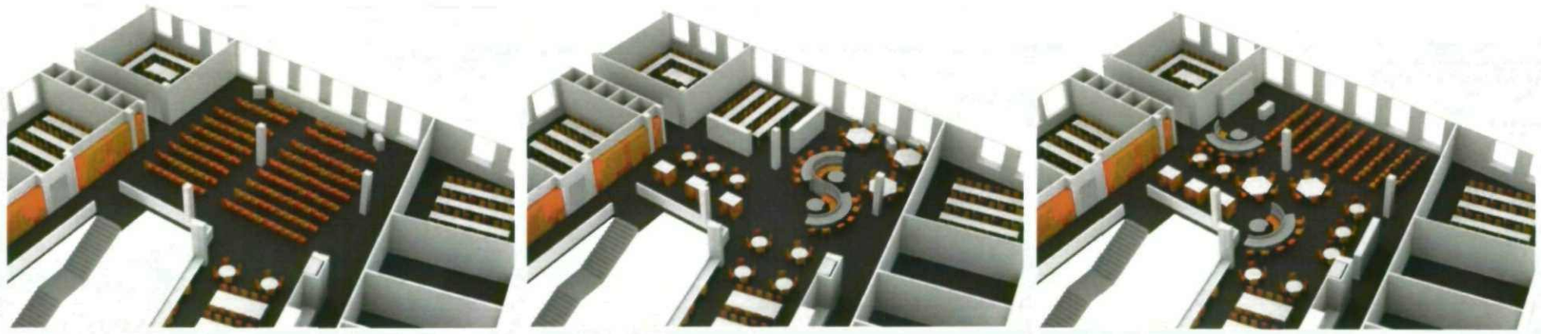
The configuration of rooms shown on the accompanying plans reflects the present curriculum delivery requirements of two schools albeit with a shift in emphasis away from cellular arising from the different learning philosophies. Discussions with the ALC have focussed on the capacity of the accommodation to be transformational and this has led to changes to introduce greater flexibilities in room arrangements.

A more open style of learning environment has been created to facilitate a greater range of curricular and personal learning needs.

Transformation at Shafton ALC will be achieved through a shift from a teacher directed model to a learner directed model of pedagogy. The new design will enable a move to interactive styles of teaching as well as enquiry and project based models through the provision of flexible activity areas.

The arrangement of the spaces through the building, with the shared areas and flexible configurations of spaces, means that a variety of learning styles can be accommodated. The arrangement of spaces offers opportunities for whole group teaching, small group teaching, personalised learning, as well as flexible and project based approaches.

Range of settings for a 'transformational' learning space



3.3.6 Management and organisation

The design reflects the ALC's philosophy of promoting an extensive team of learning professionals and providing the opportunity of more flexible working arrangements in terms of time and space.

Staff resource bases have been located in a consistent position central to each of the main 'teaching' floors. The provision of theses spaces has been reduced to encourage staff to use the diverse range of facilities offered by the new ALC including the Learning Resource Centre, dining and social spaces, ICT areas and the variety of different open-plan learning zones.

Administration areas have been consolidated into a single location close to the heart of the school but subtly separate so as not to detract from the sense of ownership being distilled for the pupils. The main school office, heads office, management offices, reprographics areas, conference suites and interview rooms have been collocated with the Full Service provision and Adult Education area to enable access for different groups and maximise utilisation throughout the day.

3.3.7 Learning Support Zone

To support the inclusive approach practised by the two school's, the design enables access to all learning areas for students with SEN and disabilities. Circulation spaces are wide and flexible areas, including the open-plan flexible areas will enable a diversity of learning approaches to meet students' specified needs. The design incorporates a dedicated Learning Support Zone on the first floor within the Technology cluster, thereby putting the inclusion agenda at the heart of the school physically, as well as the heart of its educational vision. These facilities are thereby a central facility integrated into the delivery of mainstream education.

Whilst students accessing these facilities will be encouraged to utilise the main entrance, a separate discrete entrance has been provided adjacent to the car park and drop-off areas to the east side of the building where students may enter the building away from the activity of the main entrance if required.

The location adjacent to the central core also enables direct access to the Full Service facilities and Pupil Referral Unit on the ground floor whilst keeping this area distinctly separate. This will allow meetings and case conferences to take place as required with minimal disruption to the student's education.

3.3.8 Full Service and PRU

The design recognises your vision for Advanced Learning Centres as the drivers for the full service provision for BMBC. The design of the Full Service Facility is integrated into the administrative area of the ground floor and provides office accommodation and interview facilities for visiting authorities and agencies and parents.

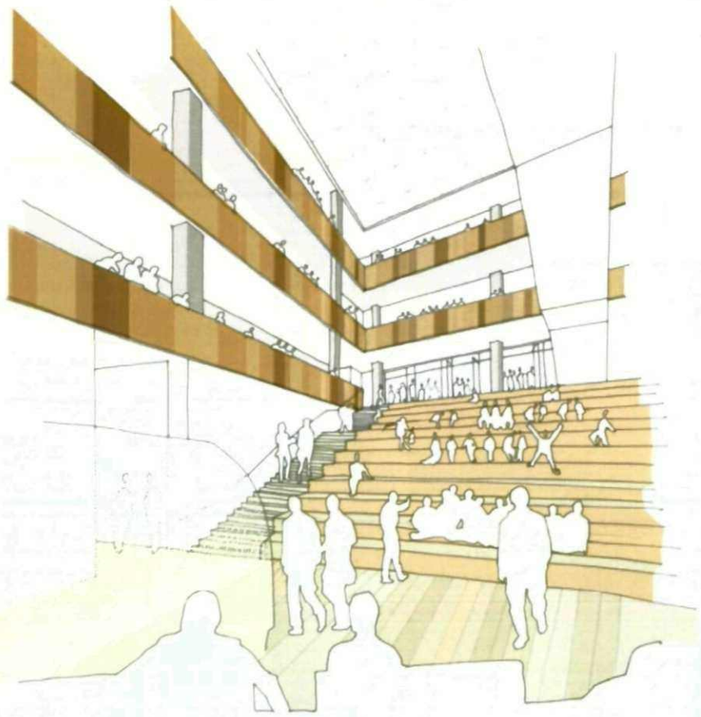
Many of the agencies providing services in this facility will not be based full time at the ALC but will require access. The service is therefore located close to the secondary entrance near the parking and drop-off area. This also provides a discrete entrance away form the main entrance and learning areas so students needing to can enter or exit the area out of sight of the main school and associated hustle and bustle.

3.3.9 Community use

The design of the building reflects its importance as a community asset. It has an immediate signature presence as an iconic educational building which welcomes learners of all ages.

As well as the dedicated Adult Education area it incorporates community leisure facilities, including a sports hall, activity hall and fitness suite. These facilities have been carefully located adjacent to the car park with their own dedicated entrance to facilitate ease of access by the community both during and outside school hours.

Artist's impression of the 'Heartspace'



The vertical 'stack' of the school has also been designed with defined curricular spaces on the upper floors and a range of opportunities for community based education and social events across the ground floors. These can be directly accessed from the entrance to the sports zone and include:

- The art mezzanine
- Learning Resource Centre
- Music zone
- Dance and drama
- ICT
- The 'heartspace'

Community access to facilities will be possible in a controlled way through zoned parts of the school during the day and especially out of normal hours. This will enable parents and members of the public to enrol for courses in vocational and personal learning, which will improve both citizenship and employability.

The Learning Resource Centre will be available to staff, learners and members of the wider community and has been designed to provide quiet reading areas, with comfortable seating and act as a multi-media resource.

3.4 Flexibility and adaptability

3.4.1 Design flexibility

The concept of 'flexibility' has been a key driver in the design development of these proposals from the outset of the School Engagement process. As discussed above, early studies led to the idea of a 'super-cluster' where 'generic' subjects such as maths, English, humanities and modern languages are all accommodated within the same space rather than in their own individual 'domain'.

The super-cluster is considered as a suite of spaces rather than individual rooms dedicated to a particular faculty. This has the benefit that different departments can expand or contract on a daily, weekly or annual basis to accommodate changes in curricula, varying pupil numbers and specific timetabling preferences, without the need for material alteration of the building.

The provision of significant areas of open-plan flexible spaces that can be used by different departments in a multitude of different ways further increases the opportunities for different activities with different group sizes as well as maximising the opportunity for departments to expand and contract on an informal basis.

3.4.2 Design adaptability – learning super-cluster

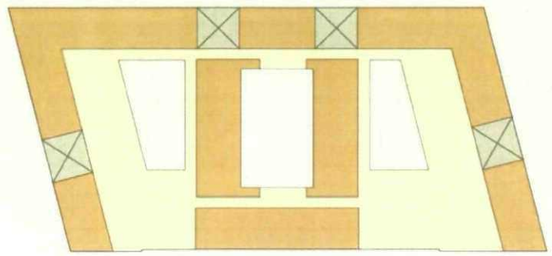
Due to curriculum changes over the life of the ALC, adaptability will be needed to allow the size or use of spaces to be reconfigured. The form of the learning super-cluster and the arrangement of cores and toilets has been design to maximise the opportunities for spaces to be reconfigured in order to alter the quantity and size of both cellular classrooms and flexible open-plan spaces as required.

Larger learning spaces would give both teachers and learners the potential to arrange the furniture in a more flexible and diverse ways to support project based learning whilst smaller spaces would enable increased focus on smaller groups of the individual pupil.

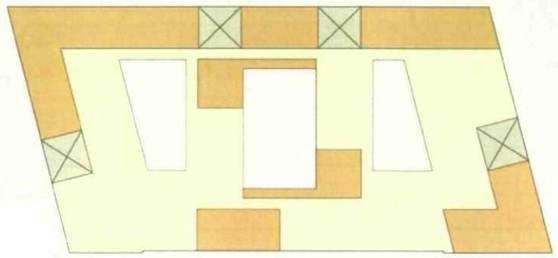
The design of the super-cluster is based on a regular structural grid that delivers the optimum widths for general teaching and practical learning. Internal partition walls will be constructed separately from the structure so as to be readily removed or added in the future. This will enable anticipated future changes from traditional classroom 'boxes' to larger open-plan flexible learning areas.

Typical floor adaptability strategy

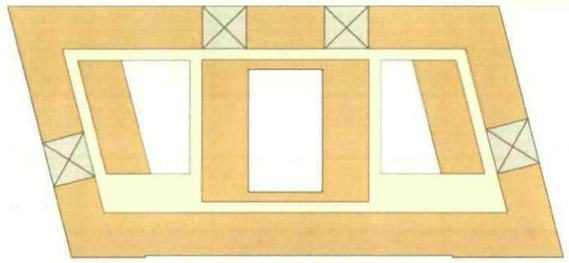
Current proposals – mix of cellular and open-plan space



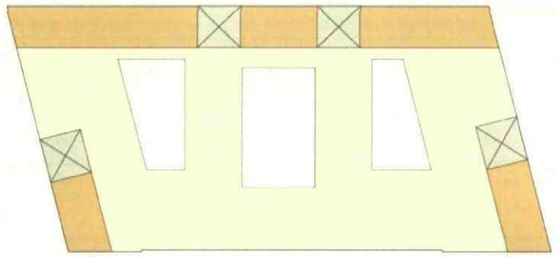
Increased diversity of flexible & cellular spaces



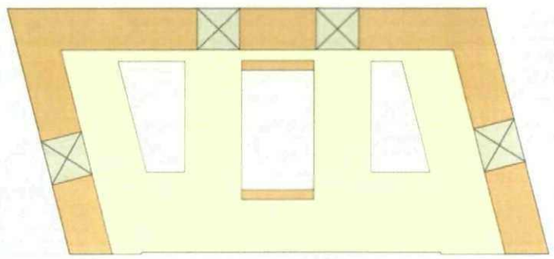
Maximised cellular accommodation



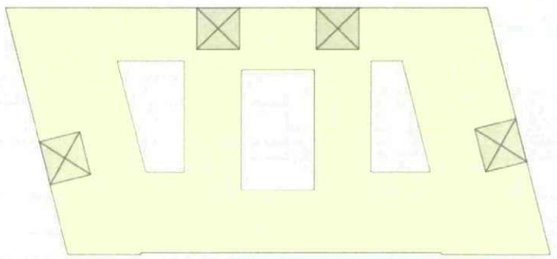
Increased area of flexible open-plan space



Maximised flexible space to south façade & heart



Fully open-plan accommodation



3.4.3 Design adaptability – 'heartspace'

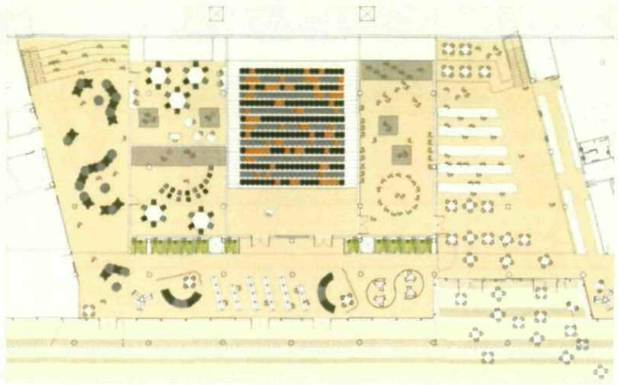
Alongside the adaptability of the two learning floors, the ground floors of the building have been designed to create a flexible range of spatial configurations that can facilitate a multitude of different educational and community uses.

The layout places the hall, drama studios and lecture theatre, all adjacent to each other with the opportunity to fold away certain walls between. This enables each of the spaces to function as a separate entity or to be combined to create a variety of spaces. The spaces range in size from the 90m^2 drama studios to the 300m^2 lecture theatre and flexible learning space, through to the 700m^2 extended 'marketplace'. These flexible spaces are also in close proximity to the dance studio, dining hall and LRC that can support the main Heartspace by acting as ante-spaces, greenrooms or so on.

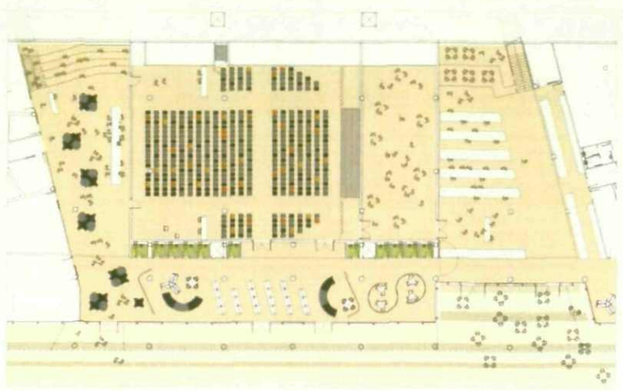
It is anticipated that this space will become a focus for the both the school and the local community by creating the opportunity for new types of events and social inter-activity to take place.

'Heartspace' adaptability settings for lower ground floor

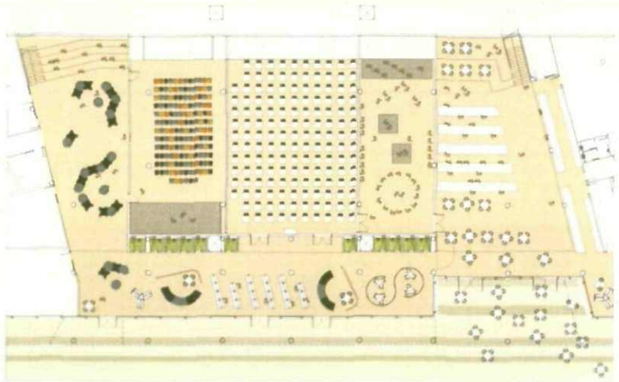
Separate spaces 1



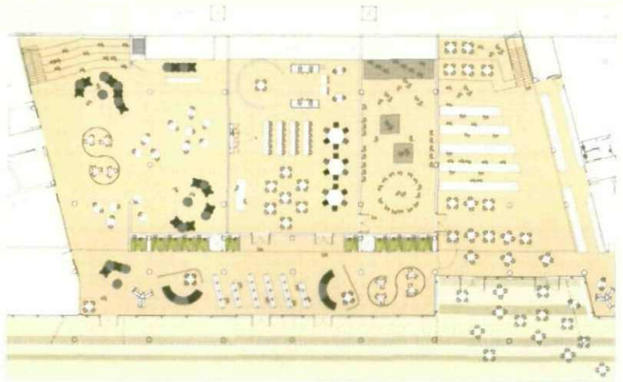
Performance setting



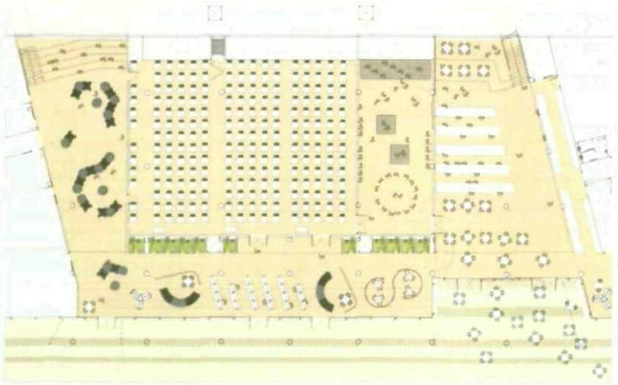
Separate Spaces 2



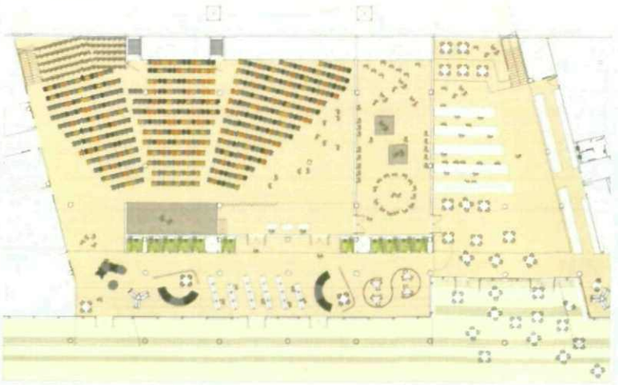
Activity Setting



Linked Central Spaces



Marketplace



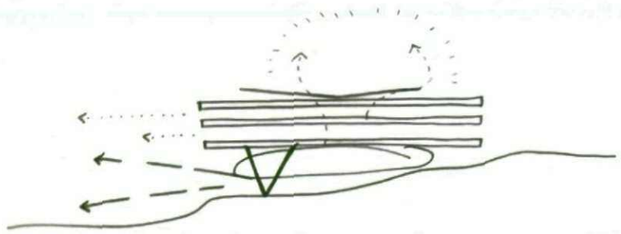
3.5 Building Organisation

3.5.1 Design concept

From the early stages of the School Engagement meetings, the building was conceived as two 'super-cluster' floors of learning space 'floating' above the landscape' with more activity-based and community-focused subjects and spaces located across the terracing ground floor.

This concept has been retained through design development and is highly visible in the external articulation as well as the internal organisation.

Concept sketch section through building and landscape



In summary, the building comprises the following.

Lower ground floor

- Heartspace – dining & social, hall, dance, drama, lecture theatre
- Learning resource centre
- Music
- Sport

Ground floor

- Main entrance
- Art
- Sport
- Nursery
- Administration
- Full Service
- BIP & PRU
- Adult learning

First floor

- Design & technology
- Science
- Learning Support Unit

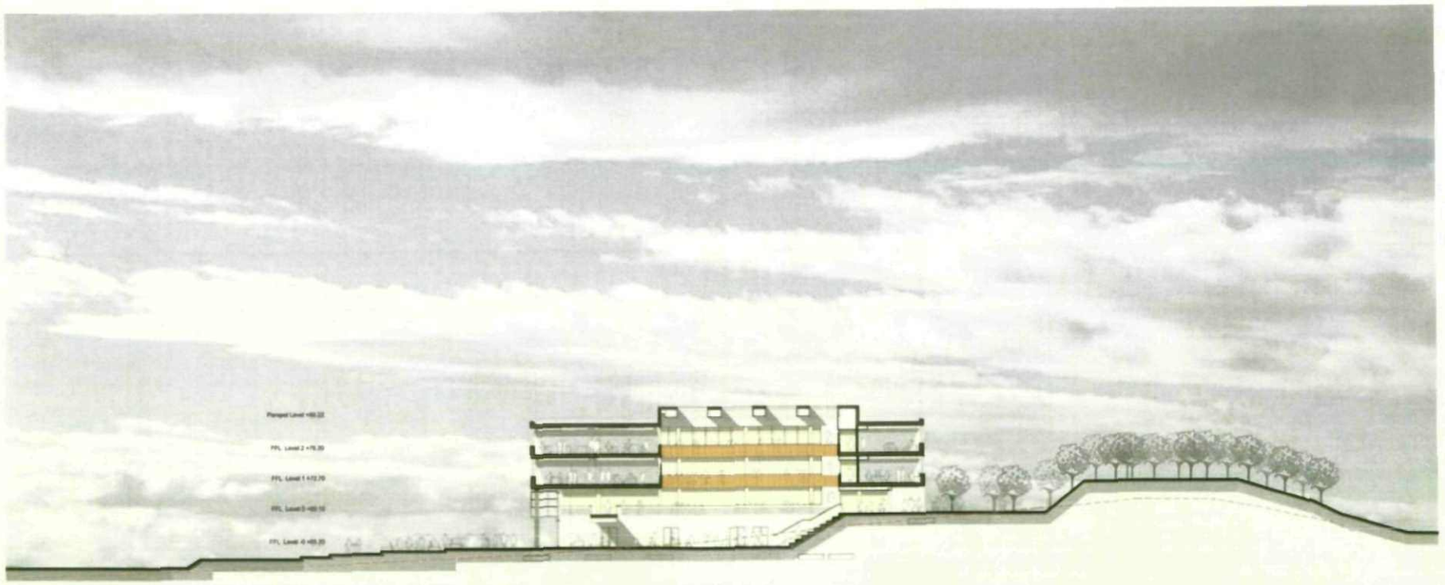
Second floor

- Maths
- English
- Humanities and modern languages

Section through the courtyard and lecture theatre



Section through the west atrium



3.5.2 Lower Ground Floor

The majority of this floor is the heartspace of the new ALC. The hall terraces down from the main entrance to form an informal assembly space at the base of the western atrium. Naturally lit from above and with views into the greenbelt, this space will provide an inspirational start to the new school day. This open space provides a place to think alone or to work collaboratively with others. The hall will become a focus for social interaction, exhibitions and for exploring ideas and concepts within the heartspace.

At the base of the eastern atria is the accompanying social and dining space. Again, this space is naturally lit with views into the greenbelt and creates an inspirational place for pupils and staff to come together throughout the day. The 'restaurant' provides an environment that is conducive to mature civilised dining. The catering concept also provides a 'food to go' unit within the restaurant so that students may purchase food to eat on the external dining space and terraces beyond. This allows students the flexibility to eat when it is most appropriate in their daily schedule. Quality external space, defined by the building form and site topography, is created within the adjacent social areas to the south of the building, creating positive indoor/outdoor relationships for all users.

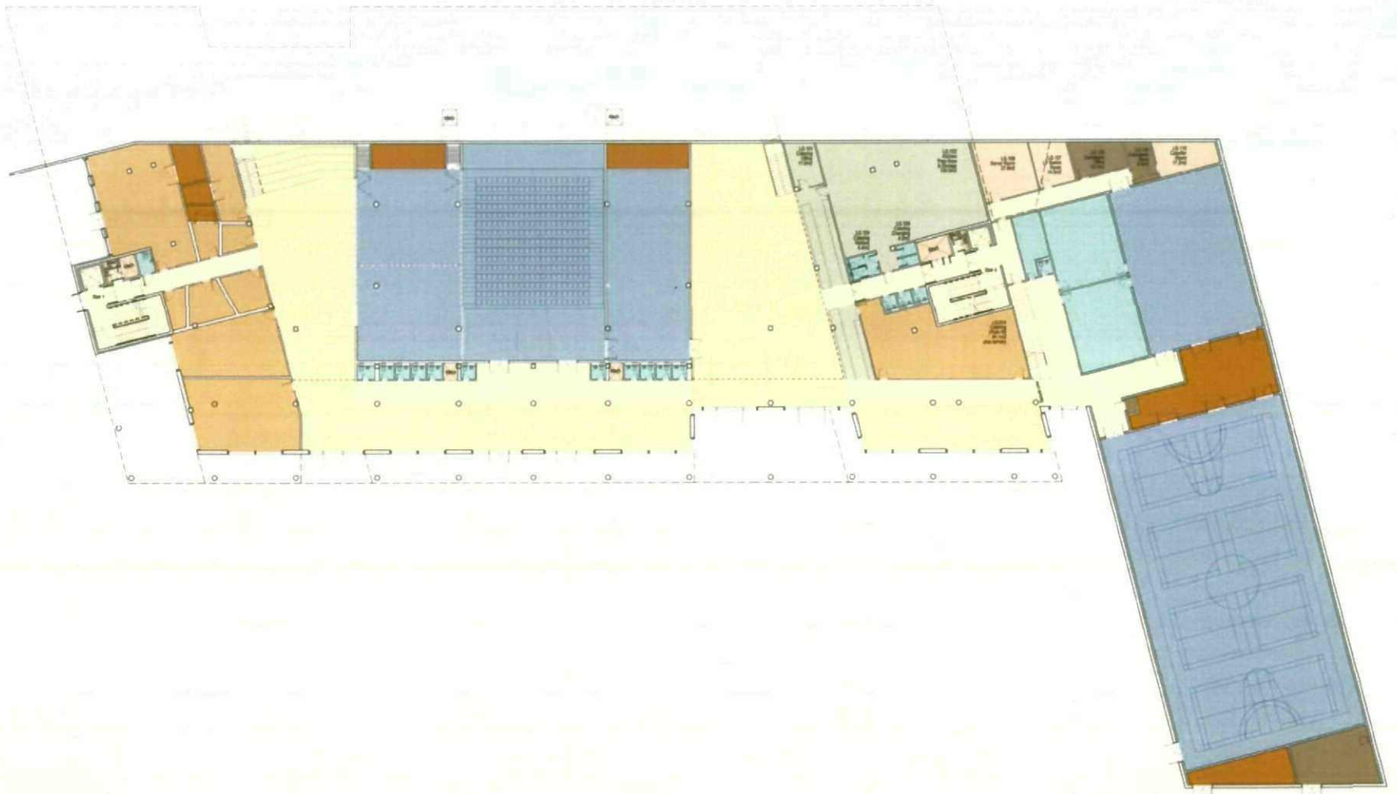
To the west is the music base and to the east is the sports zone. Both are readily accessible from the heart of the ALC enabling use by the community and expressing the sporting speciality of the new ALC. The position of the sports zone also allows managed out-of-hours access via the secondary entrance and provides a good relationship to the external pitches.

Wrapping along the south elevation between the hall and the dining area is the Learning Resource Centre. A resource for pupils and the community, the LRC is positioned to be highly visible both within the school and from the external social areas. Its central location within the ALC and proximity to key social and dining areas will maximise accessibility and encourage use. It has also been designed as a flexible space that could function as a cybercafé during the day or as a foyer space during an evening event in the adjacent performance areas.

At the heart of the ground floor directly between the hall and the dining area is the Central Performance Space. The lecture theatre and drama studios, have been designed with as separate spaces that can be opened up to the hall to create a single flexible space. They can also be configure to create a range of differently sized spaces to facilitate lectures, performances, markets, half-school assemblies lessons and more.

This configuration provides an exciting and dramatic space that is an exemplar for a modern, 21st Century Advanced Learning Centre that will meet the educational, informational needs of both the ALC and the local community.

Lower ground floor plan



3.5.3 Ground floor

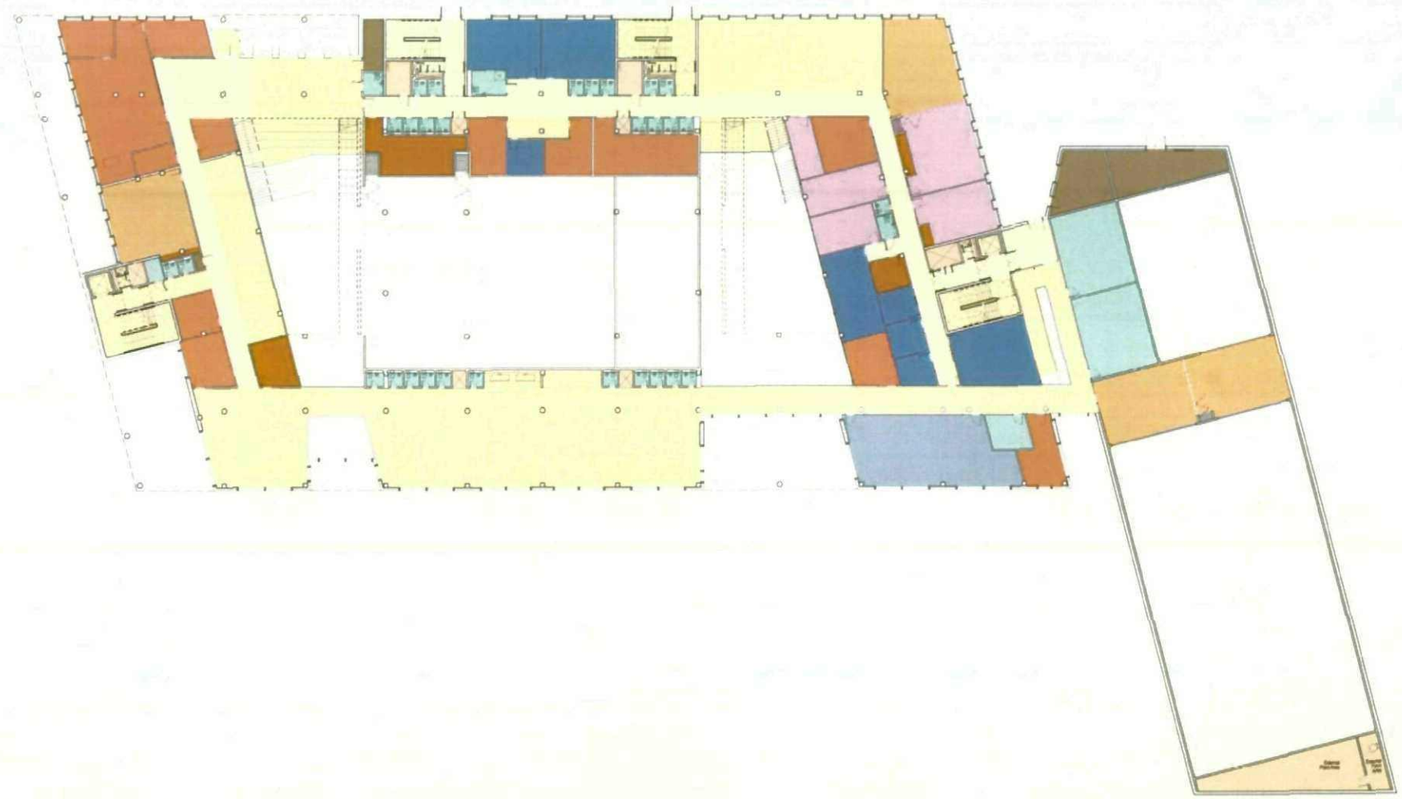
The main entrance into the ALC, on the north side of the ground floor, provides pupils, staff and visitors with a clear view of the heartspace on the lower floors of the building and a glimpse of the learning floors above as they wrap around the western atrium. From here the cross-section of the building, the primary organisational tool, is clearly apparent.

The terrace of the main hall leads down to the lower ground floor beneath the art mezzanine that traces the south elevation of the ground floor. Located here, artists can draw inspiration from spectacular views into the surrounding greenbelt. Between the entrance and the art mezzanine is the first of the vertically clustered ICT suites. Readily apparent and accessible from the main entrance and the heartspace, this suite serves pupils of the ALC throughout the day and provides a potential after-school resource to the wider community.

To the north-east of the ground floor is the central support zone, an area of cellular spaces accommodating the administration offices, full service, adult learning area, BIP and PRU and a suite of conference and interview rooms supporting these functions. This zone has been specifically located close to the heart of the school between the main entrance and the secondary entrance so as to be readily accessible for all staff, pupils and visitors. At the same time it is almost self-contained so as to reduce its impact on the rest of the school. It is also closely linked to the Learning Support Unit on the first floor via the cores against the north elevation.

Adjacent to the main entrance is the entrance to the adjoining nursery. This has been developed as an integral part of the ALC whilst the separate entrance will enable it to function as a stand-alone facility.

Ground floor plan



3.5.4 First floor

The first floor accommodates the two learning clusters of Science and Design & Technology each organised around one of the internal atrium of either side of the central courtyard.

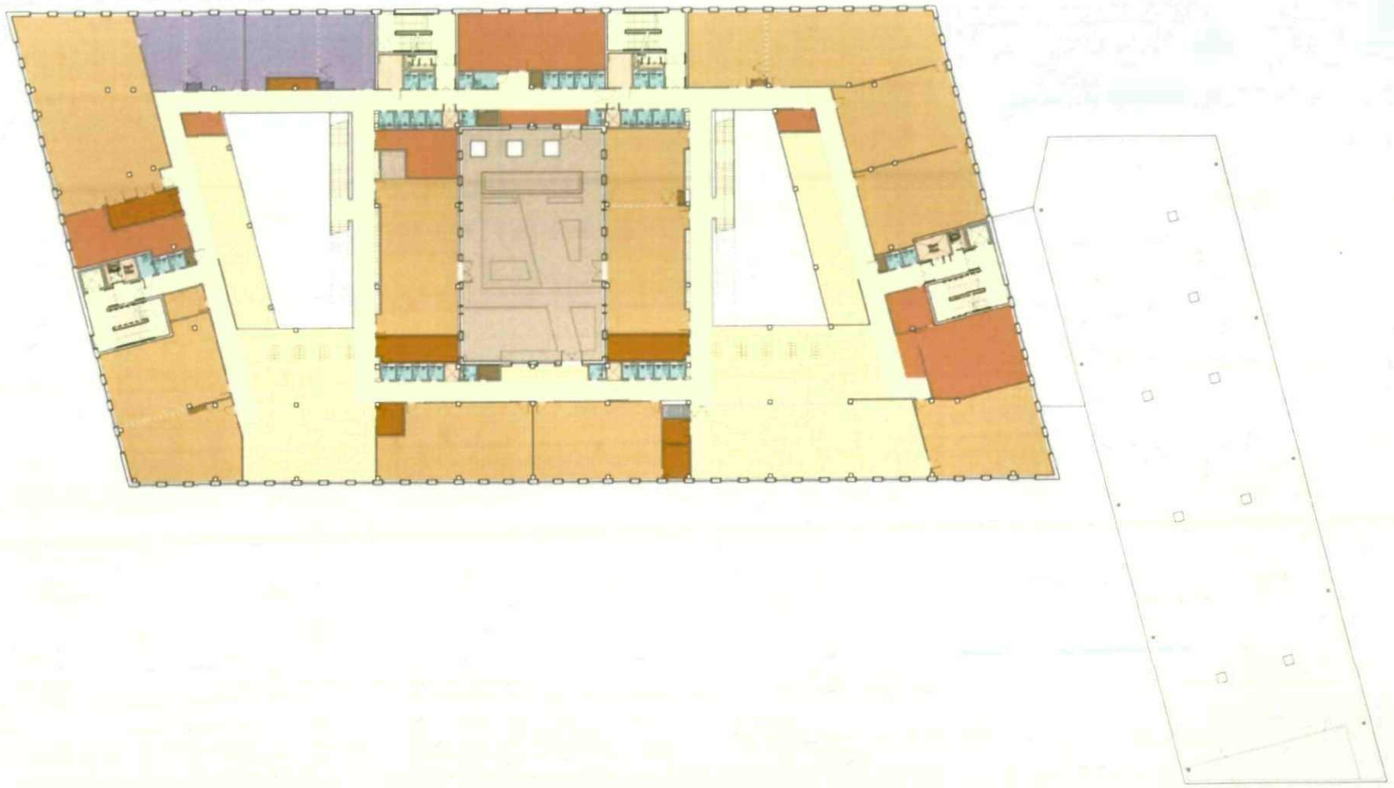
To the east side of the building is science comprising a mixture of labs, super-labs and science demonstration areas. To the south of the cluster is a flexible science demonstration space that can be opened up to the flexible learning space adjacent to the courtyard. The combined space would be capable of accommodating half-year workgroups. One super-lab has been located adjacent to the courtyard so that it can open into the external science garden.

To the west is design and technology with a flexible design space located between the atrium and the south elevation. The intention of the design is to allow the flexible space to offer a specialist design environment where inspiration can be taken from the greenbelt landscape. This will enable the larger textiles and resistant materials spaces gathered against the external elevation to be treated more as specialist 'making' zones. Food technology is positioned adjacent to the courtyard so that it can open into the horticultural garden that shares this semi-enclosed external space with science.

The Learning Support Unit is accommodated to the north side of the design and technology cluster where it has an adjacency with practical 'making' spaces and is readily accessible via the north cores from Full Service, BIP and PRU on the ground floor.

A flexible study space is positioned adjacent to each of the atria to provide a resource for each of the surrounding faculties on the first and second floors. A staff resource zone is a centrally located between the two cores on the north elevation consisting of a 'private' staff base and a more open staff touch-down space overlooking the central courtyard.

First floor plan



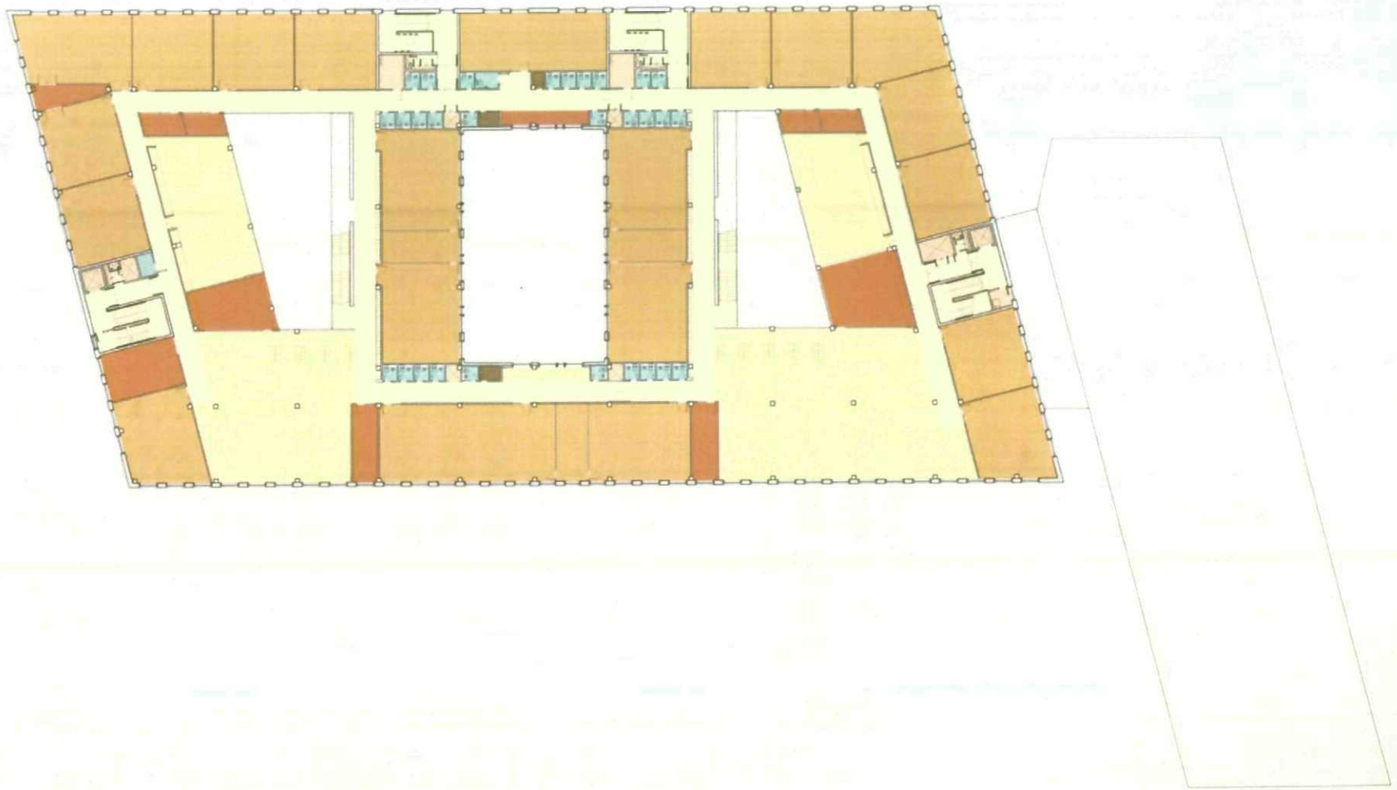
3.5.5 Second floor

The second floor accommodates 'generic learning' – maths, English, humanities and modern languages. Early on in the design process various configurations of these faculties were investigated. These investigations ultimately led to the concept of the 'super-cluster' as a configuration of classrooms and open-plan learning spaces that would provide the high levels of flexibility and spatial diversity required by the 21st Century Learning Centre.

The chosen configuration provides twenty-four 'traditional' classrooms against the north, east and west elevations and gathered around the central courtyard. A pair of flexible, open-plan learning spaces are then positioned between the between each atria and the south elevation. Here they add a dynamic to the heart of the school and pupils can draw inspiration from the surrounding landscape that unfolds to the south. A pair of flexible ICT zones are then located adjacent to each of the atria to complete the vertical ICT cluster and provide a resource to the first and second floors.

As with the first floor, a central staff resource zone is accommodated between the two cores on the north elevation

Second floor plan



3.5.6 Layout

Stairs cores have been distributed at key locations on the north, east and west sides of the building to ensure easy and efficient egress from the main classroom areas all floors. It is envisaged that these stairs will be used primarily for emergency escape rather than day-to-day circulation. The four stair cores are lobbied to act as means of escape with doors that can be held open on a day to day basis, if they are used for circulation, to avoid the potential sense of enclosure that could be created within lobbies. The locations maximise the future flexibility of the cellular areas by enabling rooms to be removed from either side to expand the open-plan areas as required.

The stair cores are supplemented by the two accommodation stairs within the atria which run north to south and feed more directly into the open-plan spaces to the south of the building. These stairs are intended to be used for the majority of daily circulation and feed into the main gallery walkways around the atria. Typically, the galleries will be 2.0m wide and both these and the stairs are highly visible from numerous parts of the ALC to maximise passive surveillance.

All of the stairs are a generous width to avoid areas of possible conflict and to service the demands that will be placed upon them. Two passenger lifts have been provided, one in each of the cores on the east and west sides of the building to cater for all four floors of the building.

3.5.7 Main entrance

It is good practice both in terms of DDA access & Health & Safety to design the initial approach to the site so that the vehicular traffic & foot traffic are physically separated in order to afford a safe transfer from a vehicle to the school entrance especially for the less able bodied who may take longer to cross busy car-parks. We have adopted this strategy at Shafton ALC.

The arrival piazza provides a warm welcome for students, staff, visitors and community, forming a threshold to ease the transition from the world of everyday environment to the educational world of the Advanced Learning Centre. The design of the building reflects its importance as a community asset. It has an immediate signature presence as an iconic educational building which welcomes learners of all ages.

The main entrance on the north side of the building is highly visible from the piazza and differentiated from the surrounding building by the brightly coloured cladding that surrounds it. The entrance space is generous and welcoming, whilst providing a secure zone, before moving through to the main facilities of the building. Single height, this day-lit space has views across the 'terracing' of the heartspace into the impressive western atrium with the main hall at its base and the LRC and inspirational Yorkshire landscape beyond. Also visible in this space is the linear feature stair that provides access to the learning floors above.

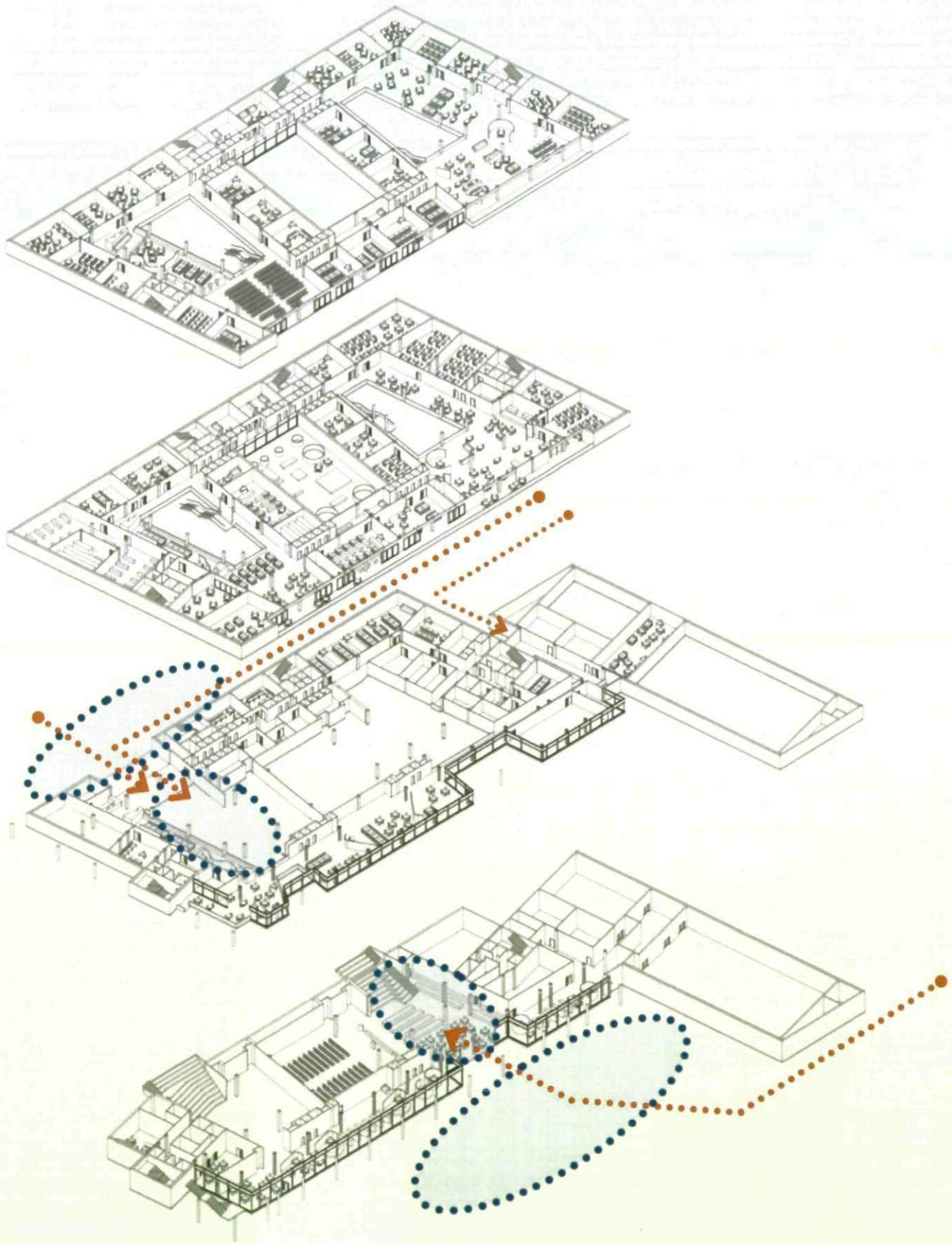
3.5.8 Reception

Located adjacent to the main entrance, the reception provides a control point to deal with security and community access in a non invasive way. As described above, the main entrance and reception area open directly onto the heart of the school, with the LRC beyond and the drama studios and lecture hall immediately adjacent. Its highly visible position and aspect will be encouraging and welcoming for pupils as well as parents, adult learners and other members of the community.

3.5.9 Secondary entrance

A second entrance is provided on the north side of the building between the main school building and the sports block. This entrance has dual purpose.
During the school day it will be used by staff, particularly administrative staff and full service consultants, who may prefer not to use the main entrance. It will also enable pupils using the PRU and BIP facilities on the ground leave to arrive at, or leave the school in a more discreet manner than that offered by the main entrance. The doors to the secondary entrance will generally be secured with access enabled only for certain members of staff. The entrance will be linked to the reception through an intercom to enable remote opening. Its second purpose is to provide out-of-hours access to the sports block. From here, visitors will be able to access the changing rooms on the ground and lower ground floors, the sports hall, activity hall, fitness centre and sports pitches, whilst the main body of the school is securely closed off.

***Strategy for** approach and entrance to building*



3.5.10 South entrance

Whilst the main entrance caters for all pupils, staff and visitors choosing to enter the interior of the building, the south entrance caters for pupils who would prefer to go straight to the external social areas to the south of the building. Before and after school, the social areas will be accessible directly form the parking and drop-off areas through gated access. Outside of these 'peak' times the gates will be secured.
From the external social areas pupils will be able to move into the dining area on the ground floor from where they can access the main hall, LRC or learning floors above.

3.5.11 Internal circulation

The design has been developed to minimise corridor-based circulation by using a pair of striking atria, semi-open plan arrangements and galleried walkways to create a much more visually open, varied and stimulating environment. This promotes a flexible use of the variety of learning environments incorporated in the proposals and also increases the ease with which supervision can be managed.

The strategy also provides a series of spaces and linkages which allows all users to quickly orientate themselves in the building. The horizontal and vertical circulation simplifies the routes through the school and, combined with the views across the atria, provides a clear picture of the organisation strategy for all users of the building.

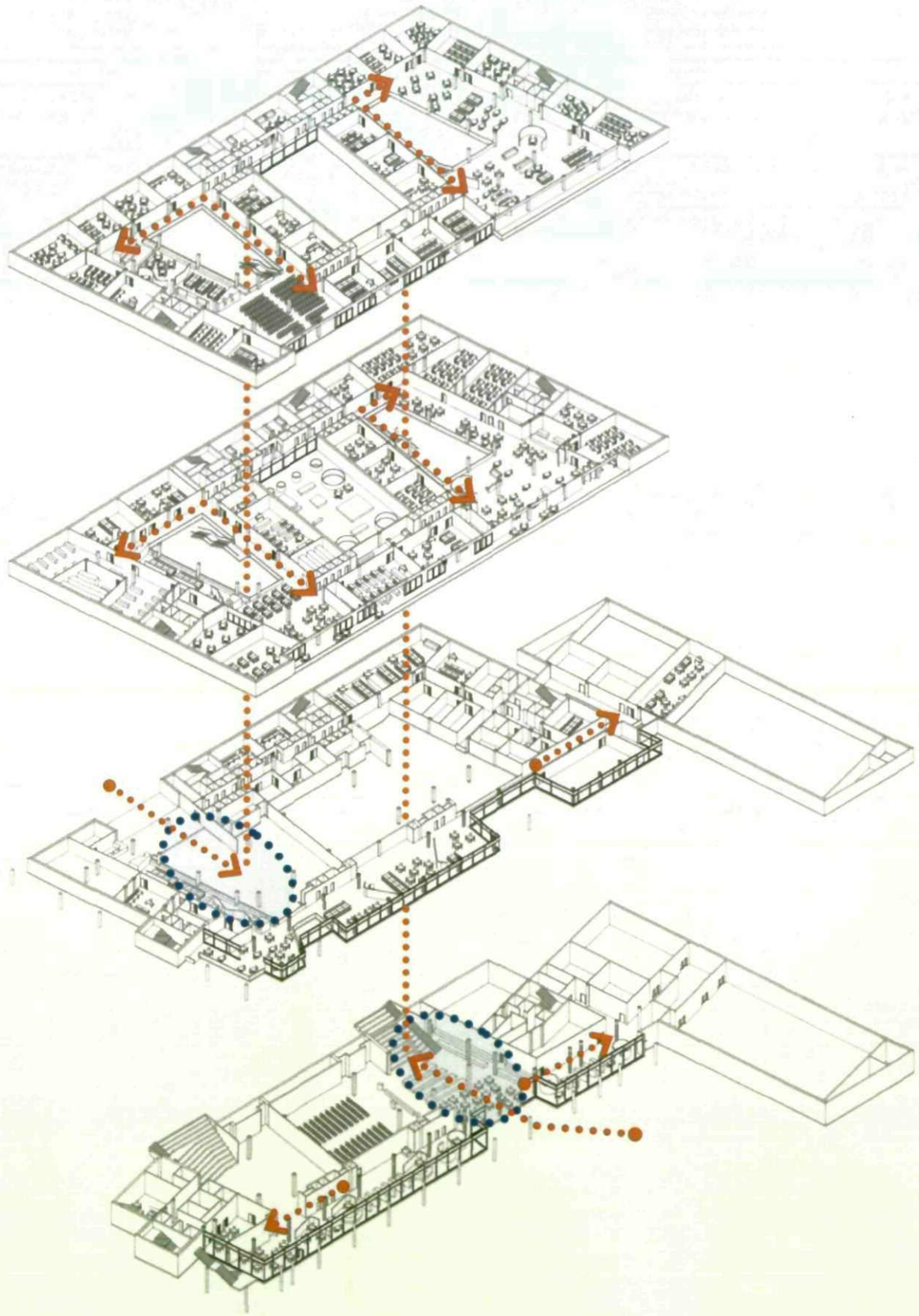
General principles include:

- Level thresholds at all entrances
- Level access to the main entrance from the pedestrian site entrance
- Appropriate provision of wheelchair accessible parking n to the arrival piazza
- Avoidance of overly textured internal and external floor finishes
- Provision of automated main entrance doors
- Correct specification of internal door ironmongery to enable use by less mobile users
- Provision of adequate contrast to internal finishes and fittings to enhance legibility for the visually impaired
- Provision of induction loops at the reception desk
- Design of the reception desk and all fitted furniture to facilitate use by staff, pupils and visitors in wheelchairs

3.5.12 Community use

The access strategy improves security by allowing the entire ground floor learning areas to be separated for community use, thus minimising out-of-hours management. The high levels of visibility through and around the school created by the two atria will also support security through natural surveillance.

Internal circulation strategy



3.6 Appearance and Materials

3.6.1 Design concept

As described earlier in the document, the building has been conceived as two 'super-cluster' floors of learning space 'floating' above the landscape'. This strategy has combined with the concept of a singular and alien object within the greenbelt landscape to form the analogy of the Yorkshire 'erratic', an object that is alien to its surroundings yet strangely comfortable as it floats slightly detached from the landscape.

Concept analogy – the Yorkshire erratic



Throughout the design development this concept has influenced the internal organisation of the building, the external articulation and the materiality.

3.6.2 Elevations – upper levels

The 'erratic' concept is clearly expressed in the solidity and permanence of the upper two floors forming the 'learning mass' of the building. The hard and durable concrete cladding is articulated with a controlled yet rugged texture reminiscent of the weathered granite boulders. The vertical texture of the cladding panels aims to disguise the vertical joints in the panel system and create an overall impression of horizontality. The horizontal emphasis is furthered through the articulated joints between panels at each floor and in the articulation of the fenestration.

The treatment of these upper elevations is continuous on all sides of the building, varying on slightly adjacent to the vertical cores. This aims to emphasise the north south difference of the lower floors.

North elevation – visible from the entrance piazza



View of the main entrance from Collier Road



3.6.3 Elevations – upper levels, windows

The basic layout of the windows to the learning areas arises as a function of the performance requirements for certain levels and uniformity of daylight, the natural ventilation of the spaces and the chosen method of construction, loading-bearing pre-cast concrete panels. This creates an essentially repetitive array on the inside with three openings per classroom.

On the exterior, individual window openings are linked together with opaque glass spandrel panels to disrupt the repetition of individual panels without disguising the basic constructional order. This has the effect of creating a window element that is three openings long and relates directly to the size of a typical classroom.

The layout of the three-bay fenestration staggers between the first and second floors to express the inherent flexibility of the learning floor plan. It also adds to the overall horizontal expression

3.6.4 Elevations – lower levels, north

In contrast to the weight of the upper 'learning mass', the elevations of the ground and lower ground floors are generally lighter in their articulation and create a sense of openness that responds to the more community focused activity within.

To the north side, the regular pattern of windows and light-coloured concrete panels express a calm and accessible ground floor. Emphasis is placed on the visibility of the main entrance by the brightly coloured timber cladding that surrounds it and the views of the heartspace through the glass doors.

The concrete panels of the lower elevation are highly durable and will be finished with an ant-vandal paint due to their very public position adjacent to the main entrance piazza.

Precedent image of proposed concrete cladding



West elevation – visible from the Cudworth



View from Pontefract Road



3.6.5 Elevations – lower levels, south

To the south of the building the lower levels elevations are more transparent with large areas of curtain walling interspersed with solid panels. This creates a very real connectivity with the surrounding greenbelt landscape, particularly from the social areas of the heartspace (hall, LRC and dining spaces) and from the art mezzanine above.

The change from the single-height ground floor on the north to the double-height character of the south elevations also expresses the landscape terracing through the heartspace and beneath the learning mass above.

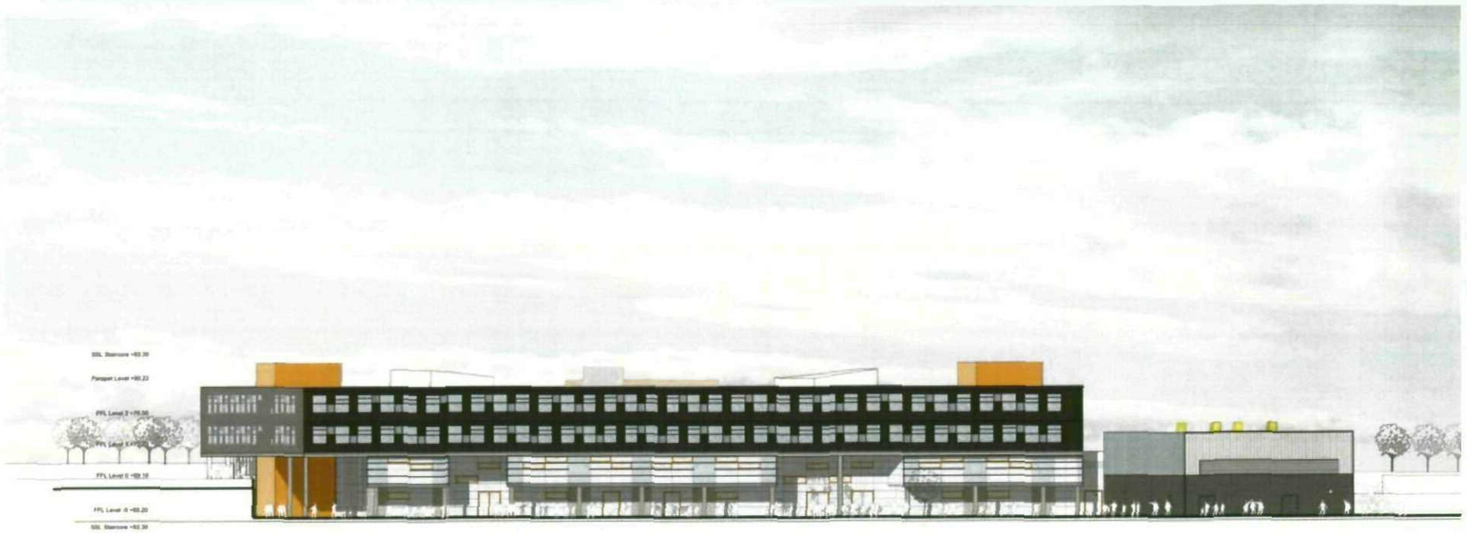
3.6.6 Circulation zones

The different characters of the upper and lower zones of the building are tied together by high-lighting key elements where people move. The vertical circulation cores, entrances, internal balustrades and some windows are picked out in bright orange coloured timber, render and aluminium cladding as a sculptural expression of the movement within. It is a recurring theme that wherever people come into direct contact with the building we have tried to make it more tactile and warm.

Detail of proposed concrete cladding



South elevation – visible from the playing fields



View from the playing fields to the south



3.6.7 Sports hall

The sports hall has been conceived as a second 'rock' partially buried within the landscape. As a learning space it is clad in black concrete so that it reads as from the same family as the main learning mass of the main building upper floors. It will, however, use a smooth black concrete so that is essentially subservient to the main building.

At high-level is a 'crown' of translucent poly-carbonate cladding that refers to the community-use of the building and relates to the lighter elements of the main building. At night this will glow with the light of out-of-hours activities within and act as a beacon to the local community.

3.6.8 Building structure

The super-structure of the main building is to be constructed from a frame of pre-cast concrete columns, wall panels and floor slab that, wherever possible will be left exposed. This is derived primarily from our approach to the sustainability strategy for the building that focuses on a low-tech passive approach.

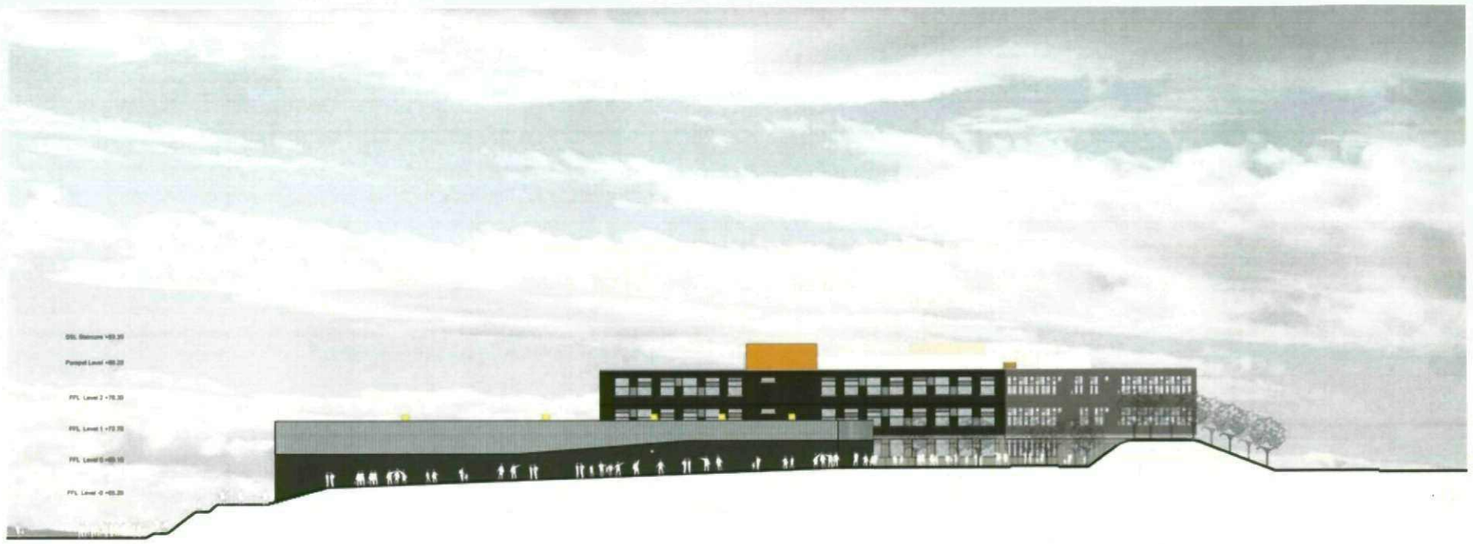
The exposed concrete will provide the building with substantial thermal mass. This combines with the natural ventilation strategy to eliminate the requirement for mechanical cooling to almost all spaces during summer months by absorbing heat through out the day which is then 'washed away' at night.. The thermal mass will also reduce the heating load during winter months by absorbing the heat generated by people and equipment during the day and returning it to the spaces by night.

The concrete frame will also be extremely durable, a factor that makes it particular well suit for use in schools. By exposing it we aim to add a tectonic authenticity which allows the build itself to be used as a learning tool – the different layers of the building construction will highly visible and readily understood.

3.6.9 Sculptural servicing

Carrying through the use of the building as a learning tool, key servicing related elements of the building will be finished in bright yellow where they are visible externally. Wind catchers to the sports hall, plant enclosures adjacent to the courtyard and chimneys serving the energy centre are all given this vibrant sculptural expression.

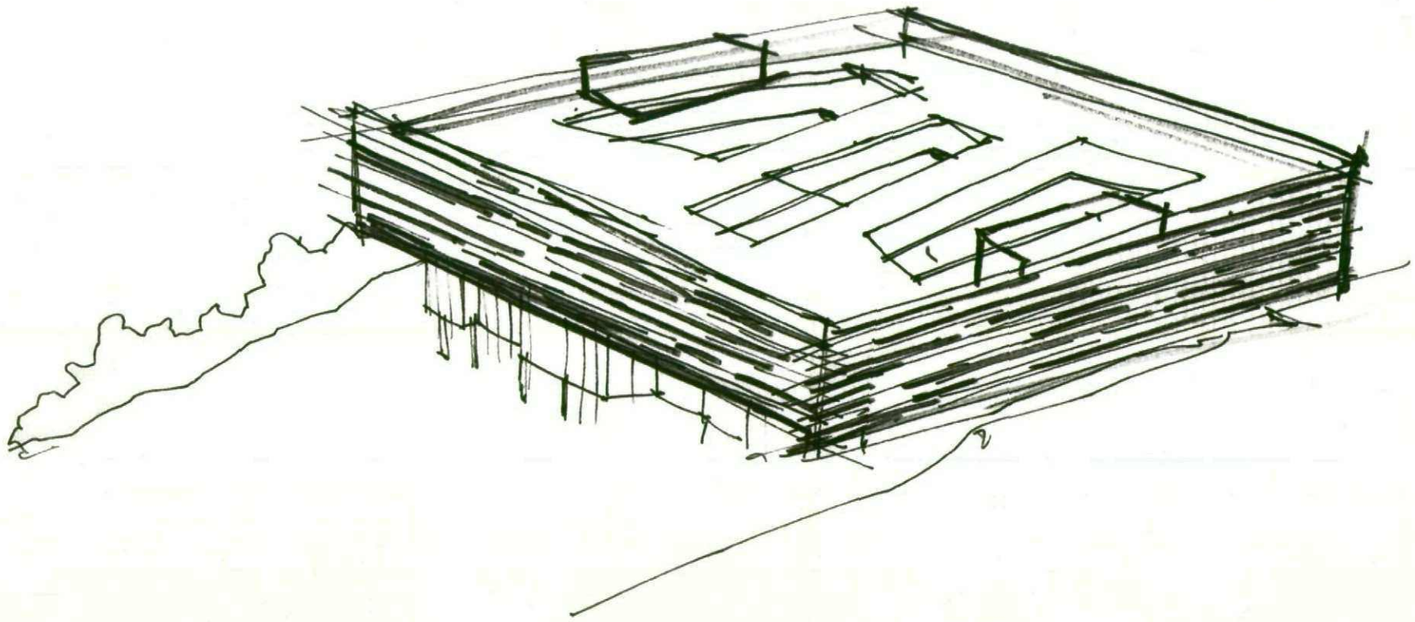
East elevation – visible from the car park



View from beyond the playing field to the south of the site



4.0 Landscape Proposals



4.1 Introduction

In order to comply with national guidelines, meet the requirements of the BMBC *Building Schools programme and specific objectives of the school, the landscape* proposals have been developed with reference to published guidance such as the DCFS Building Bulletins, which relate to the external environment:

- BB102: Designing for Disabled Children and Children with Special *Educational Needs*
- BB85: School Grounds. A Guide to Good Practice
- BB95: Schools for the Future. Designs for Learning Communities
- BB98: Briefing Framework for Secondary School Projects

In addition we have considered the relevant Sport England guidance to inform the sports provision so as to reconcile the brief and site constraints to deliver the optimum solution for quality facilities to encourage use in the curriculum and by the community alike.

The site masterplan has been carefully considered to take advantage of views to the surrounding landscape. The school is keen to see that the new building is located sensitively within its locality as well as becoming a beacon of regeneration for the community.

The aim is to create a dynamic educational environment which responds to the school building and its landscape context. This is underpinned by the need to create a landscape which is attractive, safe, provides shelter and is easily *accessible to all users*.

The design minimises pedestrian and vehicular conflicts with dedicated routes which are clearly defined and legible.

The masterplan embraces the principles promoted by the 'Learning Through Landscapes' initiative, recognising the whole school environment as a valued teaching asset that plays an important role in supporting the key stage curriculum.

4.2 Landscape Philosophy

The landscape setting for the school plays an important role in providing an attractive backdrop for all types of educational activities. The *'Learning Through* Landscapes' initiative sets down the general requirements for schools, of which this scheme takes due cognisance. An attractive outdoor environment is proven to have a beneficial effect on the wellbeing of staff and students, and of creating the right atmosphere for learning. The creation of a variety of active and passive outdoor facilities for all key stage groups, as well as open spaces used for outdoor teaching and natural habitat areas, is an asset for any ALC.

The intention is to use the whole site as an educational resource, incorporating inherent flexibility for further teacher and student development.

The external spaces have been designed with an understanding of BB98 requirements including the need to achieve a good spatial and visual relationship with internal adjacencies.

The external spaces surrounding the school building have been developed with form and function in mind. Continued dialogue with the teachers and students throughout the project will be undertaken to gain an in-depth understanding of their particular requirements as well as the opportunity to engender ownership of the environment. The careful design of the external spaces is considered absolutely *crucial* to the school's sports specialism status. The master plan promotes the ethos of healthy lifestyles and fitness through the provision of formal sports facilities and informal play space.

Item	BB98 / BB102 min.area recommendatos	Actual provision
No of Students = 1500	-	-
Likely Site Area	91,850 – 104,375sqm	c.112,665sqm
Area for Sport (Playing Fields and Ball Courts)	62,500sqm	62,000sqm
Soft Informal and Social	4,550sqm	5,200sqm
Games Courts [Hard Surfaced]	3,600sqm	3,250sqm
Hard Informal and Social	2,650sqm	2,790sqm
Habitat	1,700sqm	1,700sqm
Buildings and Access [approx.]	N/A	20,300sqm
Float	N/A	c.16,165sqm

4.3 Landscape Concept

In terms of context, the site is located within a 'triangle' created by the former mining villages of Shafton, Cudworth and Grimethorpe. It is a post-industrial area that is now generally semi-rural in character, with many of the former coal mines having undergone some form of restoration. Currently, the site is used for grazing and is generally an open area with few landscape features. It is also a sloping site falling from circa71m in the north to circa51m in the south west corner.

Visually, the site is rather detached from these existing nearby settlements and is defined along its northern boundary by a new bypass (Collier Road) to the north and Engine Lane to the east.

Our response has been to utilise and enhance the existing and newly planted embankments to Collier Road in the north and nestle the new school building behind this feature. This will provide effective visual screening of the bypass from the new school and provide some useful noise mitigation from passing vehicular traffic. In addition, this combination of carefully designed landforms with native planting will also help to successfully integrate the building within the wider landscape in this important gateway location to Barnsley.

View towards main entrance from north-west (pedestrian / cycle route)



4.4 Description of landscape

A sculptural valley landform to the front of the school has been proposed that punctures through the existing embankment to create a dramatic entrance approach for pedestrians and cyclists from the north-west. The simplistic form of the valley coupled with a more informal, naturalistic arrangement of existing and proposed trees and planting, is designed to echo the landscape regeneration of the former coal mines and spoil heaps, characteristic of this post-industrial, semi-rural area.

Immediately to the front of the school, the character becomes more formalised with cycle storage, feature lighting, seating and feature paving. This space or 'welcome plaza' forms an important visual link from the parent drop off and car park zone towards the main school and sports block entrances.

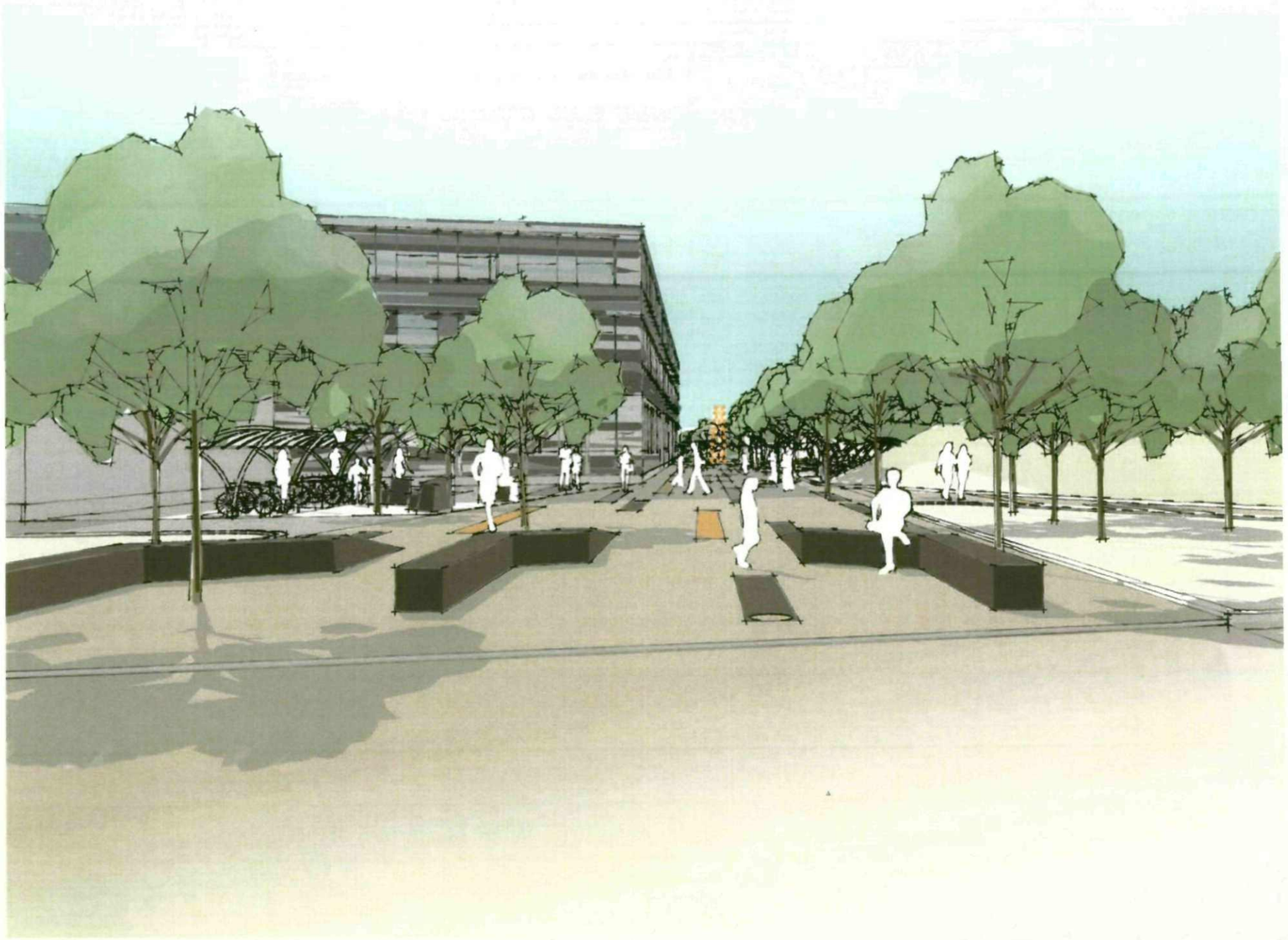
Whereas the setting and approach to the school is more intimate and wooded, the landscape to the south by contrast is more open to maximise the attractive views out from the school across the grounds and beyond. The interface between the building and external spaces has been carefully considered to exploit the change of levels and to create an attractive and natural progression from the building through informal play areas and out towards the sports pitches and facilities beyond.

The proposed location of the new building will form a dramatic backdrop to the surrounding play spaces, outdoor classroom areas and wider landscape.

The identification of the new school's environment with its community is seen as a key component of building a sense of ownership and pride. Such ownership has real benefits such as reducing vandalism whilst raising self-esteem. The aim is to provide access to schools where people want to be. The school is viewed as a key facility in raising aspirations and as such needs to reflect an appropriate quality both in design and specification, which will also inform the identity and ethos.

Spaces shown around the building on the current masterplan are described further in the following sections

View along the 'welcome plaza' looking towards the towards main entrance from the car park



4.5 Soft Landscaping Concept

One of the primary aims of the planting strategy will be to significantly enhance the biodiversity of the site through native tree and shrub planting with appropriate management regimes which support the new habitats and wildlife.

The site includes an existing informal hedgerow with trees along its western boundary which will be retained and enhanced. The landscape strategy seeks to extend the value of this area for wildlife in the form of connected green corridors. This includes retention and enhancement of existing embankment planting along Collier Road in the north, existing trees adjoining the farm and hedgerow along Engine Lane to the east.

New native planting with trees is proposed along the site's southern boundary which will create an east-west green corridor link. These enhancements will also help to integrate the school site more sensitively within its wider landscape context.

A small habitat garden with seasonal and permanent pond is proposed in the south-western corner of the site. Meadow grass areas and native planting on the adjoining slopes are also proposed to provide additional food and refuge for small mammals, insects and invertebrates. In combination, these features will provide valuable habitat diversity along the site's proposed green corridors.

Along the southern boundary, a grass swale has been proposed as part of the site's drainage strategy. Willow and hazel coppice is to be planted along the northern bank of the swale to give pupils an understanding of its value for fuel, through biomass, and also as a construction material for traditional crafts and as an important wildlife habitat through rotational management.

Where possible existing trees have been retained and will be protected during the site works.

4.6 Informal soft and hard play areas

Wherever possible, links between the new building and the external spaces have been designed to be as direct as possible.

The main external social areas and some teaching and learning zones are located on the south side of the school to allow easy breakout from the LRC and dining areas on the lower ground floor. The design promotes a wide range of uses, recognising the needs of different age groups and abilities and the requirement for varied outdoor activity to promote social interaction and personal development.

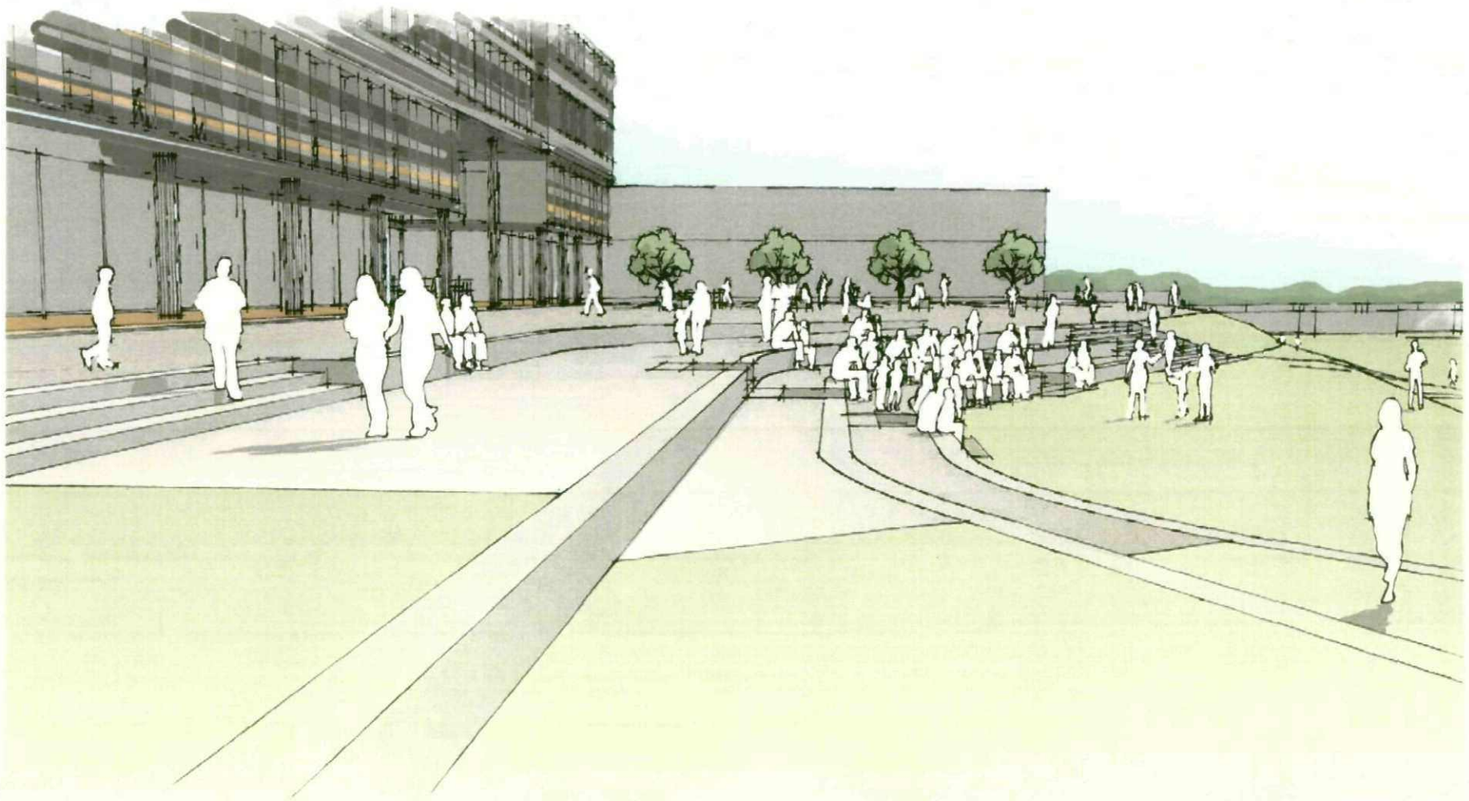
4.7 Description of External Spaces

To the north-west of the building is the main entrance approach to the building from Collier Road. The route would be pedestrian / cycle friendly with sculptural valley landforms, informal native tree planting, feature paving, lighting and furniture; providing a real sense of arrival for students, staff, parents, visitors and the wider community.

The design of the main approach using landform creatively with naturalistic, informal planting arrangements echoes the landscape regeneration of the former coal mines and spoil heaps, characteristic of this post-industrial, semi-rural area. Such an arrangement will create a dramatic yet intimate connection between the building and the landscape.

The school wishes to relocate a minewheel sculpture which could be incorporated as a dramatic entrance feature.

View of informal hard play to the south of the building - terraces & outdoor performance area



The character of these spaces would be generally informal supporting the concept of a more welcoming, intimate and wooded setting for the building. Informal seating elements and coordinated furniture, specimen trees and lighting are to be provided here. There would also be opportunities for the school to display student artwork / projects within his area.

The main approach to the school would open out into a 'welcome plaza' to the front of the building which would serve as an attractive and safe space for waiting / meeting and socialising as well as a functional space for cycle storage etc. This space also forms an important visual link from the parent drop off and car park zone towards the main school entrance and sports block. A welcome sign / information point could be located outside the main entrance which would be designed to act as a 'vista stop' device to the east-west pedestrian route. Details of the design are to be discussed and agreed with the school during Stage 2.

Typical paving materials would include concrete flags, coloured tarmac with contrasting edgings and ground graphics.

Immediately to the south of the building is the informal hard play / social / break out area which is designed as a natural extension to the dining space / LRC areas. This space is designed to be flexible in terms of function and would include a range of seating types / combinations, feature paving and ground graphics. Shelter is provided by the building.

The hard play space is contained to the east by the sports block which forms a backdrop to the informal 'Games Zone' area.. It is also envisaged that outdoor games could also be played here such as outdoor table tennis and netball / basketball practice etc. Creative ground graphics would be used to identify this area as an informal activity zone linked with the sports block. The ground graphics can be used to create dramatic visual effects and can be themed such as science, technology and maths (eg geometry and the periodic table of elements), providing educational value and promoting curiosity.

The informal hard play areas have been designed to exploit the change in level here using gentle ramps, steps and terraces to create an interesting and varied series of spaces that carefully integrate with and provide easy access to the soft informal spaces beyond. Handrails and railings will be provided where necessary.

A performance / outdoor teaching area is proposed immediately to the south of the informal hard play area, and would exploit the panoramic views of wider countryside to the south. In effect, this arrangement would successfully exploit the views and visually 'borrow' the wider landscape for the benefit of the school.

An art and music garden is proposed to the west of the informal hard play area and will include seating opportunities for small group music practice/study as well as plinths for artwork displays. The garden would also have horticultural interest including ornamental hedges and sensory planting (eg medicinal / herb plants).

Indicative view of art and music garden



The hedges would also create smaller compartments for flexible teaching / social. The detailed design will need to be developed further in conjunction with the school during Stage 2.

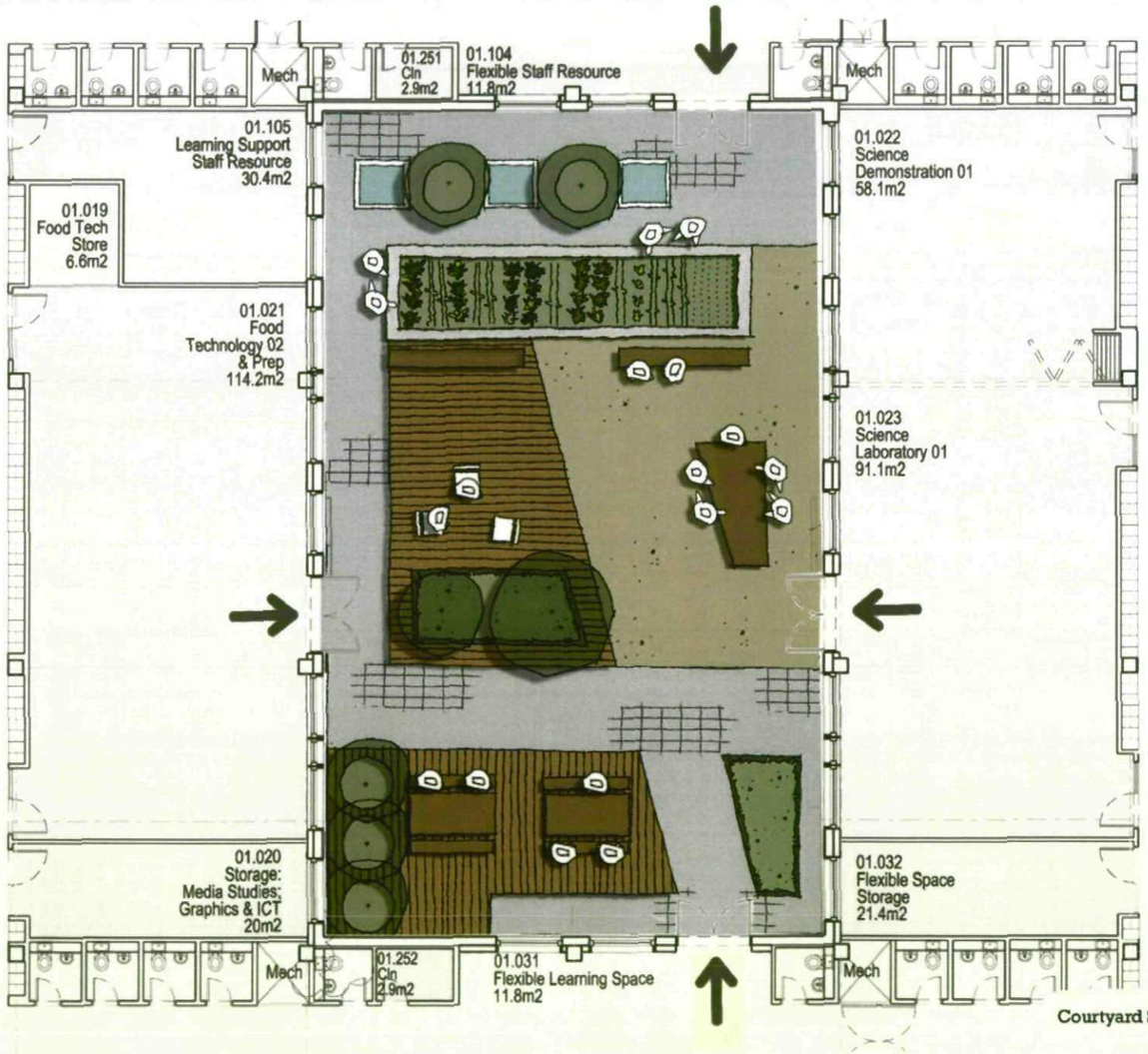
This space is linked to a horticulture garden with a poly-tunnel, tool shed, raised planting beds and small teaching station. The garden would be provided with a water and electric point, and could include live data collection opportunities such as rain gauges, soil moisture gauges and anemometer etc. The garden would be fenced off with gated access.

The building includes a large courtyard on the first floor that has been designed as a horticultural and science garden. Here, natural processes can be explored through the cultivation of plants and organic food crops and to provide informal social / dining opportunities and flexible, outdoor teaching.

The courtyard is designed both as a space to enter but also as an attractive visual feature in its own right that will enable green space, scents, sound and natural ventilation to permeate this part of the building.

Indicative plan of courtyard

(NB: It is our intention to develop the courtyard in close liaison with the school.)













Shafton ALC
Courtyard Sketch Plan SK12 Rev. A
Scale 1:100@A3

awp

Immediately to the south of the informal hard and soft play areas are the sports pitches and facilities.

A proposed environmental art space punctuates the sports area creating a destination within the landscape and linking in with the willow / hazel coppice planting to the south. This space would comprise sculptural mounding to create an elevated feature affording views across the sports fields. A central level space would be provided with simple rustic benches providing opportunities for teaching craft and creative art skills using natural materials. It would also provide a space for reflection and social interaction. Around this space, it is envisaged that willow or ash trees would be planted in an arc. These trees would be selectively pruned to grow inwards, eventually creating a dome or arbour over the space. This would be a long-term project that pupils could engage with to eventually create a living tree sculpture.

Ash tree sculpture created by David Nash



Along the south-western edge of the site is an existing seasonal stream channel / ditch which has great potential for enhancement to create a habitat corridor space for teaching, general study and wildlife. The area would be enhanced to create a habitat garden in the south-western corner of the site that would attract wildlife into the school but also provide wider biodiversity benefits.

Although seasonal, the existing stream channel could be widened and deepened in places to create semi-permanent wet / boggy ground conditions to establish a range of marginal and aquatic native plants, bog garden and fernery. Tree planting would reflect the character of the corridor including alder, willow and hazel, and provide opportunities to learn about traditional woodland management techniques such as coppicing and pollarding as well as biomass production - there would also be opportunities for setting up live data stations (bird boxes / water gauges).
An informal path is proposed along the site's western boundary that would allow access through this space punctuated by seating / teaching spaces.
A separate nursery garden space is to be provided as an extension to the nursery.

Willow coppice production and management



4.8 Site Furniture

A range of furniture is to be provided. Final specifications for the furniture and colours of each will be discussed with the school during the next stage.
There will also be the opportunity, through design development with the school in the next stage, that a number of standard items could possibly be replaced with more bespoke features.

4.9 External dining facilities

External seating / dining opportunities are to be provided within the informal hard play areas adjoining the hall / dining & social / LRC space to the south of the building allowing easy spill out for pupils. A variety of seating will be provided, both fixed and loose, to allow the pupils to adapt the space to whatever suits them, potentially changing on a daily basis. The proposed terraces and steps associated with the informal hard and soft hard play spaces can be utilised as informal seating space. This arrangement would provide a sensitive transition from the building into the wider landscape.

4.10 Playing fields

The provision of sports and recreation facilitates the opportunity to participate in both informal and formal activities. Incorporating both hard and soft surfaces enhances the variety of sports which can be played and the provision of multi-use games areas increase usage regardless of season. This also creates an opportunity to enhance community resources by managing these facilities for use both during and out of school hours.

A logical sequence of space and activities is set up through the placing of the building and sports pitches across the site. This includes the informal recreation areas as external teaching / informal hard play spaces that form the threshold between the internal environment and the sports pitches. The hard games court and grass pitch provision proposed for the site complies with BB98 requirements. A full list of the facilities is provided in the schedule below.

- Hard Games Courts with 3m high perimeter fence to include:
- 6 no. Tennis courts
- 3no. Netball courts (double up with tennis courts)
- Pitches and Summer Sports:
- All weather senior football pitch (106x74m) with floodlighting and 3m high perimeter fencing;
- 2 no Senior football pitches (91x50m)
- 2 no. Senior rugby pitches (95x50m)
- Cricket pitch with space allowed for 9no. artificial wickets (match standard)
- Training grids (1 no. 30mx20m spaces split into 6no. 10mx10m squares)
- Informal track to provide for fitness training activities
- Athletics track - 8 lanes, 400m
- 2 no. discus/shot put circles
- 2 No. Long jump/triple jump
- Space for 1 no. high jump
- Javelin (white lining)
- Drainage will be provided to the new pitches

4.11 Soft Landscaping

The planting strategy is to provide robust and generally informal woodland style planting close to the building, to integrate the building and grounds into the wider landscape context and to allow views of the landscaping to permeate into the building.

Soft landscaping works around the building will take place in the first planting season after building work and hard landscaping works are complete.. Proposed infrastructure planting around the perimeter of the site will be undertaken in the first planting season after earthworks are completed.

4.12 Planning and community issues and the development control plan

The landscape masterplan illustrates the site layout and key elements of the scheme. The main aims of the landscape proposals are to:

- Retain and protect the existing trees and hedgerow planting along the site's boundaries where possible
- Enhance the provision of local greenspace
- Provide an attractive setting for the scheme that also fulfils the requirements of the ALC
- Create a landscape as an important contributory educational and life skills resource for the ALC

The external spaces have been developed in careful response to the function and layout of the proposed school building. External spaces have been designed as a natural extension to the internal environment of the school by creating flexible outdoor teaching spaces, informal play space and external dining opportunities.

Visual interest and variety will be introduced by creating a blend of different surface treatments within a strong design layout. This will mean the use of paving trims and ground graphics to define active or more passive spaces, using seating or low sitting walls to break down larger areas and selective tree planting to enrich the character and add colour to the external spaces.

All of the individual spaces will be created with a strong response to the function it serves and complement their internal adjacencies, whether this is a dramatic approach to the school, a quiet leafy refuge for teaching or passive play, a performance space for drama or school plays or a busy play space during break times. The design intention is to make the external spaces robust enough to cope with heavy use throughout the year.

The sensitivity of the rural edge location has been taken into account in both the siting of new buildings and the complementary landscape proposals. The positioning of the new school building just to the south of the existing embankment and the combination of carefully designed landforms with native planting is designed to successfully integrate the building within the wider landscape.

As stated previously, it is proposed that the majority of existing trees along the site boundary will be retained and enhanced through additional tree and shrub planting to create an effective visual screen and establish a strong landscape framework for the site.

The landscape proposals make provision for a green buffer / wildlife corridor around the periphery of the site to filter views from the adjoining roads to the north and east and from local properties including the existing farm enclave on Engine Lane.

The new ALC building will respond positively to level changes across the site. The proposed split level building will be complemented by the external environment which will incorporate a series steps, terraces and ramps.

4.13 Access and transport, including how the landscape design minimises risks to pedestrians and cyclists while allowing appropriate 'drop-off' facilities

The site masterplan has been carefully considered to take advantage of views and linkages to the surrounding landscape. The aim is to create a dynamic educational environment which responds to the school building and its landscape context. This is underpinned by the need to create a landscape which is safe, sheltered and easily accessible to all users.

The design minimises pedestrian and vehicular conflicts with dedicated routes which are clearly defined and legible.

The design aims to minimise the potential for intrusion and vandalism. This is to be achieved through a combination of passive surveillance, circulation legibility, fencing barriers and access control. Clear lines of sight have been considered along pathways and at access points as well as between the internal and external environment. Issues considered also include:

- Pedestrian routes to avoid high vegetation
- External lighting to access routes, car parks and entrances
- Lockable bin stores that are carefully sited to avoid use as potential step up/arsonist opportunities
- New perimeter fencing and lockable gates will be provided where required to establish an appropriate level of security
- Boundary planting suitable to increase security and provide a buffer zone at the site edges as appropriate

Proposed vehicular access for the school will be taken off the Collier Road roundabout in accordance with the outline planning approval. Parking is set-back into the site to achieve a suitable landscaped buffer zone using earth mounding and native structure planting in the interests of visual amenity.

Parking has been located in one main area to the east of the new building ensuring that the front of the building is traffic-free. The car park layout is designed around a main one-way loop arrangement. A parent drop off zone is proposed to the south of the car park zone to facilitate easy pick up and drop off. A disabled parking area and space for visitors is located at the northern end of the car park adjoining the main approach towards the 'welcome plaza' and the school entrance.

The drop off zone and disabled parking area is linked to the main building and sports block entrances on the north side of the building via a wide footpath and pedestrian crossing; creating a strong east-west link.

The remaining staff car parking area is connected via a wide footpath link to the west of the car park that runs north-south creating a well defined route towards the school.

A bus parking area is provided just to the east of the sports block which is designed to accommodate 10no service buses as identified in the Output Specification. Pupils will disembark onto a safe pedestrian area just to the east of the sports block. Here, they will have the opportunity to enter the school via steps that provide access to the south of the building or to access from the north.

Covered cycle storage for up to 160no. bikes is proposed to the north of the building and can be used by the community for the sports block for out of school hours use. NB: The level of provision of cycle parking is to be identified on an individual basis within each of the ALC's Travel Plan.

The energy centre is located to the north of the car park and screened from Collier Road and Engine Lane using earth modelling and structure planting.

The secure perimeter for the site will be created by utilising the building façade and extending the proposed 1.8m high weldmesh fencing from the building to the proposed site boundaries. Gates of sufficient opening width will be provided where the perimeter crosses vehicular or pedestrian routes.

Existing post and rail highway fencing to the north of the building and along Engine Lane towards the farm will be retained..

Existing site boundaries will be retained and reinforced with native planting and hedging as described previously.

The hard games courts and All Weather Pitch will be secured with 3.0m high welded mesh fencing.

4.14 Land Use and Ecology, identifying how the design team would provide or act on ecological advice, such as a biodiversity action plan

The design team have appointed a qualified (full member of the Institute of Ecology and Environmental Management) and experienced ecologist. The intention of the appointment is to ensure the following:

- Protection of existing ecological features found to be present on the site where possible and to provide additional habitats for local species known to exist in the area
- Construction activities to have minimal impact on any ecological features found to be present
- The design philosophy to incorporate measures which enhance the ecological value of the sites
- Compliance with LE3-LE6 of the BREEAM School 2006 calculator
-

The ecology report will address all of the above and will look at the long term strategy for the development in order to ensure continual improvement in accordance with the Barnsley Biodiversity Plan and will form the basis of the maintenance / management strategy for the building occupier.

In summary the content of the ecology report will include the following:

- Assessment of the ecological value of the site through the application of the BREEAM ecology calculator and in relation to the Barnsley Biodiversity Action Plan
- Assessment of the measures adopted by the principal contractor to preserve and protect existing ecological features (including measures to prevent pollution to land, air or water courses). This will include a site inspection to ensure that all environmental aspects have minimal impact on the ecological value of the development and that measures are effectively implemented to prevent pollution to land, air and local watercourses
- Identify measures to enhance the ecological value of the site in accordance with the BREEAM School 2006 (apply the BREEAM ecology calculator)
- A long term (>five years) maintenance and development strategy for the site to preserve, protect and increase the ecological value of the development (this will include identification of environmental champions to ensure the effective implementation of the strategy through the design, construction and maintenance/operation phases). Correspondence/feedback from local wildlife groups, environment agency, heritage bodies and local authority regarding the development or ecologist's recommendations
- Any statute law and statutory instruments relevant to the sites
-

All of the above will be undertaken with the full commitment and endorsement of the design team and the ecology report will be carried out by a competent person(s) with the relevant qualifications and experience in accordance BREEAM School 2006 requirements.

The team will commit to provide 5 no. bird and 5 no. bat boxes, in locations to be agreed, to encourage wildlife to the site. In future these could be installed with mini cameras and form a valuable learning resource for the school and any environmental group set up within it.

As with Phase 1, the team is also actively pursuing a partnership with the Yorkshire Wildlife Trust so they can benefit from their knowledge and allow them to input into the design of the school grounds to promote habitats and species identified in the Barnsley Biodiversity Action Plan. This partnership will be transferred to the school once the build is complete and BP4L will fund the Yorkshire Wildlife Trust to spend a day per annum with the school conducting workshops and other activities for a period of 5 years.

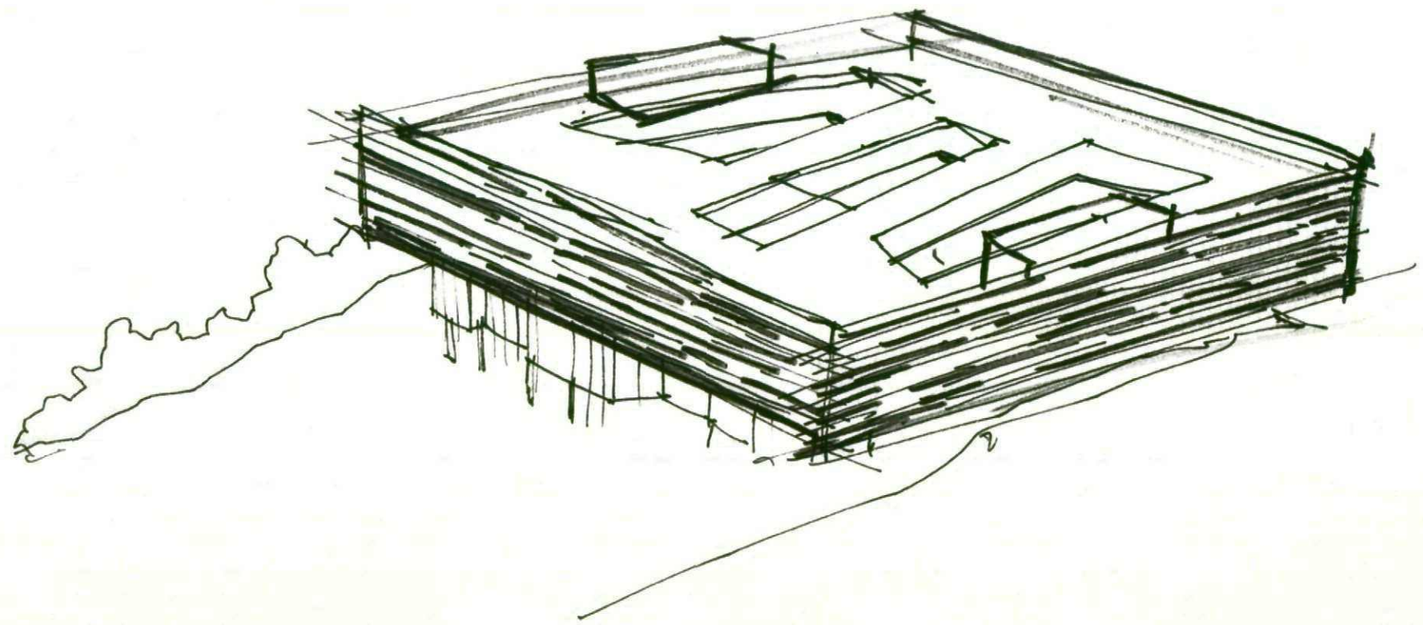
Appropriate soft landscaping and management regimes within the site can significantly increase the amount of new habitats and wildlife present within the site and support existing ones. We intend to enhance the habitat value of the site through:-

- Reinforce existing woodland planting along boundaries to create valuable wildlife corridors adjacent to the school;
- Retention of existing trees/hedgerows where possible;
- Utilising branches and trunks from any vegetation removed to create log piles in habitat areas;
- Creation of a mosaic of grassland types - from managed sports fields to annually cut wildflower meadows and margins;
- Management of the existing woodland planting areas to create a more varied canopy structure and opportunities for wildlife;
- Use of species where appropriate which can provide a food source, shelter and nesting opportunities for wildlife.
-

This is not an exhaustive list and the pupils at the school will be encouraged to assist in the development of some of these ideas to encourage a sense of ownership and allow pupils to be hands on with natural processes and the development of different habitats.

. Soft landscaping works around the building will take place in the first planting season after building work and hard landscaping works are complete. Any specimen or standard trees planted outwith the planting season will be containerised and will be watered regularly. Proposed structure planting around the perimeter of the site will be undertaken in the first planting season after earthworks are completed.

5.0 Access Strategy



5.1 Proposed design

The new ALC aims to foster the broadest definition of 'inclusiveness', so that the architecture is open and accessible to all: from those with special needs, to the wide range of ages, abilities and backgrounds of all learners and teachers coming to the school. The design embodies the idea of the ALC as a community that encourages intensive and multiple uses, drawing in people who might otherwise be discouraged by the buildings from participating.

The proposed design has varying levels of inclusivity and withdrawal as appropriate. Careful design aimed at supporting or overcoming the special needs of some pupils benefits all pupils. When creating any area of withdrawal it is important to create designs which avoid the stigmatisation of that space and thus risk undoing the good work undertaken to give all students the best possible learning opportunity.

5.2 Approaches and circulation

5.2.1 Routes in

The main pedestrian access for all users of the ALC will be via the entrance piazza that leads directly to the main entrance to the north side of the building. The piazza is intended to create an informal approach to the school with opportunities for outdoor display, learning and space for pupils, teachers and visitors to meet up before or after school.

The piazza connects into an existing footpath that runs parallel to Collier Road from its junction with Pontefract Road to create a safe route for pedestrians and cyclists arriving form Cudworth and Shafton. It also creates a clear and accessible pedestrian route between the main entrance and the parking and drop-off zone. Access from the bus drop-off zone for pupils is directly to the main entrance via the piazza or, alternatively, to the south entrance via the external social areas. The main entrance will also be highly visible and readily accessible from the visitor parking (to the north of the car park) via the entrance piazza.

5.2.2 Car parking

The on-site car parking will be for a total of 236 cars including visitors spaces and ten accessible parking bays These will be marked out in accordance with BS8300 Fig 3. Access from these accessible bays to the main entrance will be smooth and at a gradient of no more than 1:21. Safe crossing points will be provided where access to the parking zone crosses other vehicular routes and demarcated with dropped kerbs, tactile blister paving and a clear change in surface material across the vehicle route.

The layout also has a small drop-off zone adjacent to the entrance piazza for parents taking children to the nursery adjacent to the main entrance.

5.2.3 Bus drop-off

A bus drop-off zone is provided for ten buses. This connects directly into the entrance piazza allowing direct access to the main entrance.

5.2.4 Cycle storage

Secure, covered cycle storage for 150 bicycles is provided along the entrance piazza between the main entrance and the parking zone where it is readily accessible and highly visible from the administrative areas of the school for improved security.

Site circulation strategy with anticipated pupil numbers



5.3 External works

All external defined hard play areas are to be of suitable gradients with no area steeper than 1:40. This also allows for fire tender to safely access various elevations of the buildings. Hard surfacing is provided to the base of all fire escape stairs with routes linking them to other areas of hard standing which can be utilised as mustering points.

Where significant changes in level occur ramps and steps will be constructed in accordance with Building Regulations Part M and BS8300. All doorways will have level access and all approach paths will have falls no steeper than 1:21. Dropped kerbs and tactile paving will be provided where necessary i.e. adjacent to disabled car park bays and at pedestrian crossings. Door guards are also to be provided to outward opening doors from ground floor classrooms in accordance with Part M. Deterrent paving will form a continuous strip around the perimeter of the buildings, where hard surfacing is indicated, to prevent collision with opening windows.

The external lighting scheme proposed will provide well lit approaches to the principal building entrances.

A secure perimeter is to be created using a 1.8m high weldmesh fence which will extend from the building facades to, and along, the boundaries of the site to the east, west and south.

5.4 Internal strategy

5.4.1 Doors

All entrance doors will either be automated or will provide 1000mm clear openings with closures meeting the requirement of Building Regulations ADM. Where doors are automated visual warning will be provided in accordance with B8300. Glass will be manifested as required by Building Regulation ADM + N.

Reception Area and Desks will be designed in accordance with the requirements of Building Regulations Part M, and BS8300 and will provide for pupils & visitors both standing and seating including wheelchair users). The reception desk or counter will have a working surface at two heights; between 950mm and 110mm to accommodate people who are standing and 760mm to accommodate wheelchair users.

5.4.2 Vertical movement with in the building

Vertical movement will be provided by the series of stairs designed for use by ambulant disabled people or by two passenger lifts at either end of the building.

There will be two passenger lifts that will comply with Building Regulations Part M. + BS8300. These are single entrance and have a minimum car dimension of1500 mm wide x 1500mm deep which will accommodate one user of a manual or electrically powered wheelchair, and one accompanying person.

5.4.3 WC's

WC's for both students and staff will be provided thought out the ALC (1400w x 1350d). These are individual toilets incorporating pan and basin. The layout does increase the level of privacy for the user while they are within the toilet area. It brings the added benefits of preventing groups from assembling around toilet banks and associated issues that arise from this type of behaviour. It also sends a clear message of a non-hierarchical structure and valuing individuals, as toilets do not have to be identified for different user groups - i.e. adults/students.

5.4.4 Accessible WC's

Accessible WC's for both students and staff will also be provided thought out the ALC to meet the requirements of Building Regulations Part M and BS8300.

5.4.5 FF&E

The furniture and fittings solution also reflects the principle of inclusion. The needs of pupils with disabilities must be taken into account. At least one adjustable multi bench or table will be provided in each area to allow disabled pupils to do general and practical work as identified on the FF&E schedule.

In addition to this, the location of SEN teaching areas and suitable bases for support staff and the achievement team around the building will ensure that students with special needs and learners with difficulties and/or disabilities are helped to achieve and to be happy.

5.5 Summary

In summary our designers are fully aware of all aspects of the less able bodied people & wherever possible have included best practice in their all inclusive design & for the information of the client we outline the general regulations & reference material which has been closely followed.

- BS 8300
- BS 5588 (Fire & means of escape for disabled persons)
- BS 5839 (Fire alarm design for disabled persons)
- Approved document (M) Access to and around buildings.
- Approved document (B) Fire precautions.
- DRC codes of practice for schools.
- Special education needs & disability 2001.
- The JMU good sign design guide.
- The good loo design guide.
- The (Rainbow Project) associated with colour contrasting & way-finding.

We are also acutely aware of the need to identify / eliminate unprotected encumbrances to concourse & corridor areas by means of designing out the encumbrance or identifying it in such a way that it can be easily seen by the partially sighted.

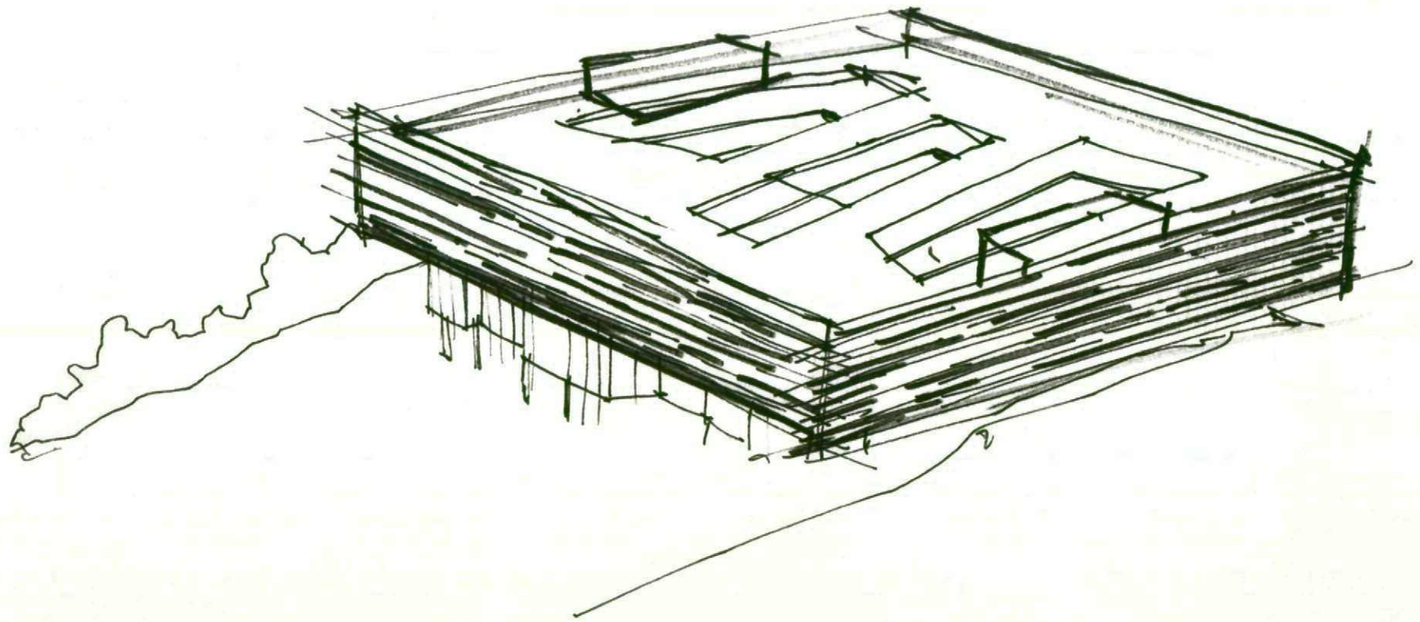
We are willing to assist in the compilation of personal egress plans (PEEPS) for emergency evacuation of the less able bodied in case of fire or other evacuation emergency.

It is also important that our all inclusive designs are not predominantly focussed on wheelchair users, as experience tells them that students & visitors to the school may suffer from any of the following:

- Partial sight
- Partial hearing
- Upper & Lower limb disorders
- Arthritis & age related problems
- Autism
- Dyslexia
- Learning difficulties associated with ADHD
- Hand & arm dexterity problems

The new buildings will be constructed in compliance with Building Regulations Approved Documents M and BS8300 so that the School may embrace the requirements of DDA95+2005 and SENDA2001. The new school is designed to be totally accessible throughout with consideration given to all aspects of inclusion including recognising the role played by an increasing number of student support initiatives that allow teaching to take place within the main school areas promoting student esteem, social skills and educational achievements. Circulation spaces, teaching bases, breakout and resource areas are designed with this in mind.

6.0 Sustainability



6.1 Sustainability

Sustainable development means improving quality of life and living within environmental limits, not one at the expense of the other.

The whole purpose of the Barnsley schools project is to improve the quality of life in Barnsley through better education and community benefits. This must be achieved within the environment's capacity, both locally and globally.

Barnsley Partnership for Learning (BP4L) will achieve this with a coherent, integrated approach to:

- Put the Advanced Learning Centre (ALC) at the heart of the community.
- Design, build and operate the ALC to cause the least environmental damage and provide the most benefit.
- Make the ALC an 'ambassador of sustainability' to all its users and the wider community.

Our strategic approach has already identified the key sustainability drivers (see sub-sections below). These have guided our design, and will be continued by BP4L through the construction and operation of the ALC to ensure the best solutions are implemented. These solutions will be monitored and improved over time to ensure that they are adapted to meet future needs of the school.

To build sustainability in to our approach, our dedicated sustainability champion has been involved from the outset, providing input into the design at all stages.



6.2 Policies and Regulations

Our approach has been guided by all relevant strategies and policies:

- Barnsley Bid deliverables
- Barnsley environment strategy
- Barnsley Local Development Framework
- Barnsley Community Plan and Neighbourhood renewal strategy 2005/2008
- Barnsley Unitary Development Plan Dec 2000 (Part 1 & Part 2)
- Remaking Barnsley- Strategic Development framework 2003-2033

We interpret and apply these in the context of wider regional policies including:

- Regional Spatial Strategy for Yorkshire and the Humber to 2016 (replacing Regional Planning Guidance for Yorkshire and the Humber RPG12)
- The Regional Energy & Energy Infrastructure Strategies
- The Regional Economic Strategy for Yorkshire and the Humber 2006–2015
- Sustainable Communities in Yorkshire and the Humber: Building for the Future, 2003
- Yorkshire and the Humber Climate Change Action Plan 2005
- Government Office for Yorkshire and the Humber Sustainable Development Policy 2005
- Regional Planning Guidance for Yorkshire and the Humber RPG12
- Yorkshire and the Humber Regional Waste Strategy–July 2003

The proposed design will assist the council in meeting its obligations as follows;

- Heating by Biomass - we propose a biomass boiler to provide approximately 100% of the buildings heating and hot water load.
- 10% Renewables on top of Biomass - we propose the use of wind turbines to provide 10% of the buildings net energy use.
- Rainwater Harvesting - we propose collection of rainwater for toilet flushing and irrigation demands.
- Enhances Insulation - we propose to exceed Part L requirements.
- Enhanced Passive Cooling - we propose thermal mass for passive cooling.
- Overt Sustainability - we propose all sustainable features to be prominent and if appropriate accessible to students, staff and visitors.
- BREEAM - we propose to deliver a BREEAM 'very good' rating whilst aspiring to achieve an 'excellent' rating.

6.3 Our Approach

Sustainability has been a key consideration in the development of the design proposals for Shafton ALC in line with the Client's aspirations.

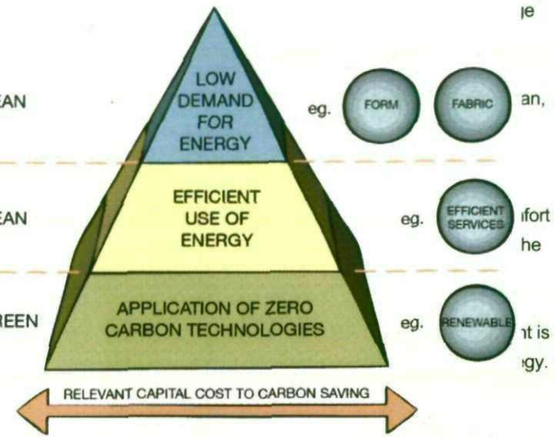
To ensure that a sustainable solution is delivered it is essential that environmental, social and economic considerations are addressed strategically.

The strategic approach has already started with the identification of key issues that are driving sustainability on the project. This is an ongoing process that has influenced the design to this point, and will be continued through the construction and operation of the school to ensure the best solutions are implemented. These solutions will be monitored and improved to ensure that they are adapted to meet future needs of the school.

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Minimising the need for energy use is the most foolproof and cost-effective way to reduce the environmental impacts of energy, and its related impact on climate change. It is therefore our top environmental priority. One of the main techniques to reduce the energy consumption will be using natural ventilation in the majority of the spaces, acoustically attenuated where necessary. Combined with the high thermal mass provided by the concrete structural frame, optimised orientation, shallow floor plates and passive solar control, this makes for a more comfortable building and lower energy requirements than a mechanically ventilated design.
Further measures incorporated in the design to reduce energy demands in line with the mean strategy include:

- Passive design to optimise natural daylight in conjunction with daylight linked lighting controls and high efficiency background / task lighting.
- Balancing glazing and thermal insulation elements to reduce heat loss and maximise positive solar gain.
- Space planning to reduce the need for space cooling.
- Construction to a high level of air tightness to minimise heat loss from leaks.

Highly efficient control systems have also been incorporated as part of the lean strategy. These include the following:

- Optimised heating systems and controls to reduce inefficient heating.
- Electrical energy efficiency measures such as off power factor correction, high efficiency cooling plant (where natural ventilation cannot be used), and variable speed drives on fans and pumps.
- Intelligent controls connected to the Building Management System (BMS) and targeted metering throughout the building to ensure that operational energy use can be monitored and improved.

We propose to minimise the carbon emissions from the remaining energy use by using the following renewable sources;

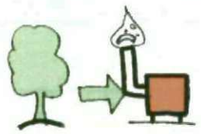
- Biomass boilers - to be used to provide approximately 100% of annual thermal load.
- Wind turbine - energy to provide 10% of the ALC's year-round energy needs.

We propose a 500kW biomass boiler to meet approximately 100% of the ALC's year round heating requirements, with gas backup. To complement this renewable heat source, we propose the use of wind turbine systems to supply renewable electricity. This combines powerful and dramatic symbolism with a genuine opportunity to reduce greenhouse gas emissions significantly.

Currently the use of biomass fuel has an attractive payback period. This is not due to a drop in biomass fuel costs but is directly due to a significant increase in the cost of alternative fuels. There are various biomass fuels on the market however for Shafton ALC we propose woodpellet and woodchip due to the size of the development and the storage space available.

Pellet fuel has a more reliable moisture content and calorific value than wood chip. It requires cheaper feed mechanisms and is less likely to block fuel feeds. Pellets require less storage space and have a lower transport carbon impact (depending on the flow path of the fuel and location of the pelleting plant).







In order to provide 10% of the energy consumption from renewable sources, and having reviewed the locations and spatial avialability of each of the Phase 2 schools, we have proposed the installation of 4no. 15kW wind turbines all of them mounted on 25m high tubular masts in Shafton– as this is the school with the most available space. The diameter of the balades is 9m. In addition to this, one 1.5kW swift wind turbine has been proposed to be mounted on the roof of each of the other two schools, subject to planning and structural liability. Please see table below summarising the proposed option:

School	Gross floor area (m²)	Estimated annual power use (kWh)	Target for 10 % Planning requirement	Turbine generating capacity kWh/yr	15kW Proven Turbines Required	electricity generated kWh/yr	Actual % of annual electricity supplied	comments
PHASE 2								
Shafton	*13,400.00*	*415,400.00*	*41,540.00*	*17,256.00*	4	*69,024.00*	*16.6%*	*15kW proven turbine used*
Springwell	3,487.00	108,097.00	10,809.70	1,000.00	1	1,000.00	0.9%	1.5kW swift turbine used
Greenacre	4,526.00	140,306.00	14,030.60	1,000.00	1	1,000.00	0.7%	1.5kW swift turbine used
		Total	66,380.30			71,024.00	10.7%	Total % of school energy met with wind

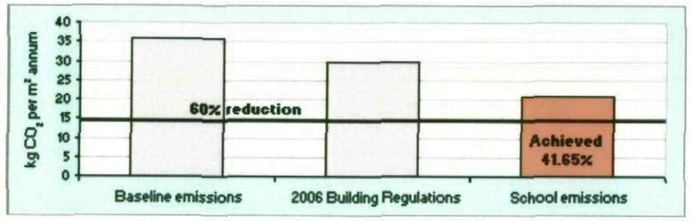
6.4 Carbon Calculator

Shafton has been designed in keeping with the mean, lean and green design philosophy.

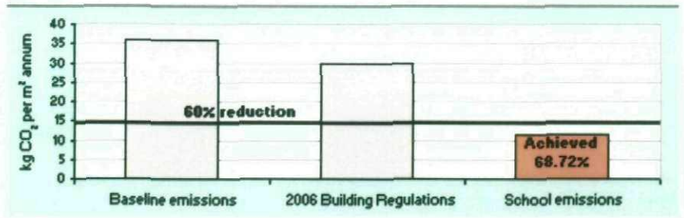
The school has been orientated to take full advantage of useful wintertime solar gains to passively heat the internal spaces, whilst shielding summer time solar gains. Façade openings have been designed to maximise daylight levels and penetration through the building envelope in addition to creating a pleasant and stimulating learning environment. The design allows for optimum natural day lighting reducing the electricity loads from the lighting system. (mean)

The architectural form has been designed to incorporate low pressure mechanical ventilation with heat recovery in winter and opening windows with exposed soffits, cross-flow ventilation outlets and ventilation systems for boosted natural ventilation in summer. Variable speed fans and pumps will also increase the overall system's efficiency, allow thus for a low carbon, ventilation solution negating the need for air conditioning whilst providing comfortable internal spaces throughout the year. (lean)

According to the carbon calculator, the above mean and lean passive features will deliver a carbon saving of 41.65% against a part L 2002 compliant school;



The scheme also includes four 15kW wind turbine. The turbines will have a total estimated output of 17.256MWh/annum and during periods of low demand will export power to the grid based on wind speeds of 5-6.5 m/s. A biomass boiler has also been proposed to provide 100% of the thermal loads of the entire school (green). The integration of the passive and active systems described will increase the total carbon savings up to 68.72%.



Therefore through energy efficient design, direct carbon savings from passive and renewable energy sources a carbon reduction figure of 68.72% is expected.
In summary, compliance with the carbon calculator reduction requirements is achieved through;

- Careful Solar orientation (mean).
- Extensive natural daylight penetration (mean).
- Exposed soffits with cross ventilation stacks (mean).
- Efficient façade design – air tightness, U-values, External Shading (mean).
- Daylight linked lighting controls (lean).
- Energy efficient ventilation plant (lean).
- 4no. 15kW wind turbine (green).
- A 500kW biomass boiler to provide 100% of the school's thermal load (green).

6.5 Part L Compliance

Energy efficiency has driven the design process throughout the bid stage. Our design based on all the features detailed previously will meet all the requirements of Part L (2006) of the building regulations.

The part L carbon dioxide emissions calculation has been performed using the Integrated Environmental Systems (IES) Virtual Environment. The software is certified for compliance with the building regulations and the EPBD in the UK and the simulation engineer is a certified CIBSE low carbon consultant design and simulation assessor.



The model has been produced using the geographically closest test reference year (TRY) weather data, as stipulated by the Authorities requirements.

The notional emissions rate, target emissions rate and building emissions rate have been extracted from the national calculation methodology (NCM) thermal simulation undertaken by the team and are as below;

Criterion 1: Predicted CO2 emission from proposed building does not exceed the target

1.1	Calculated CO2 emission rate from notional building	27.5 KgCO2/m2 annum
1.2	Improvement factor	0.15
1.3	LZC benchmark	0.1
1.4	Target CO2 Emission Rate (TER)	21 KgCO2/m2 annum
1.5	Building CO2 Emission Rate (BER)	13.2 KgCO2/m2 annum
1.6	Are emissions from building less than or equal to the target?	BER =< TER
1.7	Are as built details the same as used in BER calculations?	Separate submission

As shown, the benchmarked building emissions rate, based upon current design information is; 13.2kg/CO2/m2 which shows a 52% improvement upon the carbon emissions target of part L 2006.

Additionally shown below is the provisional energy performance certificate for the scheme, also produced using the IES virtual environment.

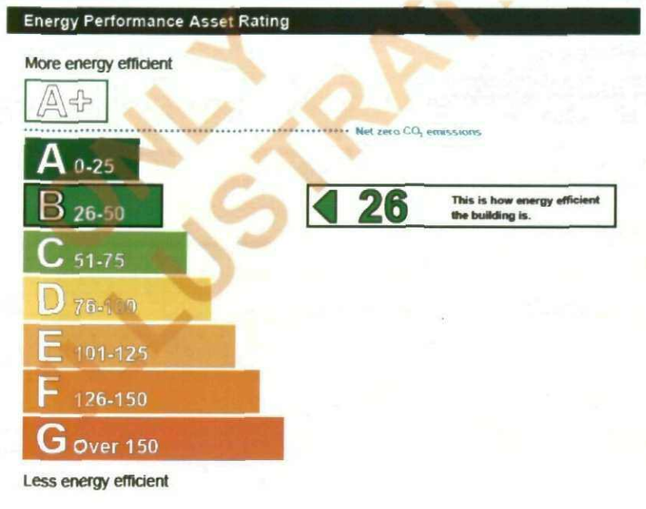


Figure 18.1.2 : Indicative 'as design' Energy Performance Certificate Result For the Shafton Advanced Learning Centre, Barnsley

As shown the scheme as designed is on course to achieve an EPC 'B' rating.

An outline overheating study has been undertaken to design in compliance with the BB101 and output specification overheating requirements, these being:

The performance standards for summertime overheating in compliance with Approved document L2 for teaching and learning areas are:

a) There should be no more than 120 hours when the air temperature in the classroom rises above 28°C

b) The average internal to external temperature difference should not exceed 5°C (i.e. the internal air temperature should be no more than 5°C above the external air temperature on average)

c) The internal air temperature when the space is occupied should not exceed 32°C.

In order to show that the proposed school will not suffer overheating two of these three criteria must be met.

In summary, the thermal performance of the school complies with sections a) and b). The results from the thermal model have been shown in Appendix A of this document.

6.6 Target Consumption figures

The predicated Utility Consumption figures for the ALC Academy are;

	Biomass Cons. (kWh)	*Gas Cons.* (kWh)	*Electricity* Cons. (kWh)	*Total Energy* Cons. (kWh)
Shafton	530,069	32,801	672,303	1,235,173

6.7 Other key areas of sustainable design

Transport

Our designs and layouts will:

- Give safe, easy, direct access by foot, cycle and bus (both special school buses and scheduled services). We will liaise with Barnsley Metropolitan Borough Council (BMBC) officers to link to, and support the development of, safe routes to schools, and with bus operators to get the best possible services.
- Provide high quality cycle parking, near entrances, overlooked to improve safety and to project cycling as a stylish as well as healthy and convenient way to travel.

Water

The following solutions will be incorporated into the design:

- Low water use solutions such as low flush WCs, percussion and low volume spray taps.
- Rainwater harvesting to provide flushing for toilets.
- Sustainable urban drainage techniques to allow water to be returned back to the ground rather than discharged off-site.

Microclimate

The principles that guide the landscape design and external layout is the requirement to provide a stimulating, attractive and safe environment for pupils, teachers and visitors to the school. Areas will be set aside for horticulture, kitchen garden and, if possible, biomass crops.

Materials

Environmentally sensitive products to be included in the design of the building:

- Green Guide to Specification A rated materials.
- Timber originating from a certified sustainable source, i.e. FSC.
- Paints/fabrics with zero volatile organic content.

Construction and Waste disposal

Key procedures to be considered will include:

- Designing the project to ensure that waste material on site is minimised which will include elements of pre-fabrication.
- Waste segregation and recycling of segregated materials.
- Measuring, monitoring and targeting energy, water and transport use during construction.
- Protecting ecology on site and enhancing the overall biodiversity of the site.

Pollution

BP4L will apply the following measures to minimise pollution:
Insulating materials will be specified to ensure that they do not include substances with a GWP of 5 or more in their manufacture or composition.
NOx emissions from heating plant can contribute towards the creation of acid rain. Dry NOx emissions from gas fired heating plant will be minimised.
Sustainable drainage techniques (SUDS) and rainwater harvesting will be used to reduce rainwater run-off from the site and reduce potential contamination of water course pollution.

Whole life approach

A whole life approach has to consider three key areas:

Value for money

We will use Whole Life Costing (WLC) as a tool to inform decisions to ensure that we adopt the best long-term solution. This will promote efficiency, cost savings, optimise life of use and minimise environmental impacts. As the project develops the level of detail of this analysis will increase.

Future flexibility and adaptability

The design has focused on providing flexibility and adaptability for both teaching and servicing. This will have benefits for the long-term use of the spaces and ensure they can react to the needs of the buildings. Examples of this include:

- Flexible teaching spaces.
- Floor boxes.
- Allowance in the design for future changes if needed to maintain comfort despite climate change, for example more mechanical cooling.

Ambassadors for sustainability

All the sustainability features of buildings and sites will be visible, legible and available for study. We aim to make the buildings 'tell a story' about their own resource flows and relationship with the environment.

Access to the educational, as well as large-scale systems will be provided for the benefit of the students. This will be connected to the Building Management System to allow the pupils and the local community to interact and understand the way the building works. In this way the systems will be interactive and grow in tandem with the education needs associated with building.

The educational development will also include the low tech installations within the ALCs. The landscape habitats, composting, growing of food and recycling facilities will be designed to allow fluidity in their development and use.

6.8 BREEAM

6.8.1 Introduction to BREEAM

The Building Research Establishment Environmental Assessment Method (BREEAM) was originally launched in 1990. It sought to provide authoritative guidance on ways of minimising the adverse effects of buildings on the global and local environments while promoting a healthy and comfortable indoor environment.

BREEAM is the leading tool for the assessment of buildings from an environmental viewpoint. Its purpose is to carry out a review of a building's design to identify its environmental strengths and areas for improvement.

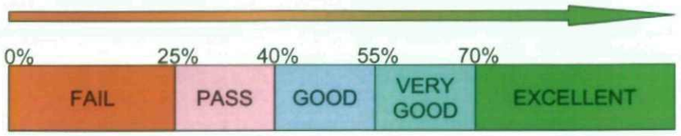
6.8.2 Scoring Methodology

The building design is assessed under a number of environmental performance categories and credits are awarded under each of these categories. Weightings are then applied to the credit totals for each category to reflect its environmental significance. The weighting system has been developed by BRE and is based on a statistical consensus view of the importance of each of the elements.

The output depends on the type of assessment carried out. Assessment credits are gained over a range of categories, which are in turn weighted to reflect relative environmental impact. These weighted scores are then combined into a single score.



The number of credits is then totalled and the appropriate category weighting applied to give an overall score. This score is then used to rate the project on a scale of PASS, GOOD, VERY GOOD or EXCELLENT (25%, 40%, 55%, 70% respectively).



6.8.3 Summary of the current predicted score

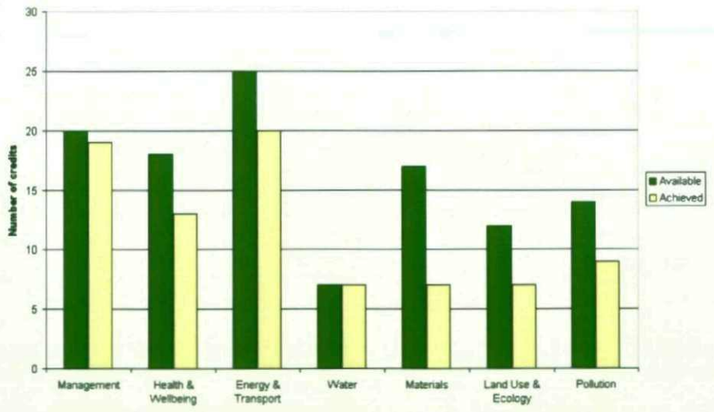
BDP sustainability has produced this BREEAM Pre-Assessment to assess the current design for Shafton ALC against the BREEAM for Schools 2006 criteria. The team have produced a BREEAM Pre-Assessment to benchmark and inform the design as an iterative process.

The pre-assessment is based on initial discussions held between a licensed BREEAM assessor and the project team, and review of general arrangement drawings and information.

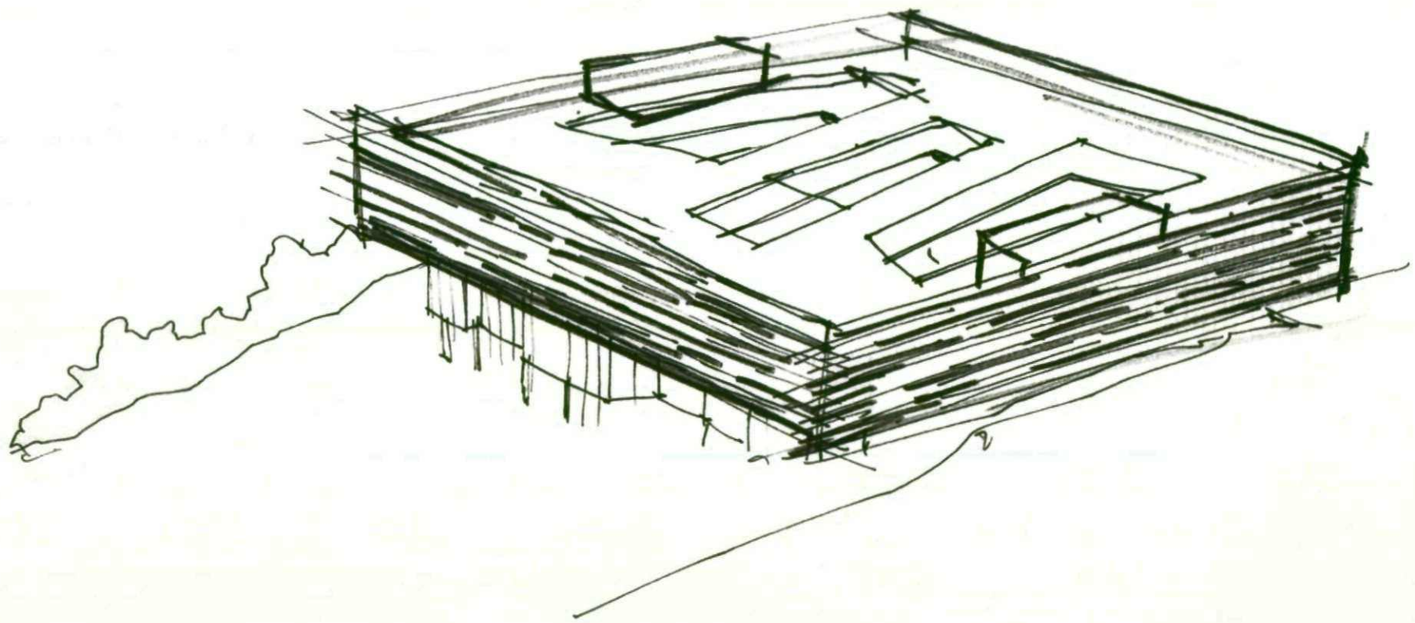
It is important to note at this early stage, that the outcome of the BREEAM assessment is ultimately dependent on the level and quality of the responses to the BREEAM actions by everyone involved in the project.

The design team have demonstrated their intention of attaining a BREEAM Very Good rating and aspiring to achieve an excellent rating through the ongoing BREEAM pre-assessment process. The chart below provides an overview of the predicted BREEAM score for the Shafton ALC. The current predication is for a score of 72.6%, equating to a rating of *EXCELLENT*.

Full breakdown of this route to Excellent can be found in the Appendix. The spreadsheet also has an added column which indicates a more conservative route to Very Good.



7.0 Civil Engineering Strategies



7.1 Surface Water

7.1.1 Site summary

The site is currently un-developed. An existing 300mm diameter combined (Surface Water and Foul Water) sewer crosses the site from the northwest corner, flowing in a south easterly direction. It will be necessary to divert this sewer around the buildings and STP/MUGA playing surfaces in order that it remains accessible for future maintenance (a 6m wide maintenance 'easement' is required by Yorkshire Water). Agreement in principle to this diversion has been obtained from Yorkshire Water, subject to detailed design approval.

An existing open water course, flowing from north to south, forms the western boundary of the site.

The site is in an area specified by the Environment Agency (EA) to be in Flood Zone '1' (i.e. at low risk of flooding).

The surface impermeability of the site will be increased due to the new buildings and STP/MUGA playing surfaces. The site investigation (SI) has indicated that the underlying site stratigraphy is relatively impermeable. Yorkshire Water have informed us that it will not be possible to discharge surface water into the existing combined sewer crossing the site. Barnsley MBC (who have jurisdiction of this watercourse) have informed us that it will be possible, in principle, to discharge into the open water course but that the maximum rate of discharge must be limited to 5 litres/second/hectare of site. This equates to approximately 60 litres per second in total from the entire site. The difference between this figure and the site run-off in the '1 in 100 year' rainfall event (plus 20% allowance for future climate change), as modelled in micro-drainage, will therefore constitute the volume of water which must be temporarily retained on site, prior to release in a controlled fashion, via flow control devices, into the water course.

For the above reasons various Sustainable Urban Drainage System measures (SUDS) will need to be adopted in order to limit surface water discharge, from the site, during a storm event. The north (buildings and car parks) and south (playing surfaces) attenuation will be dealt with separately and by different means to suit the nature of the construction in these areas.

Please refer to the accompanying drawing BP4L_SHA_BDP_DR_93_BW_LL_001.

7.1.2 North (buildings and car parks)

Attenuation of surface water storm run-off will be provided by means of underground cellular tank storage below the car park. Water will subsequently discharge via a flow control device to the existing watercourse that runs down the western boundary of the site.

Prior to reaching the storage attenuation, the roof rainwater will be collected in a rainwater harvesting system for re-use in the building for applications such as toilet flushing. This measure will result in a net reduction of surface water discharged from the site, and will also act as part of the educational resource of the school.

7.1.3 South (playing surfaces)

A SWALE will be provided along the southern boundary into which the collected water from the pitches / MUGA / STP areas will discharge. This will be a dry basin area, and will be used as temporary storage prior to off-site discharge via a 'flow-control' device into the western boundary watercourse. The SWALE has been sized in order to produce a strategy document, however the final design of this element will be related to the pitch construction and drainage requirements specified by the pitch design specialist.

The above north-south separation of the surface water drainage will result in two discharge headwalls into the existing open watercourse, which will require EA approval licenses.

In the above respects, the surface water drainage strategy will comply with Planning Policy Statement 25 (PPS25) and the requirements of the Environment Agency.

7.2 Foul Water

Yorkshire Water has indicated that it will be acceptable in principle to discharge the foul water from the site to the existing combined sewer crossing the site, subject to detailed design approval.

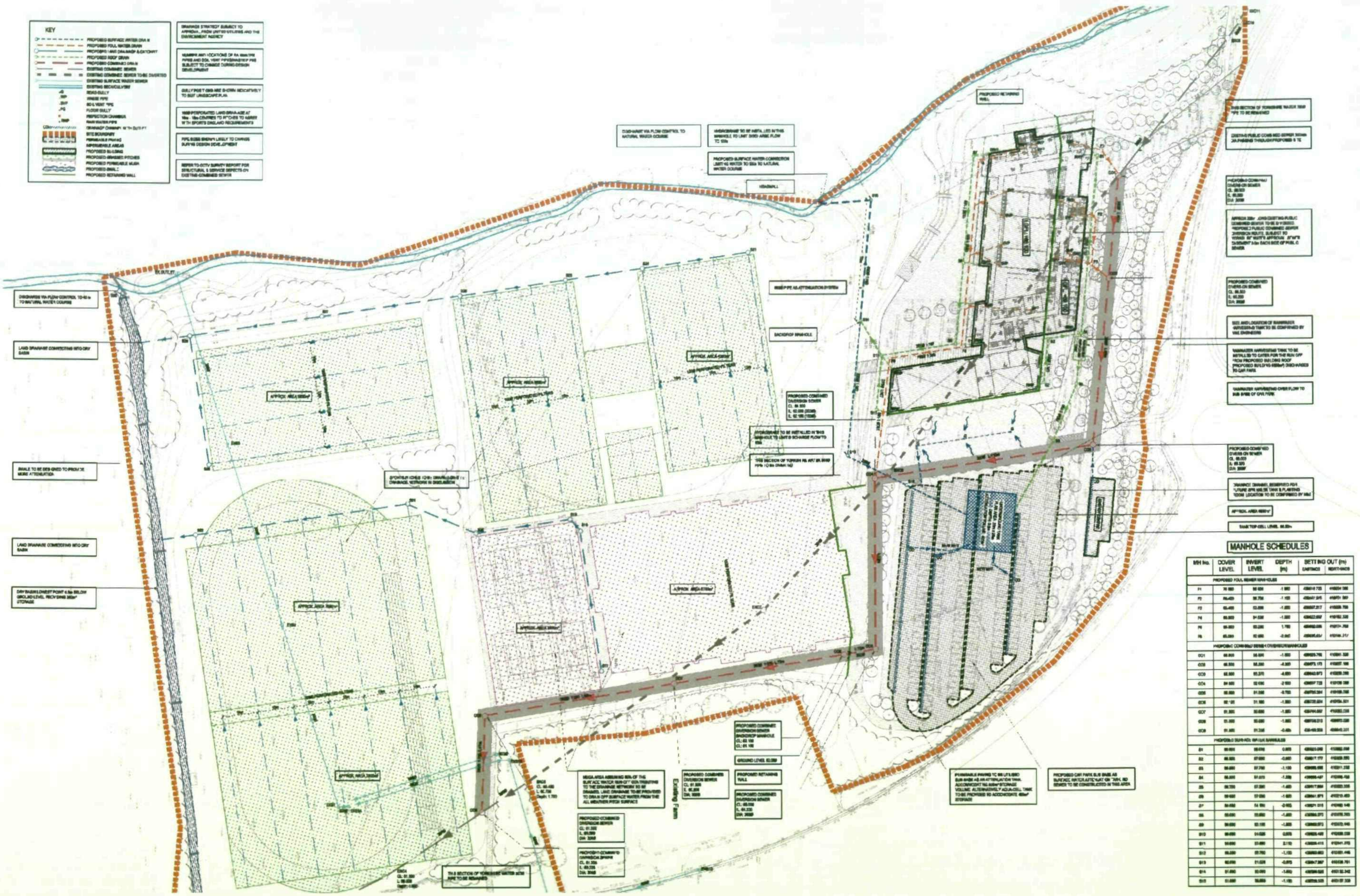
7.3 Ground stabilisation and decontamination works

The site is in an area previously subjected to mining. Worked seam grouting will be required at relatively shallow level as discussed in the 'Foundations' section above. South Yorkshire Mining Advisory Service SYMAS has advised that all known mine shafts within a zone of influence of the building have been appropriately treated (grouted and capped). Further geo-physical (electromagnetic scanning) has been carried out to search for the presence any unrecorded shafts (pre-1853) on the building and car-park area of the site. This survey has not discovered any such features or irregularities.

The SI reports that the site is not affected by levels of contamination that would pose a risk to the health of workers and future occupants of the building.

Although previously mined, the SI reports that the site complies with 'Characteristic Situation 1' (in accordance with CIRIA Report 665) with regard to ground gas - primarily Methane and Carbon Dioxide - emissions. This is the lowest category and requires limited or no special protective measures. In the light of the mining history of the site, consideration will be given to raising the gas protection of the building to a passive level of protection defined by 'Characteristic Situation 2' of C665.

Historical maps indicate that former sewage works existed at the north west corner of the site, but which is now closed / decommissioned.


KEY
MANHOLE SCHEDULES
Existing Farm

7.4 Highway Junction and Site Roads including Section 278 works

A new site entrance is to be formed to the north of the site off the existing island between Collier Road and Engine Lane. This new highway junction will be subject to a Section 278 agreement (i.e. agreement under section 278 of the Highways Act) with the Local Authority Highways and Planning Departments. This agreement involves legal and technical components and will require agreement to be achieved with Barnsley MBC Highways Authority as to appropriate engineering details for elements such as kerbs, drainage, curve radii, splays / sightlines, paving and signage.

Ultimately, the remodelled highway portion of the junction will be 'adopted' under the S278 agreement, by the Local Authority, who will then be responsible for future maintenance of the adopted portion.

In addition, the Framework Travel Plan prepared prior to the project bid stage, made recommendations for a public bus drop off lay-by immediately to the west of the roundabout. Engineering analysis indicates that this does not comply with DMRB (Design Manual for Roads and Bridges) requirements for roundabout clearance, or staggered lay-bys. The requirements for the public service bus drop off are (at 23 Sept 09) being reviewed by Barnsley MBC planning and highways departments.

An upgraded maintenance vehicle entrance, to the east of the site, is also required. This will be subject to the more limited requirements of a Section 184 agreement with the Local Authority. (Alternatively this may be dealt with under the S278 agreement for the new main entrance). New upgraded pedestrian and cycle accesses are to be provided to the northwest and east sides of the site.

On site, a strategy has been devised which incorporates vehicular access by school coaches, parent car drop-off, maintenance and delivery vehicles (including the energy centre bio-mass deliveries) and fire tenders (to the necessary extent of building perimeter). The site will be heavily trafficked, particularly at the beginning and end of the school day. At these times a management system, allied to the master plan car park and site road layout, will ensure the safe arrival and departure of pupils and staff.

Swept path (tracking) analysis will be carried out to confirm that all vehicles requiring access to the site (see above) can safely negotiate the site roads.

Measures to prevent water course / drainage contamination from vehicle discharges in surface water run-off will be undertaken. If permeably paved sub-base storage type construction is adopted, then petrol interceptors will not be necessary. If tarmac car park surfacing with pipe and gulley drainage is adopted then petrol interceptors will be provided.

The site investigation (SI) indicates that an existing ground 'California Bearing Ratio' (CBR) of 3% should be adopted as a basis for the design of the road and pavement build-ups.

All aspects of the design will be carried out in accordance with relevant British Standards and Design Guides and in accordance with relevant Government Policies. Some of these documents are:

- BS EN 752 (Drains and sewers outside buildings)
- BS 8002 (Earth Retaining Structures)
- Design for Deliveries by Freight Transport Association
- DMRB Design Manual For Roads And Bridges volume 6 section 2 / volume 7 section 2
- Manual for streets
- Highways Act 1980 (Section 278 / 184)

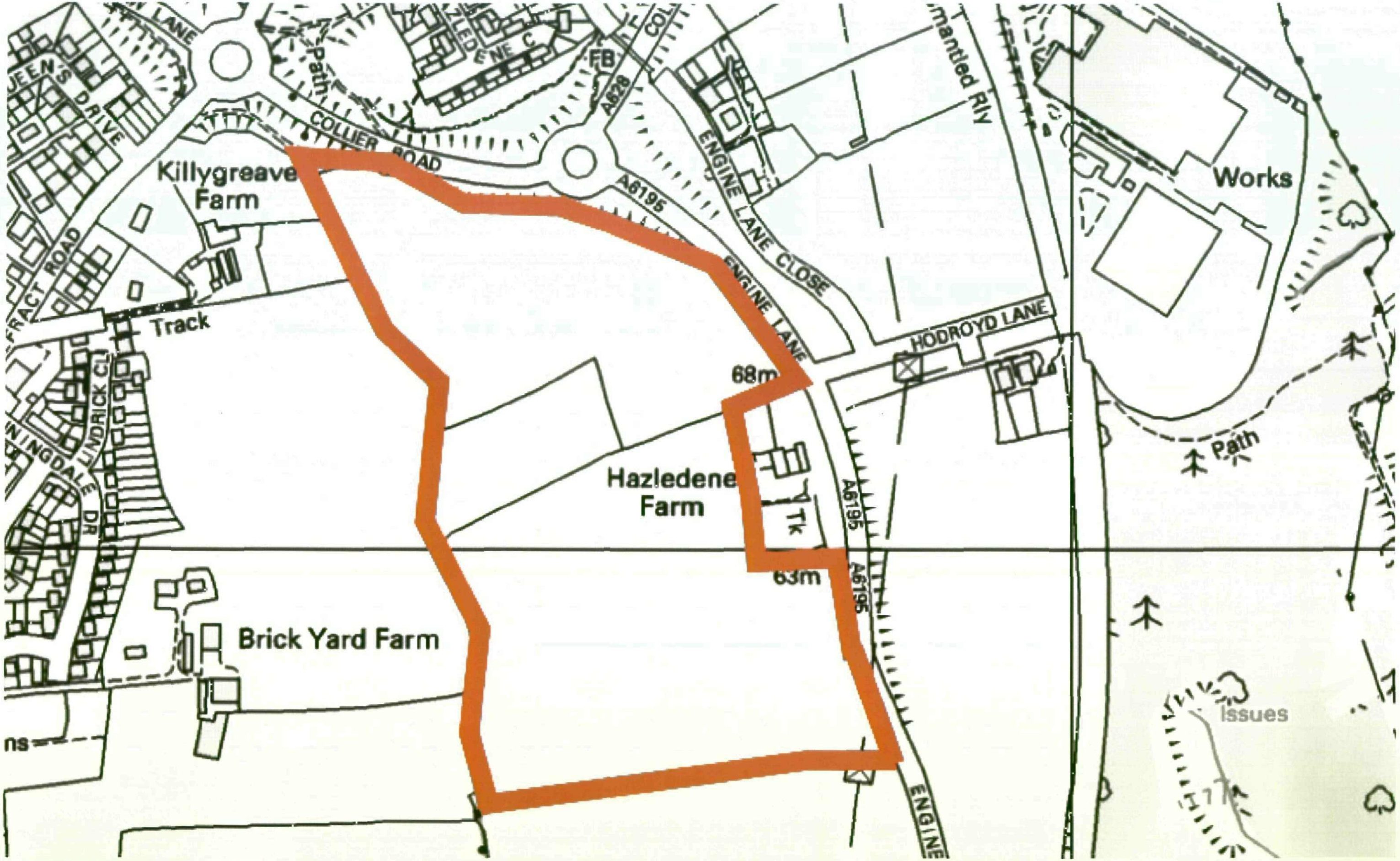
The designs have been carried out using the following design software tools:

- PDS (Ground modelling Software to maximise earthworks efficiencies)
- WinDes (Drainage Design Tool)
- Auto Track (Vehicle Swept Path Analysis)
- TEDDS (Structural Design software)

Appendix A Architectural Drawings

SCHEDULE OF ARCHITECTURAL PLANNING SUBMISSION DRAWINGS					
	Drawing Number	**Name**	**Revision**	**Scale**	**Size**
(00) Site plans	BP4L_SHA_BDP_DR_00_BW_00_00	Existing site plan	P03	1:1250	A1
	BP4L_SHA_BDP_DR_00_BW_00_01	Existing topographical site plan	P03	1:1250	A1
(00) Computer Generated Impressions	BP4L_SHA_BDP_DR_00_BW_00_11	Visualisation Sheet 01	P01	n/a	A1
	BP4L_SHA_BDP_DR_00_BW_00_12	Visualisation Sheet 02	P01	n/a	A1
	BP4L_SHA_BDP_DR_00_BW_00_13	Visualisation Sheet 03	P01	n/a	A1
	BP4L_SHA_BDP_DR_00_BW_00_14	Visualisation Sheet 04	P01	n/a	A1
(04) GA Floor Plans	BP4L_SHA_BDP_DR_04_BW_-01_01	General Arrangement Plan - Lower Ground Floor	P09	1:200	A1
	BP4L_SHA_BDP_DR_04_BW_00_01	General Arrangement Plan - Ground Floor	P08	1:200	A1
	BP4L_SHA_BDP_DR_04_BW_01_01	General Arrangement Plan - First Floor	P08	1:200	A1
	BP4L_SHA_BDP_DR_04_BW_02_01	General Arrangement Plan - Second Floor	P08	1:200	A1
	BP4L_SHA_BDP_DR_04_BW_RF_01	General Arrangement Plan - Roof	P08	1:200	A1
(05) GA Elevations	BP4L_SHA_BDP_DR_05_BW_LL_01	General Arrangement Elevation - North Façade	P07	1:200	A1
	BP4L_SHA_BDP_DR_05_BW_LL_02	General Arrangement Elevation - East Façade	P08	1:200	A1
	BP4L_SHA_BDP_DR_05_BW_LL_03	General Arrangement Elevation - South Façade	P09	1:200	A1
	BP4L_SHA_BDP_DR_05_BW_LL_04	General Arrangement Elevation - West Façade	P08	1:200	A1
(06) GA Sections	BP4L_SHA_BDP_DR_06_BW_LL_01	General Arrangement Section - North-South Through Hall	P06	1:200	A1
	BP4L_SHA_BDP_DR_06_BW_LL_02	General Arrangement Section - North-South Through Lecture Theatre	P05	1:200	A1
	BP4L_SHA_BDP_DR_06_BW_LL_03	General Arrangement Section - North-South Through Dining Hall	P06	1:200	A1
	BP4L_SHA_BDP_DR_06_BW_LL_11	General Arrangement Section - East-West Through Heartspace	P07	1:200	A1
(20) Detailed Sections	BP4L_SHA_BDP_DR_20_BW_LL_01	Detailed Section - North Façade	P08	1:20	A0
	BP4L_SHA_BDP_DR_20_BW_LL_02	Detailed Section - South Façade	P08	1:20	A0
	BP4L_SHA_BDP_DR_20_BW_LL_03	Detailed Section - North Façade 2	P04	1.:20	A0
	BP4L_SHA_BDP_DR_20_BW_LL_04	Detailed Section - Courtyard & West Façade	P02	1:20	A0
	BP4L_SHA_BDP_DR_20_BW_LL_12	Detailed Section - Sports Hall	P02	1:50	A0
(21) Detailed Elevations	BP4L_SHA_BDP_DR_21_BW_LL_03	Detailed Elevation - North Facade Typical Bays	P04	1:50	A1
	BP4L_SHA_BDP_DR_21_BW_LL_04	Detailed Elevation -South Facade Typical Bays	P03	1:50	A1
	BP4L_SHA_BDP_DR_21_BW_LL_05	Detailed Elevation - Courtyard Elevation Typical Bays	P02	1:50	A1
(93) Drainage Strategy	BP4L_SHA_BDP_DR_93_BW_LL_001	Drainage Strategy	P03	1:500	A0

(00) Site Plans



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ALL DIMENSIONS SHOULD BE CHECKED ON SITE.

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P03 Submitted for planning	CB	MC06.10.09
P02 Stage D Issue	CB	MC05.10.09
FIRST ISSUE	JW	MC17.02.09

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BDP.

Shafton Advanced Learning Centre

P2003083

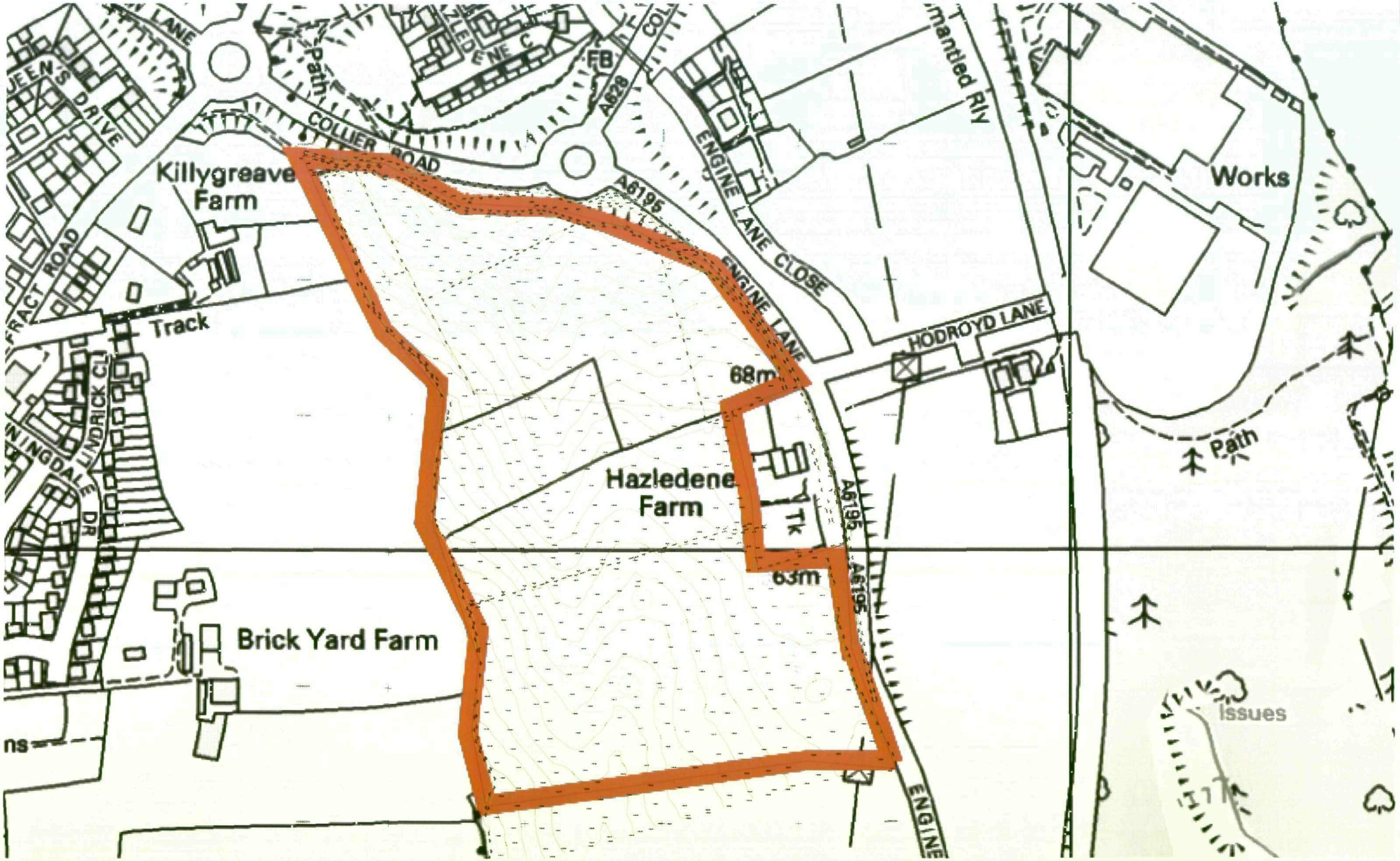
Existing Site Topographical Survey

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17.02.09

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P03



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Shafton Advanced Learning Centre

P2003083

Existing Site Location

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17.02.09

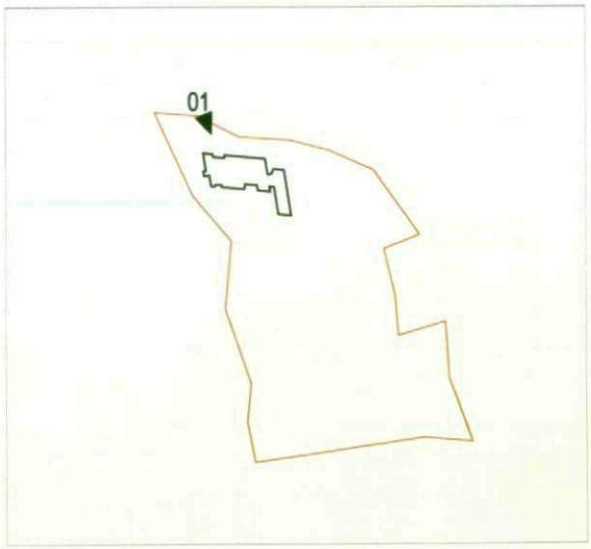
BP4L_SHA_BDP_DR_00_BW_00_00

P03

(00) Computer Generated Impressions



01 - View of the main ALC entrance from Collier Road



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ALL DIMENSIONS SHOULD BE CHECKED ON SITE.

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REVISION DESCRIPTION	DRAWN	CHECKED	DATE
FIRST ISSUE SUBMITTED FOR PLANNING	AS	SH	06.10.09

Barnsley Partnership For Learning

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BDP.

PROJECT TITLE: Shafton Advanced Learning Centre

PROJECT NUMBER: P2003083

DRAWING TITLE: Visualisation sheet 1

SCALE:

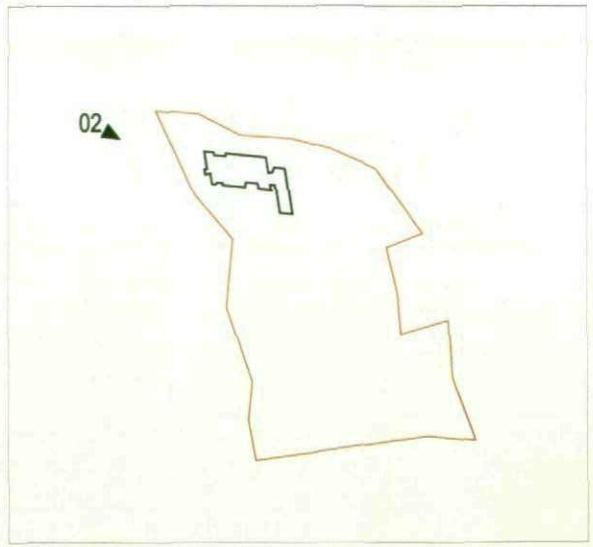
DATE: 06.10.09

DRAWING No: BP4L_SHA_BDP_DR_00_BW_00_11

REVISION: P01



02 - View of the new ALC from Pontefract Road



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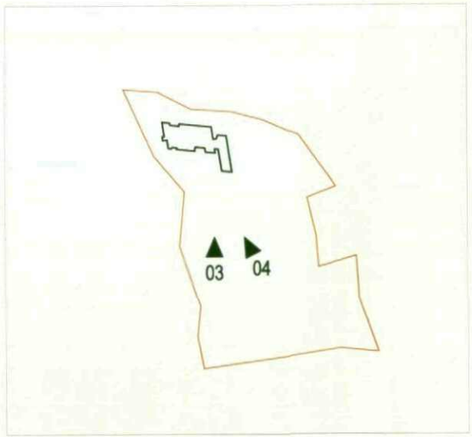
PROJECT TITLE	Shafton Advanced Learning Centre
PROJECT NUMBER	P2003083
DRAWING TITLE	Visualisations sheet 2
SCALE	
DATE	06.10.09
DRAWING No	BP4L_SHA_BDP_DR_00_BW_00_12
REVISION	P01



03 - View one of the new ALC from the new playing fields to the south



04 - View two of the new ALC from the new playing fields to the south



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PROJECT TITLE: Shafton Advanced Learning Centre

PROJECT NUMBER: P2003083

DRAWING TITLE: Visualisations sheet 3

SCALE:

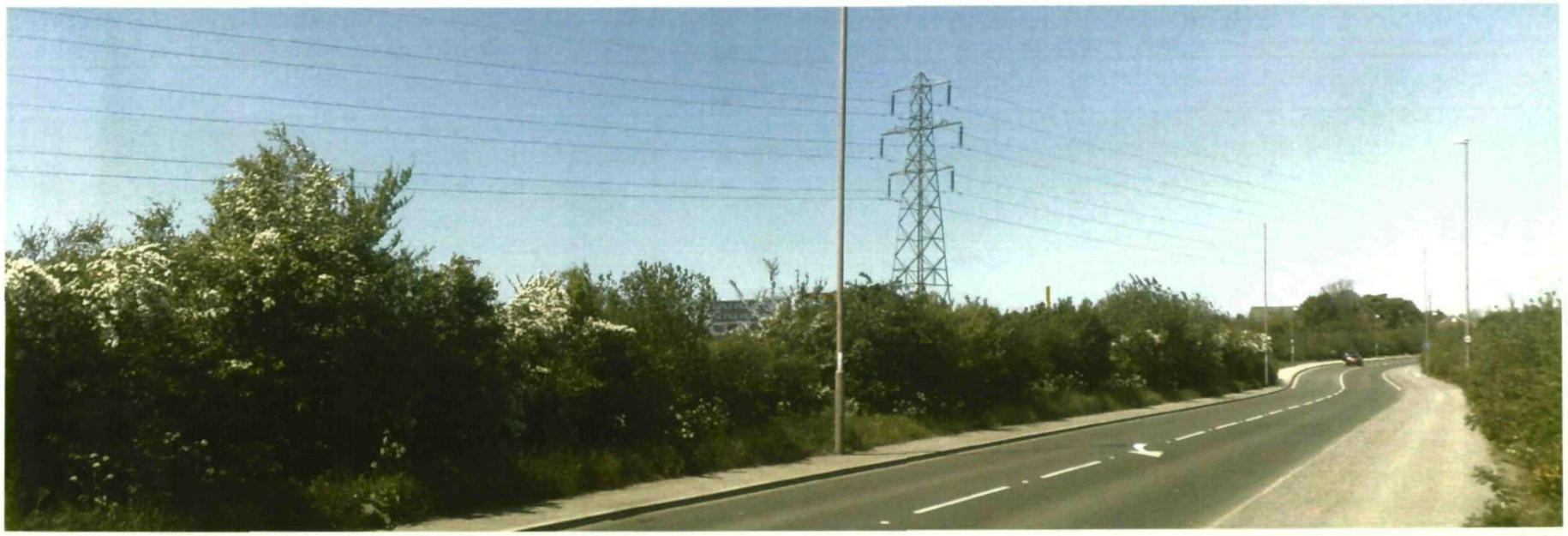
DATE: 06.10.09

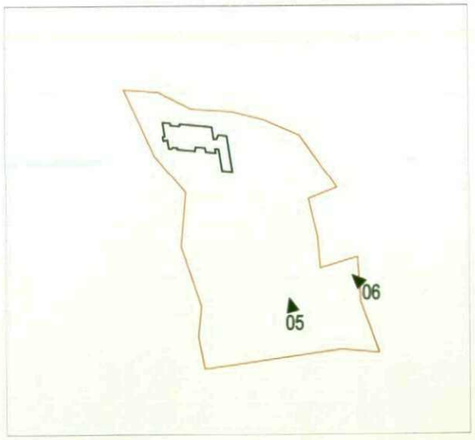
DRAWING NO: BP4L_SHA_BDP_DR_00_BW_00_13

REVISION: P01



05 - View of the new ALC and playing fields from beyond the site to the south-east.





06 - View towards the new ALC from Engine Lane to the south-east of the site

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	FIRST ISSUE SUBMITTED FOR PLANNING	AS	SH	06.10.09

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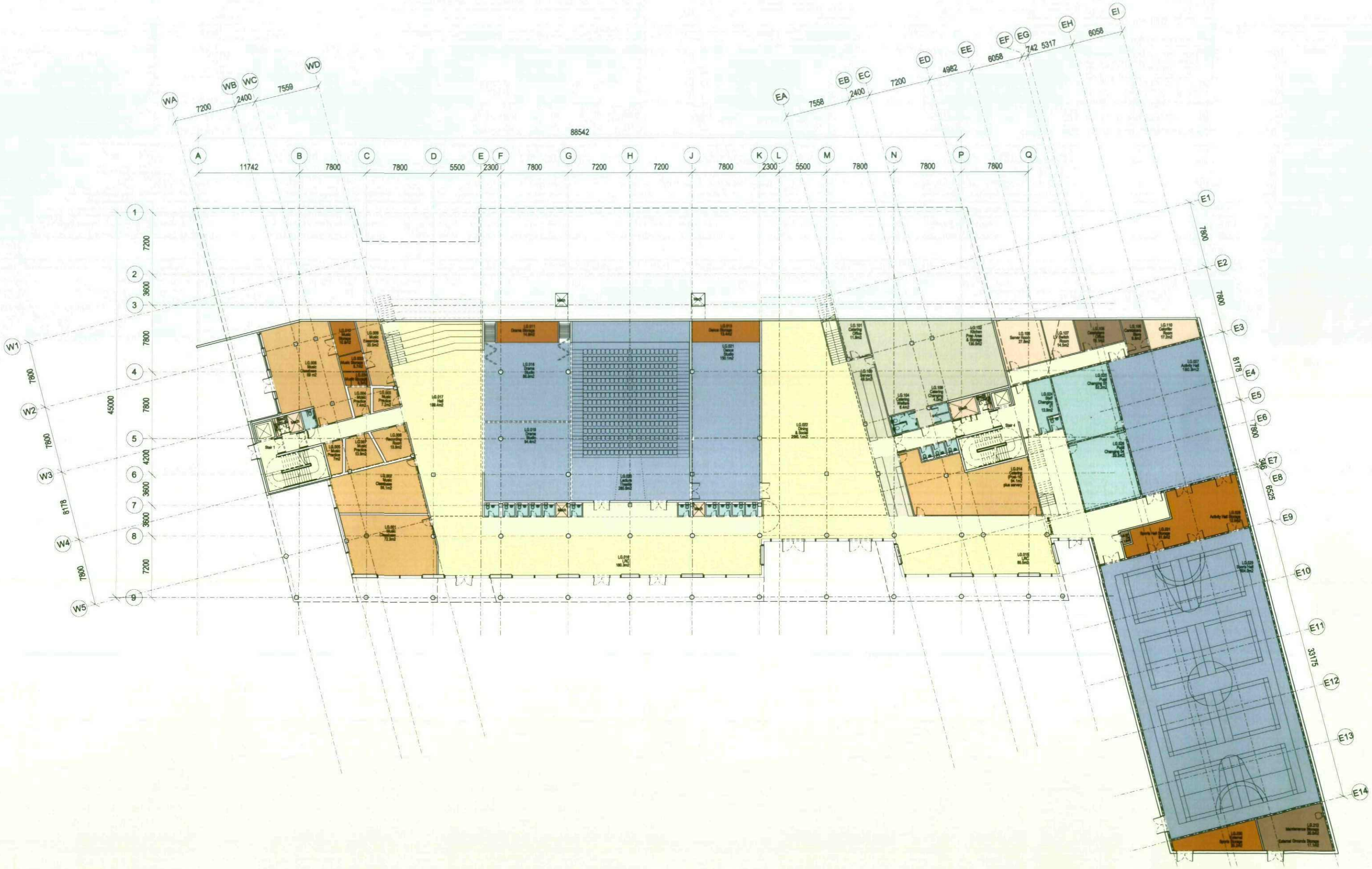
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PROJECT TITLE	Shafton Advanced Learning Centre
PROJECT NUMBER	P2003083
DRAWING TITLE	Visualisations sheet 4
SCALE	
DATE	06.10.09
DRAWING No.	BP4L_SHA_BDP_DR_00_BW_00_14
REVISION	P01

(04) General Arrangement Plans



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P09	Submitted for planning	CB	MC 06.10.09
P08	Stage D Issue	CB	MC 05.10.09
P07	Note amended	PHK	MC 18.09.09
P06	Minor amendments	PHK	MC 17.09.09
P05	See clouded for amendments	CB	MC 14.09.09
P04	Minor amendments	CB	MC 11.09.09
P03	See Clouded for amendments	SH	MC 09.09.09
P02	Minor amendments	JW	MC 03.07.09
FIRST ISSUE		JW	MC 19.06.09

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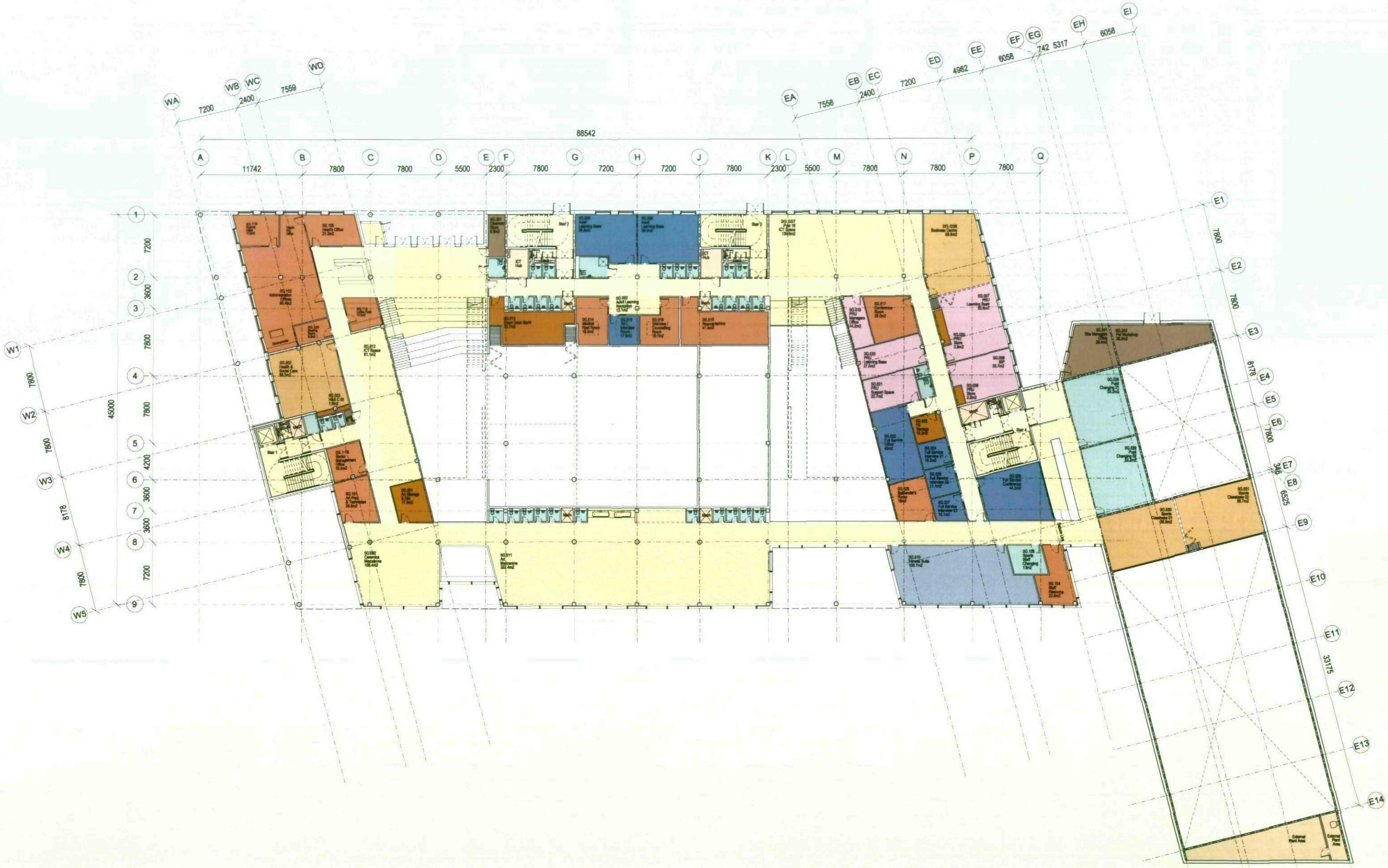
General Arrangement Plan
Lower Ground Floor

1:200@A1

19.06.09

BP4L_SHA_BDP_DR_04_BW_-01_01

P09



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P09	Incorporates 'Variant B' & Comments from Engagement 13.10.09	CB	MC 13.10.09
P08	Pre - Planning Comment	CB	MC 06.10.09
P07	Stage D Issue	CB	MC 05.10.09
P06	See clouded amendments	PHK	MC 17.09.09
P05	See cloud for amendments	CB	MC 14.09.09
P04	Minor amendments	CB	MC 11.09.09
P03	Amendments see clouded	SH	MC 09.09.09
FIRST ISSUE		JW	MC 19.06.09

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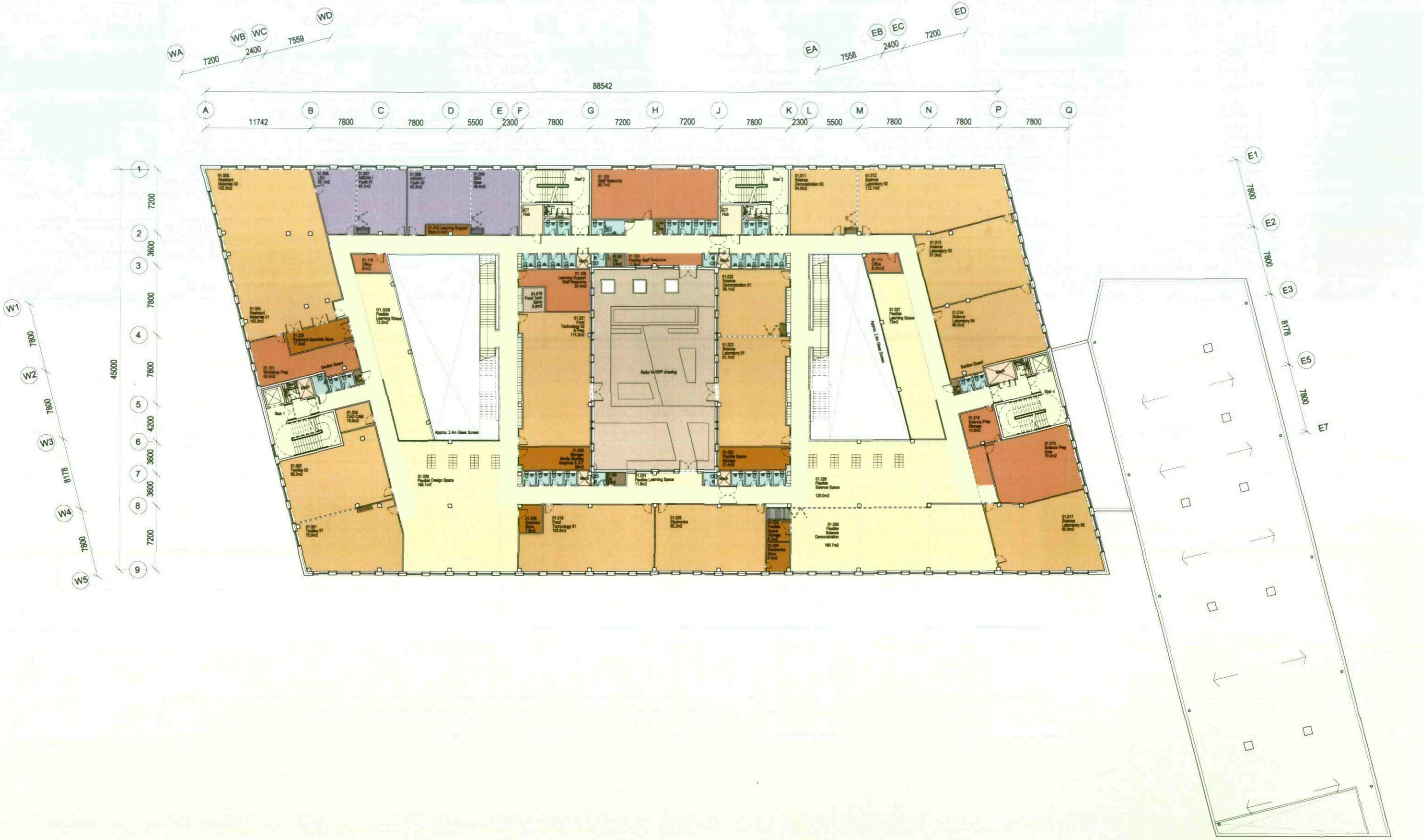
General Arrangement Plan
Ground Floor

1:200@A1

19.06.09

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P10



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P08	Submitted for planning	CB	MC 06.10.09
P07	Stage D Issue	CB	MC 05.10.09
P06	See clouded for amendments	PHK	MC 17.09.09
P05	See clouded for amendments	CB	MC 14.09.09
P04	Minor Amendments	CB	MC 11.09.09
P03	See clouded for amendments	SH	MC 09.09.09
P02	Minor amendments	JW	MC 03.07.09
FIRST ISSUE		JW	MC19.06.09

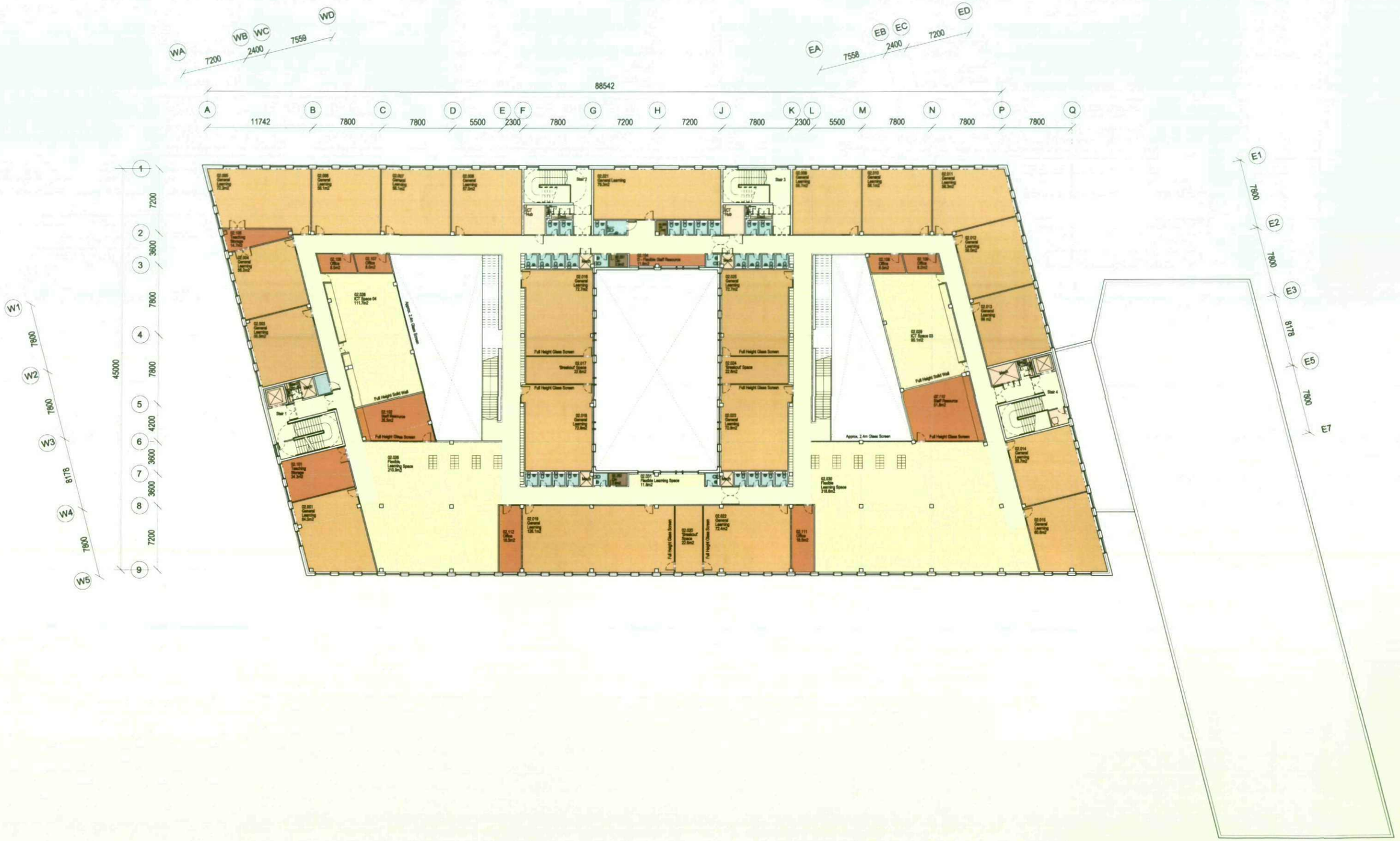
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Project title	Shafton Advanced Learning Centre
Project number	P2003083
Drawing title	General Arrangement Plan First Floor
Scale	1:200@A1
Date	19.06.09
Drawing no.	BP4L_SHA_BDP_DR_04_BW_01_01
Revision	P08



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P10	Submitted for planning	CB	MC 14.10.09
P09	Incorporates 'Variant B' & Comments from Engagement 13.10.09	CB	MC 13.10.09
P08	Pre - Planning Comment	CB	MC 06.10.09
P07	Stage D Issue	CB	MC 05.10.09
P06	Minor amendments see cloud	PHK	MC 17.09.09
P05	See clouded for amendments	CB	MC 14.09.09
P04	Minor Amendments	CB	MC 11.09.09
P03	See clouded for amendments	SH	MC 09.09.09
FIRST ISSUE		JW	MC 19.06.09

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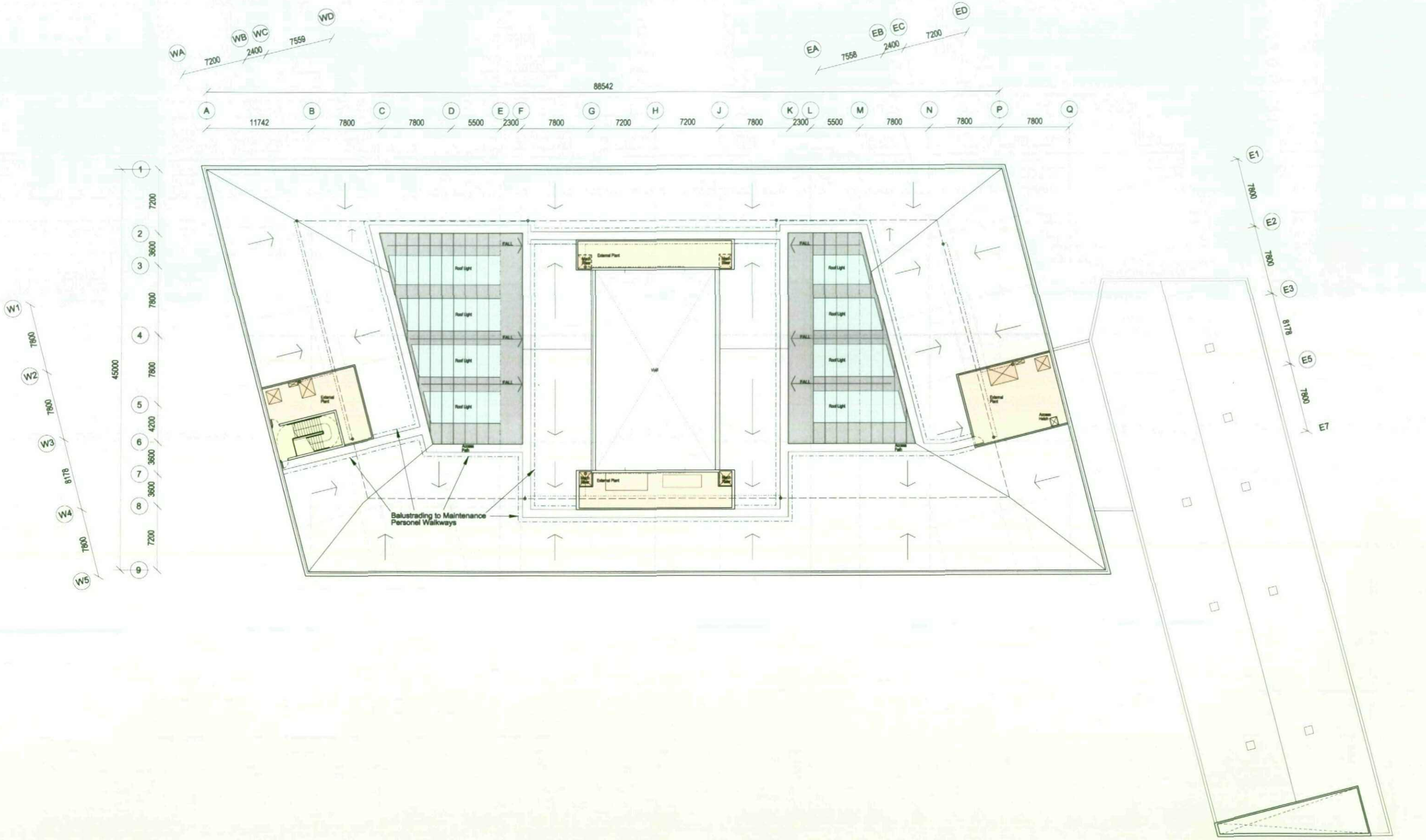
General Arrangement Plan
Second Floor

1:200@A1

19.06.09

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P10



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P08	Submitted for Planning	CB	MC06.10.09
P07	Stage D Issue	CB	MC05.10.09
P06	Note amended	PHK	MC18.09.09
P05	Note Added	PHK	MC17.09.09
P04	See clouded for amendments	CB	MC14.09.09
P03	Roof drainage strategy + falls added	IJ	MC11.09.09
P02	See clouded for amendments	SH	MC09.09.09
FIRST ISSUE		JW	MC03.07.09

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General Arrangement Plan
Roof

1:200@A1

19.06.09

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P08

(05) General Arrangement Elevations



Black
RAL 9160 Specimen to Rocks for mixer

Stone coloured concrete smooth

Orange Render Scottish finish

Wind Catchers Sulphur Yellow

Kawneer windows Solar glass (where required) Frame colour RAL 7016

Actuated windows Frame colour RAL 2011 Deep Orange

Black Concrete

Translucent Cladding Polycarbonate

Timber Cladding

Acoustic Attenuated Louvres RAL 7035

Opaque enamelled glass Mid Grey

Frame colour RAL 7016

Kawneer Curtain Walling Solar glass (where required) Frame colour RAL 7035

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P07	Submitted for planning	CB	14.10.09
P06	Pre - Planning Comment	CB	14.10.09
P05	Stage D Issue	SH	05.10.09
P04	Height of Sports Block amended	CB	14.09.09
P03	Concrete Panel Finish	SH	27.08.09
P02		SH	06.07.09
FIRST ISSUE		SH	19.06.09

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Project Title: Shafton Advanced Learning Centre

Project Number: P2003083

Drawing Title: General Arrangement Elevation North Facade

Scale: 1:200@A1

Date: 19.06.09

Drawing No: BP4L_SHA_BDP_DR_05_BW_LL_01

Revision: P07



Black
2162 Sacramento
Recla formliner

Stone coloured micrcrete
smooth

Orange Render
Smooth finish

Wind Catchers
Subdrue Yellow

Kawneer windows
Solar glass (where required)
Frame colour RAL 7016

Actuated windows
Frame colour RAL 2011
Deep Orange

Black
Concrete

Translucent Cladding
Polycarbonate

Timber Cladding

Acoustic Attenuated Louvres
RAL 7035

Opaque enamelled glass
Mid Grey

Frame colour RAL 7016

Kawneer Curtain Walling
Solar glass (where required)
Frame colour RAL 7035

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P08	Submitted for planning	CB	MC 14.10.09
P07	Pre - Planning Comment	CB	MC 14.10.09
P06	Stage D Issue	SH	MC 05.10.09
P05	Minor Amendments	PHK	MC 17.09.09
P04	Height of Sports Block amended	CB	MC 14.09.09
P03	Concrete Panel finish	SH	MC 27.08.09
P02		SH	MC 05.07.09
FIRST ISSUE		SH	MC 19.06.09

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Project Title
Shafton Advanced Learning Centre

Project number
P2003083

Drawing Title
General Arrangement Elevation
East Facade

Scale
1:200@A1

Date
19.06.09

Drawing No
BP4L_SHA_BDP_DR_05_BW_LL_02

Revision
P08



Black
2.162 Sacramento
Rauki lumber

Stone coloured concrete
smooth

Orange Render
Smooth finish

Wind Catchers
Sulphur Yellow

Kawneer windows
Solar glass (where required)
Frame colour RAL 7016

Actuated windows
Frame colour RAL 2011
Deep Orange

Black
Concrete

Translucent Cladding
Polycarbonate

Timber Cladding

Acoustic Attenuated Louvres
RAL 7035

Opaque enamelled glass
Mid Grey

Frame colour RAL 7016

Kawneer Curtain Walling
Solar glass (where required)
Frame colour RAL 7035

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P09	Submitted for planning	CB	14.10.09
P08	Pre - Planning Comment	CB	14.10.09
P07	Stage D Issue	SH	05.10.09
P06	Minor Amendments	PHK	17.09.09
P05	Height of Sports Block amended and change to Concrete Panel	CB	14.09.09
P04	Rendered Finish	SH	11.09.09
P03	Concrete Panel Finish	SH	27.08.09
P02		SH	06.07.09
FIRST ISSUE		SH	19.05.09

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Shafton Advanced Learning Centre

P2003083

General Arrangement Elevation
South Facade

1:200@A1

19.06.09

BP4L_SHA_BDP_DR_05_BW_LL_03

P09



Black
Cembrit Sacramento Rocks furnished

Stone coloured concrete smooth

Orange Render Smooth finish

Wind Catchers Sulphur Yellow

Kawneer windows Solar glass (where required) Frame colour RAL 7016

Actuated windows Frame colour RAL 2011 Deep Orange

Black
Cembrit

Translucent Cladding Polycarbonate

Timber Cladding

Acoustic Attenuated Louvres RAL 7035

Opaque enamelled glass Mid Grey
Frame colour RAL 7016

Kawneer Curtain Walling Solar glass (where required) Frame colour RAL 7035

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P07	Pre - Planning Comment	CB	MC 14.10.09
P06	Stage D Issue	SH	MC 05.10.09
P05	Minor Amendments	PHK	MC 14.09.09
P04	Height of Sports Block amended	CB	MC 14.09.09
P03		SH	MC 27.08.09
P02		SH	MC 05.07.09
FIRST ISSUE		SH	MC 19.06.09

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P2003083

General Arrangement Elevation West Facade

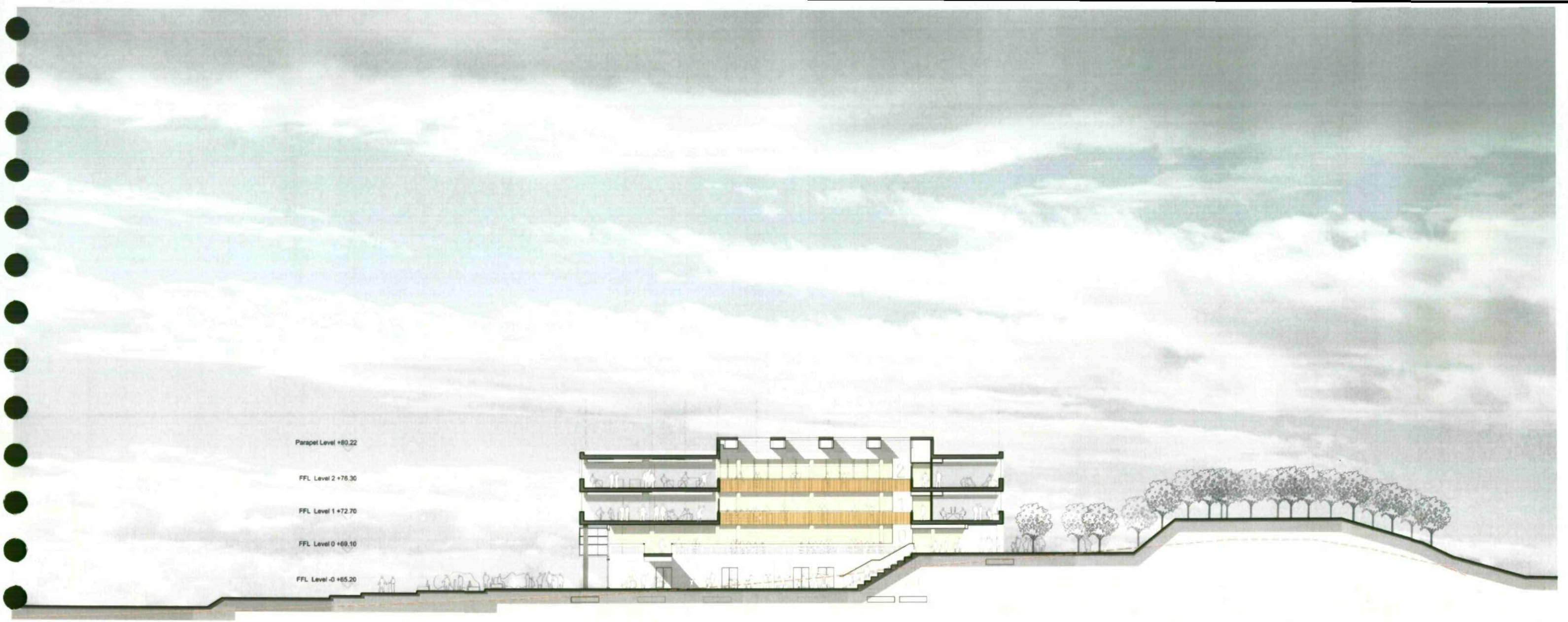
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BP4L_SHA_BDP_DR_05_BW_LL_04

P08

(06) General Arrangement Sections



9 8 7 6 5 4 3 2 1

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P05 Submitted for planning	CB	MC 06.10.09
P05 Stage D Issue	CB	MC 05.10.09
P04 Note added	PHK	MC 18.06.09
P03 Updated to reflect latest GA Plans	PHK	MC 14.06.09
P02	JW	MC 06.07.09
FIRST ISSUE	JW	MC 22.06.09

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Project Title
Shafton Advanced Learning Centre

Project Number
P2003083

Drawing Title
General Arrangement Section North South Through Hall

Scale
1:200@A1

Date
22.06.09

Drawing No
BP4L_SHA_BDP_DR_06_BW_LL_01

Revision
P06



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P05 Submitted for planning	SH	MC 06.10.09
P04 Stage D Issue	SH	MC 05.10.09
P03 Updated to reflect latest GA Plans	PHK	MC 11.09.09
P02	JW	MC 06.07.09
FIRST ISSUE	JW	MC 22.06.09

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Project Title: Shafton Advanced Learning Centre

Project Number: P2003083

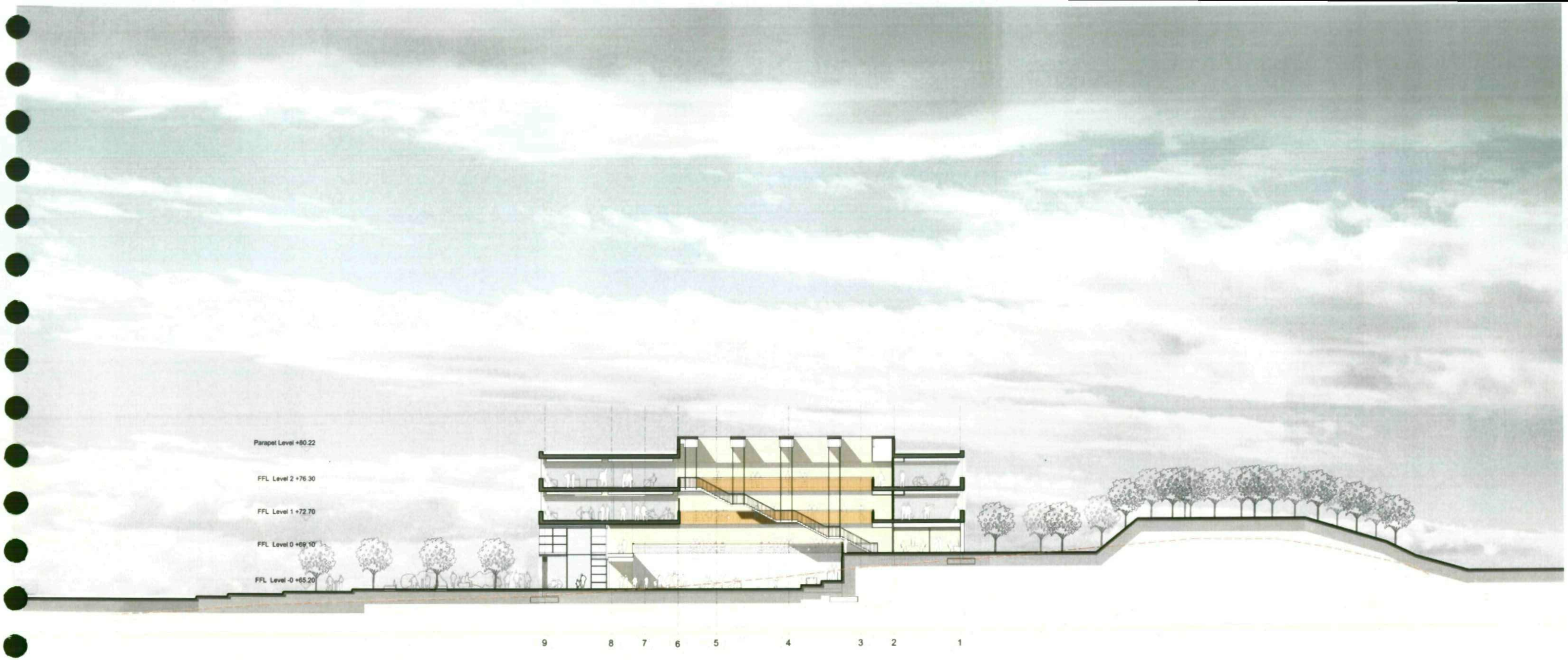
Drawing Title: General Arrangement Section
Section Through Lecture Theatre

Scale: 1:200@A1

Date: 22.06.09

Drawing No: BP4L_SHA_BDP_DR_06_BW_LL_02

Revision: P05



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P06 Submitted for planning	CB	MC	06.10.09
P05 Stage D Issue	CB	MC	05.10.09
P04 Note amended	PHK	MC	18.09.09
P03 Updated to reflect latest GA plans	PHK	MC	14.09.09
P02	JW	MC	08.07.09
FIRST ISSUE	JW	MC	22.05.09

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P2003083

General Arrangement Section North South Through Dining Hall

1:200@A1

22.06.09

BP4L_SHA_BDP_DR_06_BW_LL_03

P06



A B C D E F G H J K L M N P

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P07 Submitted for planning	SH	MC	06.10.09
P06 Stage D Issue	SH	MC	05.10.09
P05 Notes added	PHK	MC	18.09.09
P04 Minor Updates	PHK	MC	17.09.09
P03 Updated to reflect latest GA Plans	PHK	MC	14.09.09
P02	JW	MC	06.07.09
FIRST ISSUE	JW	MC	22.06.09

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Shafton Advanced Learning Centre

P2003083

General Arrangement Section East West Through Heartspace

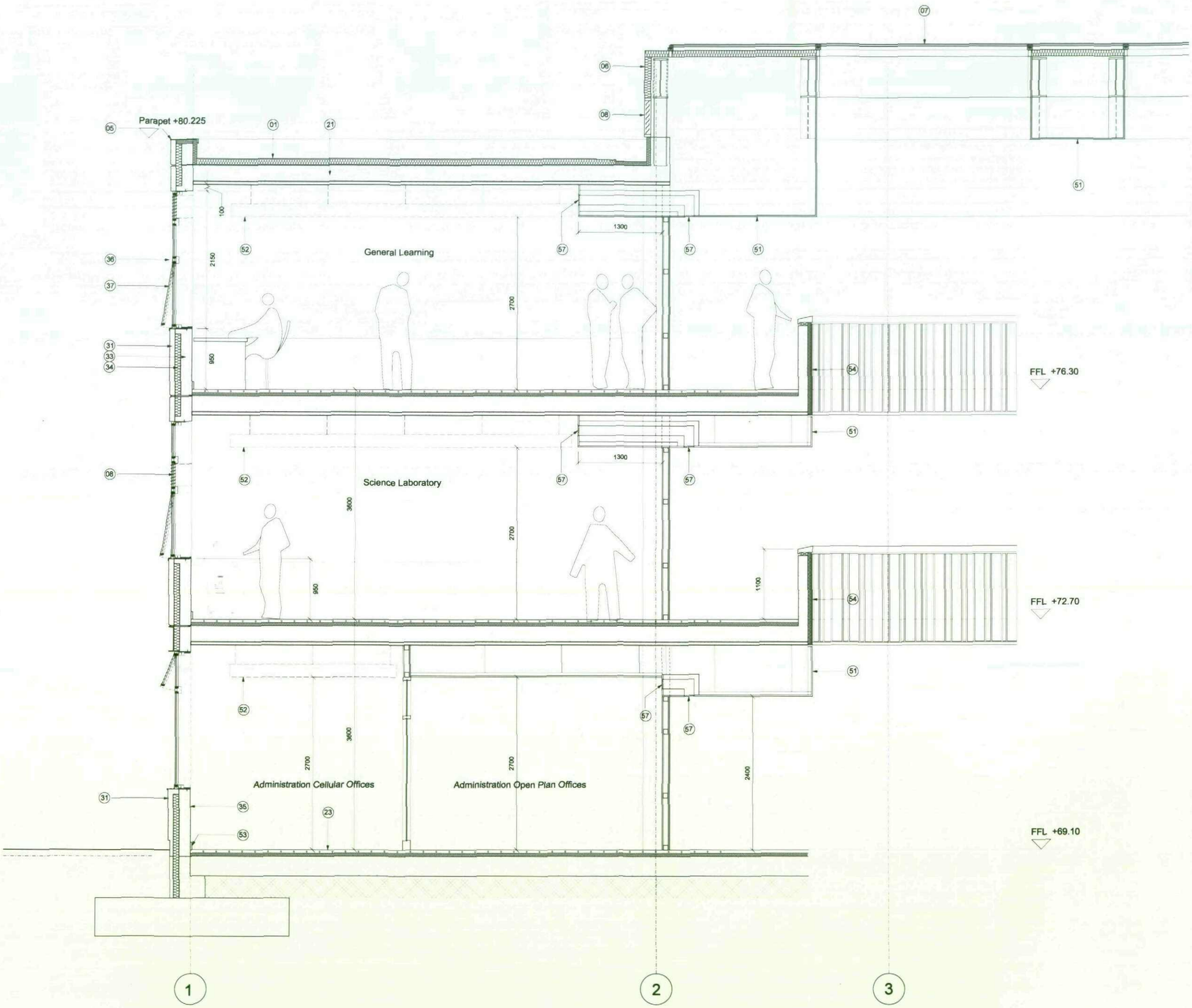
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22.06.09

BP4L_SHA_BDP_DR_06_BW_LL_11

P07

(20) Detailed Sections



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NOTES

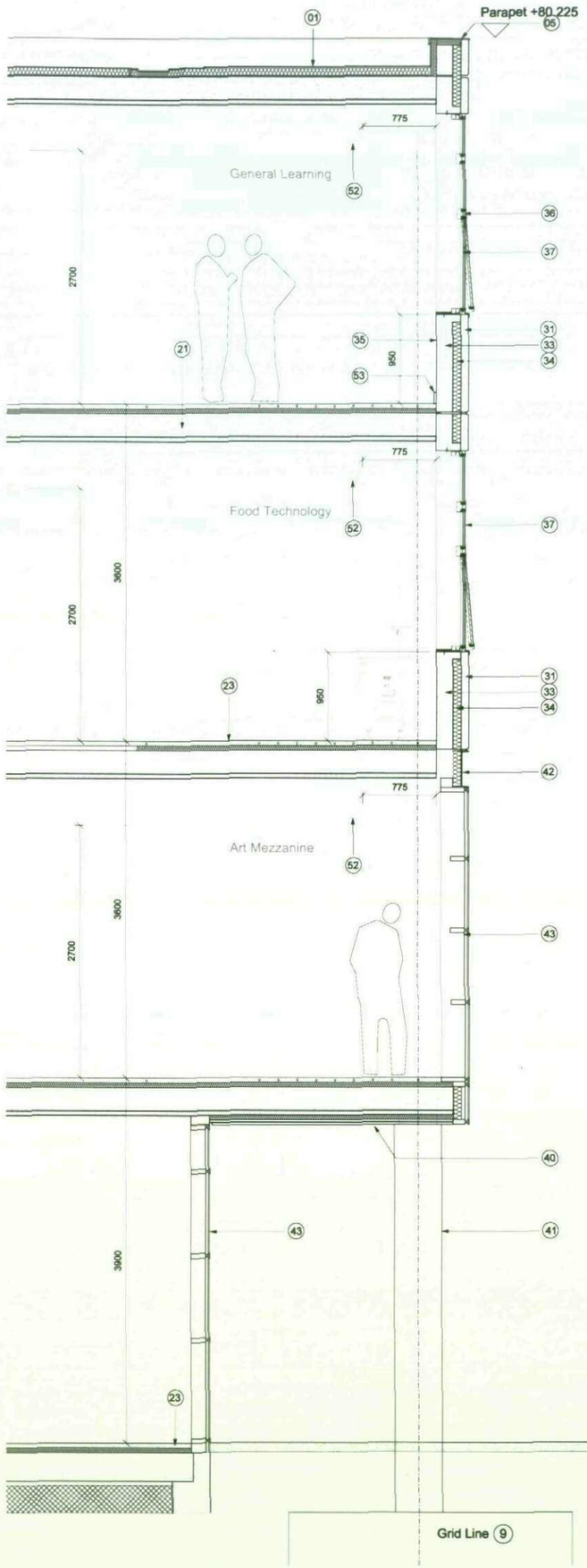
01 Single Ply Membrane on tapered insulation
02 Reinforced Walkway. Integral with Roof Membrane to all maintenance access routes
03 Ballustrading to symbolise all maintenance access walkways
04 Single Ply Membrane on Tapered Insulation on Perforated Structural Profile Deck with Integral Acoustic mat to SRL requirements
05 Polyester Powder Coated, secret fix aluminium coping system
06 Composite panels to vertical roof faces
07 Polyester powder coated roof glazing system with a mixture of solar controlled glazing and solid insulated cladding panels (see roof plan) Horizontal joints to be capped to facilitate clear draining
08 Actuated, acoustically attenuated louver (controlled by CO²sensor and temperature)
09 Siphonic rainwater system to specialist subcontractors design
21 300mm slab (50mm precast panels and 250mm insitu concrete). Underside to be exposed to act as a thermal mass
22 300mm concrete floor slab on 100mm insulation
23 100mm floor finish zone. 50mm screed on 50mm insulation incorporating under floor heating
24 Timber sprung sports/activity floor
25 Screeds laid to falls in changing rooms / shower areas
31 7.8m x 3.6m x 80mm thick Black Pre-Cast concrete panels. Panel cast with 3/182 Sacramento, Recill mould
32 7.8m x 3.6m x 80mm thick Black Pre-Cast concrete panels. Panel smooth finish
33 7.8m x 3.6m x 179mm thick precast structural concrete panel
34 98mm panel infill insulation to achieve a U value of ——
35 Internally exposed precast concrete wall finish
36 Aluminium window system
37 Double glazed unit with solar control glass where required
38 Translucent polycarbonate cladding system to maximise natural daylight
39 Timber or Metal External Soffit boarding (Fire treated to Class 'O' below 3.0m only)
40 External PPC Aluminium Flat Soffit Panel System
41 500mm Ø Smooth finish concrete column
43 Polyester Powder Coated Vertical Curtain Walling with Solar Control Glazing and Spandrel Panels
44 Vertical Profile Composite Panel
51 Suspended ceiling / bulkhead
52 Floating service raft with acoustic absorption
53 Skirting
54 Acoustic absorption material
55 Perforated plasterboard for acoustic absorption
56 Metal balustrading to bridge links to maximise daylight penetration
57 Attenuated cross talk louvres to Mechanical Engineers Design & Specification
58 Internal doors
59 Glazed side screen to main circulation and classroom doors

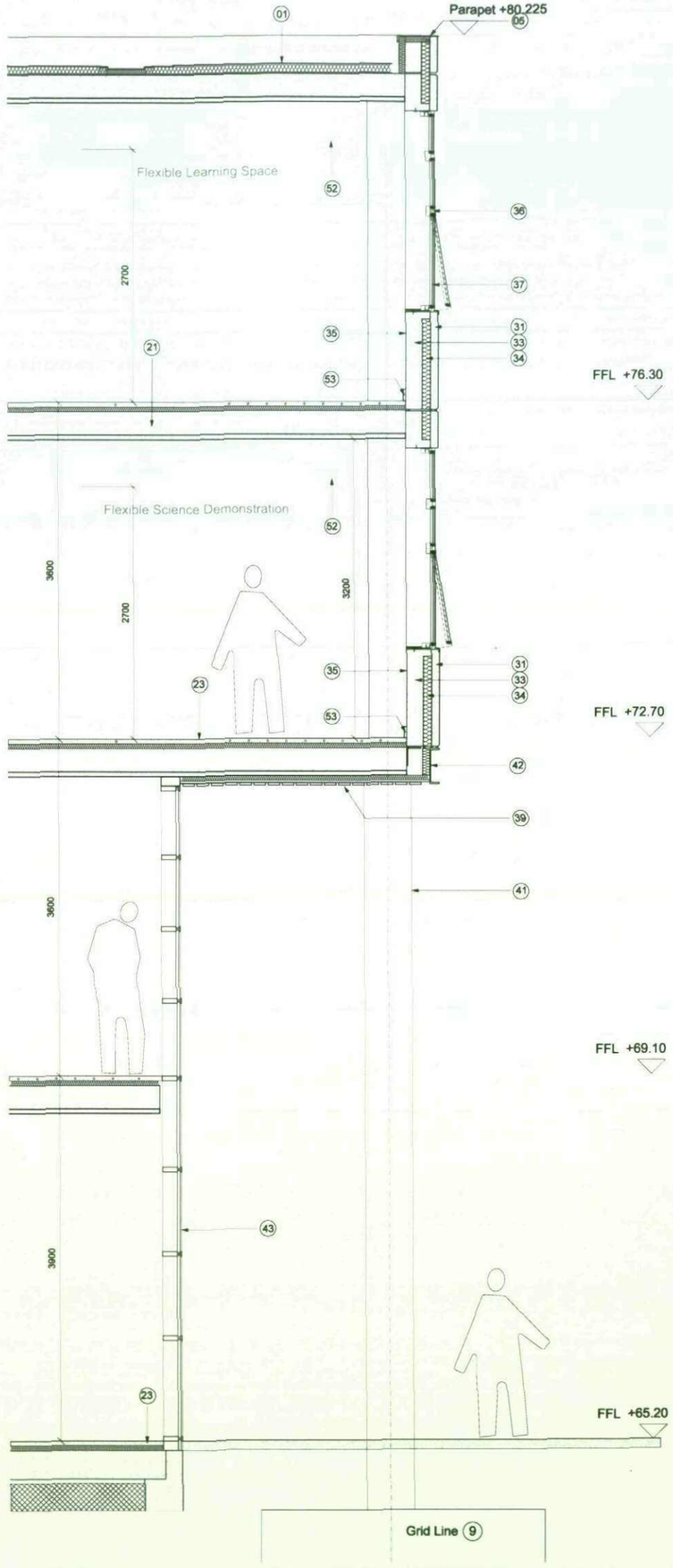
P09	Submitted for planning	CB	MC	14/10/09
P08	Pre - Planning Comment	IRJ	MC	09/10/09
P07	Spec notes rebroadcast across drawings General Updates to section Stage 'D' Issue	IRJ	MC	05/10/09
P06	Bulkheads Service Rafts and Ventilation clarified	IRJ	MC	17/09/09
P05	External Wall to Grid Setting out modified Roof Pafe modified	IRJ	MC	11/09/09
FIRST ISSUE		SH	MC	22/08/09

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Project Title: Shelton Advanced Learning Centre
Project No: P2003083
Drawing Title: Detailed Sections North Facade
Scale: 1:20@A0
Date: 19-08-09
Drawing No: BP4L_SHA_BDP_DR_20_BW_LL_01
Revision: P09





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03 Balustrading to enclose all maintenance access walkways

04 Single Ply Membrane on Tapered Insulation on Perforated Structural Profile Deck with integral Acoustic mat to SRC requirements

05 Polyester Powder Coated, secret fix aluminium coping system

06 Composite panels to vertical roof faces

07 Polyester powder coated roof glazing system with a mixture of solar controlled glazing and solid insulated cladding panels (see roof plan) Horizontal joints to be capped to facilitate clear draining

08 Actuated, sonic/acoustically attenuated louvre (controlled by CO²sensor and temperature)

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24 Timber sprung sports/activity floor

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32 7.8m x 3.6m x 80mm thick Black Pre-Cast concrete panels. Panel smooth finish

33 7.8m x 3.6m x 175mm thick precast structural concrete panel

34 80mm panel infill insulation to achieve a U value of ____

35 Internally exposed precast concrete wall finish

36 Aluminium window system

37 Double glazed unit with solar control glass where required

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54 Acoustic absorption material

55 Perforated plasterboard for acoustic absorption

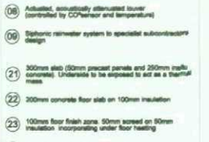
56 Metal balustrading to bridge links to maximise daylight penetration

57 Attenuated cross talk louvres to Mechanical Engineers Design & Specification

58 Internal doors

59 Glazed side screen to main circulation and classroom doors

P09	Submitted for planning	CB MC	14/10/09
P08	Pre - Planning Comment	IRJ MC	08/10/09
P07	Spec Notes rationalised across drawings IRJ, MC 08/10/09 General Updates to sections. Stage 'D' Issue		
P06	External wall reinstated as concrete panels IRJ, MC 14/09/09 as LOR instruction 110A/09. Column and grid setting out maintained at 200mm offset		
FIRST ISSUE		SH MC	22/08/09



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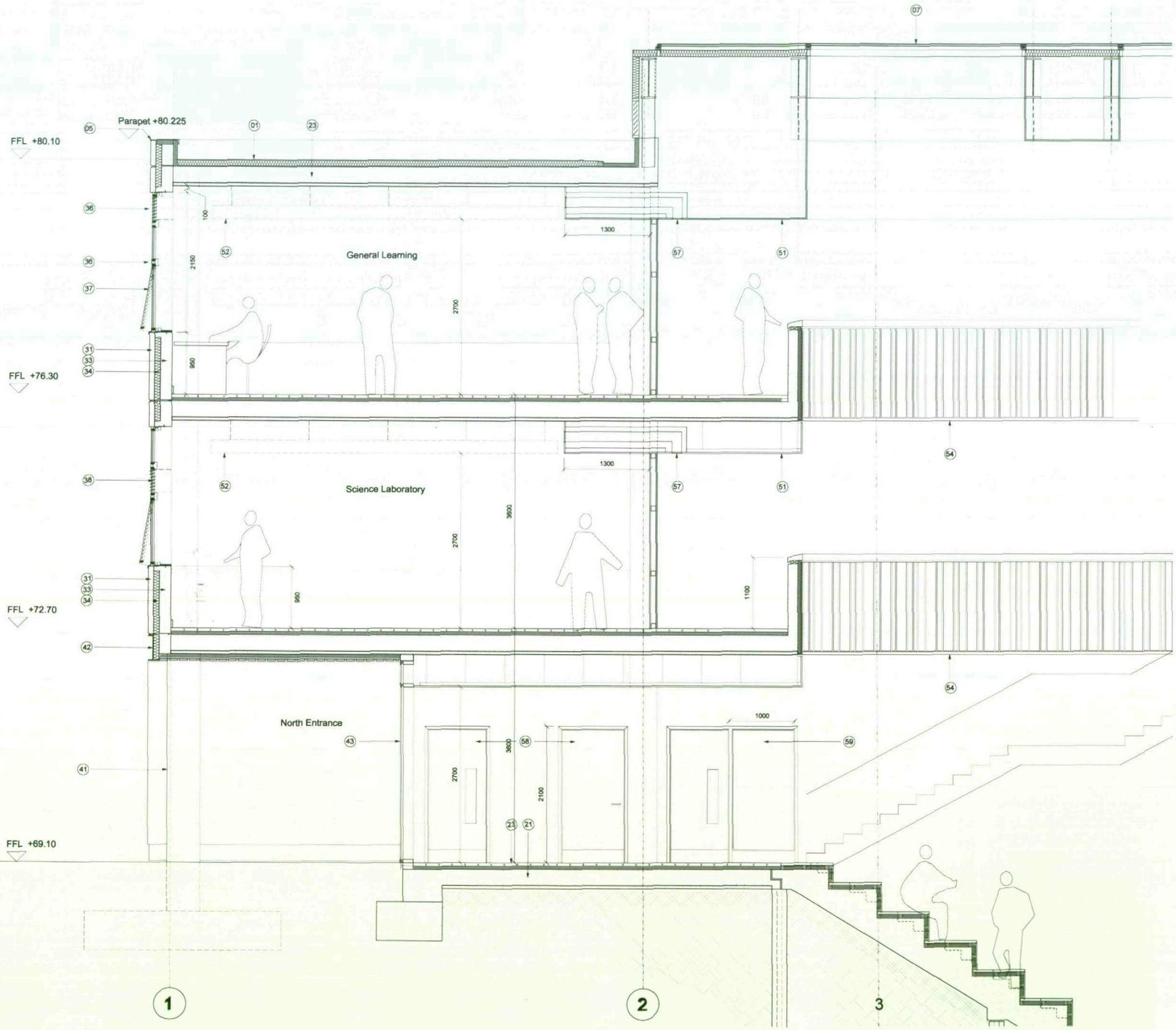
Detailed Sections
South Facade

1:20@A1

19.06.09

BP4L_SHA_BDP_DR_20_BW_LL_02

P09



NOTES

01 Single Ply Membrane on tapered insulation

02 Reinforced Walkway, Integral with Roof Membrane to all maintenance access routes

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04 Single Ply Membrane on Tapered Insulation on Perforated Structural Profile Deck with Integral Acoustic mat to SRL requirements.

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06 Composite panels to vertical roof faces

07 Polyester powder coated roof glazing system with a minimum of solar controlled glazing and solid insulated cladding panels (see roof plan) Horizontal joints to be stepless to facilitate clear draining

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34 98mm panel infill insulation to achieve a U value of ____

35 Internally exposed precast concrete wall finish

36 Aluminium window system

37 Double glazed unit with solar control glass where required

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54 Acoustic absorption material

55 Perforated plasterboard for acoustic absorption

56 Metal balustrading to bridge links to maximise daylight penetration

57 Attenuated cross talk louvres to Mech/Hnical Engineers Design & Specification

58 Internal doors

59 Glazed side screen to main circulation and classroom doors

P05	Submitted for planning	CB MC	14/10/09
P04	Pre - Planning Comment	IRJ MC	09/10/09
P03	General updates for the Stage 'D' Report	IRJ MC	29/10/09
P02	Bulkheads Service Rafts and Ventilation clarified	IRJ MC	17/09/09
FIRST ISSUE		IRJ MC	11/09/09

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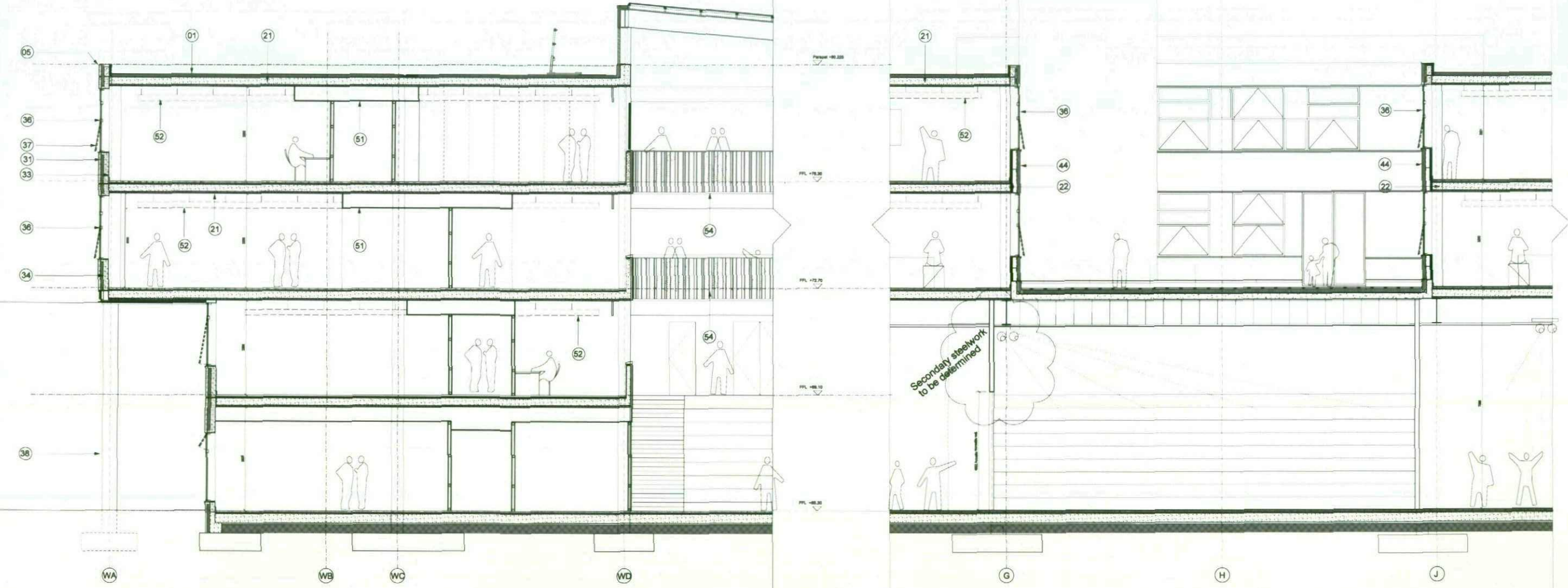
Detailed Sections
North Facade 2

1:20@A0

19.06.09

BP4L_SHA_BDP_DR_20_BW_LL_03

P05



NOTES

01 Single Ply Membrane on tapered insulation

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34 66mm panel infill insulation to achieve a U value of _____

36 Internally exposed precast concrete wall finish

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37 Double glazed unit with solar control glass where required

38 Translucent polycarbonate cladding system to maximise natural daylight

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51 Suspended ceiling / bulkhead

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54 Acoustic absorption material

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56 Stainless steel open balustrading to bridge links to maximise daylight penetration

57 Attenuated cross talk louvres to Mechanical Engineers Design & Specification

58 Internal doors

59 Glazed side screen to main circulation and classroom doors

P03	Submitted for planning	CB	MC	14/10/09
P02	Pre - Planning Comment	PHK	SC	09/10/09
FIRST ISSUE	Stage D	PHK	MC	05/10/09

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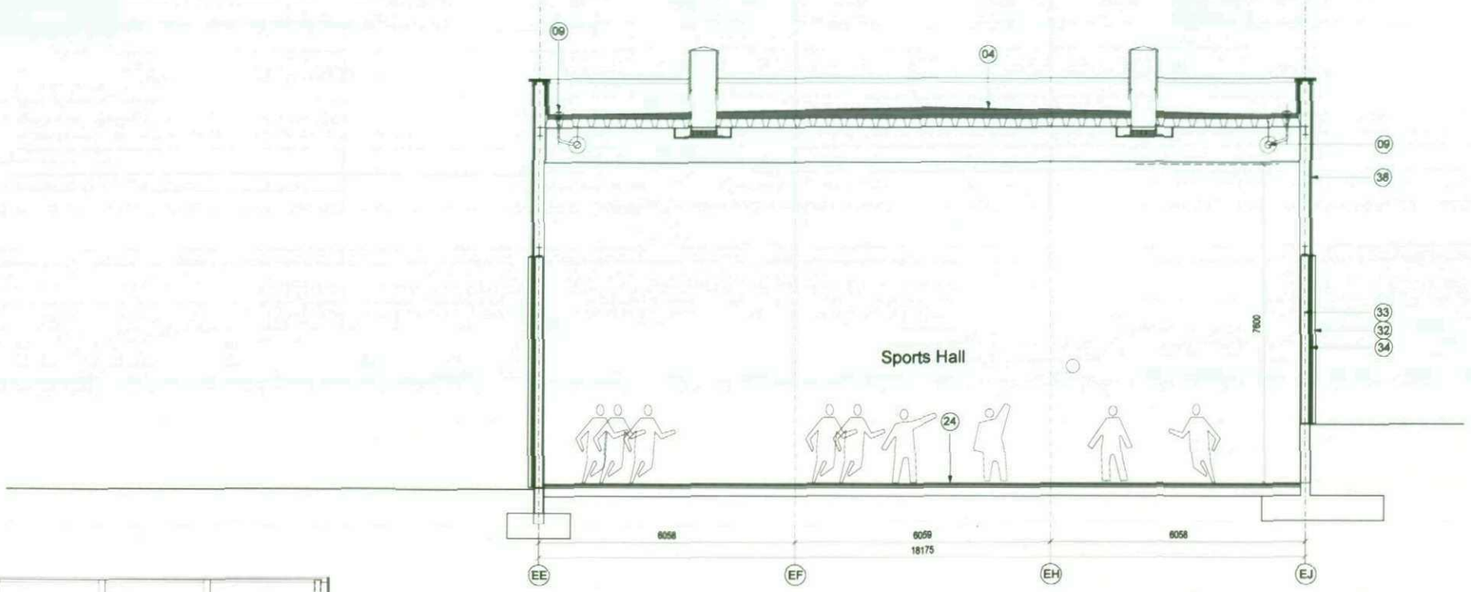
Detailed Sections
Courtyard and West facade

1:200@A0

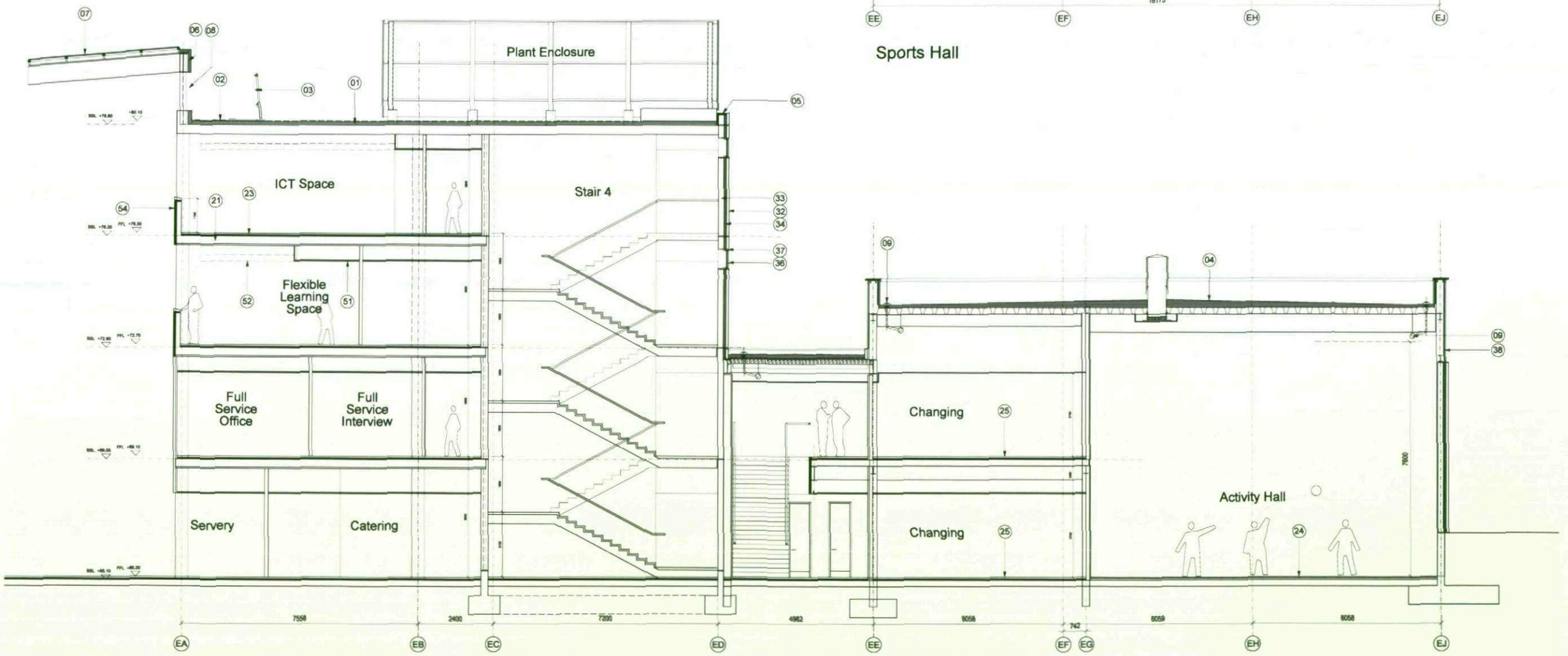
05.10.09

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P03



Sports Hall



Sports Hall & Building Abutment (Core 4)

NOTES

01 Single Ply Membrane on tapered insulation

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34 88mm panel infill insulation to achieve a U value of _____

35 Internally exposed precast concrete wall finish

36 Aluminium window system

37 Double glazed unit with solar control glass where required

38 Translucent polycarbonate cladding system to maximise natural daylight

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56 Metal balustrading to bridge links to maximise daylight penetration

57 Attenuated cross loft louvres to Mechanical Engineers Design & Specification

58 Internal doors

59 Glazed side screen to main circulation and classroom doors

P03	Submitted for planning	CB	MC	14/10/09
P02	Pre - Planning Comment	IRJ	MC	09/10/09
P01	Stage 'D' Report	IRJ	MC	05/10/09
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Detailed Sections Sports Hall

1:50@A0

19.06.09

BP4L_SHA_BDP_DR_20_BW_LL_12

P03

(21) Detailed Elevations



F

Black
RAL9005 Tetrachromic
Ral9005 Iserrafinish

Stone coloured concrete
smooth

Orange Render
Sreeclife Finish

Wing Catchers
Sulphur Yellow

D

Kawneer windows
Solar glass (where required)
Frame colour RAL 7016

Actuated windows
Frame colour RAL 2011
Deep Orange

Black
Concrete

Translucent Cladding
Polycarbonate

Timber Cladding

Acoustic Attenuated Louvres
RAL 7035

Opaque enamelled glass
Mid Grey

Frame colour RAL 7016

C

Kawneer Curtain Walling
Solar glass (where required)
Frame colour RAL 7035

B

A

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P04	Submitted for planning	CB	14.10.09
P03	Pre - Planning Comment	SH	06.10.09
P02	Stage D Issue	SH	05.10.09
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Detailed Elevation
North facade Typical Bays
Gridline F-A

1:50@A1

22.09.09

BP4L_SHA_BDP_DR_21_BW_LL_03

P04



Black
Stone colour self concrete smooth
Orange Render Smooth finish
Wall Cladding Acoustic Louvre
H
Aluminium windows Solar glass (where required) Frame colour RAL 7016
Actuated windows Frame colour RAL 2011 Deep Orange
J
K
M
Black Concrete
Translucent Cladding Polycarbonate
Timber Cladding
Acoustic Attenuated Louvres RAL 7016
Opaque enamelled glass Mid Grey Frame colour RAL 7016
Stainless Curtain Walling Solar glass (where required) Frame colour RAL 7016

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PC3	Submitted for planning	CB	14.10.09
PC2	Pre - Planning Comment	SH	06.10.09
FIRST ISSUE	Stage D Issue	SH	05.10.09

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Detailed Elevation
South facade Typical Bays
Gridline H-M

1:50@A1

29.09.09

BP4L_SHA_BDP_DR_21_BW_LL_04

P03



7 5 4 3

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P02	Submitted for planning	SH	06.10.09
FIRST ISSUE	Stage D Issue	SH	06.10.09

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Detailed Elevation
Courtyard Typical Bays
Gridline 3-7

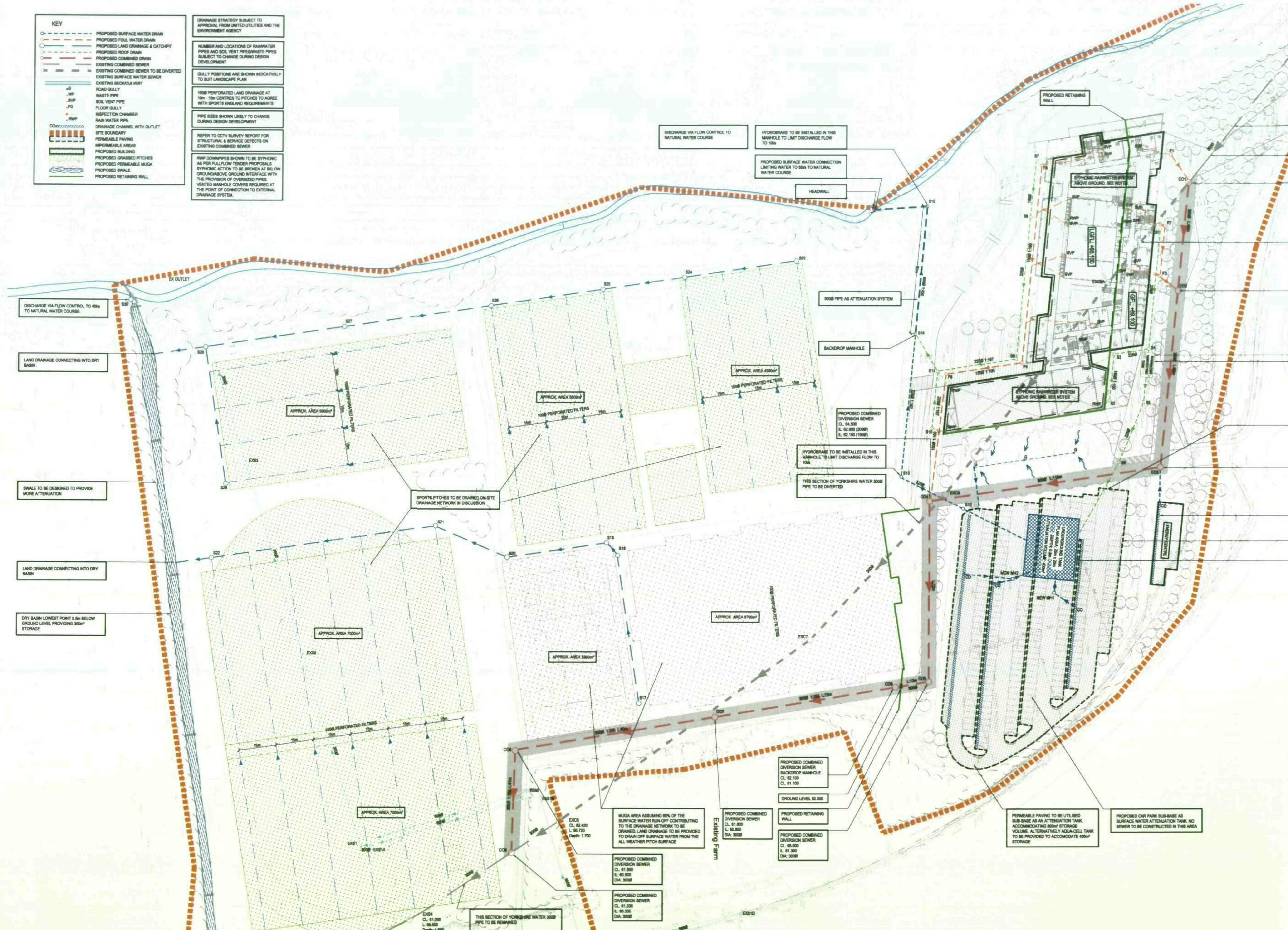
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02.10.09

BP4L_SHA_BDP_DR_21_BW_LL_04

P02

(93) Drainage Strategy



MANHOLE SCHEDULES

MH No.	COVER LEVEL	INVERT LEVEL	DEPTH (m)
PROPOSED FOUL SEWER MANHOLES			
F1	70.680	68.800	-1.880
F2	68.400	66.700	-1.700
F3	65.400	63.800	-1.600
F4	65.000	64.000	-1.000
F5	65.000	63.250	-1.750
F6	65.000	62.950	-2.050
PROPOSED COMBINED SEWER DIVERSION MANHOLES			
CO1	68.800	66.500	-1.500
CO2	69.500	65.200	-4.300
CO3	68.000	63.370	-4.630
CO4	64.500	62.000	-2.500
CO5	65.000	61.300	-3.700
CO6	62.100	61.100	-1.000
CO7	61.800	60.800	-1.000
CO8	61.500	60.500	-1.000
CO9	61.800	60.335	-1.465
PROPOSED SURFACE WATER MANHOLES			
S1	69.000	68.025	-0.975
S2	68.800	67.900	-0.900
S3	68.800	67.700	-1.100
S4	68.800	67.575	-1.225
S5	68.700	67.300	-1.400
S6	68.600	67.000	-1.600
S7	65.000	64.100	-0.900
S8	65.000	63.850	-1.150
S9	65.000	63.195	-1.805
S10	65.000	64.025	-0.975
S11	65.000	62.890	-2.110
S12	66.800	65.700	-1.100
S13	62.000	61.025	-0.975
S14	61.000	60.000	-1.000
S15	61.000	59.850	-1.150

Revision	Description	By	Chk	Date
P04	RAINWATER PIPE POSITIONS MOVED TO SUIT FULLFLOW SYPHONIC DRAINAGE DESIGN	CK	BDP	14.10.09
P03	RAINWATER HARVESTING TANK REMOVED	JH	YZ	23.09.09
P02	PROPOSED DIVERSION ROUTE REVISED & DRAINAGE AMENDED TO LATEST MASTER PLAN	AG	YZ	11.09.09
	FIRST ISSUE	AG	YZ	17.06.09

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Shafton Advanced Learning Centre

P2003083

DRAINAGE STRATEGY

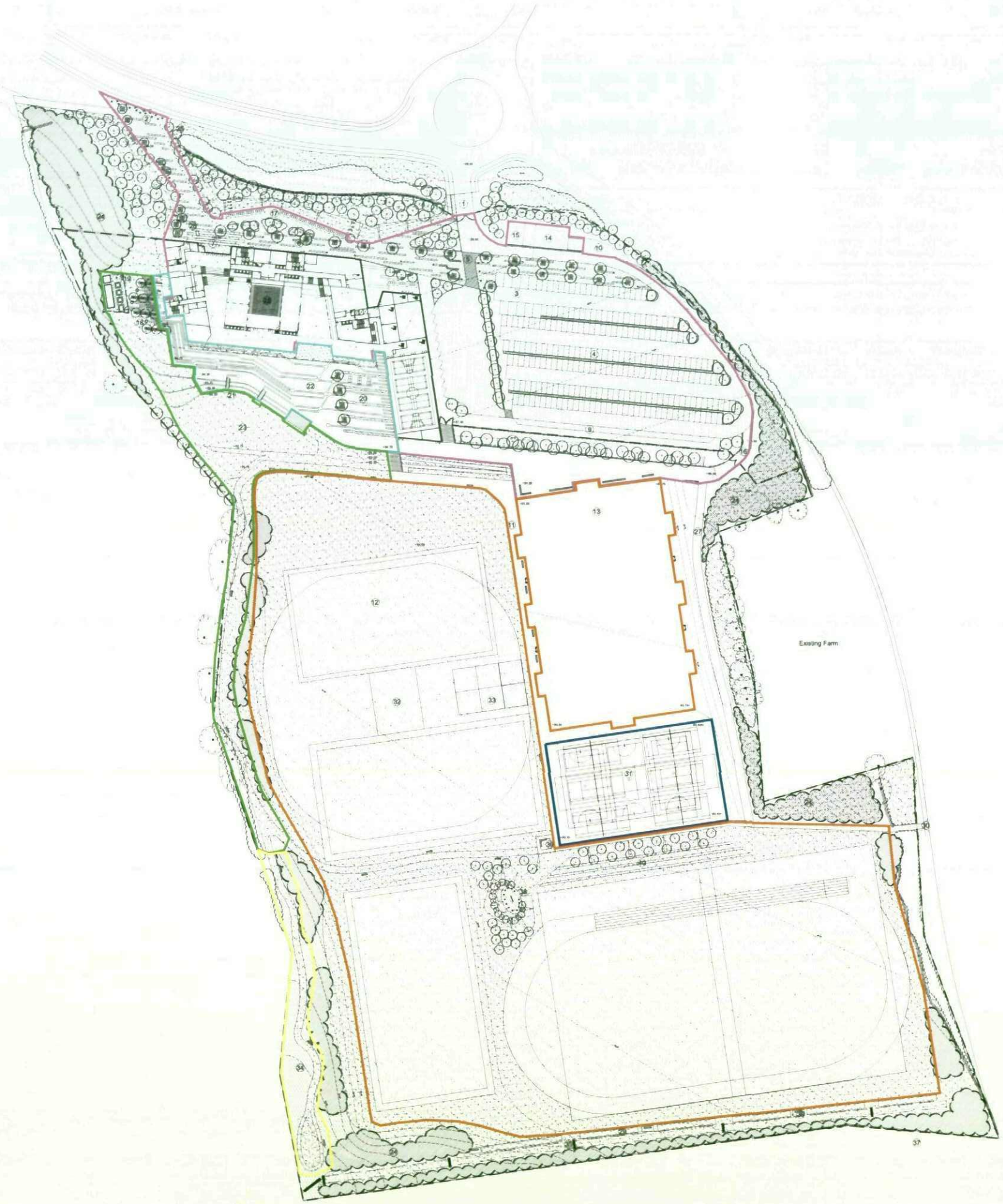
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JUNE'09

BP4L_SHA_BDP_DR_93_BW_LL_001

P04

Appendix B Landscape Drawings



Site Area

External Teaching

Sports Pitches

Soft informal and social

Games Courts [hard surfaced]

Hard informal and social

Habitat

Buildings and Access

Totals

Total Site Area	112,665m2
Sports Pitches	62,000m2
Games Courts [hard surfaced]	3,250m2
Soft informal and social	5,200m2
Hard informal and social	2,800m2
Habitat	1,700m2
Buildings and Access	20,300m2

Based on drawing or sketch no
BP4L_SHA_AWP_DR_94_BW_LL_01 P01

DCSF Site Areas

REV	DESCRIPTION	DATE
P01	Preliminary Issue.	04.09.09
P02	Areas amended in accordance with changes to Masterplan. LS	12.10.09

REV	DESCRIPTION	DATE

Barnsley Partnership For Learning

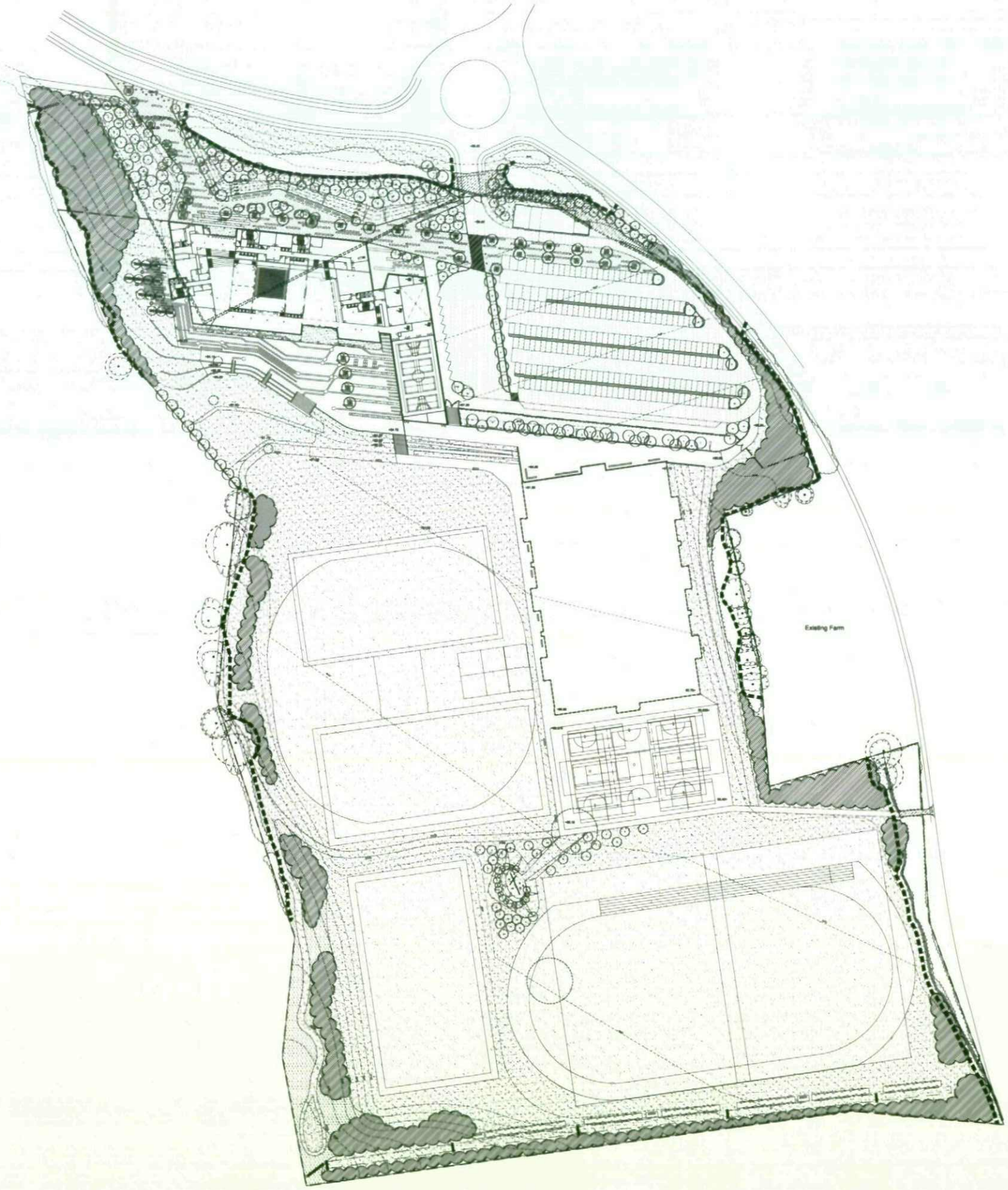
Design Risk Management Reference: CDM/

PROJECT: Barnsley BSF - Shafton ALC School
DRAWING TITLE: DCSF Areas
DRAWING No.: BP4L_SHA_AWP_DR_94_BW_LL_03 P02
SCALE (A1): 1:1000
DATE: 04-09-2009
DRAWN: AH
CHKD: JH

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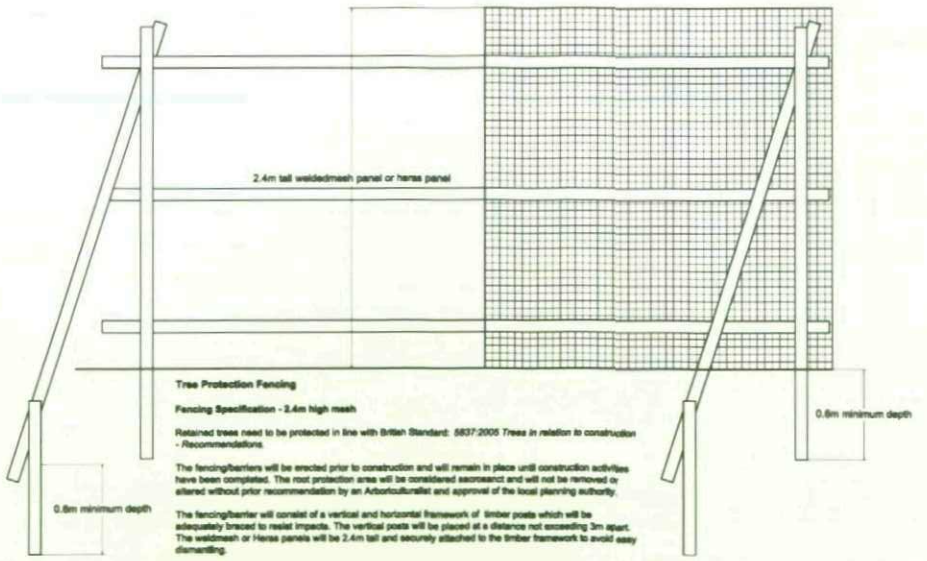
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LEGEND

- Existing tree to be retained
- Existing tree to be removed
  Trees will be retained where possible
- Existing hedge to be retained
- Existing structure/hedge planting to be removed
- Root protection zone
  Where construction works are required close to, or within the Root Protection Zones, details in accordance with BS5837:2005 will be provided to the BMBC Landscape Officer for comment and approval prior to commencement on site.
- Proposed alignment of tree protection fencing.
  Erection of the fence and any works required close to/within the tree protection zone will be undertaken in accordance with BS5837:2005

NB. Some lengths of fence may be downgraded to chestnut pale fence where existing vegetation is not at risk from construction works. To be agreed with Barnsley MBC Landscape Officer on site.



Tree Protection Fencing

Fencing Specification - 2.4m high mesh

Retained trees need to be protected in line with British Standard: *5837:2005 Trees in relation to construction - Recommendations.*

The fencing/barriers will be erected prior to construction and will remain in place until construction activities have been completed. The root protection area will be considered exclusive and will not be removed or altered without prior recommendation by an Arboriculturalist and approval of the local planning authority.

The fencing/barrier will consist of a vertical and horizontal framework of timber posts which will be adequately braced to resist impacts. The vertical posts will be placed at a distance not exceeding 3m apart. The weldmesh or Heras panels will be 2.4m tall and securely attached to the timber framework to avoid easy dismantling.

No fixing will be made to any tree and appropriate measures will be taken to prevent damage to tree roots when locating the posts. All types of barriers will be firmly attached to prevent movement by site personnel or vehicles and all weather signs with the wording "Construction exclusion zone- keep out" will be attached.

Fencing will be regularly inspected for damage or loosening of fixings and repaired promptly.

NTS

REV.	DESCRIPTION.	DATE.	REV.	DESCRIPTION.	DATE.
P01	Preliminary Issue.	07.09.09			
P02	Preliminary Issue.	07.09.09			
03	Notes added to key.	17.09.09			
04	Ex. hedges to be removed added and existing planting along Engine Lane shown. Graphics amended.	06.10.09			

Barnsley Partnership For Learning

Design Risk Management Reference: BP4L_SHA_AWP_RA_94_BW_LL_01

awp

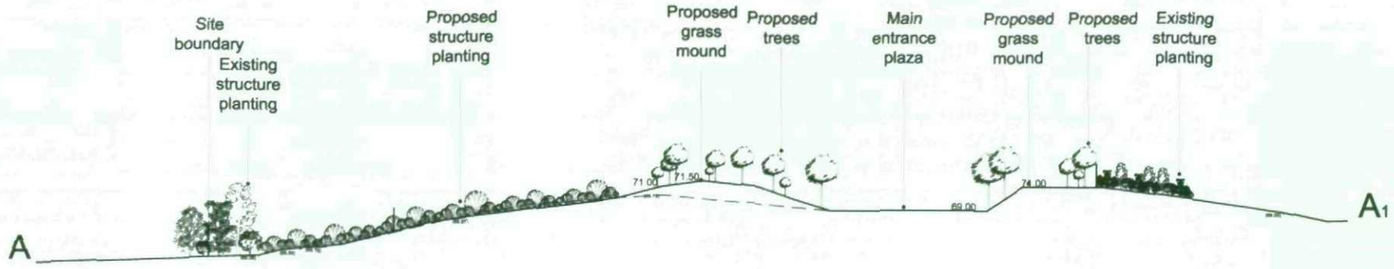
PROJECT: Barnsley BSF - Shafton School

DRAWING TITLE: Tree Protection Drawing

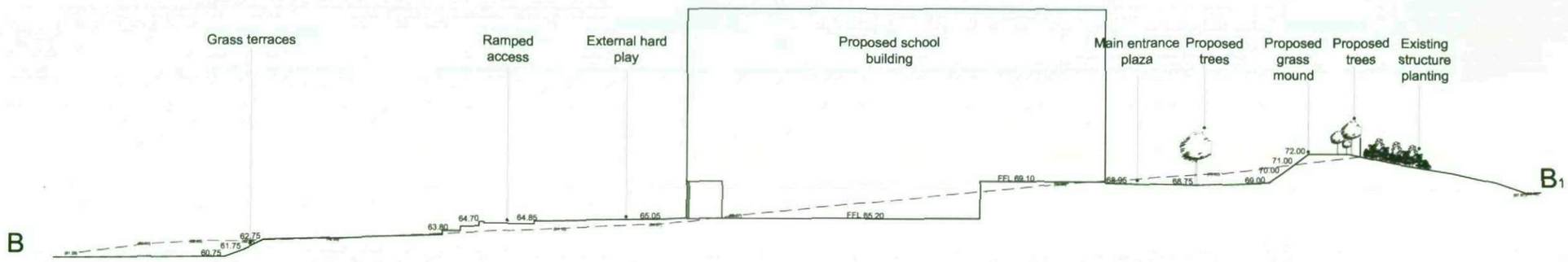
DRAWING No.	SCALE (A1)	DATE	DRAWN	CHKD
BP4L_SHA_AWP_DR_94_BW_LL_05 P04	1:1000	07-09-2009	JW	JH

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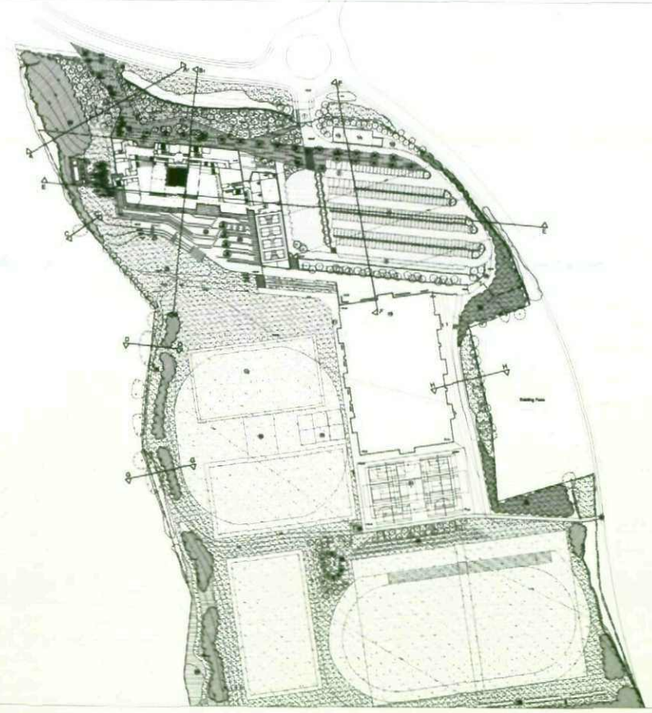
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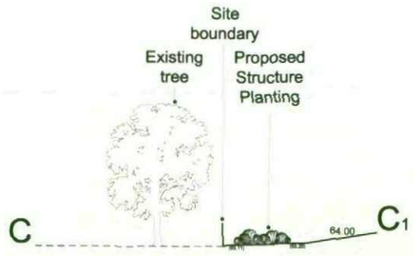
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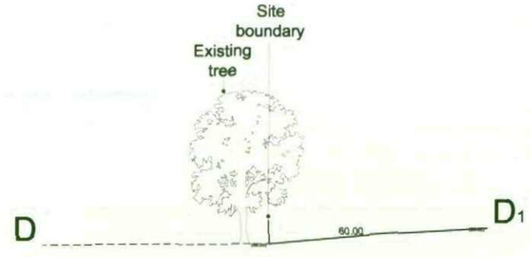
Section B-B



Location Plan - 1:2000



Section C-C



Section D-D

REV.	DESCRIPTION.	DATE.
P01	Preliminary Issue	07.09.09
P02	Building FFLs revised - levels adjusted.	08.10.09

REV.	DESCRIPTION.	DATE.

NOTES
Existing section lines shown dashed.
Proposed section lines shown solid.
Existing spot levels shown in brackets.
Proposed spot levels shown without brackets.
Existing trees shown indicatively.

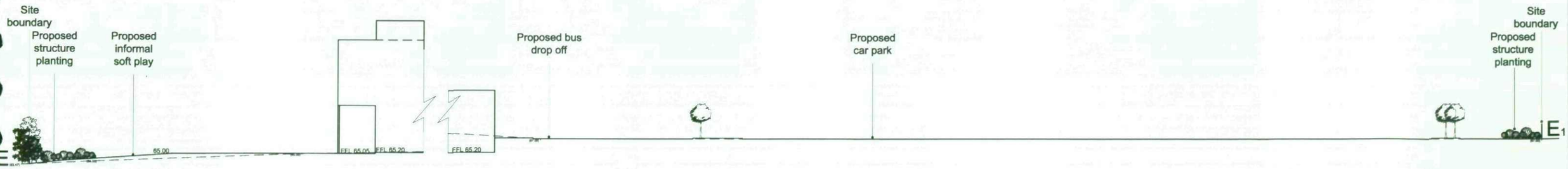
Barnsley Partnership For Learning

Design Risk Management Reference: BP4L_SHA_AWP_RA_94_BW_LL_01

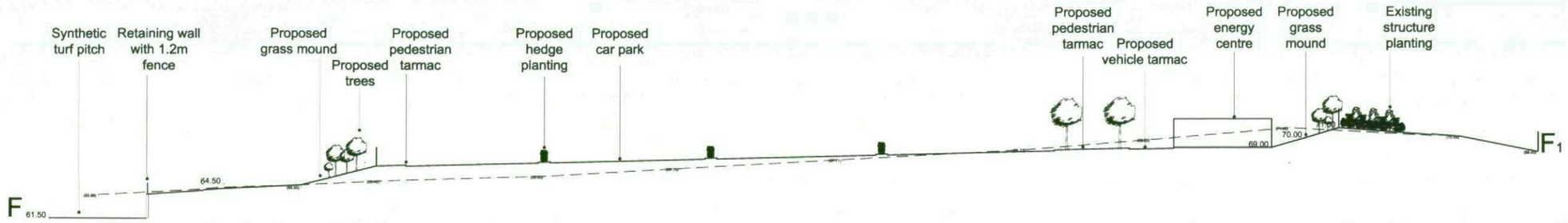
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PROJECT: Barnsley BSF - Shafton School
DRAWING TITLE: Site Sections 1 of 2
DRAWING No. BP4L_SHA_AWP_DR_94_BW_LL_06 P02
SCALE (A1) 1:250
DATE 07-09-2009
DRAWN LS
CHKD JH

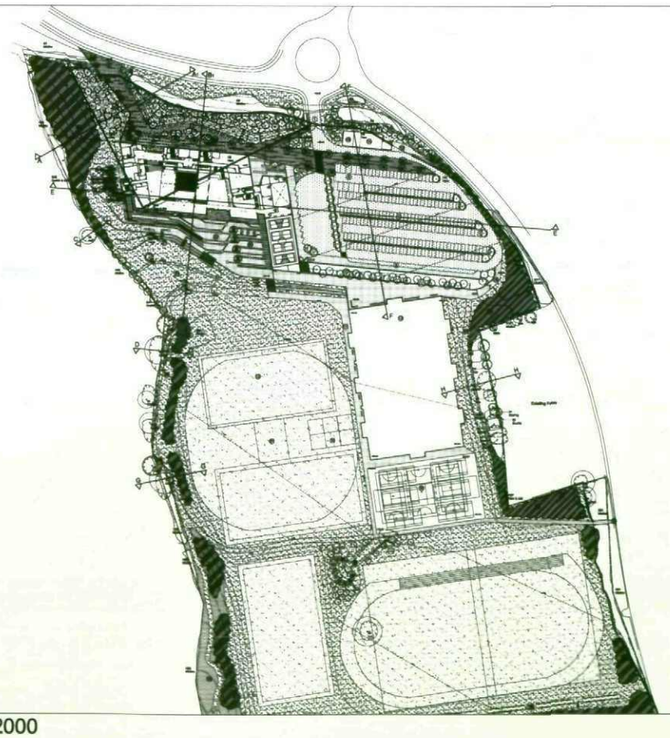
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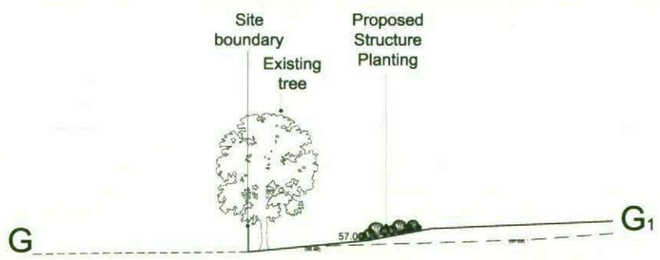
Section E-E



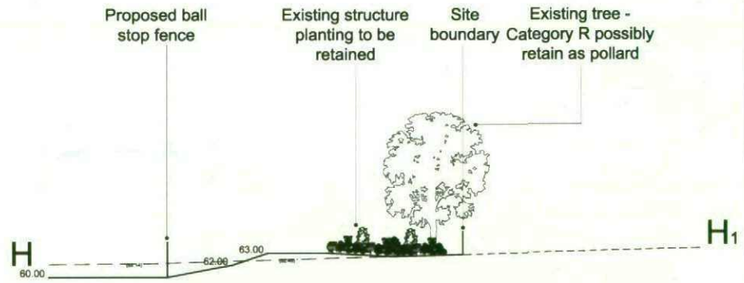
Section F-F



Location Plan - 1:2000



Section G-G



Section H-H

REV.	DESCRIPTION.	DATE.	REV.	DESCRIPTION.	DATE.
P01	Building FFLs revised - levels adjusted.	08.10.09			

NOTES
Existing section lines shown dashed.
Proposed section lines shown solid.
Existing spot levels shown in brackets.
Proposed spot levels shown without brackets.
Existing trees shown indicatively.

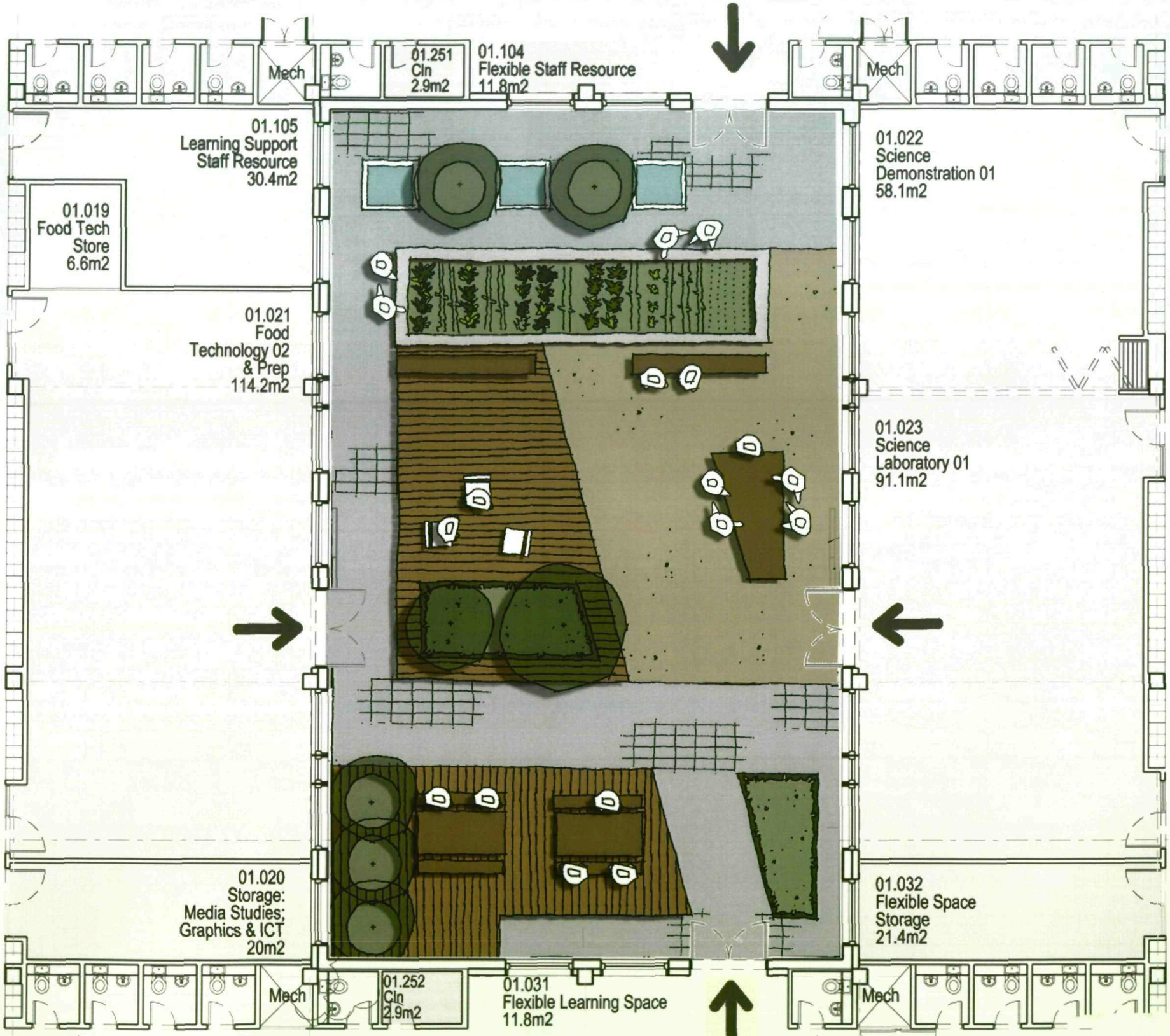
Barnsley Partnership For Learning

Design Risk Management Reference: BP4L_SHA_AWP_RA_94_BW_LL_01

awp

PROJECT: Barnsley BSF - Shafton School
DRAWING TITLE: Site Sections 2 of 2
DRAWING No.: BP4L_SHA_AWP_DR_94_BW_LL_09 P01
SCALE (A1): 1:250
DATE: 07-09-2009
DRAWN: LS
CHKD: JH

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Shafton ALC
Courtyard Sketch Plan
BP4L_SHA_AWP_DR_94_BW_LL_10 P01
Scale 1:100@A3

awp

Appendix C Schedule of External Finishes

BDP.

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Job No. P2003083
Shafton ALC Barnsley BSF Phase 1
MATERIAL MATRIX
BP4L_SHA_BDP_SP_A001
14/10/09 P02

	ELEMENT	MATERIAL / COLOUR / FINISH	MANUFACTURER / SUPPLIER	LOCATION	NOTES
1.0	**Envelope**				
1.1	Concrete	Black 2/162 Sacramento	Reckli (Form liners)	Outer elevations of North, East, West and South Elevation at first and second floor	
1.2	Concrete	Black		Sports Block elevations and Energy Centre	
1.3	Concrete	Stone coloured concrete smooth		Outer elevations of North, East and West at ground floor and South elevation Lower Ground	
1.3	Concrete	Pre-cast Concrete Columns		To north entrance, west elevation and south elevation	
1.4	Rendered facade	Render Colour reference to be determined – orange Smooth Finish RAL 2011	Sto Render With durable backing.	Located at Stair core 1,4	
1.6	Timber Soffits	"Orange" Timber	(To be determined)	Soffit to North entrance, Soffit to underside of South entrances at double height zones.	

BDP.

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Job No. P2003083
Shafton ALC Barnsley BSF Phase 1
MATERIAL MATRIX
BP4L_SHA_BDP_SP_A001
14/10/09 P02

	ELEMENT	MATERIAL / COLOUR / FINISH	MANUFACTURER / SUPPLIER	LOCATION	NOTES
1.7	Metal Soffits	External PPC Aluminium Flat Soffit panel System Grey coloured RAL to be confirmed	(To be determined)	Soffit to South elevation underside of art mezzanine and fitness studio	
1.8	Envelope panel system	Vertical Profile Composite Panel light grey RAL 7035	Kingspan (To be determined)	Courtyard Facade	
1.9	Translucent Cladding	Translucent Polycarbonate 'Ice' colour	(To be determined)	To the top of the sports block	
1.10	Paint	Sulphur Yellow RAL 1016	(To be determined)	Energy Centre Flue x2	
2.0	**Window / Glazing**				
2.1	Window Frames & Louvres	Powder Coated Aluminium RAL 7016	Kawneer (To Be Determined)	To all Elevations from first to second Floor	
2.2	Window Frame	Powder Coated Aluminium RAL 7035	Kawneer (To Be Determined)	To all Elevations at ground level and courtyard elevations	
2.3	Window Frame	Powder Coated Aluminium Deep Orange RAL 2011	Kawneer (To Be Determined)	To South elevation and West Elevation at ground and lower ground floor	

BDP.

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	ELEMENT	MATERIAL / COLOUR / FINISH	MANUFACTURER / SUPPLIER	LOCATION	NOTES
2.4	Curtain Walling	Powder Coated Aluminium RAL 7035	Kawneer	To South and West Elevation, North entrance.	
2.5	Acoustic Attenuators	Powder Coated Aluminium RAL 7035	(To Be Determined)	To all elevations inc courtyard	
2.6	Glass		(To be determined)		
2.7	Glass	Solar Control	(To be determined)	To South Elevation	
2.8	Opaque enamelled glass	SGG BA8141(Mid Grey)	(To be determined)	Windows in First and second level elevation at North, East, West, glazed into south elevation curtain walling	
3.0	**Doors**				
	Metal Doors	Powder Coated Steel To match concrete	(To be determined)	Located on West, North and sports block North elevations	

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	ELEMENT	MATERIAL / COLOUR / FINISH	MANUFACTURER / SUPPLIER	LOCATION	NOTES
	Glazed Metal Frame Doors	Powder Coated Aluminium RAL 7035	(To be determined)	Located on North, West and South elevations	
4.0	**Roof**				
4.1	Wind Catchers	Sulphur Yellow RAL 1016	(To be determined)	To the Sports Block Roof	
4.2	Flat Roofing	Single Ply Membrane	(To be determined)	Roofing to the main school block and sports block	
4.3	Parapet Cap	Colourcoat HPS200 Goosewing Grey	(To be determined)	Parapet to the top of all elevations not including sports block	
4.4	Timber Louvres	"Orange" Timber	(To be determined)	To Roof plant enclosures	

Appendix D Schedule of Gross Areas

Shafton Advanced Learning Centre
SCHEDULE OF GROSS AREAS

	External Area sq m	sq ft	Gross Internal Area sq m	sq ft
Lower Ground	0.0	0	3,731.8	40,169
Ground	47.3	509	2,956.1	31,819
First	296.1	3,187	3,350.8	36,068
Second	0.0	0	3,327.3	35,815
Roof	0.0		26.9	290
Energy Center			145.0	1,561
Total	**343.4**	3,696	**13,537.9**	145,722
Brief GIFA			13,433.0	144,593
Difference			**104.9**	1,129

Appendix E BREEAM Pre-Assessment

Barnsley BSF Phase 2 Pre-assessment - Updated September 2009
reviewed 29/09/09
SHAFTON

BDP.

Predicted Scores	
72.6% Excellent	60.0% Very Good

Pass = 25%
Good = 40%
Very Good = 55%
Excellent = 70%

					SHAFTON		
Credit Code	Credit Title	Credit Criteria	Credit Responsibility	Maximum Credits	Predicted Credits	Removed Sustainability Option	Credit Validation/BDP Sustainability Recommendations after meeting held 14th January 2009
Management Section							
M1	Commissioning	Where evidence provided demonstrates that an appropriate project team member has been appointed to monitor commissioning on behalf of the client to ensure commissioning will be carried out in line with current Building Regulations and (where applicable), best practice.	Design Team	2	2	2	Design Team comment: achievable BDP comment: the design team will need to ensure that the appointment of person's) within the design team to oversee commissioning are documented + person(s) appointed by the principal contractor to conduct the seasonal commissioning within the first year of the building being occupied are documented.
M4	Consider Constructors	First credit: One credit is awarded where evidence provided demonstrates that there is a commitment to comply with best practice site management principles. Second credit: Two credits are awarded where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles.	Principal Contractor	2	2	2	Design Team comment: achievable BDP comment: the principal contractor must ensure that a copy of the CCS report is submitted to the BREEAM assessor (to gain the full credits a score over 32 *is required)-this should be achievable* if the principal contractor has a documented Safety, Health and Environmental Management system.
M5	Construct Site Impacts	Up to four credits are awarded where established good practice is adopted on site in line with the BREAM Construction Site Impacts Checklist A3. Use the BREAM calculators to determine the number of credits achieved	Principal Contractor	4	4	4	Design Team comment: achievable BDP comment: the principal contractor must ensure that a structured framework for managing all environmental aspects associated with site activities is implemented on site. This must include the following: procedures for land, air and water pollution control, objectives and targets programme, monitoring of energy (CO_2), waste, materials, *transport (CO_2) and water*, assigning role and responsibilities (also need to included control measures for protection of wildlife/endangered species due to the nature of some of the sites). All timber should be FSC certified.
M6	Site Investigation	One credit is awarded where evidence provided demonstrates that the design team has carried out a detailed site investigation of the selected site.	Architect	1	1	1	Confirmation is required that a site investigation has been carried out in compliance with all the relevant building regulations and codes of practise. Credit assumed achievable at the present time.
M8	Consultation	First Credit: One credit is awarded where evidence provided demonstrates that consultation has been undertaken and feedback given to the local community and building users. *Second Credit:* One credit is awarded where the first credit has been achieved and where evidence provided demonstrates that the consultation process is undertaken using an independent method such as DQI, DQM or School Works, facilitated by a third party.	Architect Architect	1 1	1 1	1 1	Consultation with the local neighbourhood will need to take place. This is to increase the feeling of "ownership" within the surrounding community, involving them within the process of designing/modelling the prospect neighbourhood of which they are to be an important part. Additionally an ALO is being contacted to provide a specific advice.

					SHAFTON		
Credit Code	Credit Title	Credit Criteria	Credit Responsibility	Maximum Credits	Predicted Credits	Removed Sustainability Option	Credit Validation/BDP Sustainability Recommendations after meeting held 14th January 2009
M9	Shared Facilities	*First Credit:* One credit is awarded where at least one credit is achieved under M8 and where evidence provided demonstrates that shared facilities have been provided as a consequence of consultation feedback. Second Credit: One credit is awarded, where the first credit is achieved and where evidence provided demonstrates that these facilities can be accessed without compromising the safety of the building and its occupants.	Architect M&E / Architect	1 1	1 1	1 1	A document describing the facilities to be shared and how to access them to be produced and communicated to all consultees. An additional credit can be achieved if it is proven that these facilities can be accessed without compromising the safety of the building and its occupants.
M10	Security	One credit is awarded where evidence provided demonstrates that the project team has consulted with the Architectural Liaison Officer (ALO) or the Crime Reduction Design Adviser (CRDA) and has carried out a Crime Pattern Analysis for the site to assess the level of risk.	Architect	1	1	1	Credit assumed achievable on the basis that a security strategy including external and internal security measures and procedures is produced.
M12	Building Users Guide	One credit is awarded where evidence provided demonstrates the provision of a simple guide that covers information relevant to the tenant/occupants and non-technical building manager on the operation and environmental performance of the building.	Design Team	1	1	1	Commitment to produce a simple building users guide covering standard O&M information and additional information covering topics such as transport, waste management, ecological upkeep etc. Credit assumed achievable.
M14	Publication of Building Information	One credit is awarded where evidence provided demonstrates that the design team are committed to publicising information about the new development via the internet, newsletters, site visits, presentations etc.	Design Team	1	1	1	The publicised info should include: BREEAM rating and score, building cost, external works, gross floor area, total are of site, area of teaching spaces, area of circulation, area of storage, % are of site used by the community, predicted energy/water consumption, predicted energy generation and predicted water use per pupil per year. Credit assumed achievable.
M16	The Development as a Learning Resource	One credit is awarded where evidence provided demonstrates that the proposed building and landscape design provides a learning resource that can be used to facilitate development of environmental issues within existing school curriculum.	Design Team	1	1	1	Design Team comment: achievable Facilities both within the building (renewable energy systems with teaching space) and external landscape education facilities will be provided.
M20	Ease of Maintenance	One credit is awarded where evidence provided demonstrates that specifications for the building and the building services / systems and landscaping have considered ease and efficiency of maintenance in line with best practice.	Design Team	1	1	1	Design team to refer to relevant CIBSE guide on maintenance and checklist plus ensure adequate storage space in accordance with BB98/99.
M21	Whole Life Costing	First Credit One credit is awarded where evidence provided demonstrates that an assessment of Whole Life Costing has been undertaken on the building design at Strategic Level. Second Credit One credit is awarded where the first credit has been achieved and where evidence provided demonstrates that an assessment of Whole Life Costing has been undertaken on the building design at Component Level.	QS QS	1 1	1 0	1 0	Design team: . It is possible that 1 credit could be achieved on the basis that whole life costing would be undertaken at a strategic level.
Health & Wellbeing Section							
HW1	Daylighting	First Credit: One credit is awarded where evidence provided demonstrates that at least 80% of occupied spaces will be adequately daylit with an average daylight factor exceeding 2%. Second Credit: One credit is awarded where evidence provided demonstrates that all spaces will be adequately daylit with an average daylight factor exceeding 4% in single storey and 3% in multi-storey buildings. "	Architect	2	0	0	Design team comment: Calculation must be produced to show that at least 80% of all occupied areas have a daylight factor of at least 2%. Credit may be achievable but a conservative prediction has been assumed at present time.
HW2	View Out	One credit is awarded where evidence provided demonstrates that all desks are within a 7m radius of a window.	Architect	1	0	0	Design Team comment: Not achievable as the depth of certain teaching spaces is in excess of the requirements of the BREEAM credit. Educational needs have been prioritised over views.

					SHAFTON		
Credit Code	Credit Title	Credit Criteria	Credit Responsibility	Maximum Credits	Predicted Credits	Removed Sustainability Option	Credit Validation/BDP Sustainability Recommendations after meeting held 14th January 2009
HW3	Glare Control	One credit is awarded where evidence provided demonstrates that an occupant controlled glare control system (e.g. internal or external blinds) is fitted.	Architect	1	1	1	Design Team: achievable Manually controlled blinds to be provided in appropriate locations.
HW4	High Frequency Lighting	One credit is awarded where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact *fluorescent lamps*.	M&E	1	1	1	Design Team: achievable Adequate lighting to be provided in all locations.
HW5	Internal and External Lighting Levels	One credit is awarded where evidence provided demonstrates that all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE.	M&E	1	1	1	Design Team: achievable Adequate lighting levels to be provided in all locations.
HW6	Lighting Zones	One credit is awarded where evidence provided demonstrates that lighting, in all occupied areas, is zoned to allow separate control.	M&E	1	1	1	Design Team: achievable Adequate lighting controls to be provided in all locations.
HW8	Potential for Natural Ventilation	One credit is awarded where evidence provided demonstrates that the natural ventilation strategy allows for sufficient control of the supply of fresh air.	M&E / Architect	1	0	0	Design Team comment: unachievable Initial modelling suggests that the potential for *natural ventilation will be viable* in most areas but the BRE requirement of 5% of the gross internal floor area of the room/floor plate will have to be meet.
HW9	Internal Air Pollution	One credit is awarded where evidence provided demonstrates that air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air.	M&E	1	1	1	Design Team comment: assumed achievable at present. Air intake and outlets are at least 10m apart to prevent recirculation and that windows are at least 20m from a external source of pollution (car parks, roads are typical examples).
HW11	Ventilation Rates	One credit is awarded where evidence provided demonstrates that each space within the development achieves recommended minimum fresh air rates	M&E	1	1	1	Design Team comment: achievable Design will either deliver natural ventilation to spaces or will be provided with 12l/s/person in mechanically ventilated locations.
HW13	Volatile Organic Compounds	One credit is awarded where evidence provided demonstrates the design team has carried out a review of all finishes and fittings containing volatile organic compounds (VOCs).	Architect	1	1	1	Design Team comment: achievable The design team to undertake a review of materials and ensure that documented evidence is provided to identify the details of the finishes/fitting.
HW14	Thermal Comfort	One credit is awarded where evidence provided demonstrates that thermal comfort levels are assessed at design stage, this is used to evaluate appropriate servicing options, and appropriate thermal comfort levels are achieved.	M&E	1	1	1	It is assumed that thermal modelling results will give a Part L2A CO_2 emissions report and summertime temperature analysis which will confirm that appropriate thermal comfort levels are achieved. Therefore credit is assumed achievable.
HW15	Thermal Zoning	One credit is awarded where evidence provided demonstrates that *local control is available for temperature adjustment* in each area to reflect differing load requirements.	M&E	1	1	1	Credit assumed achievable. The building is to be designed for modular thermal control.
HW16	Microbial Contamination	One credit is awarded where evidence provided demonstrates that the risk of waterborne and airborne legion Ella contamination has been minimised. AND One credit is awarded where evidence provided demonstrates that no humidification is present , or only steam humidification is provided.	M&E	1	1	1	Credit is assumed achievable as good practice.
HW17	Acoustic Performance	Up to three credits are awarded where evidence provided demonstrates that the acoustic performance of the building meets the appropriate standard for it's purpose.	Acoustician	3	2	2	2 credit assumed achievable at present stage.
HW24	Drinking Water	One credit is awarded where evidence provided demonstrates chilled mains fed dispensers are provided for pupils and staff use throughout the day.	Architect	1	1	1	Design Team comment: achievable Water fountains to be provided as required by credit criteria. NOTE: it must be possible to fill a bottle *from the fountains i.e.. swan neck fountain* required.

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Energy Section							
E1	Reduction of CO_2 emissions	Up to 15 credits are available where evidence provided demonstrates that the building achieves a percentage improvement above the requirement for CO_2 emissions as set out in the Building Regulations.	Architect / M&E	15	11	3	Design Team comment: With the provision of biomass and renewable, there will be a reduction in part L model in excess of 30% below the building regulations target which equates to 11 credits **Reduced Sustainable Option** - Removal of biomass and reduction in design performance will result in a reduced figure of 4% below part L which equates to 3 credits.
E2	Sub-metering of Substantial Energy Uses	One credit is awarded where evidence is provided to demonstrate the provision of direct sub-metering of substantive energy uses within the building.	M&E	2	2	2	Design Team comment: achievable Design team to demonstrate via electrical distribution drawings the provision of sub metering for substantial energy uses which would typically include the following: chiller installations, electric humidifier, motor control centres providing power to fans and pumps, final electrical distribution boards.
E4	External Lighting	One credit is awarded where evidence provided demonstrates energy efficient external luminaries are specified and all light fittings controlled for the presence of daylight.	Electrical	1	1	1	Design Team comment: achievable based on the BRE amendments made to the credit requirements, i.e. - All external lighting for the building, access ways and pathways to be a minimum of 50 lamp lumens/circuit watt - All lighting to car parking areas and associated roads, where provided, to have a minimum of 70 lamp lumens/circuit watt - All flood lighting and sign lighting, where provided, to have a minimum of 70 lamp lumens/circuit watt - The daylight sensor requirement remains
E20	Free Cooling	One credit is awarded where evidence provided demonstrates the design incorporates a system of providing free cooling to completely displace the need for conventional mechanical cooling systems (excluding exceptional localised circumstances with small scale systems)	Mechanical	1	1	1	Free cooling will be maximised where at all possible. Credit assumed achievable at the present stage.
Transport Section							
T1	Provision of Public Transport	First Credit: One credit is awarded where evidence provided demonstrates good access is available to and from public transport networks for commuting. Second Credit: One credit is awarded where evidence provided demonstrates there is good access to and from public transport networks for business travel.	School	2	1	1	Credit assumed achievable based on the assumption that there is a bus stop located within 800m of the school with a frequent service at peak times or there is a school bus service for the students.
T5	Cyclist Facilities	First credit: Where evidence provided demonstrates that there is adequate provision of covered, secure and well lit cycle racks and showers. Second credit: Where in addition to the above, evidence provided demonstrates adequate provision of changing facilities and lockers for clothes or a dedicated drying space for wet clothes.	Architect / M&E	2	2	2	Credit assumed achievable at present based on the assumption that there will be sufficient cycle racks along with accompanying shower facilities, lockers and changing rooms.
T6	Pedestrian and Cyclist Safety	One credit is awarded where evidence provided demonstrates that the site layout has been designed to minimise risks to pedestrians and cyclists.	Architect	1	1	1	Design Team comment: achievable Design to incorporate adequate design in landscaping.
T8	Travel Plan	One credit is awarded where evidence provided demonstrates that a travel plan has been developed and tailored to the specific needs of the users of the assessed development.	School	1	1	1	Design Team comment: achievable This is a planning requirement.
Water Section							
W1	Water Consumption	Up to three credits can be awarded on the basis of the predicted potable water consumption for sanitary use within the building.	Architect / M&E	3	3	2	Design Team comments: achievable There is a requirement to specifying low flush water wc's, percussion/aerated taps, rain water harvesting system and proximity sensors. **Reduced Sustainable Option** - Omission of rainwater harvesting is likely to reduce score by one credit.

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W2	Water Meter	One credit is awarded where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building.	M&E	1	1	1	Design Team comments: achievable Water meter to be provided at both site boundary and entry to building.
W3	Major Leak Detection	One credit is awarded where evidence provided demonstrates that a leak detection system is specified or installed and is capable of identifying major leaks both within the building and between the building and the site boundary, and should cover all mains water supplies to the building.	M&E	1	1	1	Design Team comments: achievable The system must be linked to BMS, provision of an audible alarm, programmable to suit occupier, designed to prevent false alarms, able to identify different leakage rates and is activated when a continuous flow of water passes through the water mater at a flow rate above a pre-set minimum for a preset period of time.
W4	Sanitary Supply Shut Off	One credit where evidence provided demonstrates that proximity detection shut off is provided to the water supply to all urinals and WC's.	M&E	1	1	1	Design Team comments: achievable Shut-off solenoid valves and occupancy sensors to be installed on entry to each toilet block.
W5	Water Recycling	One credit is awarded where evidence is provided to demonstrate the specification of systems that collect, store, and where necessary, treat rainwater or greywater for WC and urinal flushing purposes.	M&E	1	1	0	Design Team comments: achievable The rainwater harvesting system can be adequately sized. **Reduced Sustainability Option** - Omission of rainwater harvesting would result in loss of credit.
Materials Section							
MW1	Materials Specification - Major Elements	Up to four credits are available where evidence provided demonstrates that the major building elements specified have an 'A rating', as defined in the Green Guide to Specification.	Architect	7	3	3	Design Team comment: Achievable Site specific but initial predictions suggest prediction of 3/7 of the credits will be achieved at each site. It is proposed that a material workshop will be scheduled later in the design.
MW2	Hard Landscaping and Boundary Protection	One credit is awarded where evidence provided demonstrates that at least 80% of the combined area of external hard landscaping and boundary protection specifications achieve an A rating, as defined by the Green Guide to Specification.	Architect	1	0	0	Design Team comment: site specific but it is not currently anticipated that the credit will be achieved.
MW5	Reuse of Building Façade	One credit is awarded where evidence provided demonstrates that at least 50% of the total façade (by area) is reused and at least 80% of the reused façade (by mass) comprises in-situ reused material.	Structural Engineer	1	0	0	Design Team comment: not achievable by default.
MW6	Reuse of Building Structure	One credit is awarded where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.	Structural Engineer	1	0	0	Design Team comment: not achievable by default.
MW7	Recycled Aggregates	One credit is awarded where evidence provided demonstrates significant use of crushed aggregate, crushed masonry or alternative aggregates (manufactured from recycled materials) are specified for 'high grade' aggregate uses (such as the building structure, ground slabs, roads, etc.).	Principal Contractor	1	0	0	Design Team comment: Following a review of local supply chains, it is unlikely that this credit will be achieved. Some credit may be achievable but credit has been conservatively withheld.
MW8	Responsible Sourcing of Materials	Up to three credits are awarded where evidence provided demonstrates materials used in structural and non-structural elements are responsibly sourced.	Architect	3	1	1	Design Team comment: Difficult to commit to more than one credit at this stage of the design although it is hoped to improve on this score as the project develops. A breakdown of all components making up greater than or equal 10% by volume of the key building element will be required and should be categorised into: timber, metal, glass, concrete, glass, composite and plastics + timber should be FSC certified and non timber products should be manufactured via a process certified under ISO14001/EMAS/BS8555/Green Dragon/Acorn Scheme
MW10	Designing for Robustness	One credit is awarded where evidence provided demonstrates that protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements.	Architect	1	1	1	Design Team comment: achievable High areas of high pedestrian and vehicle traffic would need to be identified and measures are required to prevent damage to vulnerable parts, e.g. bollards/barriers/raised kerbs, corridor walls specified to severe duty in accordance with BS5234-2, kick plates for doors and hard wearing floor finishes.

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MW12	Storage of Recyclable Waste	First credit: One credit is awarded where evidence provided demonstrates that a central, dedicated storage space is provided for materials that can be recycled. This can be either within the building itself, or on site using skips, (provided there is good access for collections and it is within easy reach of the building). Second credit: One credit is awarded where, in addition to the above, evidence provided demonstrates that policies/procedures have been established at the design/construction stages which: a. include procedures for collection and recycling of consumables; b. are endorsed at governor level; c. are or will be operational at a local level."	Architect	2	2	2	Design Team comment: achievable Receptacle should be clearly labelled as a space for recyclable waste, within 20m of the main entrance, have good access for vehicles, 2 metres squared per 1000 metres squared of net floor area and a further 2 metres squared per 1000 metres squared of net floor area when catering provided + provision of a waste management plan detailing procedures for dealing with all types of waste generated on site which is endorsed by the school governor.
Land Use & Ecology							
LE1	Reuse of Land	One credit is awarded where evidence provided demonstrates that the footprint of the proposed development largely falls within the boundary of land previously developed.	Architect	1	0	0	Credit assumed achievable on the basis that school playing fields can be counted as previously developed land only if the same area of playing fields are reinstated within one year from when construction of the new buildings has been completed; and where such reinstatement will not encroach on land of high ecological value as defined in Ecological Value of Land and Protection of Ecological Features credit (credit number LE3)
LE2	Contaminated Land	One credit is awarded where evidence provided demonstrates that the land used for the new development has, prior to development, been defined as contaminated, and where adequate remedial steps have been taken to decontaminate the site prior to construction.	Principal Contractor	1	0	0	credit not achievable as site shows no indication of contamination.
LE3	Ecological Value of Land and Protection of Ecological Features	One credit is awarded where evidence provided demonstrates that the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.	Ecologist	1	0	0	Credit assumed not achievable as there will be trees removed from site at the start of construction.
LE4	Mitigating Ecological Impacts	First Credit: One credit is awarded where evidence provided demonstrates the change in ecological value of the site, as a result of development, is less than zero and equal to, or greater than, minus nine species, i.e. a small negative change. Second Credit: Once credit is awarded where evidence provided demonstrates there is no negative change in the ecological value of the site as a result of development, i.e. equal to, or greater than, zero species.	Ecologist	2	1	1	Measures will be taken to keep a low or zero ecological impact on species on the development of the new site. Current landscape proposals suggest that one credit may be achieved.
LE5	Enhancing Site Ecology	First Credit: One credit is awarded where evidence provided demonstrates that the design team (or client) has I) appointed a professional to advise and report on enhancing and protecting the ecological value of the site; and ii) implemented the professional's recommendations for general enhancement and protection for site ecology. Additional credits: Up to two credits are awarded where in addition to the above, evidence provided demonstrates a positive increase in the ecological value of the site.	Ecologist	3	2	2	Design Team comment: achievable An ecologist is part of the team which will assist in awarding the first credit, but a conservative approach is now being taken on the ecological enhancement of the site.
LE6	Long Term Impact on Biodiversity	First Credit: One credit is awarded where evidence provided demonstrates that the client has committed to achieving the mandatory requirements and at least two of the additional requirements as listed in the credit Compliance Requirements. Second Credit: One credit is awarded where evidence provided demonstrates that the client has committed to achieving the mandatory requirements and at least four of the additional requirements as listed in the credit Compliance Requirements.	Ecologist	2	2	2	Design Team comment: achievable An ecologist is part of the team and will assist the team in drawing up a ecology management plan and drawing up measure to ensure that ecological features on the site are protected.
LE7	Consultation with Students and Staff	One Credit is awarded where evidence provided demonstrates the design team consults with staff and pupils, to determine (i) their educational and social requirements for the school grounds, (ii) their ideas for the school ground's design and (iii) where t	Design Team	1	1	1	The staff and future building users should be consulted as part of the bid process in accordance to the BREEAM requirements as stated in the guidance documentation.

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LE8	Local Wildlife Partnerships	One Credit is awarded where evidence provided demonstrates the design team have set up a partnership with a local group that has wildlife expertise (e.g. the local wildlife trust).	Design Team	1	1	1	Design team to set up a partnership with a local wildlife group. Credit assumed achievable.
Pollution Section							
P1	Refrigerant GWP - Building Services	Where evidence provided demonstrates the use of refrigerants with a global warming potential (GWP) of less than 5 or where there are no refrigerants specified for use in building services.	M&E	1	1	1	Design team agreed credit should be achievable.
P2	Preventing Refrigerant Leaks	One credit is awarded where evidence provided demonstrates that refrigerant leaks can be detected AND that the provision of automatic refrigerant pump down is made to a heat exchanger (or dedicated storage tanks) with isolation valves or where there are no refrigerants specified for the development.	M&E	1	0	0	Credit assumed not achievable at present.
P4	Insulant GWP	One credit is awarded where evidence provided demonstrates that the specification of insulating materials avoids the use of substances with a global warming potential (GWP) of 5 or more in either manufacture or composition	Architect / M&E	1	1	1	Architects and Engineers are to specify insulants with a GWP of less than 5. Credit assumed achievable.
P6	NOx Emissions of Heating Source	Up to three credits available, depending on the dry NOx emissions from delivered space heating energy: 1 credit where dry NOx emissions are ≤100 mg/kWh (at 0% excess O2); 2 credits where dry NOx emissions are ≤70 mg/kWh (at 0% excess O2); 3 credits where dry NOx emissions are ≤40 mg/kWh (at 0% excess O2).	M&E	3	0	0	Design Team comment. The provision of both gas and biomass boilers may allow one of the three credits to be achieved, but a conservative approach has been taken on the scoring.
P7	Flood Risk / Water Run-off	Two credits are awarded where evidence provided demonstrates that the assessed development is situated in a flood zone that is defined as having a low annual probability of flooding. OR One credit is awarded where evidence provided demonstrates that the assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location. Additional credit: Where evidence provided demonstrates that Sustainable Urban Drainage techniques are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site through development.	M&E	3	2	2	2 credits assumed achievable on the basis that the development is located in at least a zone defined as having low annual probability of flooding. Environment Agency is to be consulted on this credit.
P8	Minimising Water Course Pollution	One credit is awarded where evidence provided demonstrates that on site treatment such as oil separators/interceptors or filtration have been specified for areas at risk from pollution, I	M&E	1	1	1	Design Team comment: The issue of attenuation needs to be resolved with the Environment Agency. It is anticipated that the credit will be achieved at the present time.
P11	Renewable & Low Emission Energy	First Credit: Once credits is awarded where evidence provided demonstrates that a feasibility study considering renewable and low emission energy has been carried out and the results implemented. Additional Credits: Up to two credits are awarded where the first credit is achieved and where evidence provided demonstrates that a percentage of total *energy demand for the building/development is supplied from local* renewable, or low emission energy, sources.	M&E	3	3	0	Design Team comment: achievable A feasibility study is to be conducted investigating the most suitable renewable source for the site. The source implemented is to provide 15% of the overall energy demand. **Reduced Sustainability Option** - the omission of renewable energy would result in all loss of three credits.
P12	Reduction of Night Time Light Pollution	One credit is awarded where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005.	M&E	1	1	1	Design Team comment: achievable The design will comply with ILE guidance notes on reducing light pollution which should include automatic timers enabling the switching off of lighting between 2300 and 0700.