

3141 Begbroke Innovation Accelerator Project

CIE Extension

Design & Access Statement

9 June 2015



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Begbroke Science Park has outline planning permission for additional buildings for research. (Application Reference: 01/00662/OUT)

This report has been prepared to support the reserved matters application. It provides details of the design, layout and external appearance of the building and associated landscaping.

During the design development process the applicants have sought the advice of Cherwell District Council Planning and Design officers and have engaged with local residents by holding a public consultation exhibition.

This Report is to be read in conjunction with the following drawings and reports:

Drawings

3141- 001- Existing Site Location Plan
3141- 002- Existing Site Plan
3141- 015- Existing Ground Floor Plan
3141- 016- Existing First Floor Plan
3141- 017- Existing Roof Plan
3141- 025- Existing Elevation 1
3141- 026- Existing Elevation 2
3141- 050- Proposed Site Plan
3141- 051- Proposed Site Plan
3141- 055- Proposed Ground Floor Plan
3141- 056- Proposed First Floor Plan
3141- 057- Proposed Roof Plan
3141- 060- Proposed Section
3141- 065- Proposed Elevation 1
3141- 066- Proposed Elevation 2
3141- 080- Proposed Hard Landscaping

Reports

Planning Statement- supplied by JPPC
Drainage Strategy- supplied by AKS Ward
Drainage Flood Risk Assessment- supplied by AKS Ward
Light Pollution Statement- supplied by Hoare Lea
Noise Assessment- supplied by Hoare Lea
Soft Landscapae Strategy- supplied by Anthony Stiff Associates
Statement on Ecology- BSG Ecology

1.0 Introduction

1.1 About Begbroke Science Park

Context

sector.

Begbroke Science Park (BSP) is owned and managed by the University of Oxford and is located approximately five to six miles north of the centre of Oxford of the Woodstock Road (A44).

Predominantly the site is surrounded by farmland

Begbroke Science Park

The science park provides a flexible and supportive environment encouraging links between start-up science based companies, their more established counterparts, and the University and wider academic community. The Begbroke Science Park's Unique Selling Point (USP) was highlighted by Alex Halliday, Head of Division.

"The USP of Begbroke Science Park is that it is fully embedded within MPLS (Mathematical, Physical and Life Sciences Division) and links to the wider University/business community. The relationships developed at Begbroke between entrepreneurs and academics are deep, profound and long-lasting- the resulting new products and technologies, truly transformational..."

Alex Halliday, Head of Division

Around one third of the commercial activity at the science park is associated with the Centre for Innovation and Enterprise (CIE). The University of Oxford built the CIE in 2006 with the primary aim of integrating both academic and business communities within the advanced engineering sectors of automotive, nuclear materials, advanced materials, robotics as well as nano-medicine, pharmaceuticals, motorsport and supercomputing.

Due to the success of the CIE and increasing demand the University has identified the need to invest and expand the existing centre. With this the University has identified the 'Begbroke Innovation Accelerator Project' which was the successful recipient of Oxford and Oxfordshire City Deal funding in 2014.

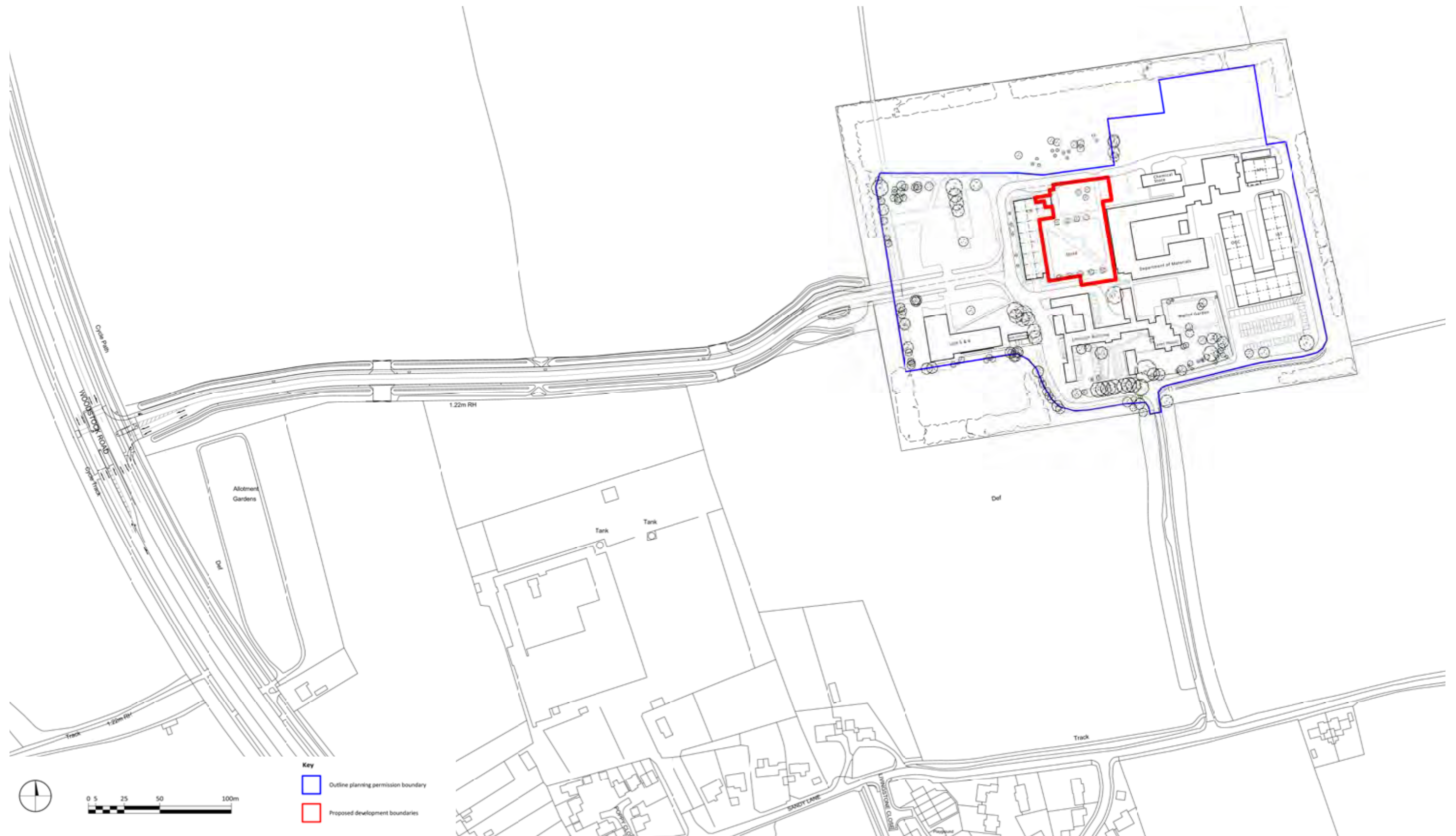
The Proposal

This project and application relates to an extension to the existing CIE, increasing the amount of adaptable and flexible space, offering an environment that will nurture small innovative businesses working across various disciplines including medicine, big data and materials etc. The Project builds on the success of the existing CIE and wider science park and will enable the University to support and respond to the demand within the

2.0 Assessment

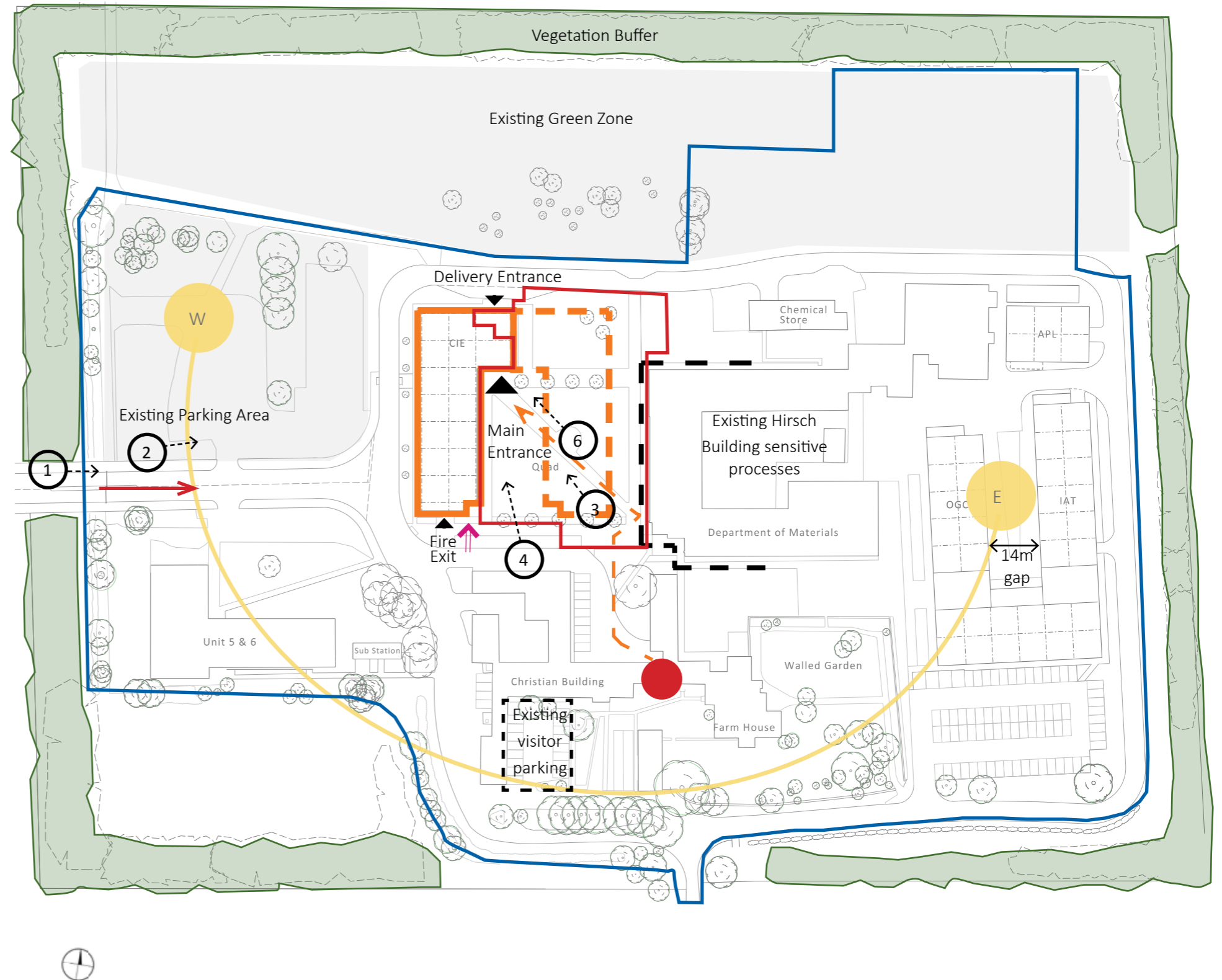
2.1 Begbroke Science Park Location and Existing CIE Building





The initial brief identified the project as an extension to the existing CIE building in line with an existing outline planning application. We have identified a number of key site constraints and opportunities:

- Existing Buildings- the proposal should not unduly overshadow the existing surrounding buildings, the proximity of the existing CIE Building and Hirsch Building opposite constrain the proposed extension to the east and west, as do the access roads to the north and south. The IAT Building serves as a useful precedent of an acceptable separation of the two storey wings, the separation in this case is 14m.
- Orientation- As a naturally ventilated building and with the requirements of Part L and BREEAM assessment the orientation is key to the sun shading and glare control integrated into the building's design.
- Existing User Entry and use patterns.
- Existing Incoming Services.



- Key
- Proposed Building
 - Existing Building
 - Main vehicular access to site
 - Existing reception
 - ▲ Entrances
 - Route from reception to main entrance
 - Vegetation buffer
 - Proposed development boundary
 - Outline planning permission boundary
 - Incoming service location
 - → Photo locations



1. Main vehicular access road for Begbroke Science Park, off Woodstock Road.



2. Existing car park adjacent to access road (area for Phase 2 development).

2.0 Assessment

2.4 Existing External Photographs



3. Exterior from South-West corner of quad.



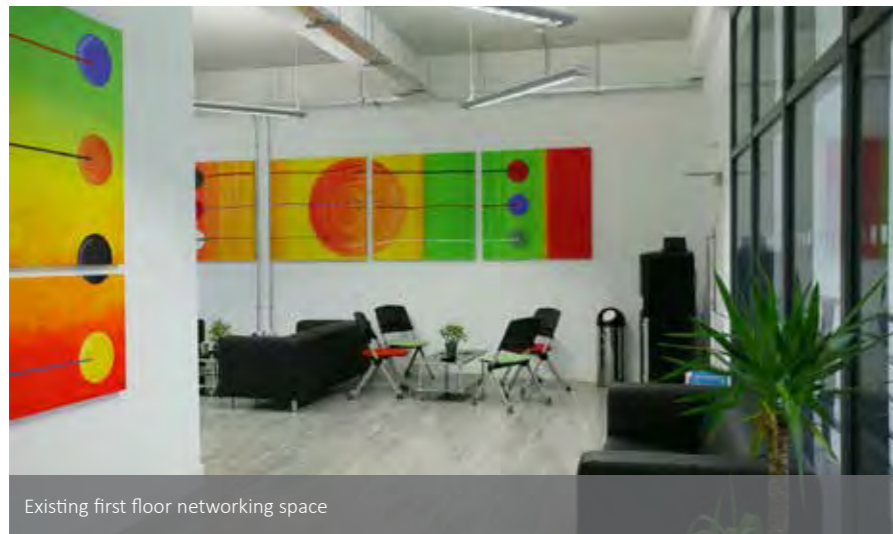
6. Existing entrance/ Landscaping detail.



4. Southern stair core



Tenant roof plant space (photo IAT roof)



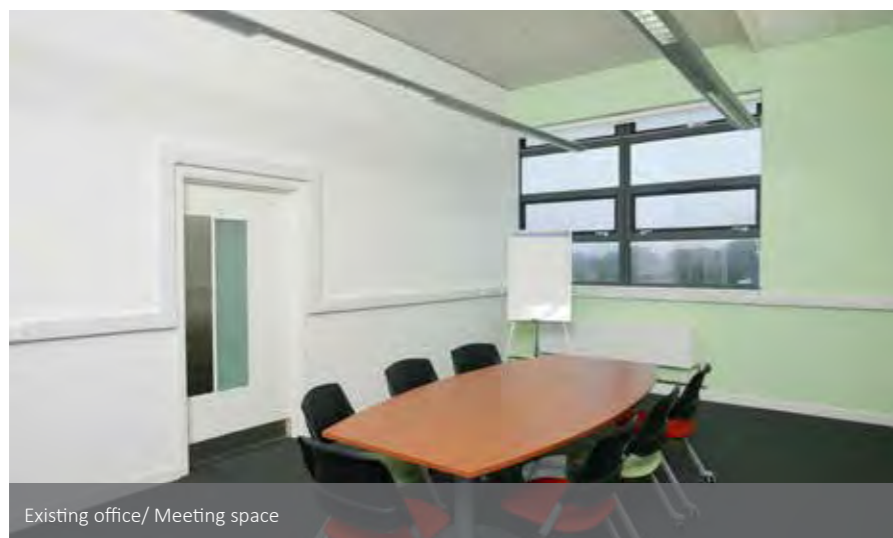
Existing first floor networking space



Existing reception space



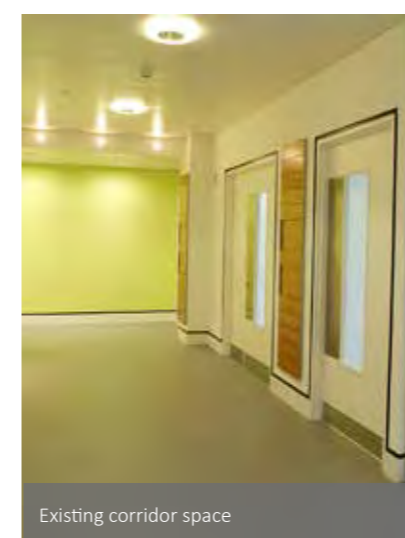
Existing lab space



Existing office/ Meeting space



Existing corridor space



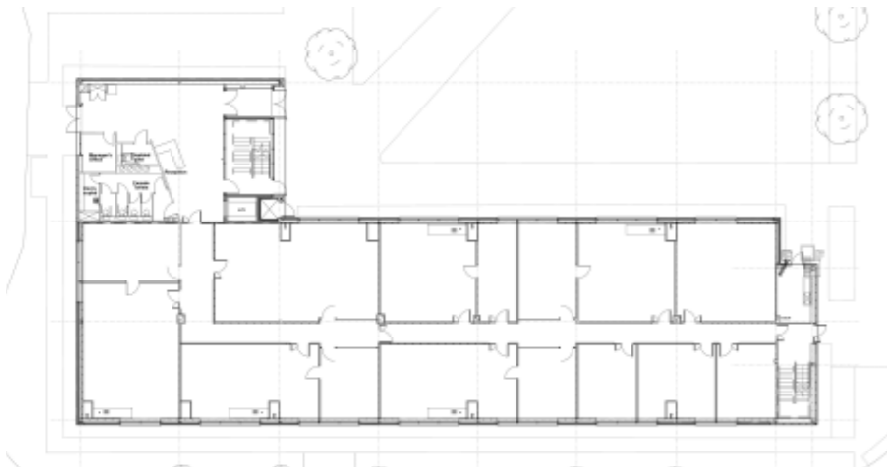
Existing corridor space



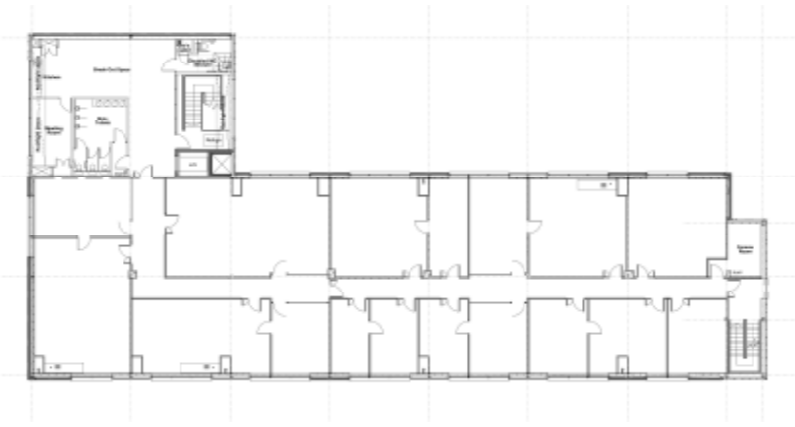
Existing corridor space showing wider passing zones

2.0 Assessment

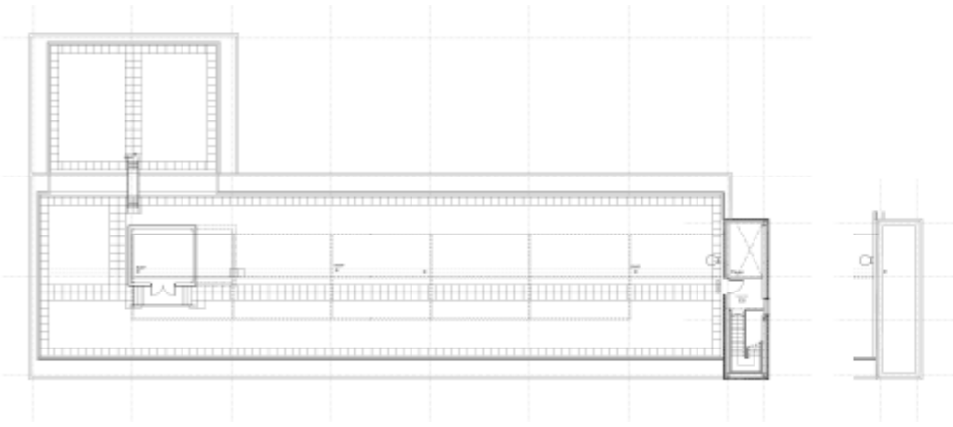
2.6 Existing CIE Building



Existing Ground Floor



Existing First Floor



Existing Roof Floor



Existing West Elevation



Existing North Elevation



Existing East Elevation



Existing South Elevation



3.0 Involvement

3.1 Consultation

The University of Oxford recognises the importance of public consultation and feedback from the local community when involved in a development of this nature. The University therefore has undertaken a Public Consultation prior to submitting a reserved matters application.

Pre Application Advice has also been sought from the Council's Planning Officer and the comments have been taken account in the preparation of the design.

Commentary on these elements can be found in the planning statement and its appendices as produced by JPPC.

WELCOME

An introduction to the Begbroke Innovation Accelerator

Welcome – we are delighted you are attending the event today.

The University of Oxford was granted outline planning permission in April 2014 for approximately 22,000 square metres of research and development space at Begbroke Science Park, Oxford Planning Permission Reference Number: 15/0142/OU1. Begbroke Science Park.

Whilst approximately 13,000 square metres of the outline planning permission has already been developed, the University is now seeking to take forward approximately 9,000 square metres and is intending to apply for detailed planning permission for the Innovation Accelerator project.

The addition includes the principles of the design, its location and setting and covers the key features. There are members of the team to answer any queries you may have.

There is a questionnaire / feedback form which would be grateful if you could complete and submit to either in hard copy or online by 11 May 2015.

Thank you for attending.

BEGBROKE SCIENCE PARK

About us

About Begbroke Science Park

The site was bought by the University of Oxford in 2009 as a research and development facility. The science park provides a flexible, supportive environment that encourages high calibre high-tech science based start-ups, their more established counterparts and the University.

The interaction between industry and learning constantly produces new synergies, and we support entrepreneurs as they translate these concepts into innovations which meet tomorrow's industrial challenges.

Begbroke Science Park offers

- Offices, workshops and laboratories for applied academic activity, developing research partnerships in the energy, manufacturing, aerospace and automotive sectors.
- Business support services for commercial start-ups, with University spin-outs within the high-tech / science based sector.
- Expert training for start / medium sized enterprises, professionals and schools through our events, training and outreach programmes.
- A skilled management team with many years experience of managing emerging businesses and innovative research partnerships.
- Support from state of the art technical services such as the Oxford Research Characterisation Service, Clean Rooms and Materials Research Computing.

Begbroke Science Park is at the forefront of innovative collaboration and is where science and industry meet.

Success stories

Oxford Photonics
Oxford Photonics is developing a technology which will revolutionise the traditional solid state laser and will offer a building integrated solid state solution. It is a spin out from the Physics Department and since 2012 has received nearly £10m in funding and grown from one to 30 staff.

Oxford Nanopore
Oxford Nanopore is developing a technology to enable single molecule sequencing, high precision and accuracy. The company was based at Begbroke shortly after setting out from the Oxford High Tech Hub. It has received over £10m in funding and grown from one to 100 people with offices in Oxford, Cambridge, New York and Boston.

Oxford Gene Technology (OGT)
OGT provides world class genetics research solutions to leading clinical and academic research institutions. OGT has helped pioneer the molecular medicine revolution by enabling earlier disease diagnosis and precision medicine. With customers in over 100 countries worldwide and continuing expansion, OGT is a spin out from the Physics Department and since 2012 has received over £10m in funding and employs over 100 staff.

PROJECT FUNDING

Oxfordshire City Deal and the University of Oxford

In January 2014 Oxford and Oxfordshire were granted a City Deal by the Government. City Deal will encourage innovation led growth by maximising the area's world class assets including the University of Oxford. It acknowledges the region's strong track record of delivering growth and seeks to support existing and new businesses in achieving their full potential. The deal will allow Oxfordshire to maintain and grow its status as a prosperous economic area.

Begbroke Science Park was one of the approved projects in the Deal which £17 million of funding will be used to fund the future development of our science based City Deal. The University of Oxford's Innovation Accelerator project will be funded as follows:

Projecting Funding:

City Deal funding (UK Government): £4.9 million
University of Oxford funding: £7.2 million
Total Project Funding: £12.1 million

The Innovation Accelerator project will build on the work of the Innovation Accelerator project to bring business and technology into the University of Oxford. It will provide a space, support and guidance for the best ideas and support their successful transition to the market place.

Three of the core aims of the Begbroke Innovation Accelerator

1. Translating research excellence into tangible benefits. Complex research activities need specialist additional support to translate into economic benefits. The Begbroke Innovation Accelerator will provide the necessary space, support and guidance providing the best chance for spin-outs and research activities to grow and become viable companies.
2. Co-locating business and academic research to mutual benefit. Increasingly, the importance of University / business interaction is recognised as a key driver for economic growth. The Begbroke Innovation Accelerator project aims to provide a space whereby business and academic research can interact directly to accelerate the translation of ideas directly into the business environment.
3. Connecting to the local innovation ecosystem. The Oxfordshire innovation ecosystem is uniquely placed to help support the translation of ideas from the lab into the market and the Begbroke Innovation Accelerator will help achieve this by acting as a hub and catalyst.

DESIGN PROPOSALS

Site layout

The project aims to extend the existing Centre for Innovation and Enterprise (CIE) Building at Begbroke. The extension is located within an area of existing hard landscaping and will increase the floor area by 2,266 square metres across two floors.

The key features of the new development are listed below:

- No. 1. The existing building will be retained and extended to utilize the existing layout and facilities creating a central meeting space on both floors.
- No. 2. Creation of a new main entrance which has easy pedestrian access to the existing parking provision, existing reception and also allows for a new disabled person parking bay.
- No. 3. Adaptable laboratory and office spaces down the length of the new wing.
- No. 4. Separation from the existing buildings is 10 metres. This allows for two new high quality outdoor spaces including a south facing courtyard.
- No. 5. Additional showers, changing rooms, changing and locker provision to encourage cycling to and from the site.
- No. 6. Cycle parking is located opposite the meeting facilities at the end of the new wing.

DESIGN PROPOSALS

Visualisations

Visualisations of the proposed building extension, showing the building's integration with the surrounding landscape and the site's entrance.

DESIGN PROPOSALS

Elevations

A limited palette of materials is proposed for the building's exterior cladding. Western red cedar will be used again; to ensure it matches the existing, both the existing and new cedar cladding will be stained ebony colour. The cladding will be a metal, as the existing building, but this time a silver colour which will complement the stained cedar. The proposed exterior materials are:

- 1. Cedar cladding strips with a dark stain to blend with the new cedar.
- 2. Metal with screen cladding.
- 3. Cedar cladding with laurel screens, look a like panel.
- 4. Treated vertical louvered glass brick system.

TRAFFIC AND ACCESS

Transport and access arrangements

Where possible Begbroke Science Park encourages visitors and site personnel to use public transport, the Begbroke minibus service and cycle routes. Where this is not possible car parking is provided at the site.

Local Bus Service
Public transport operator Stagecoach runs a frequent bus service offering bus routes 24 and the number 24 that stop a short walk away from Begbroke Science Park.

Minibus Service
Begbroke Science Park offers a well used private minibus service to the city centre that is free of charge to all University members and visitors.

Cycle Routes and Parking
Begbroke Science Park is easily accessible using one of the major cycle paths from Didlington, Begbroke, Oxford and surrounding villages. The project will provide increased cycle storage, and changing facilities will be provided to encourage a sustainable means of transport.

Car Parking
There is sufficient car parking at the site currently to complement other methods of transport to and from the site.

SUSTAINABILITY

Sustainable approach to building

The sustainability strategy for this building, and for future expansion of the University estate as a whole, is to deliver buildings that prioritise passive design, minimise on-site generation with a view to future campus energy demand complementing local biodiversity.

It has been University policy since 2009 that all major new buildings and refurbishments achieve a BREEAM (Building Research Establishment Environmental Assessment Method) 'Excellent' rating. This is the most widely recognised international environmental building standard and the University has growing experience in delivering buildings to it.

A high BREEAM rating alone will not deliver the optimal sustainable building for use and therefore the proposed building will also have the following key features:

- A facade which maximises opportunities to passively control the internal environment. It will balance a high specification glass and solid elements, heating and cooling to ensure solar gain and deliver optimum levels of insulation and daylight.
- Levels of air tightness significantly in excess of legislative compliance to minimise heating demand.
- Naturally ventilated spaces apart from those with specific requirements for research processes.
- High efficiency LED lighting and occupancy sensors installed throughout to minimise energy consumption.
- Sustainable drainage systems (SuDS) to landscaped areas and a management plan to ensure a net enhancement to biodiversity.
- A sustainable supply chain including 100% FSC (Forest Stewardship Council) (FSC) certified timber.
- A significant proportion of energy supplied via rooftop solar photovoltaic (PV) panels.

NEXT STEPS

Next steps and timeline

2015

- April: Public consultation to begin on the 24 and 25 April.
- May: Feedback following the public consultation to be received by the University.
- June: Planning application submitted to Chesham District Council.
- August: Chesham District Council decision on Planning Application.
- September: Construction works to start on site.

2016

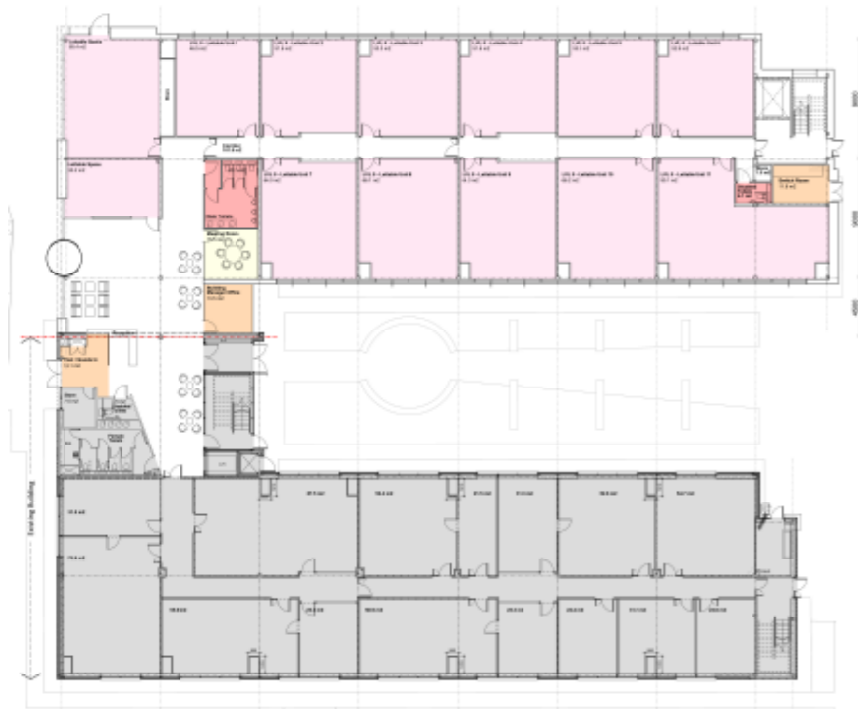
- June: Construction works to be completed on site.

4.0 Design

4.1 Use

The extension provides further flexible and adaptable laboratory and/or office space across two storeys. There is an existing stair and entrance node where the extension meets the existing building. At the southern end of the extension, there is a secondary escape stair.

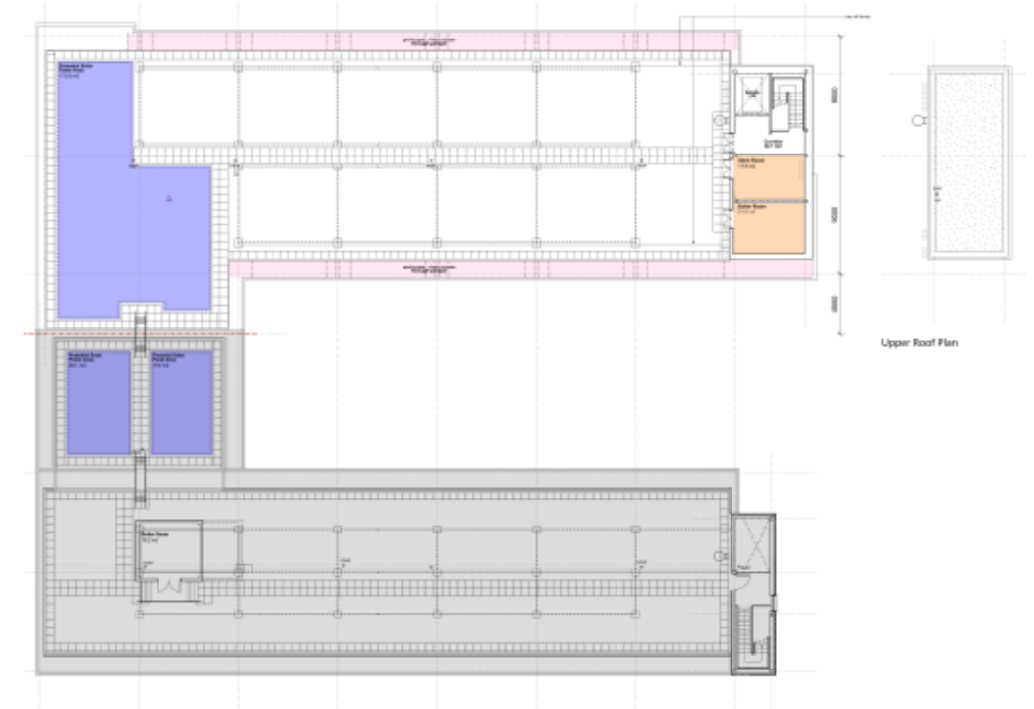
In addition to flexible lettable space the building also provides additional network and reception space to serve the large floor area. The scheme includes new landscaping surrounding the building, additional bicycle parking and an additional disabled parking space adjacent to the main entrance.



Proposed Ground Floor



Proposed First Floor



Proposed Roof Floor

Upper Roof Plan

4.2 Amount

1.1. Area Schedule

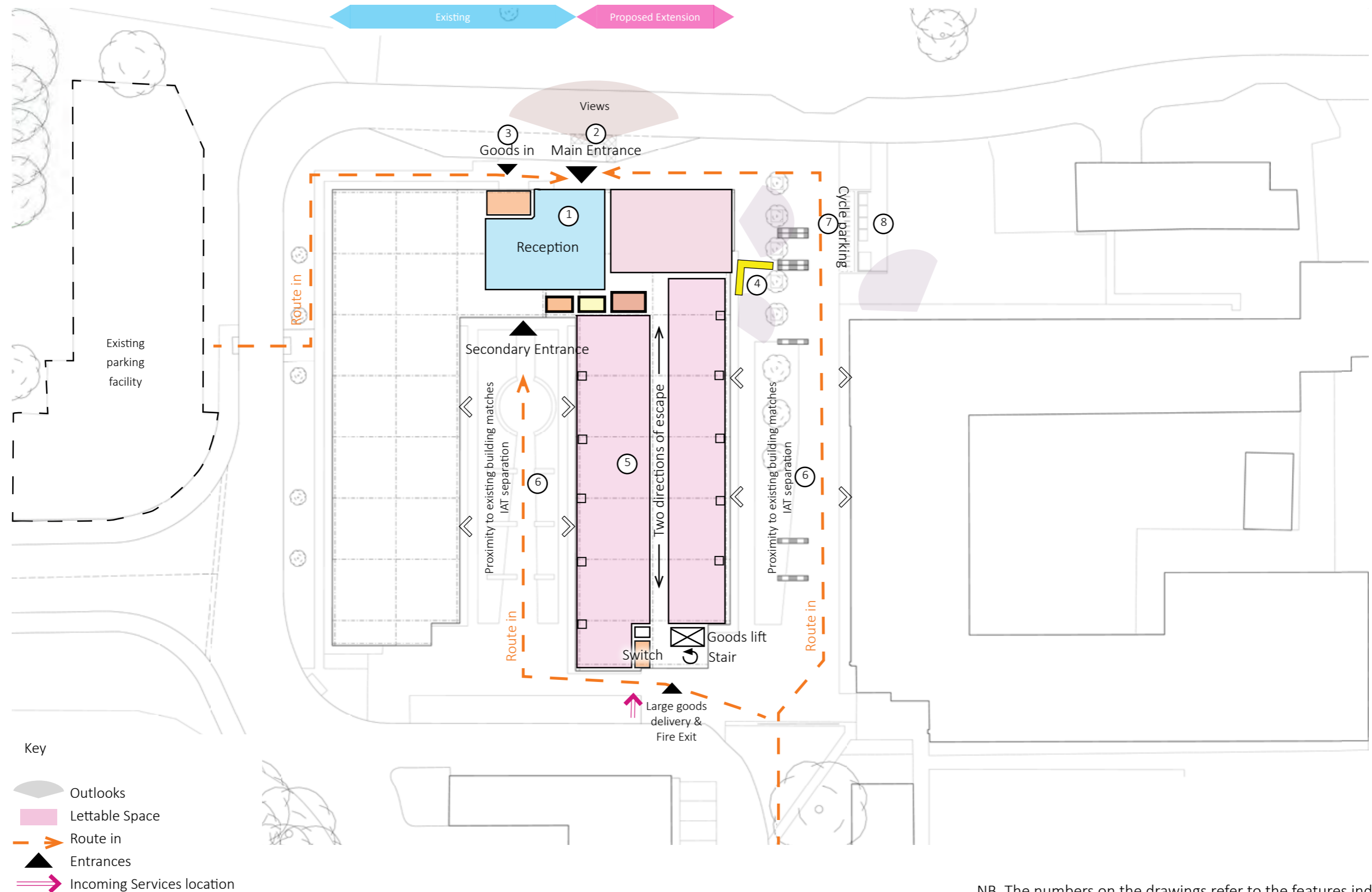
	Existing CIE sqm				Proposed Extension sqm				Total sqm
	G	1st	2nd	Total	G	1st	2nd	Total	
Gross External Area	1025.2	1031.6	26.9	2083.7	1152.8	1149.8	92.7	2395.3	4479
Gross Internal Area	958.4	961.2	19	1938.6	1088.8	1090.4	72.7	2251.9	4190.5
Total Lettable Area	818.9	1017	-	1835.9	678.4	812.1	-	1490.5	3326.4

Note: Area measurement of GEA & GIA taken from RICS Code of Measuring Practice 6th Edition. Net lettable area is measured from the internal face of external walls and structure, it excludes all service risers for lab use and any future internal partitions. The same technique is used for the existing CIE building – it is not an NIA measurement.

Building

In response to the initial brief and the site constraints identified, the architectural response has been created around the following points:

1. The existing reception area has been maintained and expanded to utilise the existing layout and facilities, this creates a central meeting node on both floors- additional networking space is provided at first floor where social interaction between the tenants can take place.
2. Creation of a new main entrance which has an outlook towards the north and easy pedestrian connection to the existing reception and the existing informal parking.
3. The existing goods in entrance is maintained with a dedicated area adjacent to the reception allowing easy surveillance of both functions by reception staff. This also has the advantage of keeping all deliveries and parcels separate from the public area.
4. The new main entrance and northern facade is articulated differently from the main wing of lettable space. This highlights the entrance to regular and first time visitors from the existing reception.
5. The successful adaptable lab/office spaces with risers have been replicated down the length of the new wing.
6. Separation from the existing buildings is maintained at 14m which matches the IAT separation between the wings. This allows for two new balanced high quality habitable outdoor spaces including a south facing courtyard, creating spaces that are in keeping with the wider existing site.
7. Cycle parking is located opposite the meeting facilities enclosing the end of the new boulevard and benefitting from natural overlooking surveillance from the proposed extension and the Hirsch Building.
8. Waste storage is located facing away from the landscaped areas providing a back fence and shelter to the cycle parking.

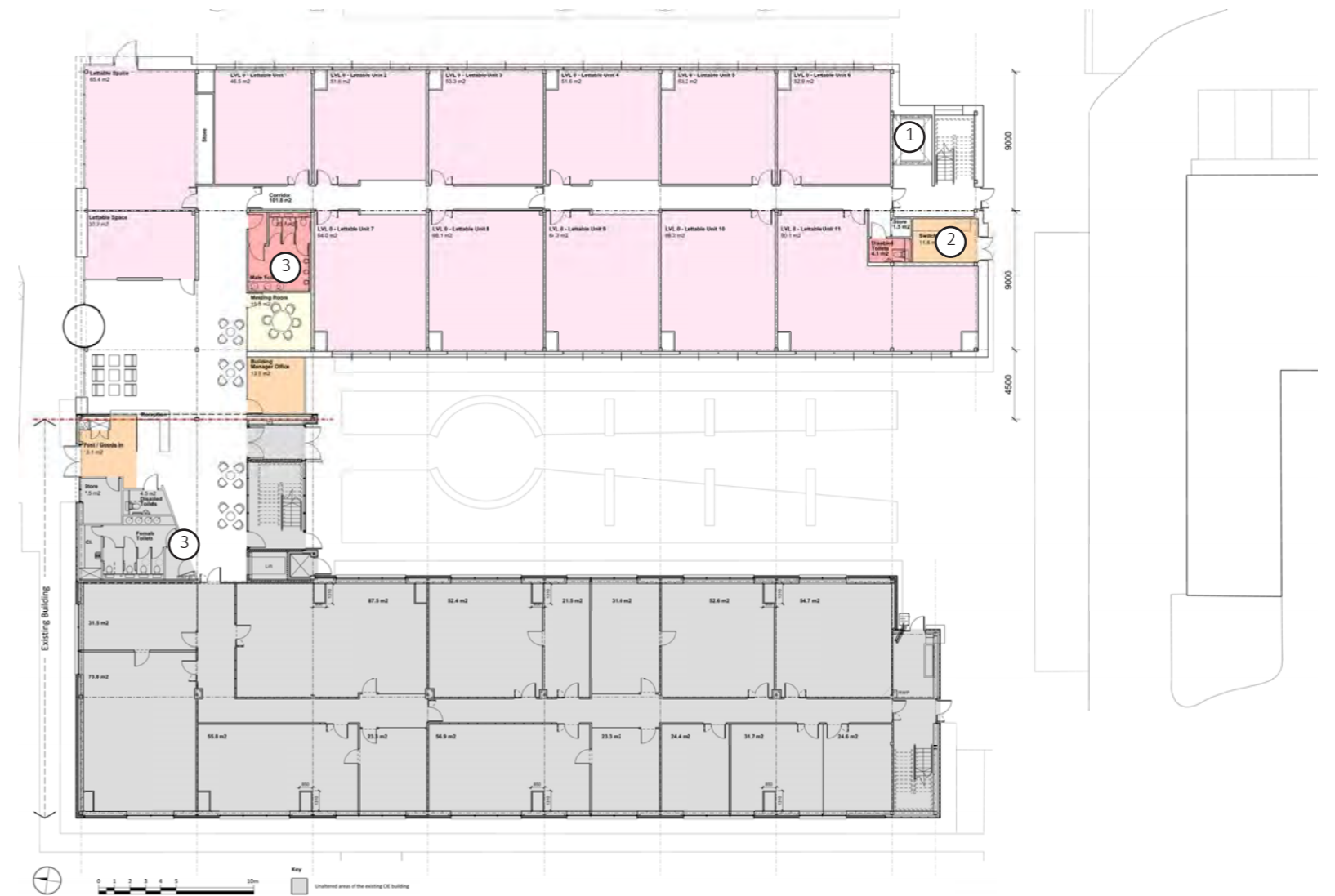


NB. The numbers on the drawings refer to the features indicated.

4.0 Design

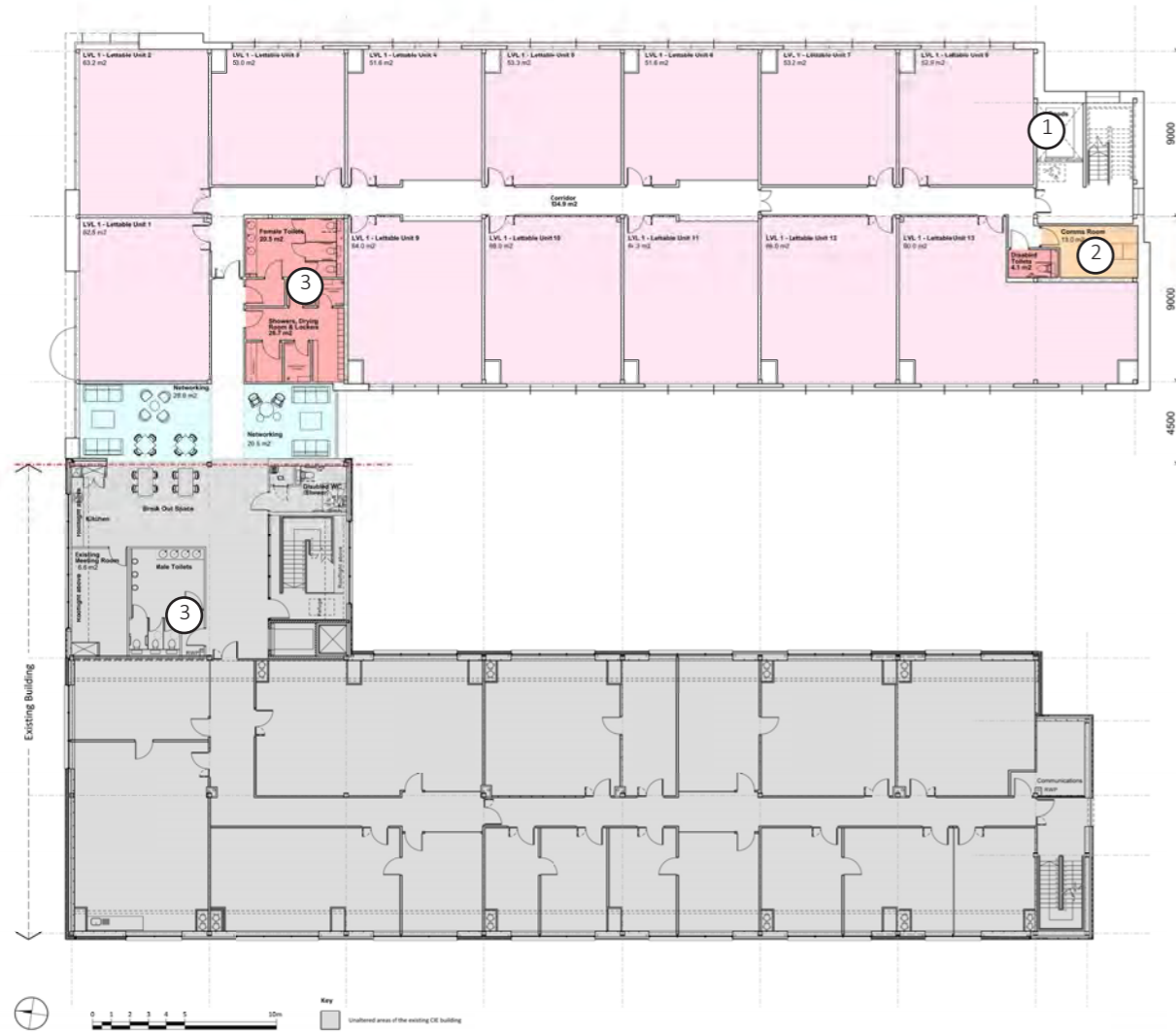
4.3 Layout

1. An additional stair located at the southern end of the wing providing a second means of escape for occupants. The goods lift provides access to all floors and the roof allowing for the easy installation of heavy plant delivery and installation. There is a fire exit located here, however it is not intended as a general point of entry and exit.
2. The switch room, comms room and boiler room are stacked on all floors at the southern end of the wing mirroring the location in the existing building, this allows for an easy connection to existing services.
3. The additional toilet provision is in a central landlocked location on both floors centralising the service stacks and reinforcing the facilities at the central node to the two wings. At first floor there are also additional showers, drying room, changing and locker provision to comply with BREEM requirements.
4. There is a provision for roof top plant for use by tenants- this is accessible from all floors using the risers located on each grid line and screening will be provided as exists on other buildings by the incorporation of a "fence" above the proposed parapet.
5. An area has been allocated for solar panel provision, this forms part of the renewable energy strategy for the proposal. The solar panels will not be visible above the roof parapet as there is an upstand of 1100mm which allows the lab risers to discharge on the roof and also provides the required fall protection.

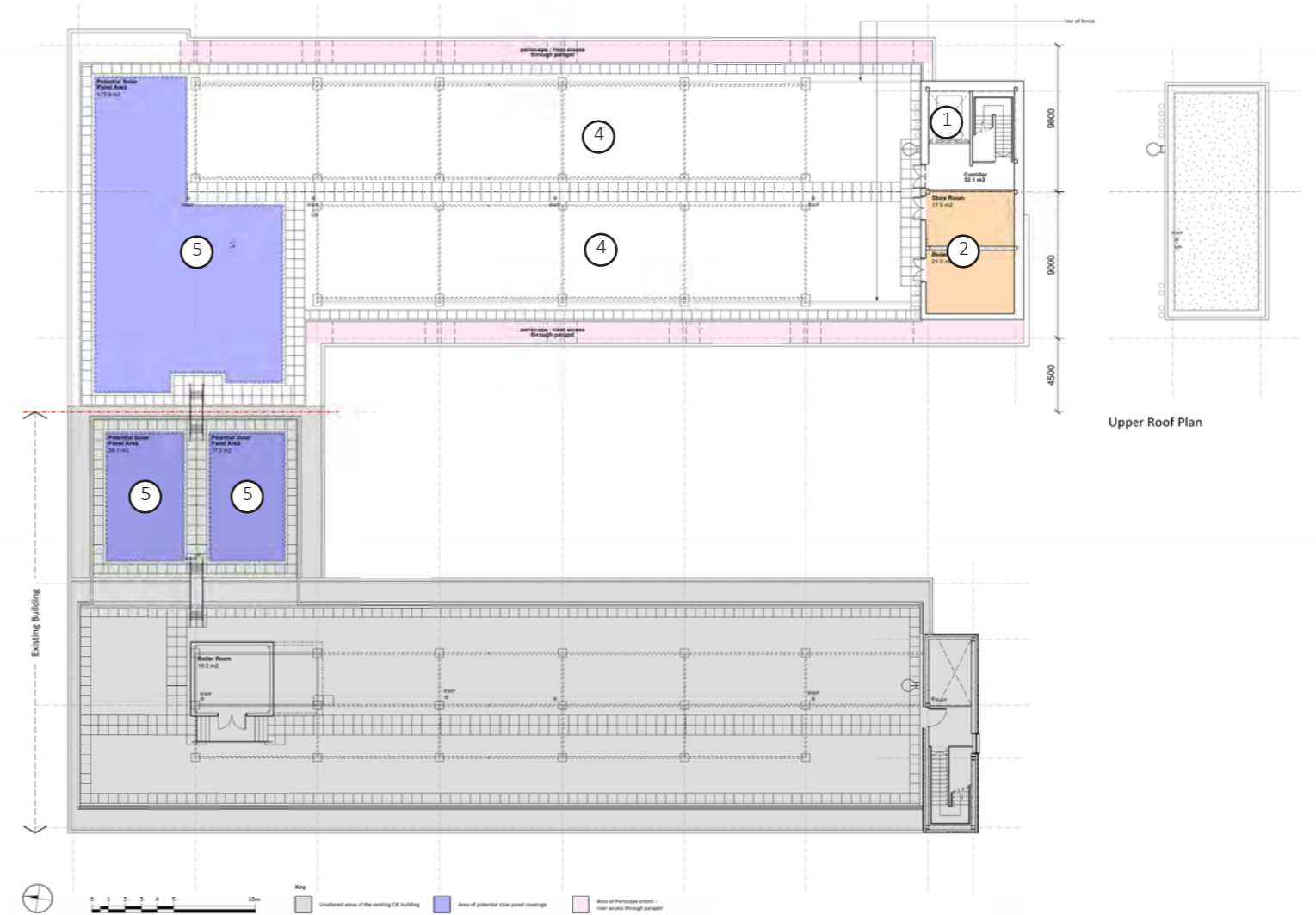


Ground Floor

NB. The numbers on the drawings refer to the features indicated.



First Floor



Roof

NB. The numbers on the drawings refer to the features indicated.

4.0 Design



4.4 Scale

Scale

The architectural approach to the scale of the extension has been developed taking into consideration the following points:

1. The proposed development is an extension to the existing building and therefore maintains the same parapet height as the existing building. It is 2 storeys in height to comply with the outline planning permission.
2. The stair core at the southern end of the building has been raised to accommodate a goods lift and the associated head space required. The increase in height from the original building is 1.2 metres. External flues would be serviced in part and put against the stair core.
3. The proposed wing is wider than the original building by 3 metres. The purpose of this is to maximise the lettable space within the new extension whilst avoiding over-developing the site. With an 18 metre width this leaves a 14 metre gap between the proposed and existing wings of the building. This maintains the same gap as the existing IAT. The wider floor plate also means the ratio of envelope to floor area is increased, making the building a more cost effective construction.
4. This gives the University a greater diversity of lettable space by providing lettable units with a greater floor depth. This means the building will be able to respond to a more competitive economy, thereby ensuring it can support the economic role of sustainable development.
5. The increase in width between the two buildings will not be read by people viewing the building from the outside as the only viewpoint from which this could be observed is obstructed due to the proximity of the adjacent buildings to the south.
6. The proposal includes screening back from the parapet edge to allow future tenant installation of plant on the roof that will not be visible from afar. This arrangement has been successful on the existing IAT Building which is the sister building to the CIE Building. The existing CIE has planning permission in place for identical timber screening, however its installation has not yet been required.

Key

-  Potential location of Photovoltaic Array- below height of parapet
-  Extent of existing building



1.2. Elevation

The key features to the elevational composition are:

- The entrance facade is articulated with a large area of curtain walling.
- The curtain walling is framed by timber matching the detailing of the existing building. The timber on the new building is to match the existing building integrating the extension with the existing building. The finish of the timber is to be natural western red cedar.
- The building is clad in curtain walling framed by a metal rainscreen cladding, within this is an area of curtain walling. A number of functional requirements of the facade are included, a horizontal louvre strip to allow natural ventilation and flexibility of planning to the interior spaces; there are vertical brise soleil to mitigate solar heat gain.
- Where solid panels are required with the curtain walling insulated look-a-like panels are to be used.
- The stair core is also clad in matching timber cladding.



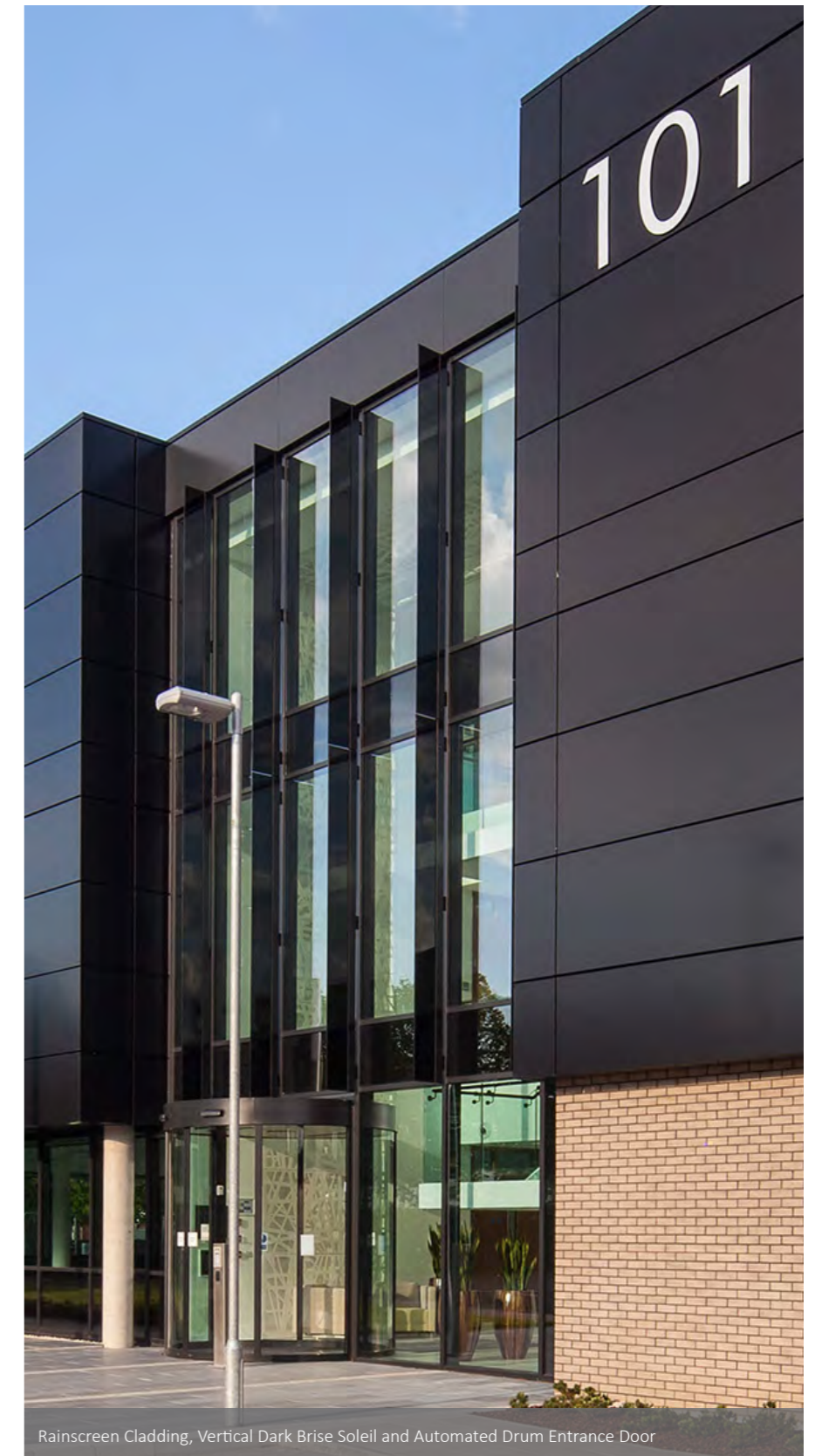
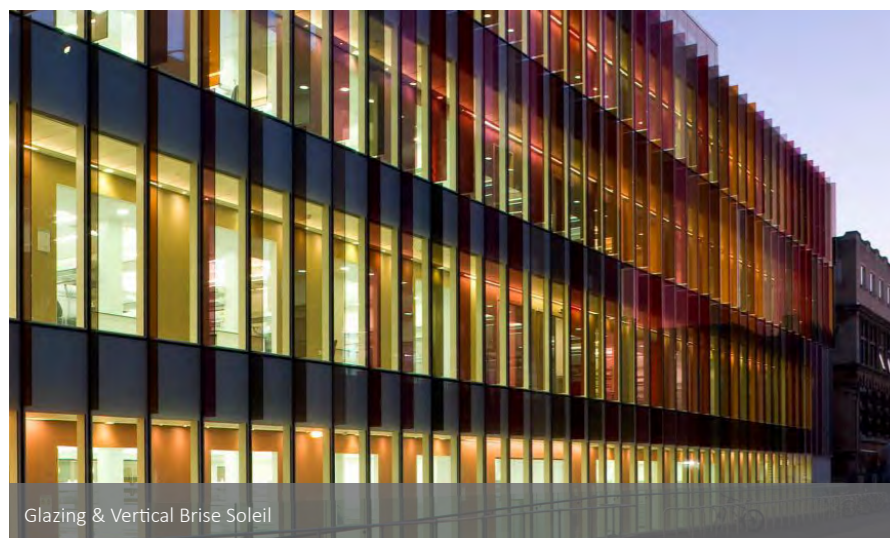
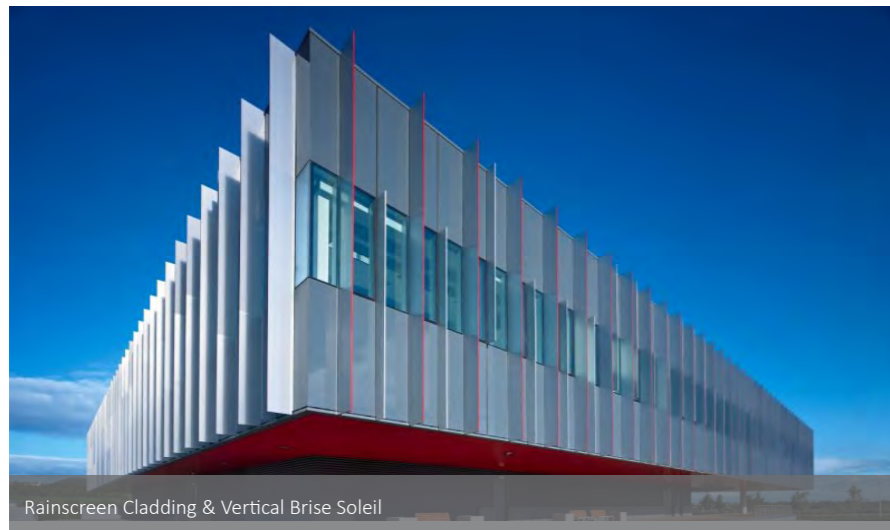
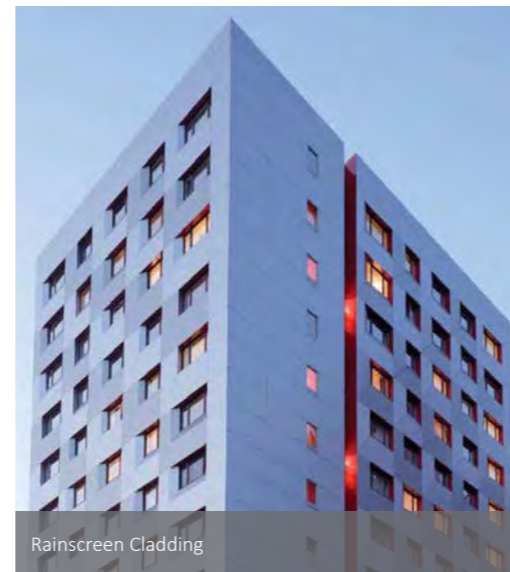
4.0 Design

4.5 Appearance

External Material Palette

A limited palette of materials are proposed for the building's exterior envelope which complement the existing building but are intended to be distinct from it. We are not intending to match the existing paint and finish because it will not be possible to match the paint colour (due to fading) and unlikely to be possible to match the panel width (as the supplier is no longer in business). The materials intended for use are:

- Cedar cladding with natural finish
- Metal rainscreen cladding
- Curtain Walling with louvre sections, look-a-like panels
- Vertical dark brise soleil





4.0 Design

4.6 Visual Impact

Two visualisations have been prepared which show the location and continued ridge line of the proposal in relation to the existing CIE building.

The photos were taken in winter and from the north of the site from the public edge and corner of the field.





Key

- Existing CIE Building Outline
- - - Proposed CIE Extension Outline

4.0 Design

4.7 Landscaping

Landscaping

The CIE Extension creates two new distinct landscape areas- a south facing courtyard and a boulevard with benches and additional planting to increase the ecological diversity of the site.

It is proposed to use the same palette of materials as the existing CIE and IAT buildings:

- 300mm square paviors.
- simple areas of grass with varied planting.
- gabion baskets filled with stone with timber top to create benches.

Shrubs should be below 1m and tree canopy to be above 2m to allow a field of natural surveillance for users.

To address universal access and disabled provision a range of bench types be incorporated to the design both with and without back.

The hard landscaping strategy is detailed in drawing 3141-080 and soft landscaping strategy detailed in the submission drawings by Anthony Stiff Associates.

External Lighting

The external lighting scheme has been developed to be in keeping with the existing lighting provision on the site. A Light Pollution Statement has been prepared by Hoare Lea.



5.0 Access

5.1 Statement

Site Topography

The site rises by approximately 50mm from the north to the south. Due to this very small level change there will be level access provided throughout the site and to all entrances.

Site Movement

The site plan is simple and efficiently designed to ensure that navigation for pedestrians and vehicles is easy. The location of the new main entrance is articulated clearly in the north facade and a universally accessible pathway is provided from the existing site reception.

Pedestrian Access into the site

Dropped pavement kerbs will be used at the primary entrance to the north and the secondary access to the south. This will provide safe movement of people into the site. A pedestrian footpath will be provided along the exterior of the building.

Circulation throughout the site

Where steps and ramps are used to accommodate site level changes they will be compliant with Part M of the Building Regulations with adequate landings and passing points.

Approach to and access into the building

An accessible parking space is located near the primary entrance. Level thresholds are provided at all entrances and all emergency exits. Lifts are provided for vertical circulation inside the building and provide universal access to all levels.






Building Flexibility

The flexibility of the building is inherent in its design and key to its concept therefore should the access demands change in the future the building can accommodate any required changes.

Emergency Vehicles

Routes into and around the site have been designed to provide adequate access for emergency services vehicles. A designated area for congregation in the event of the evacuation of the building has been provided.

Key

-  Circulation
-  Proposed development
-  Main pedestrian routes
-  Main vehicular routes
-  Entrances

