3.

New Learning Centre Building

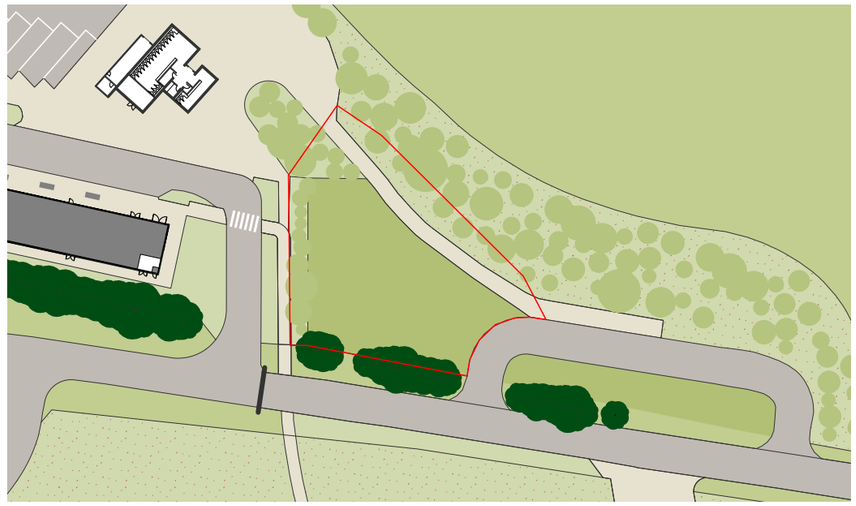
3.0 The Site

3.0.1 Proposed site

Site boundaries

The site for the proposed New Learning Centre is a triangular plot located to the south east of the Groups Ticketing Building.

Its western boundary is defined by the planting along the coach access road, the southern boundary by the line of mature trees and beech hedge and the north eastern boundary extends just beyond the pedestrian path leading from the Groups Ticketing Building to the Shuttle Bus pick up.



New Learning Centre site plan



Aerial Photograph (source: Bing Maps)



Panoramic photograph of site from north (4 November 2020)



View across site, looking south east from Groups Building



View towards site, looking north east from pedestrian route

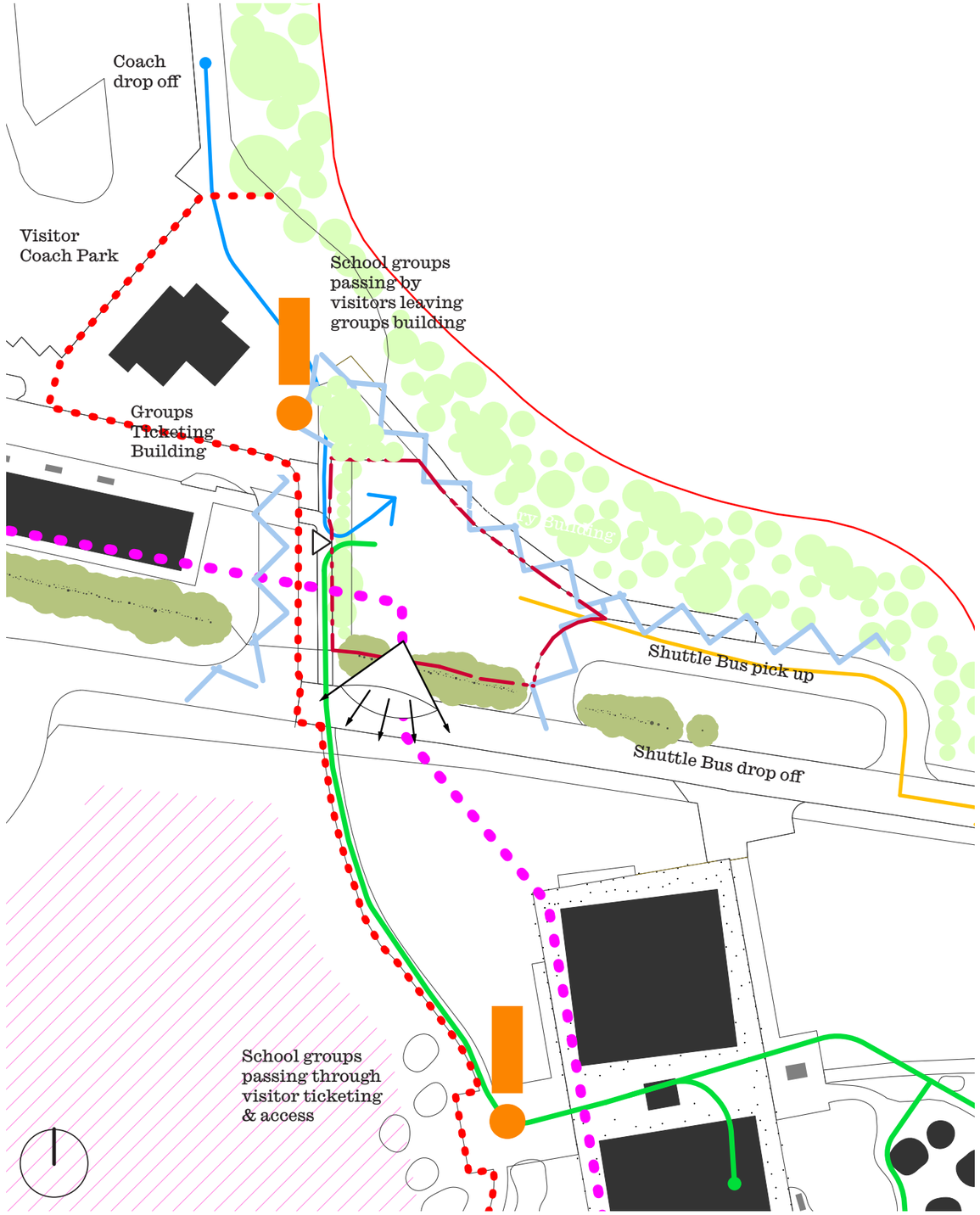
3.0.2 Constraints and opportunities

Constraints

- Fall of 1.5m across site from north west corner to south east
- Minor noise from pedestrian traffic and Shuttle Buses along north east boundary
- Minor noise from vehicular traffic along west boundary
- Planting required for screening along north boundary limits views out

Opportunities

- **Significant but connected** - site sits within the public Front of House area but behind the green screen that separates the enclosed north of the site from the open south.
- **Secluded and quiet** - sited in a planted enclosure of mature trees to the south and 2m high planting (2018) to the remaining sides it enjoys an acoustic isolation that allows birdsong to be heard on a busy day.
- **External learning** - site provides the potential for a perimeter building that would maximise both the quality of, and the access to, external learning areas.
- **Safe and secure** - sited behind the Hostile Vehicle Mitigation barrier
- **Minimises visual impact** - site is set considerably lower in the landscape than the Ancillary Building and Group Ticketing Building.
- **No archaeological constraints** - outside areas of archaeological risk due to previous coach park groundworks
- **Accessible** - easily accessible by pavement from the coach park with a safe existing drop off.
- **Visitor experience** - any building on the site will have negligible adverse impact upon the general visitor experience.



KEY

NOISE
Minor noise from pedestrian traffic to Shuttle Bus pick up

BELOW GROUND
Outside areas of archaeological risk due to previous coach park groundworks

Below ground services

VEGETATION
Tree root protection zones

Planting required for screening

TERRORISM
Inside the Hostile vehicle mitigation (HVM) zone

ACCESS
Potential Entrance

Nearby coach drop off point

Adjacent to Shuttle Buses

Medium journey to Visitor Centre

PINCH POINTS
School groups clash with visitor access

VIEWS OUT
Southern view through mature trees over Visitor Centre and western site and open landscape

New Learning Centre - constraints and opportunities site plan diagram

3.1 Design Principles

3.1.1 Learning from Stonehenge

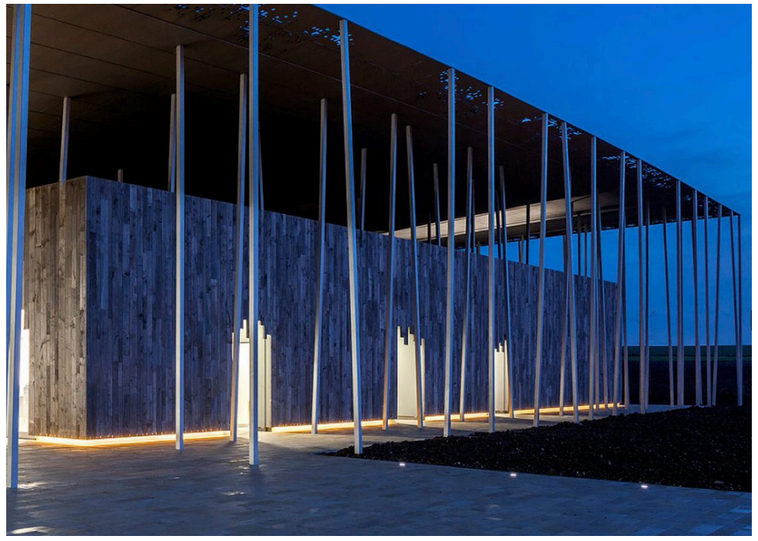


A distinct figure in a field

Open grasslands

Stone vertical columns

Epic & intimate scale



Blurring the perimeter

Open grasslands

Steel angled columns

Epic scale



A clearing amidst mature trees

Mature beech woodland

Timber vertical columns

Intimate scale

Secluded and connected
Stonehenge is a human intervention in the landscape. For the visitor it both creates an enclosure and enhances a sense of the landscape beyond. It is intimate and epic, secure and open, internal and external.

The New Learning Centre seeks to create a similar experience for young visitors. The courtyard at the centre of the centre will provide a secure secluded space for learning as well as providing physical adjacency and visual connections to the landscape beyond.

3.1.1 Learning from Stonehenge (cont.)



Photograph of Stonehenge, 2021



CGI of Woodhenge reconstruction (Source: www.stone-circles.org.uk/stone/woodhenge.htm)

A sustainable enclosure
Learning from Stonehenge and the Visitor Centre the New Learning Centre uses a line of columns to define a space, enclosing and framing the landscape.

It avoids imitating or competing with either neighbour by using timber columns, a material with low embodied energy available from sustainable sources. Sited adjacent to mature beech woodland, rather than the open grasslands of the World Heritage Site, the timber columns are in harmony with the immediate context. High quality and robust, they nevertheless are compostable and will eventually disappear from the landscape, like Woodhenge before them.



Woodhenge as it may have appeared in about 2500 BC © Historic England (illustration by Peter Lorimer)

3.1.2 Combining building typologies



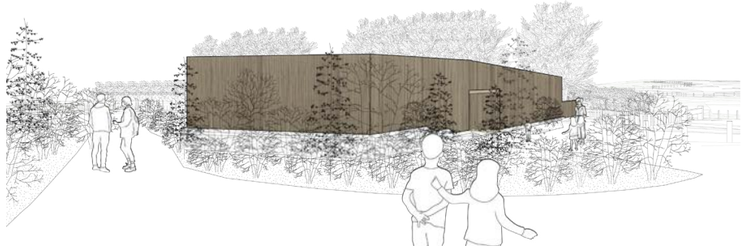
Neolithic Village



Groups Ticketing Building



Visitor Centre



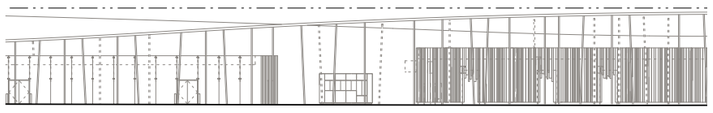
New Learning Centre



Ancillary Building

Distinct roof forms follow the landscape

Experience buildings

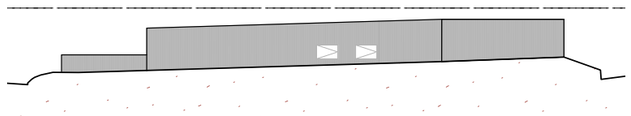


Visitor Centre, East elevation

Two building typologies
The Visitor Centre Site currently contains two types of building. The Experience buildings, part of the visitor experience, have distinct roof forms which reflect and follow the rolling hills of the surrounding landscape. The Support buildings, back of house and public facilities, are walled enclosures with no visible roof which have a fixed datum which opposes the landscape.

Walled enclosure follows the landscape

Experience + Support

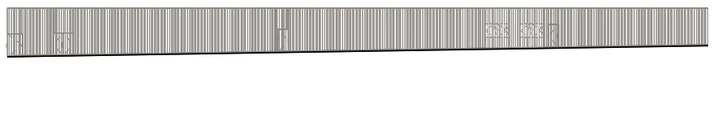


New Learning Centre, North elevation

A new combination
The New Learning Centre is an essential part of the Visitor Centre Site experience but is subservient to the Visitor Centre itself. It combines the discrete walled enclosure of the support buildings with a roofline that follows the slope of the land and discretely marks the significant STEM learning space. In this way it creates a new building typology on the site by combining the relevant qualities of both existing typologies.

Walled enclosure with fixed datum

Support buildings



Ancillary Building, North elevation

A refined timber cladding
The New Learning Centre is clad in vertical sweet chestnut timber, a similar material to the Visitor Centre's South Pod, Ancillary Building and Groups Building. However, by combining this site-wide material with the slenderness of the Visitor Centre's columns it creates an external envelope with a more refined character than the nearby Support Buildings.

3.1.3 Complementary materials

Low embodied energy

The new Learning Centre is part of the woodland context of the WHS. The overall effect of the materials will not be about 'fitting in' but about complementing the landscape and evolving with it. It will use materials that are low in carbon - natural, compostable and local to England where possible.

A timber building

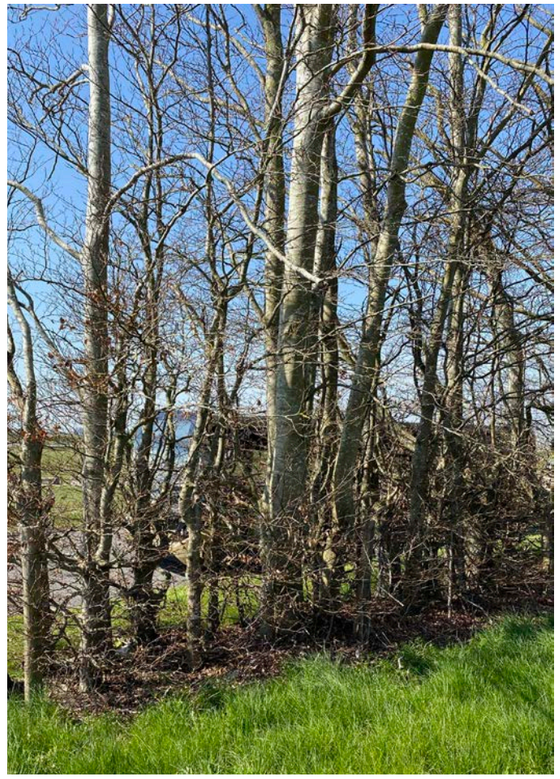
The new Learning Centre uses timber as the dominant material, structurally and externally. Timber is low in embodied energy, evolves over time and has sensory qualities - touch, smell - that enriches the experience of the building. Sweet chestnut cladding continues the material qualities of existing buildings on the site. The timber cladding's slender profile matches the scale of surrounding planting helping the building assimilate into the landscape.

Low impact thermal mass

To obtain the benefits of a high thermal mass the Learning Centre will need to use a more dense material than timber in its floor and external envelope. A clay block wall system provides a high level of insulation with no requirement for oil-based insulation, as well as providing excellent thermal mass to retain heat.

A discrete, robust roof

The flat roof, sitting below the timber parapet, has a similar single ply membrane to the Visitor Centre and support buildings, using the least material to deliver the most effective protection.



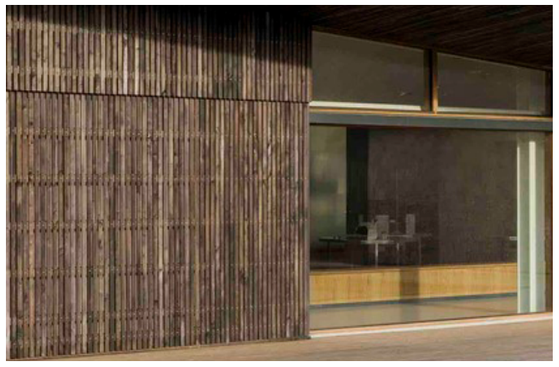
Mature beech trees lining southern perimeter of site



Ash cleared from Salisbury Plain



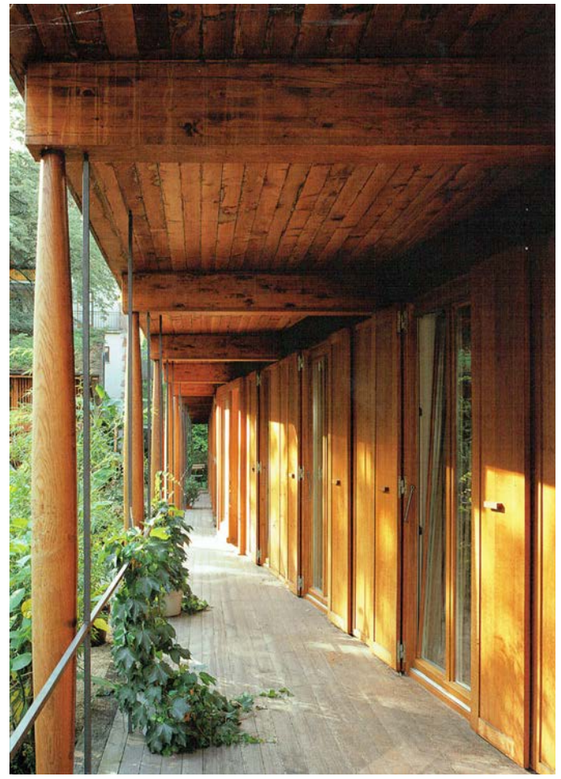
Recent woodland planting lining west and north perimeter of site



Slender timber cladding
Wadden Sea Centre, Denmark by Dorte Mandrup



Stonehenge Visitor Centre - single ply membrane



Timber structure, timber lined colonnade.
Party wall housing, Basel by Herzog de Meuron

3.1.4 Free Running Building

Produced by Adam Ritchie, Ritchie + Daffin

Net Zero Operational Energy

Energy used for heating and cooling, lighting and plug-loads represents the most significant carbon impact of the built environment contributing 30% of the UK's total Carbon emissions in 2017.

The most important step towards Net Zero Operational Energy is to prioritise the reduction of energy demand and consumption above all other Carbon reduction measures. A very-low-energy building strategy is therefore proposed where no air conditioning, or mechanical ventilation is needed and minimal heating.

Inspired by successful case-study buildings, a range of comfortable temperatures between 19 and 26 degrees is delivered exclusively with basic building physics: solid walls and ceilings that serve as insulating and heat storage materials. A naturally ventilated building without additional cooling is called a 'free running building'.

The structure does so without extensive traditional mechanical building services and relies on the basic architecture instead. It is heated with the warmth generated by the people in its rooms; its technical equipment such as projectors and screens; and its lighting.

Hugging warm spaces together

The planning of the buildings has developed to cluster the teaching and occupied spaces together - as warm spaces as shown on the diagram opposite - and link them with free-running circulation space (no energy is expended in cooling the circulation).

Dynamic computational thermal modelling of the teaching spaces has been carried out to evaluate the optimal combination of insulation, glazing and ventilation to achieve a stable temperature.

The modelling makes two clear conclusions:

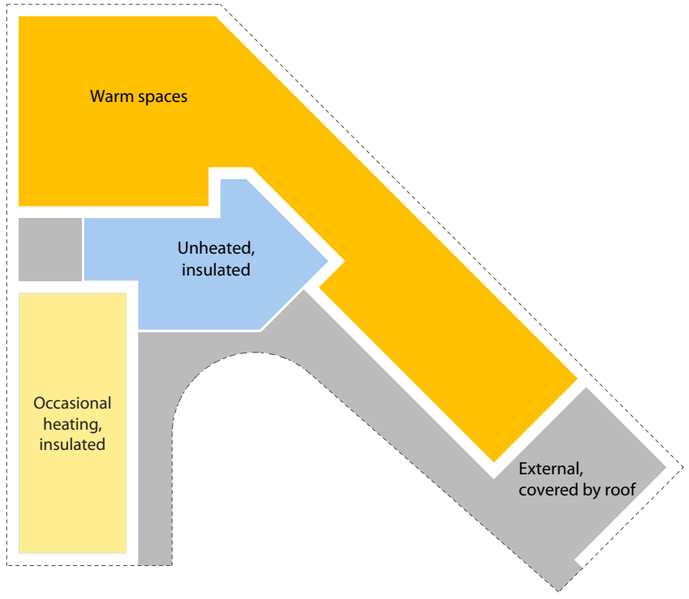
a) the summer temperature control is very good – the internal temperature only exceeding 26 degrees for a few hours per year, without the need for any comfort cooling/air conditioning.

b) that the warmth generated by occupancy is not quite sufficient for zero-heating – underfloor heating with an air source heat pump will be necessary at the coldest times of the year.

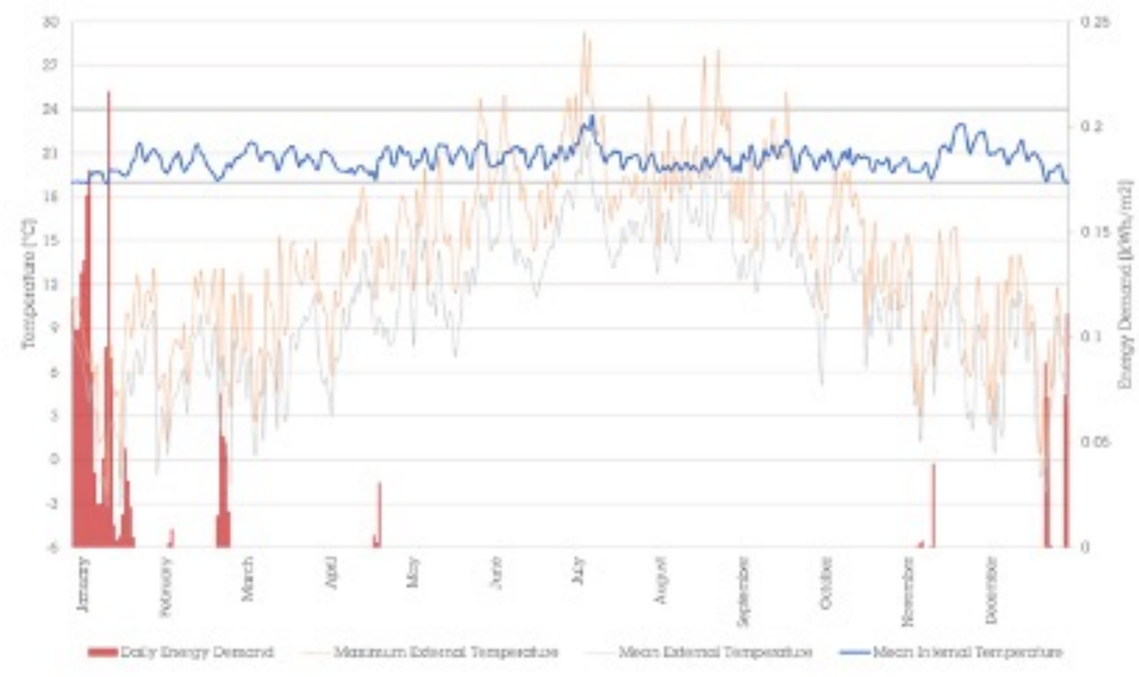
The modelled temperature profile for the Flexible Learning Space (blue line) is shown on the graph opposite. Occasions when extra heating is needed are shown in red.

Natural ventilation

To maintain good air quality ventilation is necessary. Natural ventilation for the two learning spaces will be provided through openable grilles at high level to prevent noise ingress. Natural ventilation to support spaces will be provided through openable windows.



Plan diagram showing 'warm spaces' grouped together



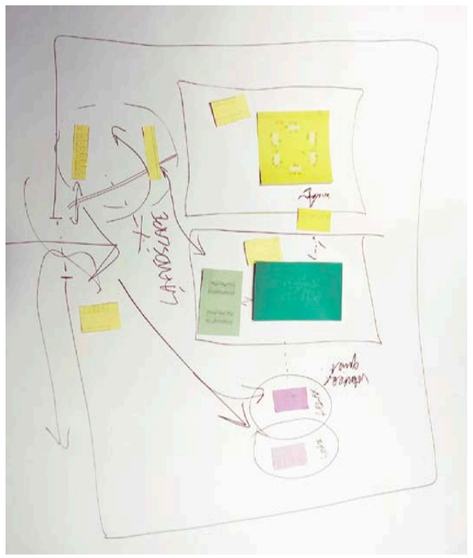
Graph resulting from the computational modelling of the main teaching spaces

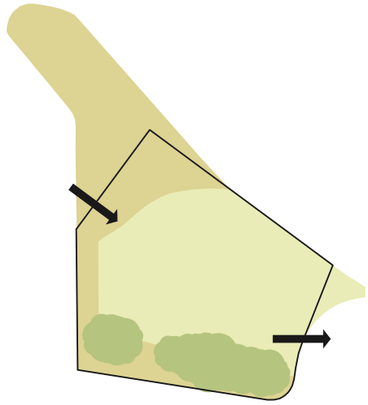
3.2 Design Development
3.2.1 Proposed Site Plan

Constraints and opportunities
Section 3.0.2 highlights the constraints and opportunities for the proposed New Learning Centre site. Further analysis in response to the brief identified the north west corner of the site as the ideal entrance, providing a safe, secure access point to the site. In addition, a new connection to the Stones' buses provides safe, secure access for educational groups.

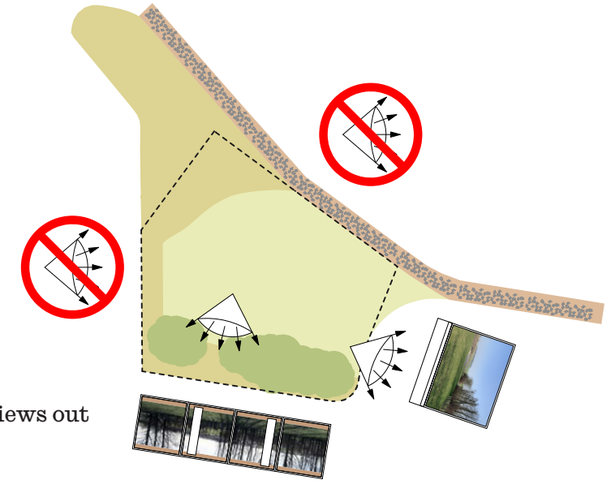
A collaborative design process
The design process began with a series of codesign workshops with the Stonehenge and Learning team. Key adjacencies between proposed spaces were explored and tested leading to an initial layout. This was further tested and developed in response to the learning aims, particular qualities of the site, the visitor flow and low energy design principles.

Codesign process
Adjacencies agreed by the client team at Stonehenge on 01/03/21

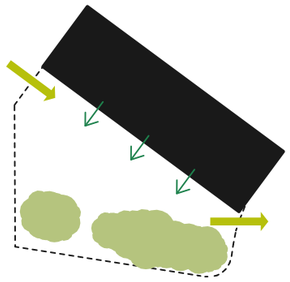




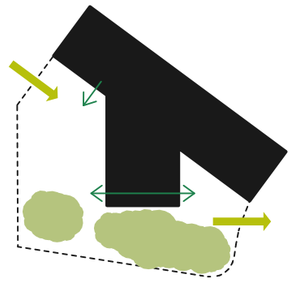
An accessible site



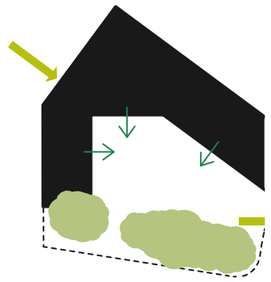
Key views out



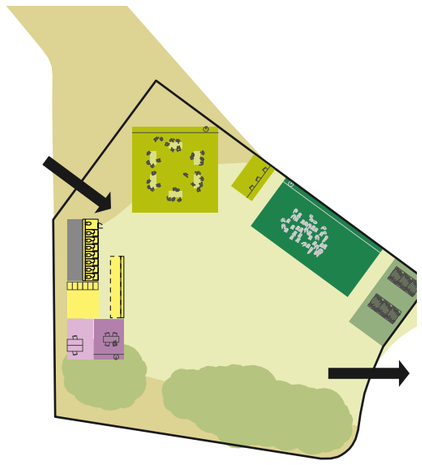
Option A
Linear block + fenced space



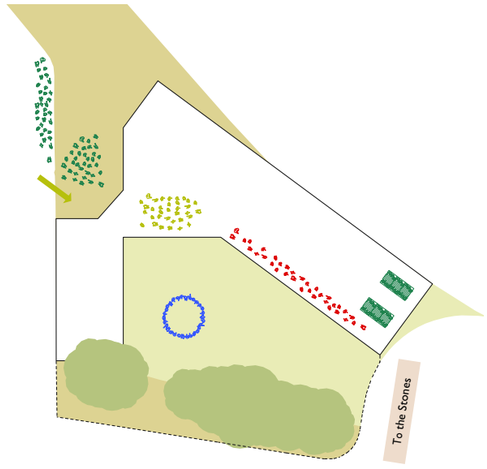
Option B
T build + 2 fenced spaces



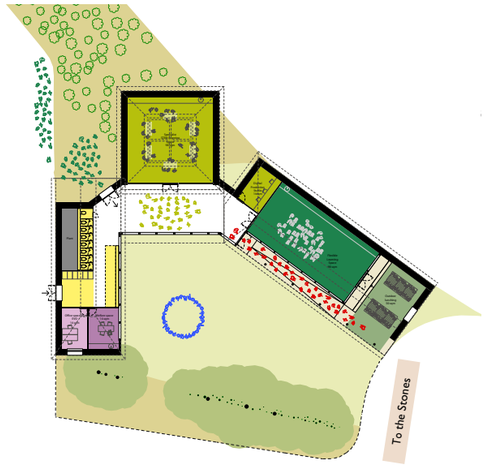
Option C
Perimeter build + courtyard



Making rooms in the landscape



Defining places to assemble



Evolving the plan

3.2.2 Massing and materials



Complimenting the Visitor Centre
Synthesising the different blocks of learning and support spaces with a single roof material to match the Visitor Centre.



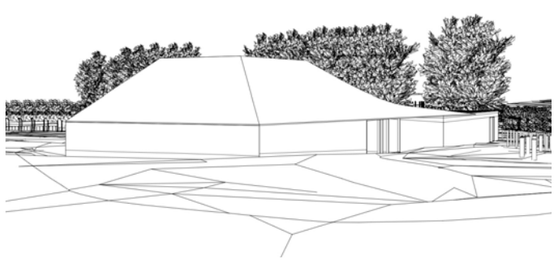
Walled enclosure
A shallow non-reflective metal monopitch roof allowed the support spaces to appear from afar as a walled enclosure, similar to the Ancillary and Group buildings. Pitched towards the courtyard a tall external wall was balanced with a low courtyard colonnade.

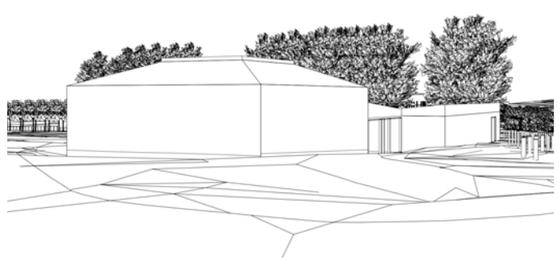


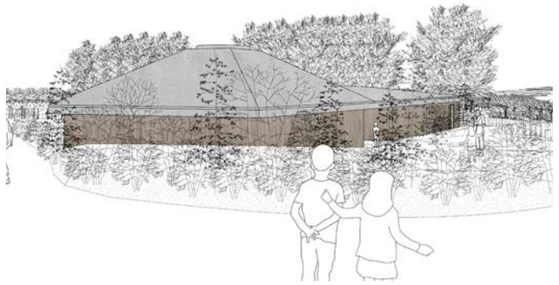
Diminishing the overall impact
Flipping the pitch of the monopitch roof significantly reduced the visual impact of the building by reducing the height of the external wall. This had the added benefit of creating a more generous courtyard colonnade that let more natural light into the rooms.

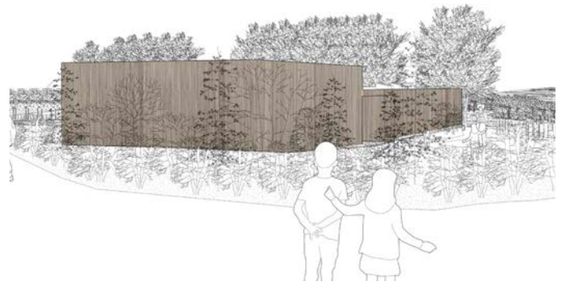


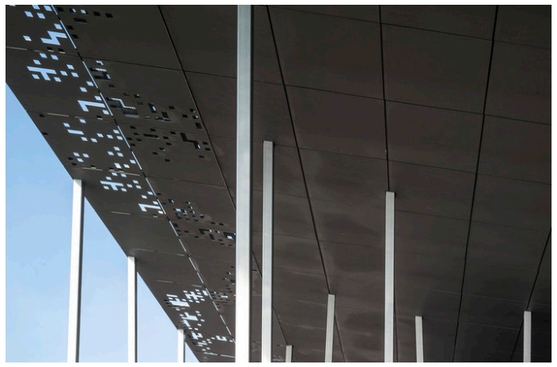
Simplifying the STEM
Replacing the roof pitches with flat roofs and a timber parapet ensures the new learning centre relates to the neighbouring support buildings and reduces visual impact. It also reduces the build's ridge height by 1m. By stepping the form to follow the landscape, the significance of the STEM is discretely acknowledged.

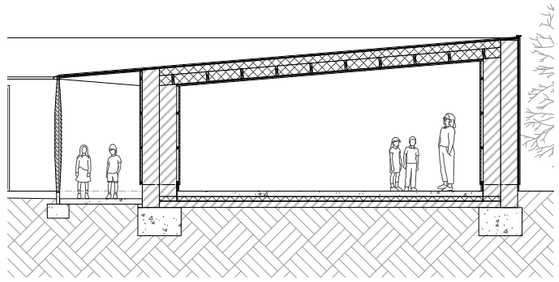


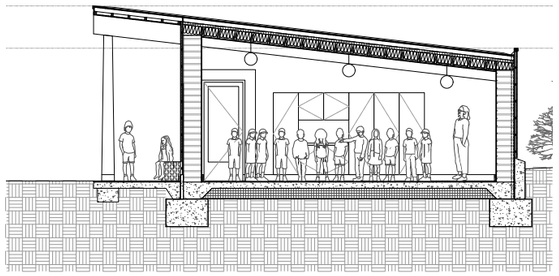


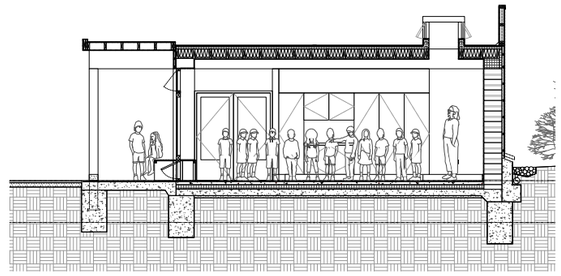












3.3 Concept Design
3.3.1 A consistent site datum

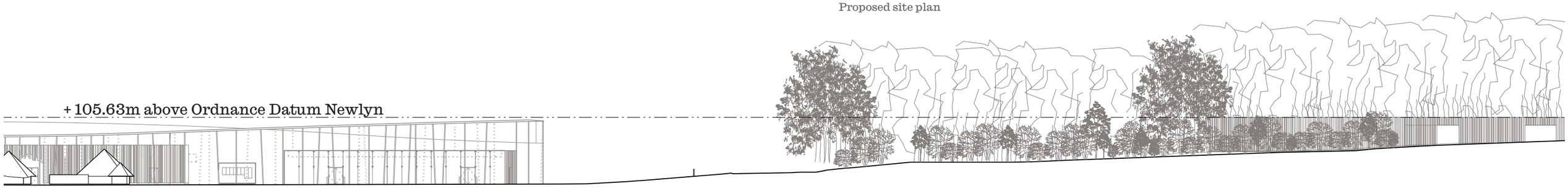
+105.6m
above Ordnance Datum Newlyn

The existing site section below shows an imaginary line below which all buildings at the Visitor Centre site currently sit. The Ancillary and Groups buildings are located on higher ground and so range from approximately 3 to 4.5m tall. Furthermore, the Visitor Centre and Neolithic Village sit on lower ground with the maximum height of the Visitor Centre reaching 8m.

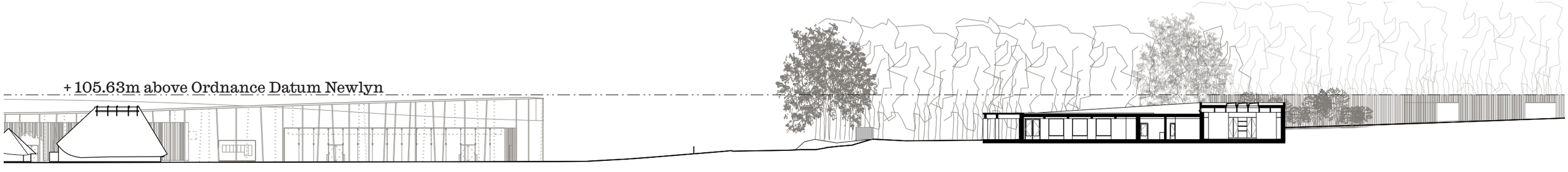
The highest point of the New Learning Centre sits 1m below the datum.
The Neolithic Communal Structure sits 1.5m below the datum.
In summary, both buildings sit lower in the landscape than the Visitor Centre and Ancillary building.



Proposed site plan

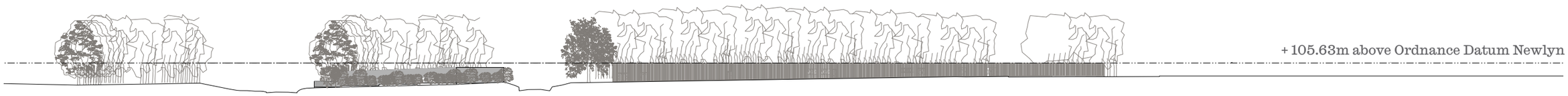


Existing long section through the site



Proposed long section through the site

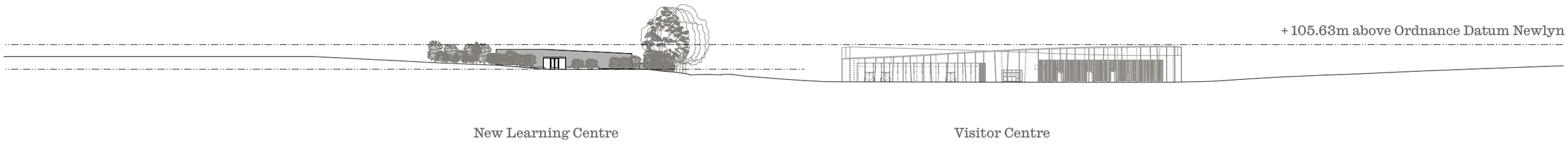
3.3.1 A consistent site datum



New Learning Centre

Ancillary Building

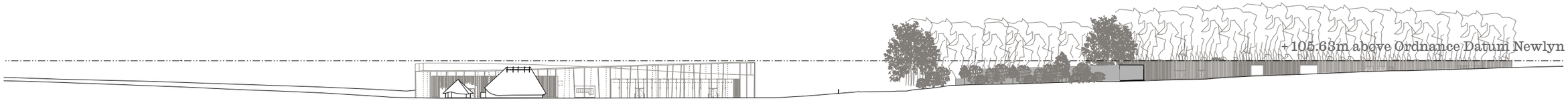
Proposed north elevation



New Learning Centre

Visitor Centre

Proposed west elevation



Neolithic Village

Visitor Centre

New Learning Centre

Ancillary Building

Proposed east elevation

3.3.2 Accessibility and Inclusivity

A universally accessible site

The Stonehenge Visitor Centre site is universally accessible and step free. To continue this inclusive environment the New Learning Centre and Neolithic Classroom will also be step free.

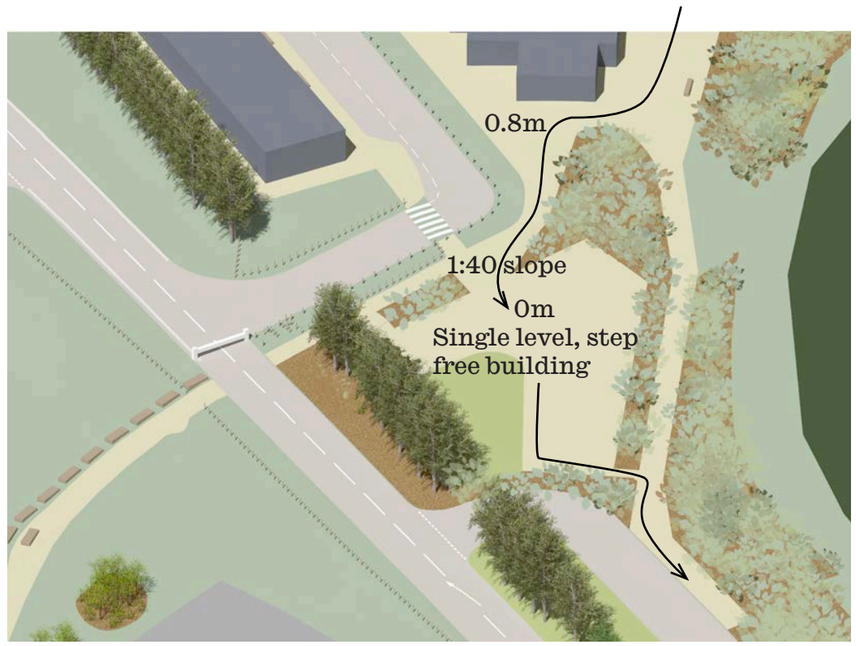
Locating learning in the landscape

The site of the New Learning Centre has a 1.5m slope from its north west corner down to its south east corner.

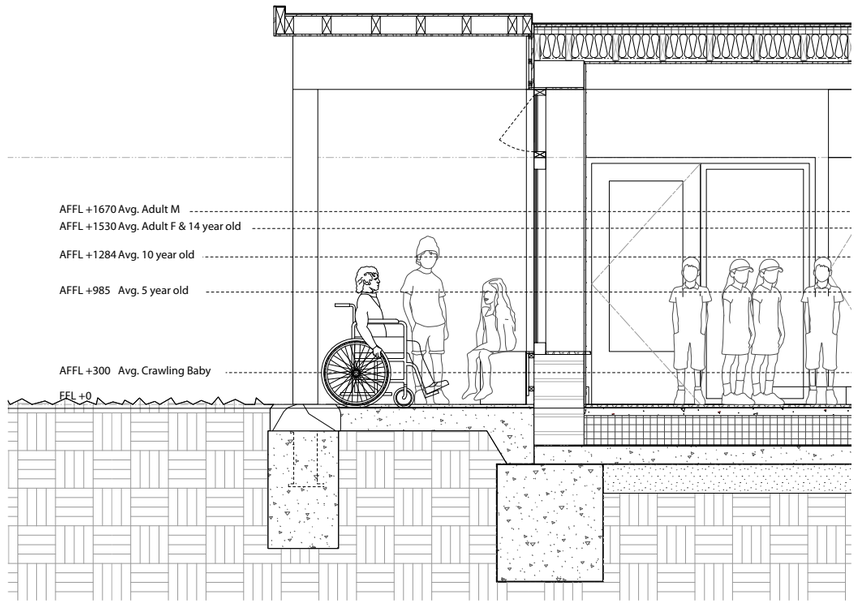
The new building is on a single level, step-free, to ensure universal accessibility.

The vertical positioning of the building will:

1. create a level threshold with the adjacent pedestrian access path
2. ensure excellent access to central courtyard
3. minimise visual impact upon the WHS
4. maximise spatial generosity of the STEM learning space within the site datum
5. minimise the need to remove soil from the site, as part of a sustainable site strategy



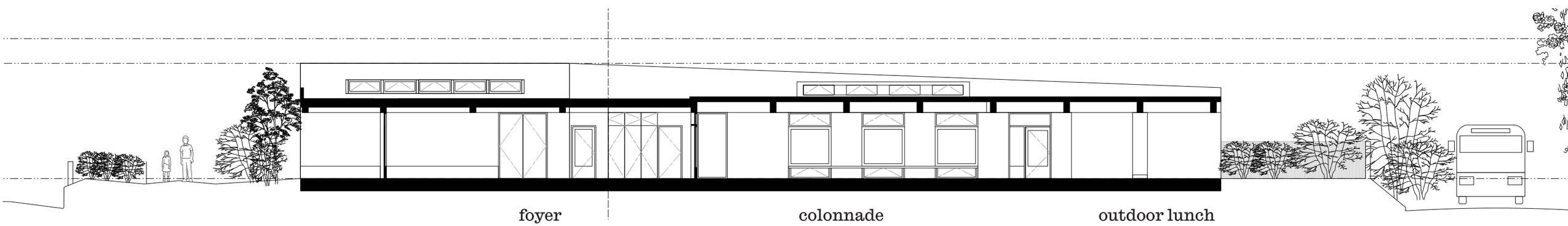
Level, step free access across the site



Excellent, step free access to central courtyard



Proposed landscape section through site. Existing lie of land in red.



Proposed building section through site.

3.3.2 Accessibility and Inclusivity (cont.)

Accessibility & Inclusivity
English Heritage are committed to improving equality, diversity and inclusion in everything they do, from supporting their employees & volunteers to welcoming visitors. The New Learning Centre has been designed to be both accessible and inclusive. In complying with Part M of the building regulations it meets the statutory requirements to make an accessible building. Through its design it aims to exceed the Part M building regulations to create an inclusive building, as set out in the table, right.

Collaboration with Access & Inclusivity experts
The design team have worked closely with GOSS Consultancy Ltd (GCL) to undertake an Access Design Appraisal of the proposed design for the Learning Centre and Neolithic Classroom.

Collaboration with diverse users
During Stage 4 the design team and English Heritage's learning team will hold codesign sessions with young people with diverse needs to explore how the interior fit out, including furniture and fittings, can best support an inclusive learning environment.

Compliance	Excellence in Inclusivity
• Meeting building regulations	• Exceeding building regulations to create an inclusive building
ACCESSIBLE	INCLUSIVE
• Building meets Part M Building Regulations	• Create a learning beacon for English Heritage • Accessible in an enjoyable way • A sense of belonging in the space • Embrace the new guidance 'PAS6463:2021 Design for the Mind- neurodiversity in the built environment'
• Level thresholds	• Easy level access to courtyard
• Easy to operate doors, ergonomics, opening forces	• Inviting thresholds
• Accessible WC	• Changing Places WC
• Minimum clear distances	• Spatial generosity
• Furniture accommodates wheelchair users	• Furniture easy to use by users

3.3.3 Security, Access & Safety

A safe and secure site
During the design process AOC have carried out a number of workshops with English Heritage security experts, to ensure a safe, secure building and help protect against a terrorist attack.

Perimeter fencing
Where the building does not provide an enclosed site, perimeter fencing will provide a safe boundary. The fence will be situated within existing and new planting, in keeping with the context of the wider site. The fence will be approximately 1.5m high, constructed from steel and will be vertical to prevent climbing.

CCTV Cameras
Can be discrete but coverage of all external access/ egress points and areas - for purposes of safeguarding and intruder detection.

Access Control
There is one primary point of entry (front door) and an additional 2no exit gates; one to the bus stop for the Stones and another to the south west corner.

The second gate provides an alternative means of escape from the building in an emergency. It can also be utilised as an exit route from the building to improve visitor flow, particularly for FEV's. Note: this will need to be managed and considered further by the site operations team.

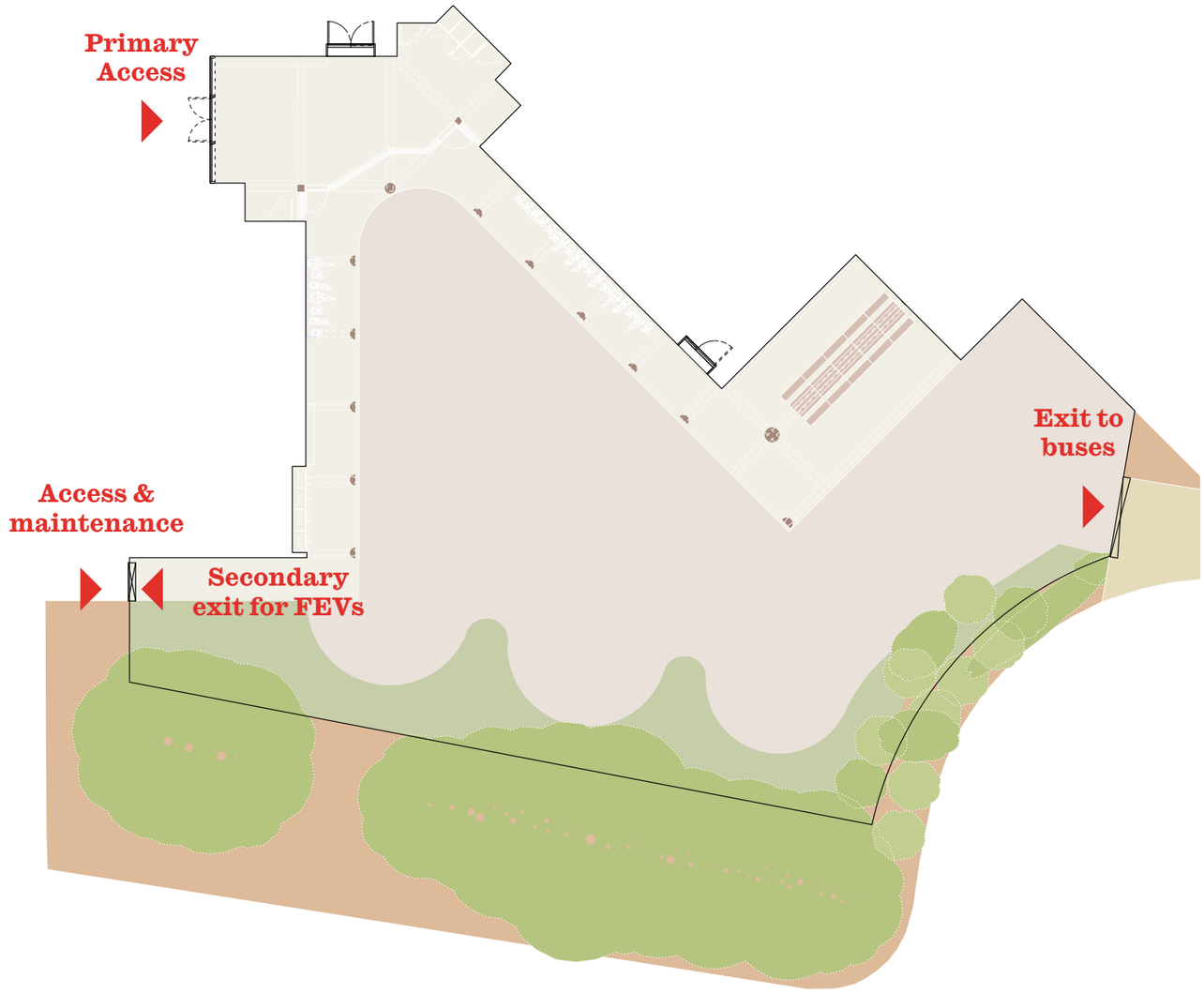
All entry/ exit points will be managed by access control (main front door & 2no. access gates). Swipe cards to match existing systems on site will be used.

Internally there will be access control restrictions (i.e.. no access to outside without swipe card).

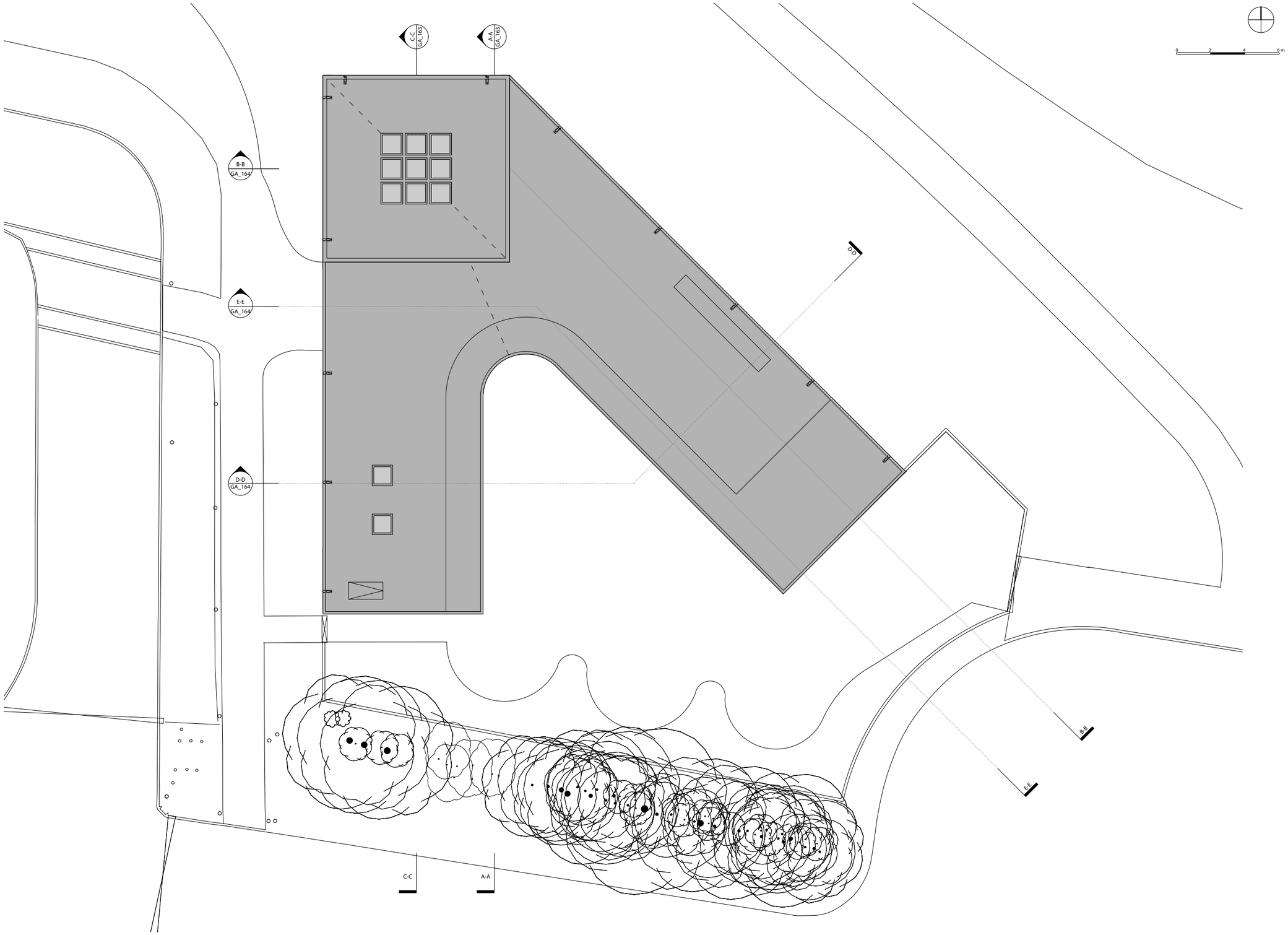
Laminated blast resistant glass
All glazed windows and doors require a level of external blast protection. The internal pane should be laminated glass.

Lighting Strategy
Security lighting will be limited to providing safe entry and exit for staff in locking and opening the building in winter months.

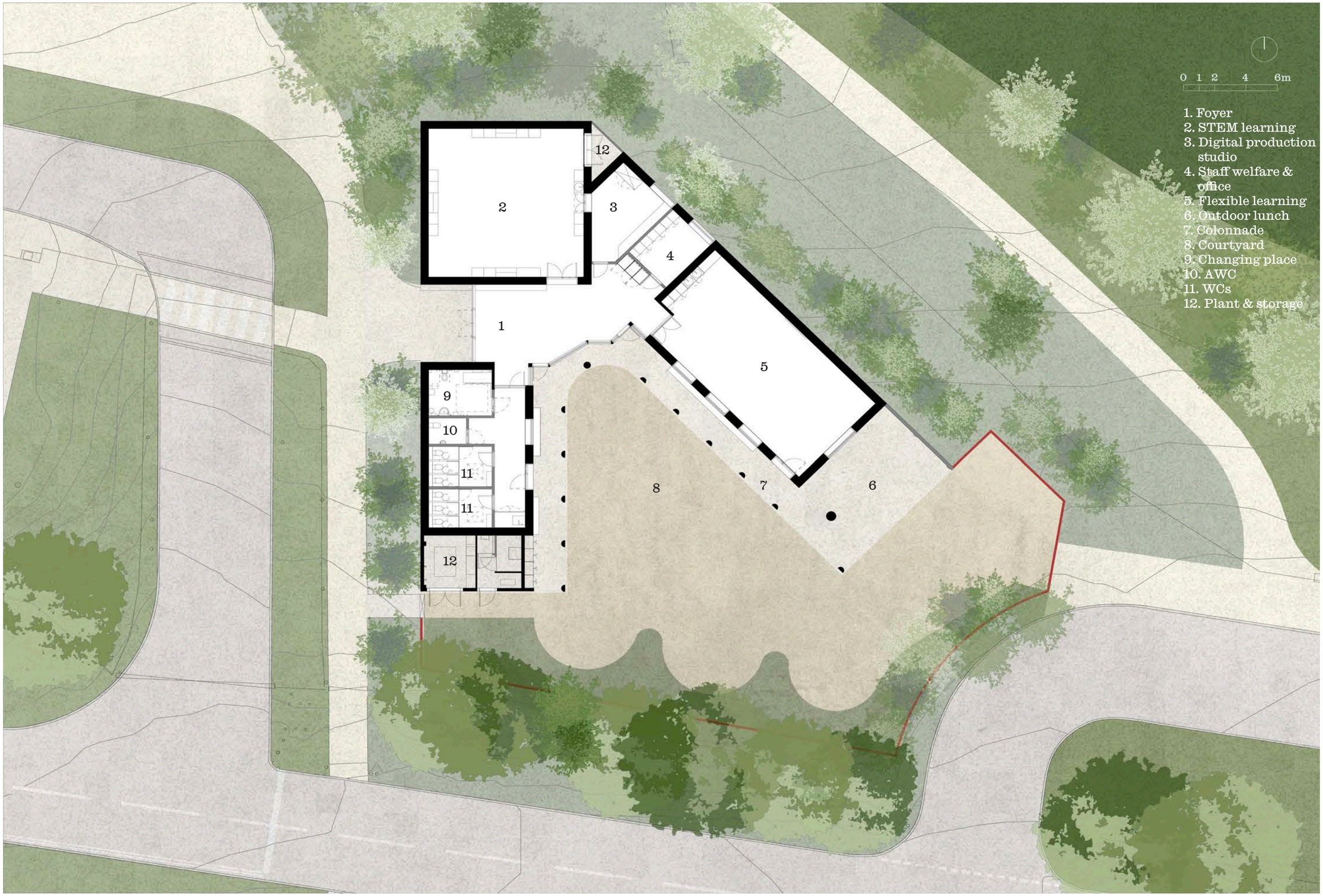
In line with the existing lighting provision at the Visitor Centre site, external lighting will be limited and discrete, designed to minimise light spill and light pollution on the WHS landscape.



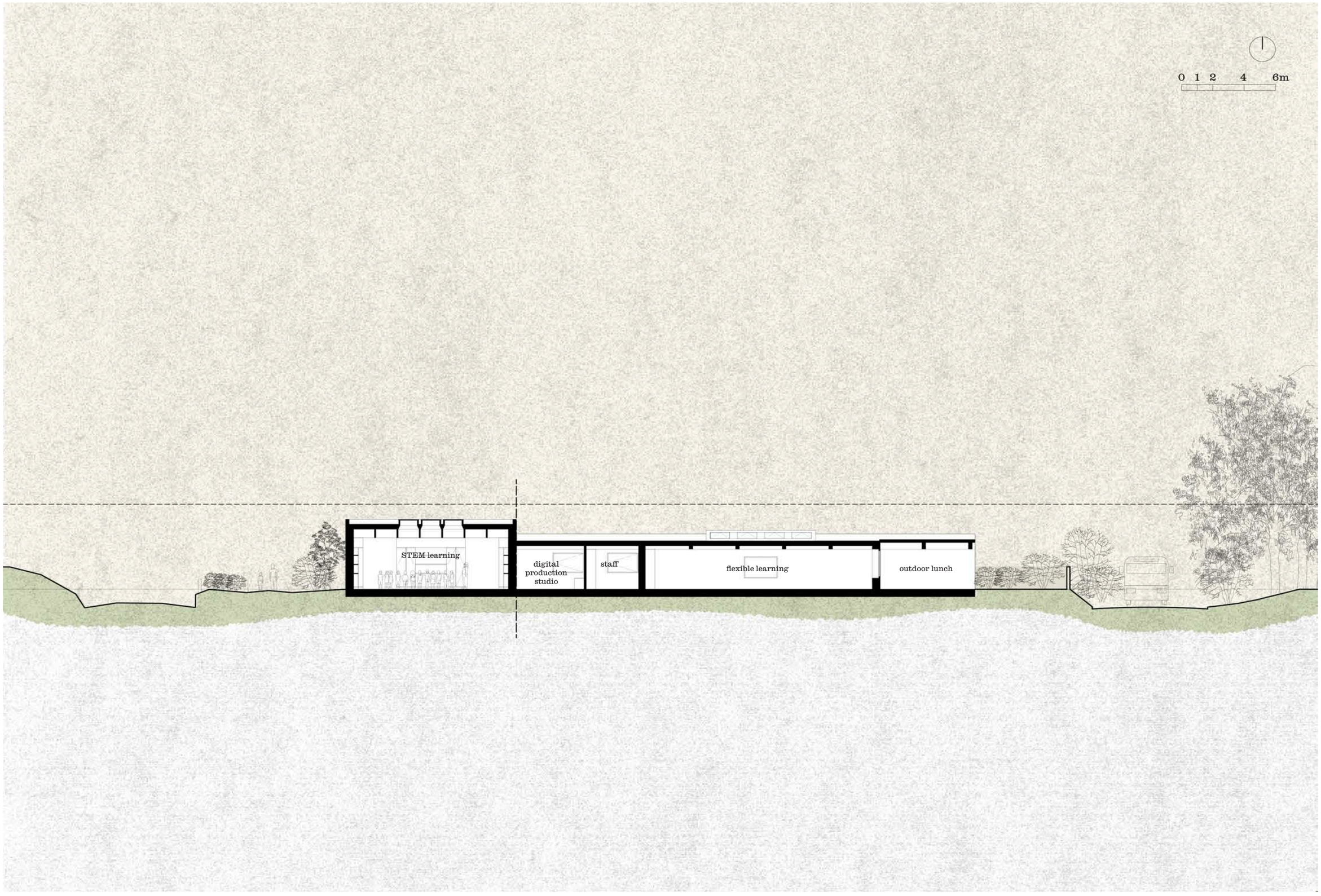
3.3.4 Use & Arrangement



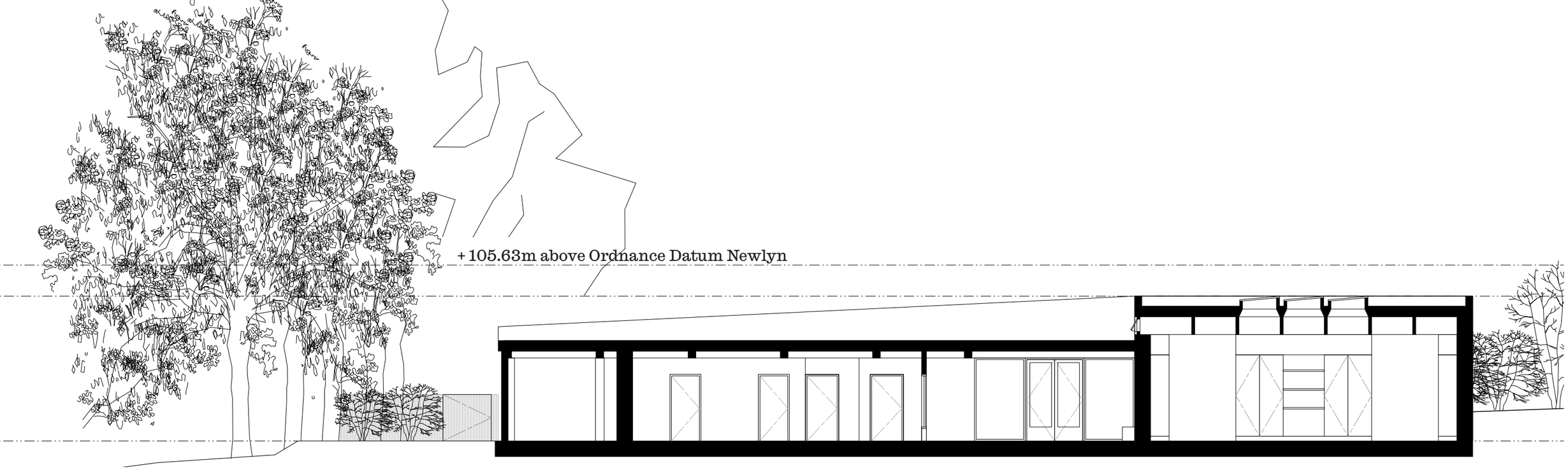
Site plan



Ground floor plan


0 1 2 4 6m
STEM learning
digital production studio
staff
flexible learning
outdoor lunch

Section BB



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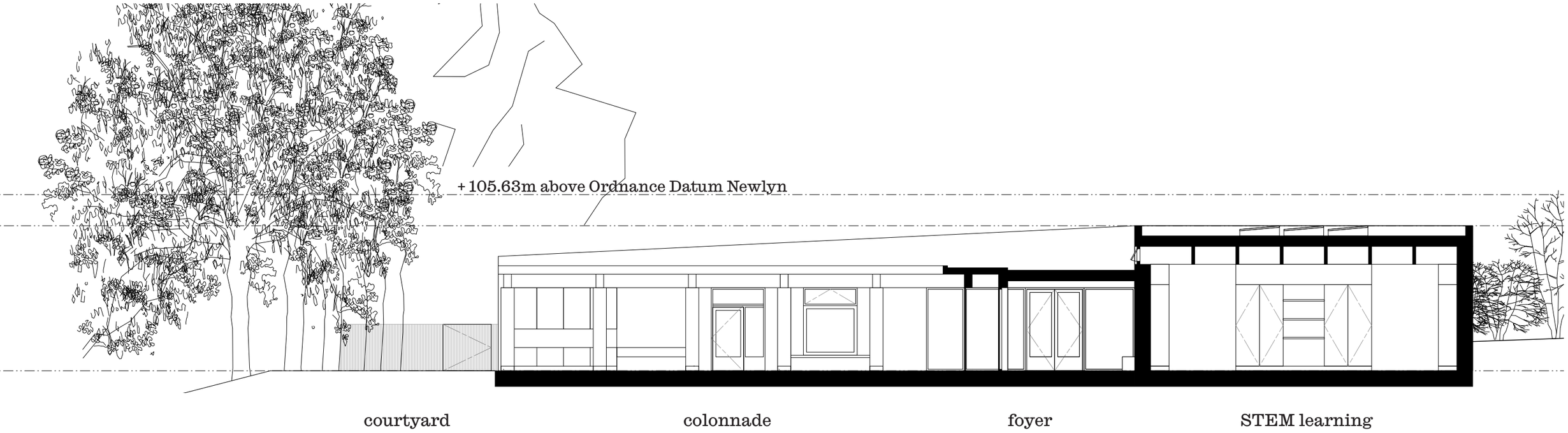

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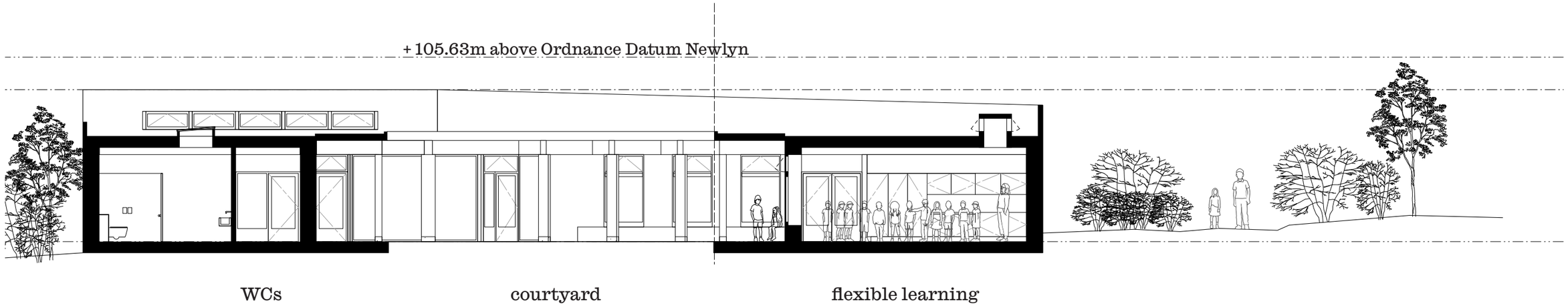

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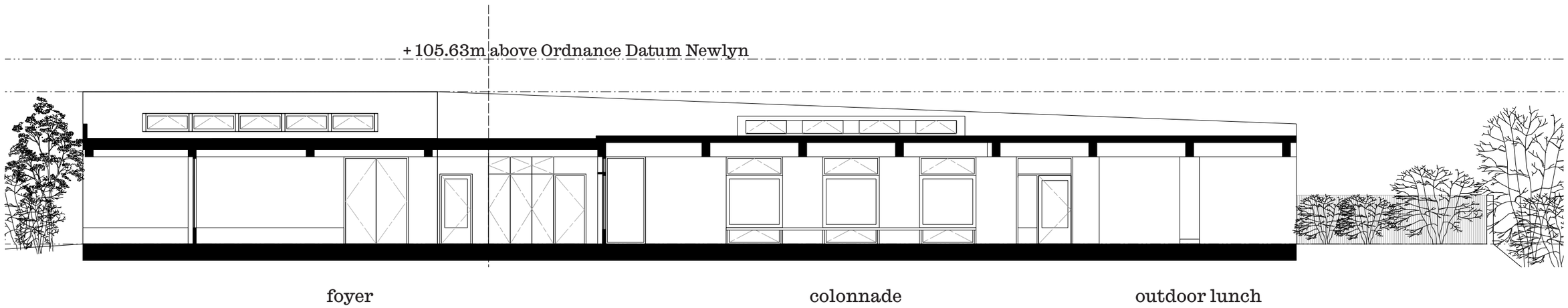


Section EE

3.3.5 Building fabric

Low embodied carbon
The new Learning Centre uses materials that are low in carbon - natural, compostable and local where possible.

External walls
All external walls are ‘solid’ and constructed from a monolithic, thick clay block, fired at a low temperature with very low embodied energy. The clay blocks provide thermal mass and a high level of insulation, eliminating the requirement for oil-based insulation. External sweet chestnut timber cladding, FSC certified, wraps around the single storey building.

Colonnade
The colonnade is constructed from sweet chestnut timber with a rich sensory quality to enrich the experience of the courtyard.

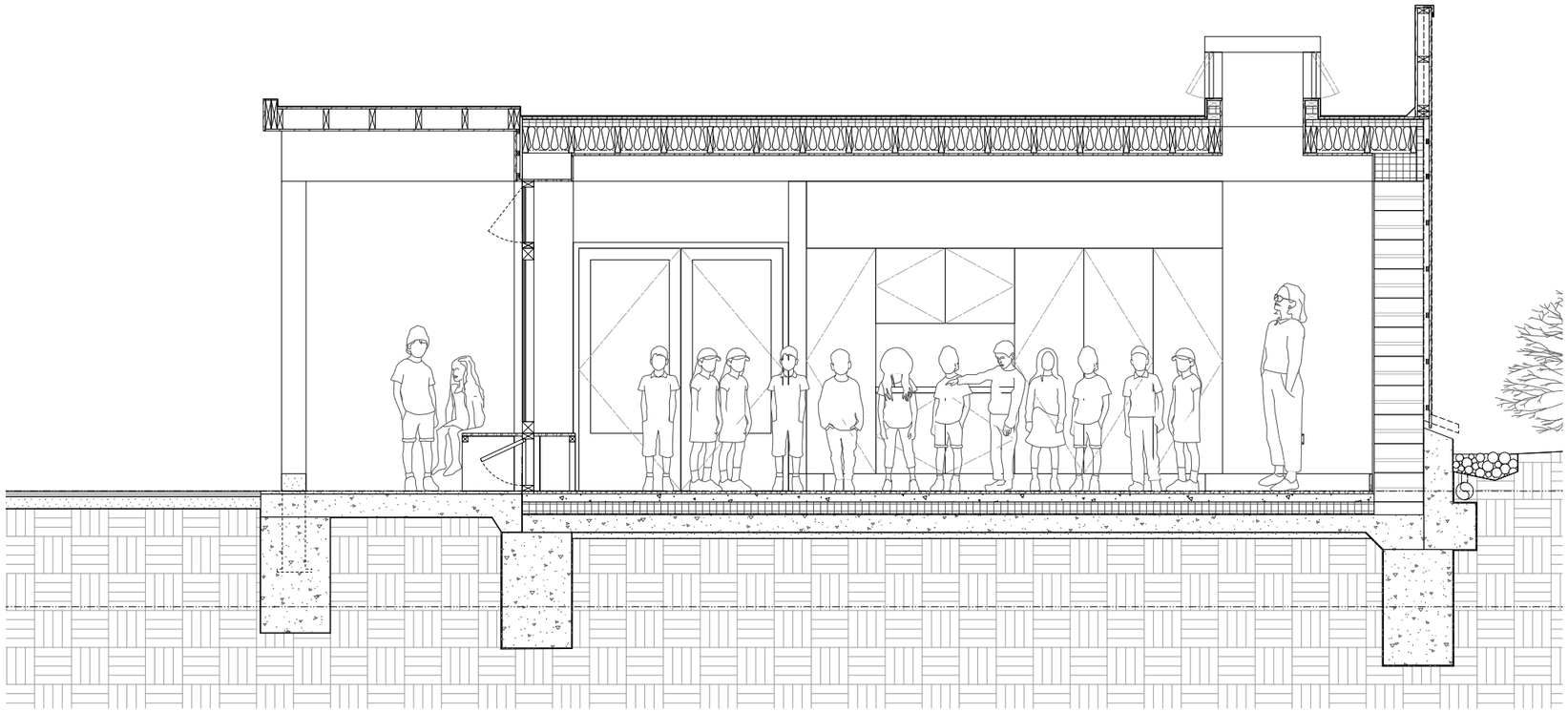
Roof
The roof structure is made from a series of timber glulam beams. Woodfibre insulation sits between and above the glulam beams, eliminating the requirement for oil-based insulation. The external flat roof finish, sitting below the timber parapet, is a single ply membrane similar to the Visitor Centre and support buildings that uses the least material to give an effective layer of protection.

Ground floor
A reinforced concrete slab sits ontop of expanded polyurethane insulation to provide a thermally massive floor that performs well in absorbing and storing heat from the ground.

Foundations
A series of mass concrete raft foundations provide stability for the building. The foundations need to be 1m in depth to extend beyond the weathered chalk. Where possible we will seek to use recycled and sustainable aggregate to reduce the embodied carbon.



View: Artist’s impression of the timber lined colonnade and courtyard (by Secchi Smith)



Proposed section through the colonnade and flexible learning studio

3.3.5 External Appearance

Outline Specification

Foundations
Concrete strip foundations

Timber columns
Cleft sweet chestnut timber columns with rough cast concrete base

Floor
Various finishes on concrete slab
Retaining concrete DPC upstand wall to perimeter

Walls
Lime plaster interior
Monolithic clay block
Vertical sweet chestnut timber cladding exterior

Roof
Glulam timber beams
Woodfibre insulation
Single ply membrane

Colonnade
Non-slip polished concrete floor
Timber columns, cladding and soffit

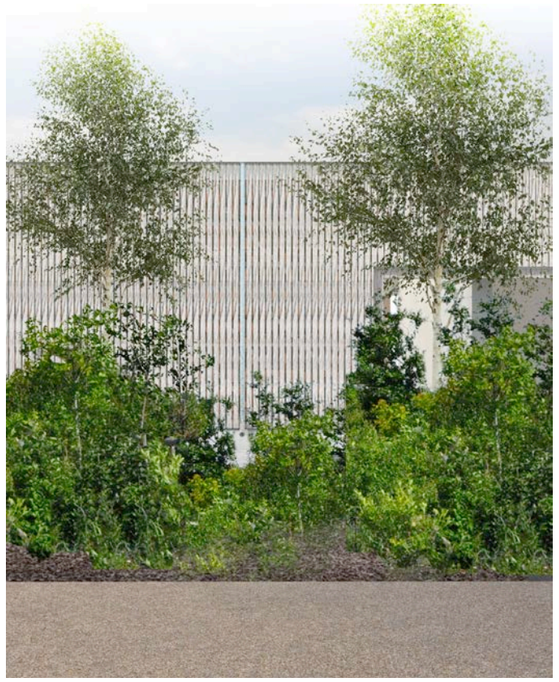
Courtyard
Resin bound gravel

Windows
Double glazed casement and fixed timber windows
Fixed double glazed rooflights

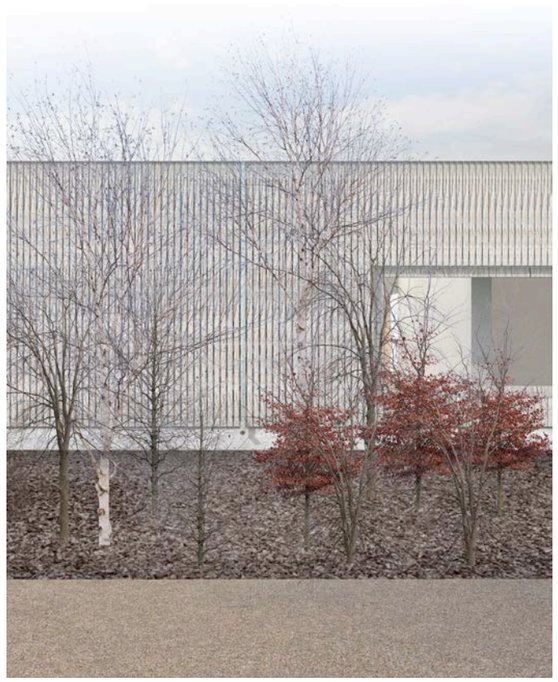
Doors
Double glazed timber doors
Timber clad service doors to match external cladding

Ventilation
Timber clad solid opening windows for passive ventilation

Copings, flashings and rainwater goods
Mill finished aluminium



Sweet chestnut cladding, summer elevation study



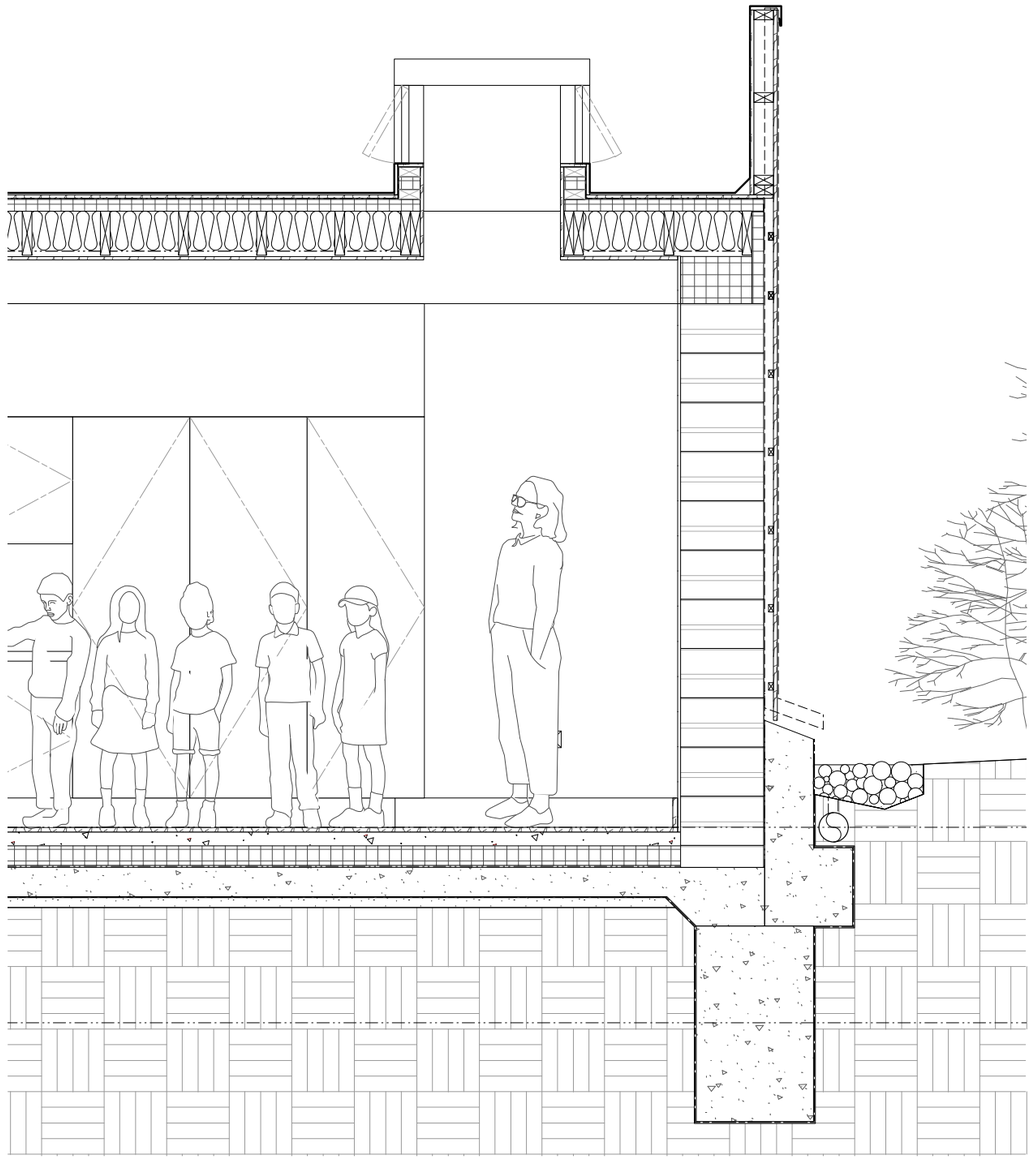
Sweet chestnut cladding, winter elevation study



View: approach to building entrance

3.3.5 External cladding

Summer view



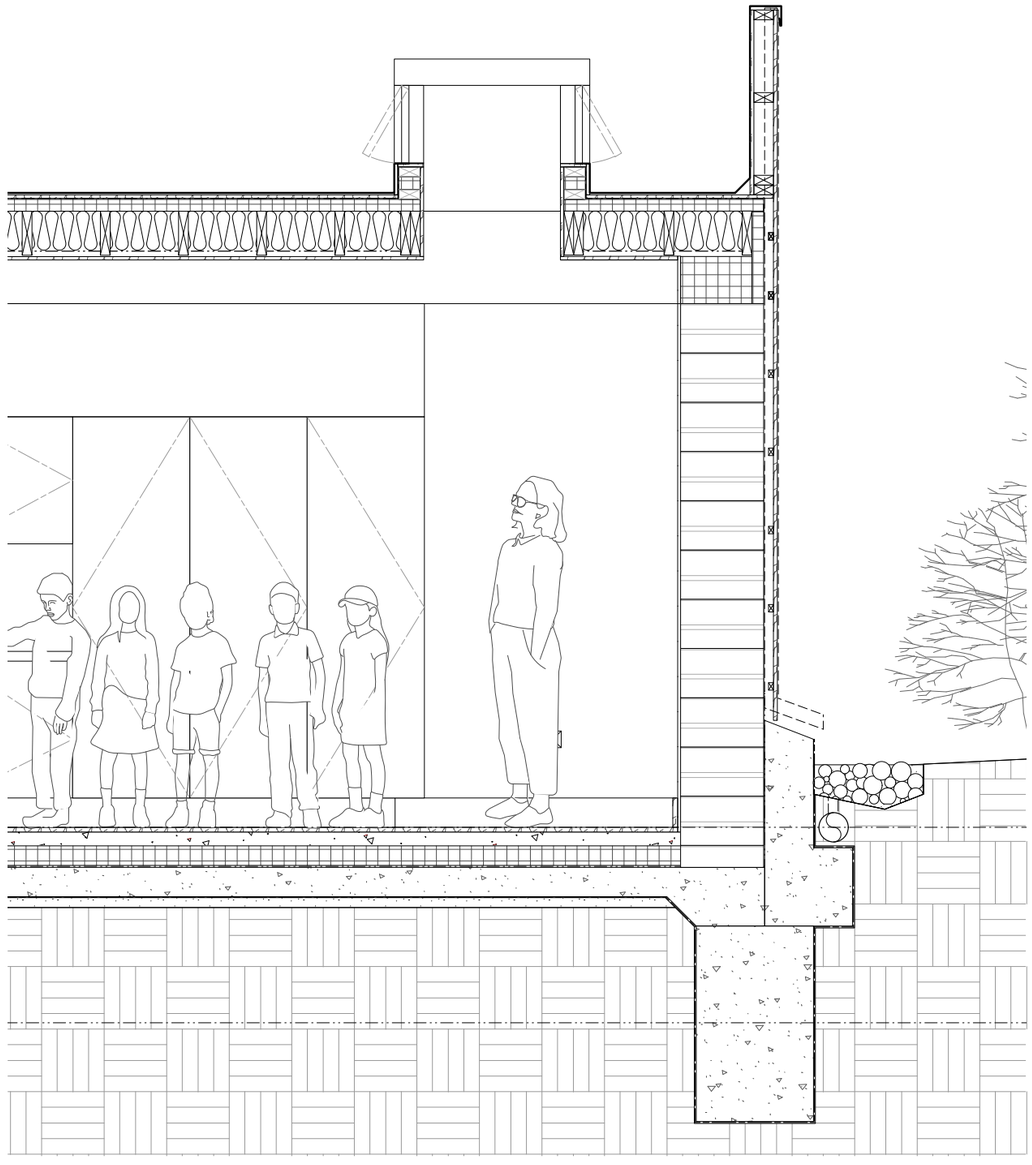
Proposed section through Flexible Learning Studio



Proposed external cladding - summer view

3.3.5 External cladding

Winter view



Proposed section through Flexible Learning Studio



Proposed external cladding - winter view



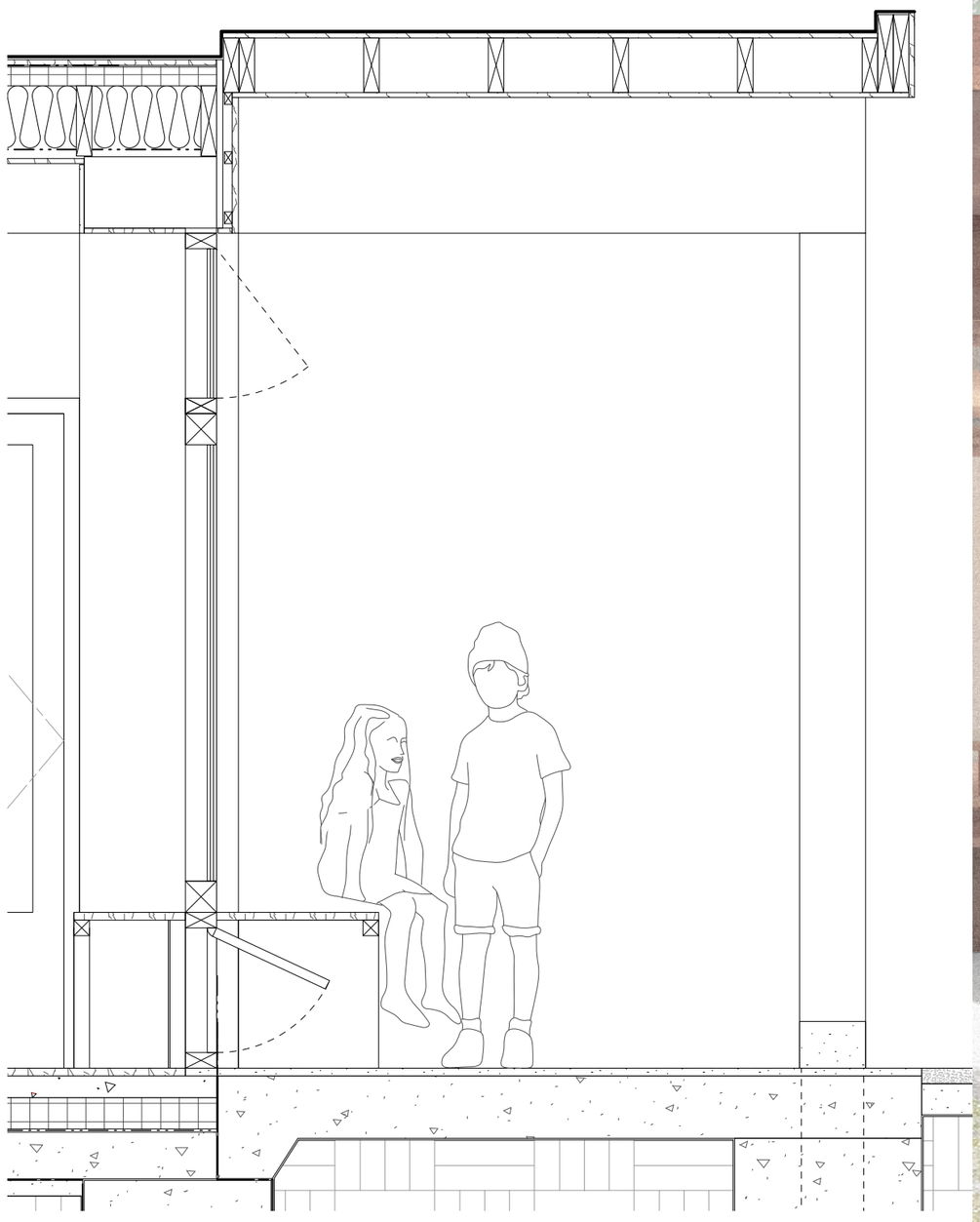
View: approach from the Coach Park



View: approach to building entrance

3.3.5 Courtyard cladding

Timber colonnade



Proposed section through colonnade



Proposed timber colonnade

View: Artist's impression of the timber lined colonnade and courtyard (by Secchi Smith)

View: Artist's impression of the STEM Learning Lab (by Secchi Smith)

3.3.6 Sustainability

Minimise the resources and carbon emissions of the building operation

A net-zero learning space
English Heritage's declared priority for the project in the brief is 'Provide a net zero carbon building operation'.

What is net zero?
"When the amount of carbon emissions associated with the building's operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset."

To ensure a very low energy demand the New Learning Centre has:
- Innovative and robust building envelope to reduce heating energy
- Use thermal 'mass' and night ventilation to avoid air conditioning

How does the building work in Winter?
Ritchie+Daffin have developed the building strategy to minimise operational energy without compromising the indoor environment. This means thermal comfort, good indoor air quality and limiting background noise.

The walls will be constructed in Porotherm: carefully manufactured clay blocks which are low in embodied carbon and provide good insulation. The roof will be well-insulated with wood fibre. The floor will be well-insulated and have underfloor heating.

During the day, automatically controlled openings let fresh air in. At night, they are closed. This reduces the amount of energy required to heat the air. Thanks to the super-insulating structure, hardly any heat is lost through the walls, roof, floor, or windows in comparison. The remaining heat is supplied efficiently by underfloor heating with a heat pump.

How does the building perform in Summer?
The special Porotherm walls absorb heat, keeping the space cool. At night, we make use of cooler air by automatically opening the windows and rooflights. The cool night air purges heat and keeps the space cooler the following day.

Even under very warm conditions we do not expect the STEM classroom to require additional measures to mitigate overheating. In the Flexible learning studio, it may be desirable to open the doors to the courtyard to increase the ventilation. This technique is well-understood and used in many new school buildings.

Will the building overheat?
Some modern buildings suffer from overheating, and as the climate warms, it is normal to be concerned with how will the building behave in summer, now and in years to come?

Our approach has been to design the building to passively mitigate overheating by shading the sun, providing ventilation and thermal mass, and designing to achieve 'adaptive comfort'. Adaptive comfort is the concept that:
- the temperature at which most people are satisfied is related to the average temperature in the preceding days – called the adaptive comfort temperature
- 90% of people are comfortable at internal temperatures 2 degrees above or below of the adaptive temperature.

This is the method required to comply with Building Bulletin 101 (BB101): 'Guidelines on ventilation, thermal comfort, and indoor air quality in schools' : the UK government standard for assessing the risk of overheating in schools.

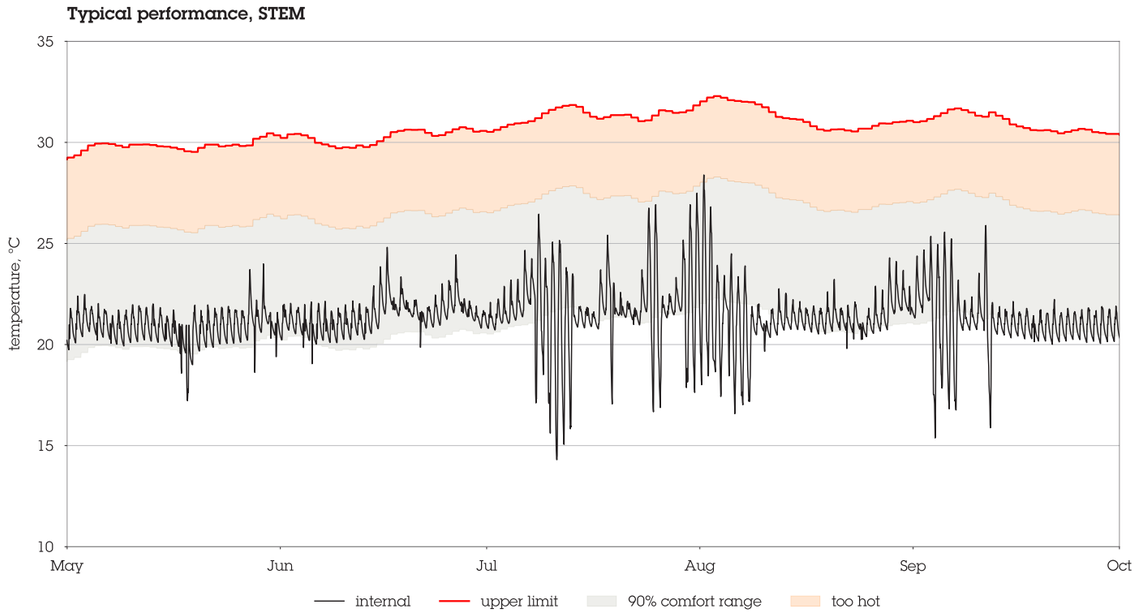
The building passes BB101 for:
1. **the current typical warm summer**
2. **projection for typical warm summers of 2030 and 2050.**

1a. Very low energy demand

- A free-running building
- Innovative and robust building envelope to reduce heating energy
- Use of thermal 'mass' and night time ventilation to avoid need for air conditioning

1b. Low carbon heating

- Use of Air Source Heat Pump with underfloor heating



Graph resulting from the computational modelling of the STEM lab

3.3.6 Sustainability

Minimise the resources and carbon emissions of the building construction

Natural Materials



Porotherm Clay Blocks



Glulam timber frame and timber linings



Wood Block Insulation

STRUCTURE

Traditional Building = 265 kg/C02 emissions / m2

New Learning Centre = 163 kg/C02 emissions / m2

Saving = 102 kg C02 emissions / m2
= 40% reduction

3.3.6 Sustainability
Quantifying a low carbon exemplar

The New Learning Centre will demonstrate its sustainability through:

1. Targeting RIBA 2030 Targets for Sustainable Outcome Metrics
Refer table, right

2. Targeting BREEAM Excellent
top 10% of UK new non-domestic buildings (best practice)

Wiltshire Core Strategy
Adopted January 2015

Core Policy 41
Sustainable construction

All non-residential development will be required to achieve the relevant BREEAM "Very Good" standards, rising to the relevant BREEAM "Excellent" standards from 2019.

The New Learning Centre is a non-residential development being developed after 2019 and so will need to achieve BREEAM Excellent.

Pre-assessment Report
Kingfisher Ecology Ltd was commissioned by English Heritage to provide a BREEAM Pre-assessment Strategy Report. The formal pre-assessment has shown that there is an acceptable route to BREEAM EXCELLENT Certification for the development at Stonehenge Visitors Centre.

Delivering Excellent
The design team will continue to work closely with Kingfisher to ensure BREEAM Excellent continues to be targeted and delivered.

RIBA 2030 Climate Challenge target metrics for non-domestic (new build schools)

RIBA Sustainable Outcome Metrics	Business as usual (new build, compliance approach)	2025 Targets	2030 Targets
Operational Energy kWh/m²/y	130 kWh/m²/y	< 70 kWh/m²/y	< 60 kWh/m²/y
Embodied Carbon $kgCO_2e/m^2$	1000 $kgCO_2e/m^2$	< 675 $kgCO_2e/m^2$	< 540 $kgCO_2e/m^2$
Potable Water Use m^3/pupil/year	4.5 m^3/pupil/y	< 1.5 m^3/pupil/y	< 0.5 m^3/pupil/y

3.4 Landscape

3.4.1 Landscape Strategy approach

by Dominic Cole Landscape Architects

A responsive approach

The New Learning Centre has a landscape strategy with two elements, the structural landscape and the courtyard.

1. Structural landscape

The structural landscape surrounding the new building will seek to be responsive to the subtle open chalk grassland landscape context, reflecting the agreed landscape strategy principles embodied in the original planning permission for the Stonehenge Environmental Improvements Project granted in 2010.

The landscaping proposals will also seek to reflect the principles of the 2015 Stonehenge & Avebury World Heritage Site (WHS) Woodland Strategy by:

- Ensuring that new planting is appropriate and necessary in terms of sustaining and enhancing the Outstanding Universal Value (OUV) of the WHS
- Maintaining suitable screen planting for extant built structures to protect the OUV of the WHS
- Ensuring that new screen planting avoids having a negative impact on the attributes of the Site's OUV
- Using species native to Southern England in planting proposals

2. Courtyard

The courtyard is enclosed by the New Learning Centre and a line of mature beech trees. It will provide break out space from the building and will be used for learning and lunching. The space is likely to have a particular focus on provision for children with special educational needs and disabilities (SEND).

The courtyard area landscaping currently shown is illustrative with hard & soft landscaping and seating design details to be developed.



Recent woodland planting lining west and north perimeter of site



Mature beech trees lining southern perimeter of site

3.4.2 Structural landscape

by Dominic Cole Landscape Architects

Relocating the pathway to the main bus stop (to the Stones)

The existing path from the coach park to the Shuttle Bus (to the Stones) will be moved slightly to create a clear intuitive route. It will be away from the building edge to maintain security and reduce potential noise impacts from path users.

Users of the path will be screened from walkers in the wider landscape by a new native mixed hedge.

KEY

PROPOSED SECURITY FENCE
to perimeter of courtyard area
- Welded mesh, with matching gates
- Powder coated to match building finshes

EXISTING BEECH TREES (GROWN-OUT HEDGE)
to south of proposed building
- Selective thinning, to remove weak specimens and allow best specimens to develop stronger canopies

EXISTING WILDFLOWER GRASSLAND
to north of proposed building
- Retain as much as possible outside proposed area of construction

PROPOSED GRASS MIX
to north and west of proposed building
- To extend and consolidate areas of retained wildflower grassland, seed mix to match existing

EXISTING TREE / SHRUB MIX
to north and east of proposed building
- Retain as much as possible outside area of proposed construction

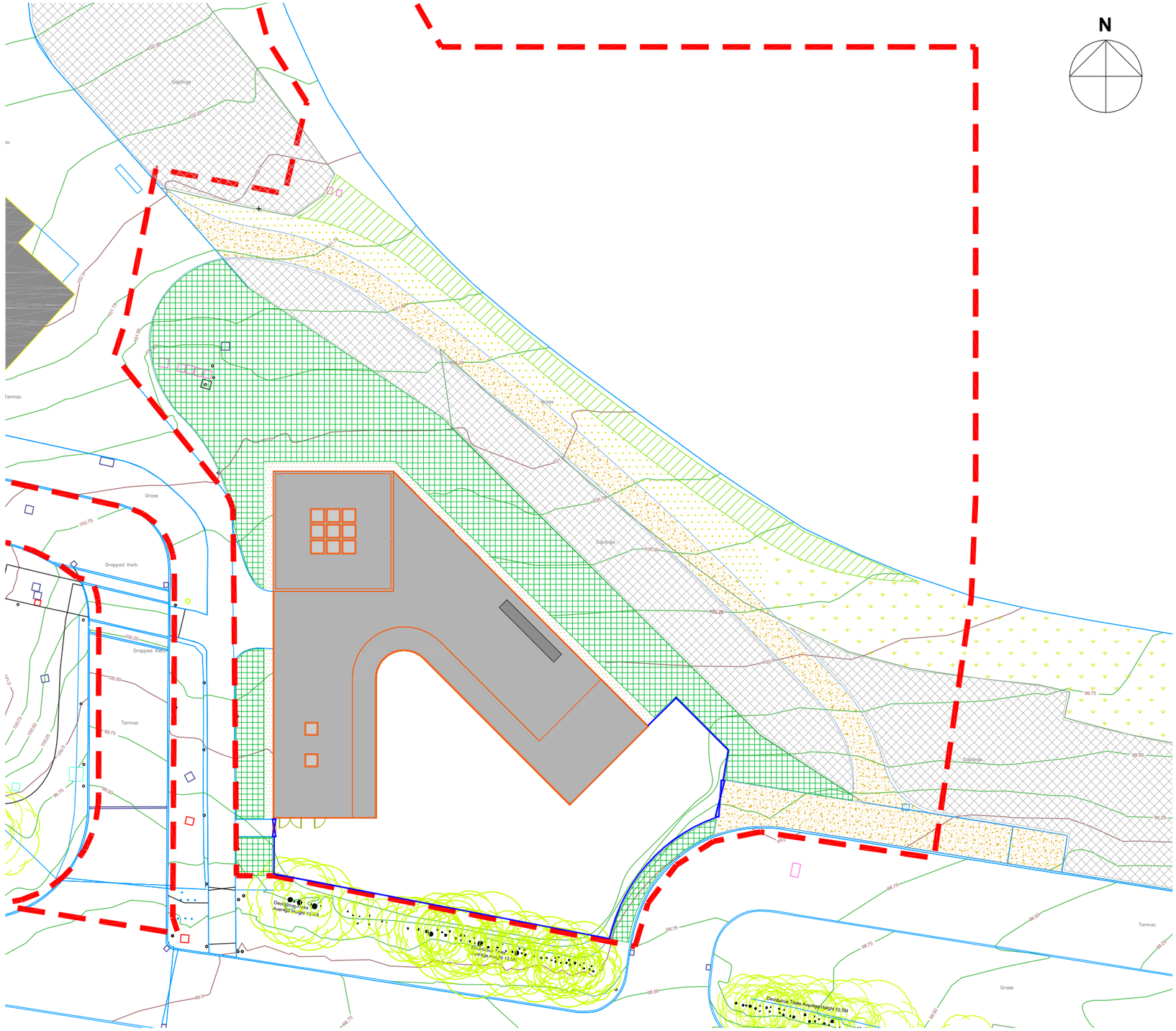
PROPOSED TREE / SHRUB MIX
to north of proposed building
- To make good landscape following removal of existing footpath, shrub mix to match existing

PROPOSED HEDGE
to northern boundary
- Native species
- To help contain visual impact upon wider landscape

PROPOSED BOUND SURFACE
to footpaths
- Aggregate to match existing

PROPOSED BARK CHIPS
to perimeter of building
- To provide informal maintenance strip
- Continued beneath adjacent planting as mulch

DEVELOPMENT BOUNDARY
Refer to AOC drawing 252_GA_002
Proposed Location Plan



Structural landscape approach by Dominic Cole Landscape Architects

3.4.2 Structural landscape (cont.)

by Dominic Cole Landscape Architects

Perimeter planting

Perimeter planting currently surrounds the majority of the site, with a line of mature beech trees defining the southern edge.

Perimeter and screen planting is used elsewhere at the Visitor Centre site to soften the impact of buildings in the landscape.

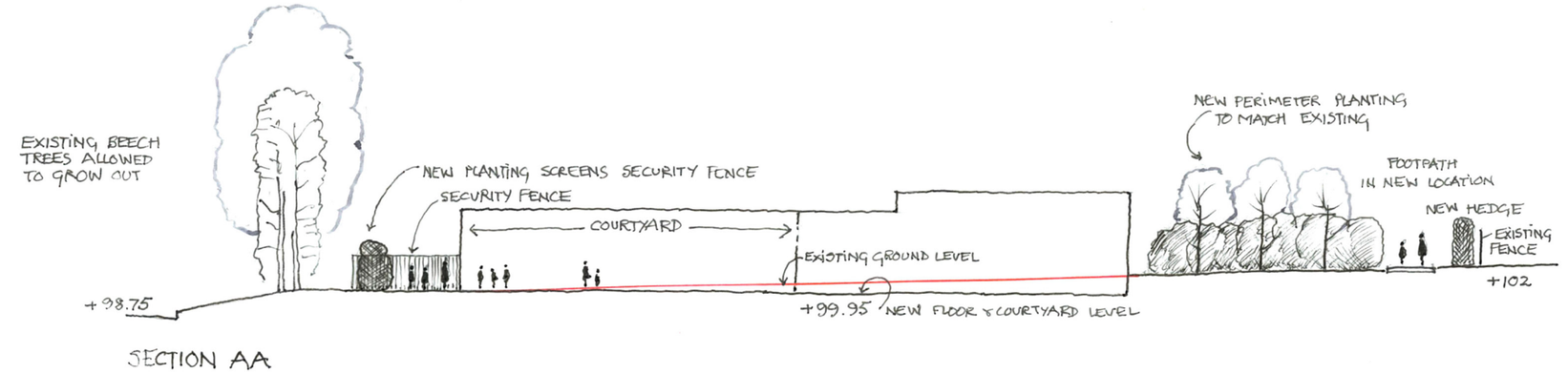
The proposal for the New Learning Centre adopts this approach with perimeter planting wrapping around the external perimeter walls. As well as softening the facades, the planting will act as a buffer between the New Learning Centre and other visitors on the site, reducing noise and views in.

Perimeter fence

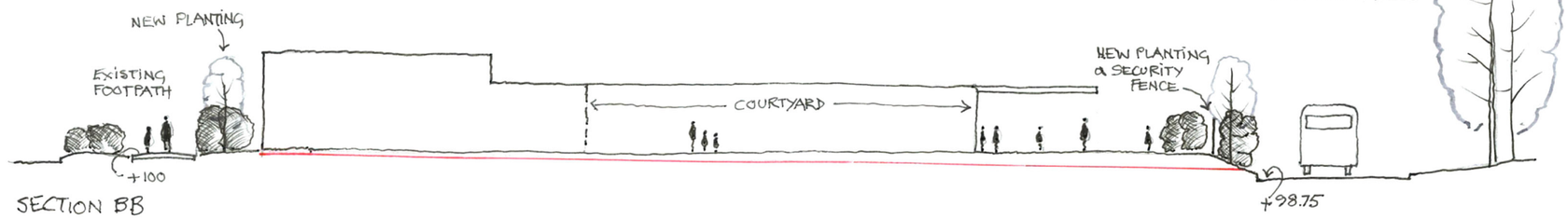
A new security fence will surround the outdoor space and will be 'buried' within the planting. The fence will be PPC aluminium mesh (Zaun Optima or similar) with matching gates in RAL 6007.

Outline planting specification

The specification of the planting will match the existing planting that has been in place for around eight years and uses a mix of native species, as shown on the landscape drawings, reference.



SECTION AA



SECTION BB

