

# archive.

exploring the palimpsest of place: layering new use over existing memory without erasure

'archive' is a centre for **heritage craftsmanship, building conservation and material research**, set within the ruins of balmerino abbey and steading. this project reimagines this historic site into an adaptive working and learning space, for industry and the wider community - in an attempt to **bridge the heritage skills gap**, creating a space where these skills and knowledge can be preserved, practiced and passed on.

the proposal aims to address the growing skills gap and shortage in **traditional building skills** and techniques, while looking to the future with **sustainable construction and material innovation**.

this project is not only about preserving heritage but reframing it. encouraging intergenerational knowledge exchange, and questions on how we build today. the concept is shaped by the idea of a **palimpsest** - the abbey and its ruins are seen as a surface that holds the marks of time, wear, change and use. through lightweight, meaningful interventions, the project aims to preserve, adapt, and reactivate the site, allowing the old and new to co-exist.

with a focus on the decline of traditional building skills and the urgent need for sustainable construction practices, the project proposes a hybrid space where learning, making and experimenting come together across four stages: **extraction**, **production**, **application**, and **innovation** - inspired by **raw material processes**; material extraction to product application.

**extraction** - raw materials and their origin  
**production** - processes, skills, making  
**application** - building, learning  
**innovation** - experimentation with new sustainable materials and digital tools

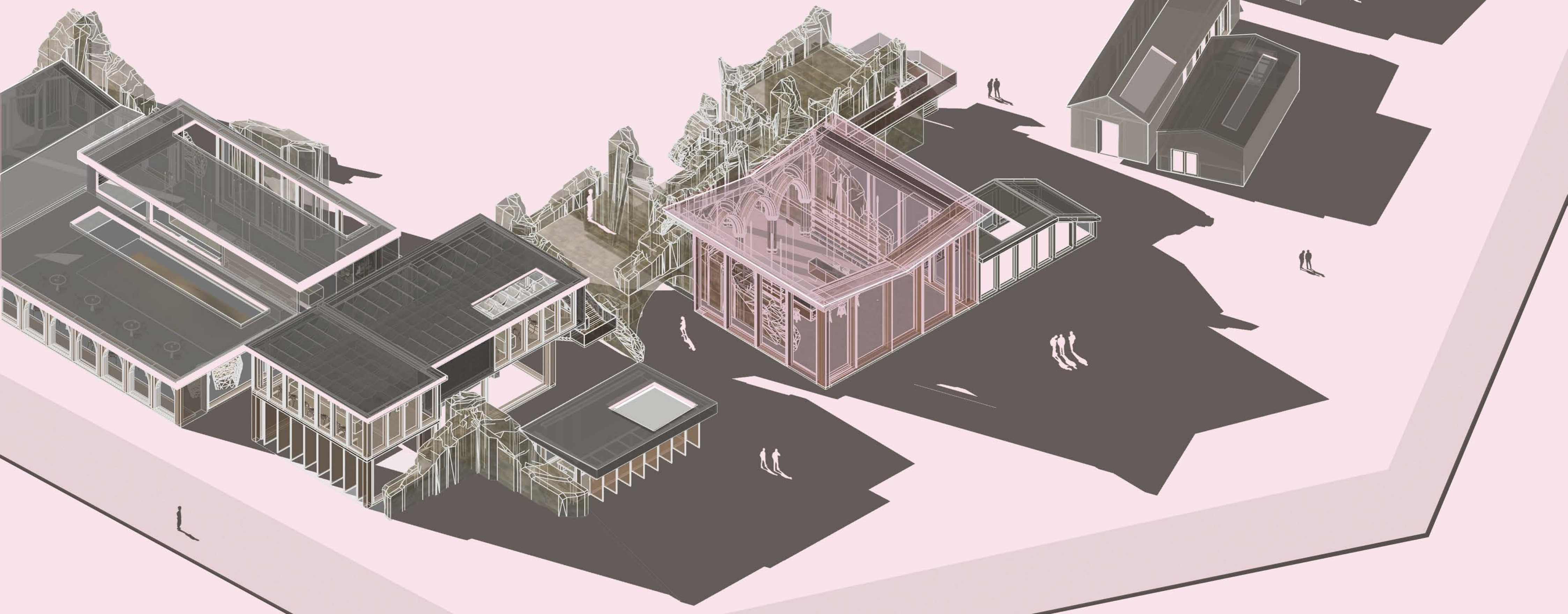
these zones are distributed between the steading buildings and the abbey ruins. the steading houses the extraction and application zones which includes hands on working spaces, studios, workshops, accommodation for visitors and external courtyards, with spaces inspired by the material process such as clay pits, inspired by the 'quarry' where raw material is extracted.

the abbey houses the application and innovation zones; consisting of adaptable public spaces - from a material library and research space, display, exhibition and event space, a public restaurant, and an external courtyard located in the location of the lost cloister.

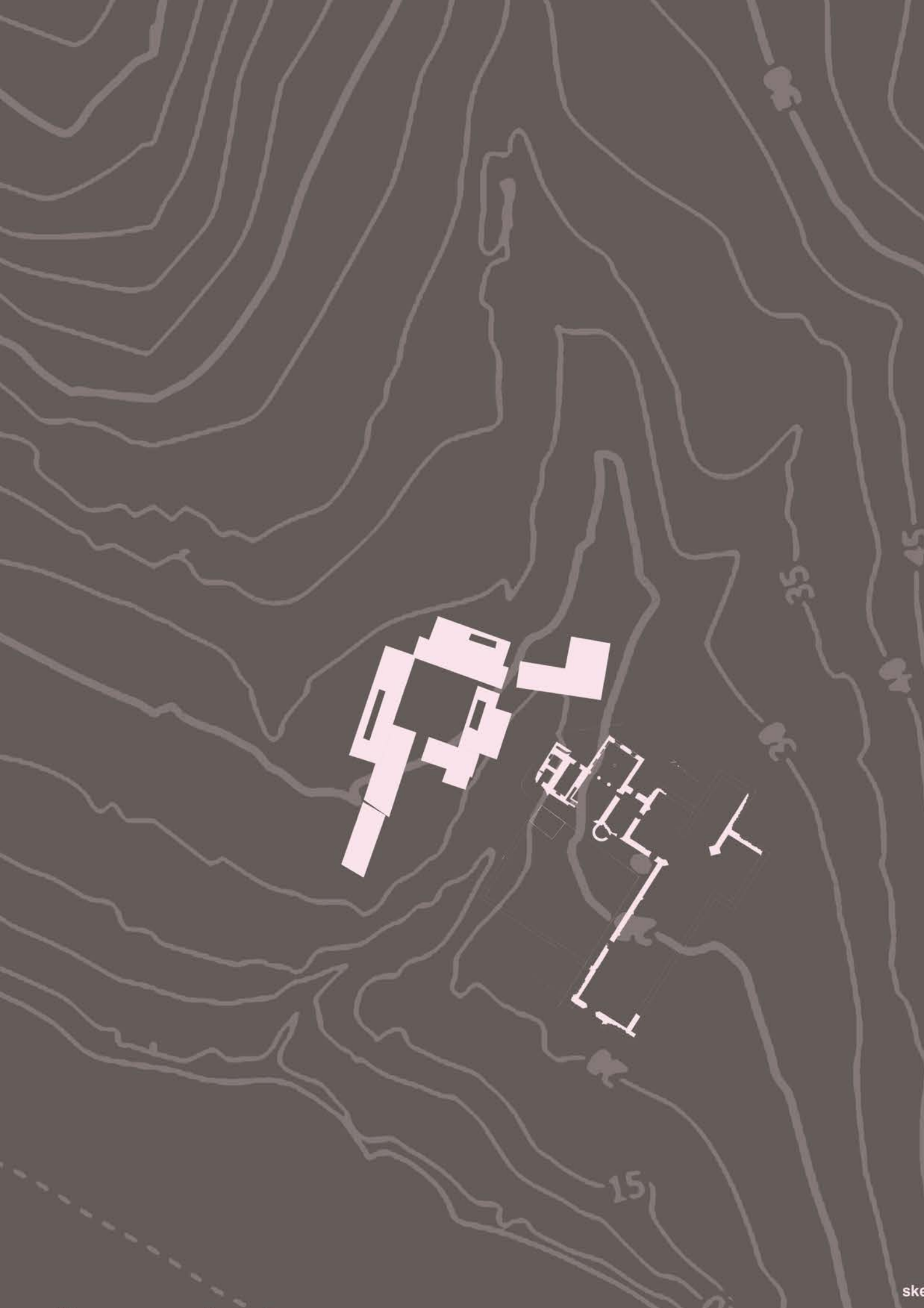
archive follows the journey of skills and materials as a way of understanding how we build today. from the moment raw materials are taken from the earth to the point they are shaped, applied, and re-imagined for the future, each 'step' tells a story of craft, care, and change.

the user journey is inspired by the material lifecycle and stages of craftsmanship, this is reflected in the spatial planning across the whole site such as pathways connecting the site, guiding you on the journey.

a place to pause, make, learn, and reconnect; a space where material knowledge is preserved and passed on, where the memory of the site is honoured, and where future ways of building and inhabiting are tested.







the steading sits just a short walk uphill from the abbey ruins - a cluster of agricultural buildings historically used for farming and storage. these buildings, arranged around a central open cattle court, provide a naturally zoned layout ideal for practical and workshop-based activities.

balmerino is located approximately 11 miles west of dundee and is accessible by car and bus. the closeness to undee - a city that is known for its growing creative and design industries, makes the site well-placed for attracting visitors, students, researchers, and cultural tourists, while still maintaining the quiet, retreat-like atmosphere of a rural setting. this supports the project's aim to adopt intergenerational learning and community collaboration, with potential links to academic institutions, design professionals, and heritage networks based in the city.

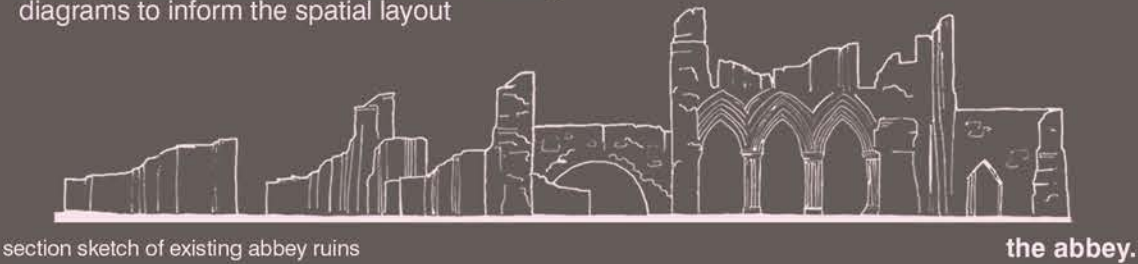
while balmerino is a rural location, there are bus services that connect it to surrounding towns and cities. the nearest regular route is the stagecoach 77 or X7, which connects newport-on-tay and dundee, passing through nearby villages. there are walking routes from nearby communities, and the site is also accessible via the fife coastal path, which adds value for tourists and local walkers.

## development.

exploring themes of **memory** and **tactility**.

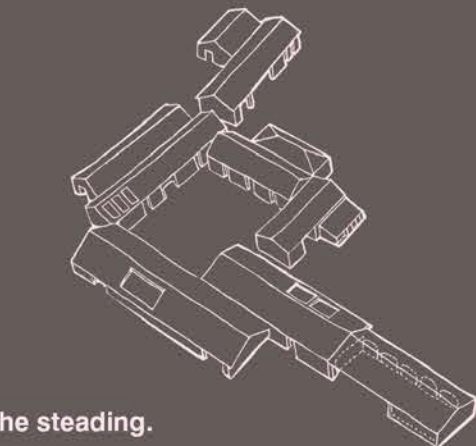


**zoning;** using axis and lines of sight in zoning diagrams to inform the spatial layout



section sketch of existing abbey ruins

the abbey.



the steading.

**connecting the site:** site walkways and elevated platforms; viewing platforms hovering above the ruins.

referring to the concept of traditional craft - the building is a literal canvas for this.

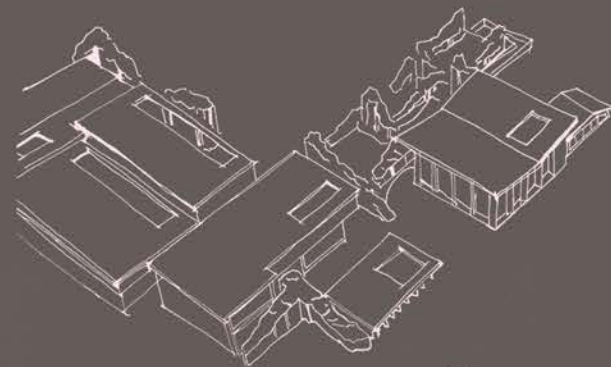


zoning.

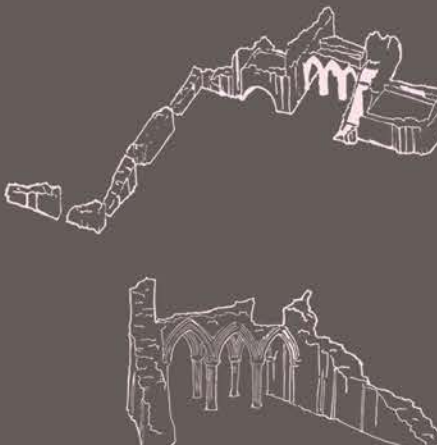
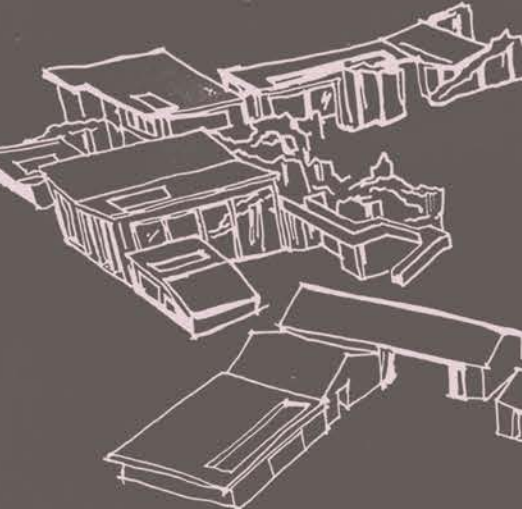
sketch development of new build interventions

material display: display samples old + new; traditional v innovative - representing **material journey**.

walkways thread through the space; sheltered by the ruins + new build intervention, sometimes open to the elements - a reminder of the **passage of time**.



sketches of the existing site



## design engagement.

### ‘make a material’

a co-design tool



**materialising new stories through everyday materials - exploring tactility and material potentials**

experimenting with material potentials; a selection of natural materials ‘from the earth’ and unexpected everyday materials to create new material possibilities. ‘the material box’ is an engagement box that invites participants to make their own material; selecting, combining, and preserving their own bio-based mixtures.



participants were asked to choose a selection of individual materials that resonate with them, then place these into a petri dish and separate test tubes - considering the unique qualities of each. then, creating a personal blend in a final tube - a new material, ‘imagined’.

all test tubes are placed in a wooden box, ‘the material box’ - a collection of ingredients, ‘actors’ in the story we live in and buildings we inhabit. the mixtures are kept, reminders of whats behind the story. materials made from this tool will inspire the project materiality.

‘**make a material**’ tool proved valuable as a hands-on way to explore material possibilities through instinct, emotion, and curiosity. it encouraged participants to engage directly with raw, familiar, and natural materials – this prompted unexpected combinations with personal reasoning behind each box. this process not only gave insights into how people relate to materials, but also produced material concepts that combine tradition and innovation that went on to inspire the project materiality.



## industry interviews.



**graham briggs**  
project manager for skills and materials, cultural assets directorate,  
historic environment scotland

“the advantage of inserting a building within a ruin is that it’s actually quite reversable, so the **impact in the historic fabric is minimal.**”

“ruins have a value on their own within a landscape, but when adding to a ruin - it’s nice to see when it’s quite clear when **what’s historic is historic and what’s new is new.**”

“yeah you can just knock something down, and built a corten shed but, that’s easy to do - adding to it is more significant, **its saying there was something here before**, and we’ve added to it.”



**colin tennant**  
senior skills project manager, head of technical research and conservation,  
historic environment scotland

“there is only around 200 stonemasons in scotland, and around 400,000 traditionally constructed buildings.”

“stonemasonry isn’t just heritage - it’s actually part of a **greener future**. it supports skilled local jobs, **works with what’s already there**, and helps **reduce the carbon impact of construction.**”



## site analysis.

balmerino abbey is located on the southern edge of the River Tay in Fife, Scotland. the site is surrounded by woodlands and agricultural fields, with a strong connection to the landscape. while accessible by car, the site retains a sense of seclusion that enhances its contemplative quality.

the abbey site gently slopes towards the river tay, with mature trees and surrounding stone walls offering natural shelter and enclosure. the orientation of the site offers views north to the river and more intimate framed views to the south and east.

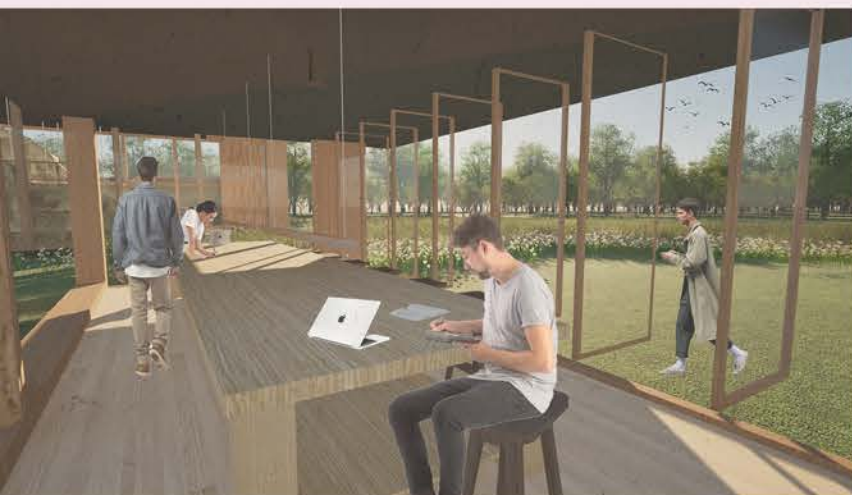
founded in 1229 by the cistercian order, balmerino abbey once held **religious, cultural, and agricultural significance**. although now in ruins, key architectural fragments remain - including parts of the abbey church, a vaulted under croft, and sections of the cloister. these ruins offer a powerful sense of **time** and **memory**. adjacent to the abbey are steading buildings from the 18th and 19th centuries, which reflect the site's later use for farming. the layers of occupation across centuries give the site a rich **palimpsestic** quality, ideal for adaptive reuse that respects its heritage. the site is managed by historic environment scotland.

the surviving architecture is primarily composed of **local sandstone**, weathered by centuries of exposure to the elements. the tactile quality of the ruins, along with the historic craftsmanship evident in the remains, informs a sensitive and responsive design approach that balances the old with the new. the proposed interventions draw from this language, responding with materials that either contrast or harmonise depending on the spatial intent.





public restaurant and events space



communal worktable: garden building



masonry workshop

**right:** the new extension to the chapter house features a sloping roof designed to sit low beneath the original arches, allowing the ruins to appear as if they float above. this contrast in height celebrates the abbey's past by framing its presence rather than overshadowing it.

bronze stairs and walkways wrap carefully around the ruins, offering respectful access without touching the original structure. these paths lead to discreet viewing platforms, giving visitors elevated perspectives across the site and encouraging quiet reflection on the layered history below.



chapter house

## extraction and production zones

the **extraction** and **production** zones are housed within the converted steading buildings, using the existing barns, physical interventions and open cattle court to form a sequence of hands-on learning and making spaces.

the central cattle court acts as the main **extraction point** - a place for live demonstrations of raw material processes. surrounding barns support **production** activities, with dedicated spaces for masonry, brick moulding, and carpentry. these zones **celebrate the tactile, physical nature** of craft and **material transformation**, encouraging knowledge-sharing and active participation in traditional skills.

the extraction zone is inspired by the **raw material journey**, focusing on the early stages of craftsmanship; **sourcing, shaping, and preparing materials**.

**“we have been sounding the alarm on scotland’s skills shortage for some time, and it’s now reaching a critical point”**

dr david mitchell, director of cultural assets, historic environment scotland

**site breakdown.**  
zones:  
extraction  
production  
application  
innovation



section A

the first floor of the new two-storey building, positioned where the abbey's highest point once stood, houses a public restaurant and open events space. large windows frame views of the surrounding gardens and forestry, creating a strong visual connection to the landscape. reclaimed oak communal tables encourage interaction, creating a sense of community and conversation. overhead, draped fabric softens the space, a subtle nod to the monks who once walked the grounds. this blend of old and new elements creates a welcoming atmosphere for **gathering, reflection,**





#### chapter house

the innovation zone is about building on tradition. traditional skills inform how these new materials are handled, shaped, and assembled. this space is flexible, designed to test, adapt, and change.



chapter house; knowledge exchange



material display: introduction to materiality



exterior view

“the knowledge of what processes to use and what materials are most appropriate is really important when renovating heritage buildings - building skills needed to be protected alongside buildings... sourcing the skills is one of the big challenges...there are loads and loads of historic buildings and if there aren't enough people to repair them, they will fall in to disrepair and our heritage will be lost over a period of time.”

stephen oliver, cathedral architect.

# materials

#### 01. GREENCOAT®

colourful steel:

shade chestnut

brown RR887 /

SS0435

#### 02. existing sandstone

#### 03. reclaimed locally sourced hardwood

#### 04. bronze polished steel

#### 05. bio bricks

#### 06. sand from local life coastal areas

#### 07. eco-composites (innovation zone)

#### 08. hemp fabric, margaret howell fabrics UK



perspective section



**application;** the way materials are used is visible, showing how walls are built, how repairs are made, and how different parts connect. these details reflect the care and understanding needed to build something that lasts.

**innovation;** looking ahead - we need to think differently about how we use materials. this part of the project looks at alternatives - using local, low-carbon, or recycled materials for our present and our future.

## key design strategies



**respectful insertion:** new volumes are sensitively inserted within the ruins; a sloped-roof extension frames the abbey's arches, which hover visibly above the new roofline.

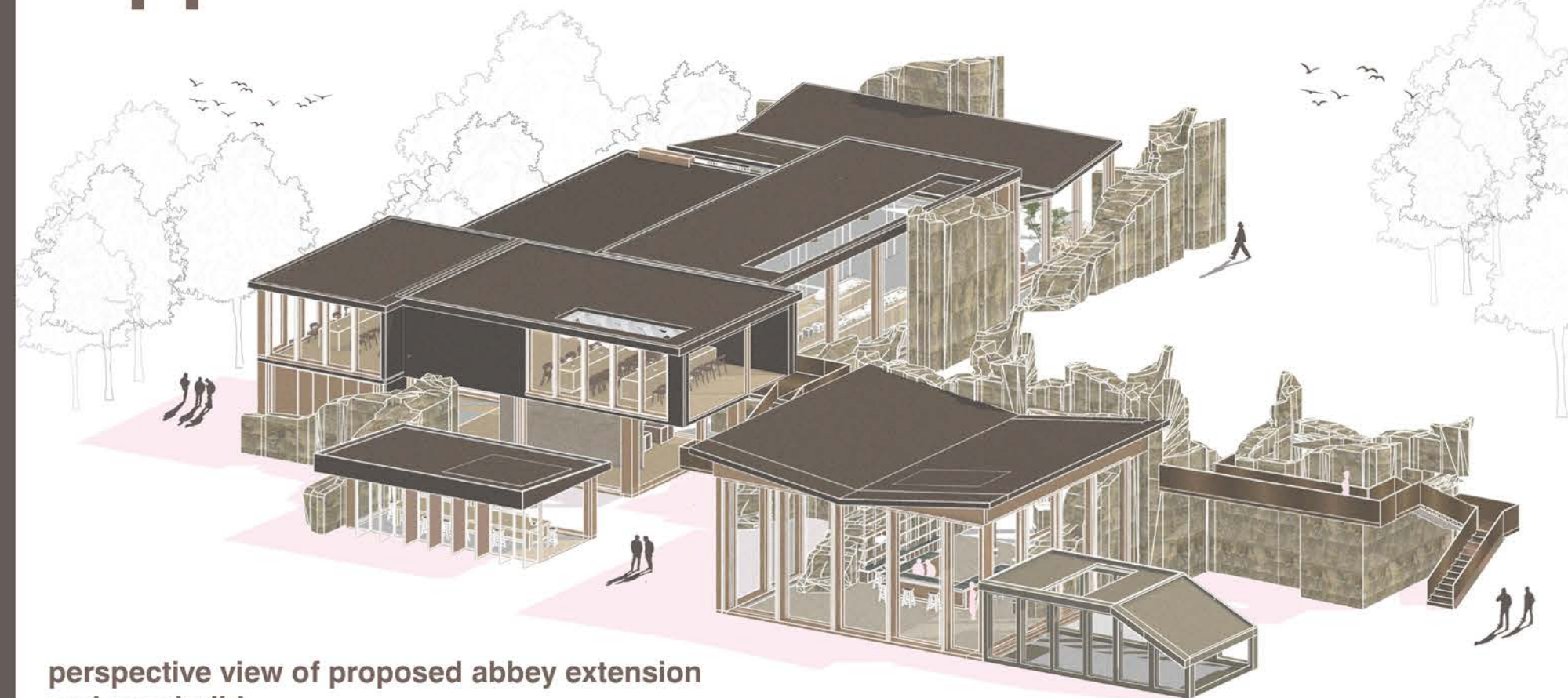
**material storytelling:** from raw extraction to production, application and innovation, materials are 'experienced'. visitors walk through a sand mound, learn from a material library, and observe and participate in live workshops.

**architectural references:** subtle references to the abbey are found throughout - pointed arched openings, bronze detailing, fabric-draped ceilings inspired by monks' cloaks, and paths aligned with original abbey routes.

**community integration:** the site invites participation through communal tables, a tool library, flexible learning spaces and open events. public walkways and viewing platforms encourage movement and engagement.

**cultural and environmental value:** traditional crafts are re-centred as sustainable, future-relevant practices. the project contributes to cultural resilience and supports a circular material economy.

## application and innovation zones



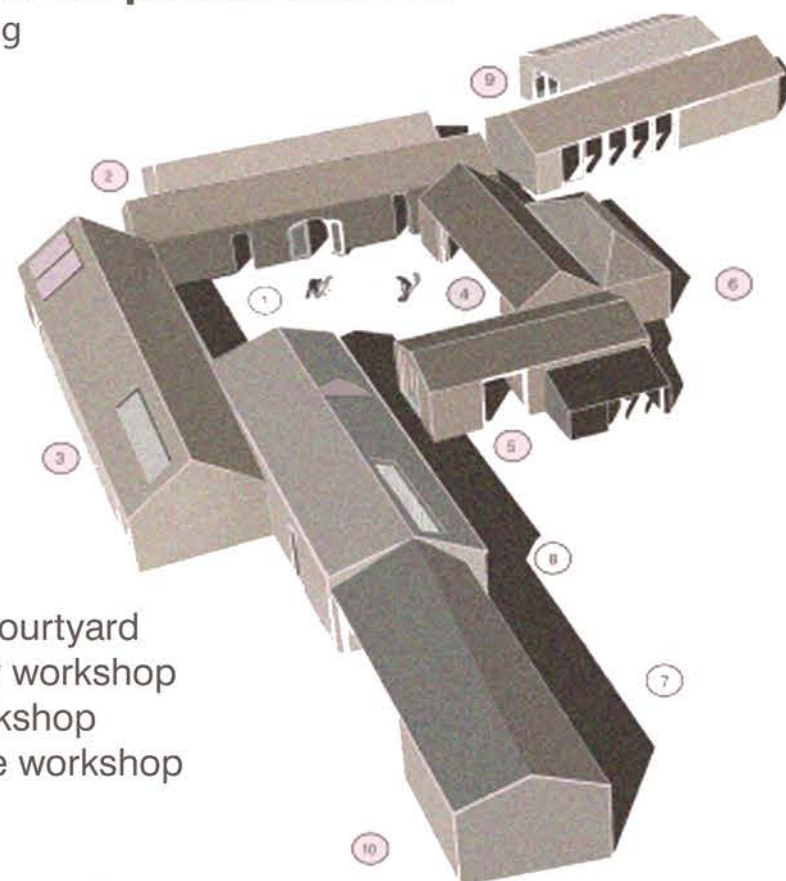
perspective view of proposed abbey extension and new build



section B

view of material research space, restaurant/events space, the vaulted sacristy and bronze external staircase (not to scale)

extraction and production zone  
the steading



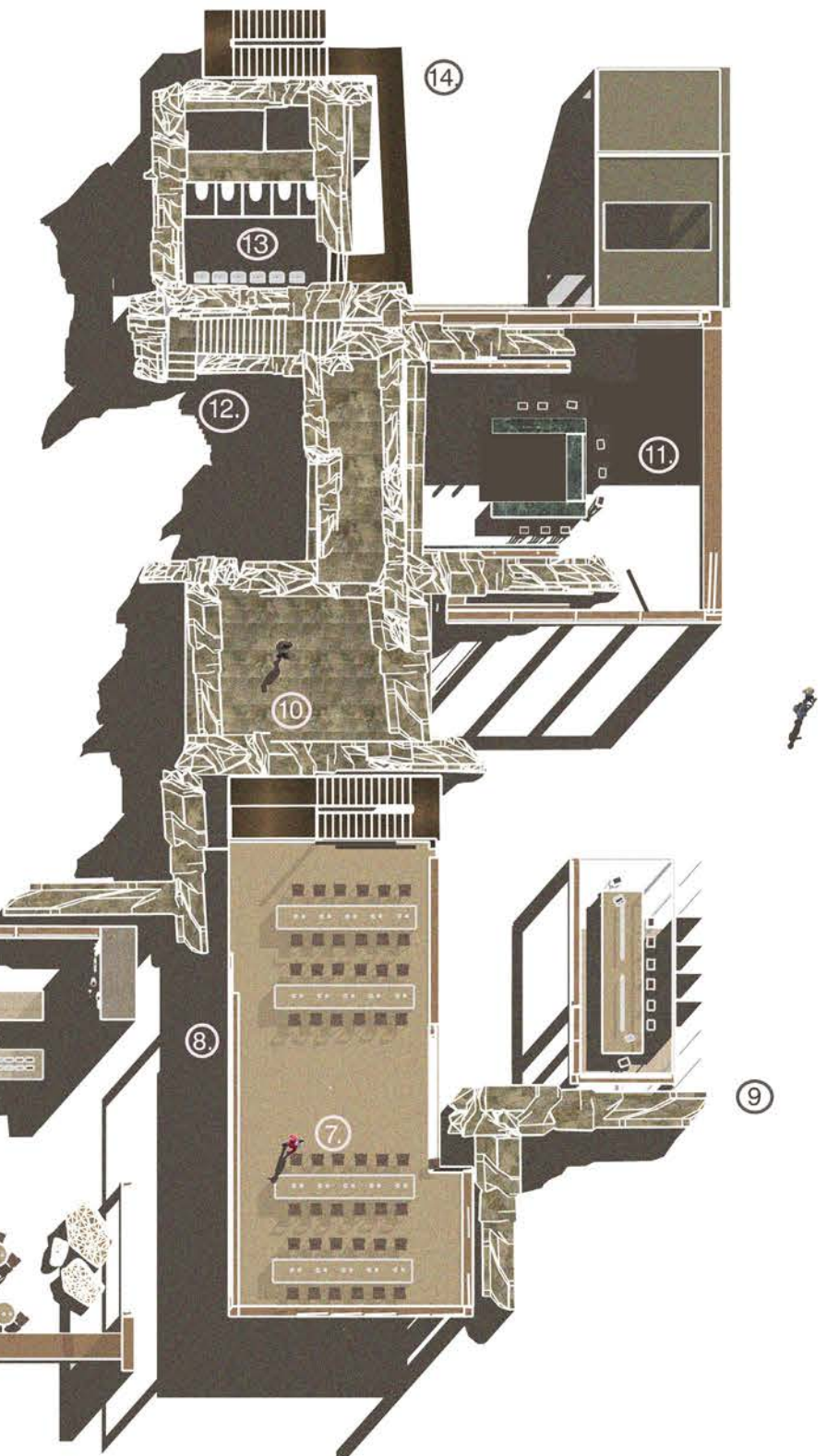
key

1. central courtyard
2. masonry workshop
3. clay workshop
4. multi-use workshop
5. storage
6. staff
7. welcome area/reception
8. demo area
9. accomodation/communal kitchen
10. parking

## spatial breakdown

key:

1. site walkway
2. entrance
3. welcome area
4. introduction to raw material
5. material display
6. seating area, social space and knowledge exchange
7. restaurant and multi-use events space
8. material research
9. communal workspace overlooking gardens
10. viewing platform
11. chapter house - celebration of craft and knowledge exchange
12. stairs to viewing platform
13. toilets
14. stairs and walkway to platform



floor plan of proposed buildings  
(not to scale)