

ESALA 2025

Master of Architecture

**ARCHITECTURE AS SUPPORT
STRUCTURE: HOW TO CONSTRUCT
A POST-PETROLEUM WORLD**



Sepideh Karami
Naomi De Barr

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Cycling at St Fitticks

Loren Brundrett



This catalogue is part of a collection published by the Edinburgh School of Architecture and Landscape Architecture (ESALA), Edinburgh College of Art, University of Edinburgh. It documents student design work produced in the Master of Architecture (MArch) programme in 2024-25. Each catalogue describes one of the following design studios in the MArch programme. The full collection is available to view online at issuu.com/eca.march.

Catalogues 2024-25:

Architecture as Support Structure, Vol. 2

Crossing Tangier, Vol. 2

Daire's Airc, Vol. 2

Doing Enough with Less: Leith

Moving Water: Esbjerg

Radical Harvest: Earth/Care/Reuse, Vol. 2

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Karami, Sepideh, and Naomi Barr. *Architecture as Support Structure: How to Construct a Post-Petroleum Future, Vol. 2*. Edinburgh: University of Edinburgh, 2025.

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Architecture as Support Structure, Vol. 2

ISBN (paperback): 978-1-83645-103-7

ISBN (eBook): 978-1-83645-104-4

ESALA 2025

Master of Architecture

**ARCHITECTURE AS SUPPORT
STRUCTURE: HOW TO
CONSTRUCT A POST-PETROLEUM
FUTURE**

Sepideh Karami
Naomi De Barr

NEW ORDER AB

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Reclaiming Craighash Quarry

Loren Brundrett

CONSTRUCTING THE GROUND FOR A POST-PETROLEUM IMAGINARY

Sepideh Karami

The ground is not just a passive surface for architecture to sit on or run its foundation through. It is a complex political entity that is shaped by processes of extraction, exploitation, territorial expansion, and human inhabitation. The ground in capitalist modernity is a product of extractive practices, of digging and discarding, of consuming and categorizing what is deemed valuable or worthless as what feeds into the relentless pursuit of growth, fuelled by the ideology of innovation and the constant need for resources.

The act of extractivism depletes the land on the outskirts of urban areas, leaving behind only a thin surface in the cities. Architecture can either support extractivism or become an act of ecological support, constructing a different kind of ground. By introducing a counternarrative of extractivism, architecture can register the complexities of the ground and challenge destructive industries. To do this, the process of architectural design (through research, practice, and pedagogy) can register 'thick complexities' of the ground.¹ Architecture as support structure registers the thick complexities of the ground, uncovering its deep-rooted histories.

In this design studio, Architecture as Support Structure: How to Construct a Post-Petroleum World, we address the question of ground-making as a crucial step in reimagining architectural scenarios and typologies that challenge extractivism. We work with architecture as support structure in ecologies shaped by the oil and petroleum industry in Scotland and with specific focus on Aberdeen. We investigate through design how we can go beyond petroleum and construct post-petroleum imaginaries and we examine how architecture might operate in these situations to enable alternative futures. Students in this studio are tasked to think of typologies that could help us to free ourselves from petrocultures and petroleum-based material and technologies. In an imagined world where oil is no longer the lifeblood of society, we ask how we could possibly continue living without it. The absence of oil means that we need to reimagine the spaces we inhabited and the industries that sustained us.

Where we grow and develop these typologies is not a given site but a ground that is being constructed. This ground is messy, dirty, and filled with sticky, oily substances. It holds layers of stories, middens of living and non-living, creating a tapestry of past and present. It is the breeding ground for new narratives, allowing for growth, decay, and life to coexist. It breaks down and rebuilds itself, constantly shifting, drying out, and flooding. It conceals and reveals. It is what we dig into and dump on.

In order to fully comprehend the site as an ever-evolving entity rather than a static given, we utilize a combination of design and research tools. These tools allow us to delve into the hidden, lesser-known and minor relations of the site. They go beyond mere mapping and representation, serving as instruments for design as well. Thus, what is traditionally seen as mapping also becomes a means of constructing the physical and metaphorical foundation of the site, it becomes tools for ground-making. Our approach begins with a thorough examination of the ground, taking into account its political, environmental, and material aspects. Through a series of iterative tasks, we explore the site from various perspectives, gradually enriching and expanding our understanding of the ground. In other words, we 'thicken' the ground.

TOOLS FOR THE PLURIVERSAL DESIGN

The construction of the ground starts with identifying the less heard voices and engaging in conversations with them. The extractive industries could be described as monologue, dominant grand narratives that do not engage in conversation with their surrounding ecologies and opposing voices. Extractivism understands the earth as the commodity to be consumed. In this narrative, the ground has one layer, it is thin. One way to interrupt such monologue is to identify the voices and ways of living that are ignored and silenced by extractivism and amplify them. To construct the ground is to set up a real dialogue with the site and its communities and to support the encounter of the diversity of voices and positions that is in line with ‘pluriversal’ thinking. If we talk about World-Making in a Pluriverse, we don’t refer to the pluralism within the “one-world-world”, but rather - as Arturo Escobar writes- to a world where many worlds, worldviews and epistemologies fit.²

In this studio, we explore the ecologies shaped by the oil and petroleum industry in Scotland, focusing on Aberdeen on the north-east coast of Scotland. Aberdeen with an estimated population of 227,430 in 2021,³ is sometimes referred to as the Granite City as many of the buildings are built out of the locally quarried silver-grey granite. Back in the 60s, Aberdeen was dominated by the fishing industry, but other industries such as tourism, ship-building, the manufacture of paper and textiles, and comb-making were also active.⁴ The city was also a support centre to extensive farming community in the north-east corner of Scotland. However, due to the closures of prominent paper mills the importance and notoriety of papermaking were diminished. Furthermore, as Richards of Aberdeen closed, textile production began to follow the same downward path as papermaking.⁵ In-shore fishing was also surpassed by deep-water fishing.

The decline of local economy enabled the oil industry to flourish in Aberdeen. Known as the oil capital of Europe, it has undergone a remarkable transformation since the discovery of oil in the North Sea in the 1970s. ‘The Oil industry in Aberdeen wasn’t solely used to reap

business profits, but also for political purposes. It was used by the Scottish National Party (SNP), in the 1970s, which ran on the acerbic slogan: “It’s Scotland’s Oil.”⁶

Our approach to studying Aberdeen though is not limited to this single location but it involves examining three specific situations or micro-sites that have strong connections to both the city and the petroleum industry in Scotland. Prior to the field study in Aberdeen, we not only delve into the historical, political, and social connections between these micro-sites and the city, but we also utilize them as testing grounds for various design and mapping experiments.

These micro-sites and situations are: Forties Oil Field in North Sea, Mossmorran Chemical Plant in Fife, and Dales Voe Decommissioning Plant in Shetland. As we move through these micro-sites, we embark on an infrastructural journey that encompasses the different stages of oil extraction, production, consumption, decommissioning, and waste disposal. We view the site as ‘a dynamic relational construct, continuously undergoing transformation in dialogue with other sites.’⁷ By establishing numerous connections among these locations, we immerse ourselves in their microcosms, enabling us to construct a more multi-layered narrative of the petroleum industry and to thicken the ground through which our ideas and imaginaries would be cultivated. In other words, we ‘design conversations’⁸ between different (and opposing) voices. Moreover, the journey through these micro-sites allows us to identify existing structures that have the potential to serve as support systems for a post-petroleum world.

Contained within this catalogue are a collection of collective and individual projects that were cultivated throughout the course of two semesters. During the initial semester, students collaborated in thematic groups focused on exploring post-petroleum concepts through the lenses of Muds, Mines, Middens, and Movements. Through hands-on research and interaction with the environment, they began to construct frameworks for a world beyond petroleum dependency. These initial frameworks evolved into individual architectural endeavours in the following semester, as students refined and completed their projects.

- 1 Thaisa Way (2021). 'Urban Site as Collective Knowledge.' In Andrea Kahn & Carol J. Burns (eds.), *Site Matters: Strategies for Uncertainty Through Planning and Design*. London: Routledge.
- 2 Arturo Escobar (2018). *Design for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham and London: Duke University Press
- 3 Aberdeen City Council Area Profile. National Records of Scotland. <https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/aberdeen-city-council-profile.html>. Seen 12 Sep 2023.
- 4 Ibid. P. 45.
- 5 Simon Forgeau (2022). 'Business in Aberdeen: Offshore Oil and the Scottish City's Resurgent Economy.' *Silver Door*. <https://www.silverdoorapartments.com/blog/business-in-aberdeen-offshore-oil-and-the-scottish-citys-resurgent-economy/>. Seen 12 Sep 2023.
- 6 Ibid.
- 7 Lisa Diedrich (2021). 'Translating Sites: A Plea for Radicant Design.' In Andrea Kahn & Carol J. Burns (eds.), *Site Matters: Strategies for Uncertainty Through Planning and Design*. London: Routledge. p. 180.
- 8 Jane Wolff (2021). 'Portfolio: Sites, Stories, Representations, Citizens.' In Andrea Kahn & Carol J. Burns (eds.), *Site Matters: Strategies for Uncertainty Through Planning and Design*. London: Routledge.



Boys of Torry

Loren Brundrett

01

‘a dunghill, a dung heap;
a refuse heap’.

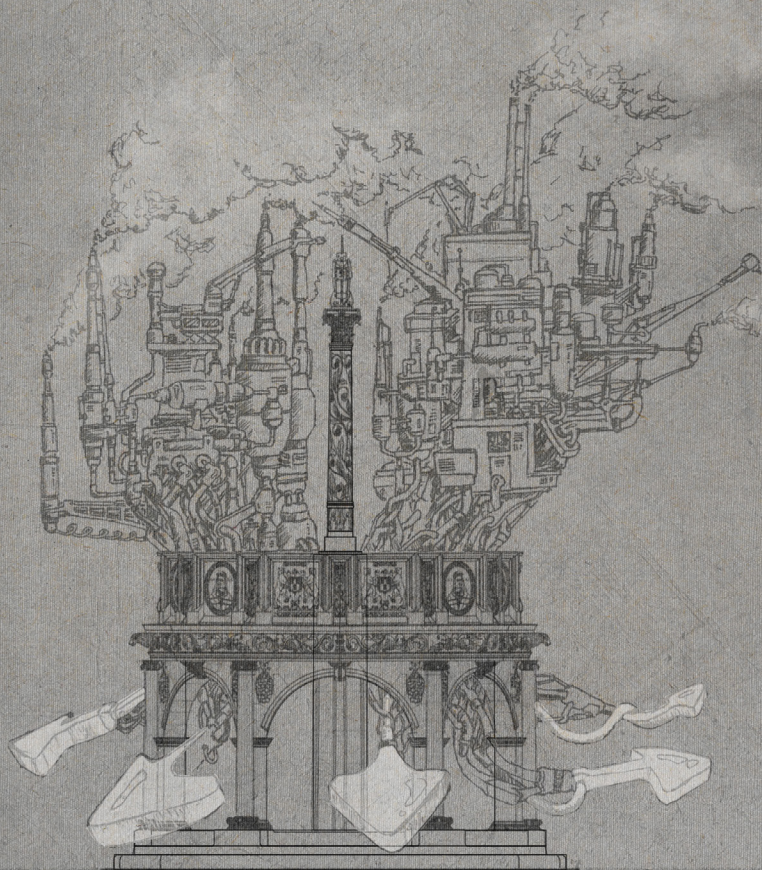
MIDDENS

ANOUSHKA MATHUR-FAIRFIELD
IASON NIELSEN
ERIKA PETROVA

While, put simply, middens are discarded waste, we believe these objects hold memory and have carried and shaped histories and stories of times before us. The forgotten archives of industries, institutions, politics, communities and time, in imagining a post-petroleum world through the lens of middens, we considered what they could teach us.

Our table - an active learning workspace - was used as a tool to prompt discussion, helping us to remain centred and showcasing a holistic view of petro-driven societies and the forces that shape them. Through conversations, collaging and creating, we made connections; enriching our understanding and response to the brief. Using thread rather than glue, we collaged photos and drawings we collected during our visit to Aberdeen, linking industries through time and our devices.

The Mercat Cross in Aberdeen is a historical structure symbolizing the city's cultural and commercial heritage. With the structure manifesting as the section's anchor; its transformation is traced across centuries while reflecting the historical evolution of Aberdeen. As industries rose and fell, the cross remained a silent observer, absorbing the changing rhythms of city life—from the bustling trade of Aberdeen's port to the decline of traditional industries. Through the Vision lens, we explore, how historical events and societal shifts have shaped Aberdeen, with the Mercat Cross standing as both a witness and a participant.



Above. **The Mercat Cross**

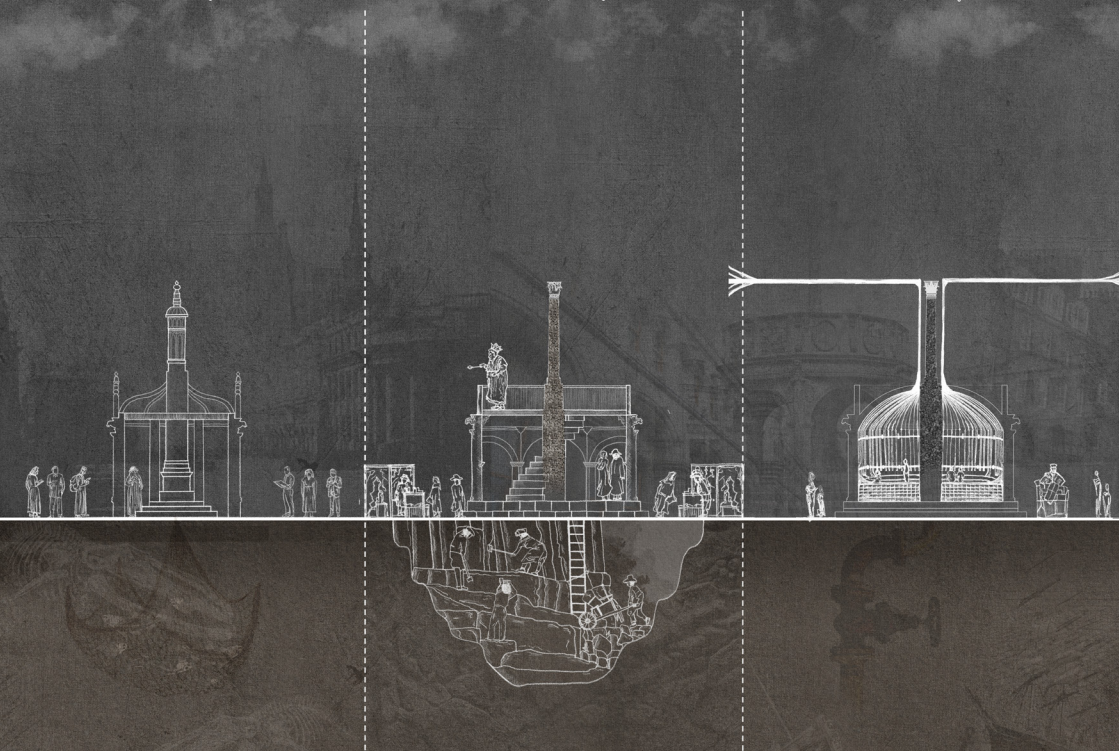
MIDDENS

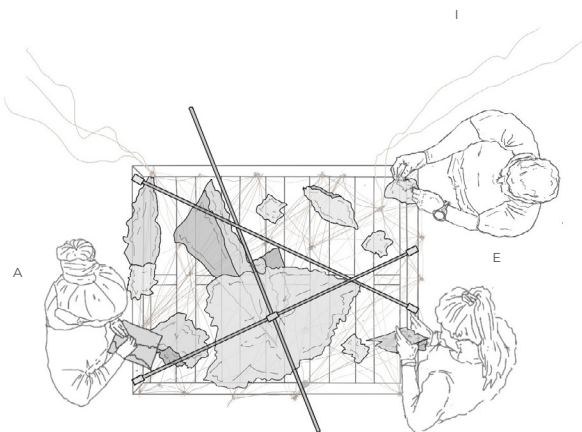


16th century

17th century

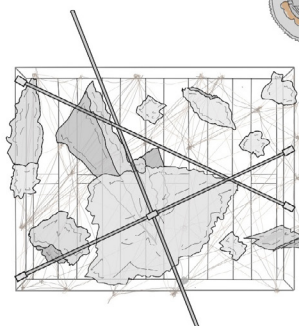
18th century



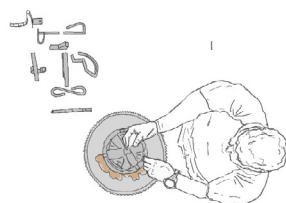


MAPPING THE JOURNEY

I - IASON
E - ERIKA
A - ANOUSHKA



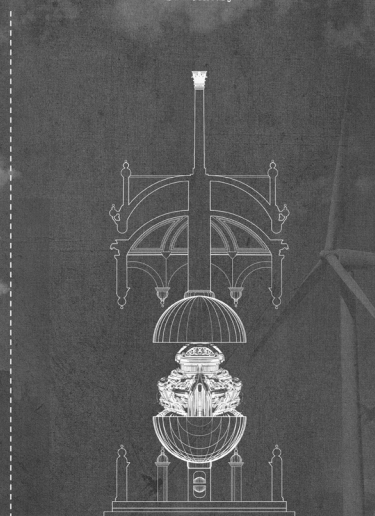
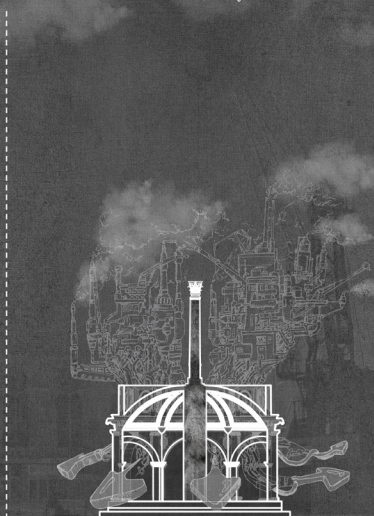
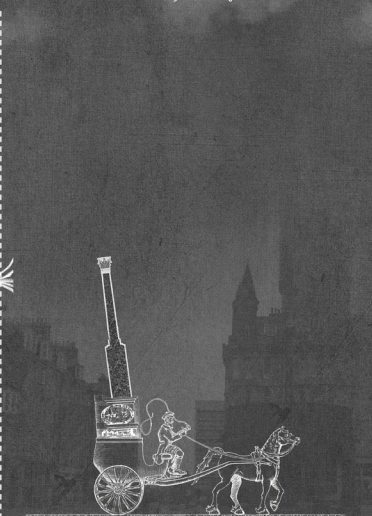
CAPTURING STORIES THROUGH MAKING



19th century

20th century

21st century



Previous.
Above.
Body.

The Table up close
Creating the Table
The Mercat Cross, **The Thick Section**

Site: New Mills, Broadford Works, Aberdeen.
Programme: Mixed-use Upcycled Brickworks and “Wildworks” Community Centre

02

RENEWAL THROUGH REWILDING

ANOUSHKA MATHUR-FAIRFIELD

In designing for a post-petroleum world, this project challenges the materiality of contemporary construction materials. It proposes an alternative approach using bricks made from locally available and ethically harvested clay as well as recycled rubble sourced from construction sites. These bricks will be used in both the adaptive re-use of New Mills as well as for future construction sites. Three systems of bricks have been proposed: -

1. A solid brick to be used for structural walls
2. A solid brick cut into thinner tiles to repair existing fire damage (inspired by the construction of Catalan Vaults)
3. A hollow “live brick” to house plants and other non-human inhabitants

Sustainability is approached holistically – considering not only the materiality of the built environment, but also its social and economic dimensions. The project repurposes an abandoned textile mill as a brickworks, producing these low-carbon bricks while generating local employment. The “live brick” supports non-human inhabitants and fosters biodiversity, embedding ecological care directly into the building fabric.

Alongside this, a “wildworks” is established: a community-oriented landscape focused on environmental renewal and rewilding. Together, these interventions propose a post-petroleum world that is materially grounded, socially engaged, and ecologically restorative.



Above. **Sectional Model of Wildworks**

KEY:

proposed / existing
construction sites

clay deposits



Broadford Works

RIVER DEE

Torry clay pit

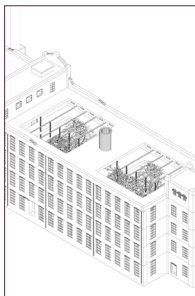
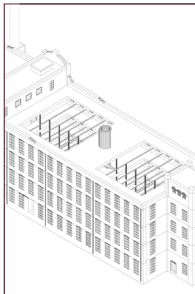
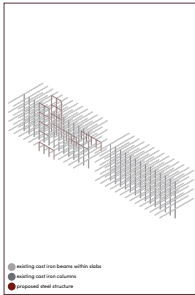
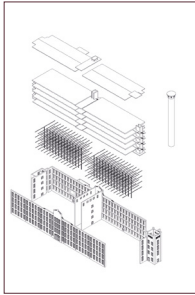
Ferryhill clay pit

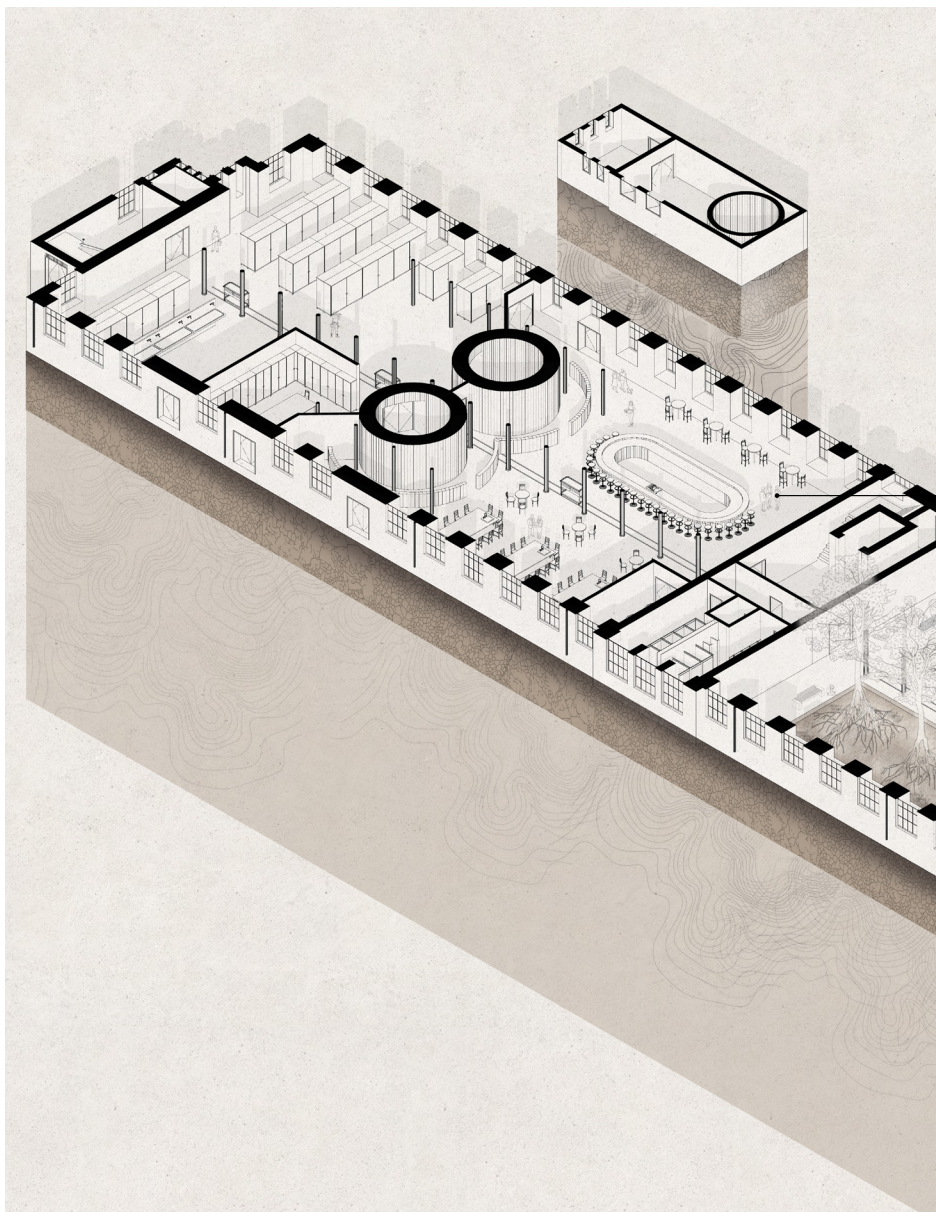
Top Left
Body
Overleaf

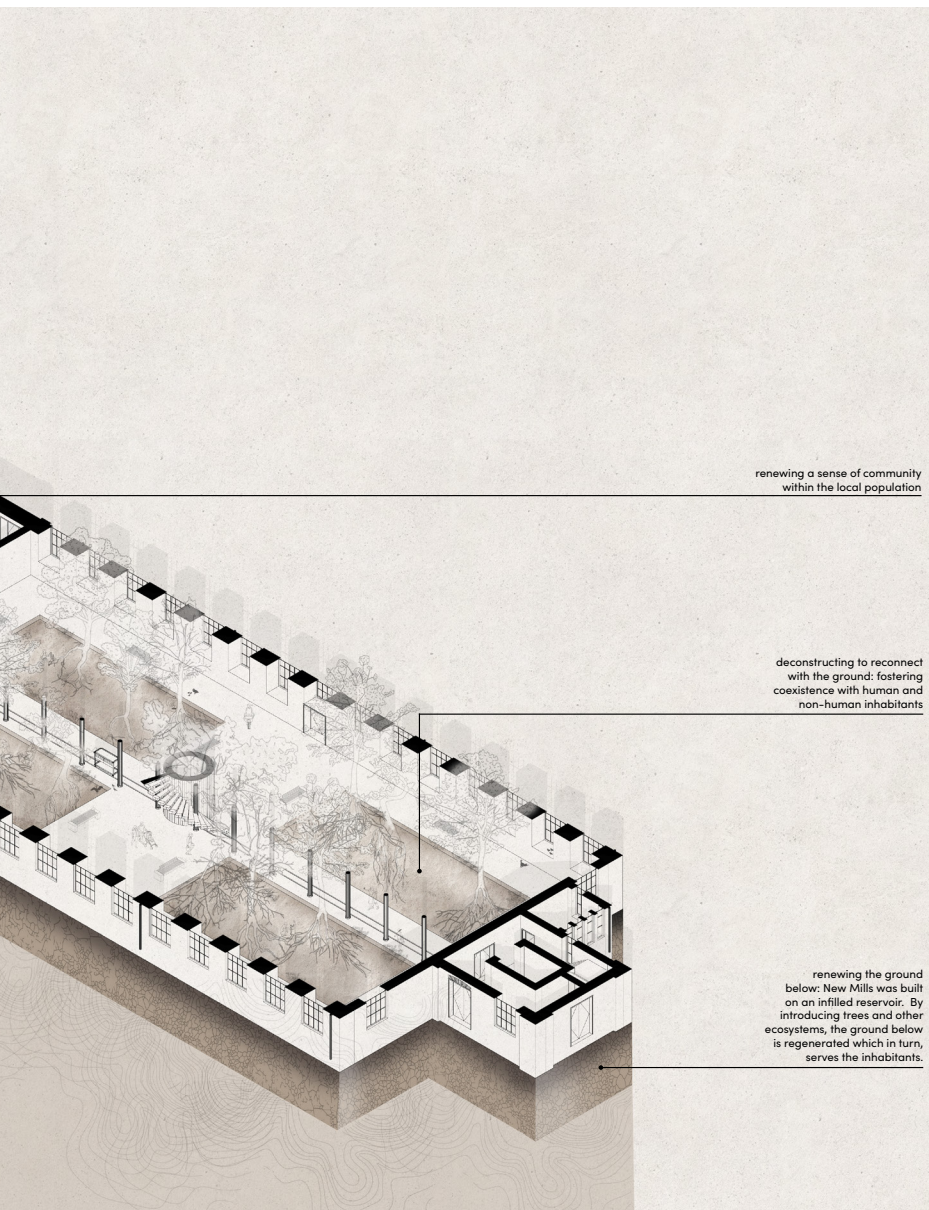
Solid Brick

Material Harvest Map

Construction Sequence, Tiles, Sketch Model







Site: Recommissioned Oil Rig, Aberdeen
Programme: Spiritual Centres

03

THE TEMPLE OF THE RIG

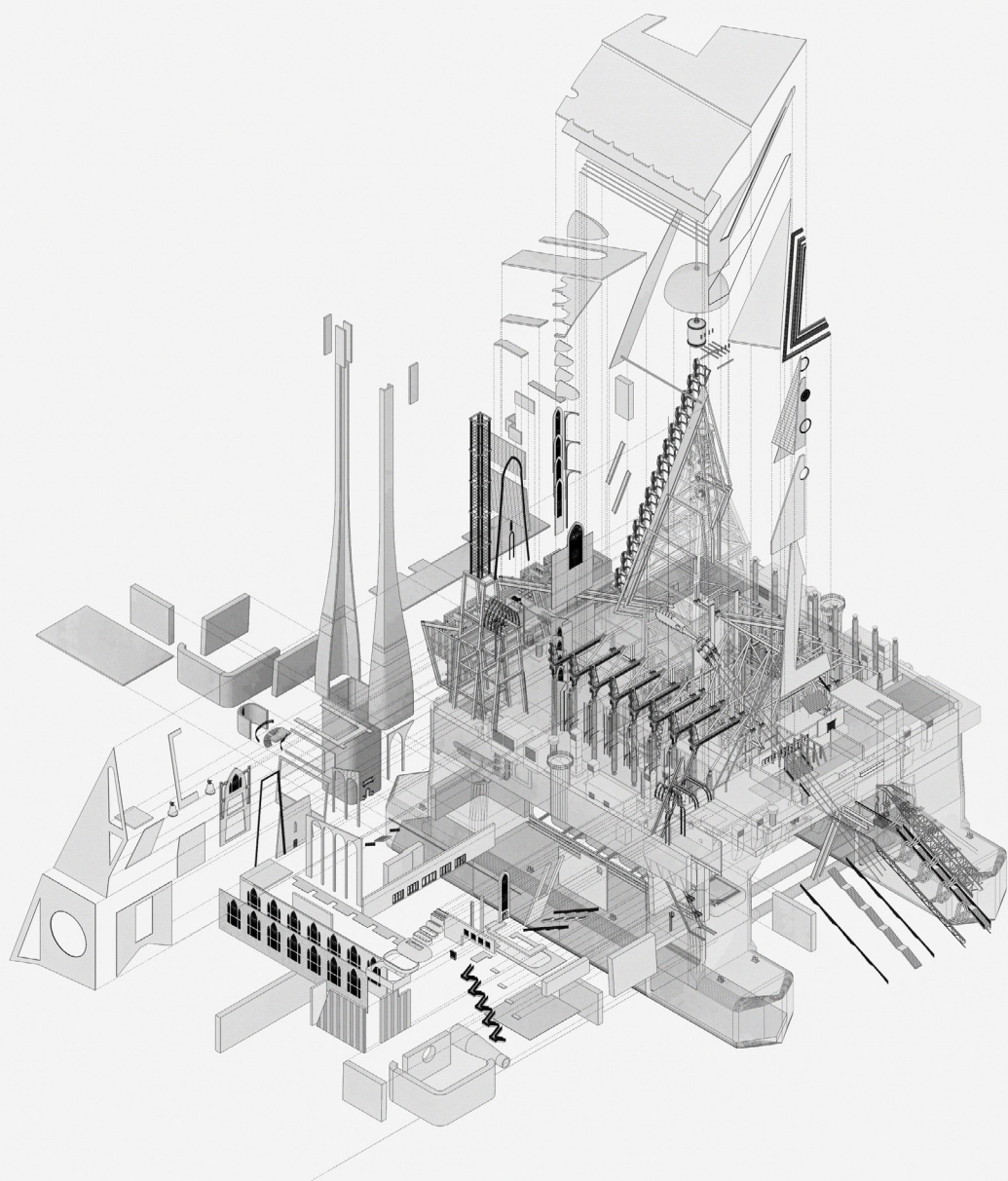
IASON NIELSEN



The concept of God can be translated as the dominant force of each era. The most powerful narrative; the one dictating both behaviours, in a large scale, and the physical manifestation of collective subconscious, imprinted (in amongst other domains) in Architecture. After all, the most prevalent examples of historical architecture were the ones honouring a God. It is evident that our god is now the petrol-dollar. With skyscrapers becoming temples to the monetary system and oil rigs the backbone; both rooted in an extractivist culture. To imagine a God of the future (one instead based in mentality of symbiosis with nature) a new temple is proposed: re-imagining the oil platform as a space for self-reflection and personal growth.

The trajectory of society will only change if enough individuals reflect firstly upon themselves and then the world. For change comes from within. Thus, rejection can come from the creation of many personal gods that will not subscribe to the current narrative.

The Temple of the Rig will not create or enforce a narrative. It will be a space where the old ways can be left behind a process of katharsis. That relic can be identified in each individual as the shadow; the part of ourselves that we dare not look at and the one holding us back. The project will provide accordances for such a transformation as well as spaces for a more permanent, monastic-esque, stay.



Above. **Axonometric of Rig**

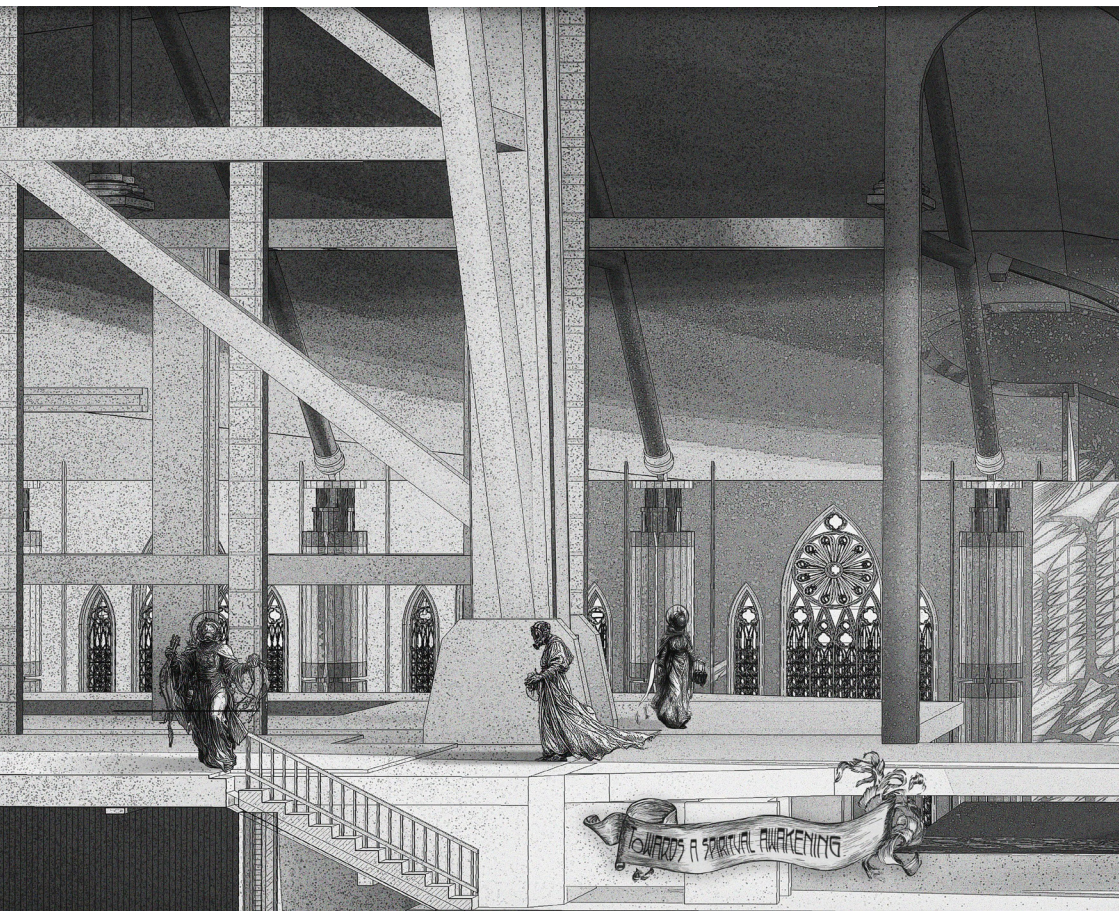


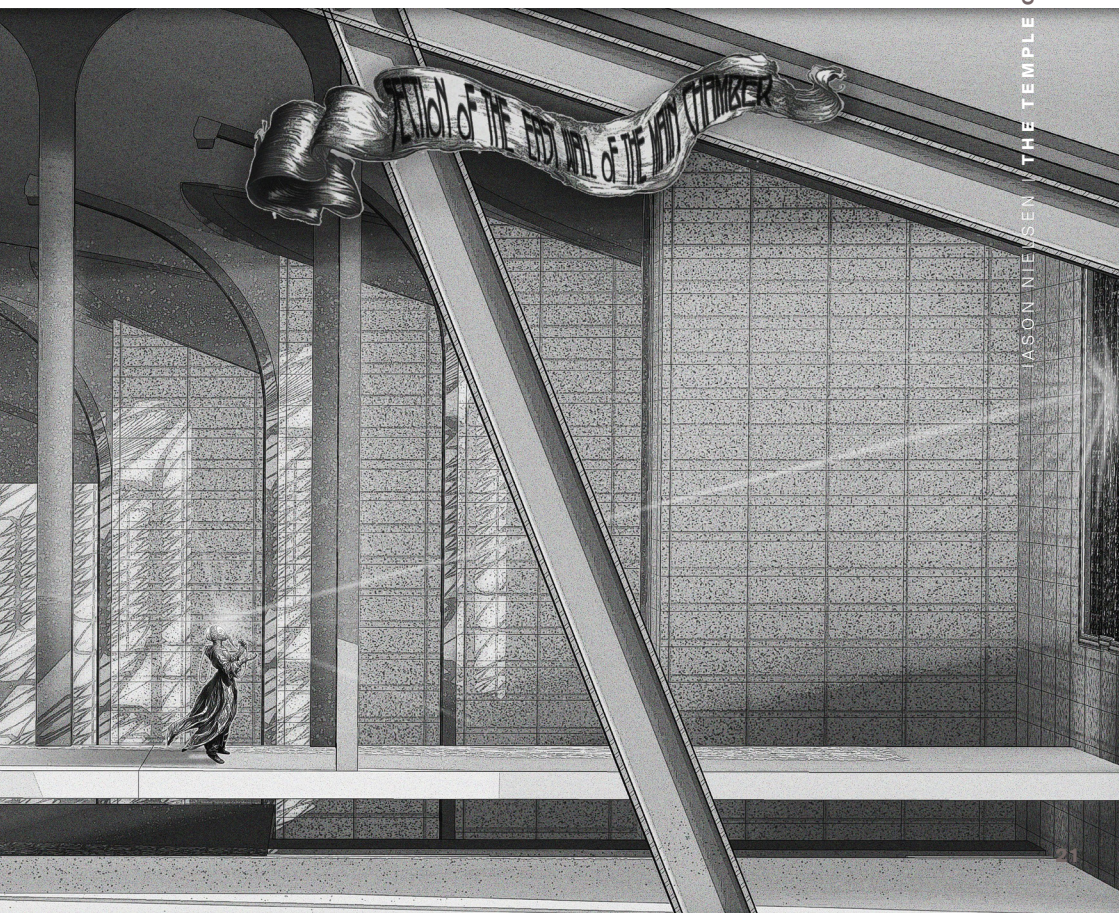
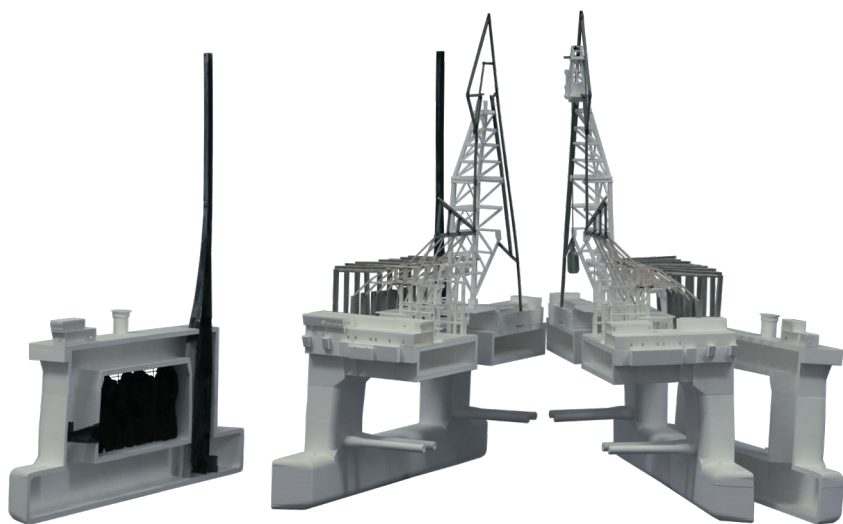
This Page Body.
Overleaf Top.
Overleaf Right.
Overleaf Below.

The Rig
Welding as an Act of Meditation
Physical Model
Towards a Social Awakening



THE TEMPLE OF THE RIG





Site: Former Victoria Road School, Aberdeen
Programme: Textile Workshops

04

HANDCRAFTED REVIVAL

REHABILITATION OF VICTORIA ROAD SITE

ERIKA PETROVA

This site and project will act as a catalyst, pulling the transition to post-petroleum closer to reality and rethinking values, collective practices and distribution of resources around Aberdeen. Transforming the buildings from a state of disrepair to a new, collectively inhabited place in Torry, the project incorporates textile workshop studios and building retrofit through a collective, crafted and purposeful adaptation over time.

By bringing back the traditional industry of textile-making, which has been gradually losing its significance due to the dominance of petroleum, the project aims to establish a handcrafted revival of Aberdeen. As the work with fabric and yarn can prompt a sense of embodied care and support in both makers and consumers, the workshops will become sanctuary and resting places for people around the city, located in Torry.

Through phases of construction, production and inhabitation, the site will undergo transformation in a close dialogue with the surrounding environment, city and people. Active community involvement will shape both the design process and construction, reimagining the site as a support structure for a post-petroleum future. On a wider scale, the project will play a key role in shaping the future of post-petroleum Aberdeen. Its broader ambition is to demonstrate how textile reuse, skill sharing, and community engagement can influence change at the city scale, extending their impact beyond the boundaries of the site.



Above. Overarching **Axonometric**

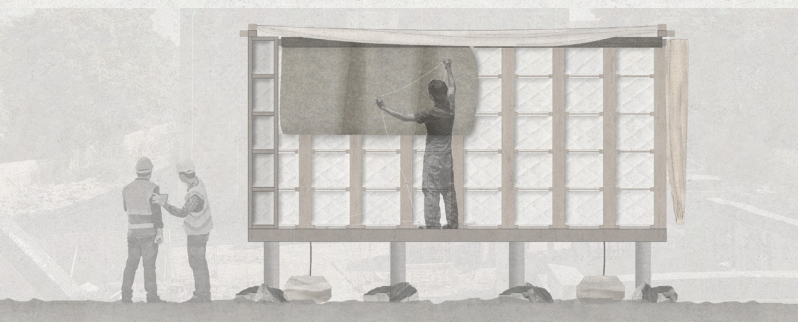


Top. Tapestry Site Model

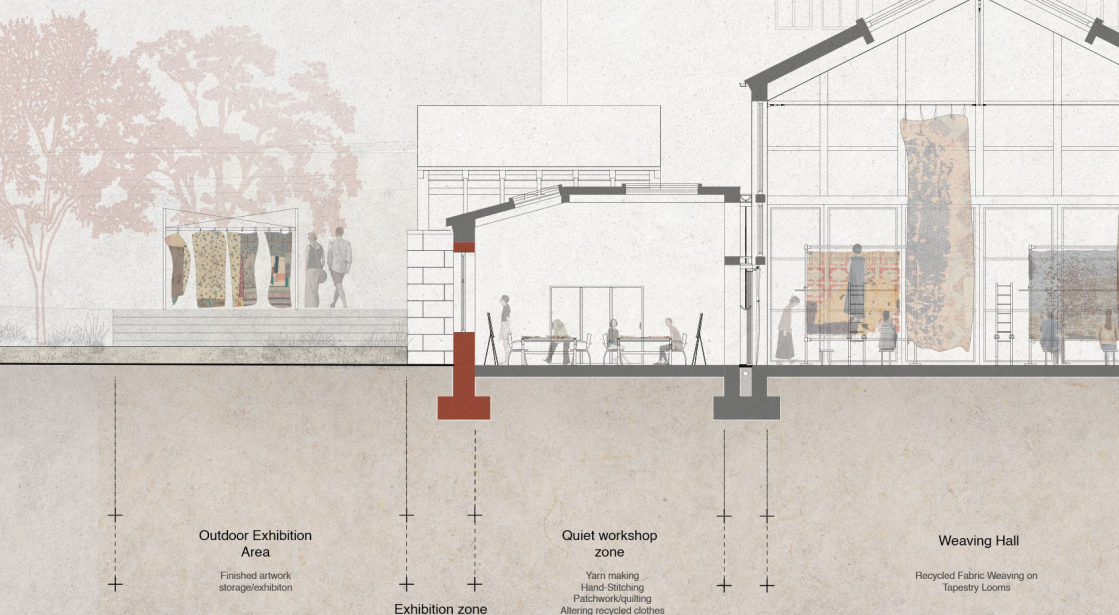
Body. **Tapestry Making**

Right. 1:50 Tectonic Model, External Perspective, Tapestry Hall Perspective





Support Structures.
Construction Pod and Quilt Wall.



Outdoor Exhibition
Area
Finished artwork
storage/exhibition

Exhibition zone

Quiet workshop
zone
Yarn making
Hand-Stitching
Patchwork/quilting
Altering recycled clothes

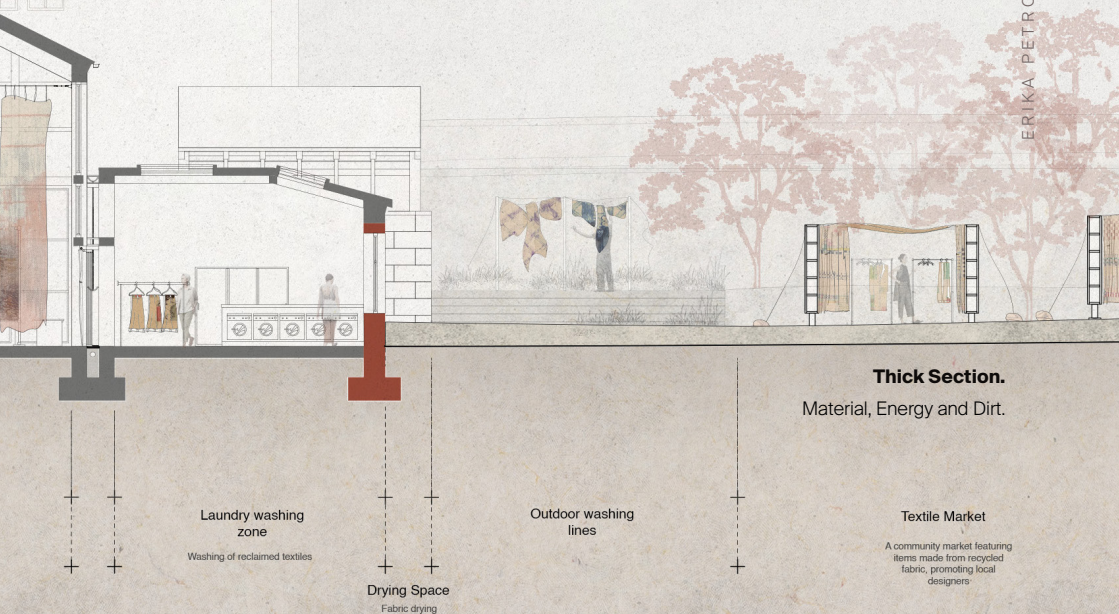
Weaving Hall

Recycled Fabric Weaving on
Tapestry Looms



Constructing the Site.

Site Construction Processes.



05

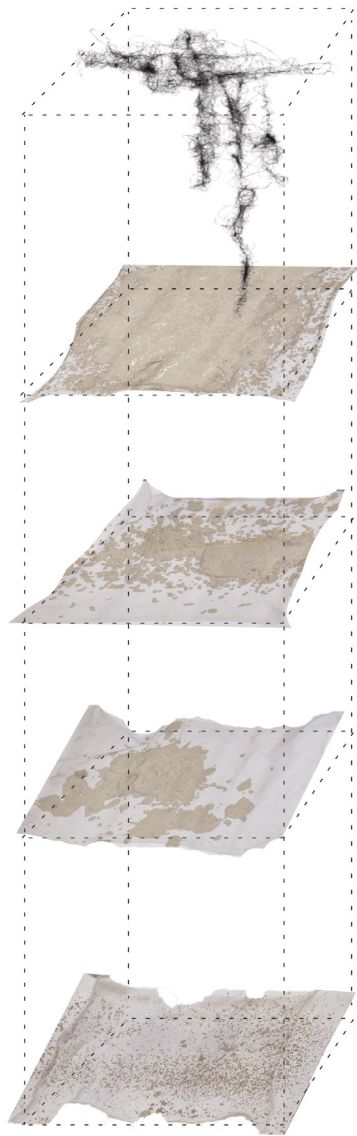
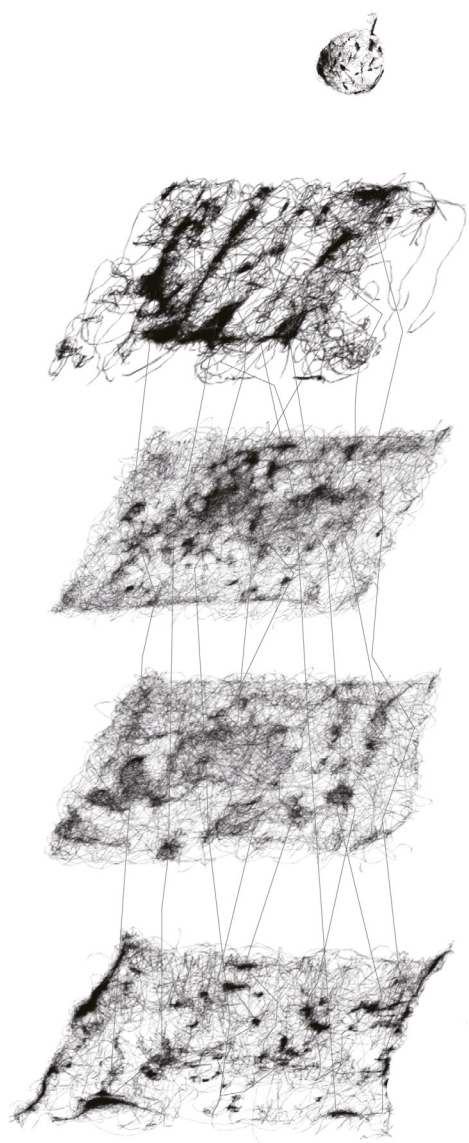
MUDS

ANGUS HARROW
FIORI KOUSTAS
CHENGKE LIU
HUGO TWIGGER

As Muds group we explored the ecological, material, and speculative dimensions of muds; positioning them as vital agents in both contemporary landscapes and imagined post-petroleum futures. Our research examined muds not simply as by-products of extraction and erosion, but as complex substances shaped by and shaping human and non-human processes. We approached muds as layered, entangled materials—at once sediment, waste, and resource—attending to their roles within ecological systems, infrastructures, and transitional energy landscapes.

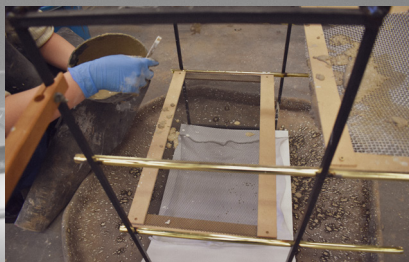
Through a series of conceptual table experiments, we interrogated the physical properties and meanings of muds, testing their capacity to reveal histories of industrial extraction, environmental degradation, and possible regenerative futures. These hands-on investigations allowed us to engage with muds as both subject and medium, exploring their viscosity, stratification, and embedded contaminants. Using the thick section as a methodological tool, we developed cross-scalar readings of mud—linking microscopic material traces to broader geological, social, and economic systems.

Together, our work mapped the multiple lives of muds, from industrial runoff and estuarine sediment to reclaimed soil and future construction material. By foregrounding the materiality of muds within ecological and post-extractive contexts, we aimed to re-frame how these overlooked substances participate in shaping post-petroleum landscapes.





Previous. **Conceptual Muds Table Diagram.** Exploring the Materiality
Above. **Muds Group Exhibition.** Thick Sections and Table.
Body. **Table Making Process.** Experiment Photographs.

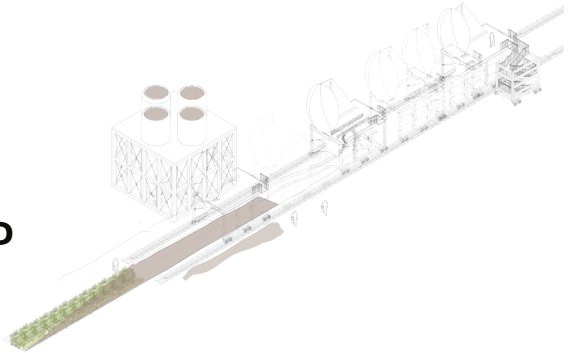


Site: Footdee, Aberdeen
Programme: Mixed-Use Community and Infrastructure Centre

06

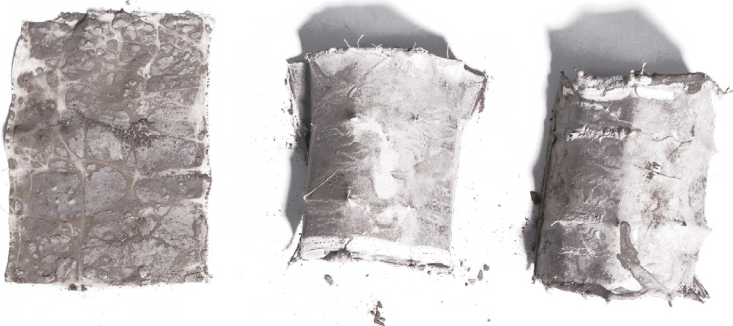
BREAKING GROUND

ANGUS HARROW



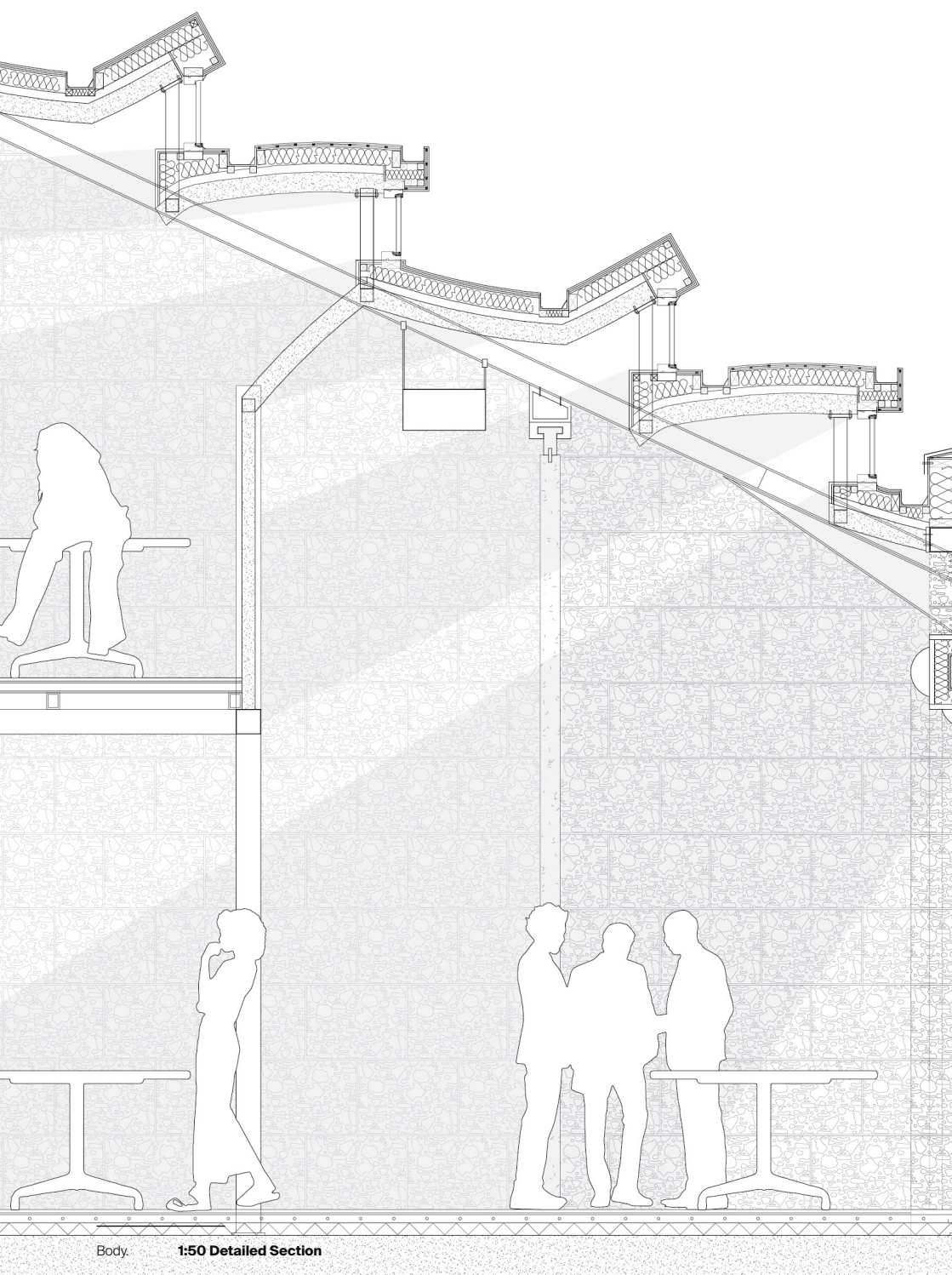
Breaking Ground proposes an on-going architectural intervention in Footdee, Aberdeen—a community cut off from the city by the decline of the oil industry. The scheme introduces slow-moving machines called Ground Walkers, which gradually break up the concrete ground. As they move, dust from the broken concrete condenses onto internal fabric panels, forming structural form-work that is used as building material.

Over time, the clearing of concrete opens up the land to new uses, including small-scale farming and other self-sustaining industries. By turning the ground itself into both space and structure, the project reimagines regeneration as a process led by the site and the community, creating opportunities for long-term growth rooted in local materials and labour.



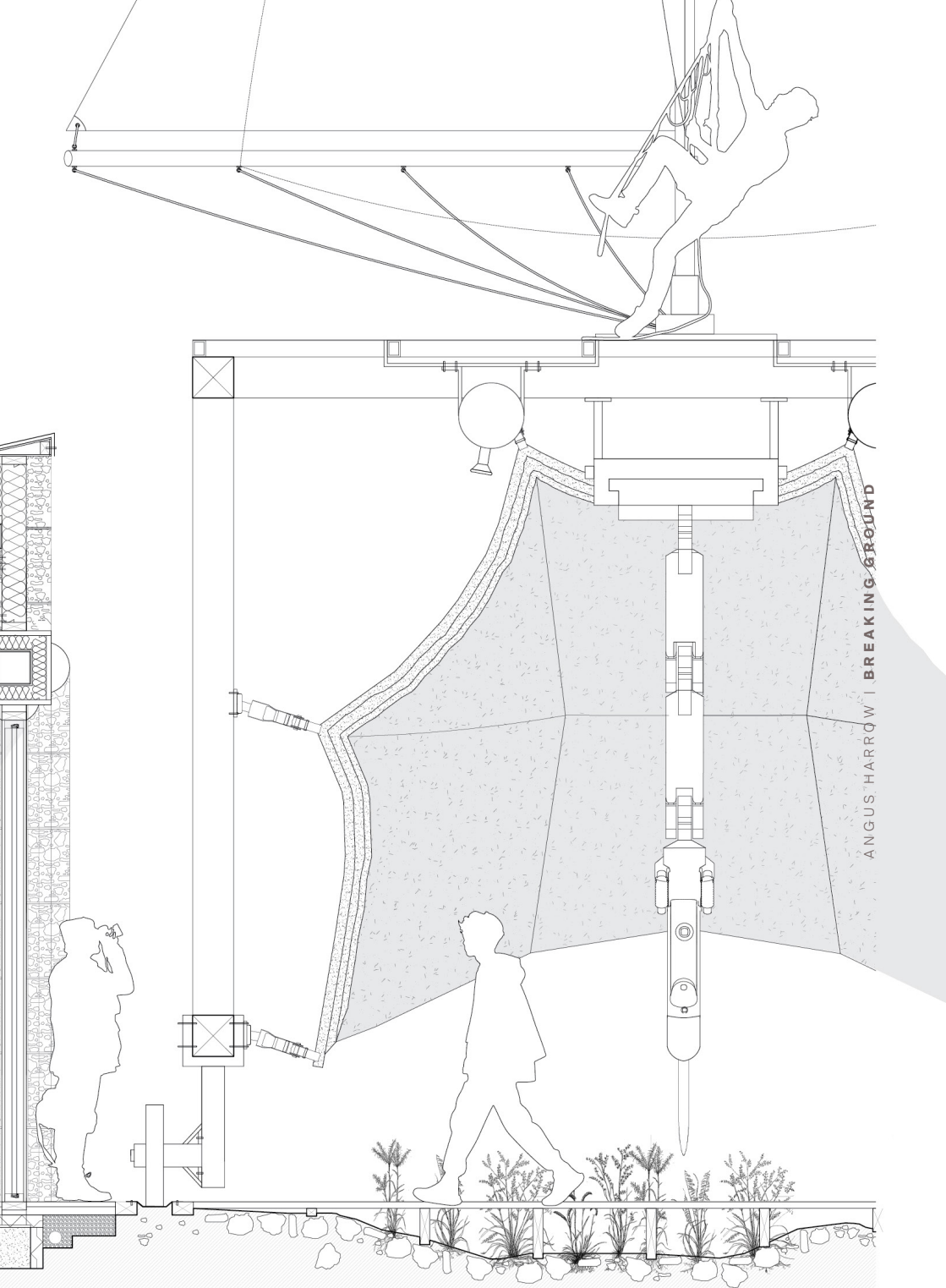


Left. **Construction Axonometric.** Support Structure in Use.
Left. **1:100 Experimental Models.** Concrete Fabric Panels Process.
Above. **1:20 Mixed Media Model.** Breaking Ground Support Structure.

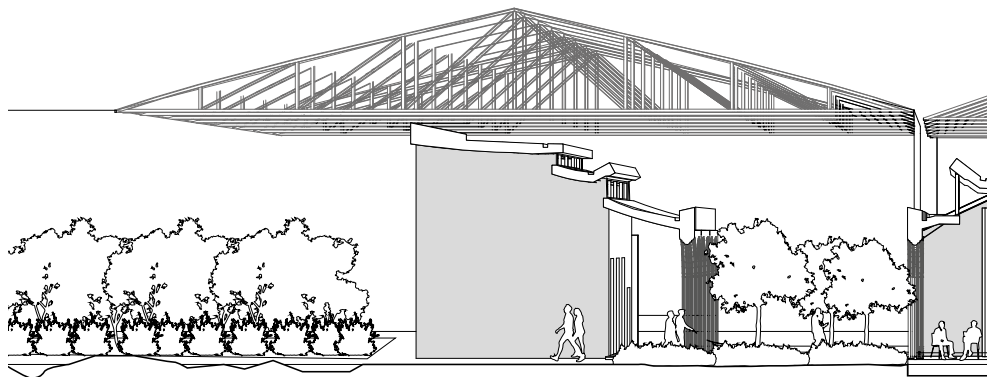


Body.

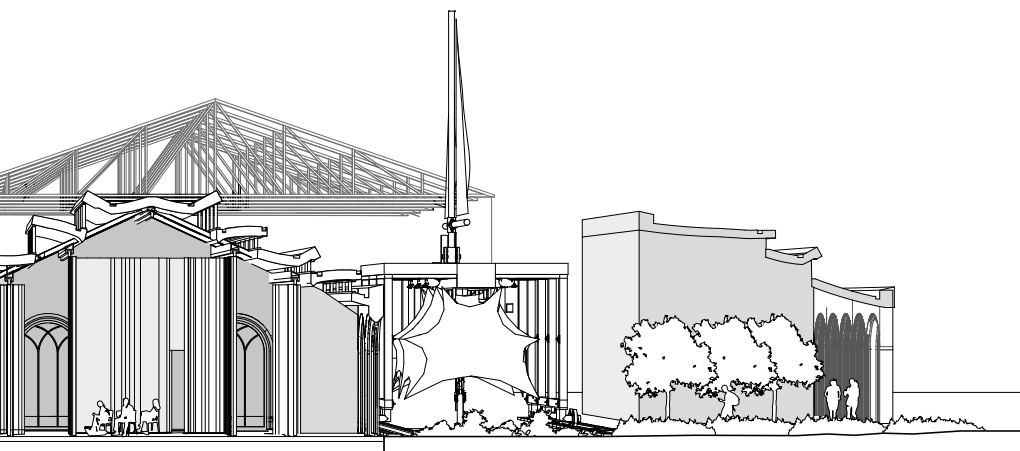
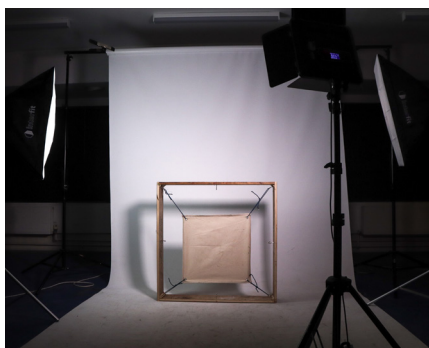
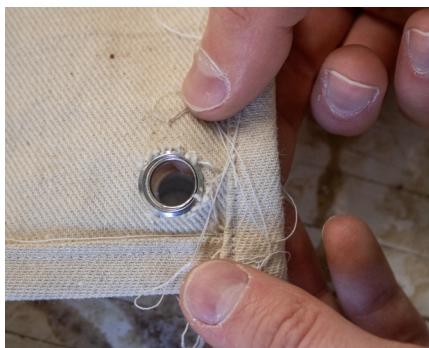
1:50 Detailed Section



ANGUS HARROW | BREAKING GROUND



-
- Previous. **1:20 Cross Section.** Support Structure in Use with Building.
- Top (Left). **1:20 Mixed-Media Model.** Interaction between Support Structure and Building.
- Top (Right). **1:1 Model Process.** Concrete Fabric Panel Testing.
- Bottom. **1:200 Perspective Section.**



Site: Greyhope Bay, Aberdeen
Programme: Regenerative Aquaculture, Energy Hub and Community Tidal Sanctuary.

07

THE TIDEKEEPER

FIORI KOUSTAS

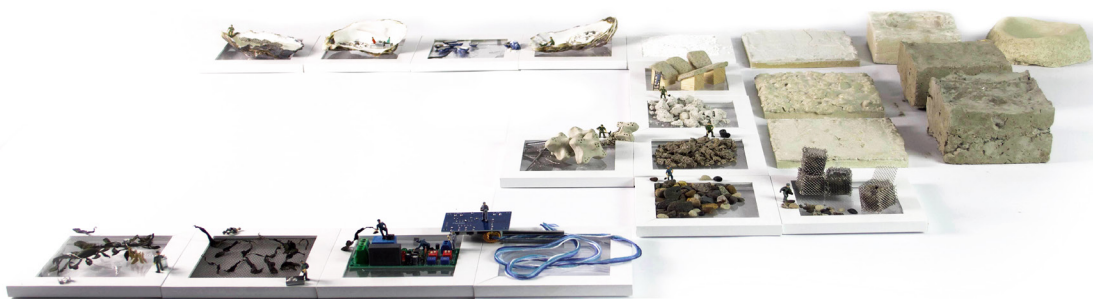
The Tidekeeper is a regenerative coastal structure for a post-petroleum world, where aquaculture, renewable energy, and material craft converge within reused infrastructure. Sited at Greyhope Bay, Aberdeen, it transforms the remnants of the city's sewage system—an old penstock chamber and valve house—into a living system of care, cultivation, and circular exchange. At its heart lies a tidal pool, where oysters and kelp are grown, and phytoplankton—like *Thalassa*, a shimmering, drifting presence—appear naturally with the rhythms of the sea. These species form the foundation of a self-sustaining cycle, harvested not for extraction but for energy, nourishment, and craft.

Kelp and phytoplankton are converted into biofuel, while a reactivated outfall pipe within the TideGate House harnesses tidal flows for hydroelectricity. Together, these renewable systems power the Tidekeeper and share surplus energy with the neighbouring Torry and Balnagask communities—areas historically impacted by extractive industry and infrastructural neglect.

Harvested materials pass through dedicated spaces for sorting, drying, and transformation: shells become ceramics in the ShellWorks Studio, and the Oyster House offers a place to taste the sea. A small lounge and maintenance area support those who care for this working coastline. The Tidekeeper is not just a building—it is an evolving infrastructure of renewal, where marine ecologies, energy, and community are choreographed by the tides.



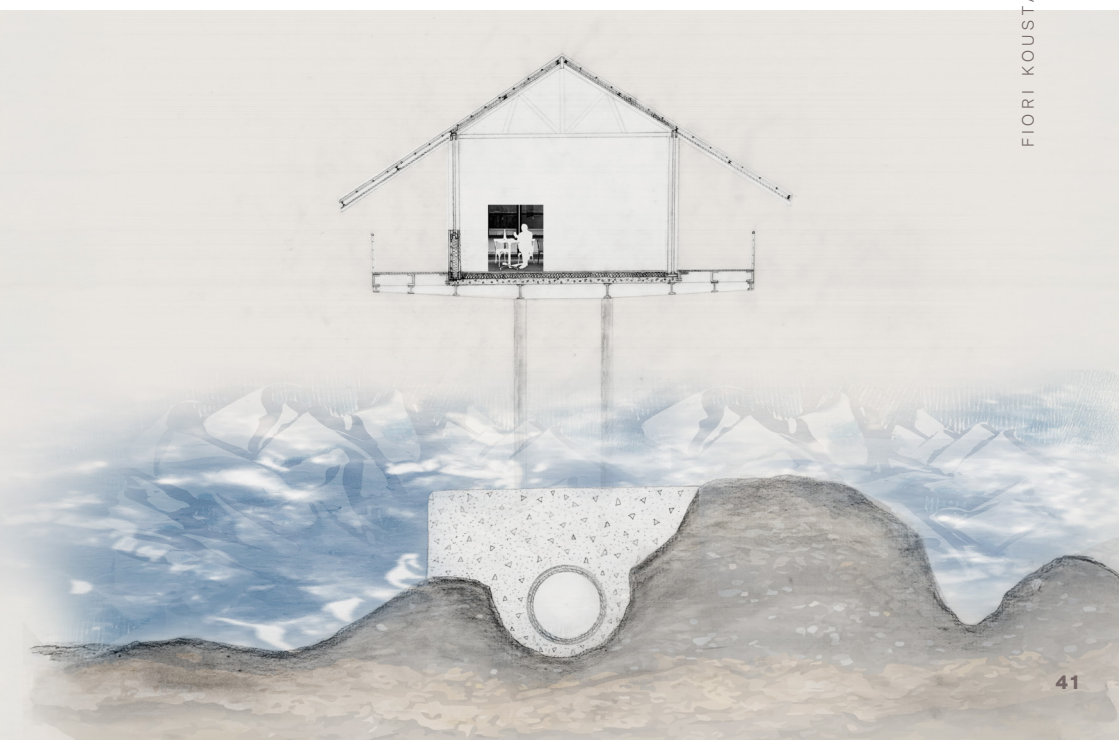
Body. Detailed Sectional Model

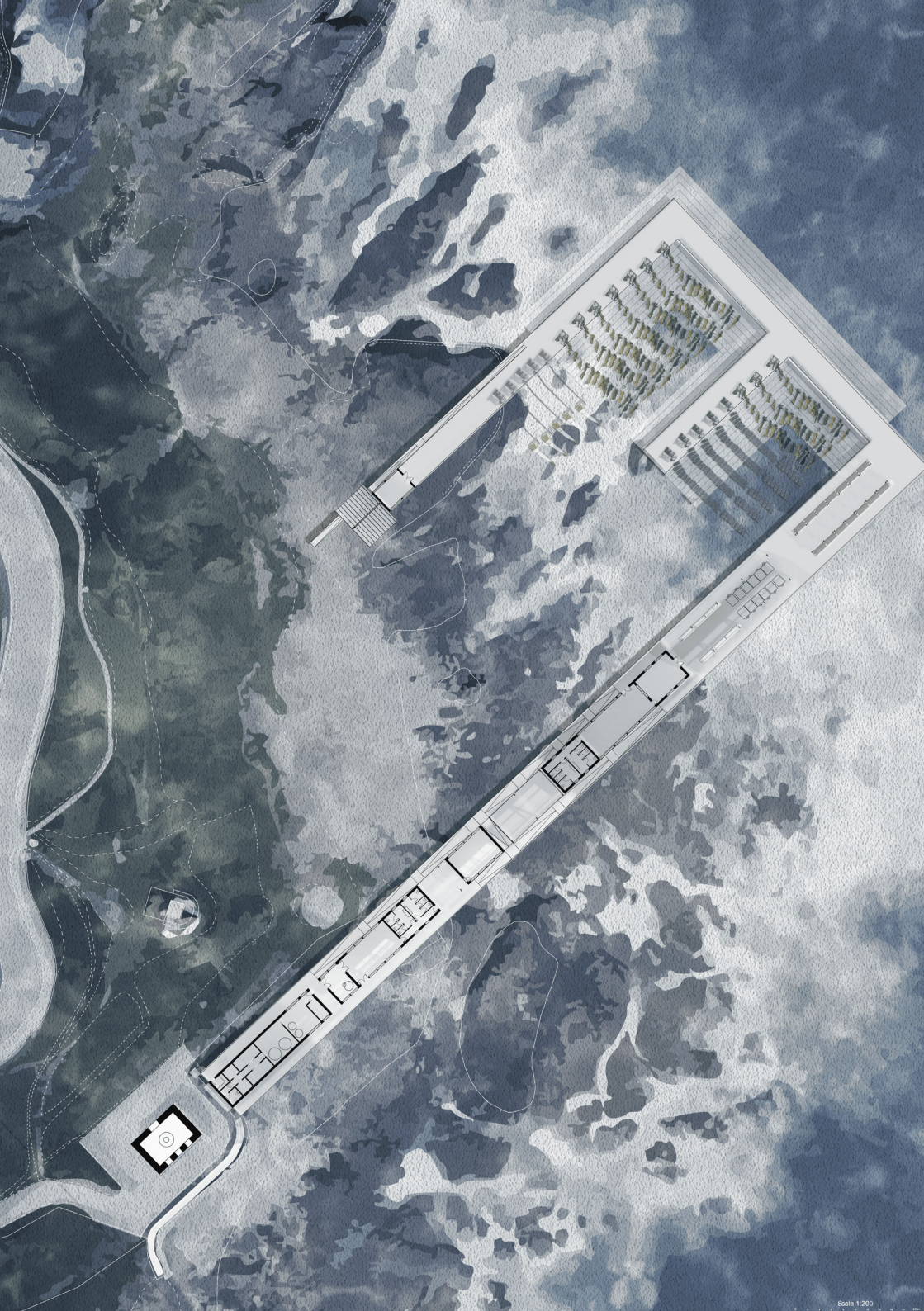


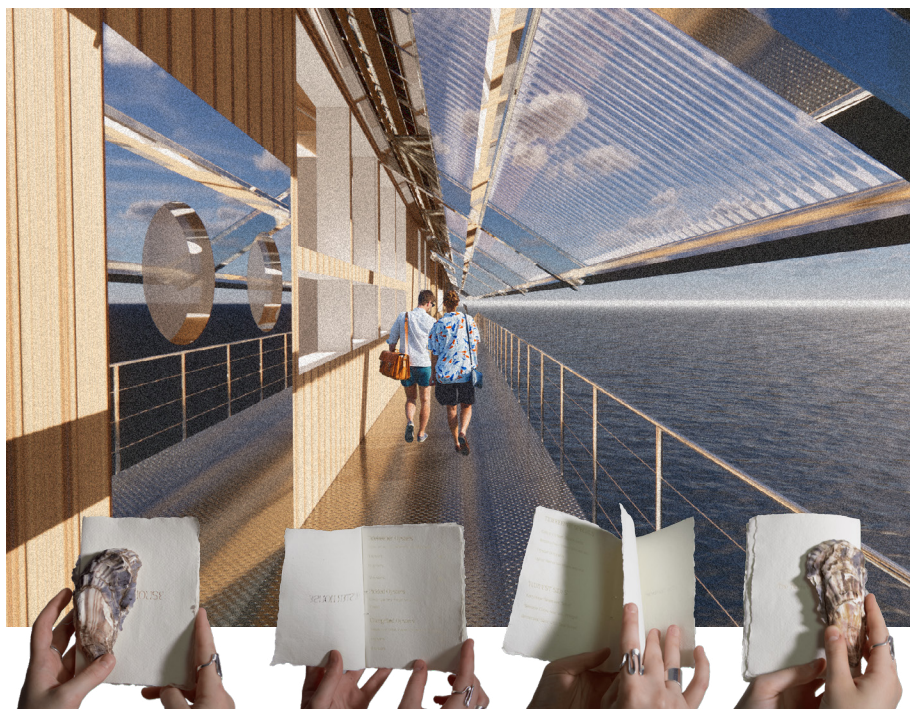
-
- Previous. **1:50 Sectional Model.** Oyster House Restaurant.
- Top. **1:50 Sectional Model.** Kelp Harvesting and Post Harvesting Systems.
- Above. Harvesting Maps.
- Right. **1:50 Detail Section.** Oyster House.



FIORI KOUSTAS | THE TIDEKEEPER







- Left. **Ground Floor Plan.** Proposed at Greyhope Bay.
 Top. Kelp Harvesting Pulley System.
 Bottom. **1:20 Mixed Media Model.** Breaking Ground Support Structure.
 Inset. Oyster Restaurant Menu Concept.

Site: Tullos Swimming Pool, Aberdeen
Programme: Community Centre Reviving Fabrics, Empowering Women through Shared Making

08

THREADS BETWEEN

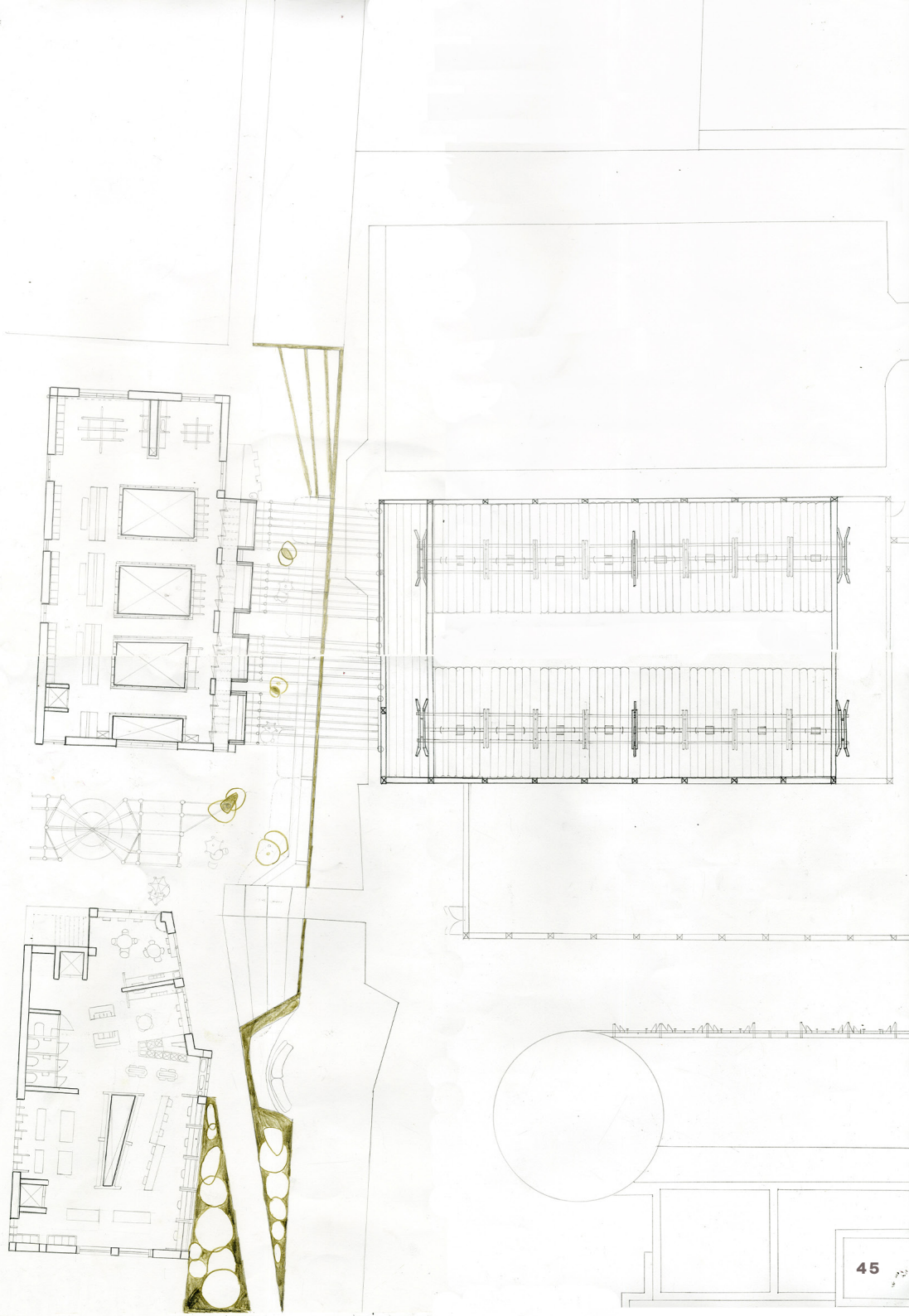
REVEALING THE INVISIBLE LABOUR OF DOMESTICITY

CHENGKE LIU

This project reimagines laundry—not as an invisible, isolated domestic chore—but as a shared, public activity that empowers women and strengthens community ties. Traditionally confined to the private sphere, housework like laundry has reinforced gender roles and limited women's visibility and agency in public life. By relocating this labour to a communal setting, the project challenges these norms and proposes a new framework where domestic tasks become opportunities for social interaction, mutual support, and creative engagement.

The program includes open-air washing zones, drying courtyards, textile repair workshops, communal kitchens, and child-friendly spaces. These elements are designed to transform routine domestic work into moments of shared experience, where women can gather, collaborate, and connect. Architecturally, the project uses tunnel circulation, passive ventilation, and modular walls made from recycled textiles to create spaces that are both welcoming and sustainable.

More than a functional facility, this project serves as a spatial manifesto for the recognition of care work. It advocates for a more inclusive urban environment—one where domestic labour is no longer hidden, but valued, supported, and shared within the fabric of everyday community life.

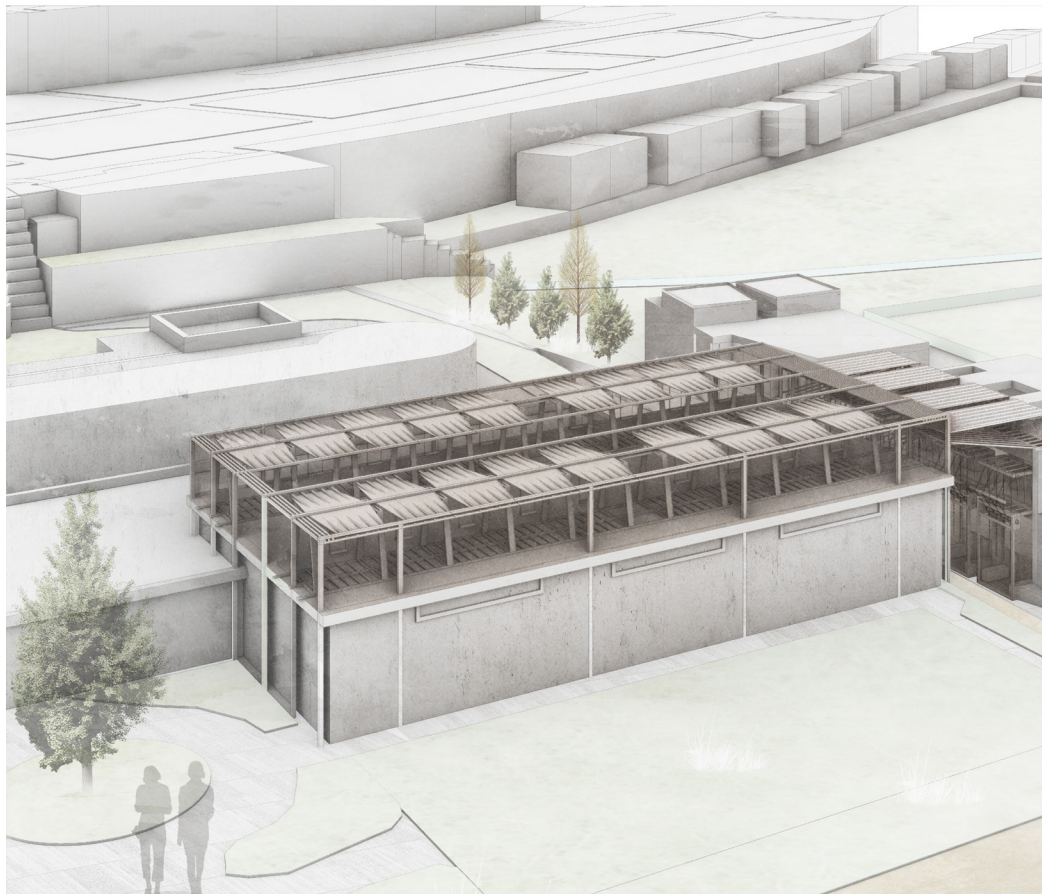






CHENGKE LIU | THREADS BETWEEN

Previous. **1:100 Floor Plan.** First Floor.
Above. Aerial View Master Plan.
Inset. **External Renders.**



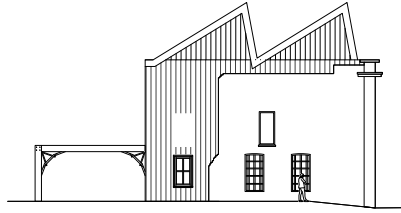
Top. **External Render.** Bird's Eye.
 Bottom. **1:200 Section.**
 Right. **1:1000 Site Model.**



CHENGKE LIU | THREADS BETWEEN

Site: Broadford Works, Aberdeen
Programme: Multi-Generational Workshop

09



REMEMBERING THE COMMUNITY

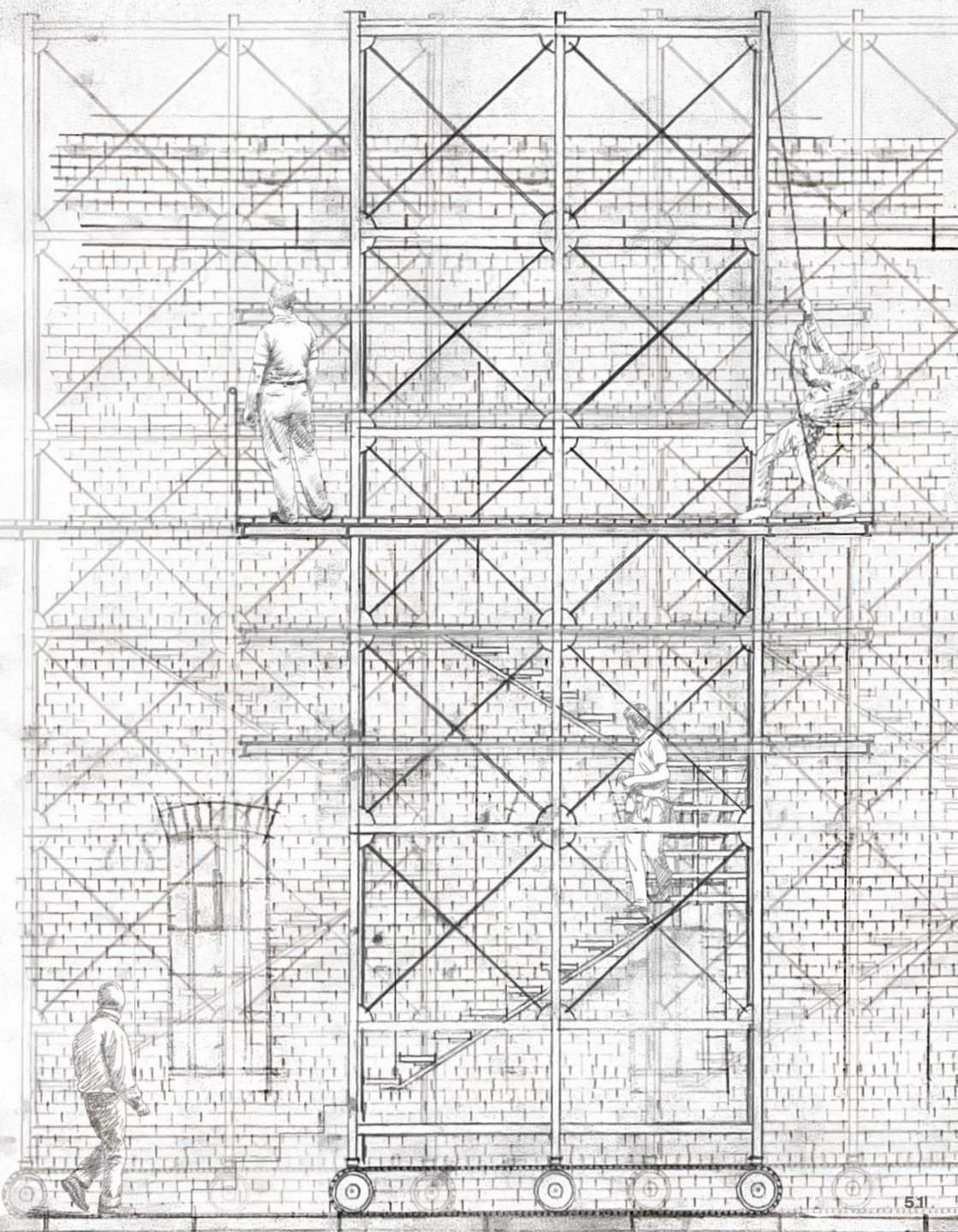
SURVEYING, REPAIRING AND REMEMBERING

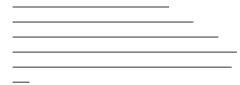
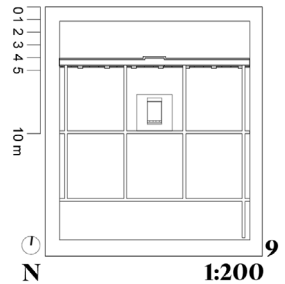
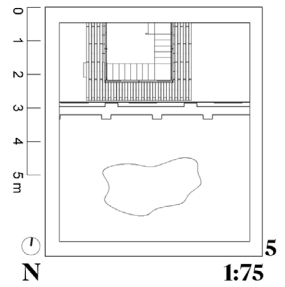
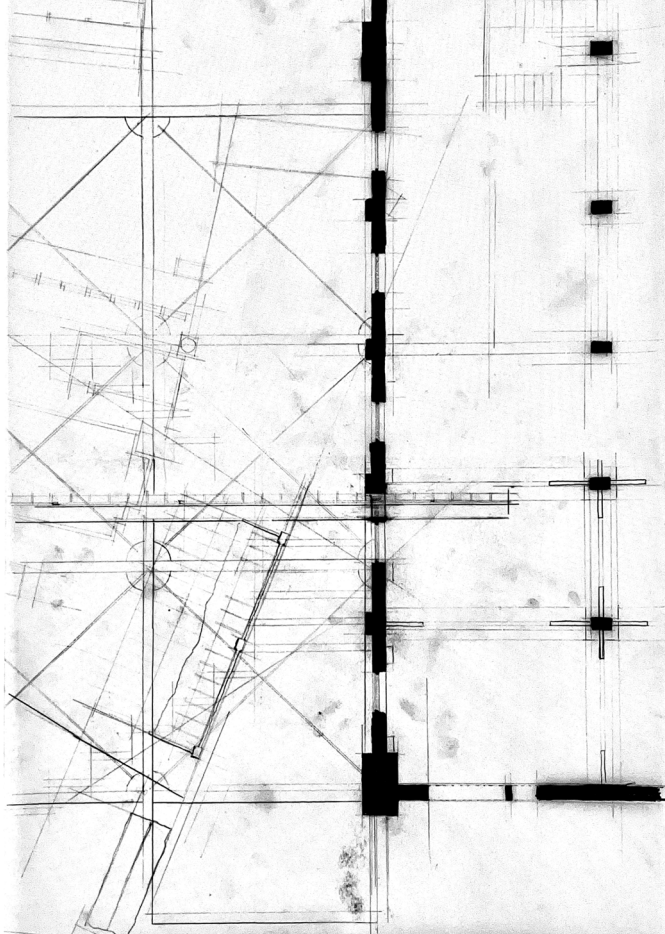
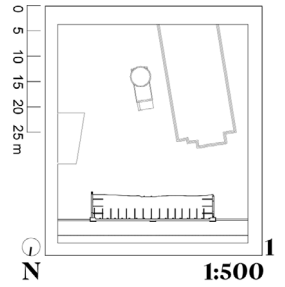
HUGO TWIGGER

This proposal outlines a multi-generational workshop aimed at reviving and transmitting traditional woodworking skills—craft rooted in a pre-petroleum era and passed down through generations. Situated within Aberdeen’s shifting landscape as it transitions toward a post-petroleum future, the project responds to a growing sense of cultural loss and fractured community identity. By fostering intergenerational collaboration through purposeful, shared making, the initiative seeks to bridge divides and strengthen social resilience.

Central to the proposal is the adaptive reuse of a partially demolished structure within the historic Broadford Works—once a vital textile mill and symbol of Aberdeen’s industrial heritage. The design preserves and stabilizes a long-neglected, unsafe façade, re-purposing it as the framework for a new civic space. In doing so, the act of repairing and re-inhabiting the remnants of the past becomes both a literal and symbolic means of community renewal.

Blending heritage with innovation, the project advocates for preservation through activation. It envisions a space that honours Aberdeen’s rich past and helps to shape its post-petroleum identity. By rooting future-oriented change in traditional practices and communal engagement, the workshop fosters a regenerative vision of place—where memory, craft, and collective action converge; imagining new forms of resilience.





Previous (Left).
Previous (Right).
Top (Left).
Top (Right).
Bottom (Left).
Bottom (Right).

1:200 Elevation.

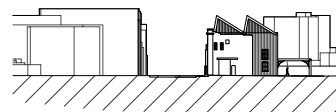
Elevation. Support Structure in Use.

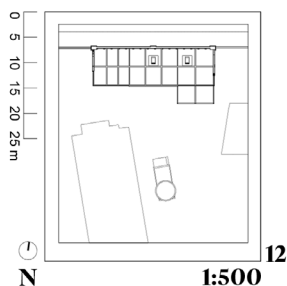
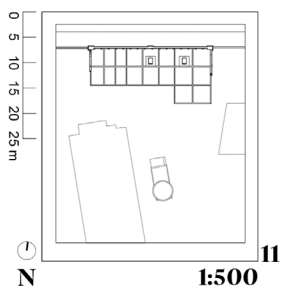
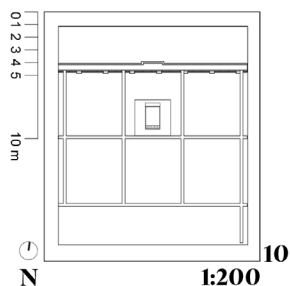
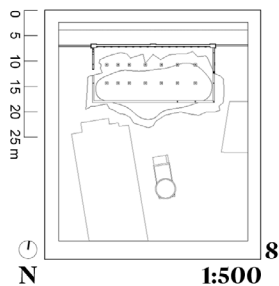
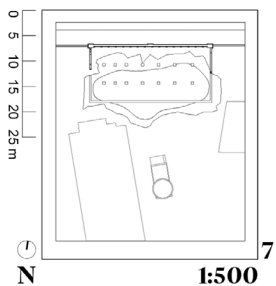
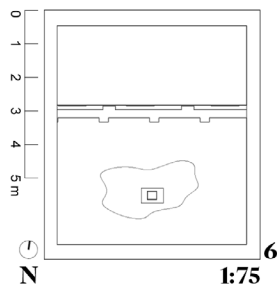
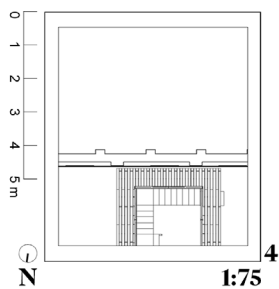
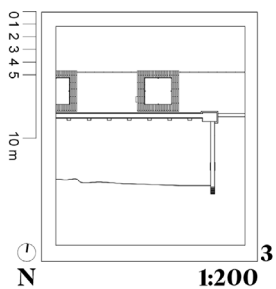
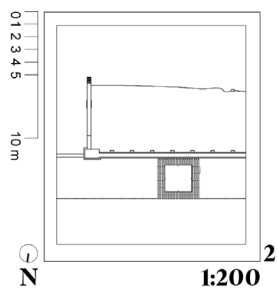
Site Photograph. Broadford Works from Hutcheon St.

Construction Sequence.

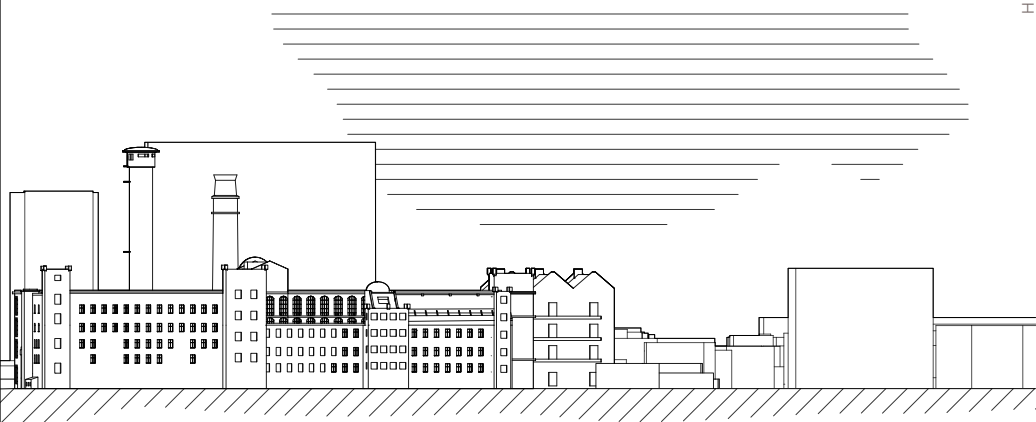
Visual Manifesto. Key Theme Drawing.

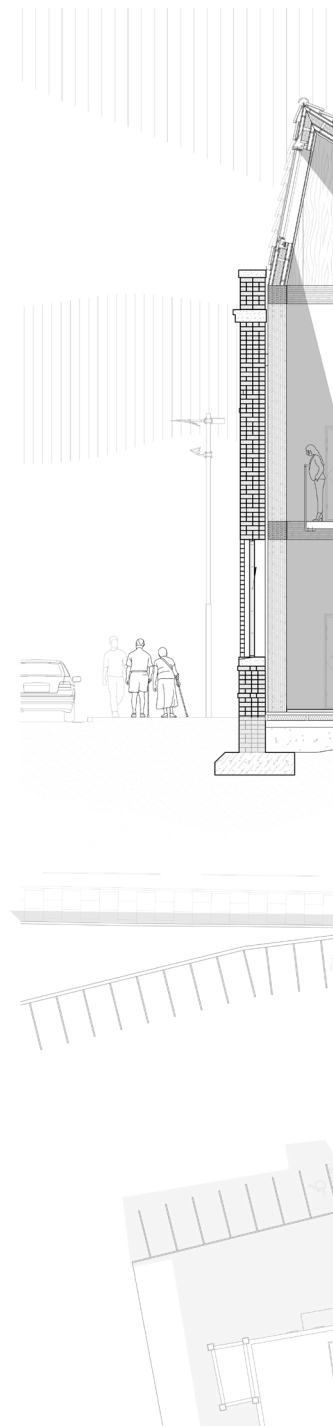
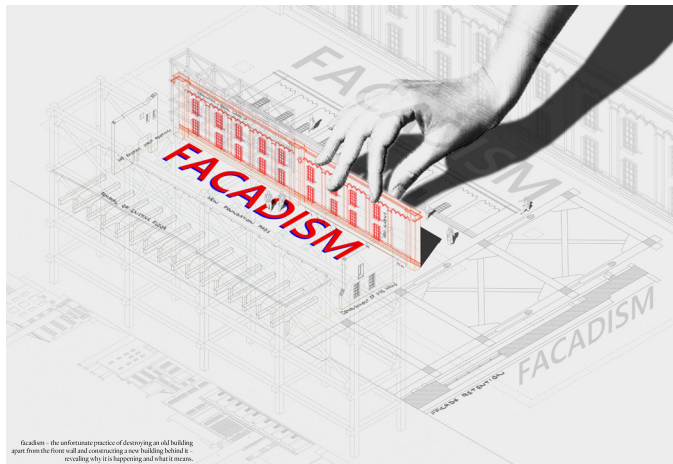
1:500 Elevation. Proposed in Context.

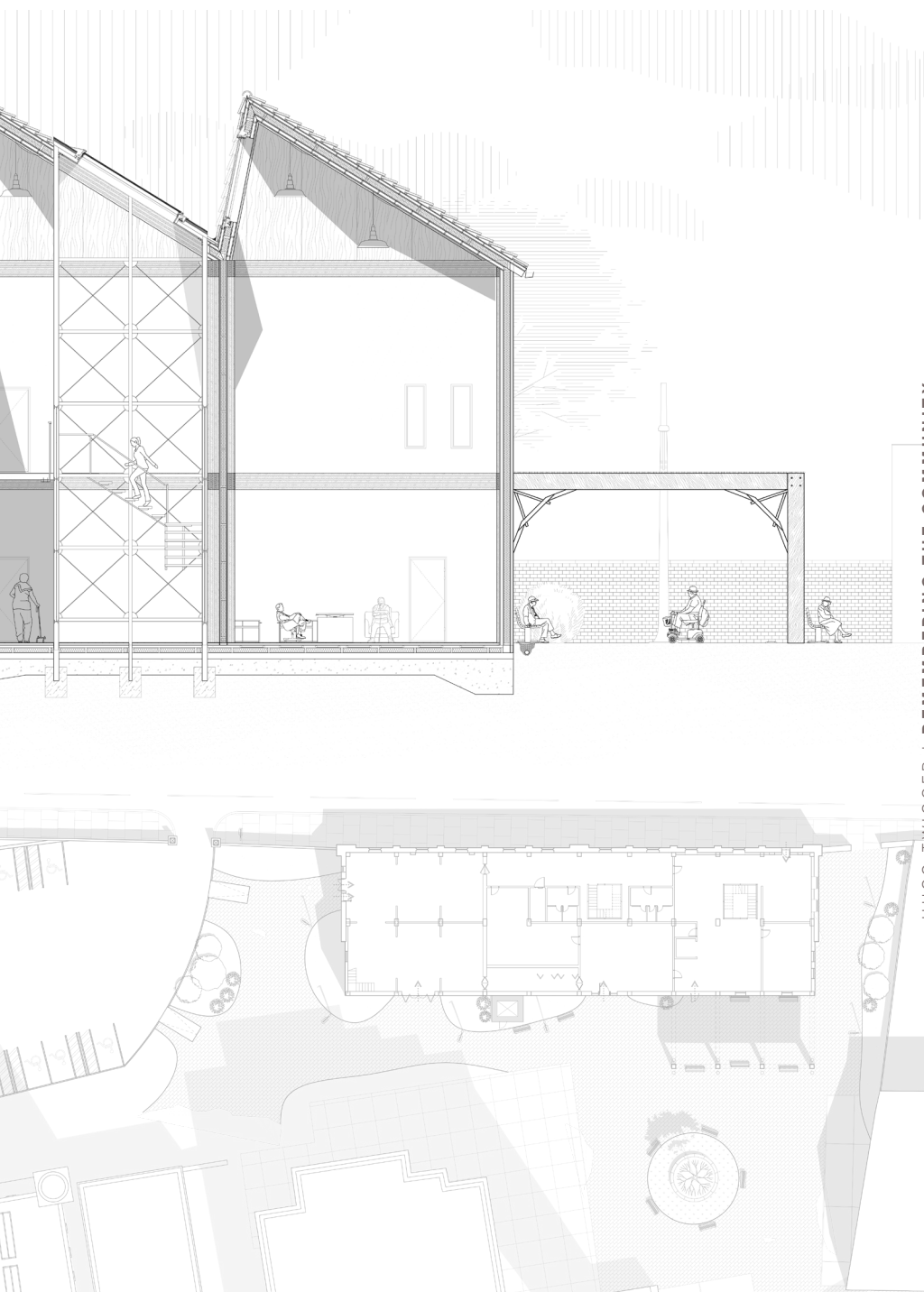




HUGO TWIGGER | REMEMBERING THE COMMUNITY



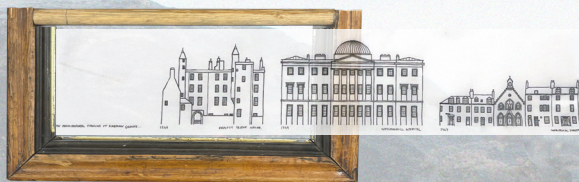




10

MINES

SAI ROHANTH BADIGANTI
LOREN BRUNDRETT
GEORGIA TUCKER



Focusing predominantly on Rubislaw Quarry in Aberdeen, the table and thick section were used to document our findings from both research and site visits. With production commencing in 1741, an estimated six million tonnes of granite were quarried from Rubislaw before its eventual closure 230 years later. Rubislaw has since remained a largely forgotten part of the city's industrial history, surrounded by the offices of oil companies which are also slowly being abandoned.

The table quickly manifested itself as a filing cabinet, with drawers dedicated to different aspects of historic granite mining, the petroleum industry and our imagined future of the city. This information was then mapped onto the thick section - which spanned from the history of Rubislaw in the bottom left to the future of Craighash Quarry; one of three granite quarries opened in Aberdeenshire following the closure of Rubislaw.





Previous.
Body.

Craiglash Granite, Granite Timeline, Craiglash Section
The Table and Thick Section

MINES

the thick section.

RUBISLAW | PAST ERA

CRAIGGLASH | MODERN ERA

AMOUNT OF STONE REMOVED
[HIGH TO LOW DESCENDING]



TIME PASSED [IN YEARS FROM
1710-2025+ ASCENDING]

POST-PETROLEUM FUTURES

Above. **The Thick Section**
Overleaf. The Timeline of the Table, The Shell Building Collage

timeline of
use...

found a planter



transported it to studio



tested the drawers



turning
up
for

final workshop trip



assembling the drawers



work ?

MINES

Site: Industrial Estate alongside Footdee Village & Footdee Harbour
Programme: Metal Recommissioning Facility to Support the Reskilling of Former Oil Workers

11

BETWEEN RUST AND RENEWAL

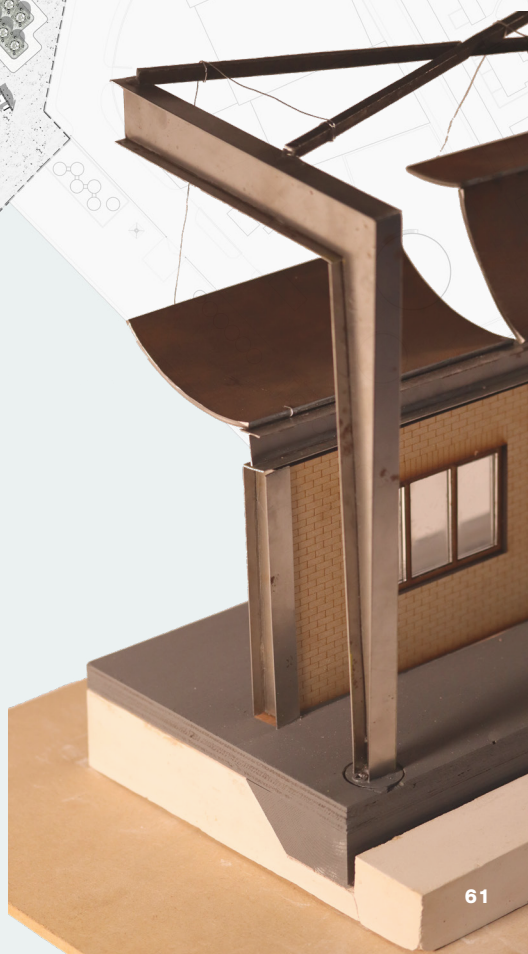
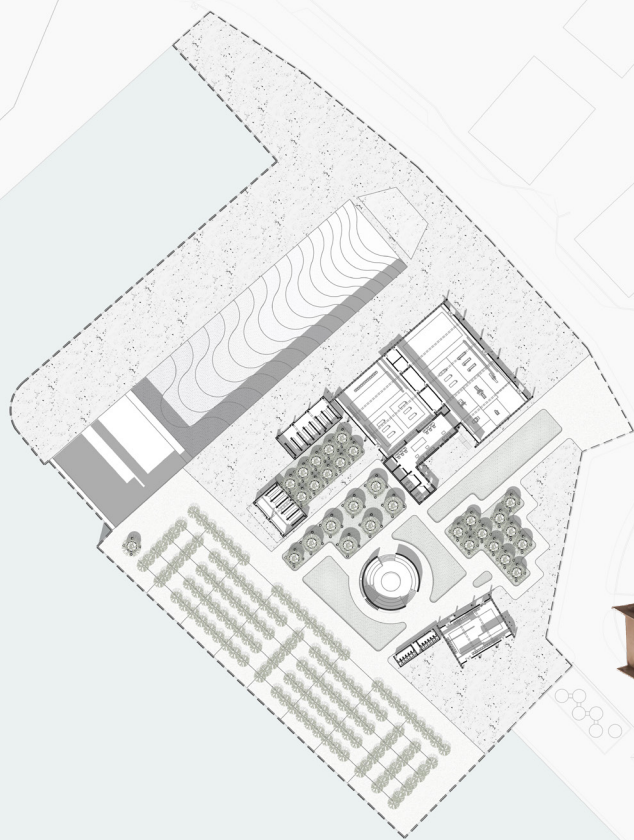
A WORKSHOP OF REUSE IN ABERDEEN

SAI ROHANTH BADIGANTI

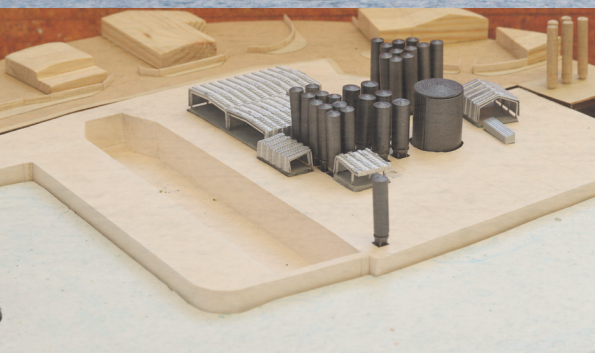
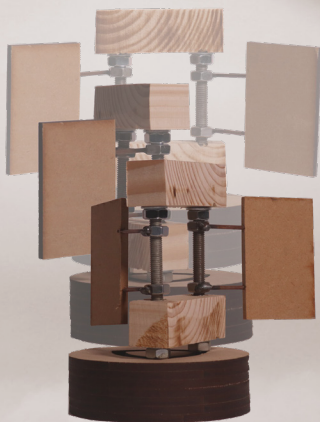
This project investigates the transformation of Aberdeen's post-industrial harbourfront through the adaptive reuse of decommissioned oil infrastructure, including tankers, silos, and steel warehouses in the historic area of Footdee. Situated at the edge of a city long defined by its dependence on the North Sea oil economy, the proposal reimagines this industrial terrain as a site of renewal and repair.

At its centre is a metal recommissioning facility that supports the reskilling of former oil industry workers, particularly those with experience in manual and technical trades. The facility functions as a hybrid space: a working fabrication yard, a public workshop, a landscape of open exhibition zones, and an educational platform. The programme embraces circular construction principles, where salvaged steel is cleaned, cut, welded, and reused, and structures are dismantled and reintroduced in new forms across a phased 10-year cycle.

Key features include a repurposed dry dock for water filtration, re-landscaped oil tank voids for public use, and support structures for training and storage. By integrating productive labour with civic engagement and ecological healing, the project reframes industrial decay not as decline, but as potential. It offers a resilient spatial framework for a city negotiating its post-petroleum future.



Left. Detailed Model
Body. **Site Plan**





SAI ROHANTH BADIGANTI | BETWEEN RUST AND RENEWAL

Left. Hinge Details and Site Model
 Body. **Footdee Context**
 Right. Site

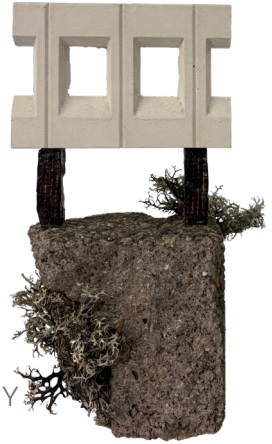
Site: Rubislaw Quarry, Aberdeen
Programme: Carbon Capture Laboratory and Museum of
Industry

12

ANAMNESIS

A CALLING TO MIND AT RUBISLAW QUARRY

LOREN BRUNDRETT



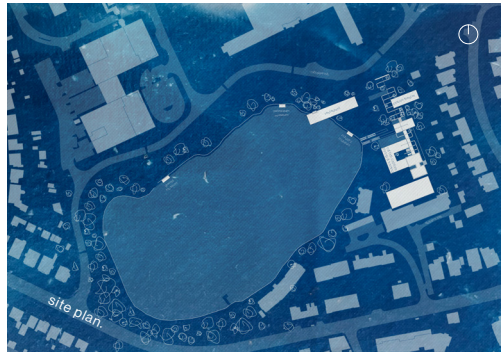
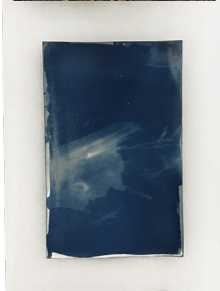
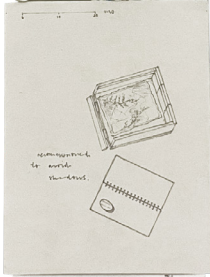
Now lying abandoned, Rubislaw Quarry was active for over 200 years and produced an estimated six million tonnes of granite. Juxtaposing the lack of support afforded to the quarrymen following the sites closure in 1971, the creation of a carbon capture testing and training facility at Rubislaw aims to draw attention to the history of industry within the city whilst utilising and diversifying the skill-set of workers who will inevitably become redundant as oil production ceases.

Renovating an abandoned office building on the quarry's edge - which emulates the concrete brutalism synonymous with Aberdeen's vision of modernity following the discovery of North Sea oil - the proposal infiltrates and 're-wilds' the building whilst returning to the site's vernacular material. Seeking to demonstrate the versatility of granite, it will be utilised in different manifestations across the site to subconsciously dictate building type and use.

Currently full of water, the quarry is a perfect environment for peridotite enhanced rock weathering. Transforming atmospheric CO_2 into benign calcium carbonate through the reaction with milled peridotite dust, the facility will test processes and harvest the calcium for use as fertiliser on the surrounding farmland of Aberdeenshire. A museum of oil and industry is then to be suspended off the quarry edge; echoing the experience of the quarrymen and demystifying carbon capture.



Previous. 1:50 Materiality Model
Body. **1:200 Site Model**





LOREN BRUNDRETT | ANAMNESIS

Previous. Cyanotype Device Diary, Site Plan, Conceptual Model
Body. **1:25 Detailed Model**





LOREN BRUNDRETT | ANAMNESIS

Body.

Entrance Perspective

Site: Craiglash Quarry, Glassel, Aberdeen
Programme: Sustainable Construction Trade School

13



ARCHITECTURES OF (UN)DISPLACEMENT

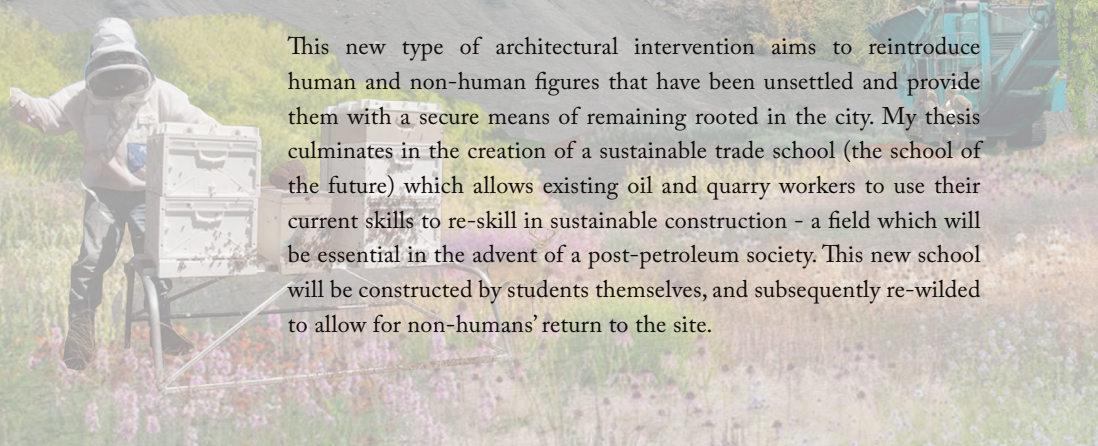
THE SCHOOL OF THE FUTURE

GEORGIA TUCKER

Architecture of (Un)Displacement: The School of the Future examines socio-economic and physical displacement within the city of Aberdeen, culminating in an anti-displacement architectural proposal which aims to reduce the negative effects of displacement on humans and non-humans in the city.

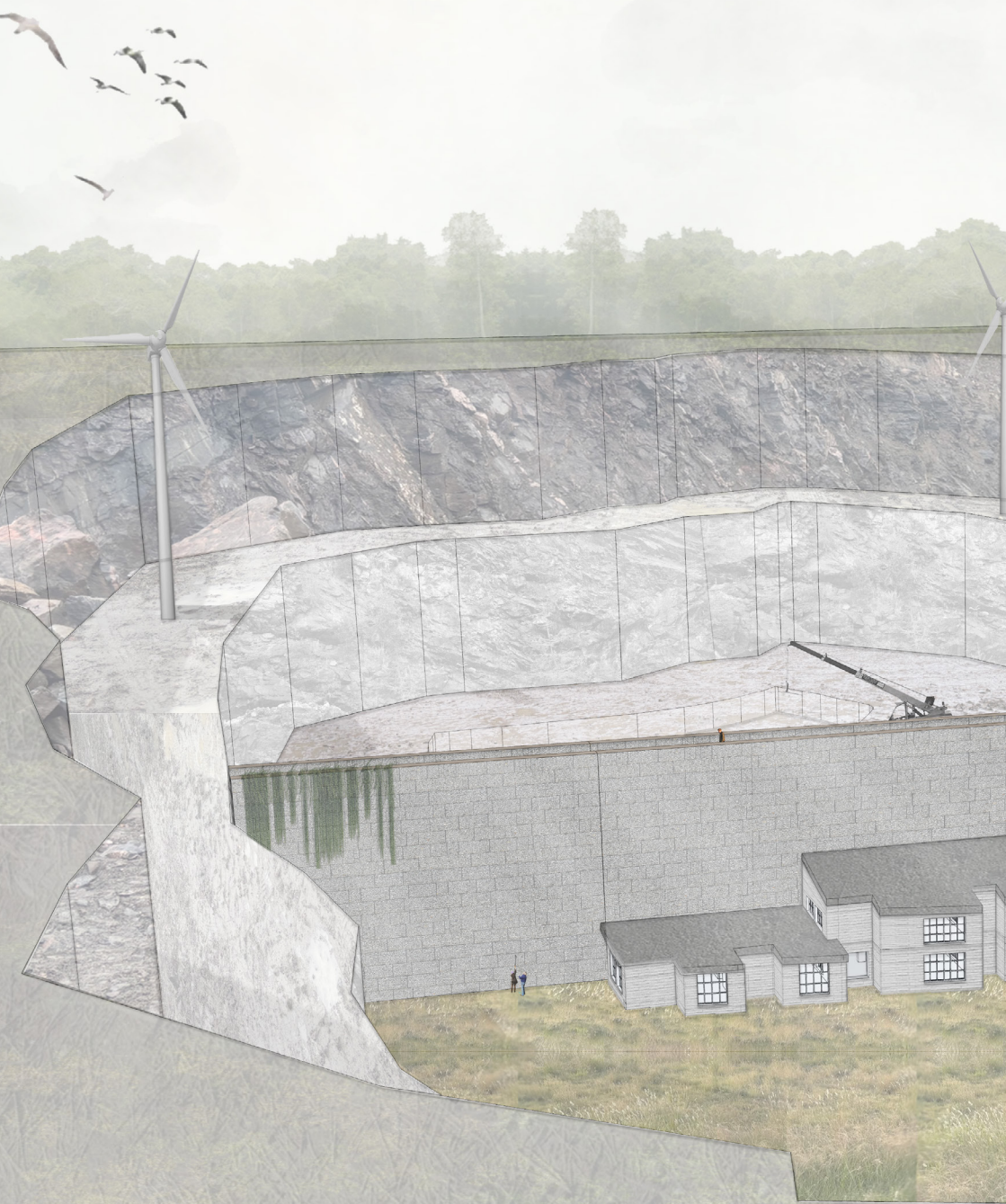
Known colloquially as the 'Granite City', Aberdeen has a long history of extractivism; namely mining and oil. With petroleum and mining expansion causing wildlife to migrate elsewhere due to habitat destruction, and humans to abandon traditional trades due to competition from new foreign industrial corporations, Aberdeen quickly became desolate and displaced during the oil market crashes in the 1990s and now again in the 2020s.

This new type of architectural intervention aims to reintroduce human and non-human figures that have been unsettled and provide them with a secure means of remaining rooted in the city. My thesis culminates in the creation of a sustainable trade school (the school of the future) which allows existing oil and quarry workers to use their current skills to re-skill in sustainable construction - a field which will be essential in the advent of a post-petroleum society. This new school will be constructed by students themselves, and subsequently re-wilded to allow for non-humans' return to the site.





Body. The Re-Wilded Quarry



Body. **Quarry Overview**
Overleaf. Library Perspective



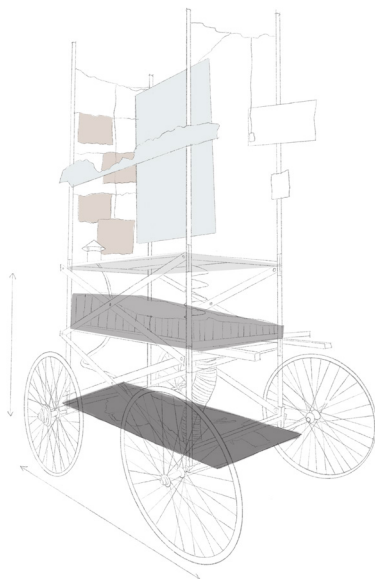




14

MOVEMENTS

HANNAH LEE
NATALIA RUTKOWSKA
YIBO WANG
HUANRAN ZHOU

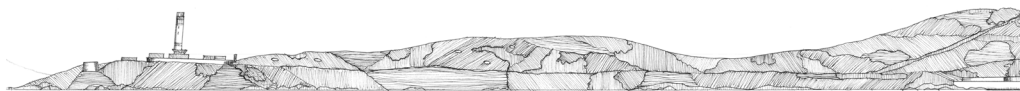


As a group, we investigated the logistics and movements of petroleum products and labour, with a particular emphasis on the infrastructures and spaces that support these flows at local and global levels. Our inquiry spanned a wide range of sites and scales, from major infrastructures like the Braefoot Bay Marine Terminal, the Aberdeen Harbour, and international networks of pipelines to the North Sea.

Together, we were especially focused on the vessels of movement within the petroleum industry - examining how oil travels through pipes, how waste is managed, and how pollution manifests across different environments. We analysed the three distinct layers of pollution: underground, through soil and water contamination; at ground level, via spills and infrastructure decay; and in the air, through emissions and airborne particulates. Our work traced the full journey of petroleum - from extraction and transit to consumption and disposal - revealing how this material shapes and is shaped by the environments and societies it passes through. By investigating both the physical conduits of petroleum and the environmental and social consequences of its movement, our research offered a layered perspective on the infrastructures that sustain global energy systems.



Left. Table Concept Drawings.
Above. Movements Table.





Top. **Section Drawing.** Cutting through Aberdeen Coast.

Left. **Process Photographs.** Movements Table being Constructed.

Bottom. **Movements Table.** In Use.

15

Site: Girdleness Lighthouse and Walker Park, Aberdeen
Programme: An Observatory and Energy Research Centre to Explore the Stars, the Sun and the Moon



DRIFTING THROUGH THE STARS

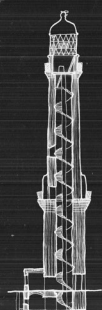
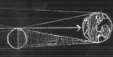
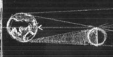
HANNAH LEE

This project explores a visionary architectural response to a post-petroleum future, proposing an observatory and energy research centre in Aberdeen - an area historically shaped by the petroleum industry. Positioned at the intersection of science, sustainability, and spirituality, the proposal re-imagines energy harvesting by using the sun, our most abundant and powerful energy source. The project experiments with alternative and innovative methods of solar energy capture, inviting a deeper understanding of how we engage with natural forces.

The observatory serves not only as a place of astronomical exploration but as a symbolic and functional centre for learning about energy systems and environmental responsibility. Through immersive spatial experiences, including a solar sphere greenhouse, planetarium spaces, and research labs, the architecture becomes a vessel for both scientific inquiry and public imagination. The project invites the user to have an experiential journey through the stars.

Challenging the legacy of industrial infrastructure by offering a regenerative alternative - one that embraces celestial phenomena as guides for future energy and architectural practices - ultimately, a transformative vision for Aberdeen is proposed: a future oriented around the sun, and architecture becoming a medium for ecological awareness and new possibilities.

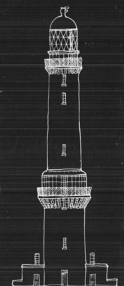
THE TRIO (ADVANCE MAPS) Material, Energy & Dirt



MOON FLOWERS
(right: flowering, morning
glory)



They grow these flowers
at night and use
them to make oil from
the seeds.



SHELL HQ
ZINCINE
HOUSE



SHEDS
HOUSE



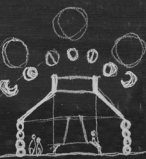
SHEDS
HOUSE



GLASS HARVESTING



SOLAR SPHERES



PHOSPHORESCENT PANELS
(glow in the dark)

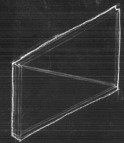
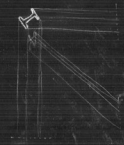
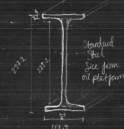
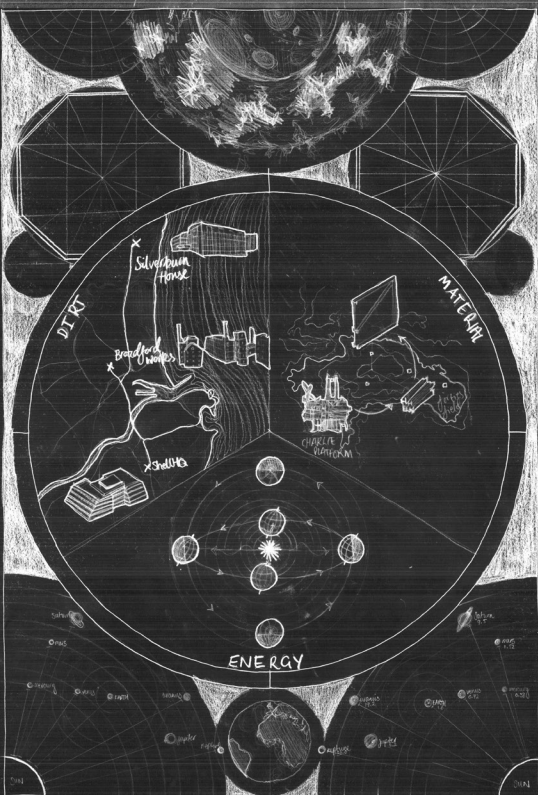


LIGHT ENERGY

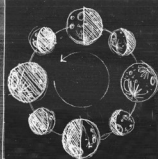


PHOSPHORESCENT
AGENT

ABSORBS LIGHT → ENERGY
WHEN LIGHT IS GONE,
THE PANELS GLOW



HARVESTED MATERIAL FROM OIL
PLATFORMS
Based on the fact that a platform is made
from the same stuff that a lot of the
oil is made from.

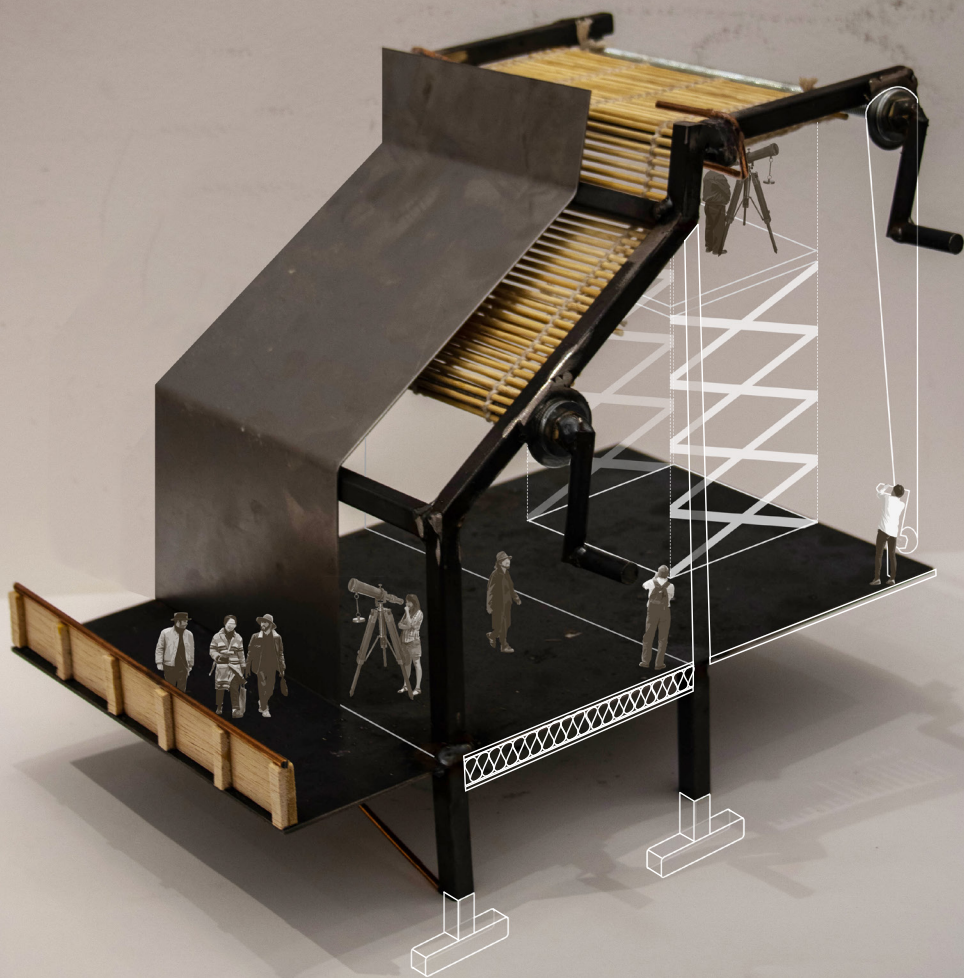


NEW MOON
ENERGY



a time for new
beginnings and
introspective
reflection







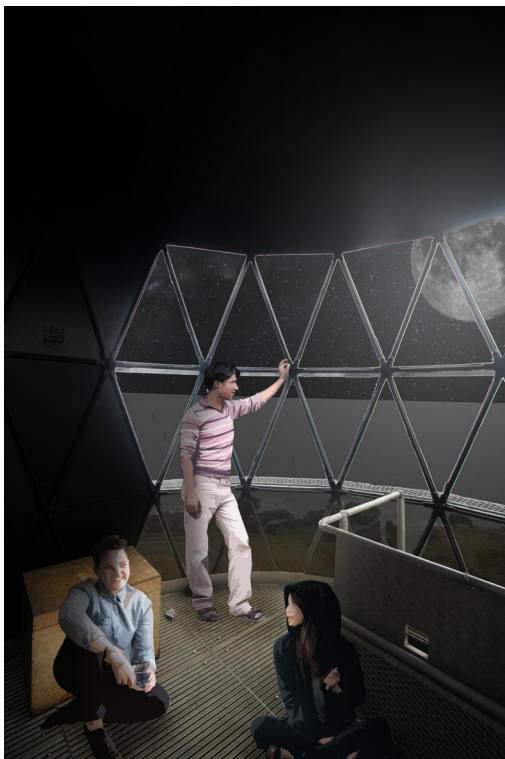
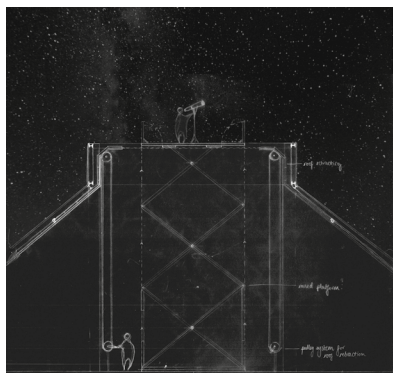
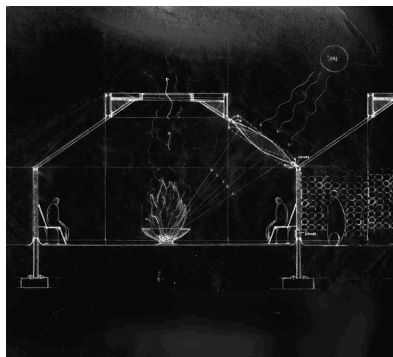
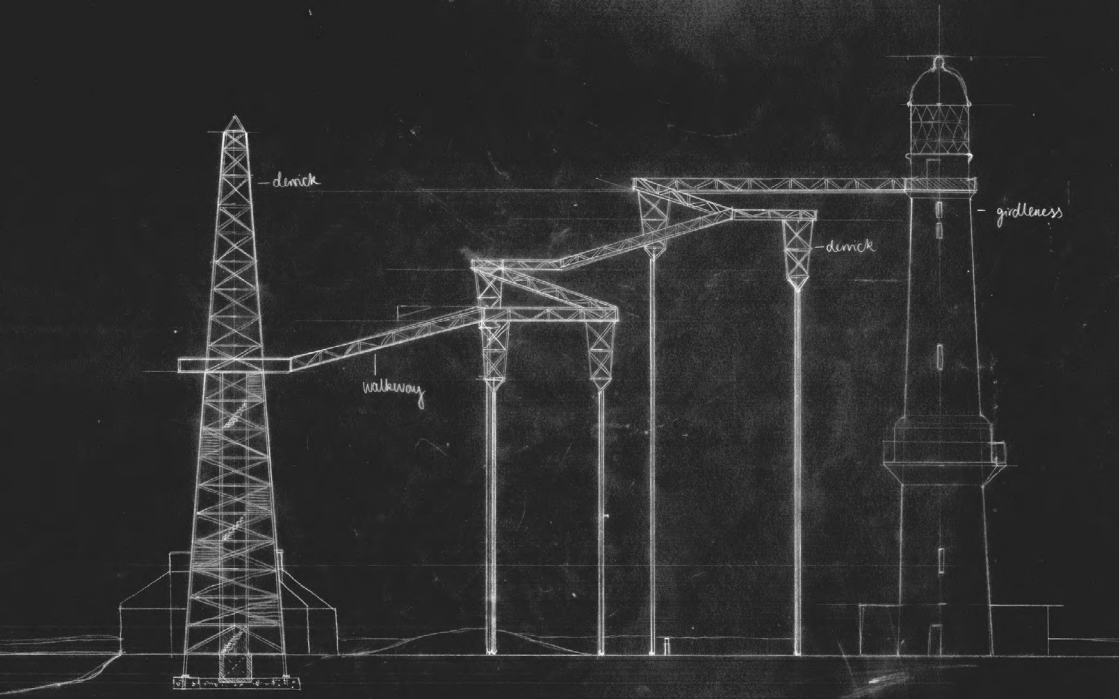
Previous (Right).
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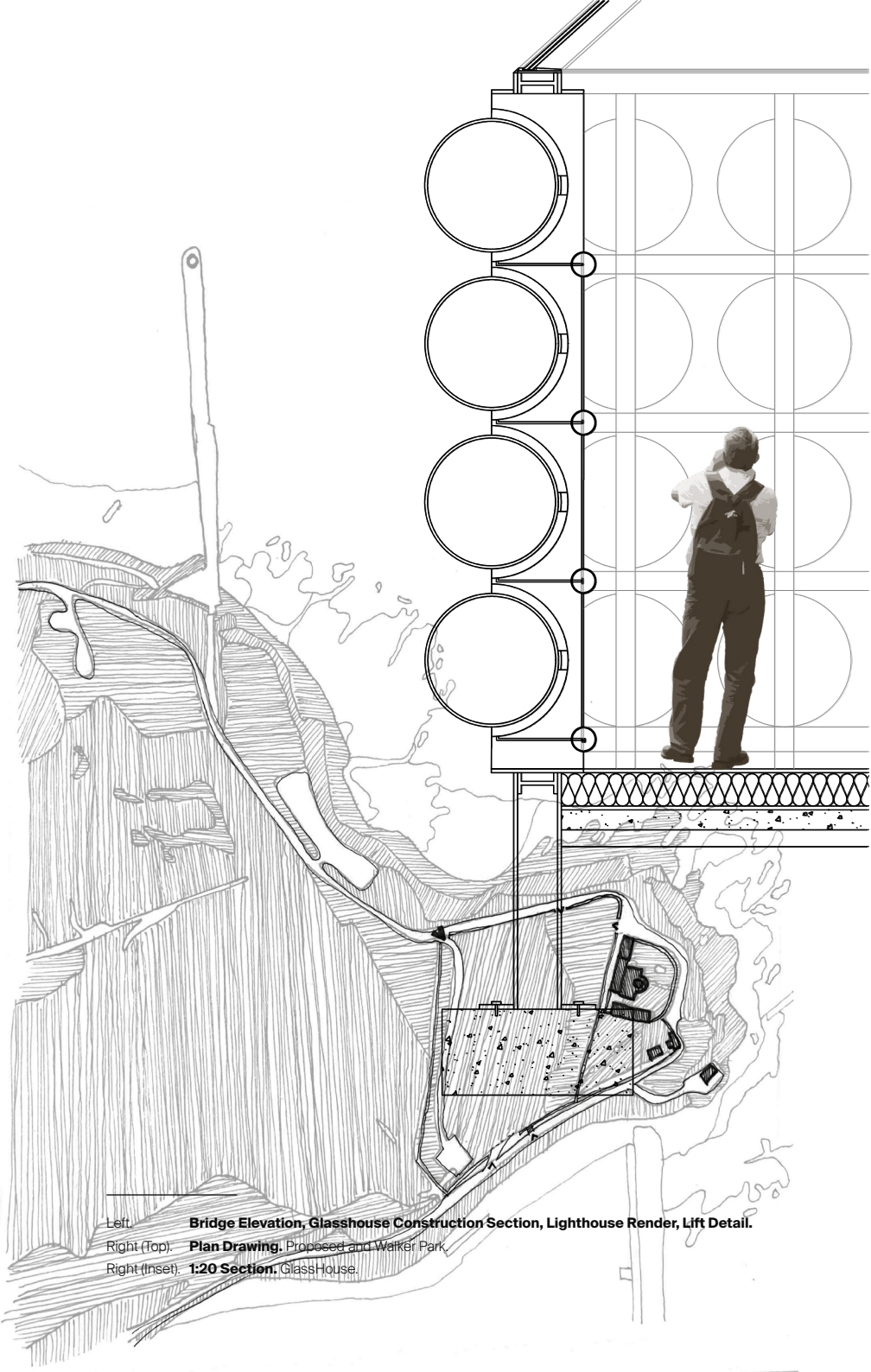
1:200 Elevation.

Harvest Map.

1:50 Model. Operational Openable Skylight.

Model Photographs.





Left. **Bridge Elevation, Glasshouse Construction Section, Lighthouse Render, Lift Detail.**
Right (Top). **Plan Drawing.** Proposed and Walker Park.
Right (Inset). **1:20 Section.** GlassHouse.

Site: Torry, Aberdeen
Programme: Retrofit of Existing Housing

16

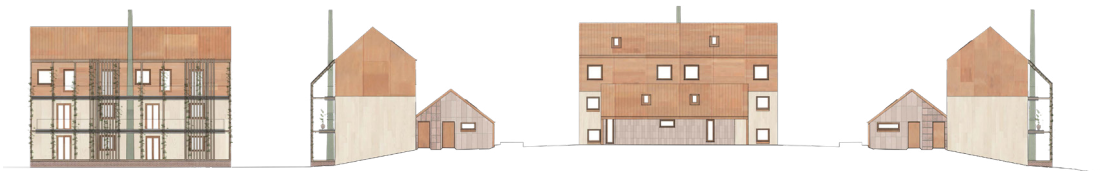
RECLAIMING TORRY

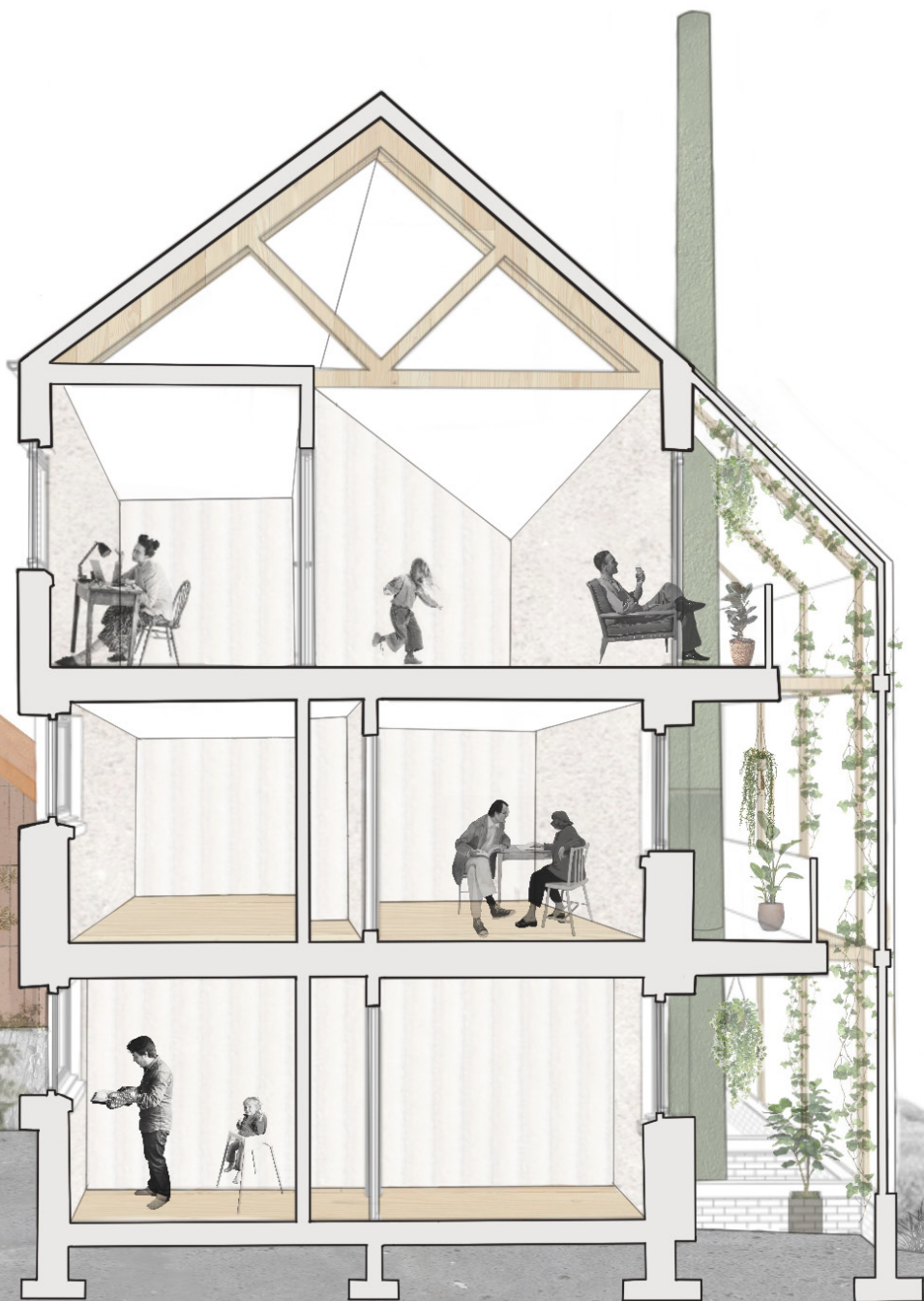
A FUTURE FOR NEGLECTED HOUSING

NATALIA RUTKOWSKA

This project challenges the planned demolition of housing in Torry, Aberdeen, due to the presence of RAAC in their roofs, advocating instead for a sustainable retrofit approach. By prioritising the reuse of materials and integrating toxin-removing strategies to mitigate pollution from the local petroleum industry, the proposal aims to foster a circular economy while addressing environmental concerns.

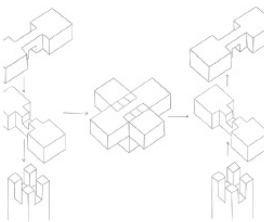
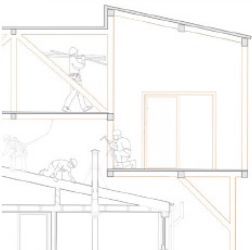
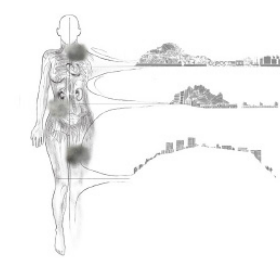
It reimagines housing as a place of dignity, resilience, and self-sufficiency; incorporating spaces for urban agriculture, renewable energy generation, and community engagement. In doing so, the project aims to highlight the value of deprived areas, asserting that existing housing deserves thoughtful, high-quality architecture rather than erasure.

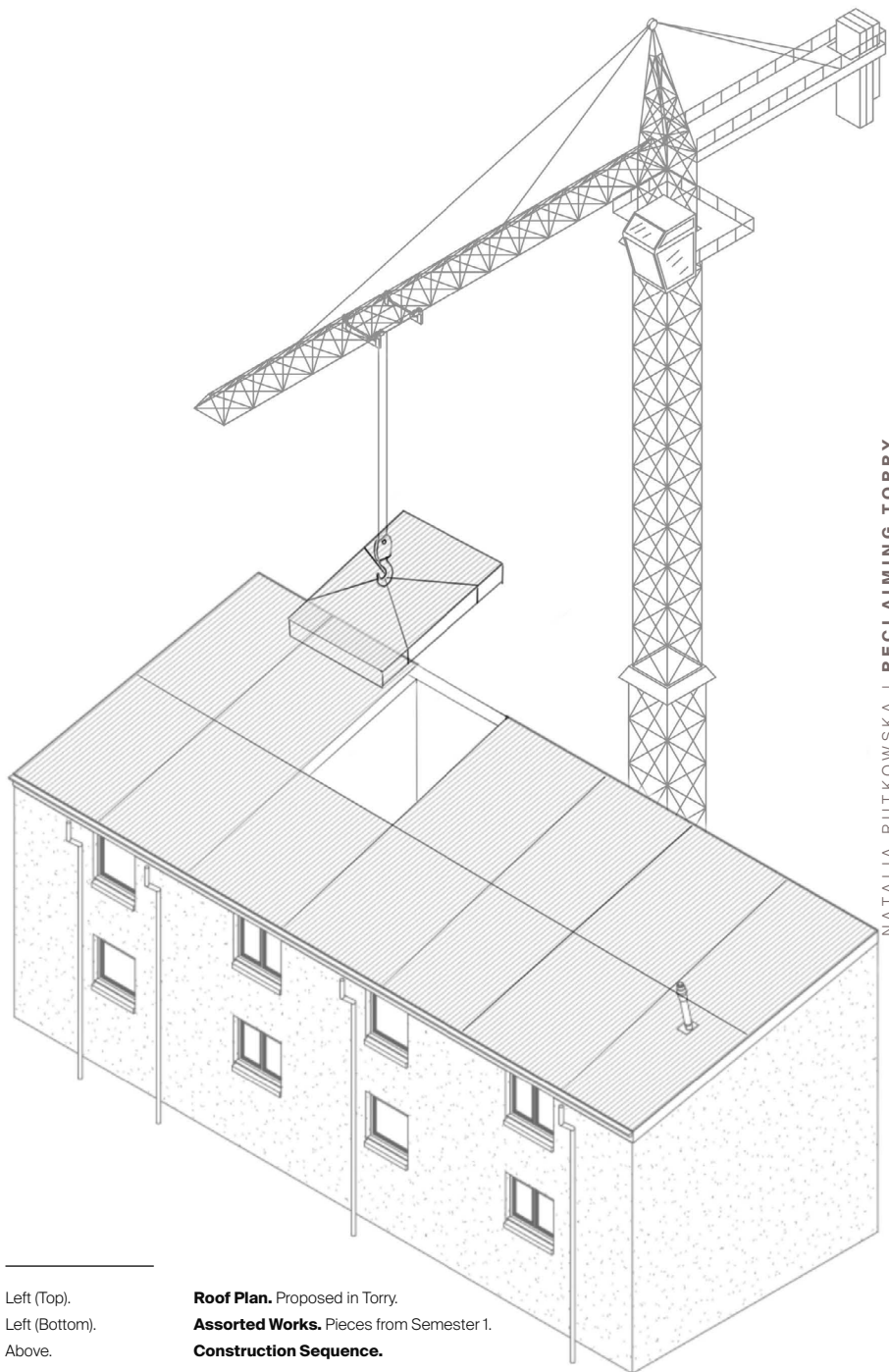




Left.
Above.

Proposed Elevations.
1:50 Section.





Left (Top).

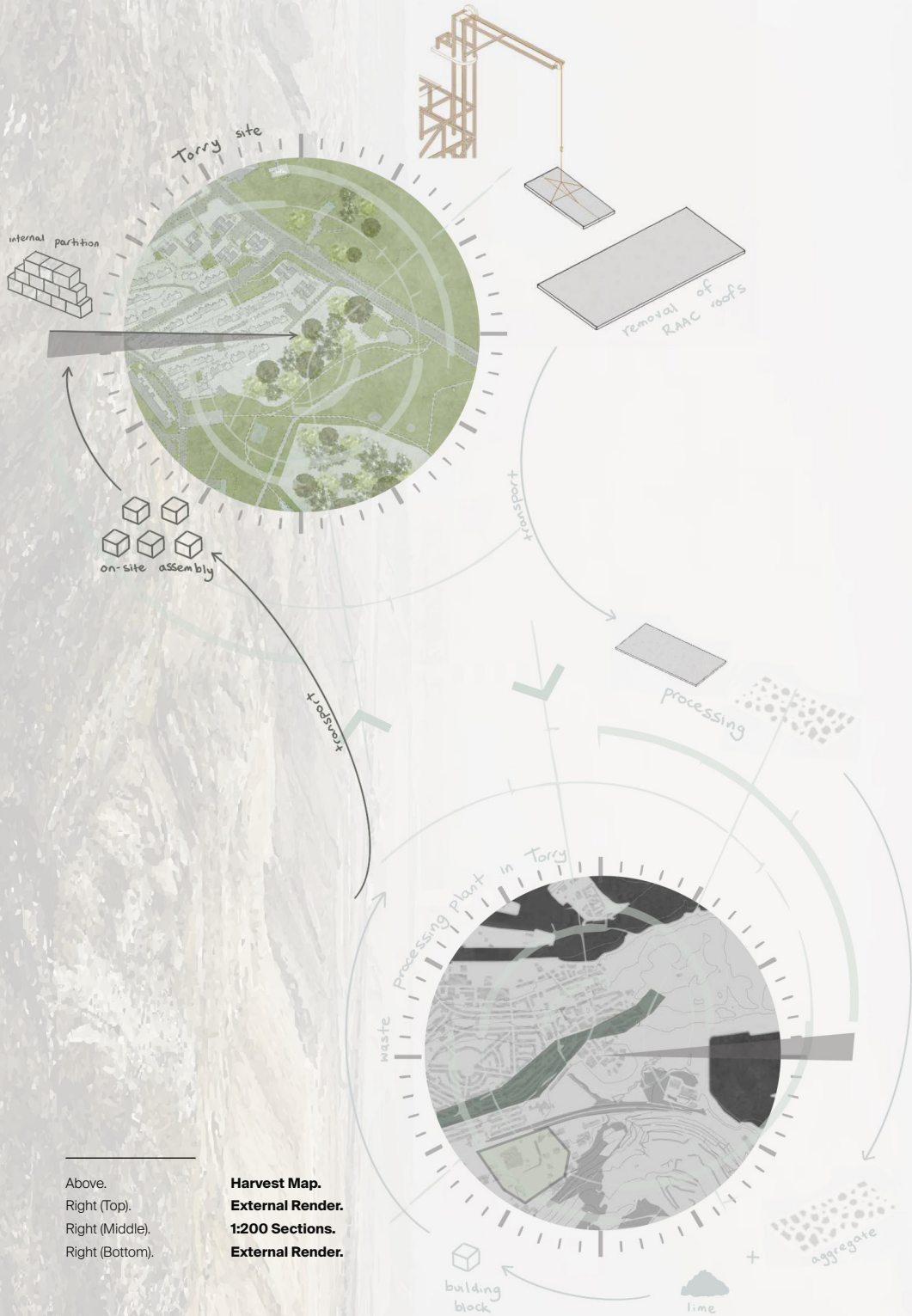
Left (Bottom).

Above.

Roof Plan. Proposed in Torry.

Assorted Works. Pieces from Semester 1.

Construction Sequence.



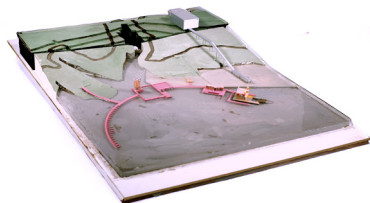
Above.
 Right (Top).
 Right (Middle).
 Right (Bottom).

Harvest Map.
External Render.
1:200 Sections.
External Render.



17

Site: Adjacent to the SUEZ Recycling Station and former Ness Landfill, Aberdeen Coastline
Programme: Floating Recycling Waste Complex, Fostering Community and Reimagining Public Space



PLASTIC CURRENTS

A FLOATING PUBLIC ARCHIPELAGO IN ABERDEEN

HUANRAN ZHOU

In the post-petroleum era, discarded plastic is no longer merely a trace of human excess, but a fertile ground for architectural rebirth. This project is situated along the coast of Aberdeen, near a recycling station and a disused landfill—an overlooked edge between land and sea. Extending into the North Sea, a constellation of floating public spaces begins to grow: an open-air swimming pool with a sauna, a café with an outdoor cinema, and a mobile workshop boat that ventures out to collect marine debris. These structures, connected by floating platforms, drift like islands guided by invisible currents.

All materials are reclaimed plastic: compressed ocean waste becomes walls, hollow plastic blocks provide buoyancy, and waste nylon fabric transforms into canopies and sails. Through daily cycles of drifting and collecting, the system turns waste into structure, allowing the architecture itself to evolve and expand over time. This is more than a set of functional buildings—it is a support structure for a new way of inhabiting the world, one that responds poetically to movement, regeneration, and the uncertain beauty of a future shaped by what we leave behind.



Left.

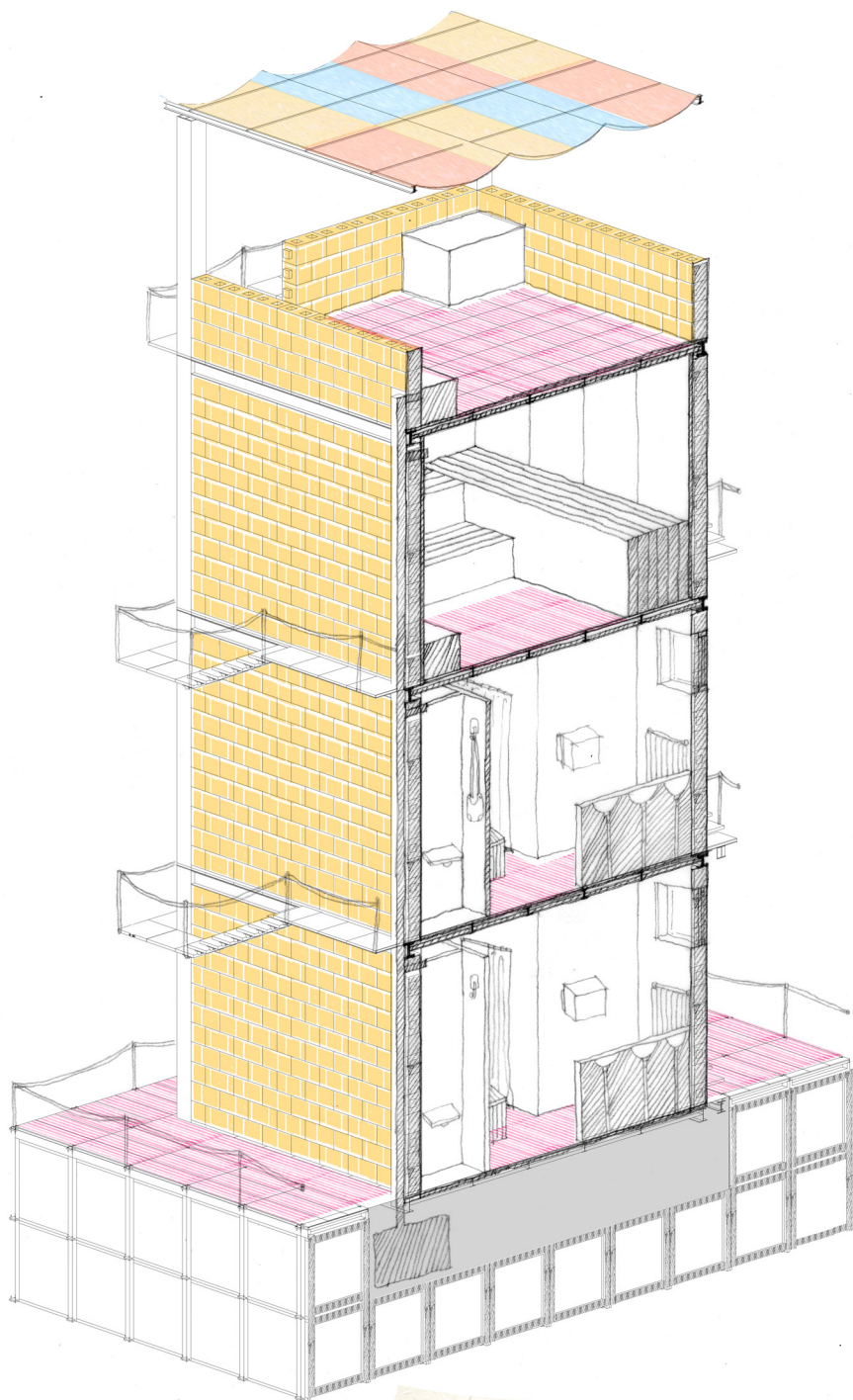
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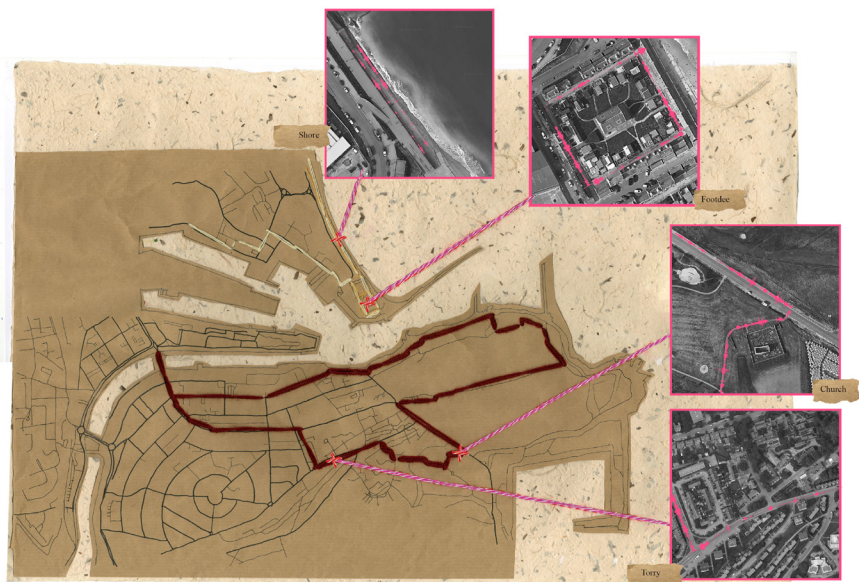
Site Model.

Sectional Model. Proposed Saaha.









Previous.

Left.

Above (Top).

Above (Bottom).

External Aerial View. Aberdeen Coastline.

1:50 Sectional Axonometric. Proposed Sauna.

Device Testing Map.

Proposed Design Aerial Painting.

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IMAGE REFERENCES

Cover

- **1:50 Sectional Model, Oyster House Restaurant.** Fiori Koustas.

Inside Cover

- **Cycling at St Fitticks.** Loren Brundrett.

Prologue

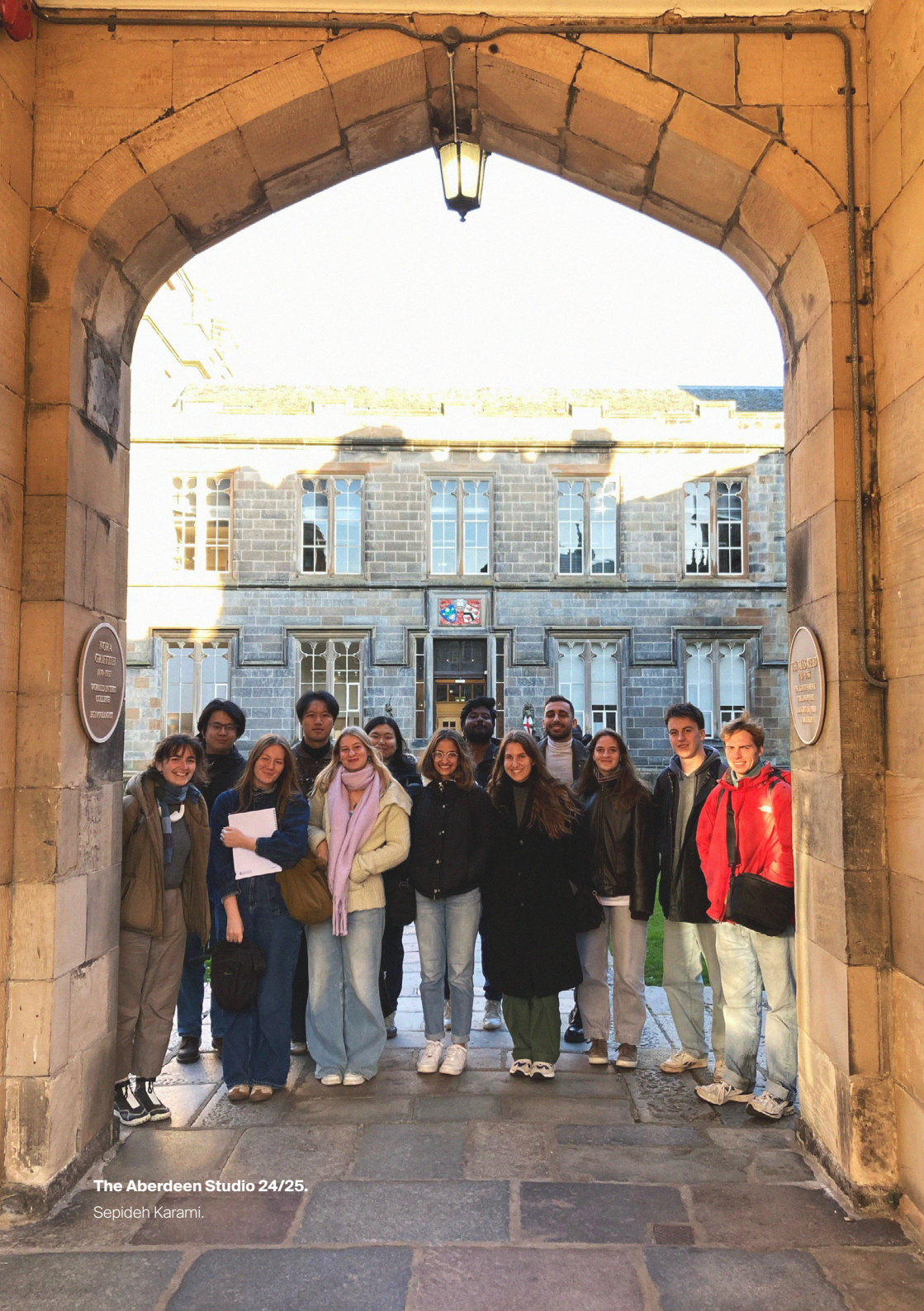
- **Reclaiming Craighash Quarry.** Loren Brundrett.
- **The Boys of Torry.** Loren Brundrett.

Acknowledgements

- **The Aberdeen Studio 24/25.** Sepideh Karami.

Inside Cover

- **Across Rubislaw.** Loren Brundrett.



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The Aberdeen Studio 24/25.

Sepideh Karami.

ACKNOWLEDGEMENTS

Tutors

Sepideh Karami
Naomi De Barr

Students

Anoushka Mathur-Fairfield, Iason Nielsen, Erika Petrova, Angus Harrow, Fiori Koustas, Chengke Liu, Hugo Twigger, Sai Rohanth Badiganti, Loren Brundrett, Georgia Tucker, Hannah Lee, Natalia Rutkowska, Yibo Wang, Huanran Zhou

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Architecture as Support Structure edited by
Loren Brundrett and Hugo Twigger

The format of this catalogue has developed annually, evolving from the inaugural catalogue series produced for the ESALA MArch studios 2017-18, designed by Emma Bennett and Rachel Braude.

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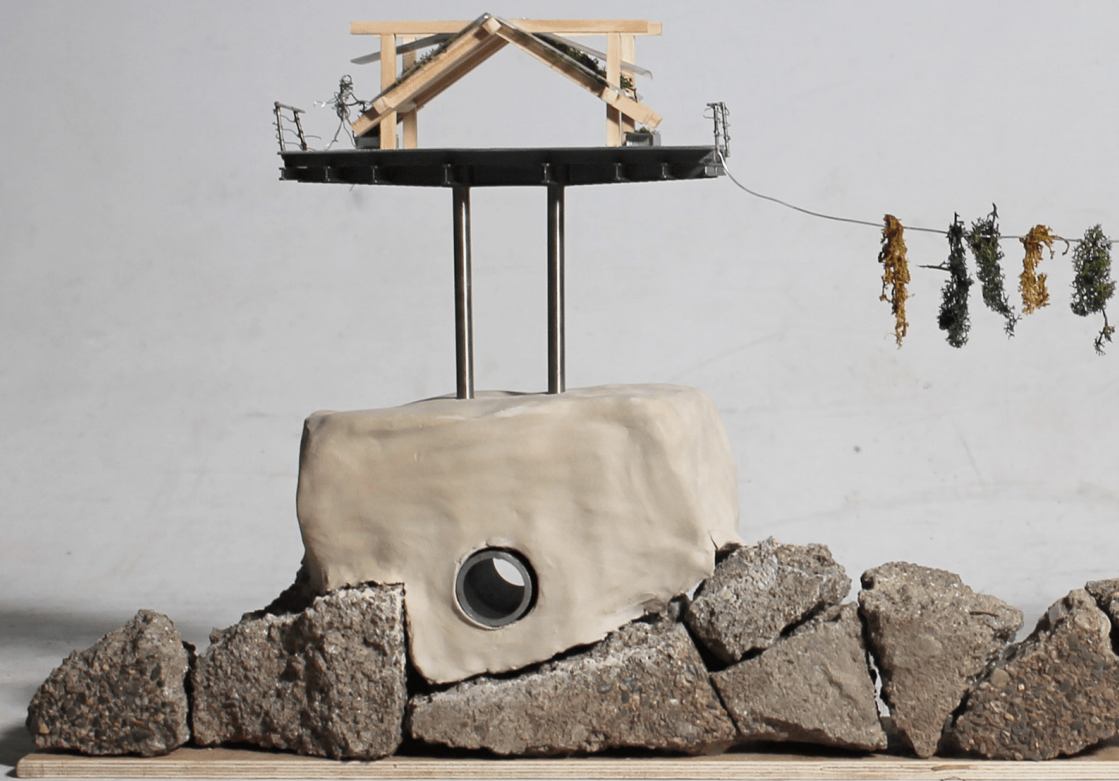
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Across Rubislaw Quarry

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