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Planning Support Document | Replacement Cafe - Beach House Cafe, Mudeford BH6 4EN | February 2022

Contents

1 Summary

This planning support document has been produced to support a design for a replacement cafe at the Beach House Cafe site in Mudeford, Christchurch.

The design of the new cafe has been informed from an understanding of multiple site and planning constraints and more importantly has been developed from the feedback of key stakeholders, beach hut owners and the general public.

We have sought views from a local structural engineer and modular building company both with experience of building on the peninsula, which has helped distil what is considered a practical and affordable construction approach.

Whilst the essential considerations and environmental impact of adding a new cafe to this site remain consistent, the intrinsic nature of site, the new building, its users, and the community surrounding it are unique, and all have been factored into this design.

Within this document and accompanying information, we will demonstrate that this proposal is wholly appropriate and presents a scheme that considers all issues effecting this sensitive site.

2 Background

In late 2020, DMW Chartered Architects were approached by a consortium made up of the current Beach House Cafe tenant Mr K Slater, and a representation of beach hut owners headed by Mrs C Bath, to develop a concept for a replacement cafe for the current site on Mudeford Spit.

The brief was to create a simple and elegant building design that would be appropriate in terms of function, aesthetic and budget but above all, a building that would be wholly appropriate for this sensitive setting.

Concept designs were developed, presented and reviewed over a period of months until a satisfactory design was developed that reflected all considerations and stakeholders' visions for the site.

During Decemeber 2021-January 2022 an online consulation document for the final proposals was published to glean further feedback.

This final design is the culmination of a collaborative and collective approach: a building that addresses all issues and considerations of key stakeholders.

Location

3 Site & Surrounding Context

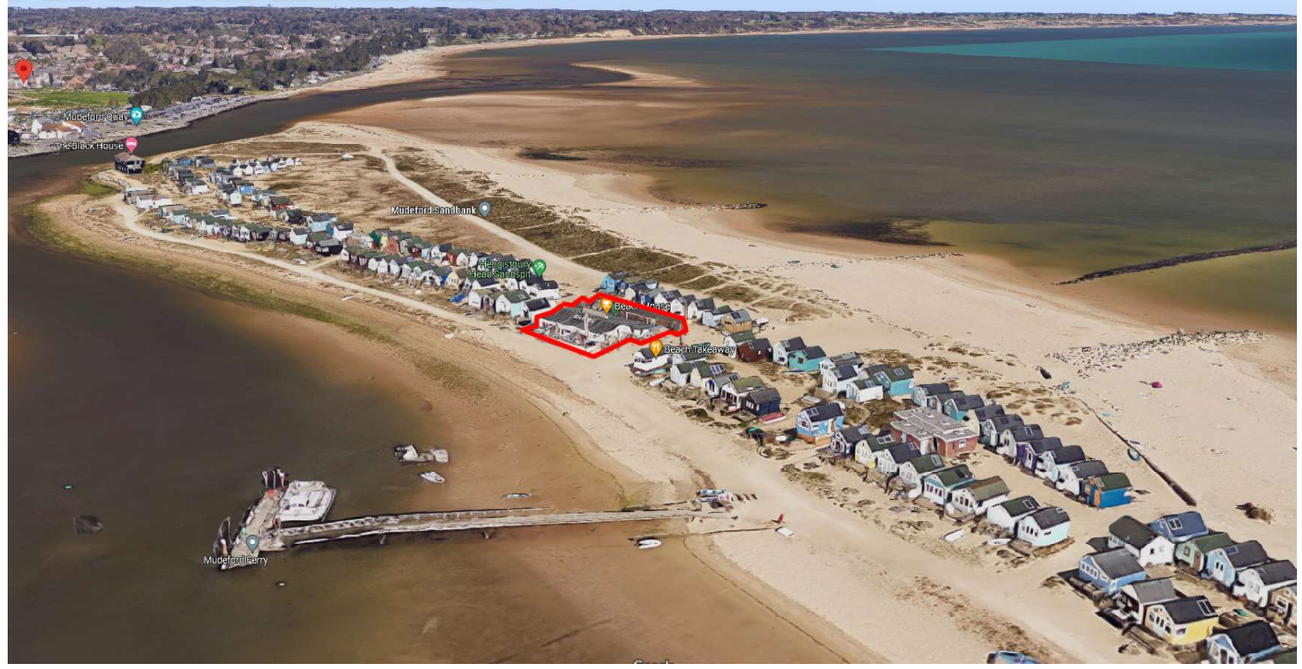
The location of the proposal sits on the former Beach House Cafe site and is situated in the middle section of the Mudeford sand spit lying to the South of Christchurch Harbour entrance.

Characteristic along this stretch of the sand spit, sandwiched between the channel and the harbour, lie numerous multi coloured pitch roof beach huts organised in loose rows between the sand dunes and opposing shorelines.

The cafe operation currently operating on site is temporary following extensive fire damage to the previous Beach House Cafe building in March 2019. Now, a series of containers,roofs and remnants of the former building provide an open air takeaway offering with a covered harbour facing terrace.

Access to the cafe on foot or cycle is via an access road from the Hengistbury Head car park. A passenger ferry service from Mudeford Quay operates in the summer months.

Aerial View



Birds Eye From South West

4 Photos

Harbour Elevation from Ferry

Southern Elevation

Approach from Access Road

'Visual Clutter' to Rear

Repetitive Pitch Roof Forms

Internal Courtyard View

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5 Proposals

Concept

Our design proposal for the new Beach House Cafe will provide a harmonious addition to Mudeford Spit.

The concept simply seeks to replicate the numerous beach hut buildings found lined-up along the sand spit.

The cafe design draws upon the geometry, scale, height and rhythm of the surrounding beach huts to ensure it will have a strong relationship with its

Key Design Principles

A simple and recognizable form, modest in scale, presenting a clear and uncluttered building for all users to enjoy

*Accessible for all

*Building with a clear identity and sense of place

*Recognisable form harmonises with setting and character of site

*Unified and uncluttered visual appearance

*Facing materials will be robust and low maintenance

*Lightweight and modular construction

*Minimise physical and environmental impact

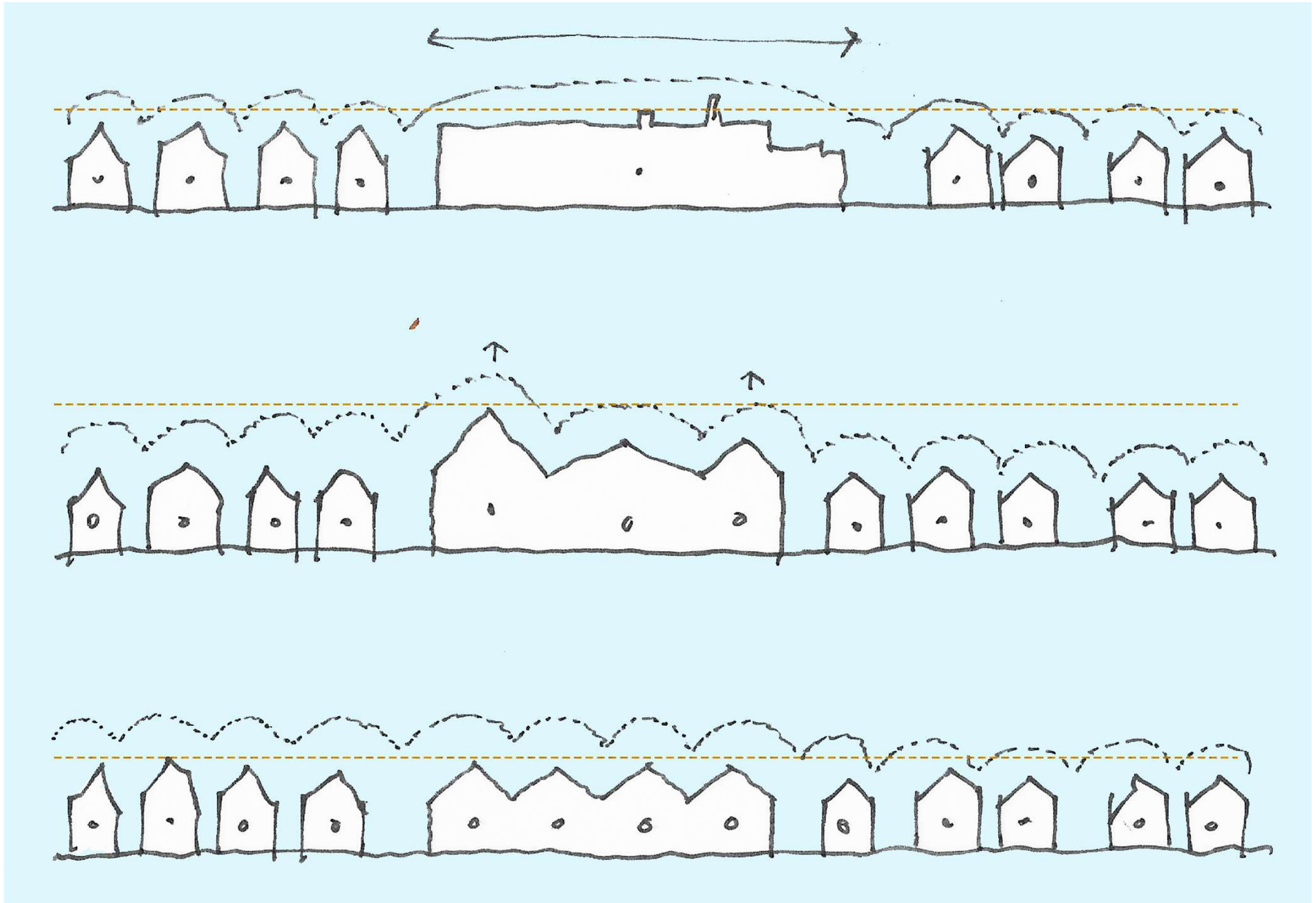
*Harness Solar Energy and Natural Daylight

*Enhanced privacy and outlook for nearby beach hut residents

*Perimeter dune grasses to promote stability and living roof to encourage wildlife

*Positive asset for all users of the sand bank

Concept Sketch



Current & Pre-Fire Buildings

- Unfamiliar flat roof form
- Breaks pitched roof rhythm
- Creates ‘visual void’

Refused Scheme

- Over-scaled pitched roof forms
- Breaks pitched roof rhythm
- Larger in scale, height and mass

New Scheme

- Familiar pitch roof form
- Retains rhythm, height & scale
- Harmonises

Analysis Comparison Diagram

Design

The building will be simply constructed, like a beach hut, with posts and beams and be lightweight, well insulated and have built-in flexibility for future proofing.

Upon arrival, the visitor will enter into a top-lit covered ‘courtyard atrium’ where the central servery is located. We wanted to maintain the informal, beach-like, character already established with the current temporary offering.

Internally, a large open-plan floor with posts and beams supports the pitched roofs over, providing a flexible and bright floor space.

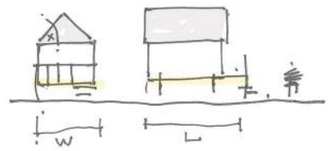
To the back of the space is ancillary service and storage facilities.

The remaining seaward floor plan opens-up to panoramic views and access to an enclosed external deck seating area. Fixed angled vertical louvres to the sides of the seating area enhance privacy and prevent any overlooking into beach hut neighbours.

Externally, a simple, naturalistic type landscape scheme will see the planting of perimeter indigenous dune stabilizing grasses. The facing materials will be silvered in appearance, robust and capable of withstanding prevailing winter weather. Cladding will be non-combustible.

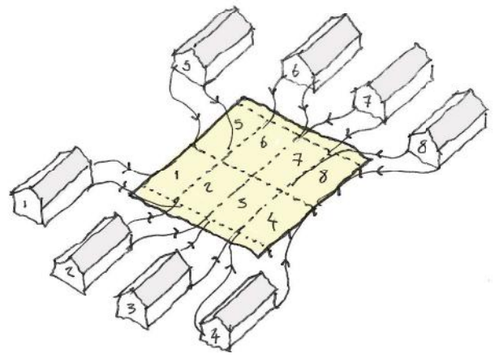
The replacement building will be a positive asset to the spit, providing a practical, appropriately scaled and harmonious addition to the peninsula and surrounding Christchurch Harbour.

Rhythm and Scale

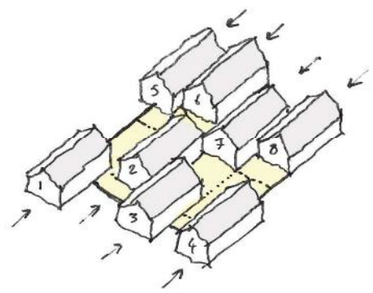


Create a typical beach hut module...

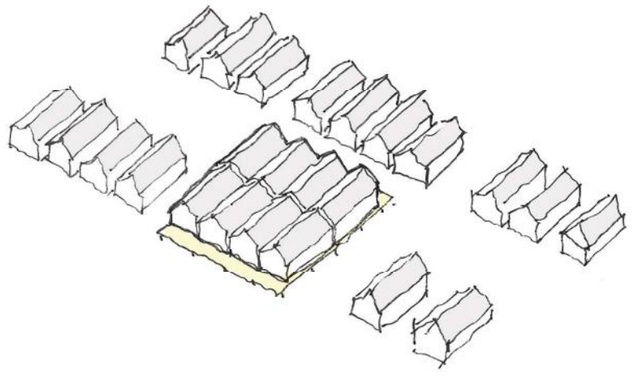
...beach huts all similar in scale, form height and pitch...



....suspended slab to hover the sand spit...



.....locate, align and and shunt a series of 8 beach hut modules together over the new slab...



...new building reflects surrounding beach huts in rhythm, scale and height.

Concept Diagram

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‘The replacement building will be a positive asset to the spit, providing a practical, appropriately scaled and harmonious addition to the peninsula and surrounding Christchurch Harbour’

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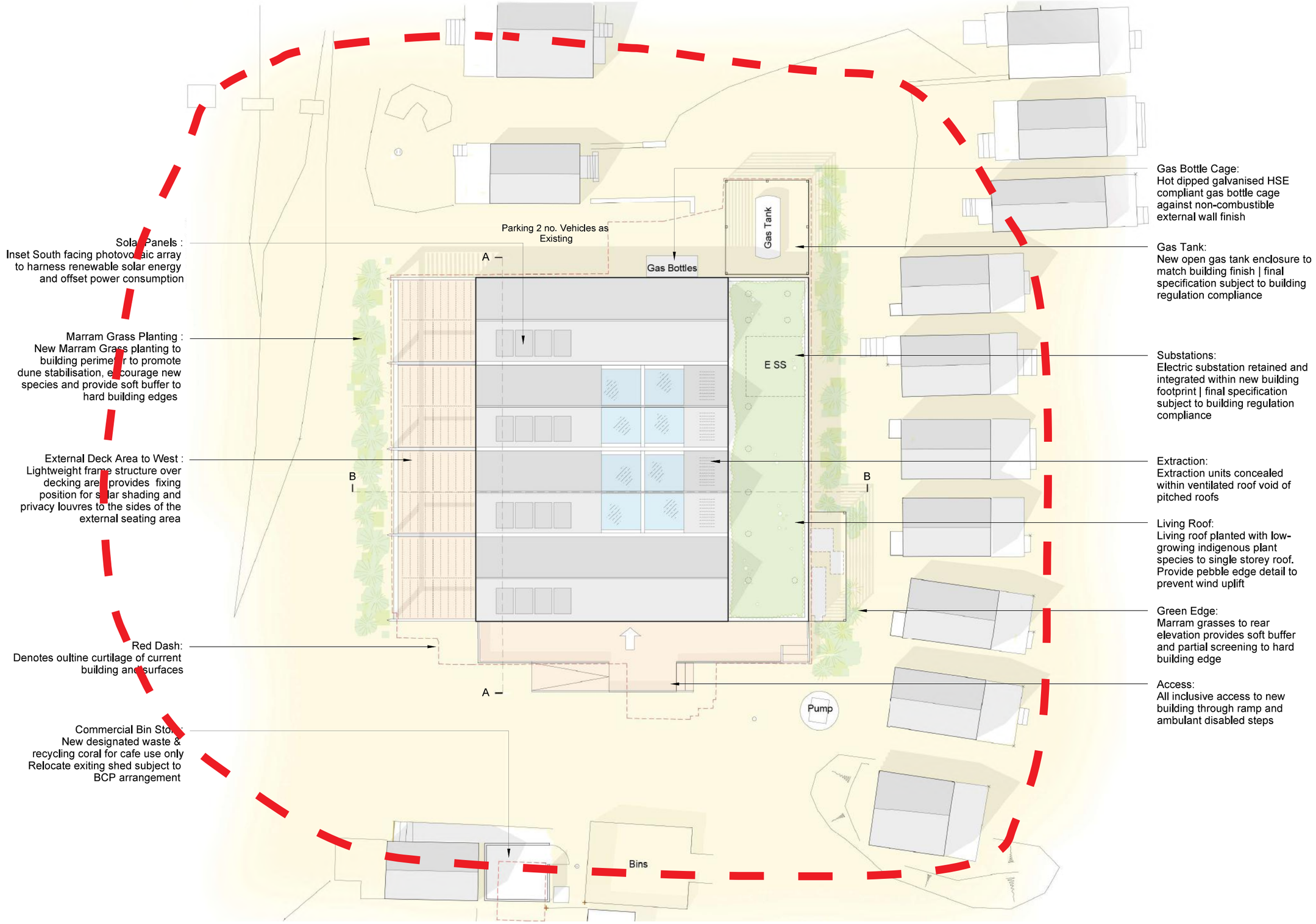
Site Layout



Solar Panels :
Inset South facing photovoltaic array to harness renewable solar energy and offset power consumption

Marram Grass Planting :
New Marram Grass planting to building perimeter to promote dune stabilisation, encourage new species and provide soft buffer to hard building edges

External Deck Area to West :
Lightweight frame structure over decking area provides fixing position for solar shading and privacy louvres to the sides of the external seating area

Red Dash:
Denotes oultine curtilage of current building and surfaces

Commercial Bin Store :
New designated waste & recycling coral for cafe use only
Relocate exiting shed subject to BCP arrangement

Gas Bottle Cage:
Hot dipped galvanised HSE compliant gas bottle cage against non-combustible external wall finish

Gas Tank:
New open gas tank enclosure to match building finish | final specification subject to building regulation compliance

Substations:
Electric substation retained and integrated within new building footprint | final specification subject to building regulation compliance

Extraction:
Extraction units concealed within ventilated roof void of pitched roofs

Living Roof:
Living roof planted with low-growing indigenous plant species to single storey roof. Provide pebble edge detail to prevent wind uplift

Green Edge:
Marram grasses to rear elevation provides soft buffer and partial screening to hard building edge

Access:
All inclusive access to new building through ramp and ambulant disabled steps

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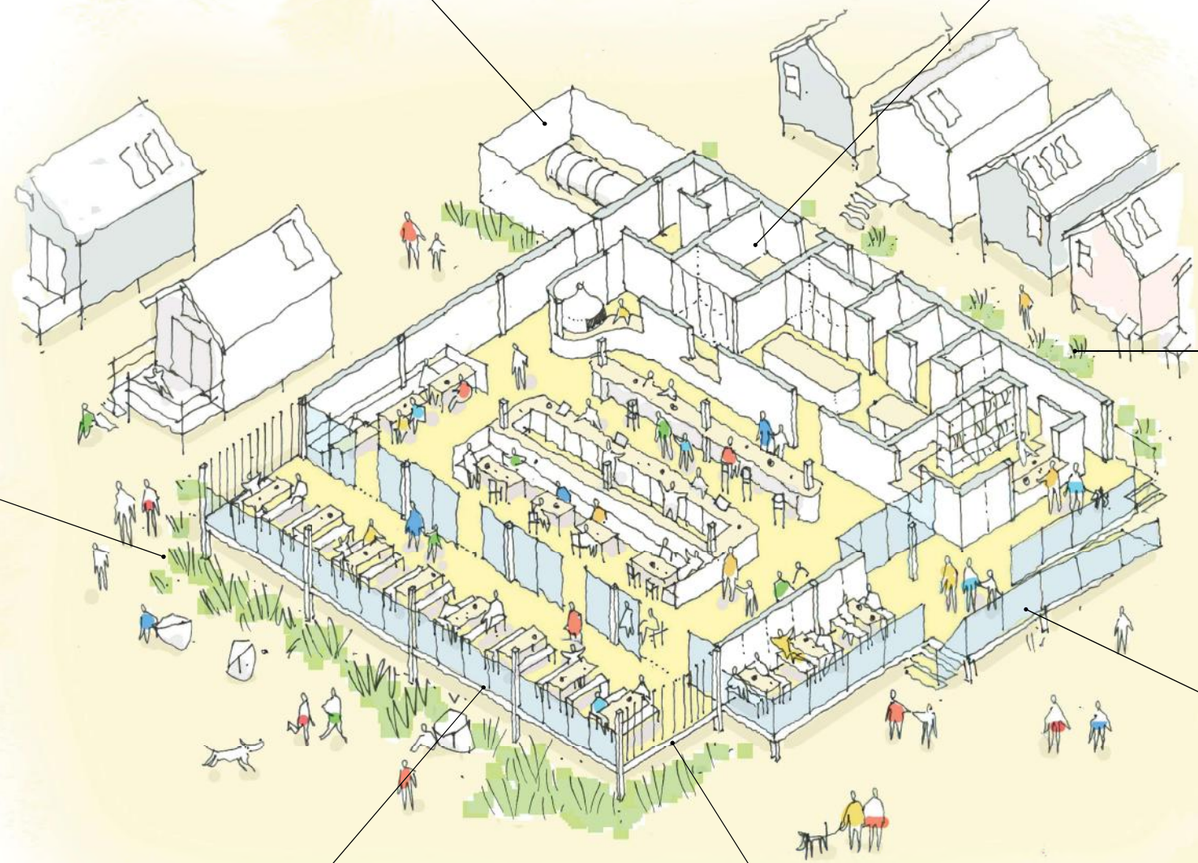
Existing Gas Tank
Open roof over non-combustible gas tank enclosure

Substation
Electric substation with rear access integrated within new building footprint from non combustible construction



Green Edge
Marram grasses to rear elevation provides soft buffer and partial screening to hard building edge

Marram Grass Planting
New Marram Grass planting to building perimeter to promote dune stabilisation, encourage new species and provide soft buffer to hard building edges

Access
All inclusive access to new building through ramp and ambulant disabled steps

External Deck Area to West
Lightweight frame structure over decking area provides fixing position for solar shading and privacy louvres to the sides of the external seating area

Privacy
Fixed angled louvres to prevent overlooking into beach huts

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Materials

The appearance of the new building building will be silvered and weathered .

Taking on board comments about the risk of fire spread and also in consideration of the buildings' exposed location, the cladding for the building will be a silvered horizontal fibre cement cladding board face fixed over battens.

The roof will have corrugated coloured metal sheets with a light grey tone. This will drain into colour matched rainwater gutters.

The external deck finish will be in a matching silvered recycled composite board, with expressed structural members clad in a similar material.

The choice of materials has been chosen for their suitability and sensitivity within the context, their robustness, ability to weather and to be sourced sustainably. We did not want the building to stand out but blend in with the surrounding beach huts.

Materials Pallete

Birds Eye Detail of Proposal

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6 Construction

Construction Concept

A modular building from pre made components, constructed off site to minimise time, noise, cost and construction traffic

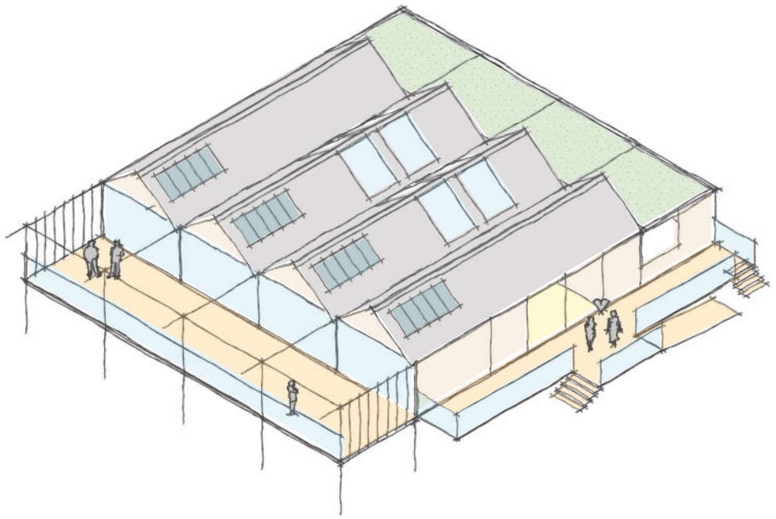
*Pre cast concrete piles with modular galvanised steel frame set over

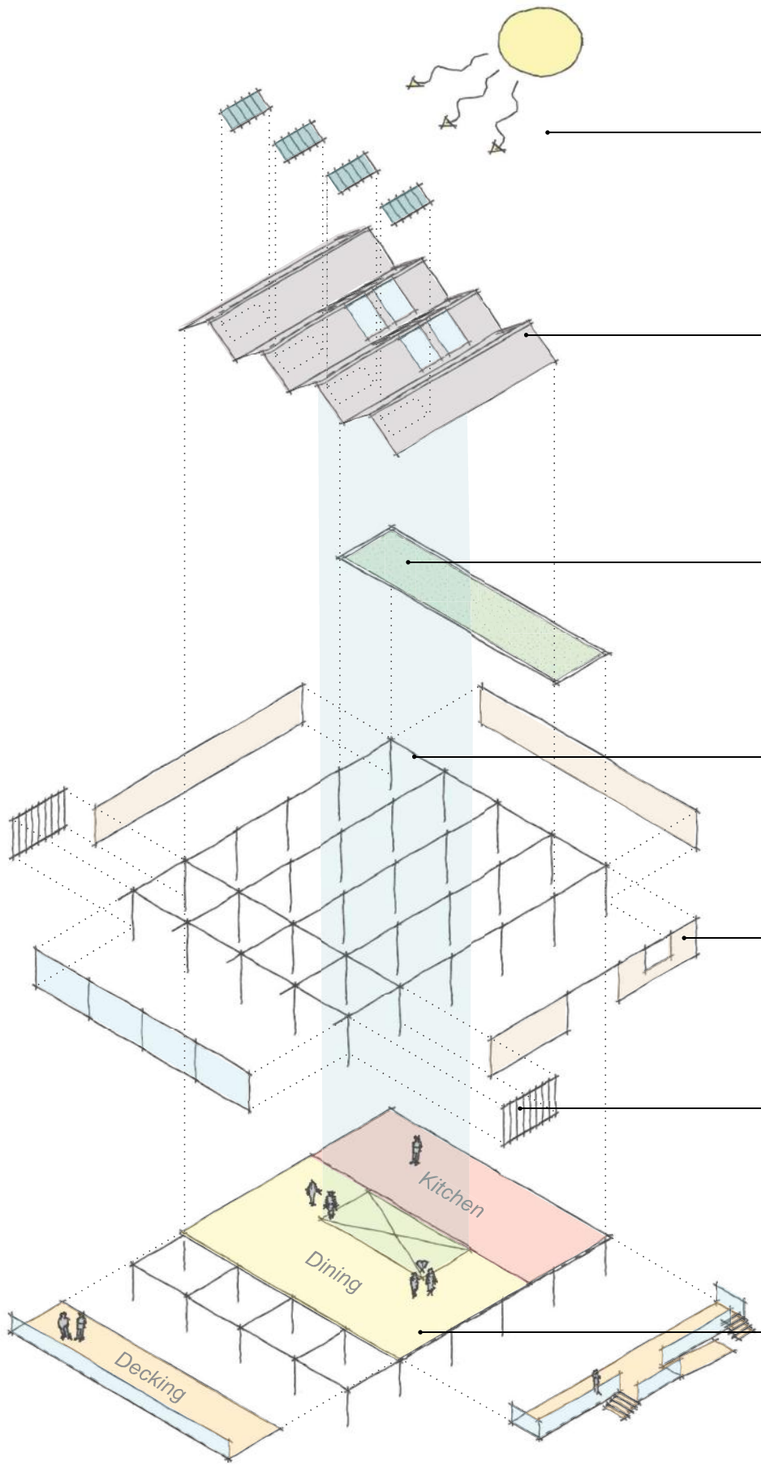
*Pre cast concrete floor planks to support walls

*SIPS modular wall and roof panels

*Non combustible cladding materials

*Robust steel roofing material and rainwater goods





Light & Sun
Inset solar panels to harness renewable energy
Large roof windows to harness natural light

Roof Structure
Repetitive pitch roof forms sit over beams and posts

Living Roof
Indigenous plant species provide biodiverse habitat

Structural Frame
Lightweight modular posts and beams set out to grid

Wall Envelope
Modular wall panels in-filled between structural framework. Glazing to West facade

Privacy
Fixed angled vertical louvres to sides of deck for privacy to beach hut owners

Slab
Structural slab set over pre-cast piles.

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Specialist Consultant Input

Having an understanding of the unique site nature and access constraints for the site and proposal, we received the following advice from Smith Foster structural engineers and Ecologic-Sips about construction type and the proposed methodology.

Peter Samson, Founder | Ecologic-Sips

Many thanks for giving Ecologic Sips the opportunity to comment on the concept design for the rebuild of the restaurant on Mudeford Sandbank, we have reviewed the design and suggested build methodology and feel that the project is viable when considering the limiting factors of the delivery and location.

I would suggest the majority of the structure could be delivered with a combination of Laminated timber portal frame with a SIPs "skin" affixed to the frame.

This in combination with concrete pre cast piles will result in a low impact efficient structure that will withstand the extreme level of exposure the site is subject to.

We are well placed to comment on the designs, our company has successfully designed constructed and delivered over 55 Modular units to Mudeford Sandbank over the last 10 years.

Scott Vincent, Director | Smith Foster Structural Engineers

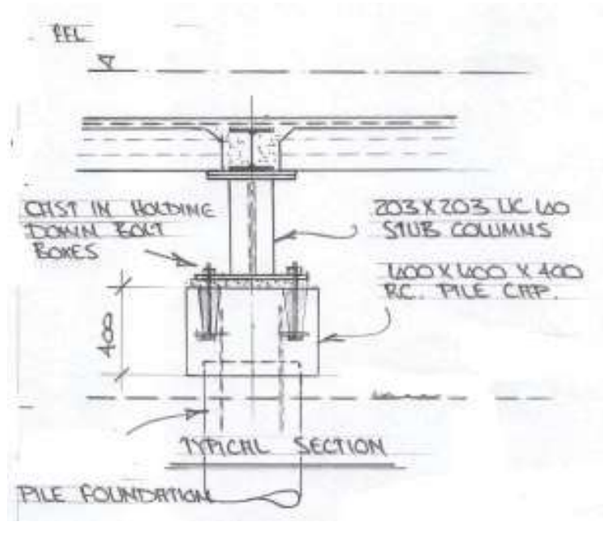
The main issue affecting the site will be logistics, we therefore recommend that as much of the building can be prefabricated as possible. To this end we would suggest the following structural arrangement:

*Precast concrete driven piles, these would be cut off below ground level to afford them some protection from sea spray.

*Ground floor steel frame to be erected above the pile grid with stub columns bolted onto the concrete piles. This can all be galvanised and painted to a high specification for durability.

*Ground floor to be erected from precast beam and block units or hollowcore slabs, sat on the ground floor steel frame.

*Super structure will also be erected from a steel frame with the main load bearing columns being portalised to provide lateral stability.



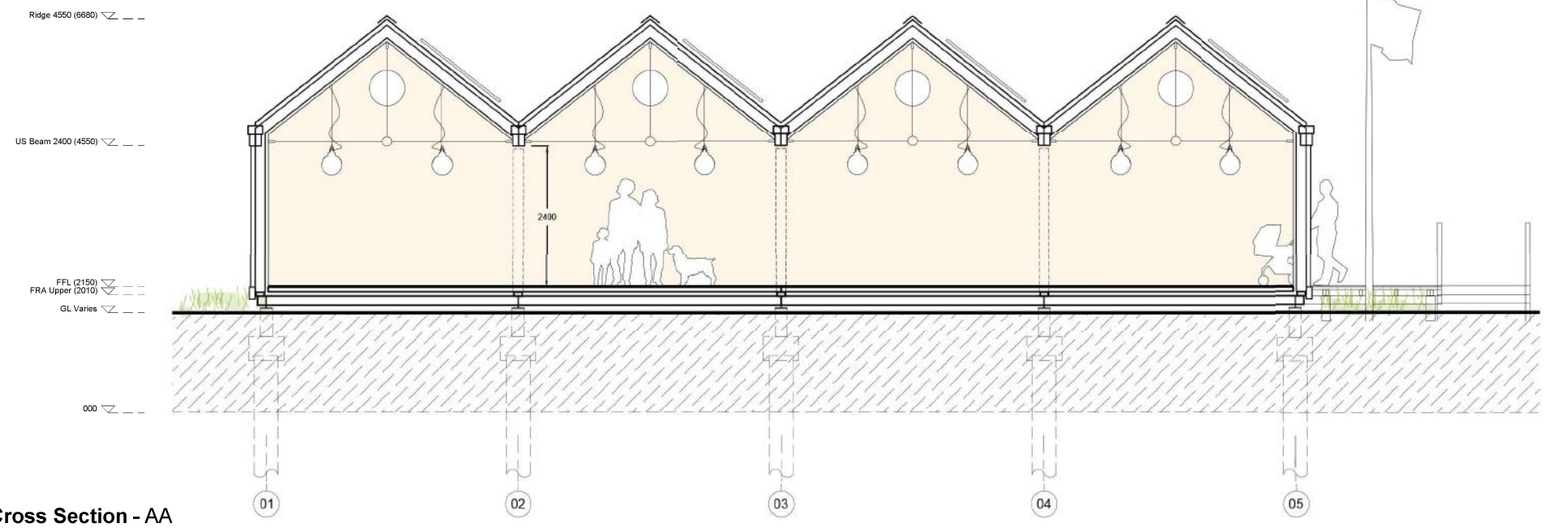
Typical Detail

Driven concrete piles - robust, weatherproof, minimise footprint

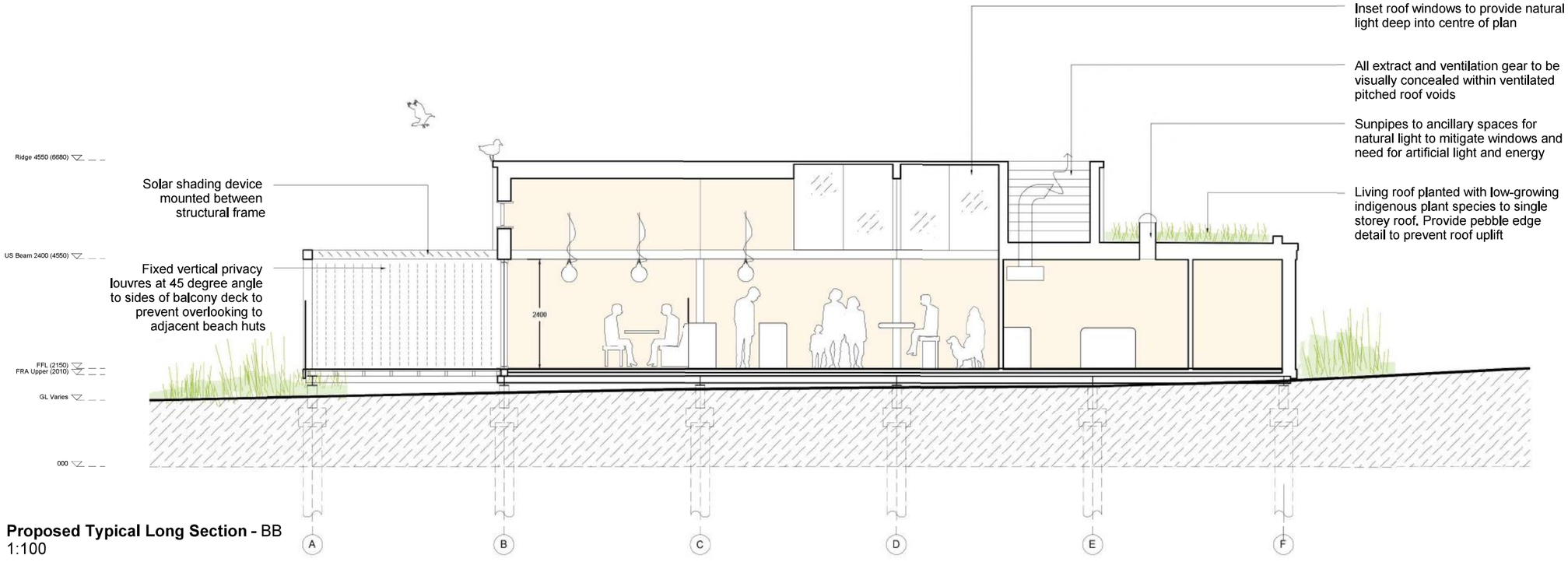
Steel framed modular block slab over - create flexible free spanning floor base

Structural members in grid formation - supports SIPS wall & roof arrangement

Building Construction Section
(no scale)



Proposed Typical Cross Section - AA
1:100



Proposed Typical Long Section - BB
1:100

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7 Energy & Resources Statement - A Low Energy Building

The new building will be designed to be very low energy standard. Final specification for renewables and construction systems are to be finalised prior to building regulation submission.

Design principles

- Efficient form and layout
- Using solar gains PV/Solar Water
- Good natural daylight and shading
- Open-able double glazed windows
- Pre-fabricated timber structure
- High level of insulation
- Draught-free and thermally efficient construction
- Efficient lighting and appliances

Orientation

The orientation of the building and where it sits on the site provides a good location for passive solar gain.

The principal dining spaces are west facing to exploit solar gain. Ancillary accommodation is to the east side.

Fabric, Insulation & Thermal Mass

Floors will be constructed with concrete screed with underfloor heating to provide a high thermal mass, enabling the building to absorb heat during the day and release it slowly at night. The walls will be formed from pre-fabricated timber frame wall panels to minimise carbon and ensure quality. Generally, the new building will maximise insulation levels over and above building regulations requirement.

Window Sizing and Positions

The principle elevations are glazed to the West only and will harness solar gains and daylight. An overhead briese soleil sunshade prevents heat gain in the summer months. The use of double glazing mitigates marginal heat loss.

Natural Ventilation

The building will have open-able glazing providing a means natural ventilation. Summer cooling cross-flow ventilation can be actuated with the use of open-able doors to the south and west faces.

Natural Lighting

The large glazed areas and roof windows help prevent the need for the reliance on internal artificial lighting. Sun tunnels are provided to ancillary kitchen and wc spaces.

Artificial Lighting

All light fittings will be suitable for low energy lamps.

Heating & Renewable Technology

An air source heat pump linked to MHVR system will enhance energy efficiency. Underfloor heating provides a constant low demand heat level.

PV will generate power to offset power demand and heating for the underfloor heating system can be supplements by solar hot water panels.

The final specification will be determined through building regulation compliance and the landlord requirements.

Sustainable Urban Drainage Systems

All surface water from hard standing areas will be absorbed through permeable surfaces and surrounding sand. A perimeter french drain will take rainwater from the roof overhang and gutters and direct it into the sand.

8 Access

Inclusive Design

There will be level and ramped access to the building to ensure all user inclusivity.

Step risers comply with Part M of the building regulations

External and internal doors are a minimum of 838mm wide, to accommodate mobility access.

Circulation around the building will accommodate 1500mm wheelchair turning at critical locations.

Fixtures and fittings to comply with Part M of the building regulations for height positions.

Highway Issues

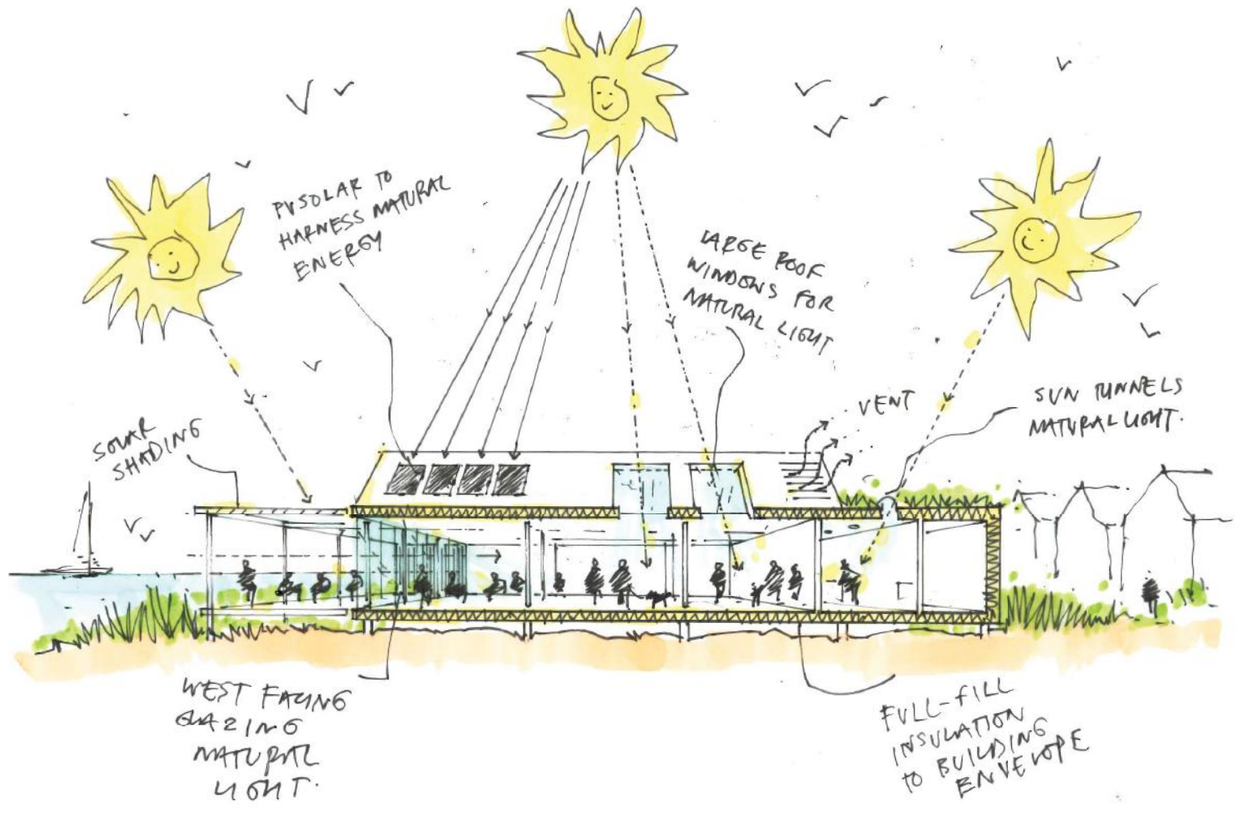
The proposal retains the existing site access and will have at least 2 No. off-road parking spaces as existing.

Cycle Parking

Secure cycle parking is provided as current arrangements.

Refuse Collection

Bin storage and refuse arrangements will be collected as existing schedule for the site.



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9 Landscape

Integral to the design proposals for the new cafe was consideration of buildings' sensitive landscape setting.

The site lies adjacent the Christchurch Harbour SSSI, and lies within within a SNCI, Green Belt and is near the Hengistbury Head LNR, for which the heath is protected under a SAC and SPA.

Notwithstanding the requirement for the buildings' form, scale and material pallet to assimilate with the surrounding built context, the building also needed to bed with the dune landscape character.

The proposals will see the planting of perimeter indigenous Marram Grass species. This new planting will have a threefold effect;

Provides a visually 'soft edge' to the junction of dune and building

Provides habitat for various insects

Promotes the stabilisation of shifting blown sand

In addition to the perimeter Marram Grass planting, a new green 'living roof' over the East section of flat roof will be planted with a mix of indigenous plant species selected for their suitability in the maritime environment.

10 Proposals Summary

New cafe building to replace outdated, inefficient and ad-hoc buildings complex.

Harmonises with sensitive site context

Reflects form, scale and height or surrounding beach huts

Exemplar low carbon, low energy design

Asset for all users

11 Conclusion

As this supporting document has demonstrated, the proposed developments will create a sympathetic, high quality and appropriate building.

The design has been developed to respond to the site, landscape and neighbouring context, to ultimately provide a unique, innovative and environmentally responsible new facility.

It is our belief our design demonstrates how we have understood the effect and significance of our proposal within the context of the surrounding landscape and that this development is sympathetic in terms of density, scale, character and layout.

The new building will be an asset to the site, visitors and to the wider community

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