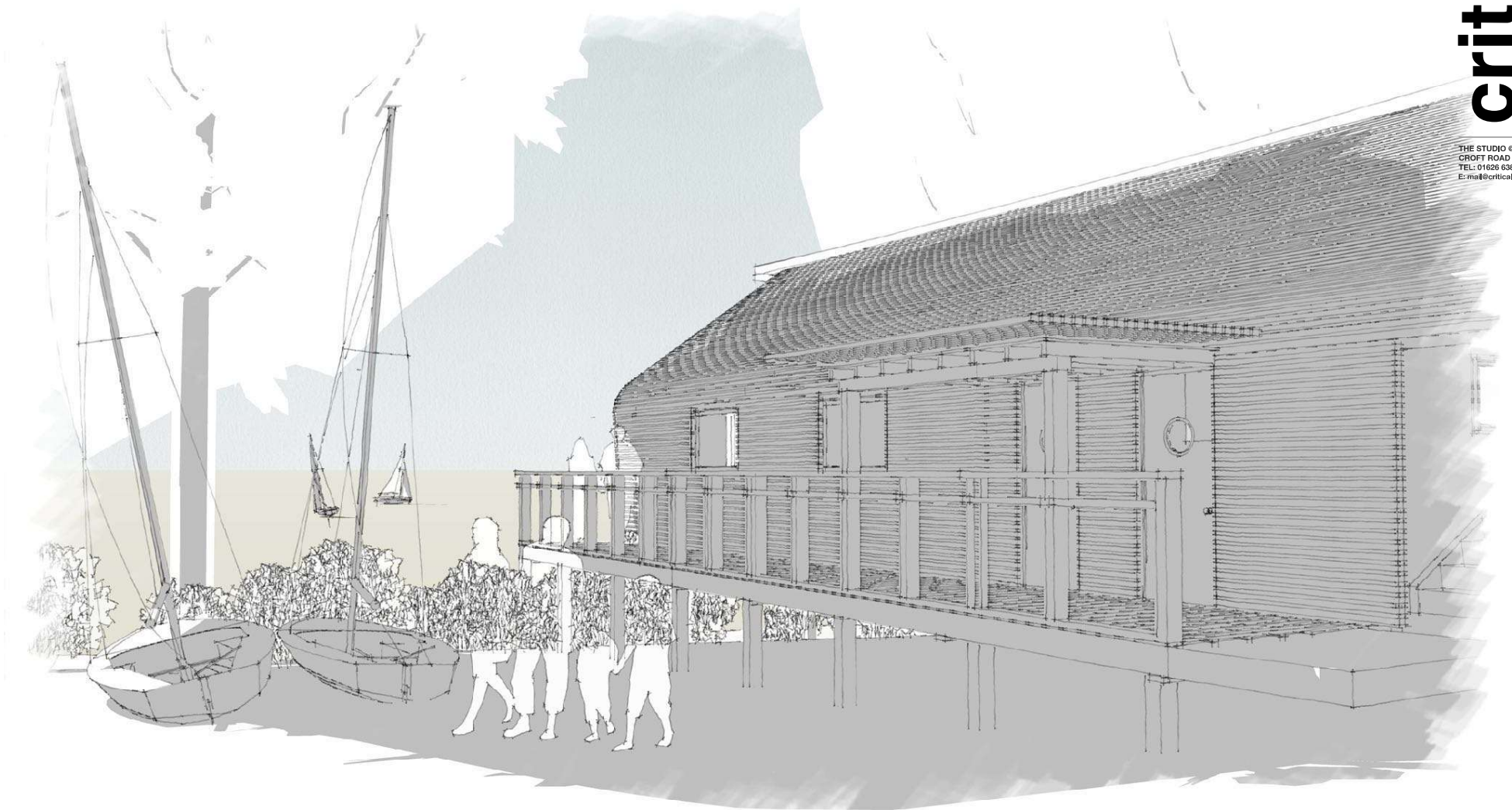


FEASIBILITY STUDY

New Changing Rooms



**critical
mass**
architects + passivhaus designers

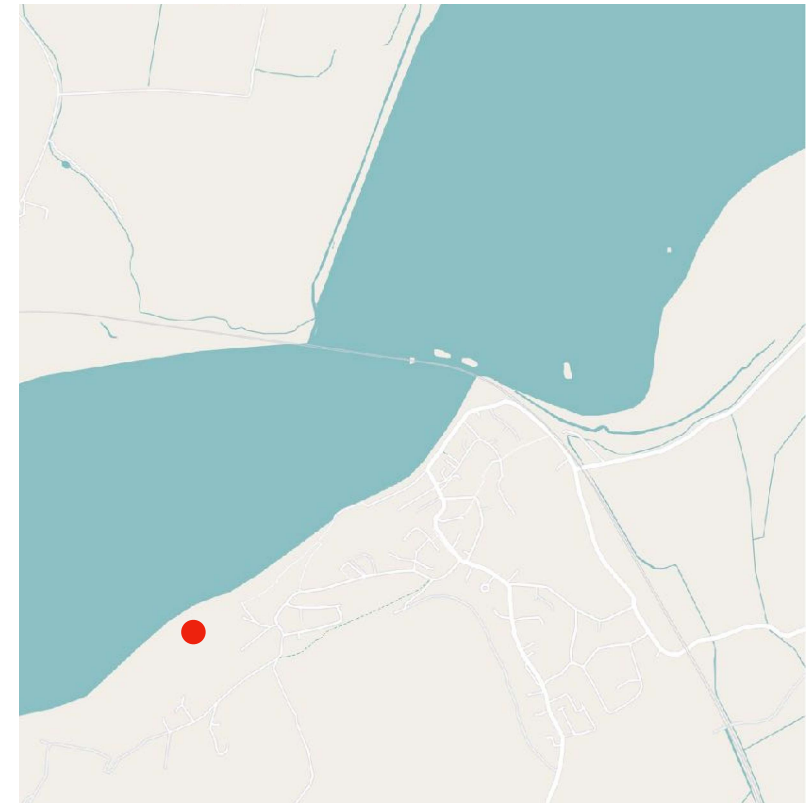
THE STUDIO @ CAPPYS COTTAGE
CROFT ROAD OGWELL TQ12 6BA
TEL: 01829 639210
E: ma@criticalmassarchitects.com

Arnside Sailing Club Dinghy Park

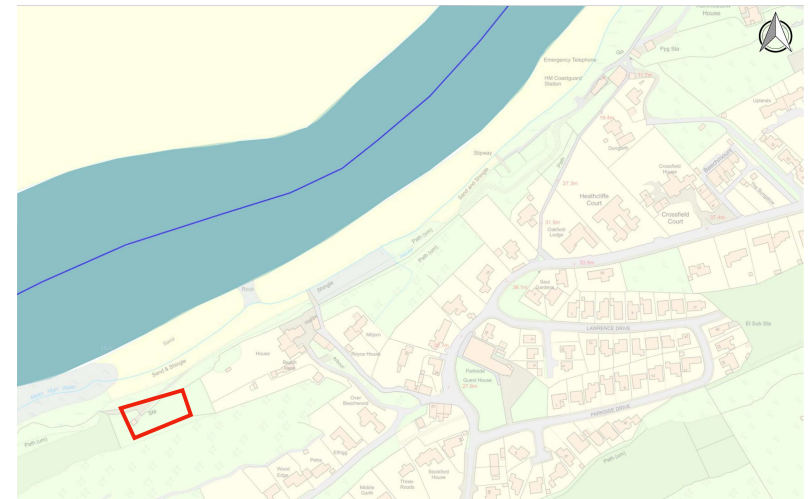
Grubbins Wood Field
Arnside

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Arnside Location Plan (red)



Arnside Dinghy Park (outline in red)

1.0 INTRODUCTION

1.1 The Purpose of this Document

The purpose of this document is to assess the feasibility of constructing proper changing facilities and a meeting room/classroom/shelter for water sports tuition within the existing dinghy park at the Arnside Sailing Club.

This document will consider the context, constraints, viability and risks of development to inform a sketch design proposal for the site.

The document is considered an initial briefing document for the project from which detailed design discussions with planning authorities, potential funders etc. could begin.



Arnside Dinghy Park (High Tide)



Arnside Viaduct

1.0 INTRODUCTION

2.1 The Brief

The initial Brief is set out within the 2020 'Current use and proposals' document prepared by the Arnside Sailing Club. In summary the brief identifies:

- Need for proper changing facilities.
- Need for showering facilities
- Want for a small meeting room/classroom/shelter

Extract from the Brief

'At present there are no proper changing facilities in the Dinghy Park. It would also be desirable to have a small meeting room / classroom / shelter for water sports lesson

Rather than providing traditional male / female facilities we would envisage having a series of family sized changing cubicles (recommended size 2.6m x2m). These would be more suitable for family groups with children and offer greater privacy for other people.

At its simplest it could be a series of rustic bathing huts or alternatively a wooden clad sports pavilion or modular building (opposite)

The Changing Facility would probably be erected on the south side of the garage so that it was not visible from the shore. It would be single storey.

The Changing Facility could include a shower cubicle, though this is desirable rather than essential. At present the Dinghy Park is not connect to mains water or sewer. The Eco Toilet has a septic tank which operates by evaporation. One possibility would be a greywater treatment system that use wastewater from the shower to wash boats. Alternatively, a septic tank system. The amount of wastewater produced would be quite low.

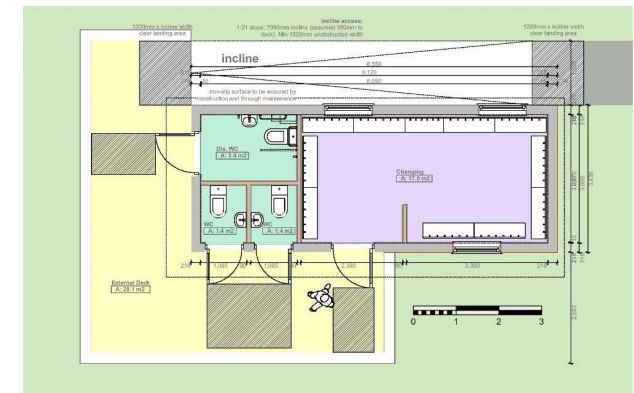
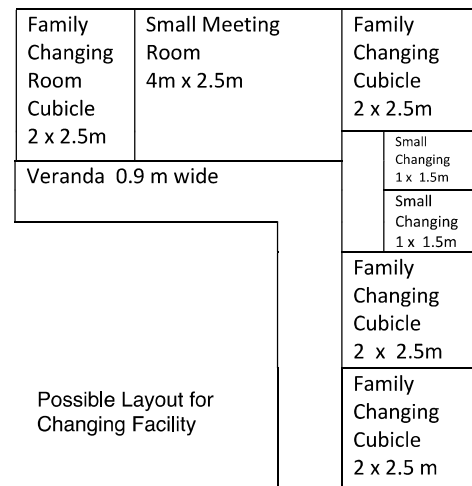
Could you advise whether we would be better likely to get planning permission for changing facilities, so we know whether this option is worth pursuing or not. Could you also advise of any planning issues in connection with a septic tank for a shower or grey water treatment system. We envisage that the changing facilities would be funded by grants.'



Changing Room could be bathing Huts



Timber Clad Pavilion



Costed Modular building

Illustrations from the Briefing Document

2.0 GENERAL DESCRIPTION

2.2 The Arnside Sailing Club

Arnside has a long history of sailing, with the village's first sailing club set up in 1852. The Arnside Sailing Club has been a finalist for sailing club of the year in both 2019 and 2022.

The Club is a Charitable Incorporated Organisation the objects of the Association:

1. To promote community participation in healthy recreation by providing facilities and equipment for water sports.
2. The promotion of the maritime heritage of Arnside village for the public benefit by the preservation, repair, and maintenance of historic buildings and craft in Arnside.
3. To provide or assist in the provision of facilities in the interests of social welfare for recreation or other leisure time occupation of individuals who have need of such facilities by reason of their youth, age, infirmity or disability, financial hardship or social circumstances with the object of improving their conditions of life

The Association provides:

- RYA training to all
- 17 boats, 7 kayaks, 11 paddle boards & 6 windsurf rigs.
- A safety boat to support events.
- A dinghy park as a base for water sports
- Storage for over 50 craft (currently at capacity)
- A Clubhouse on the promenade
- Active support for village and community events

The majority of the 450 club members are local with training and lessons attracting people from a wider area.

The club seeks to improve facilities at the Dinghy Park, to better fulfil its charitable objects & provide a club capable of being inclusive and accessible to all.



2.0 GENERAL DESCRIPTION

2.3 Site Description

Arnside Sailing Club Dinghy Park

Site Description

The site is located approximately 0.75 kilometre south-west of The Promenade, Arnside. The application site is accessed via a public footpath along the beach to which it occupies an elevated position.

The Dinghy Park contains storage for over 50 boats and a variety of structures; safety boat store, paddle boat store, caravan, eco toilet, shed and two gazebos providing a temporary workshop and an ad hoc changing facility with a slipway leading down to the beach.

Use

The Dinghy Park is used as a base for Water Sports, training and storage of equipment.

Ownership

The Boat Park is owned by the Matson Ground Estate Company and leased to the Sailing Club on a 99 year lease to 2078.

Ecology

A Preliminary Ecological Report of the site (Appendix ii) of March 2021 recorded no notable or protected species with plant species assemblages of low ecological value. This report is valid for the purposes of this document but will need repeating if relied on after March 2024.

Designations

The application site is located within the Arnside and Silverdale Area of Outstanding Natural Beauty (AONB) and the Grubbins Wood County Wildlife Site (CWS) and Wildlife Trust Reserve (WTR). The application site is located adjacent to Morecambe Bay, which has a number of protected site designations, and Arnside Foreshore Local Geological Site (LGS). The boundary of the Lake District National Park (NP) and World Heritage Site (WHS) is located approximately 145 metres north



Aerial view of the Arnside Sailing Club Dinghy Park

2.0 GENERAL DESCRIPTION

2.4 Photographs



View of the Dinghy Park from the Beach



Dinghy Park raised above the Beach



Beach to the West of the Dinghy Park



View of the Dinghy Park from the Beach



Dinghy Park looking to East (& Arnside beyond)



Concrete ramp to Dinghy Park

2.0 GENERAL DESCRIPTION

2.4 Photographs



Dinghy Park Entrance



Dinghy Park Paddleboard store (centre), Safety Boat Store (right), caravan used for welfare facilities



Eco toilet to rear of Stores & Caravan and Large Gazebo used as temporary workshop for repair of boats



Rear of Stores showing caravan and gazebo (used as changing room)



Dinghy Park looking West (Shed to left), caravan and changing room



Dinghy Park looking East

2.0 GENERAL DESCRIPTION

2.5 Planning History

Use and development as a sailing dinghy park.

SL/2022/0060 - Erection of Equipment Store: 23/2/22

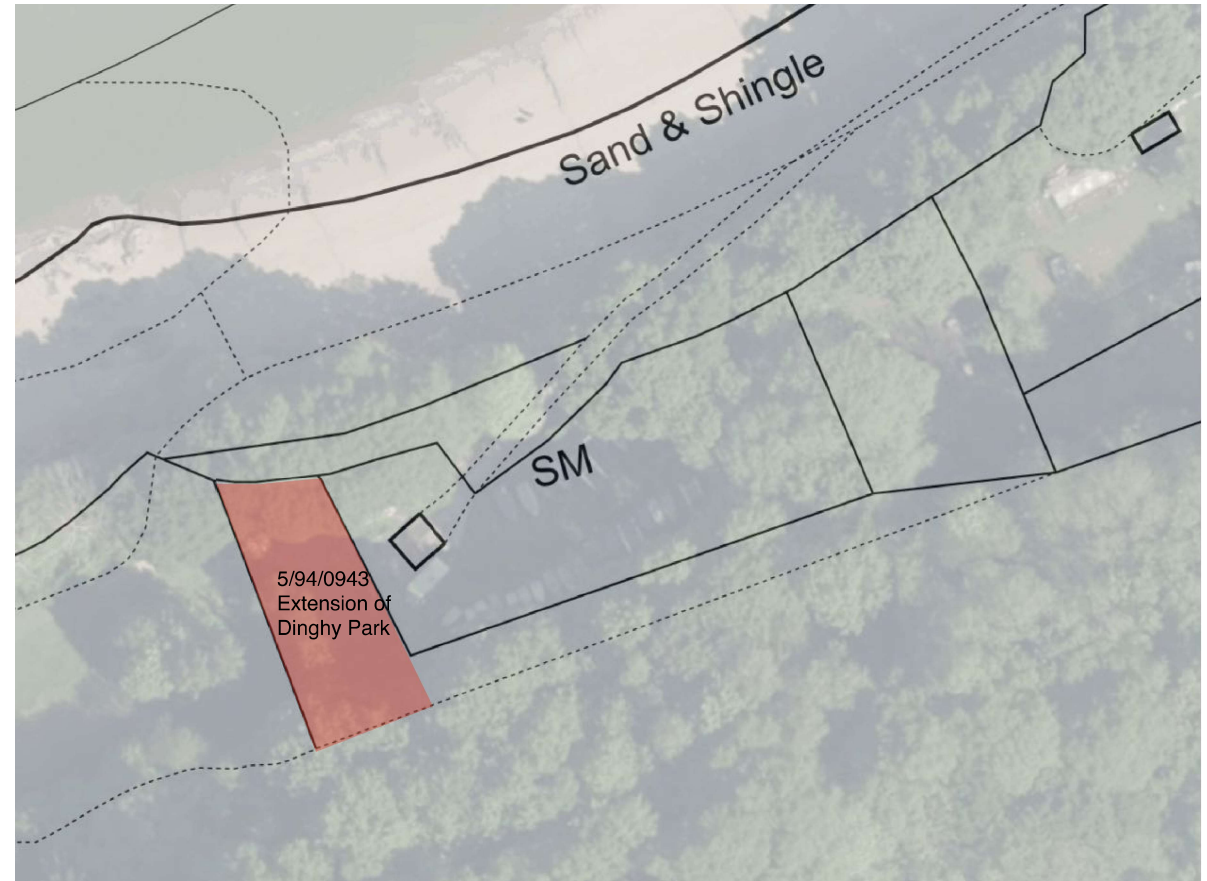
SL/2021/0471 - Installation of Dry Toilet System 16/08/22

5/94/0943 - Permission approved for extension of dinghy park, provision of security fence, rock barrier and secure container: 11.07.1994.

5/88/1620 - Permission approved for temporary storage hut: 08.07.1988.

5/86/0144 - Permission approved for storage hut: 03.02.1986.

5/81/0028 - Permission approved for storage hut: 06.02.1981.



OS extract overlay of aerial photo

3.0 ANALYSIS & UNDERSTANDING

3.1 The Site

Initial Assessment

Sheltered and discrete from the village and river by its location and surroundings is considered to offer a suitable opportunity for some further development.

Boundary Treatments

The Dinghy Park is extensively screened by existing planting. As such the visual impact of any development would be reduced

Orientation

North facing & heavily shaded from Grubbins Wood, on a sloping location.

Views

Views to and from are limited due to surrounding trees. North (facing the river) views are 'glimpsed' through trees and hedges, though the raised elevation allows far reaching views of beach and river, whilst obscuring views to the site.

Access

Access via concrete ramp from the beach (tidally restricted) by tides. Emergency access/egress possible through Grubbins Wood. Nearest Vehicular access to beach circa 200m away.

Tidal restrictions will limit construction onsite. Prefabrication should be considered from the outset as a construction strategy

Services

Electric only. Nearest water and foul drain considered to be 150m distant. TBC.

Ownership

Freeholders consent is required for works, though not considered problematic

Flood Risk

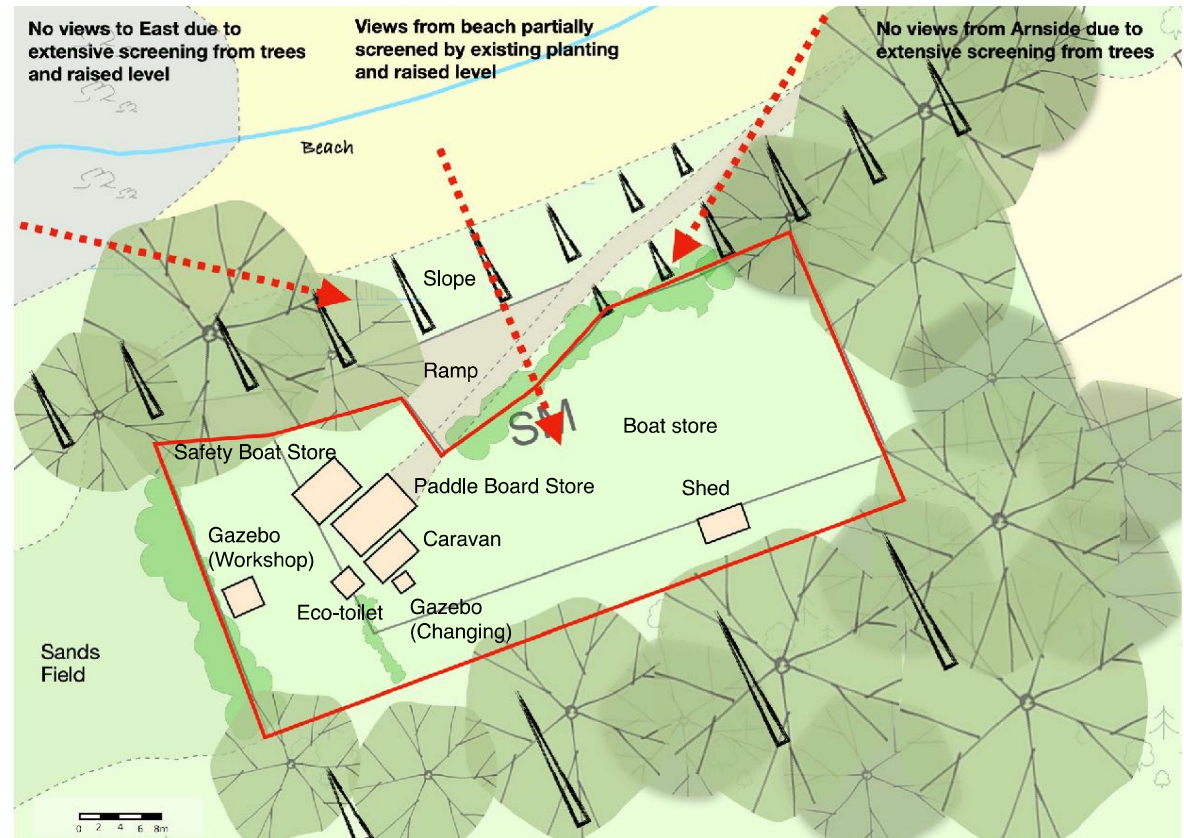
Zone 1. Adjoins Zone 3 area but considered 'water compatible development'.

Trees

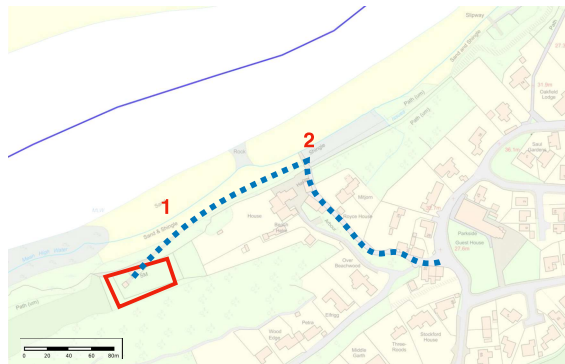
A tree survey should be carried out to ensure the safety of the Dinghy Park.

Ecology

A Preliminary Ecological Report 2020, identified no objection to development.



Layout of Existing Dinghy Park



SITE ACCESS. ramp (1), nearest road (2)



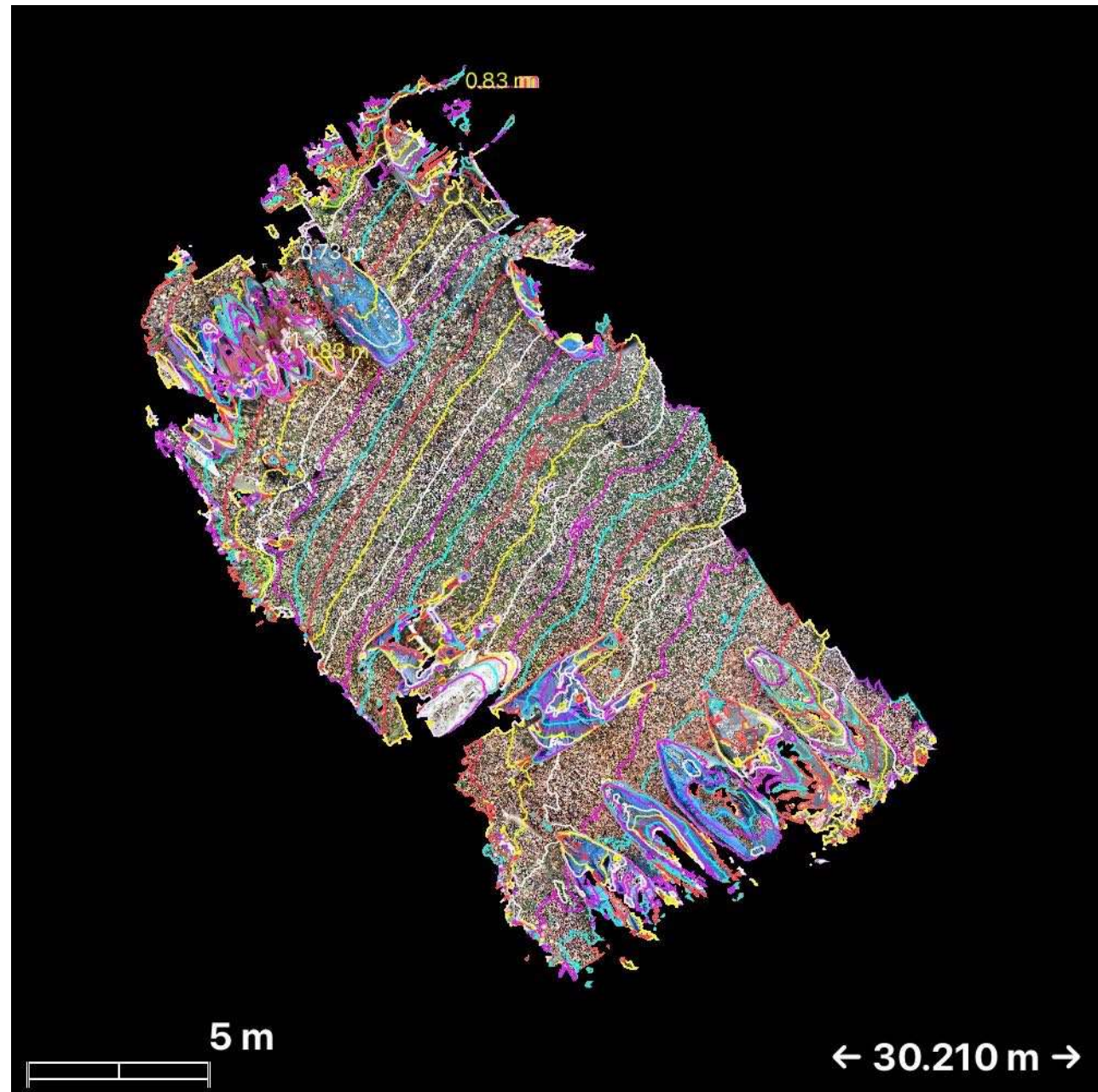
Photo, showing ramp (1), nearest road (2)

3.0 ANALYSIS & UNDERSTANDING

3.1 The Site (cont)

Lidar scan of the North East end of the Dinghy Park (opposite) shows the site slopes 2.5m (Contour lines of 0.1m increments)

A level ground floor building will be raised of the ground at one end raising potential to use space below for other purposes.



3.0 ANALYSIS & UNDERSTANDING

3.1 The Site (cont.)

Planning Policy

Section 70(2) of the Town and Country Planning Act 1990 require that applications for planning permission be determined in accordance with the development plan, unless material considerations indicate otherwise.

Arnside & Silverdale AONB Development Plan Document:

- AS01: Development strategy
- AS02: Landscape
- AS04: Natural environment
- AS07: Historic environment
- AS08: Design
- AS09: Economic development and community facilities
- AS12: Water quality, sewerage and sustainable drainage

South Lakeland Core Strategy:

- CS1.1: Sustainable development principles
- CS1.2: The development strategy
- CS8.1: Green infrastructure
- CS8.2: Protection and enhancement of landscape and settlement character
- CS8.5: Coast
- CS8.4: Biodiversity and geodiversity
- CS8.6: Historic environment
- CS8.8: Development and flood risk
- CS9.1: Social and community infrastructure
- CS8.10: Design

South Lakeland Development Management Policies Development Plan Document:

- DM1: General requirements for all development
- DM2: Achieving sustainable high quality design
- DM3: Historic environment
- DM4: Green and blue infrastructure, open space, trees and landscaping
- DM6: Flood risk management and sustainable drainage systems

National Planning Policy Framework (July 2021) (NPPF):

- 2. Achieving sustainable development
- 4. Decision-making
- 8. Promoting healthy and safe communities
- 12. Achieving well-designed places
- 14. Meeting the challenge of climate change, flooding and coastal change
- 15. Conserving and enhancing the natural environment

The Principle of Development

In this instance, the proposed development would involve a small-scale expansion of an existing outdoor sport facilities. This rural location is essential, as it is the existing site of the Arnside Sailing Club. Therefore, development complies with Policies AS01, AS09, CS1.2 and CS9.1, and should therefore be acceptable in principle.

Impact on the Character and Appearance of the area

A well considered development of a sustainable high quality design could preserve the protected landscapes and designated heritage asset and comply with Policies AS01, AS02, AS04, AS07, AS08, CS1.1, CS8.2, CS8.5, CS8.6, CS8. 10, DM1, DM2 and DM3.

Impact on biodiversity

A well considered development of considered design need not have an acceptable impact on biodiversity and could provide an environmental net gain for biodiversity to would comply with Policies AS04, CS1.1, CS8.1, CS8.4, CS8.5, DM1, DM2 and DM4 (that seek to conserve and enhance the natural environment).

Impact on geodiversity

The site lies adjacent to the Arnside Foreshore LGS. A well considered development that sought to avoid the need for deep excavations would pose no risk to geodiversity and therefore comply with Policies AS04, CS8.4 and DM1 (that seek to conserve and enhance geodiversity).

Impact on flood risk and drainage proposed development.

Therefore, the proposed development broadly complies with Policies AS12, CS8.8 and DM6. These policies, amongst other things, seek to protect development from flood risk and ensure the use of sustainable drainage.

3.0 ANALYSIS & UNDERSTANDING

3.1 The Site (cont.)

Designations

The site lies outside of the village settlement, as such development is only permitted where it can demonstrate that there would be no adverse impact on the settlement or landscape character and there is considered an essential need for a rural location.

The proposed expansion of the existing Arnside Sailing Club should be considered acceptable in principle as the need for a rural location.

The proposals are not considered to adversely impact on the settlement of Arnside. On balance there are reasonable grounds to consider they enhance the settlement.

Therefore any proposals will need to demonstrate that they result in no adverse impact on the landscape character of the site. A summary table is shown opposite of the existing designations of the site and the risk of impact development could bring if not addressed through design.

Arnside & Silverdale AONB

The application site lies within the AONB, and therefore visual impact is important. The site occupies an elevated position and is partially screened by the surrounding woodland and vegetation. The existing arrangement of structures and boats is not considered a positive contribution to the AONB. It is paramount that the proposed development is considered of good design.

Impact on biodiversity, CWS Grubbins Wood, WTR, Morecambe Bay SSSI, SPA, SAC, RAMSAR and protected species

A Preliminary Ecological Appraisal took account of a range of habitats, vegetation, protected species, and statutory and non-statutory sites. with no significant concerns about the biodiversity impacts
A Preliminary Ecological Appraisal acknowledges development could result in an increase in recreational use of the estuary. Measures should be proposed to make a positive contribution to achieving an environmental net gain for biodiversity.

The Principle of Development Can be supported providing no adverse impacts

No.	Designation	Risk of impact	Can Impact be avoided
1	AONB - Arnside and Silverdale Area of Outstanding Natural Beauty		Possibly. through good design
2	SSSI - Morecambe Bay Site of Special Scientific Interest		Yes. opportunities to enhance
3	SPA- Morecombe Bay & Duddon Estuary Special Protection Area.		Yes. opportunities to enhance
4	SAC- Morecambe Bay Special Area of Conservation		Yes. opportunities to enhance
5	RAMSAR SITE		Yes. opportunities to enhance
7	Foreshore Local Geological Site		Yes. opportunities to enhance
9	Site adjoins County Wildlife site- 'Grubbins Wood'		Yes. opportunities to enhance
10	Site adjoins Ancient Wood land Site of Invertebrate Significance		Yes. opportunities to enhance

Extract from the The Arnside & Silverdale Landscape and Seascape Character Assessment (p.112) Arnside Knott/Arnside Park wooded Limestone Hills page 112 relating to

Location and Character Area Description

- 8.10 Arnside Knott is one of the most well-known land marks in the AONB, and the hill top viewpoint is easily accessible on foot from Arnside. This limestone hill rises to 159m, affording panoramic views over the whole area, but particularly Whitbarrow Scar and the southern part of the Lake District, seen across the Kent Estuary, and Grange-over-Sands to the west. The intervisibility with coastal areas and expansive views across the intertidal flats and Morecambe Bay to undeveloped skylines are key characteristics of the area as are the views towards Ingleborough and the Yorkshire Dales. The contrasts between the sea, the sands and the hills, and the interplay of the light across the land and the sea make the views appreciated for their scenic beauty.

3.0 ANALYSIS & UNDERSTANDING

3.2 The Brief

Brief

To explore options to introduce proper changing facilities and a meeting room/ classroom/shelter for water sports tuition at the Dinghy Park (*as set out in the Arnside Sailing Club document '2020 Current use and proposals', Appendix i*). In order for the club to provide facilities that are fit for purpose to support the Club's welfare and safeguarding policies there is a need to upgrade the current facilities.

The provision of improved facilities are required to fulfil the Club's charitable objectives and sustain the club.

Alternative suggested key aims of the Brief for consideration.

- To create a centre suitable for the teaching & training of RYA approved courses.
- To provide year round access to the water, all tide sailing, hygienic facilities, greater safety support and enriched community activity.
- To improve and enhance accessibility to all.
- To benefit Club members, youth development, the community, holiday makers
- To ensure that Arnside Sailing Club is able to sustain and grow the club whilst enjoying, respecting and valuing this unique setting.
- Visual enhancement of the dinghy park.

The Limitations of Current Facilities

The current changing & welfare facilities (a gazebo & caravan) are inadequate for the following reasons:

- Insufficient space for changing
- Single space only (limitation on how many people can get changed)
- Unheated
- No shower facilities (for general or emergency use)
- Limits ability to accommodate larger groups (schools, scouts etc.)
- Reduces access to year round sailing activities
- Reduces clubs ability to meet the requirements of the Equality Act (inclusion for all)
- Limit on space available to break out and access to hot drinks.
- Inadequate toilet facilities.
- Presents significant challenges for the procedures around safeguarding and vulnerable adults and children.

There is currently no current dedicated training or meeting space at the Dinghy Park which significantly restricts the clubs ability to:

- Offer shore based tuition
- Provide warm shelter (emergency situations, monitoring of water, parents/guardians of juniors, visitors, members etc.)
- Limits ability to accommodate larger groups (schools, scouts etc.)
- Consolidate facilities.
- Provide more accessible facilities

3.0 ANALYSIS & UNDERSTANDING

3.2 The Brief

Suggested Strategy

The Dinghy Park has grown organically through a series of developments addressing 'needs' as and when they arise.

A new project is the opportunity is to consider the longer term plan for the future of the club. A building is typically designed to last for +60yrs, what else might it be required to deliver in that time?

- The Running of a New Water Main (to allow showers)
- New Foul Drainage (to allow showers and toilets)
- Incorporating a permanent workshop into any new structure (to allow maintenance and repairs etc.). The club currently uses a temporary gazebo and it is a stated objective of the charitable aims of the club.
- Exploring Storage opportunities. Existing is near capacity.
- Opportunities to improve the layout of the dinghy park through purposeful reorganisation and layout of facilities (eg. removal of redundant features and structures)
- Improved facilities will increase membership & participation and impose additional demands on existing facilities.

If any of the above are a consideration then design them in from the outset to minimise change later and consider phasing development.

Potential Implications on Brief (see extract 2.1)

Are showers within changing rooms desirable or essential? Consider welfare/safeguarding and privacy issues

Meeting Room. How many people should it be able to accommodate?, 6, 8 or a class of people, could it be used for observation of the water and assisting with training of students (both practical and theory). Could it provide a warm place for parents or tutors to observe children on the water.

Location: Should the building be hidden or is there a need for it to actually be in clear sight of the river to allow safe observation and monitoring etc.



Water & Drainage. Rainwater currently only source of water. This may present significant H&S risk to the club going forward



Temporary workshop
The care and maintenance of old boats is a Club objective.



Layout. Hedge boundary introduced 1994 reduces use of space (no longer fulfils original purpose of providing boundary privacy)



Storage. Some areas of dinghy park underutilised for boat storage, might be suitable for other uses.

3.0 ANALYSIS & UNDERSTANDING

3.2 The Brief

Examination of Key issues

SERVICES

The lack of Mains & Foul drainage will be a severe limitation on the ability of the club to further develop teaching and training facilities.

Mains & Foul Water. The nearest mains are circa 150m away.

The Excavating, installing and backfilling of a 150m trench can be completed in a day if no obstructions though mains foul drainage will require pumping. Recommend Early discussion with United Utilities to determine possible connections.

The cost of new mains drainage may be less than the price of a new waste water treatment and drainage field with no loss of useable space.

CHANGING ROOM LAYOUT

INDIVIDUAL OR FLEXIBLE CHANGING

The brief suggests 4 family sized changing cubicles and 2 individual cubicles as more suitable for family groups and offering privacy to users.

Separate cubicles limit the maximum number of users, requiring a larger area to accommodate the same number of people. Space will be reduced further showers are introduced to changing rooms.

Clubs should treat all members with respect for their privacy and dignity, however an alternative method of provision could be through the use of larger gender changing rooms with separate shower cubicles of sufficient size to allow changing. As a general policy adults should always change or shower privately from children (save family).

Incorporating a DWC could also provide a dedicated family change area when required.

The issue of suitable changing facilities is one that taxes most sports clubs and there have been several studies into the most appropriate layout for sailing clubs.

INDIVIDUAL CHANGING

Privacy guaranteed, but limits users.

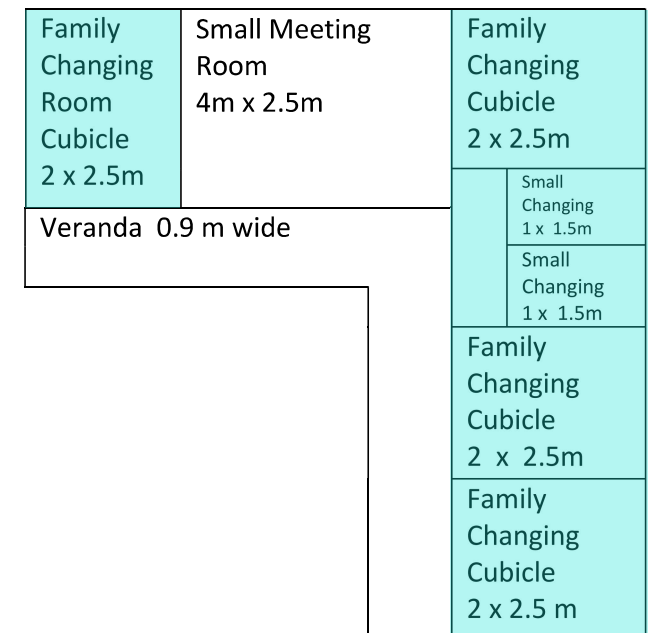
Individual cubicles limit capacity for groups and increase maintenance.

Capacity could be limited to 6 users.

23m² Changing Space

(32m² if cubicles incorporate showers but no toilets)

(cubicles require circa 1.5m² bigger)

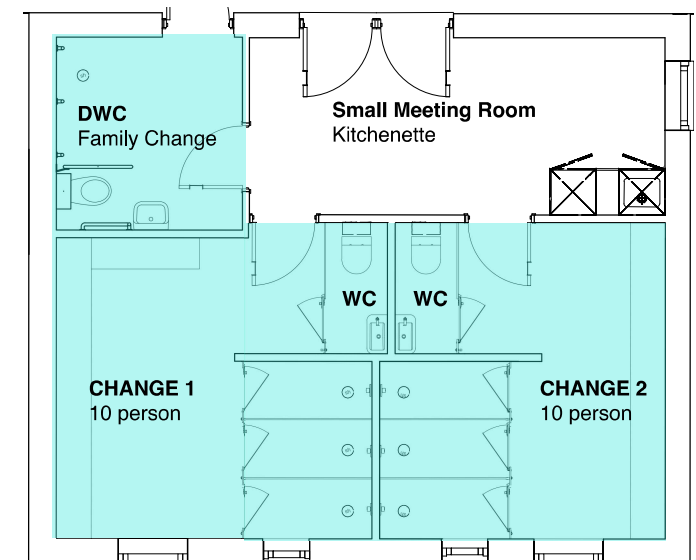


FLEXIBLE CHANGING

Privacy can be provided though individual shower cubicles.

35m² Changing Space

Max. Capacity 22 but continuous flow.



3.0 ANALYSIS & UNDERSTANDING

3.2 The Brief

CONSTRUCTION

The tidal nature of the site suggests that prefabrication might be a pragmatic approach to construction.

SHIPPING CONTAINERS

Shipping containers could provide ready to go provision. Clad on site. Most UK roads can accommodate a standard 40 x 20 shipping container. *With a tidal site it may also be possible to deliver by barge.*

MODULAR

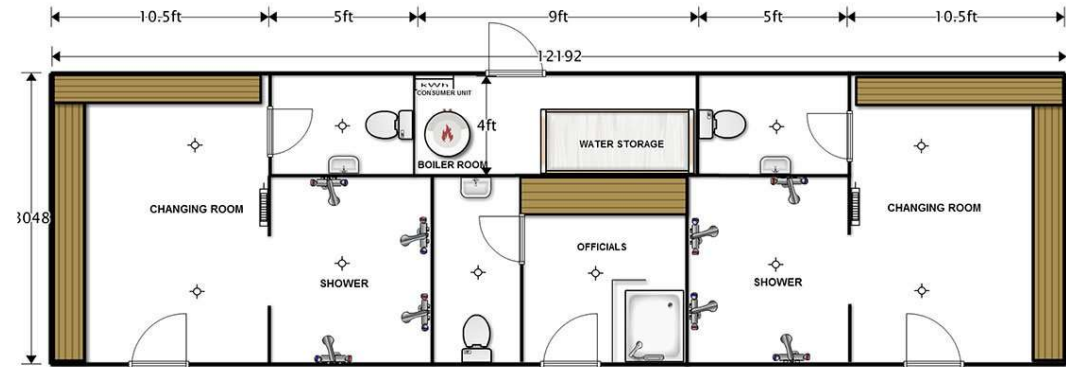
Dedicated cubicles available off the shelf that can be joined together and clad onsite.

PRE-FABRICATION

Larger structures can be built by combining multiple smaller structures. Larger park homes are often constructed from 2 units joined together onsite. But walls, floors, roofs can also be prefabricated and assembled onsite

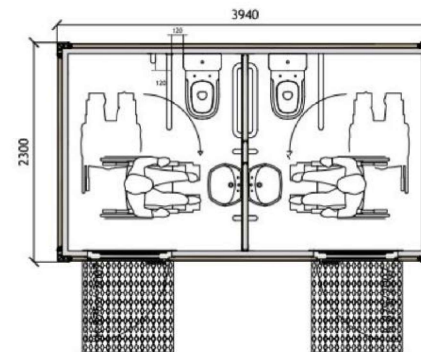
CONSTRUCTION ON SITE

The site is not impossible to reach and so construction on site is possible presenting more opportunities to meet the clubs wishes.



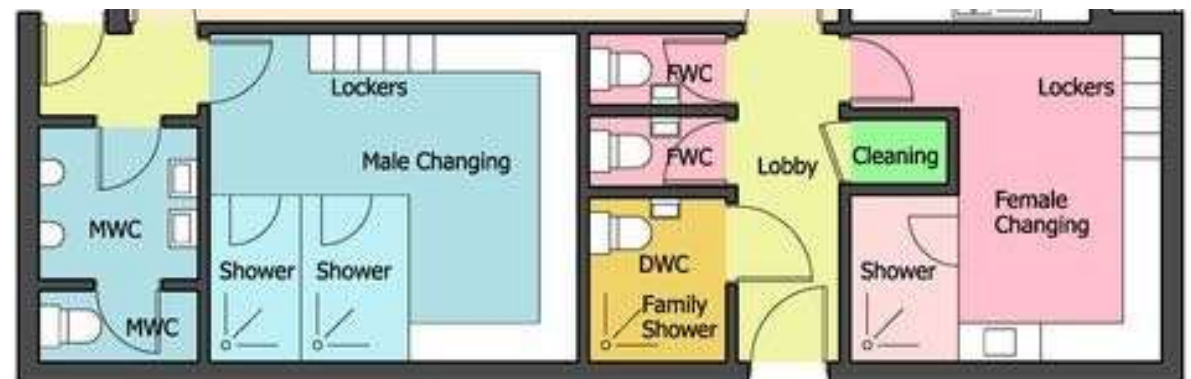
CONTAINER CHANGING ROOM (12x 3m)

Prefabricated and off the shelf



CONTAINER CUBICLES

Prefabricated, off the shelf Change shower and WC



CAM SAILING CLUB CHANGING ROOM LAYOUT

3.0 ANALYSIS & UNDERSTANDING

3.3 Sustainability : Design Ethos

Building a new building requires a vast quantity of resources. A new building is designed to last long after we have gone with the choices we make impacting on future generations.

Whether constructing a passivhaus or simply seeking to reduce a buildings energy use there are six key principles (graphic opposite).

The benefits of constructing this way are:

- Comfort - No draughts or cold spots
- Health - Cleaner healthier air
- Energy Bills - Significantly less.
- Peace & Quiet - When the windows are shut
- Lower Carbon Emissions
- Low maintenance
- More wall space - No radiators

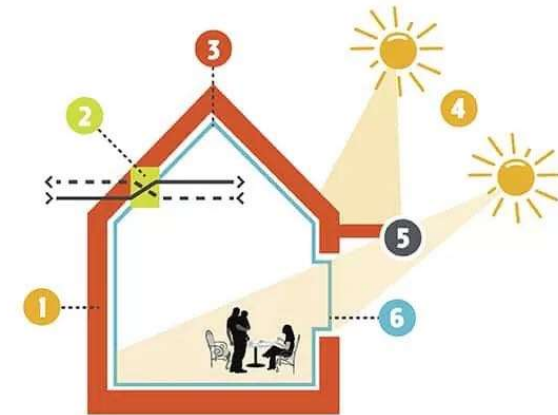
The second graphic shows the energy use in 3 similar sized buildings.

- A Victorian building loses a lot of heat and therefore requires a lot to maintain temperature.
- A Modern Building reduces heat loss significantly.
- A Passivhaus uses just 10% of the energy of a modern building.

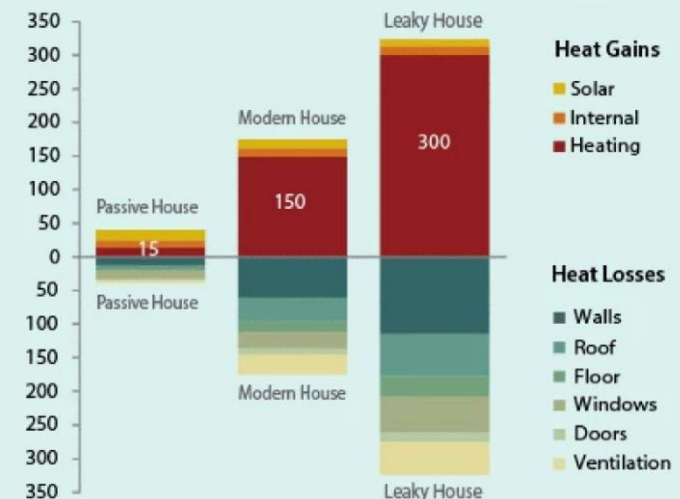
A new building incorporating these principles is more expensive that one that does not, but will save money in the long run both on reduced energy bills and maintenance. Adopting these principles is therefore an investment rather than a cost.

key elements:

- 1 HIGH INSULATION
- 2 BALANCED VENTILATION WITH HEAT RECOVERY
- 3 AIR TIGHT ENCLOSURE
- 4 SOLAR ORIENTATION
- 5 EXTERIOR SHADING
- 6 HIGH PERFORMANCE WINDOWS



Heat gains and losses by house type: kWh/m²a



3.0 ANALYSIS & UNDERSTANDING

3.3 Sustainability : Shape, Form & Massing

These basic principles impact on appearance, cost and energy use.

SHAPE

Heat loss (energy use) & Construction Cost are significantly affected by the relationship between the floor area and perimeter of a building. The illustrations opposite show layouts of identical floor area but with increased perimeters. The increased perimeters will result in an increased surface area of the building and therefore heat loss, whilst also adding cost of additional walls and complexity of building elements.

FORM & MASSING

Heat loss (energy use) & Construction Cost are significantly affected by the relationship between surface area & useable volume. A single storey pitched roof building with a loft has the same surface area as one without (and requires much the same materials) but provides significantly more floor useable volume.

A single storey pitched roof building can also be raised off the ground to provide an additional storey beneath at significantly less cost than building extra single storey space

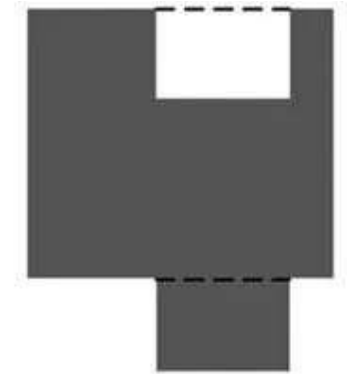
The key to cost effective energy efficient design is to use a simple compact form and consider flexible uses of space. Building more space than needed costs more to construct & more to heat.



SURFACE AREA
Good A/P ratio. Simple Shape



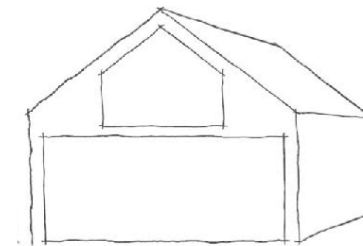
SURFACE AREA +10%
Loses 10% more heat
& costs +10% to build



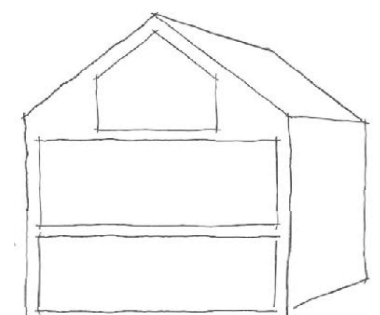
SURFACE AREA +20%
Loses 20% more heat
& costs +20% to build



SINGLE STOREY
No Loft



STOREY & HALF
Loft can deliver 50% extra space & little extra cost



TWO STOREY
Raising the building only requires additional walls and floor

3.0 ANALYSIS & UNDERSTANDING

3.4 Programme

The needs of the project has been identified as 'urgent'.

Critical Mass Architects were appointed November 11th to prepare this feasibility study following a site meeting, discussion and fee proposal with the intention to prepare this document to allow review of options by the Club.

Given the sailing season traditionally starts May it is not considered feasible that the project will complete prior to the 2023 season. It is therefore recommended that the project be scheduled for completion May 2024.

3.5 Cost

No budget has been provided for the project. Total construction cost is largely dependent on the size of the building proposed. A reduced construction cost can be achieved by building less or considering the project as a part of a phased proposal to be delivered over time.

The Arnside Sailing Club briefing document '2020 Current use and proposals' contained a cost estimate of £75,500 for a 23.2m² changing room with 2 toilets entitled Holt Green Changing Facility

A Cost plan has been prepared for a sketch option.

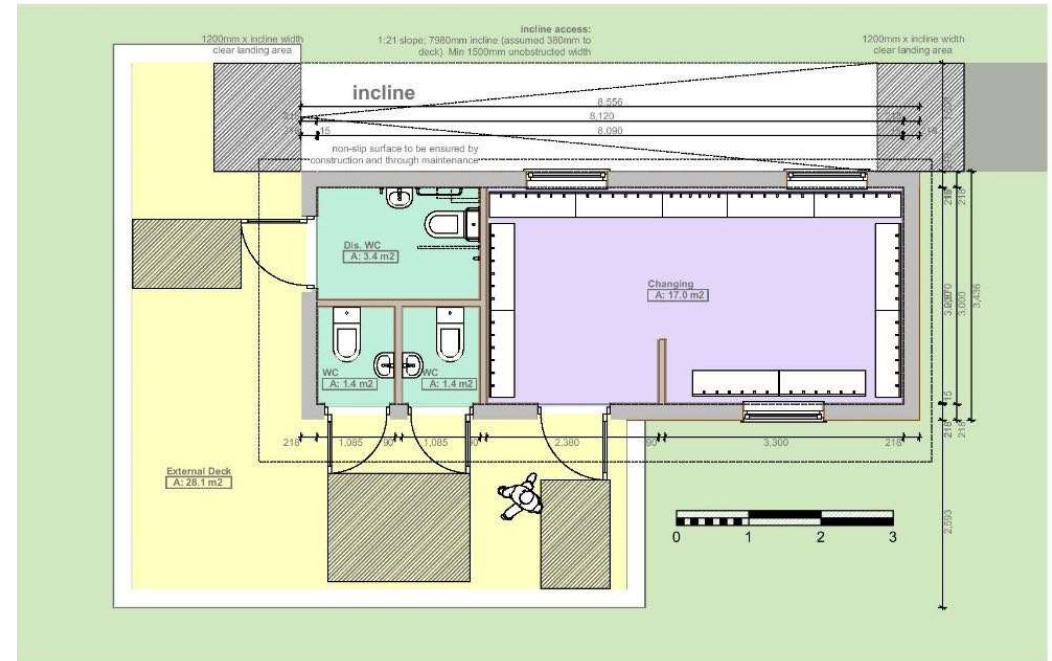
3.6 Risks

PLANNING: Ability to secure planning permission on the site. There is no guarantee of planning permission, much will depend on detailed design. Further works and cost may be required if design revisions, re-applications or appeals are required.

CONSTRUCTION : The design process should ensure that the project is financially feasible through budget costings at each stage of design.

CHANGE : It is a certainty that needs change over time. Design should consider the lifetime of the building and how this building might accommodate future needs. It is always cheaper to build today than tomorrow...

It is proposed to address these risks by review and discussion at each stage



Example Project provided by Manufacturer of Modular Buildings – Holt Green Changing Facility

Build Costs		
To supply one timber framed Learning Escape		£46,350.00
Outdoor deck		£4,900.00
Enabling Works/Site Preparation		
Basic site preparation		Included
New Build Construction		
Concrete pile foundations		Included
Drainage & service connectors		Included
Cedar clad timber frame as per standard spec		Included
Aluminium argon filled double glazed frames		Included
LED lighting		Included
Air source heat pump		Included
Acoustic ceiling board - plaster skim - painted emulsion finish		Included
Emergency lighting		Included
LST heating to ancillary spaces		Included
Extras		
Non-slip deck & ramped access		Included
Benches in changing room		£3,000.00
5 Sun Tubes		£1,250.00
Roller shutters to all openings		£6,500.00
Provisional sum to connect electric to existing container on site		£3,500.00
Provisional sum for supply & install of septic tank/cigester		£10,000.00
Fees & Surveys		
TGE to act as principle designer		Included
Building control		Included
Planning fees & application		Included
	Total Excluding VAT	£75,500.00
	VAT at 20%	£15,100.00
	Total Contract Price	£90,600.00
Payment Schedule		
Stage 1	Planning submission and full detailed design - 17.5%	£15,855.00
Stage 2	Completion of groundworks and off-site manufacture - 75%	£72,550.00
Stage 3	Completion of superstructure - 25%	£22,950.00
Stage 4	Water tight and internally lined - 22.5%	£20,345.00

4.0 SKETCH DESIGN

4.1 Design Approach

As the site lies within the AONB and several other sites of special importance the challenge is to develop a proposal respectful of both its setting and the surrounding natural environment.

Previous development of the site, has been 'hidden' by the nature of the site. Small single storey storage buildings, set back from the edge of the site, elevated above the beach and partially screened by the surrounding woodland and vegetation.

A critical decision is if the new building requires a view of the water.

The decision cannot be understated. It opens up the possibility to allow monitoring of the water and a great asset to assist in teaching. If on consideration a view of the water is considered important the approach of hiding the building will not be possible.

Therefore an alternative design approach will be required to produce a building that might positively contribute to the visual impact of the dinghy park.

It is recommended that the building be constructed to a passivhaus standard, to minimise energy use, to reduce its environmental impact. and ensure the future viability of the Club through minimising energy costs.

The sketch design is indicative only to establish the feasibility of whether the required facilities can be delivered on the site, within the known constraints as part of an outline design stage. It is not the only option but allows further discussion.



4.0 SKETCH DESIGN

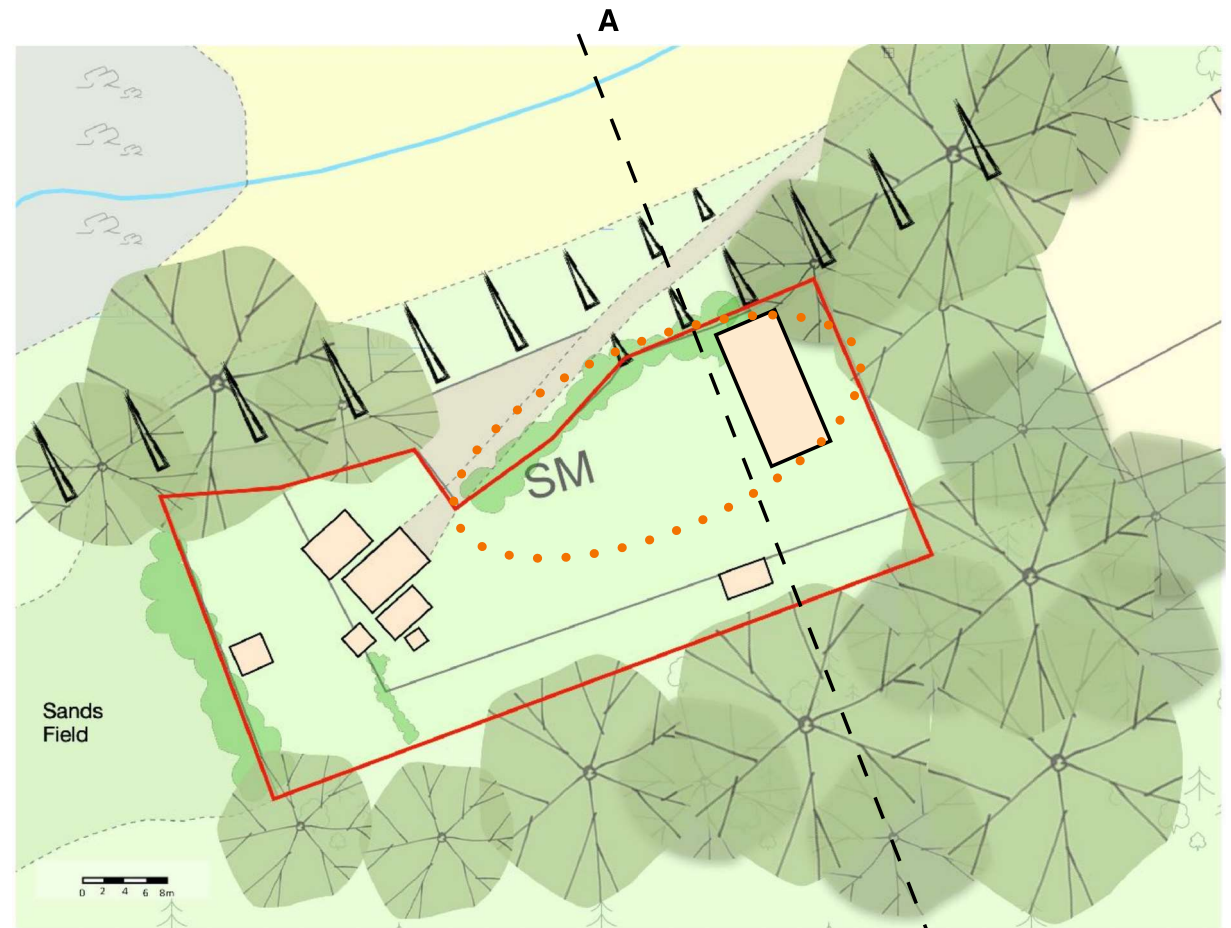
4.2 Site Layout

For the building to have a good view of the water it needs to be located close to the front edge of the dinghy park.

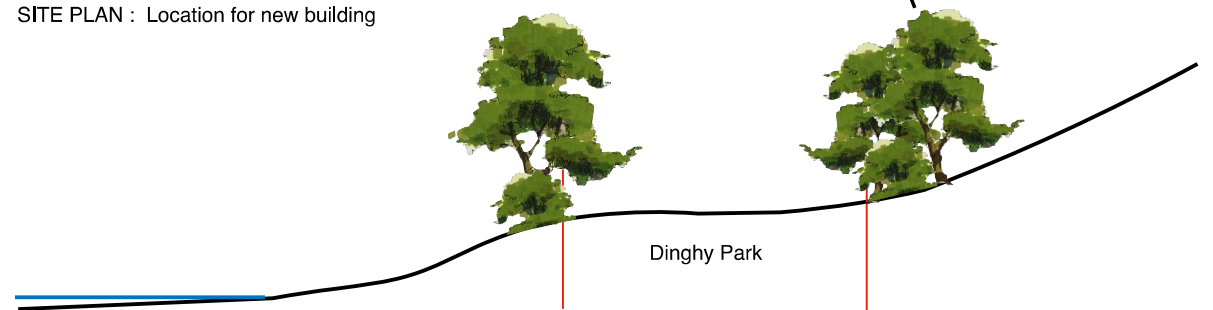
The West of the Dinghy Park is heavily screened and so unable to provide such views. The remaining potential area lies within the blue dotted area.

Locating to the East of the Site would optimise screening from existing trees and planting whilst ensuring that the new building does not become an obstruction to the storage and movement of dinghies.

A rectangular building with its thinnest side facing the beach is considered to result in the least visual impact



SITE PLAN : Location for new building



SECTION AA THROUGH SITE

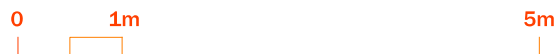
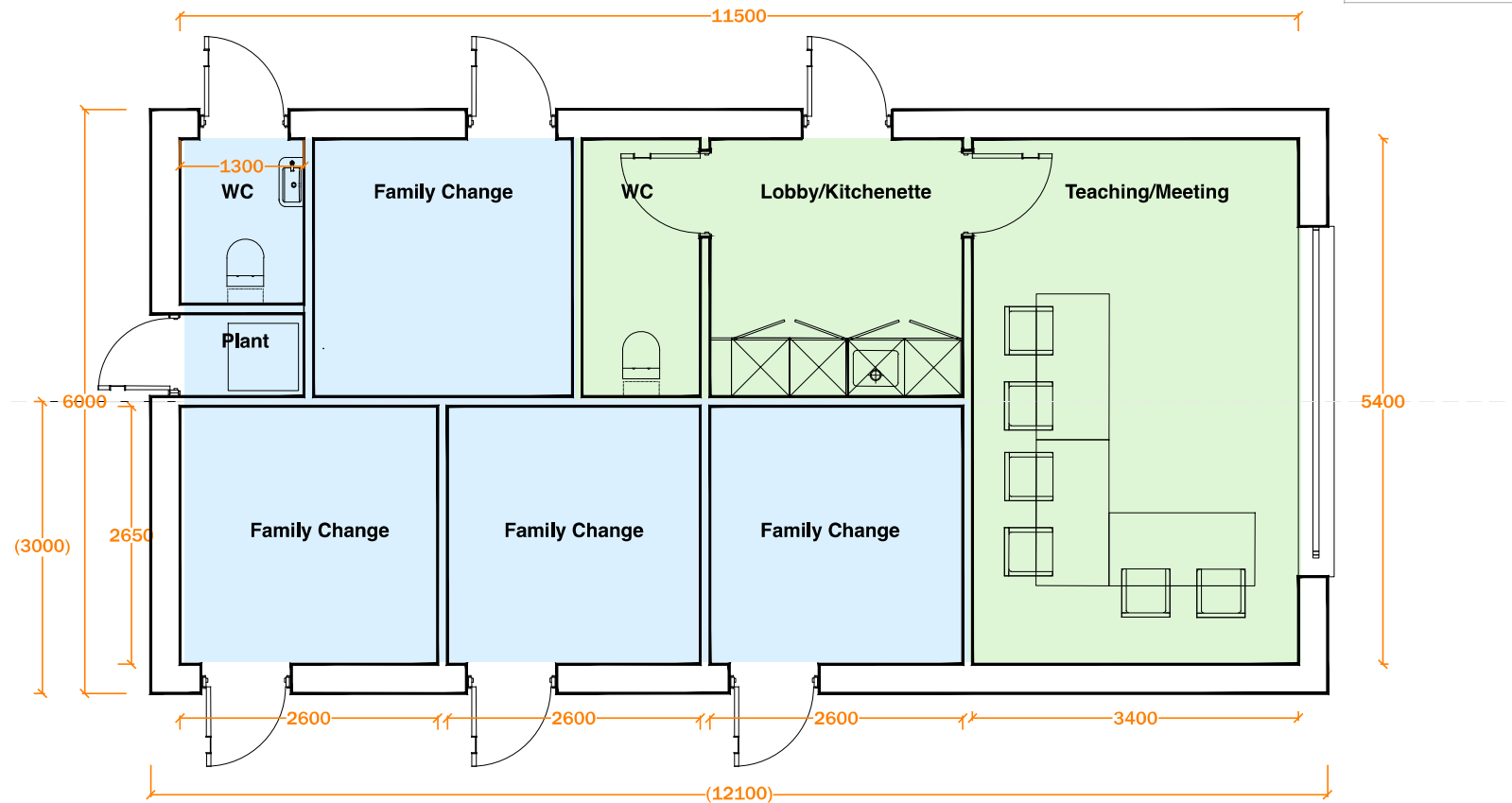
4.0 SKETCH DESIGN

4.3 Outline Proposal : Ground Floor Plan

Building footprint sized to allow possibility of offsite manufacture and delivery to site pre-assembled in two parts (2 x 40ft x 10ft) units. Not essential but possible.

- Family Change rooms enlarged to allow for shower (and WC if req)
- WC can be used as individual change

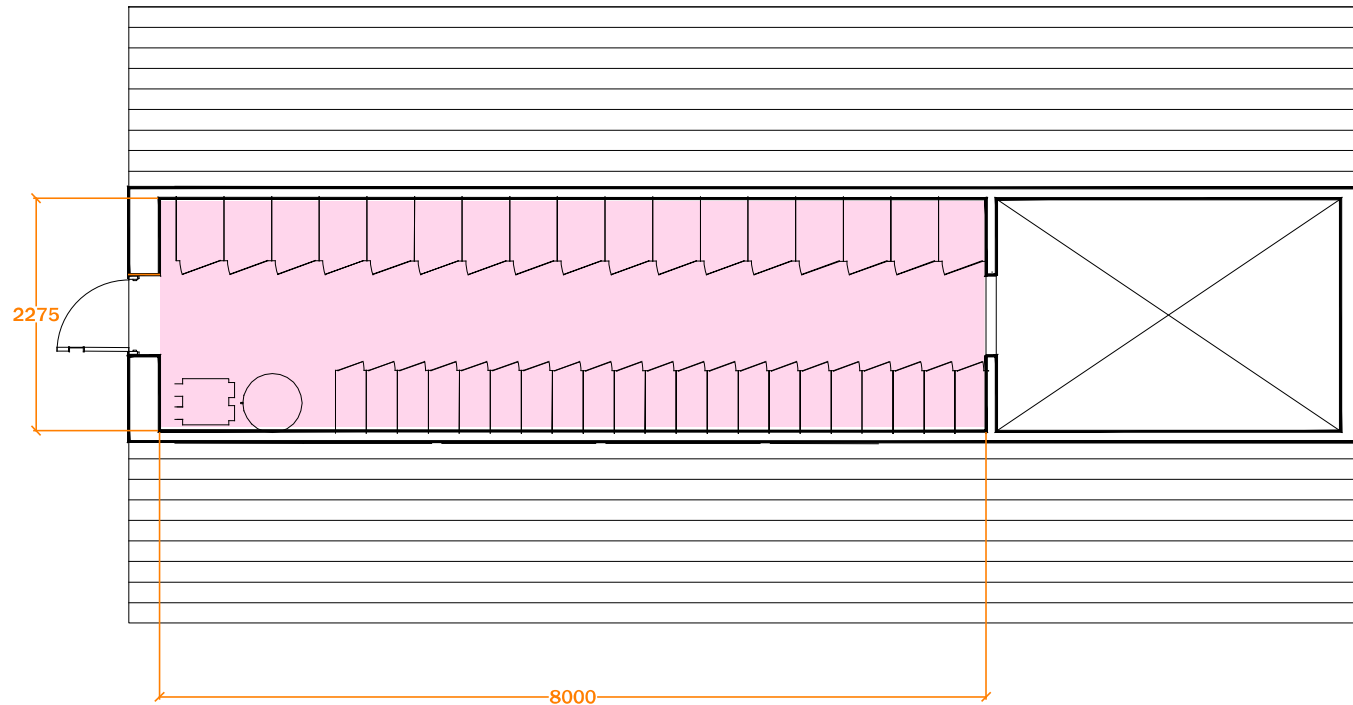
ACCOMMODATION SCHEDULE	
TOTAL FLOOR AREA	62m²
Family Change (4X 7m ² each)	28m ²
WC (2)	7m ²
Lobby/Kitchenette	7.5m ²
Teaching/ Meeting	18.5m ²



4.0 SKETCH DESIGN

4.3 Outline Proposal : Loft Plan

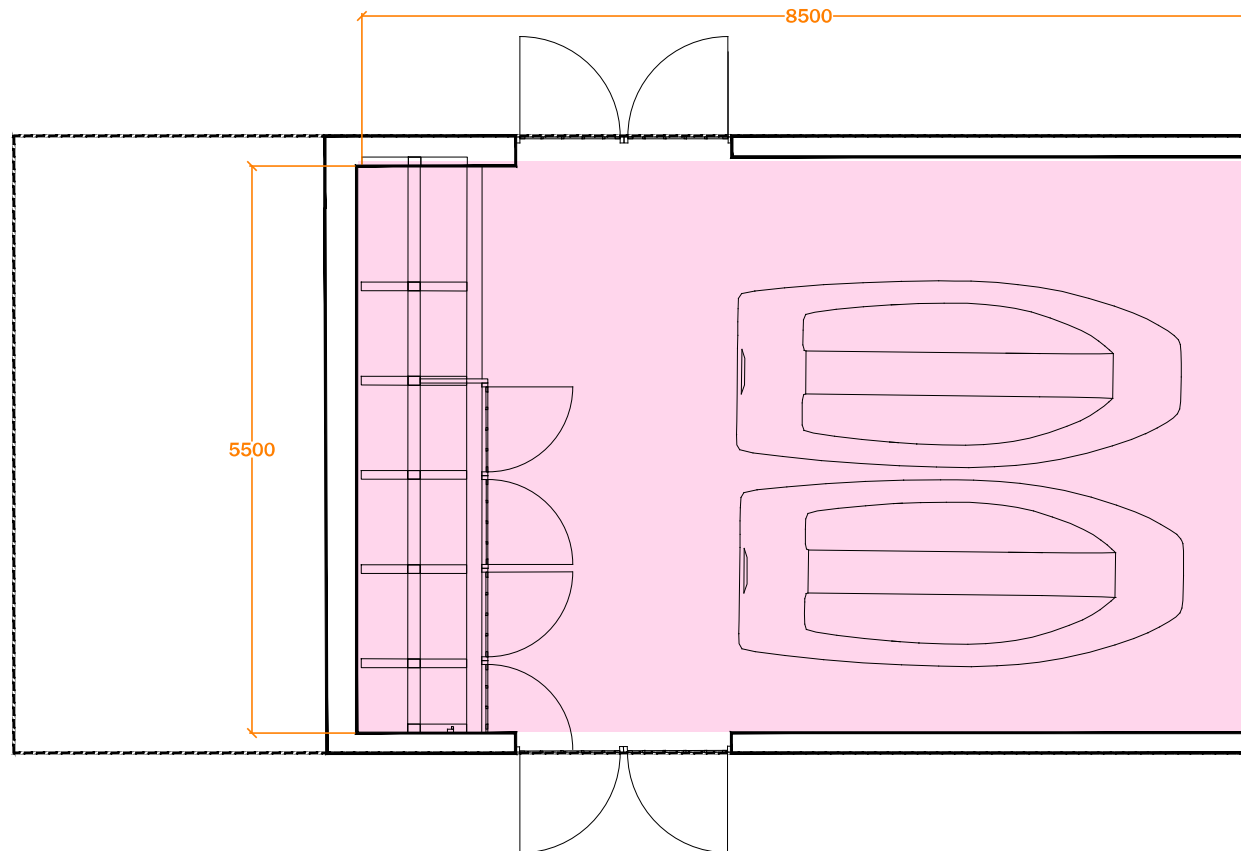
Depending on Final Design of the roof it may be possible to utilise the loft for additional storage space.



4.0 SKETCH DESIGN

4.3 Outline Proposa : Undercroft

Given the slope of the site it may also be possible to introduce additional space below



4.0 SKETCH DESIGN

View from Ramp



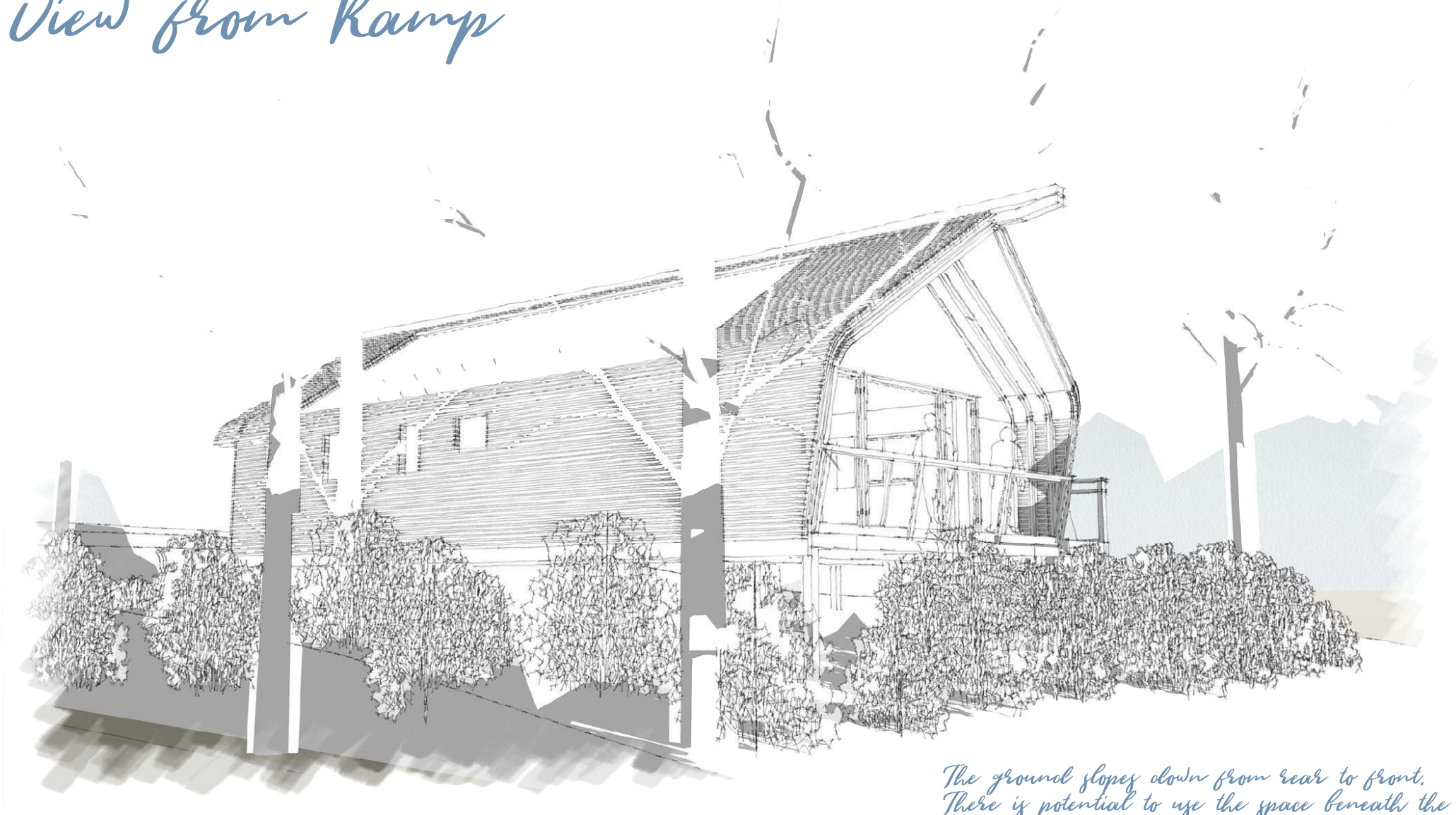
4.0 SKETCH DESIGN

View from Ramp



4.0 SKETCH DESIGN

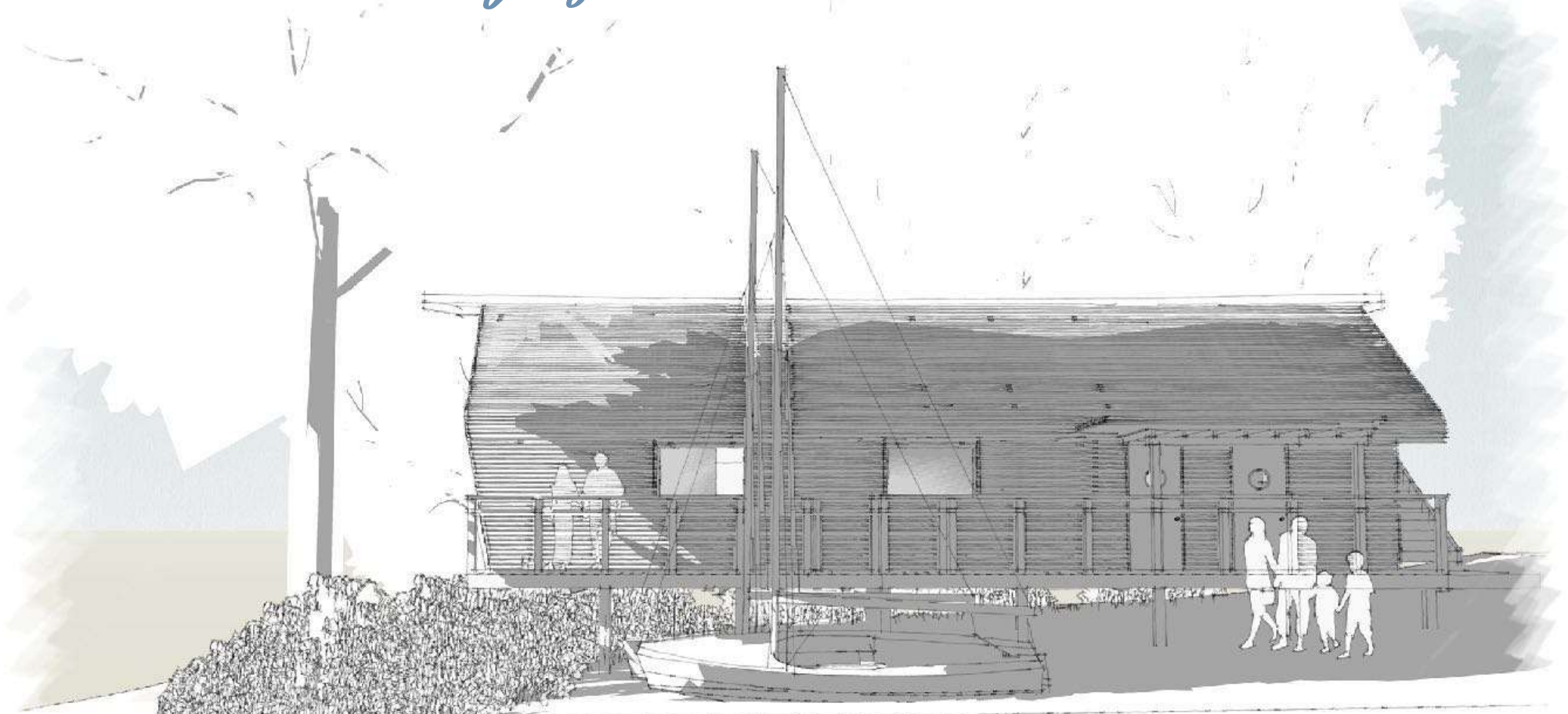
View from Ramp



*The ground slopes down from rear to front.
There is potential to use the space beneath the
new building for additional storage/workshop.*

4.0 SKETCH DESIGN

View from Wingly Park



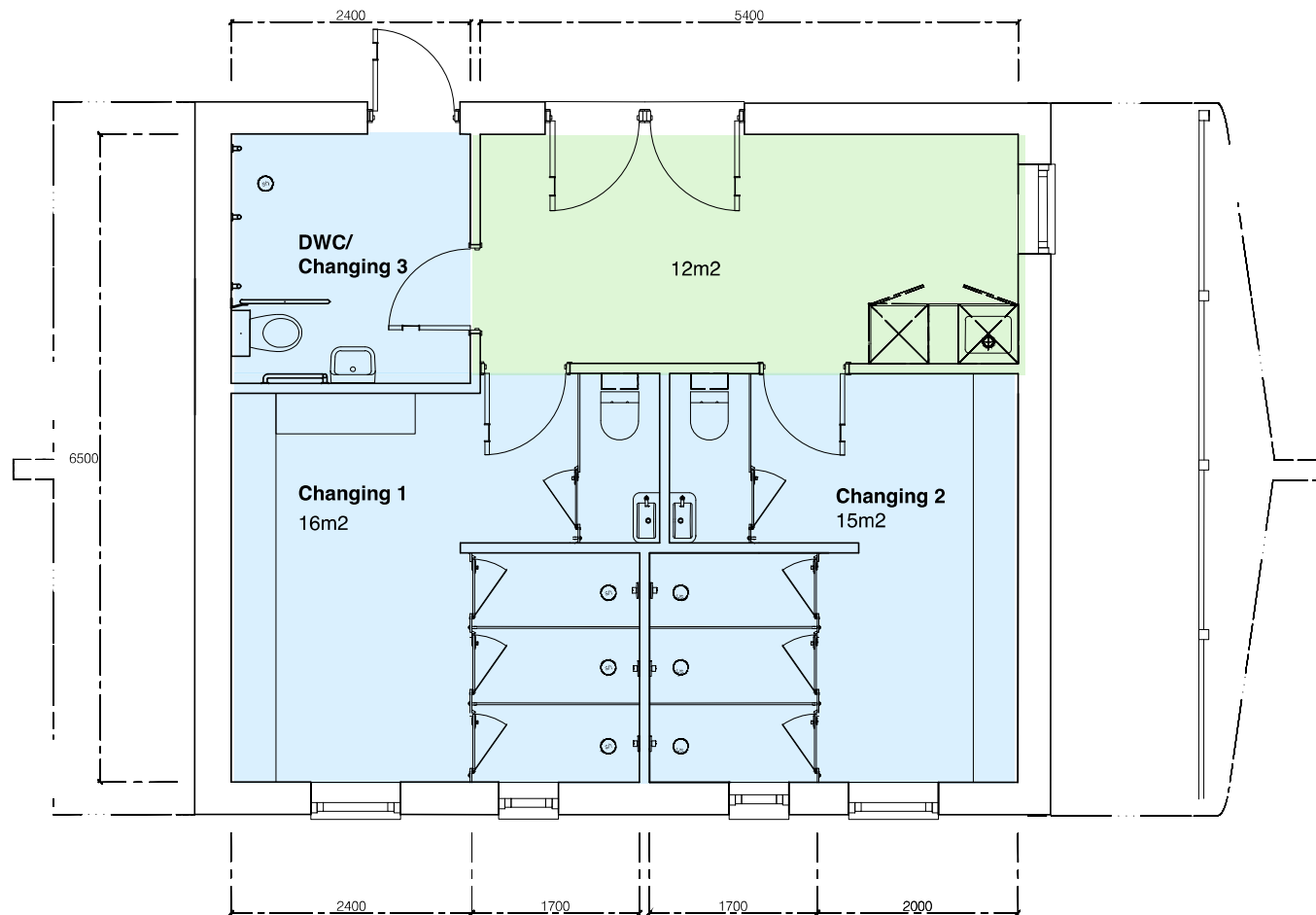
*The ground slopes down from rear to front.
There is potential to use the space beneath the
new building for additional storage/workshop.*

4.0 SKETCH DESIGN

4.4 Alternative Proposal

Phase 1 of a 2 Stage Proposal

ACCOMMODATION SCHEDULE	
TOTAL FLOOR AREA	54m²
Changing (inc showers & WC)	31m ²
DWC	7m ²
Meeting/Teaching/Kitchen	12 m ²



4.0 SKETCH DESIGN

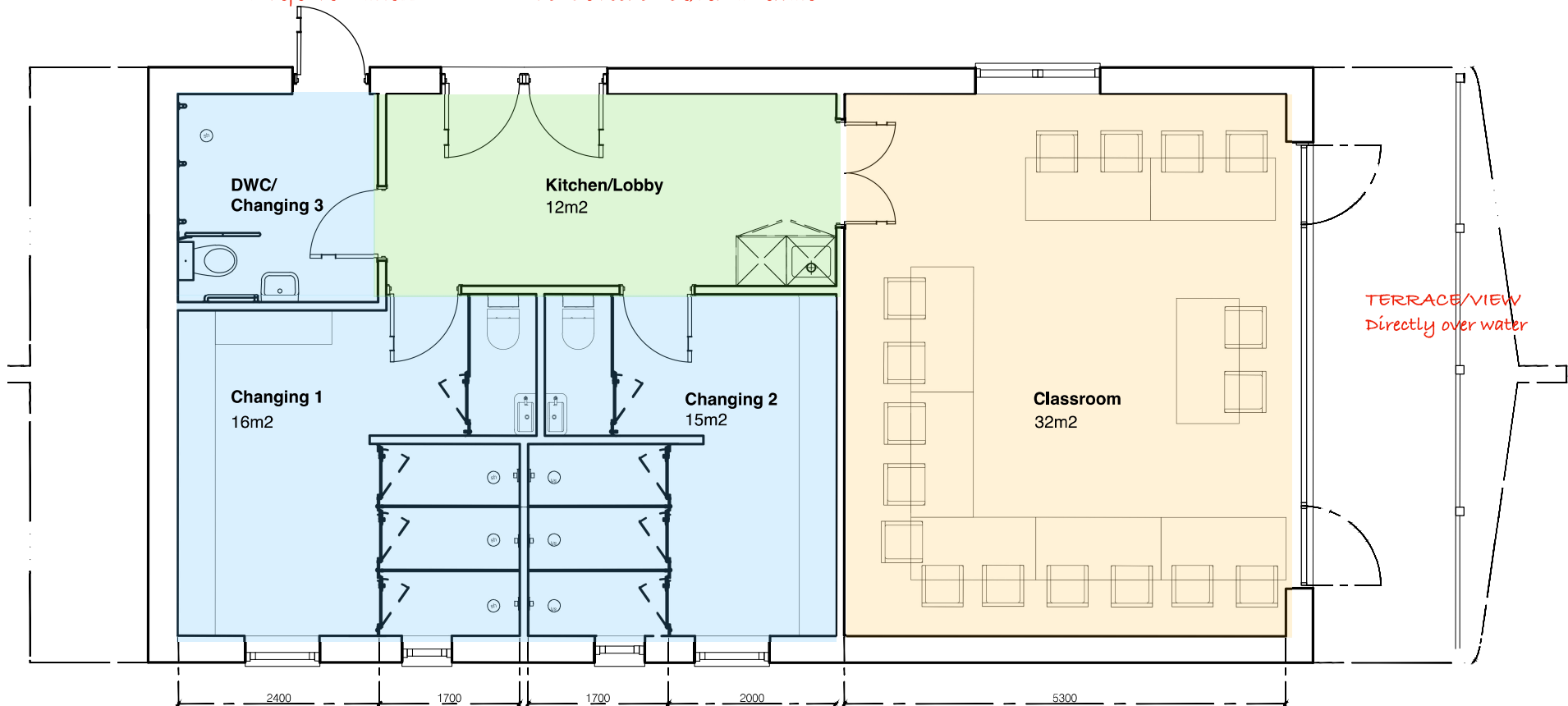
4.4 Alternative Proposals

Phase 2

ACCOMMODATION SCHEDULE	
TOTAL FLOOR AREA	86m²
Changing (inc showers & WC)	31m ²
DWC	7m ²
Lobby/Kitchenette	12 m ²
Teaching/ Meeting	32m ²

WC (key code)
DWC accessible/change
independent access.

ACCESS
Single access only.
Double door onto external terrace?



TERRACE/VIEW
Directly over water



4.0 SKETCH DESIGN

4.5 Materials

It is possible to build most of the building from timber.
Timber is one of the truly renewable building resources and would be considered complimentary within a woodland setting.
The use of Timber creates its own aesthetic.



4.0 SKETCH DESIGN

4.6 Recommended Design: Budget

CONSTRUCTION COST : INDICATIVE COST PLAN

A preliminary cost estimate has been prepared based on the recommended design and a possible alternative.

The Costing is derived from a cost per metre build cost of £3,000per m2 to which have been added allowances for fitting (showers, WC's etc)

Typically we would suggest £2,500 for works of this kind but the current building market is fluid and prices have (and could) fluctuate by +/-20% dependent on materials and labour prices and inflation. A detailed costing should be sought at detailed design stage.

It may also be possible to achieve a significant cost reduction if it is possible to manufacture and transport to site sized as a typical park home. It may also be possible to adapt a park home to the preferred configuration? and then clad to suit?

With a single storey building there is considered considerable grounds for cost saving with the involvement of club members for various parts of the works. The digging of new drainage etc.

INVESTMENT COST : PASSIVHAUS

It is estimated that constructing to a passivhaus standard typically increases cost by circa 10% (in this instance £30K). Largely as a result of increased insulation and the use of mechanical ventilation with heat recovery.

The result of this additional investment is a significant reduction in the energy demand of the building and therefore the annual running cost. A typical passivhaus uses just 10% of the energy of an identical modern building constructed to building regulation standards.

This saving of 90% of heating bills per annum will be reflect in lower ongoing costs to the club. If a heat pump is used for heating then the building would be carbon neutral by 2030.

Job no: 133		Job title: Arnside SC
Cost plan 1/ Sailing Club Facilities/141222		
Gross floor area (m²)	63	
<i>All Estimates are indicative, having no actual schedule of works</i>		Cost of element
Site Enabling Works		5000
Construction Cost	£3000.00	£189,000.00
	6 showers, 2 WC	£17,500.00
Services		
	New Drainage	£12,000.00
	New Water Main	£5,000.00
Additional	Landscaping	£2,000.00
	Terrace Decking	£4,000.00
	Rear Canopy	
Total	Excluding VAT and contingencies	£234,500.00
	VAT (TBC)	0% £0.00
	Architects Fee	8% £17,587.50
	Planning Fee Est.	£900.00
	Building Control Est.	£1,000.00
		£253,987.50

Job no: 133		Job title: Arnside SC
Cost plan 2 /Sailing Club Facilities Alternative Option		
Gross floor area (m²)	86	
<i>All Estimates are indicative, having no actual schedule of works</i>		Cost of element
Site Enabling Works		5000
Construction Cost	£3000.00	£258,000.00
	7 showers, 3 WC DWC	£20,000.00
Services		
	New Drainage	£12,000.00
	New Water Main	£5,000.00
Additional	Landscaping	£2,000.00
	Terrace Decking	£4,000.00
	Rear Canopy	
Total	Excluding VAT and contingencies	£306,000.00
	VAT (TBC)	0% £0.00
	Architects Fee	8% £22,950.00
	Planning Fee Est.	£900.00
	Building Control Est.	£1,000.00
		£330,850.00

4.0 SKETCH DESIGNS

4.7 Inspiration



Sailing Club incorporating boat storage



Recent Sailing Club changing and meeting room in an Area of Outstanding Natural Beauty by Critical Mass Architects



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5.0 NEXT STEPS

5.1 Review This Document

Consider

- whether to proceed with an outline design based on this feasibility study or whether an alternative need be considered.
- If the brief should be reexamined to include a longer term club strategy for the club, its aims and objectives and how this project might assist in the delivery of these objectives to ensure the ongoing and future viability of the club.

5.2 Form a Project Design Team

To assist decision making and help ensure all opportunities are considered to advance the club objectives.

5.3 Develop the Design

This Feasibility Study considers there is a more than reasonable prospect that the clubs brief and sketch proposal is deliverable at the site, subject to detailed design.

It may be possible to use the space beneath the new building to provide additional uses for the building (storage or workshop etc.)

Planning Approach.

The planning authority have a good knowledge of the site from a recent planning application and so it is recommended that any further design work should focus on ensuring that proposals address the constraints of the site.

A key decision should be the consideration whether it is proposed to hide the building or whether views of the water are required.

Detailed design will be a careful consideration of Statutory decision makers given the policy requirement of development within an Area of Outstanding Natural Beauty.



Should the club consider incorporating a workshop underneath the building as a workshop?

ABOUT US

CRITICAL MASS ARCHITECTS

Michael Simmons RIBA IHBC is the Principal Architect at Critical Mass Architects. Experienced in the design and construction of low energy buildings within the challenging constraints of both land and marine settings. Recent projects include a new clubhouse on the River Dart, Redevelopment proposals for Dolphin Shipyard (the historic home of the Brixham Trawler).

With significant experience of sensitive sites & understanding how to manage and balance the needs of stakeholders, working with statutory and regulatory bodies,(MMO/AONB/EA/LA/NE etc) funders and the local community to achieve positive outcomes for all.

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mass
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