MOTT MACDONALD

BRIGHTON AND HOVE BEACH CHALETS AND HUTS

BRIGHTON AND HOVE CITY COUNCIL

Contents

01 Introduction & Project Brief
02 Site Analysis
03 Typology Analysis
04 Chalet Design Proposals
05 Summary and Conclusions

Project Team

Project Manager

Stuart Croucher

Architects

Louise Urquhart
Paul Mason
Hattie Smith
Colin Armstrong

Introduction

This study aims to evaluate a selection of different sites for the proposal of new locations for beach chalets along Brighton and Hove's seafront and cliff area. Additionally, there will be sketch design proposals for new beach chalets. This will recognise that these chalets do not solely function as beach side storage but are places themselves that the public have a real fondness for and often owners can be found spending their entire time by the beach sitting outside their hut or chalet.

The sketch design options explored in the following pages are the result of an initial contextual study carried out to evaluate the feasibility of a number of different sites and how best these sketch design options fit into the site and Brighton and Hove's seafront surroundings.

Feasibility Studies

The design concept emerging from this document is the result of contextual research undertaken to understand Brighton and Hove, it's past, present and future ambitions as a seaside town. The studies are informed by the existing context, the emerging seafront development, masterplans, the historic architecture of Brighton and Hove and the vernacular forms of the beach hut.

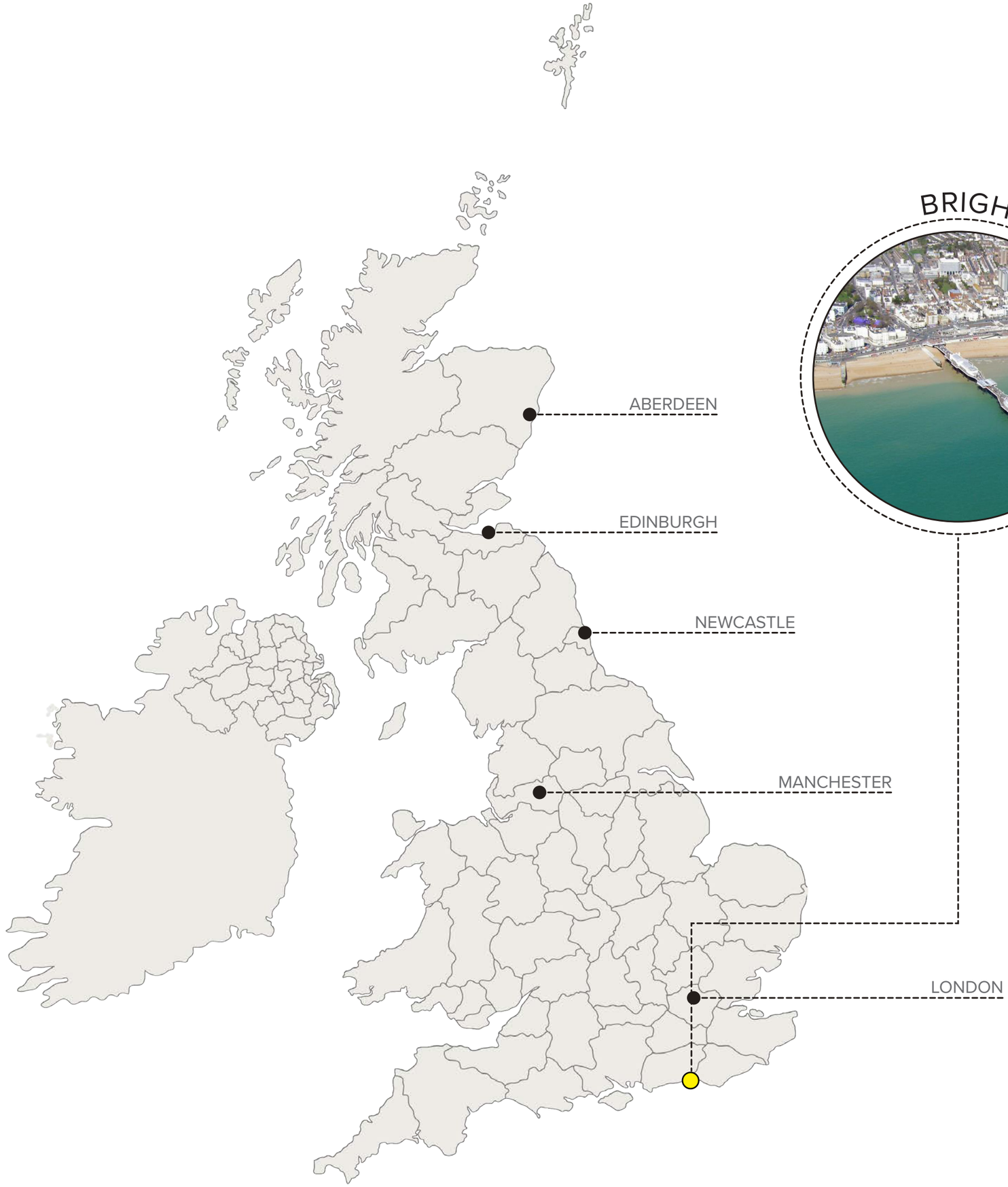
01 Introduction & Project Brief

1.1 Site Location

The site relevant to this study is located on the south coast of England in the seaside town of Brighton and Hove.

Brighton and Hove is directly connected to London and Gatwick Airport by rail and is also easily accessible from the major ports of Dover, Portsmouth, Southampton and the industrial port of Shoreham, 5 miles from the centre of Brighton. The A259 main road connects Brighton and Hove to much of the south coast and neighbouring towns. Rail links to London allows visitors to easily travel to Brighton and Hove, with train journeys only being an hour long. The city offers sustainable transport links via its cycle network, buses and a bike sharing scheme.

The proposal for a collection of new beach chalets spread out across a number of potential site locations will provide Brighton and Hove a further opportunity to develop their Beach front, especially the location of Madeira Terrace and Black Rock which is in need of restoration. These proposals will bring much needed activity and support to these areas whilst aiming to accommodate the rise in demand for beach chalets.



Project Site Location

1.2 Local Context

1. Hove Lawns - provides open green space in the city looking out directly towards the sea and is used for lawn bowls and tennis. In the summer these grassy areas become a hub of activity serving as a public gardens. During the pandemic they have provided public space for people to play sports in the winter.

2. Brighton Train Station - offers direct connections to London and Gatwick Airport.

3. Cycle Lanes - connects to most of Brighton and Hove's nearby coastal locations. It runs the entire length of the promenade and continues along the Undercliff.

4. Madeira Terrace - is considered the longest cast-iron structure in Britain however, has suffered weathering from the marine environment for more than 100 years, and needs restoration. It fronts onto the city's major event space, hosting 24 major events every year.

5. Brighton and Hove City Centre - has all the facilities of a large city and the city centre is only ¼ mile inland from the beach.

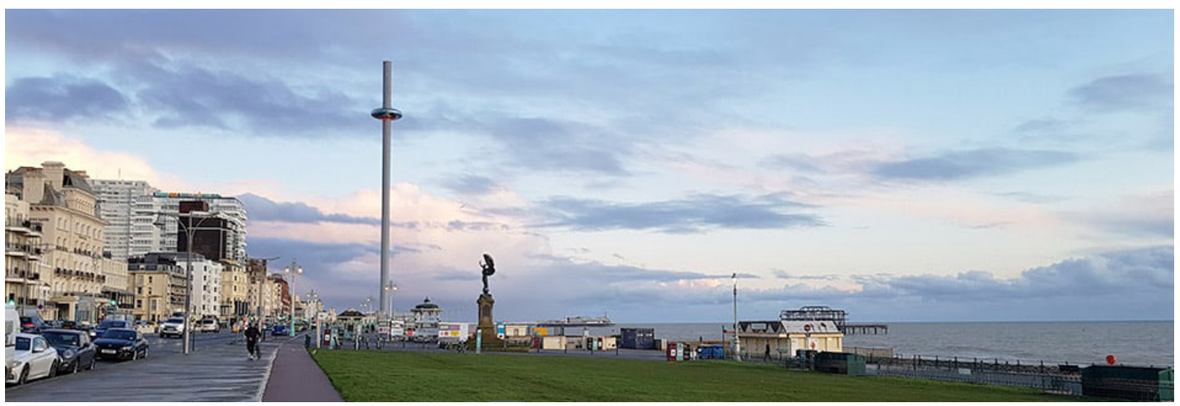
6. Existing Chalet Locations - beach chalets act as a more robust, permanent beach hut and are built of a brick construction with varying levels of access to water and electricity.

7. Potential redevelopment plans for Black Rock seafront and Brighton Marina.

8. Cliff and Undercliff edge - allows for pedestrian access to the more rural coastal locations such as Saltdean, Ovingdean and Rottingdean.

Undercliff Walkway Edge

Rottingdean Chalets



Hove Promenade and Lawns

02 Site Analysis

2.1 Site History

Brighton and Hove's Origins

Brighton and Hove was originally an agricultural and fishing village surrounded by fields and coastline. The transformation from small fishing village to urban spa town saw Brighton's population grow rapidly in the 1700's due to doctor's prescription of the cold sea bath as the latest 'cure-all' remedy. The sick flocked to the coast with their families, and this resulted in huge demands for accommodation and entertainment, where the modern concept of the seaside emerged. This newfound interest from the public in visiting the seaside led to the development and urbanisation of seaside towns and villages.

Beginnings of The Beach Hut

The first type of beach hut was designed around this time and was referred to as a bathing machine. They were portable and horse drawn serving the purpose as a changing room to preserve a bather's modesty, while simultaneously taking one person at a time from the top of the beach down to the sea water.

Victorian Era

By 1837, bathing machines and swimming in the sea were already all the rage. Men's bathing machines had initially been kept separate from the women's ones, but by the 1900's this separation disappeared due to Britain's desire to be like the rest of Europe. As it became more acceptable for people to walk along the beach in their swimwear the bathing machines lost their function but remained on shore as the modern day beach hut.

Pre and Post War

Despite beaches being largely unusable during both world wars, the seaside remained popular in the inter-war period and the public's love for swimming in the sea came back stronger once WW2 ended. In 1928, Rottingdean parish was absorbed by Brighton and Hove and in order to protect the coastline an impressive sea wall at the base of the cliffs was constructed, initially from Black Rock all the way to Rottingdean. This became known as the Undercliff Walk, which was designed by engineer David Edwards. This opened in July 1933. It was extended to Saltdean Gap in July 1935 when the Rottingdean swimming pool was built to replace bathing facilities lost to the wall. A final short addition to the wall extended it to the very end of the borough boundary making it a total of 3.35 miles long.

Future Plans Brighton and Hove

The demand for beach huts and chalets has recently grown. Brighton and Hove's seafront is set to be revitalised with an aim of returning Madeira Terrace and Drive to its former glory, where a vibrant hub of activity on the seafront will help boost Brighton's economy and seaside appeal. Madeira Terrace is a unique structure originally built as a covered promenade to attract tourists from London when the new railway opened in the late 1800's. The first stage of restoration aims to restore and activate at least 30 of the 151 arches that make up Madeira Terrace. Black Rock regeneration project will also seek to redevelop another important seafront site, creating transport links to the eastern seafront, and new infrastructure improving the experience for all who visit.

Bathing Machines

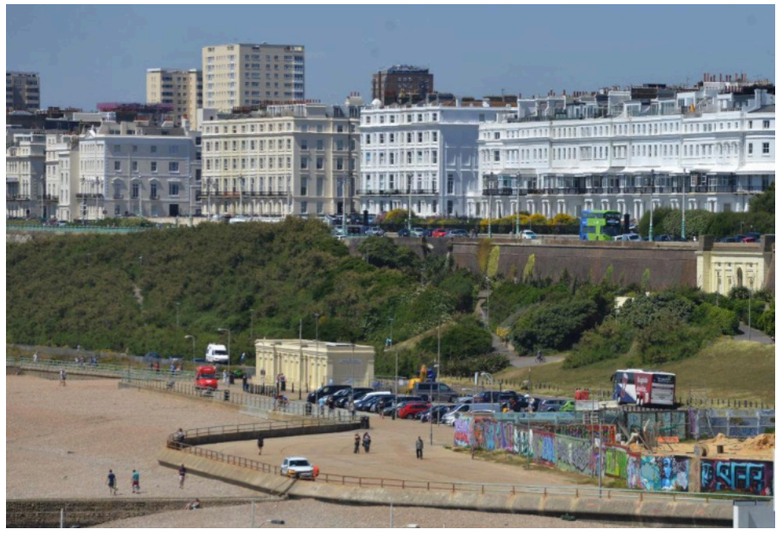
The Maderia lift and terrace 1900

Brunswick Terrace, Hove, part of the Brunswick estate development of 1820 with Hove Lawns in front

Madeira Drive Beach with typical Regency architecture

Present day Maderia terrace in which some arches are set to be restored

Beach huts in Hove



Black Rock seafront which is set to be redeveloped

2.2 Existing Context

Black Rock Seafront

Plans for Black Rock Rejuvenation Project seeks to significantly improve the area's surrounding environment and infrastructure of the eastern seafront. It will also provide much needed upgrades that will promote greener, more sustainable travel and improve connectivity between the eastern seafront, Black Rock and Brighton Marina.

Hove Cycle Lane & Lawns

Hove Cycle Lane has been vital to promoting a more sustainable approach to travel by encouraging people to drive less and use alternative greener transport methods. There are currently schemes which include a westward extension of the A259 seafront cycle lane and the temporary A270 Old Shoreham Road Cycle Lane in Hove along the Portslade Stretch.

Hove Beach Chalets

Hove beach chalets are located at a few points along Hove's promenade in line with the beach huts. These beach chalets offer a more robust storage down on the waterfront, with access to water and electricity.

Madeira Terrace & Drive

Madeira Terrace and it's original cast-iron structure is set to be restored with the ambition of using the Terrace as an all year-round events space. The project looks to boost sustainable tourism and promote local culture.

Black rock seafront view from Brighton Marina

Hove cycle lane looking out across the lawns

Hove beach chalets, some have suffered recent vandalism.

Present day Maderia Terrace and drive

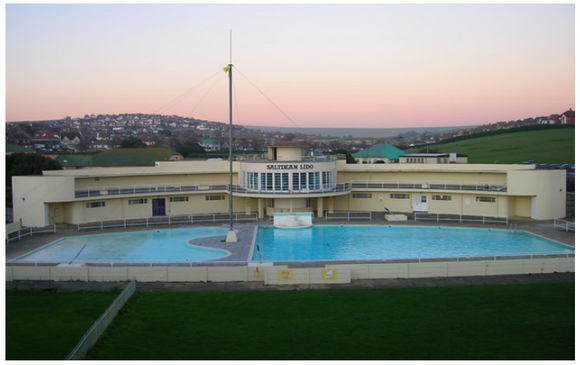
Saltdean Undercliff Walkway

The three coastal beaches of Ovingdean, Rottingdean and Saltdean are accessible on foot via the Undercliff walkway. These locations offer more privacy and peace away from the busier seafront of Brighton and Hove, making it more attractive to locals to rent beach chalets here rather than in the town. The undercliff walkway stretches from the Brighton Marina all the way to Saltdean and is also popular with cyclists who can cycle along the coast segregated away from motor traffic.

Saltdean Lido and Library

Saltdean was widely undeveloped land in the 1900's but by the 1930's became a desirable and attractive seaside suburb to Brighton and Hove. Once tourists began to visit Saltdean it became a fashionable beach resort town. The interwar years fuelled the nation's love for sport and leisure, lidos and outdoor leisure facilities became very popular. Plans for a luxury hotel, named 'The Ocean Hotel' and a lido swimming pool were to be designed and built in Saltdean, which was completed in May 1938.

Ovingdean Chalets



Saltdean Lido and Library

Rottingdean Chalets

Saltdean Undercliff Walkway

2.3 Materiality

Maderia Terrace Arches

This Victorian arched promenade delinates the eastern portion of beach front before Brighton pier. The iconic victorian iron work and pastel colour scheme defines the character of this area.

Boats and Beach Huts

The traditionally designed beach huts which line most of Brighton and Hove beach shore line are an iconic image of the city itself. Their simple modular shed like design is animated by the vibrant coloured paint used by owners to treat the doors and helps break the monotony.

Chalk Cliffs

The chalk cliffs which begin in Brighton and continue on through to Saltdean and beyond are natural formations of rock which are formed by layers of chalk that have built up gradually over millions of years.

Victorian Ironwork in Maderia Terrace

Boats and Brighton's fishing village origins

Beach Huts

Chalkcliffs

2.4 Project Aspirations

Shelter and Light

Beach chalets function as storage containers, but also allow owners to inhabit their own portion of the beach front. It is not uncommon for owners to spend their entire time at the beach outside their chalet. The chalets are used for shelter, definers of space and could be further utilised by making the interior more plesant. This could be achieved by introducing more natural light.

A Sense of Place

In some beach and chalet locations, there is already a sense of place created by the presence of the beach. It will be required, to maximise the number of viable sites, for some of the chalets to create their own sense of place, where direct access to the beach is not possible.

Contemporary beach huts, Southend

Coastal defence sea wall with an elevated promenade, Millford-on-sea

Heavy and Light Construction

Heavy construction, such as concrete, is the obvious choice of material to resist the harsh marine environment and to be resilient to falling chalk, cliff debris and the risk of vandalism. However, with heavy construction there is an economic and environmental impact. A lighter, sustainable construction method could help address this, but requires considered design to mitigate the above outlined risks associated with a cliffside location.

Monolith or Diminutive

The more resilient construction and the economy of building end on chalets, give these structures a more monolithic feel. The beach huts by contrast are more diminutive, resembling garden sheds with their double-pitch roofs and vibrant colour variance. The former tends to mean that many of the chalets have an imposing and industrial feel while the beach huts are more charming.

Hoenderloo lodge formed by site-specific conditions, MVRDV

Recycled timber cabins connect to views of nature and water

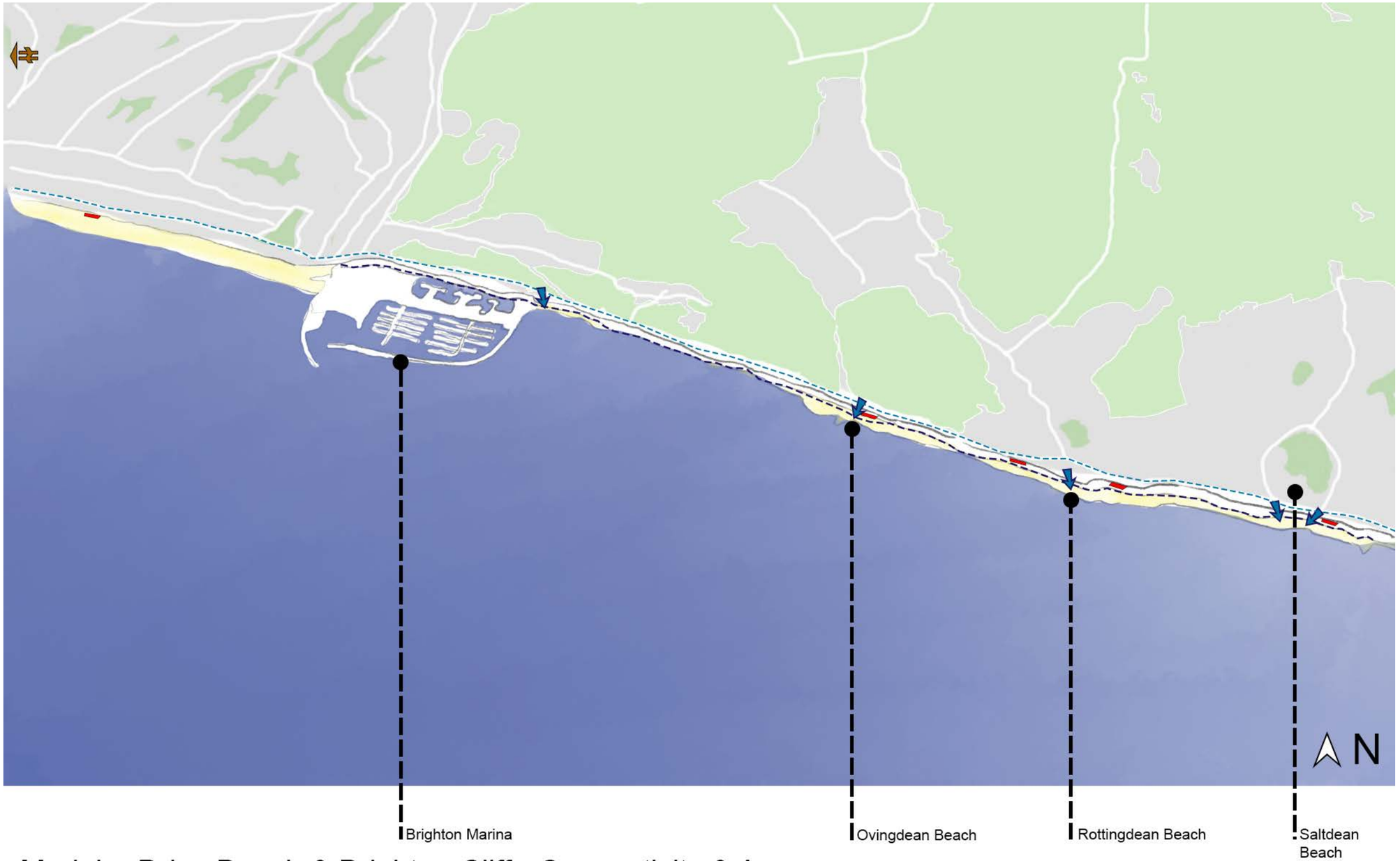
Brighton and Hove - Existing Chalet Locations

Currently Brighton and Hove's City Council rent out chalets at 5 different locations. These are issued for a fixed 5 year period with a yearly fee. There is currently a closed waiting list only open to Brighton & Hove residents.

1 of the 5 chalets is located on Hove beach front. Another is located on Brighton's beach front and the remaining 3 are at different points on the Undercliff. 2 of these 3 are on the beach fronts of the towns of Rottingdean and Saltdean, and the final 1 of 3 is at the remote beach location of Ovingdean.

Beach & Cliff - Under Cliff Route Extent

The Undercliff, which was originally constructed to reinforce the chalk cliff face against sea erosion, functions as a pedestrian and cycle route that connects the Undercliff chalets to the city, and is completely segregated from motor traffic.



Madeira Drive Beach & Brighton Cliff - Connectivity & Access

Brighton Train Station

Line of Bus from Train Station along Coastal Road

Arrows Indicate Pedestrian Access Down from Cliff Top

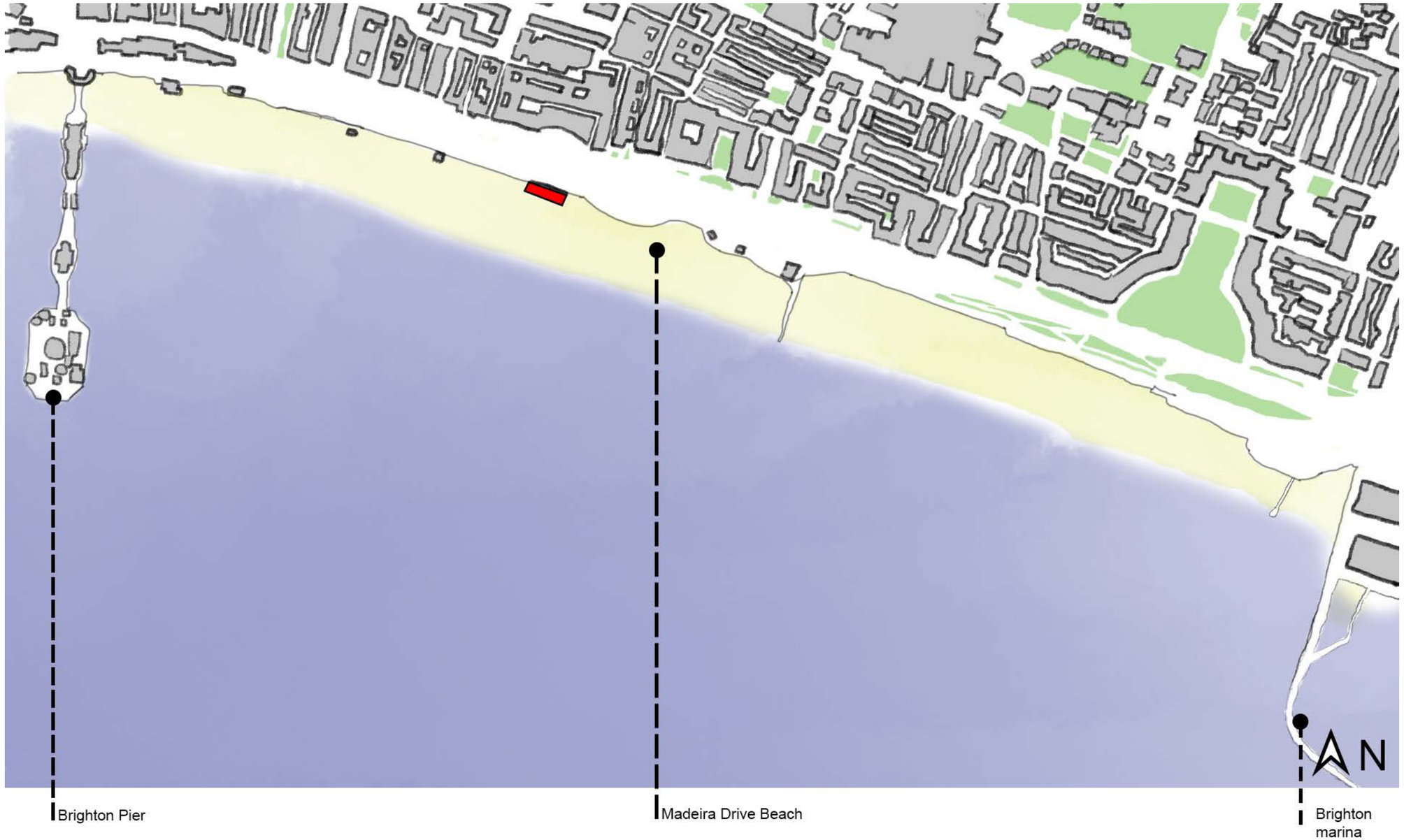
Existing Beach Challet Locations

Beach & Cliff - Connectivity & Access

The Undercliff chalets can also be accessed via car and bus along the coastal road.

These bus routes run the length of the coast and into the city, with some directly linking to Brighton train station.

All current beach chalet locations on the Undercliff are placed within close proximity of access points. These access points provide a safe means down from the top of the cliff onto the Undercliff itself.



Madeira Drive Beach

Existing Beach Chalet Locations

Madeira Drive Beach

Opportunities to site new beach chalets exist on Madeira Drive Beach.

The area is defined as the stretch of beach between Brighton Pier and the Marina. Madeira Drive will also be considered as another potential location in this study.

Madeira Drive Beach - Site Barriers

Existing Beach Challet Locations
Car Parking
Madeira Terrace Arches
Volk's Electric Railway

Madeira Drive Beach - Site Barriers

Madeira Drive Beach already has one of the current beach chalets on its beach front. In proposing any new locations for beach chalets, consideration of the site barriers to pedestrians is required.

The Madeira Terrace Arches separate Marine Parade from Madeira Drive, this is due to the dramatic change in level which continues along the extent of this portion of the beach.

The beach is cut off from consistent direct access to Madeira Drive, the beach's main pedestrian thoroughfare, by the Volk's Electric Railway.

Madeira Drive Beach - Site Transit

Existing Beach Challet Locations
Primary & Secondary Vehicle Routes
Madeira Terrace Arches
Car Parking
Cycle Lane Route
Volk's Electric Railway

Madeira Drive Beach - Site Transit

Marine Parade is the primary vehicular route in this location. The change in level between Marine Parade and Madeira Drive creates a barrier to the busier car and bus traffic, and gives the secondary vehicular route, through Madeira Drive, congestion relief.

As a result of the lower volume of traffic and the proximity to the beach, Madeira Drive is a more pleasant place for pedestrians. This area also functions as a major event space for the city.

This street also incorporates a dedicated cycling route which runs along the beach front. This cycling route connects Hove in the East of the city to the Undercliff via the length of Brighton Beach.

Madeira Drive Beach - Pedestrian Access

Existing Beach Challet Locations
Madeira Terrace Arches
Car Parking
Volk's Electric Railway
Arrows Indicate Pedestrian Railway Crossings & Other Access Points
Arrows Indicate Pedestrian Access Down Through Madeira Arches

Madeira Drive Beach - Pedestrian Access

By identifying the pedestrian access through the site barriers, locations for development that are both accessible and do not create new barriers can be found.

At present the Madeira Terrace Arches are closed for refurbishment, but the arrows indicate the normal points of access they provide down through the arches themselves from Marine Parade to Madeira Drive.

Volk's railway is another identified site barrier and cuts off the beach from Madeira Drive. The blue arrows indicated the crossing points which permit access. Additionally, the arrows not crossing the rail line indicate access onto the pier and down a change in level from Madeira Drive onto the beach.

Madeira Drive Beach - Black Rock Rejuvenation Project

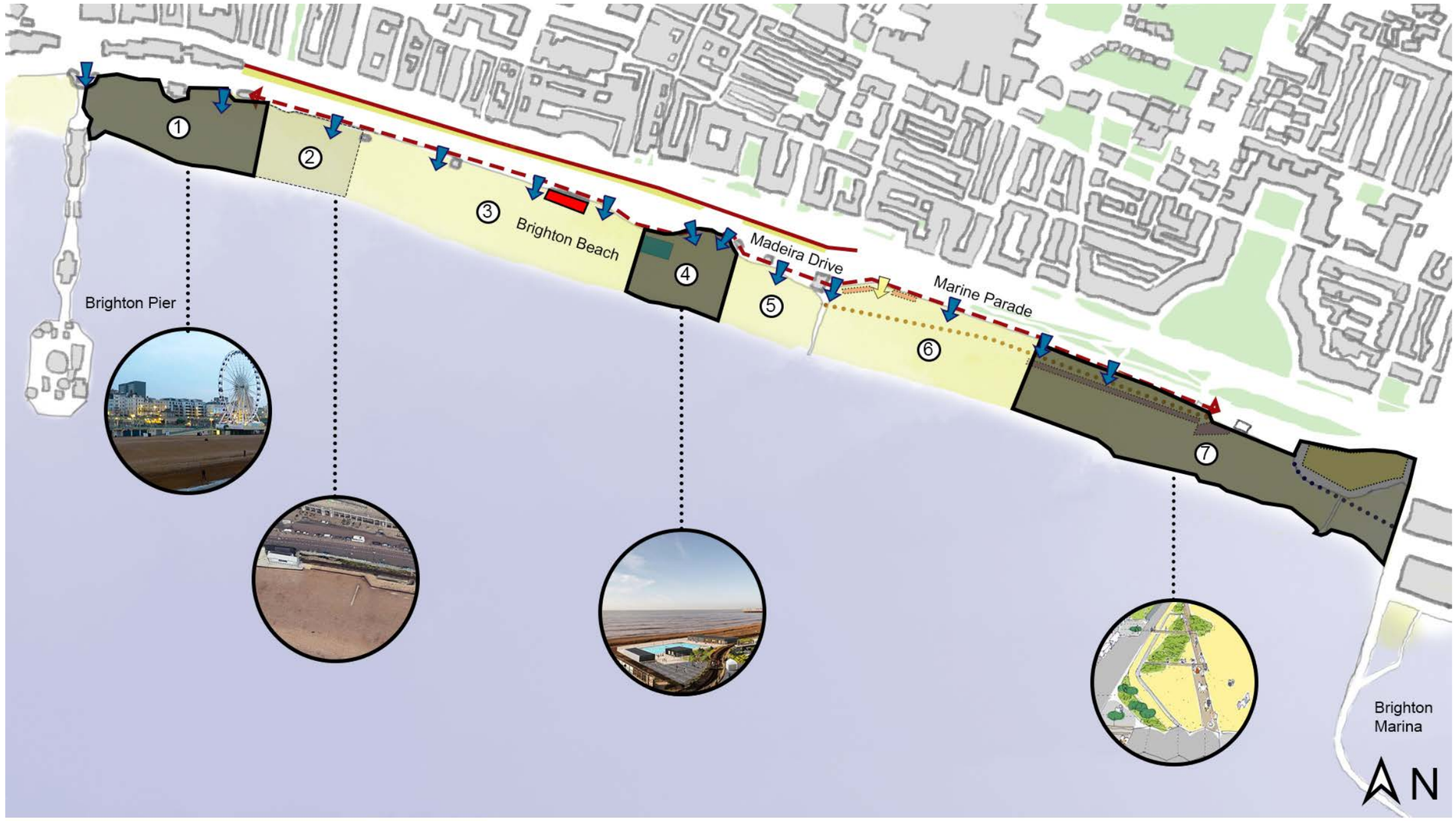
Existing Beach Challet Locations
Madeira Terrace Arches
Car Parking
Volk's Electric Railway
Arrows Indicate Pedestrian Railway Crossings & Other Access Points
Black Rock Events Space
Black Rock Protected Shingle Beds
Black Rock Potential Beach Hut Location
Black Rock Board Walk
Black Rock Walkway
Black Rock New Crossing Point

Madeira Drive Beach - Black Rock Rejuvenation Project

The Black Rock rejuvenation project has been mapped out to understand the potential future development of this area. This will also define the limitations new development places on the options to locate new beach chalets.

An obvious part of the development which will impact future access to any new beach chalets, sites on the beach nearby, is the proposed boulevard walkway.

Likewise, it will not be possible to propose sites closed to the new location of the natural shingle.



Madeira Drive Beach - Chalet Location Assessment

Existing Beach Chalet Locations

Sites to Be Excluded

Sites Likely to Be Excluded

Potential Chalet Locations

Madeira Drive Beach - Chalet Location Assessment

1. Brighton's Central Beach - Commercial activities at this location and the Ferris-wheel reduce the available area for future chalet and beach hut development.

2. Volk's Electric Railway - There exists potential for new beach chalets here as there is an existing hard standing walkway that is currently underutilised. However, this is unlikely to be feasible due to the operational requirements of the station.

3. Existing Chalets - This area is defined by the presence of existing chalets. There is potential for more chalets. This is on the basis that there is already chalets in this location.

4. This location is subject to a new proposed open air pool and other leisure facilities that currently occupy the beach front. For these reasons this is not considered to be a potential area for this type of development.

5. This area is wedged between the beach groyne and area 4. It contains the halfway station, adventure golf and the Volks Workshop and will soon contain new vegetated shingle beds. This would make this area unsuitable for further development.

6. As part of the Black Rock Development, this corner section has already been designated for the provision of more Beach Huts. However, this area remains a potential site for new beach chalets if this could be integrated with the proposals for the new Black Rock board walk.

7. Due to the Black Rock development, this area has no potential for chalet development. The Black Rock projects proposes this area as a new location for natural beach shingle.

Identified Potential Beach Chalet Locations

Existing Beach Chalet Locations

Identified Potential Chalet / Beach Hut Locations

Line of Undecliff Pedestrian and Cycle Route

Identified Sites - 1. Madeira Terrace Arches **2.** Madeira Drive Beach - Site 2 **3.** Black Rock Rejuvenation Car Park **4.** Undercliff-Marina **5.** Madeira Drive Beach - Site 5 **6.** Undercliff-Rottingdean Chalet **7.** Undercliff-Site 7 **8.** Undercliff-Site 8 **9.** Undercliff-Site 9 **10.** Undercliff-Site 10 **11.** Undercliff-Saltdean Beach

Identified Potential Beach Chalet Locations

Based upon the previous analysis, several sites with potential for development of new chalets were identified as shown in the adjacent image.

These sites can be split into two groupings with the first group being those around Brighton beach and Marina.

The second set of sites are clustered between Rottingdean and Saltdean Beaches on the Undercliff. Selection of these Undercliff sites was made based on the limited number of places that could physically accommodate the footprint of a bank of chalets.

Madeira Drive Beach and Marina sites

The images below are of indicated sites for potential chalet or beach hut siting. Yellow - These sites have been identified as being able to accommodate beach chalets based upon the reports analysis, but have a number of issues outlined in the constraints and accessibility portion of the report on page 24 which leads to the conclusion that they are not to be recommended.

1 Madeira Terrace Arches


2 Madeira Drive Beach - Site 2

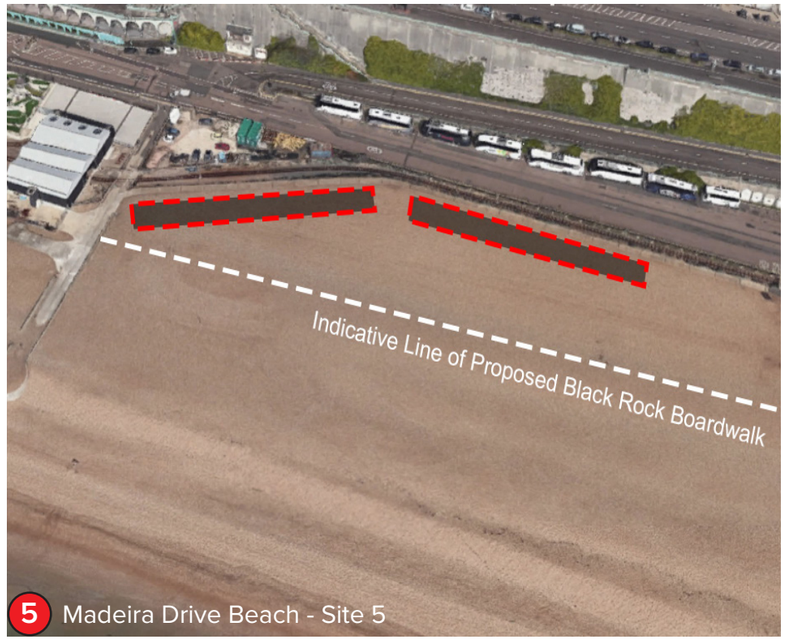

3 Black Rock Rejuvanation Car Park


4 Undercliff - Marina

02 Site Analysis

Brighton - Proposed Chalet Sites 2 of 2 - Madeira Drive Beach & Undercliff Sites

The images below are of indicated sites for potential chalet or beach hut siting. Red - These sites have been identified as being able to accommodate beach chalets based upon the reports analysis and are preferred to the aforementioned sites on page 22. This conclusion is reached because significantly less constraints were identified that prevent development of new chalet or beach hut in these locations.



5 Madeira Drive Beach - Site 5

6 Undercliff - Rottingdean Chalet

7 Undercliff - Site 7

8 Undercliff - Site 8

9 Undercliff - Site 9

10 Undercliff - Site 10

11 Undercliff - Saltdean Beach

Madeira Drive Beach - Identified Sites Constraints & Accessibility

Existing Beach Chalet Locations

Identified Potential Sites

Identified Sites - 1. Madeira Terrace Arches **2.** Madeira Drive Beach - Site 2 **3.** Black Rock Rejuvenation Car Park **4.** Undercliff-Marina **5.** Madeira Drive Beach - Site 5

Madeira Drive - Constraints & Accessibility

The area which can be defined by Madeira Drive has many opportunities for new beach hut or chalet siting but also, many constraints. These sites have the advantage over the Undercliff sites of being easier to service as they are quite close to an urban centre without the geographical hurdle of the cliff. These sites would both be popular and could command higher rental values with greater opportunities to be serviced with water and electricity.

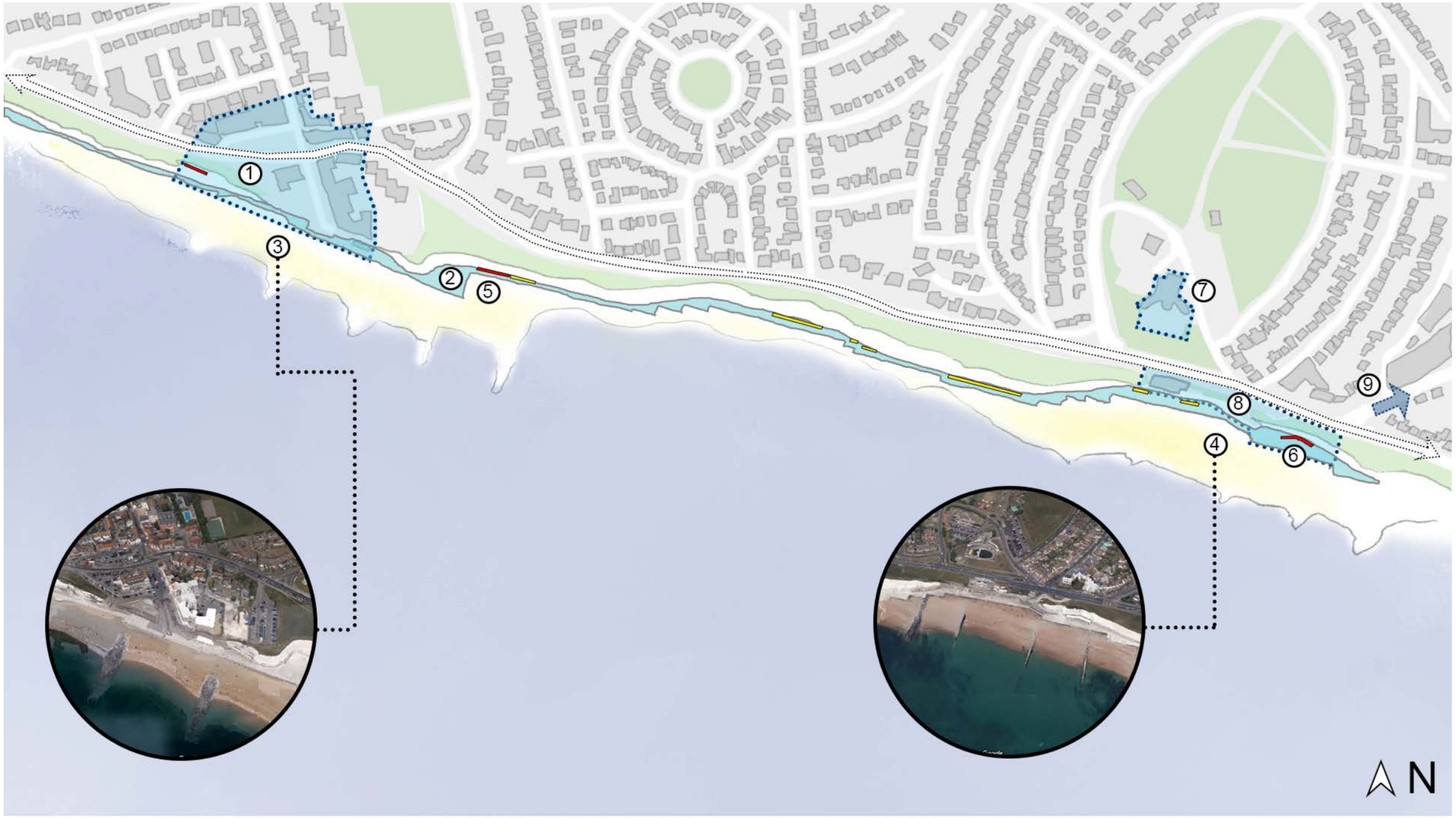
1. This location looks to take advantage of the new proposals for the Madeira Terrace arches with a view to include chalets into the design. The advantages of this is that it would not restrict views out onto the beach and would integrate with the existing access and parking infrastructure. Additionally, at this location the chalets would not be as exposed to adverse weather as those on the beach front. However, this may not be a viable solution if it conflicts with the intentions for the Arches renovation. Beach chalets would look out onto a road and would not be child friendly either.

2. To incorporate new chalets alongside the existing chalets. This location appears feasible based on the precedent of the current chalets which sit on the beach and are accessed easily from Madeira Drive. However, the existing chalets form a barrier currently between the beach and Madeira Drive which has an overall negative impact and is evidenced by the measures required to be taken to mitigate vandalism. To incorporate more chalets here would potentially amplify this effect. Development in this location is restricted by some key events which are often held here.

3. This location would look to integrate with the new Black Rock development on the beach and occupy a portion of the existing car parking bays. It benefits from the new development providing pedestrian access in front and not behind any chalets. This would limit the impact of the chalets obscuring views and they would have direct access onto the beach. As with site 1, at the arches, there may not be scope within the new development to accommodate the beach chalets and in occupying existing park spaces this may come into conflict with the current proposals.

4. Site 4 is situated on the Undercliff and faces onto the Marina retail park car park. This looks at the opportunity the Undercliff can offer for space to accommodate beach chalets within proximity of Brighton Beach. However, this is not considered an ideal or desirable option. This site offers few benefits over the other Brighton Beach locations and has the significant detracting factor of it facing onto a car park. This site is under consideration at the moment for a future transport hub.

5. Site 5 is situated in the prime location of Madeira Drive Beach where there are many easily accessible entry points to the beach which the potential chalets could take advantage of in terms of their location.



Rottingdean & Saltdean - Constraints & Opportunities

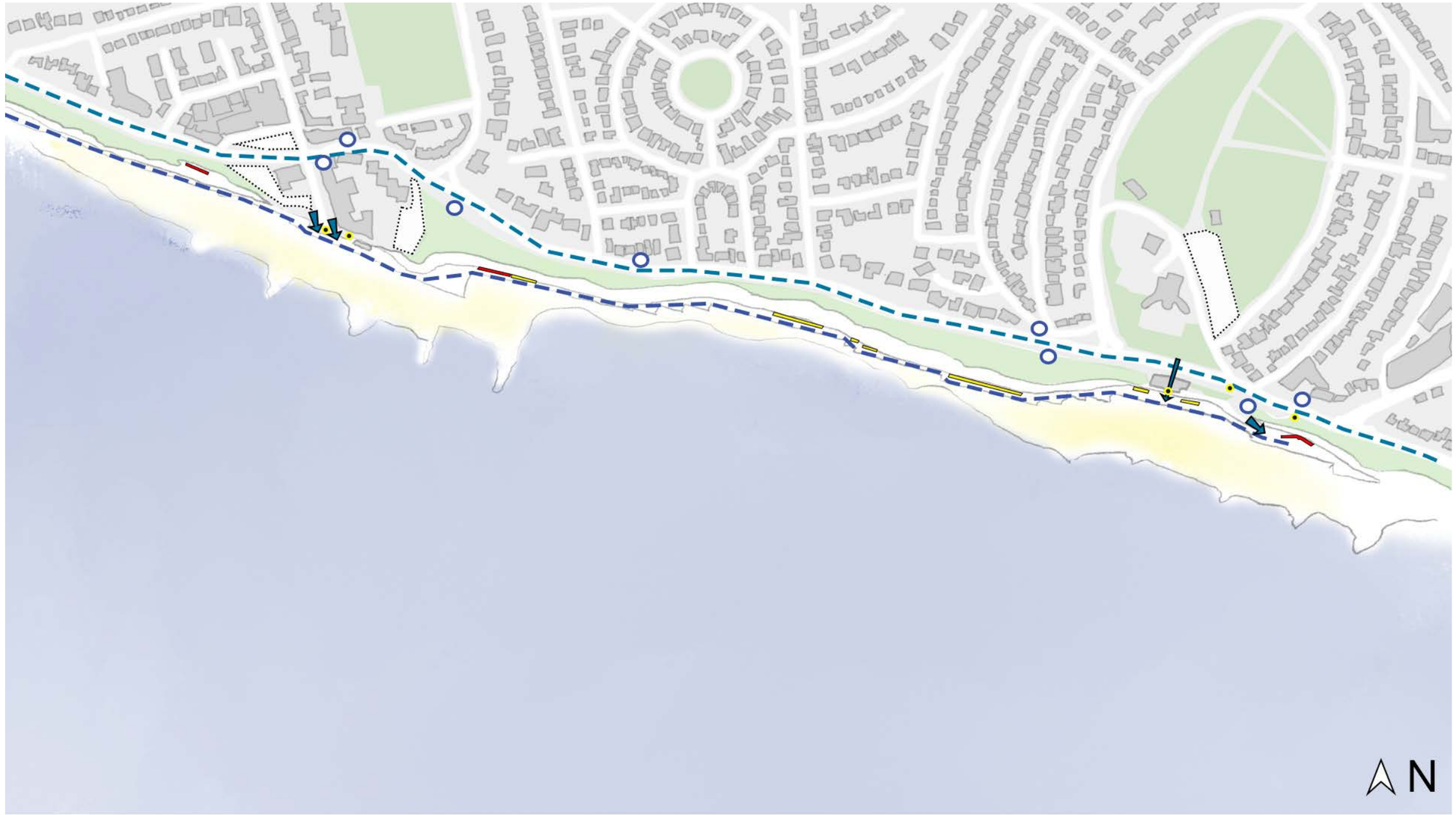
Existing Beach Chalet Locations | Identified Potential Sites | Areas of Significance | Main Coastal Road | Undercliff Apron

1. Rottingdean Town Centre **2.** Undercliff **3.** Rottingdean Beach **4.** Saltdean Beach **5.** Rottingdean Chalet **6.** Saltdean Chalet **7.** Saltdean Lido, Outdoor Pool & Leisure Facilities
8. Beach Front Amenities **9.** Saltdean Main Commercial Street

Saltdean & Rottingdean - Constraints & Opportunities

The Undercliff sites that were identified have the significant benefit of backing onto the cliff which eliminates the issue of obscuring views to the beach. Rents are likely to be lower due to the more remote location and the difficulties in providing services such as electricity and water. However, some sites may offer these opportunities by being close to either of the two nearby villages.

The identified Undercliff sites are highlighted in yellow and can be broken down into two types. The first type is the locations in close proximity to the existing beach front infrastructure associated with the towns of Rottingdean and Saltdean. These sites have the benefits of close proximity to both beaches and to local amenities. Additionally, the sites closer to the beaches will have better levels of surveillance and are therefore less susceptible to vandalism. The second type of sites are those which are between the two towns. These locations still benefit from their proximity to the towns and can be accessed by foot in approximately 10 minutes but are further to any amenities and are more vulnerable to unsupervised vandalism.



Rottingdean & Saltdean - Accessibility

Existing Beach Chalet Locations
Identified Potential Sites
Car Parking Near Access Point
Bus Stops
Bus Route to Brighton
Cycle Route
Access Point Down from Cliff
Positions of Lighting in Close Proximity to Undercliff

Saltdean & Rottingdean - Access

The chalets that are currently on-site are easily accessible from both the Rottingdean and Saltdean town centres. These chalets are located on the Undercliff near pedestrian access points from the towns, down the cliff and to the beach, with the Saltdean chalets being directly accessed from its main beach access route.

Access points are indicated that show the main access onto the Undercliff. Rottingdean has one main access point as shown directly from the town centre. There are two access points which connect Saltdean onto the Undercliff. The first is a tunnel which passes under the main coastal road and provides a connection from the Saltdean Lido. The second allows for access to the chalets on the Undercliff from Saltdean's main commercial street.

The identified sites closest to these access points benefit from this proximity, and to local bus stops and car parking. The other sites are still very accessible via the same means, and as shown when accessed by bike the issue of proximity is of lesser relevance.

03 Typology Analysis

Introduction

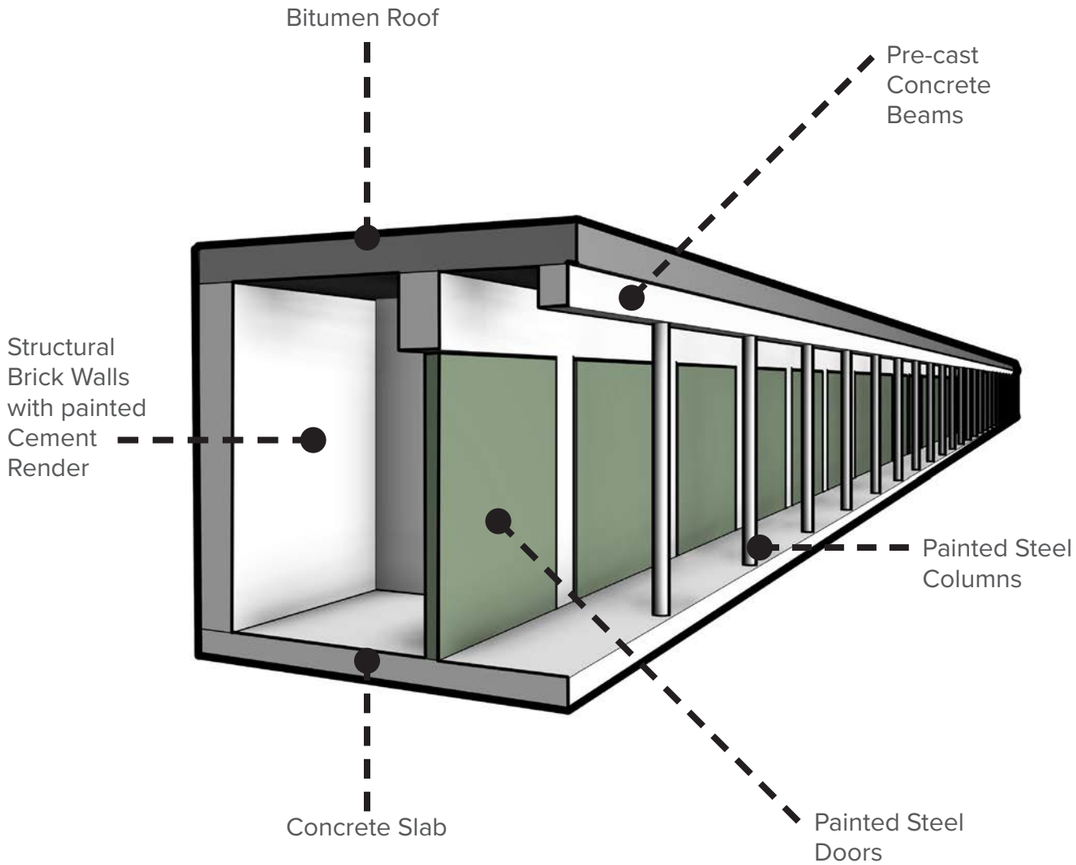
In studying how occupants of the chalets use the space, how the chalets are traditionally constructed and their form a set of baseline criteria for their design can be established. The chalets are derivatives of the original beach hut and have a primary function as secure beach side storage for belongings associated with spending time at the seaside. However, as evidenced in the images they can become places in themselves to shelter from the wind, inhabit or just sit outside looking out to sea.

Several issues with the existing chalets were identified. These include the; flat roofs, which make them ideal for local youths to climb on; in Hove there has been break ins and the Madeira Drive chalets where routinely vandalised, until the backs had been covered with promotional vinyl posters

Inside of a Rottingdean Chalet – Wall mounted pegs, shelving and desk with oils lamps & gas stove. Beach paraphernalia and seating come storage.

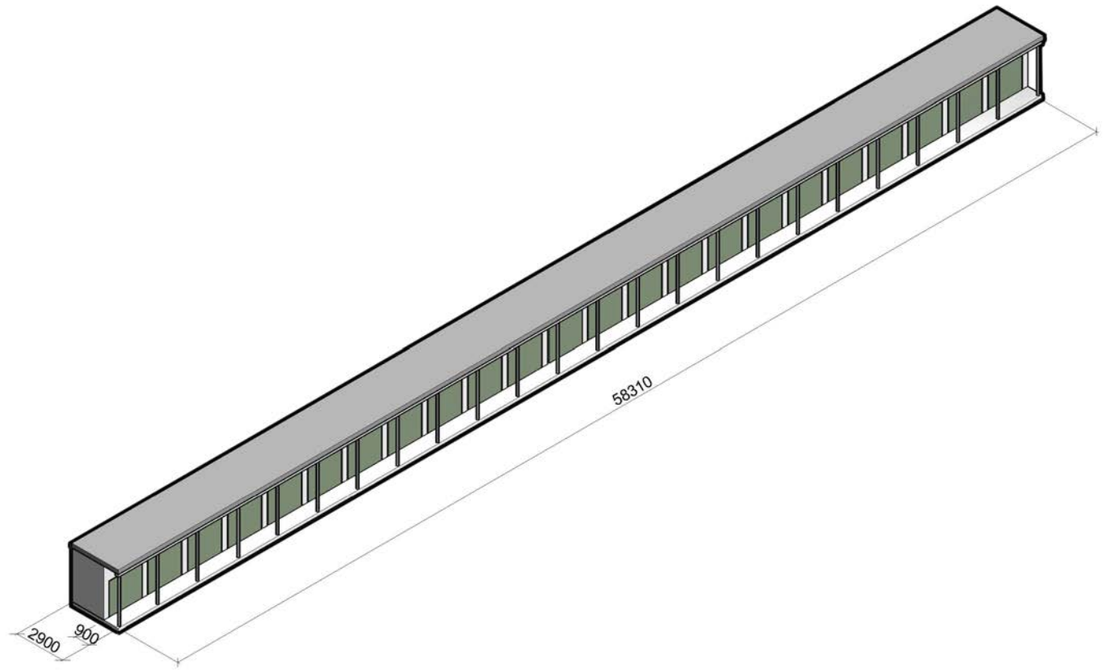
Madeira Drive chalet (below) vinyl posters to deter graffiti.

Rottingdean chalet situated on undercliff with occupants sitting outside.



Construction Diagram

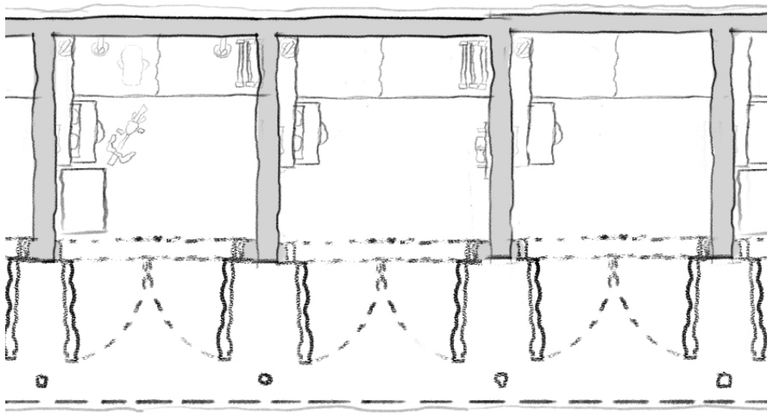
This part of the study looks at an example of an existing beach chalet, in this instance the chalets on Brighton and Hove Beach, being the chalet for which the most detailed up to date information was provided. The analysis focuses on aspects that were considered important to the development of a revised chalet design.



Overall Chalet Block Dimensions

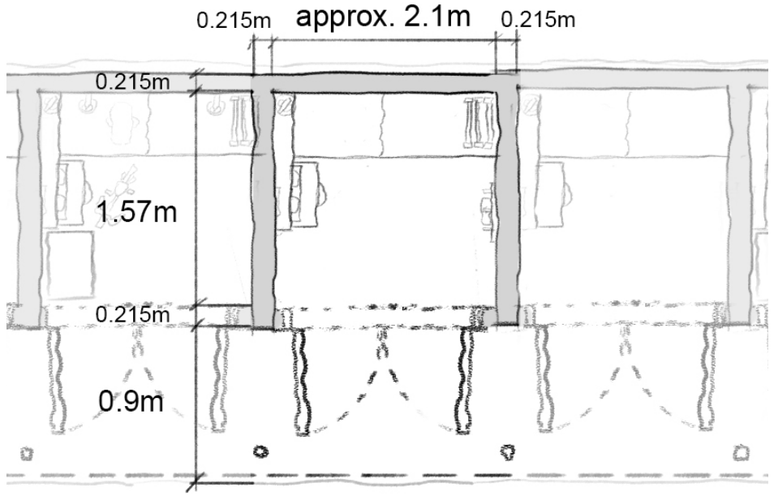
The Chalet and columns help define a front porch area and provide some level of shading to allow for seating at the threshold in the shade. The main frontage faces onto the beach and projects itself onto the beach front.

23 Chalets Units
0.9m Covered Porch Area
Approx. 2.1m Unit Depth
Approx. 1.6m Unit Width
Estimated GIFA - 3.3 SQM



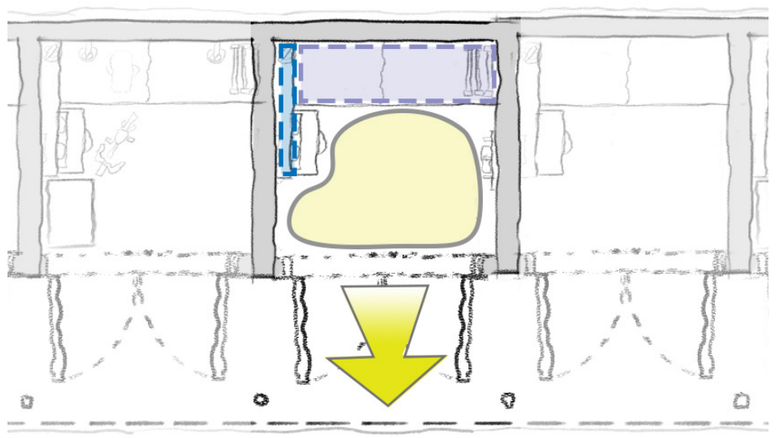
Plan Furniture Layout

Above is an envisaged typical plan inside a chalet based upon the images on the previous page which looked inside a currently occupied chalet.Typical elements include oil lamps, seating with storage underneath, hooks for hanging beach paraphernalia and shelving that was installed by the occupants.



Plan Dimensioned Layout

Estimated dimensions based upon client information. Assumed 215mm deep walls of structural brick.



Plan Spatial/Functional Layout

An analysis of how a chalet tends to be inhabited shows that the rear wall to have seating that faces outwards. Shelving and storage is aligned around perimeter to maximise space in the centre for manoeuvring and occupation. Doors open out full width of the frontage to provide views out to the sea.

Area Assessment for Identified Sites

This assessment looks to analyse the identified sites by verifying how many chalets could be accommodated in these locations. Additionally, the individual site's constraints and opportunities have been highlighted.

Dimensions provided to us by the client for the existing chalets on Brighton and Hove beach was used as a template for a future chalet footprint which was then fitted into each of the locations. This value for an individual chalet unit will help provide the total number of chalets that could be allocated to a site. We can also calculate how many beach chalets could be allotted onto the sites by using the general dimensions provided by the client for their standard beach hut designs. Considerations of constraints such as maintaining pedestrian and cycle transit space of at least 5m, and preferably more; access space to the side of 2.5m and rear of the structures at 0.5m were taken into consideration.

Unit Dimensions
(Adapted + Radical Designs)

Approx. 3m Unit Depth Incl. Porch

Approx. 3.1m Unit Width

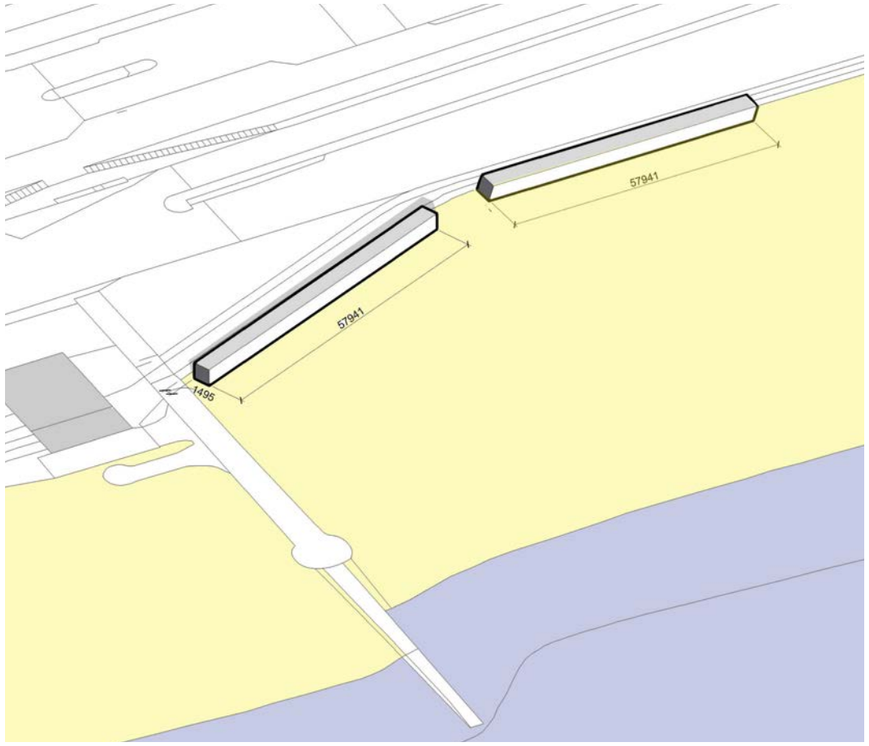
Estimated GIFA – 6.0 SQM

Unit Dimensions
(Reimagined Design)

Approx. 4.3m Unit Depth inc. ramp/porch

Approx. 2.25m Unit Width

Estimated GIFA – 4.0 SQM



Madeira Drive Beach (Site 5)

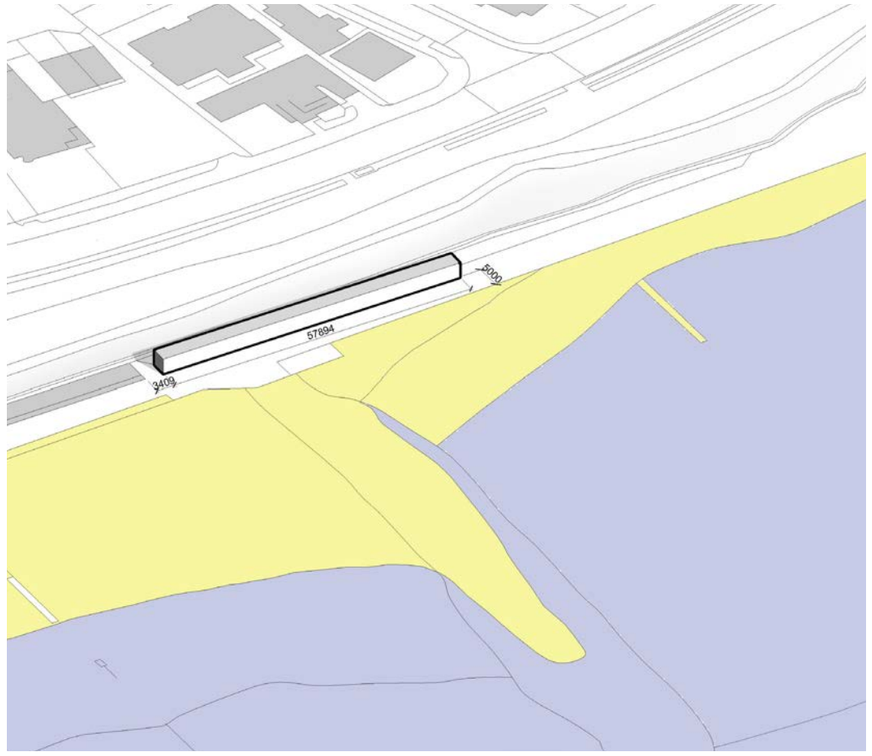
Useable length – 115.8m

Total No. Chalets - 36 (Adapted/Radical)

Total No. Chalets – 30 (Reimagined)

Opportunities – Prime location on Madeira Drive Beach. Easy to service and access. No risk from chalk cliff face.

Constraints – Close proximity to existing Volks rail line could cause issues. Potential conflicts are possible with Black Rock Rejuvenation project which is also developing this site.



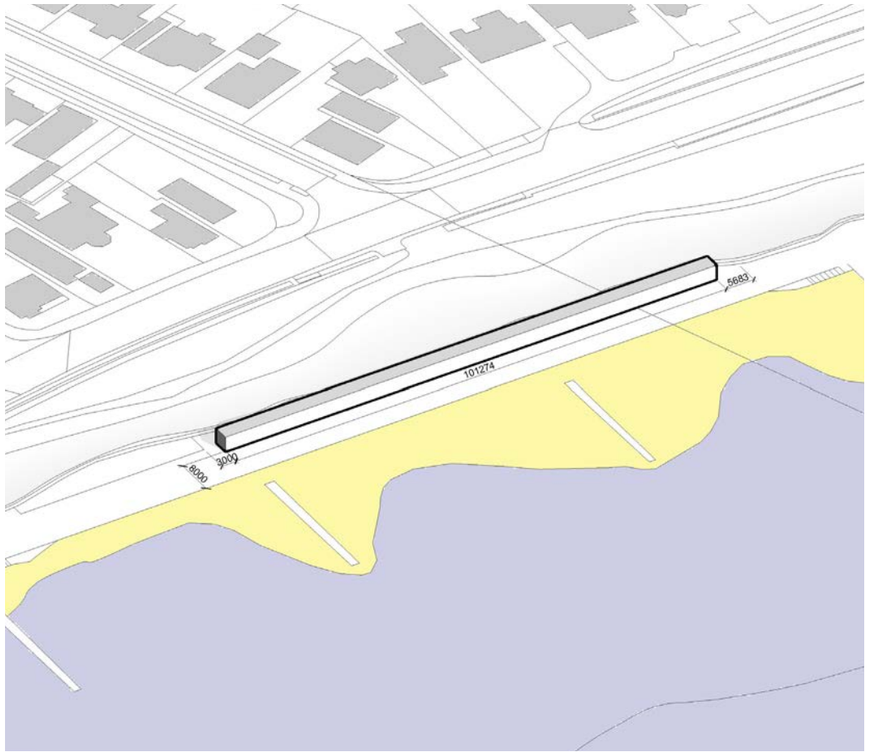
Undercliff - Rottingdean (Site 6)

Useable length – 57.9m

Total No. Chalets - 19 (Adapted/Radical)

Opportunities – Significant amount of space.

Constraints – Tight site in terms of unit depth leaving only 5m clearance at front. Lesser surveilled site. Can't accommodate Reimagined chalets due to chalk falls.



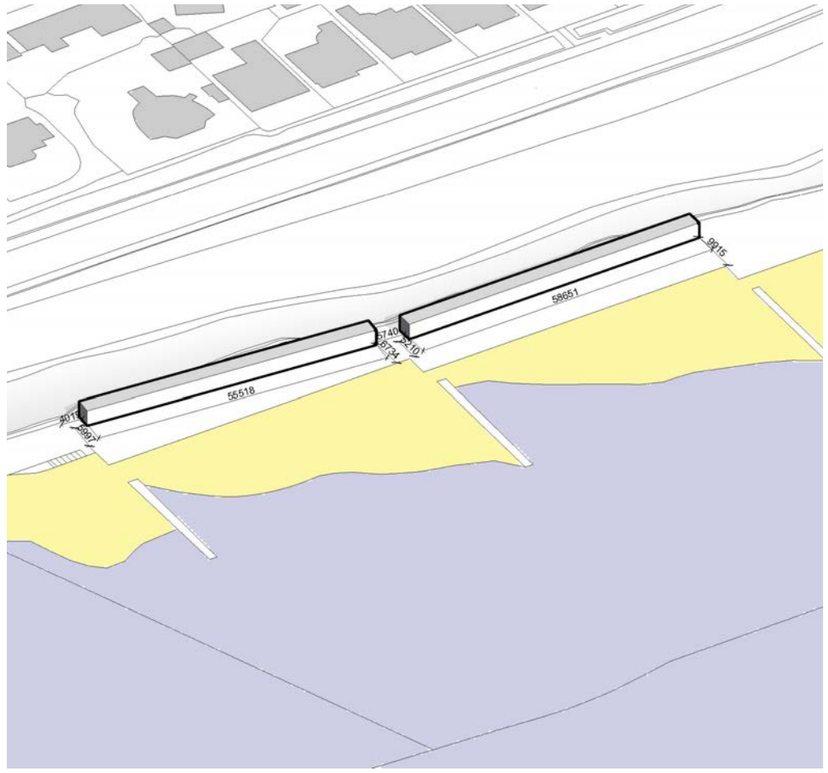
Undercliff (Site 7)

Useable length – 101.3m

Total No. Chalets - 33 (Adapted/Radical)

Opportunities – Good frontal access clearance. Large amount of space

Constraints – Further from town centres. Lesser surveilled site. More difficult to service. Cannot accommodate Reimagined chalets due to chalk falls. **At risk of over-topping which may make site unviable.**



Undercliff (Site 8)

Useable length – 55.5m
Total No. Chalets - 18 (Adapted/Radical)

Opportunities – Good frontal access clearance. Large amount of space.

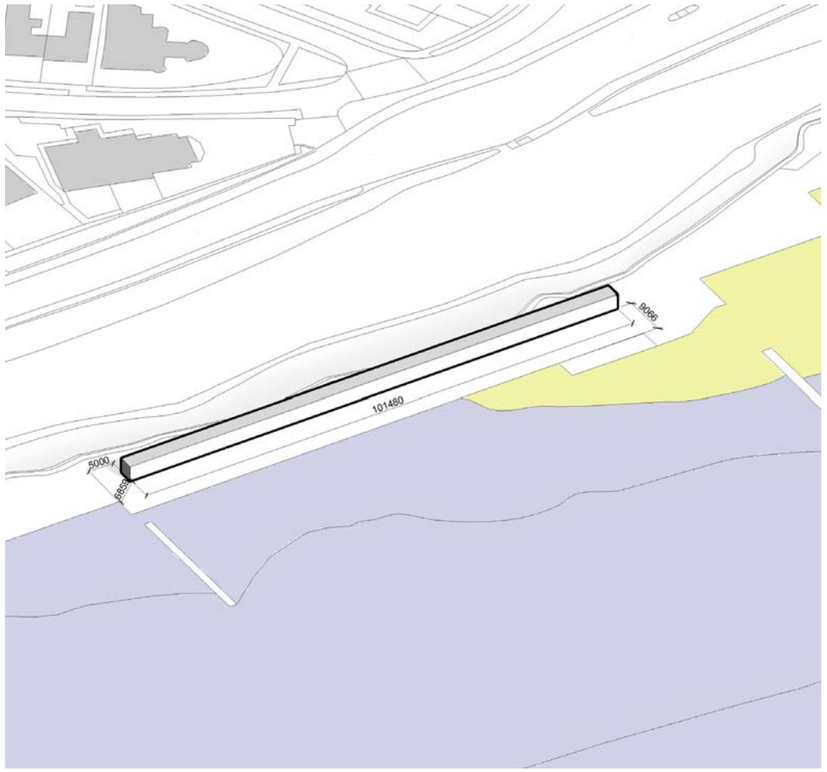
Constraints – Further from village centres. Lesser surveilled site. More difficult to service. **Can't accommodate beach huts due to chalk falls. Risk of over-topping may make site unviable.**

Undercliff (Site 9)

Useable length – 58.6m
Total No. Chalets - 19

Opportunities – Good frontal access clearance. Large amount of space.

Constraints – **Can't accommodate beach huts due to chalk falls. Risk of over-topping may make site unviable.**

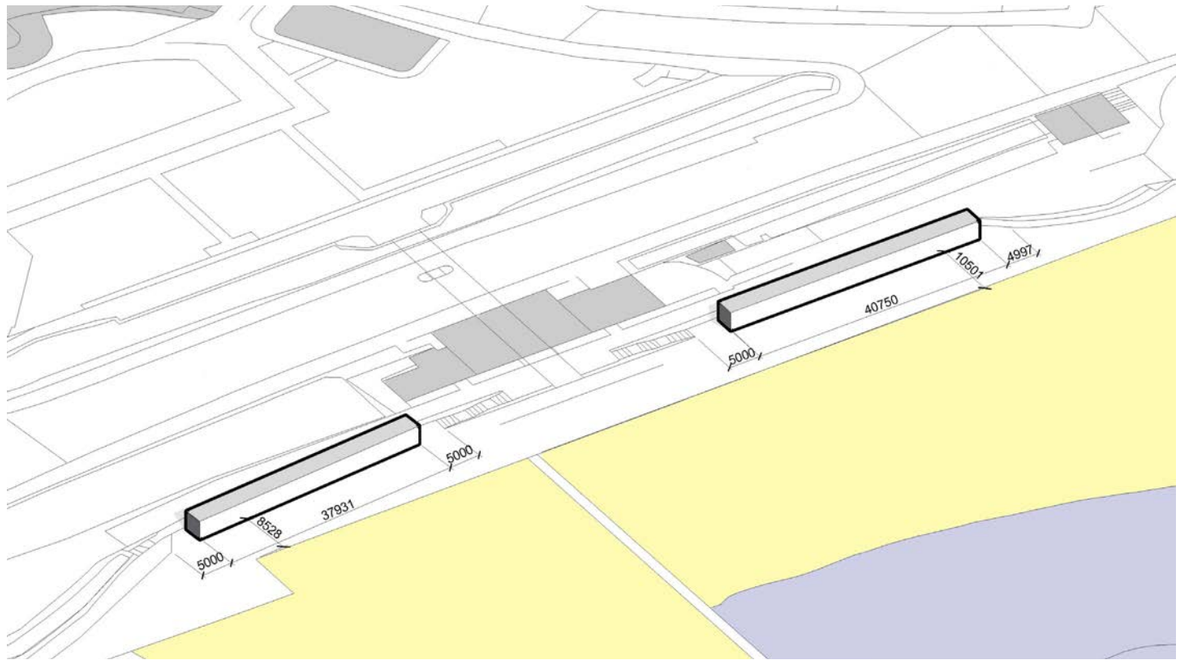


Undercliff (Site 10)

Useable length – 105.5m
Total No. Chalets - 33 (Adapted/Radical)

Opportunities – Good frontal access clearance. Large amount of space.

Constraints – Can't accommodate beach huts due to chalk falls. At risk of over-topping which may make site unviable.



Undercliff - Saltdean Beach (Site 11)

11.a
Useable length – 37.9m
Total No. Chalets - 12 (Adapted/Radical)
Total No. Chalets - 9 (Reimagined)

Opportunities – Proximity to village makes location easy to service, close to lighting, more surveilled than other sites. Can accommodate all types of chalets due to presence of retaining wall behind.

Constraints – Smaller than other locations.

11.b
Useable length – 40.7m
Total No. Chalets - 13 (Adapted/Radical)
Total No. Chalets - 10 (Reimagined)

Opportunities – Proximity to village makes the location easy to service. Close to lighting. More surveilled than other sites. Can accommodate beach huts due to presence of retain wall behind.

Constraints – Smaller than other locations.

Materials

Key Client Requirements – Resilience, Easy to Maintain, Environmentally Sustainable

Key Performance Requirements – Resilient to the Impacts of the Marine Environment, Resilient Design and Construction to withstand Vandalism, Low Maintenance

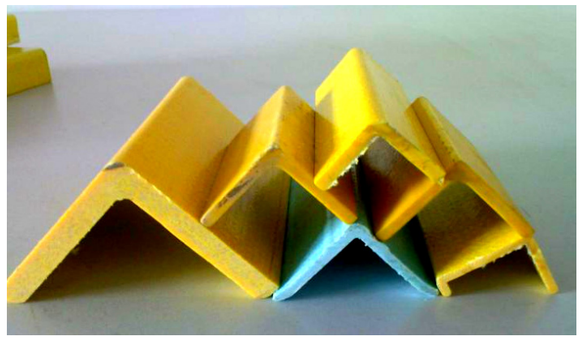
Chalets can be broken down into a series of key elements which make up their construction. There is the Structure, Doors, Walls, Cladding, Roof. Additionally, one element that could be incorporated as a general design improvement is windows. While these have clear security implications in terms of vulnerability to break-ins ect. This can be mitigated and make the chalets more pleasant structures to actually inhabit with doors closed.

Roof

Material – Timber

Advantages – Lightweight for installation, affordable, sustainable.

Disadvantages – More vulnerable in marine environment compared to less sustainable alternatives, more vulnerable to damage and attack, needs special attention in detailing to protect from damp and fire.

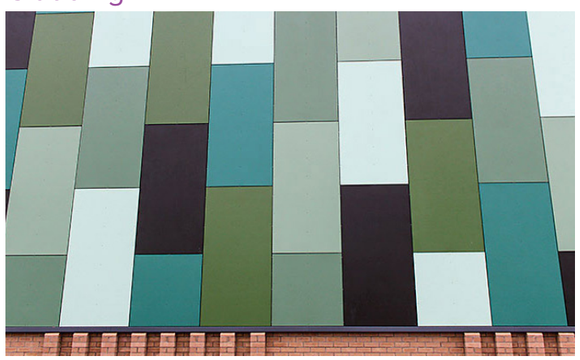


Material – GRP (Glass Reinforced Plastic)

Advantages – lightweight for installation, affordable.

Disadvantages – Difficult to recycle and less sustainable than timber.

Cladding



Material – GRP (Glass Reinforced Plastic)

Advantages – Lightweight for installation, affordable, can be fire-resistant.

Disadvantages – Difficult to recycle and less sustainable than timber.

Material – Recycled Plastic Timber Composite

Advantages – Lightweight for installation, affordable, resilient in marine environments, sustainable.

Disadvantages – More vulnerable to vandalism, class B fire resistance.

Material – High Pressure Laminate

Advantages – Lightweight for installation, recyclable, fire resistant, vandal resistant, resilient in marine environments.

Disadvantages – More expensive than than timber.

Windows

Material – Polycarbonate

Advantages – Lightweight for installation, affordable, resilient in marine environments.

Disadvantages – Is a polymer and therefore not the most sustainable option.

04 Chalet Design Proposals

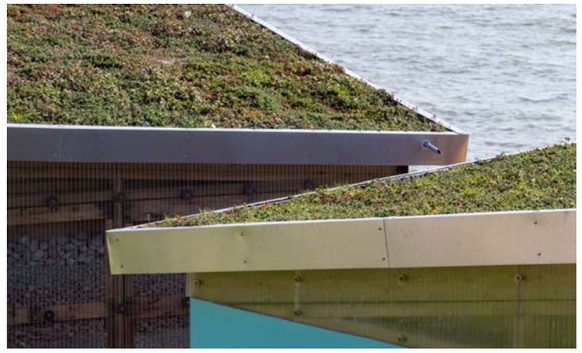
Materials

Roof

Material – Re-cycled Plastic tile

Advantages – Lightweight for installation, affordable, sustainable, resilient in marine environments, class A fire-rating, tough, long life-span.

Disadvantages – Does not have the same net gain bio-diversity effect of sedum.



Material – Sedum

Advantages – Sustainable, improves biodiversity, can be low maintenance, absorb water and moisture.

Disadvantages – More expensive than plastic tile.

Cladding

Material – Timber

Advantages – Sustainable, easy to maintain, lightweight for installation, affordable.

Disadvantages – More vulnerable in marine environments compared to less sustainable alternatives, more vulnerable to damage and attack.

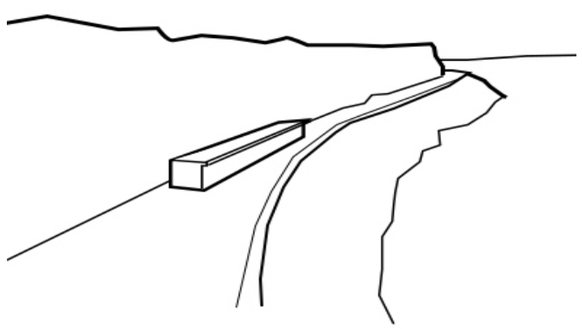
Material – GRP (Glass Reinforced Plastic)

Advantages – Easy to maintain, lightweight for installation, affordable, marine resilient, long life-span

Disadvantages – Difficult to recycle and less sustainable than timber.

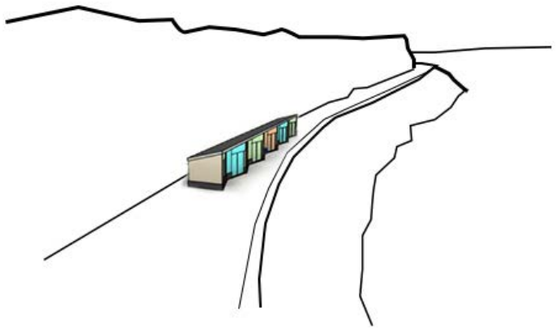
Chalet Design Proposals

The following design proposals are three options for new beach chalets. The typology analysis provided a boiler plate for their design in terms of form, spatial qualities and use. Using this as a starting point each option progressively departs from this to explore additional opportunities and potential improvements. Each proposal pays careful consideration to the constraints and requirements regarding sustainability, resilience to vandalism and wear and resilience in a marine environment. Through the assessment of the identified sites it is assumed that the undercliff sites are the preferred ones and as such it is of benefit that the chalets themselves create a sense of place in what can be a fairly isolated linear space



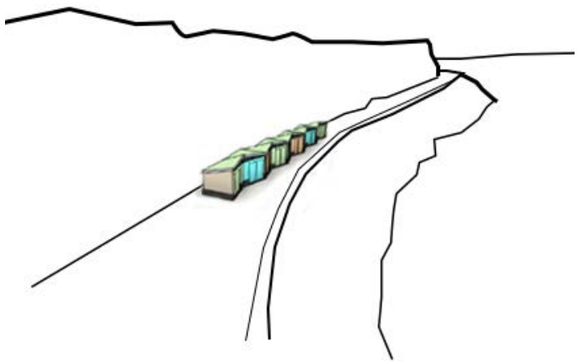
Existing Typology

- Existing design based upon typology analysis within this document
- This forms the basis for the design of the proposed options



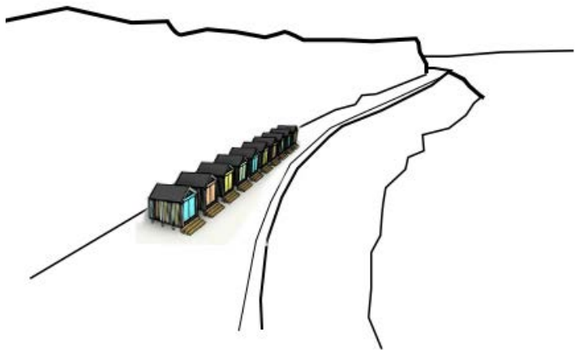
Option 01 - Adapted Existing

- An adaptation of the existing design.
- Aims to create a sense of place.
- Introduces changes to the construction to improve resilience and sustainability



Option 02 - Radical Adapted Existing

- A more extensive re-working of the existing typology
- Aims to evoke a more exciting sense of place than option 01
- Pushes the limits more regarding sustainability



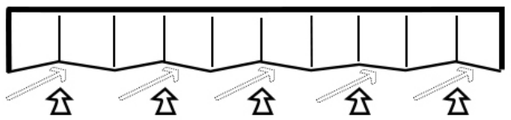
Option 03 - Re-imagined Design

- A new approach to the typology.
- Looks to explore the opportunities of a design option which adheres more exclusively to key characteristics of the existing beach chalets and less explicitly to the original form.
- Aims to create an even more sustainable option while still meeting resilience criteria.

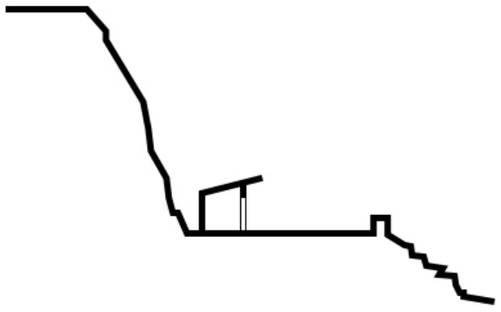
Option 01 - Adapted Existing

This option takes the existing beach chalet design and enhances certain key features. The chalet retains the mono-pitched roof form and places each unit end on end, this works to deflect cliff debris back away from the Undercliff walk and make the chalets easy to construct. The entrances face out to the sea, this is the same as the existing chalets, however, to generate interest upon the approach from the side, the chalet fronts are kinked at an angle and their now bright coloured frontages read as an exciting band of multiple colours.

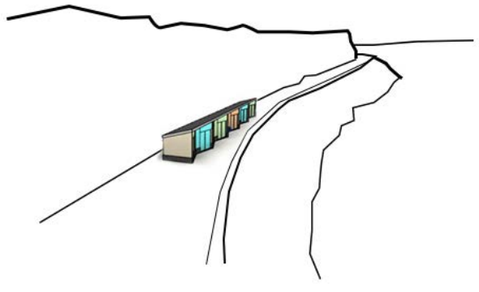
Another feature retained from the existing chalets are the large double doors that open out the space to the sea. Allowing occupants to enjoy the view to the sea and the horizon while being sheltered by the chalet's roof and walls is a key defining characteristic.



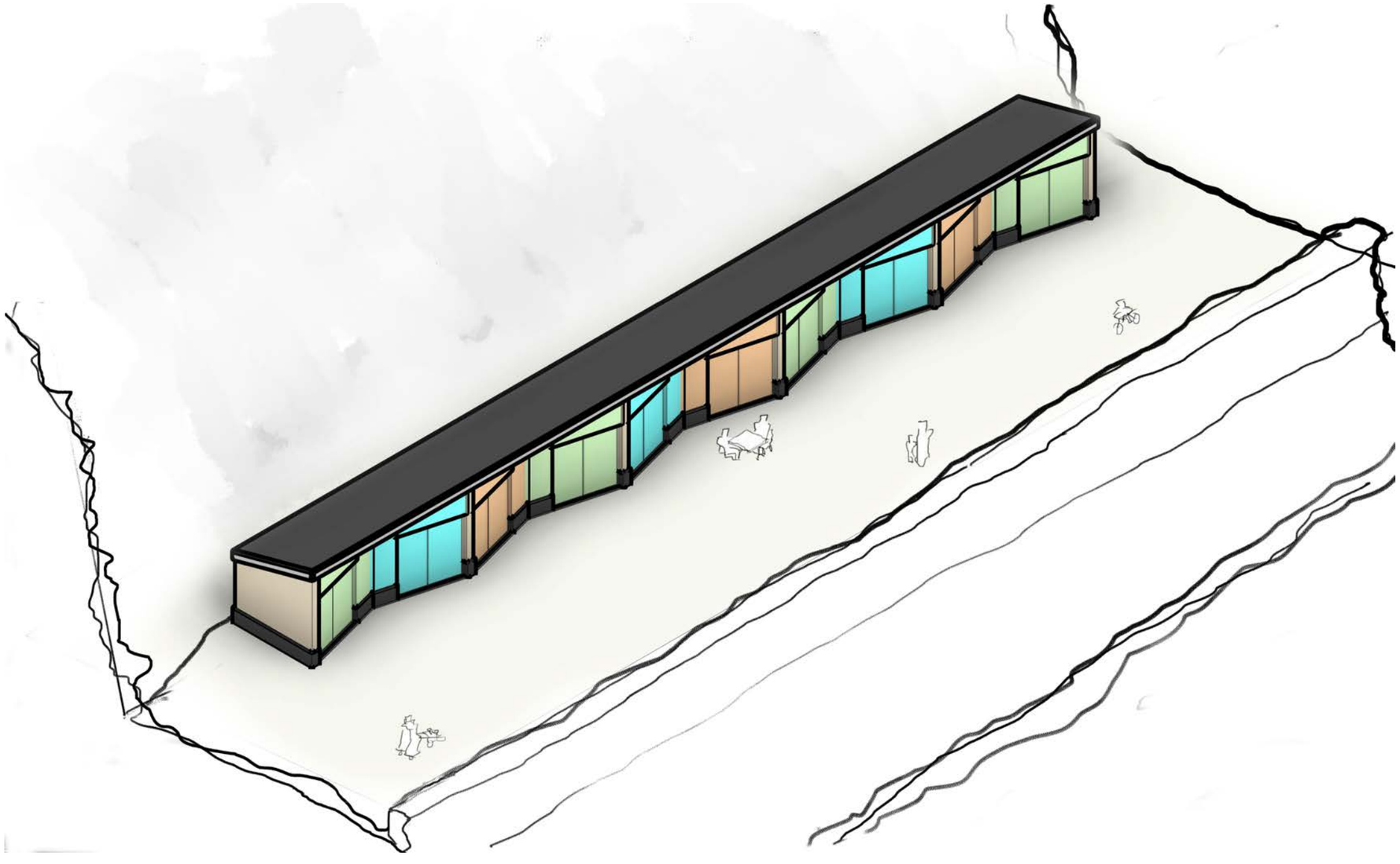
Plan



Section



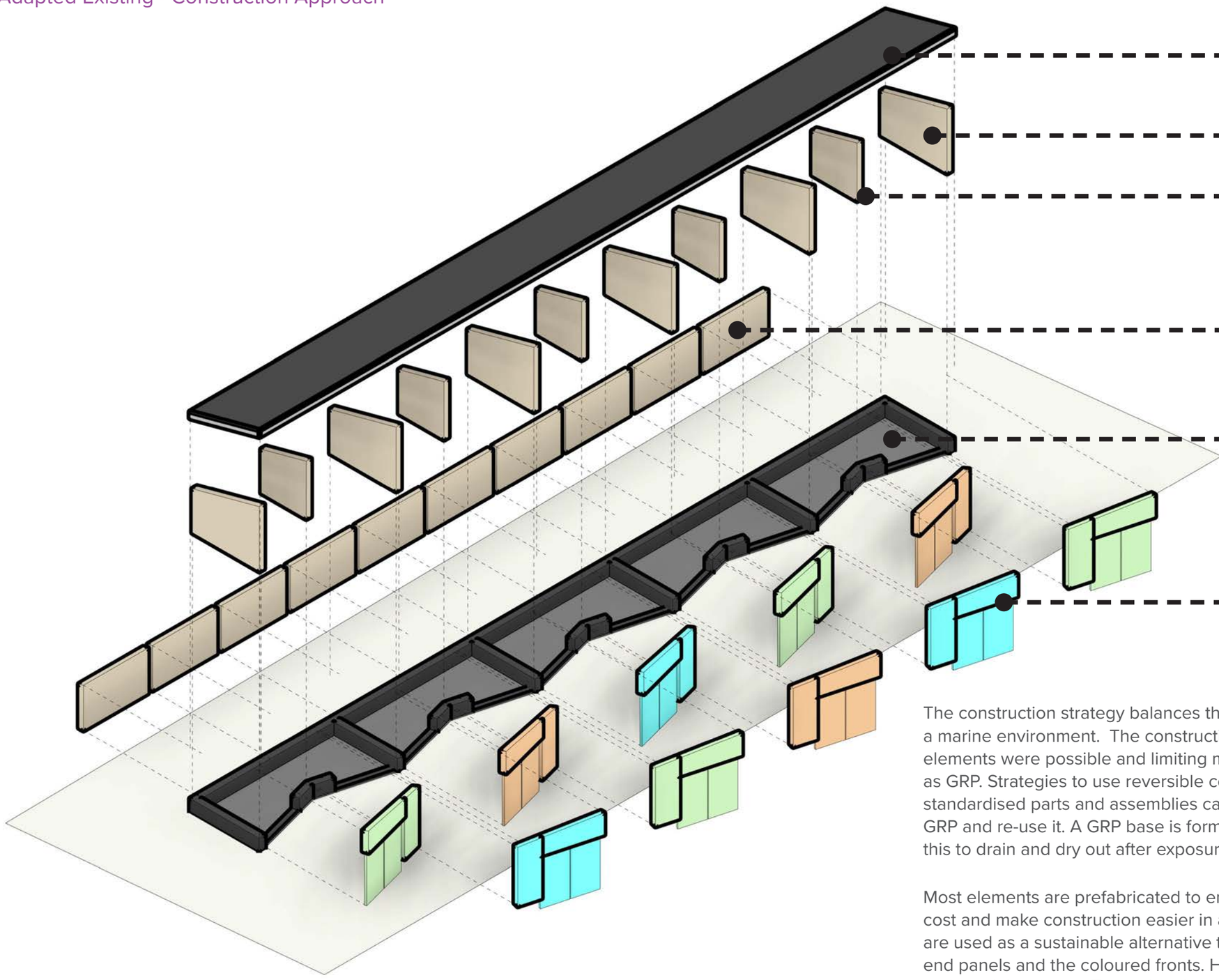
Perspective



Axonometric Diagram

04 Chalet Design Proposals

Adapted Existing - Construction Approach



Prefabricated timber roof panel with recycled plastic tile

Prefabricated timber stud wall with High Pressure Laminate cladding

Prefabricated timber stud wall with magnesium oxide boarding to create fire seperating layer between units

Prefabricated timber stud wall with re-cycled plastic timber composite cladding

Prefabricated sections of GRP structure, lining and cladding.

Prefabricated wall section with High Pressure Laminate cladding and inset composite GRP double door

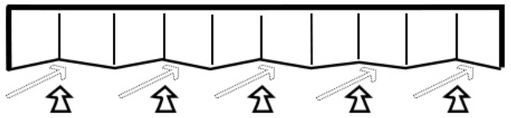
The construction strategy balances the requirements of sustainability and robustness in a marine environment. The construction uses sustainable materials by integrating timber elements were possible and limiting more resilient but difficult to recycle materials such as GRP. Strategies to use reversible connections, to allow for disassembly, and use of standardised parts and assemblies can be employed to make it possible to recover the GRP and re-use it. A GRP base is formed to protect the timber structure above and allow this to drain and dry out after exposure to wet conditions.

Most elements are prefabricated to ensure quality of construction, improve efficiency and cost and make construction easier in a location with limited access. Recycled plastic tiles are used as a sustainable alternative to the GRP in the roof. HPL is used to clad chalet block end panels and the coloured fronts. HPL is more sustainable than the GRP and is both fire and vandal resistant. To combat the risk of fire in the timber construction the chalet unit's separating walls will have magnesium oxide layers between the timber studs which offer both protection to the spread of fire and are resistant to damage through moisture.

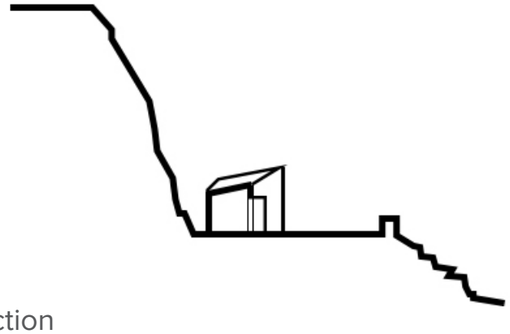
Radical Adapted Existing

This option further develops the ideas in the previous option and pushes those design concepts further to achieve a more dramatic impact. In addition to the modifications to the frontage, there is a sense of movement created by the roof line. Sections of the sloped roof are pitched up at apexes to accentuate the kinking of the individual unit front panels. This takes the monolithic block of chalets and starts to break them down visually into individual units and alludes to the charm of the traditional beach huts.

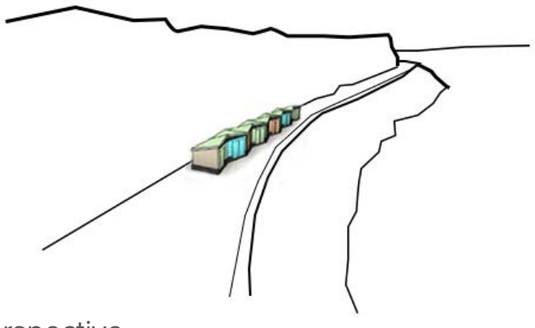
This retains much of the same construction methods and technological approach of the previous iteration but also introduces a sedum roof and polycarbonate window sections. The sedum roof is an additional sustainability asset by improving biodiversity. The introduction of a window makes inhabiting the chalets more pleasant should occupiers be required to shelter from the elements temporally with the doors closed.



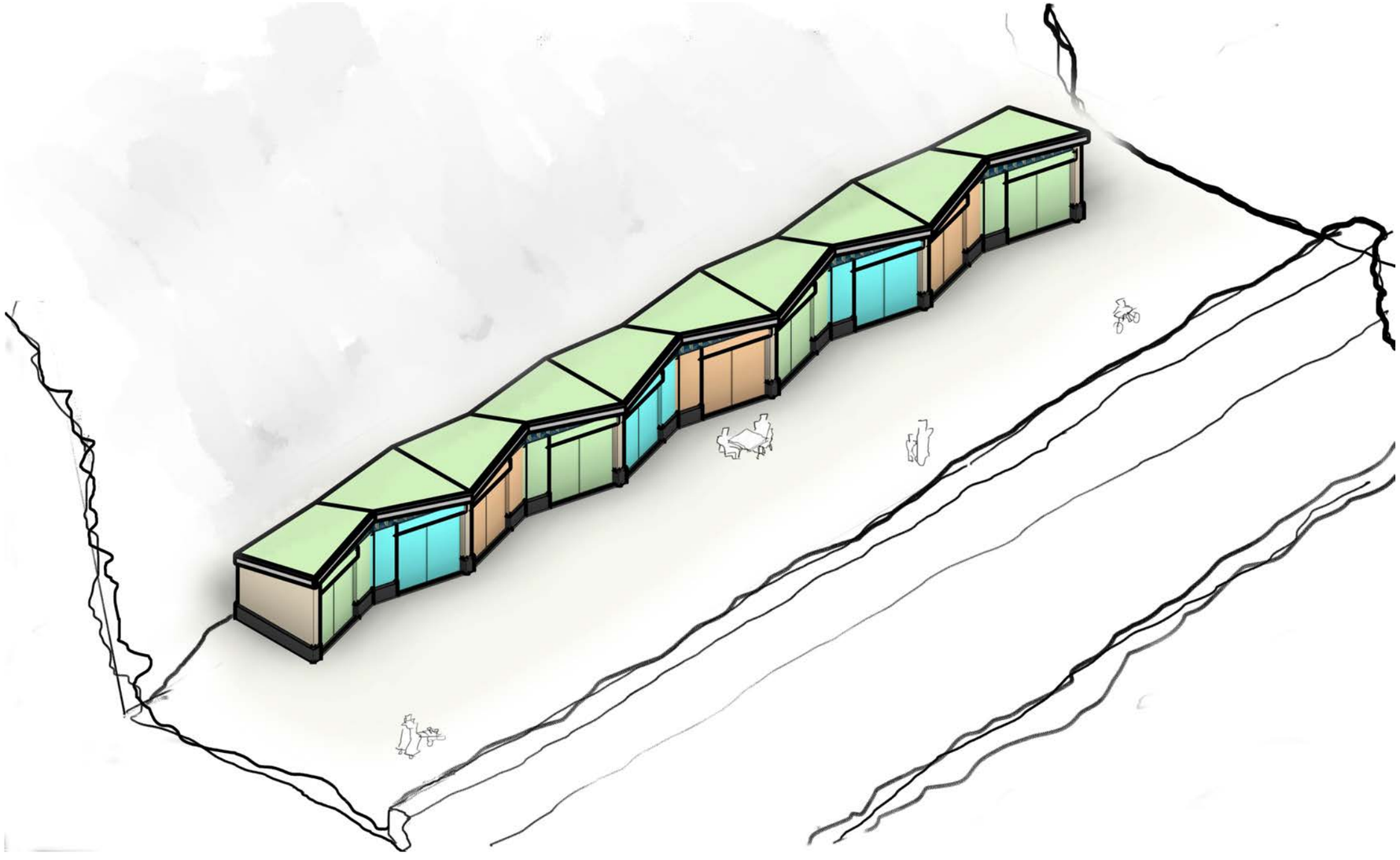
Plan



Section



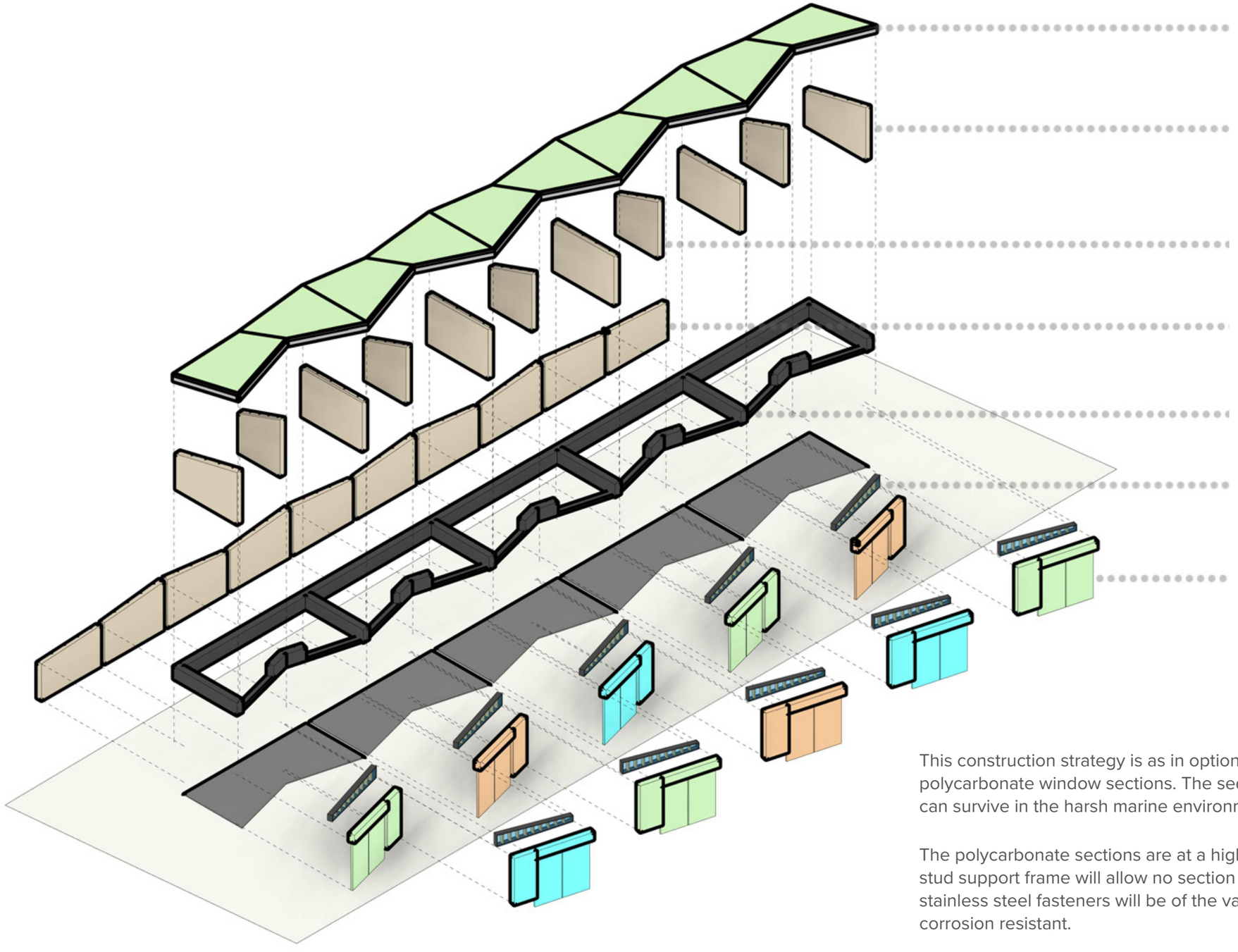
Perspective



Axonometric Diagram

04 Chalet Design Proposals

Radical Adapted Existing - Construction Approach



Timber prefabricated roof panel with sedum finish layer

Prefabricated timber stud wall with High Pressure Laminate cladding

Prefabricated timber stud wall with Class 0 sheathing to create fire separating layer between units

Prefabricated timber stud wall with re-cycled plastic timber composite cladding

Prefabricated sections of GRP structure, lining and cladding

Prefabricated sections of timber with triple walled polycarbonate front and back attached with galvanised stainless steel fasteners

Prefabricated wall section with High Pressure Laminate cladding and inset composite GRP double door

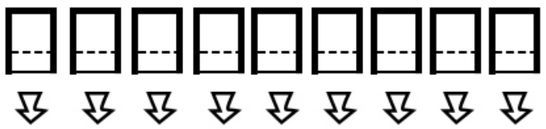
This construction strategy is as in option 01 but with the introduction of the sedum roof and polycarbonate window sections. The sedum roof should be specified with vegetation which can survive in the harsh marine environment and that requires minimal maintenance.

The polycarbonate sections are at a high level out of reach of the public. The timber stud support frame will allow no section large enough for someone to pass through. The stainless steel fasteners will be of the variety that makes them tamper proof and highly corrosion resistant.

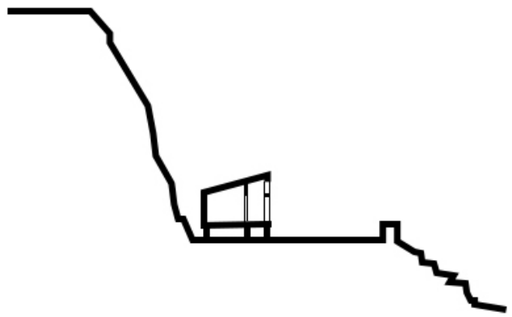
Re-Imagined Design

This option is a re-think of the beach chalet and imagines them as objects in the landscape taking inspiration from the beach huts diminutive shape. These chalets exploit the sustainability opportunities when the structure is raised on stilts above the level of any potential flooding. This allows for the incorporation of additional timber elements and a lesser dependency on materials with poorer environmental credentials such as the GRP. Each unit would be completely prefabricated off-site and then dropped onto stilts.

The roof form mimics that of the modest beach hut but is sloped back to deflect any debris from the cliff to the back of the chalet unit. The chalets when not in use have a colourful bright door frontage which securely seals up the unit, but opens in the way when in use to provide a small sheltered terrace at the front. This design features means that clear polycarbonate faced doors can be installed behind so that on a wet and windy day the chalets can shelter people from the elements but still provide a view out to the sea.



Plan



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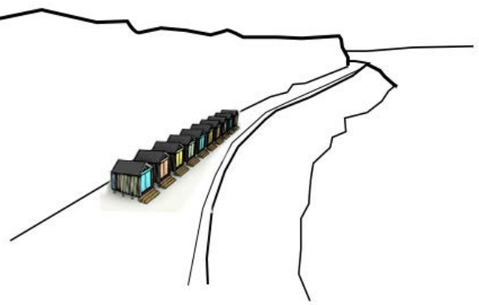


Perspective

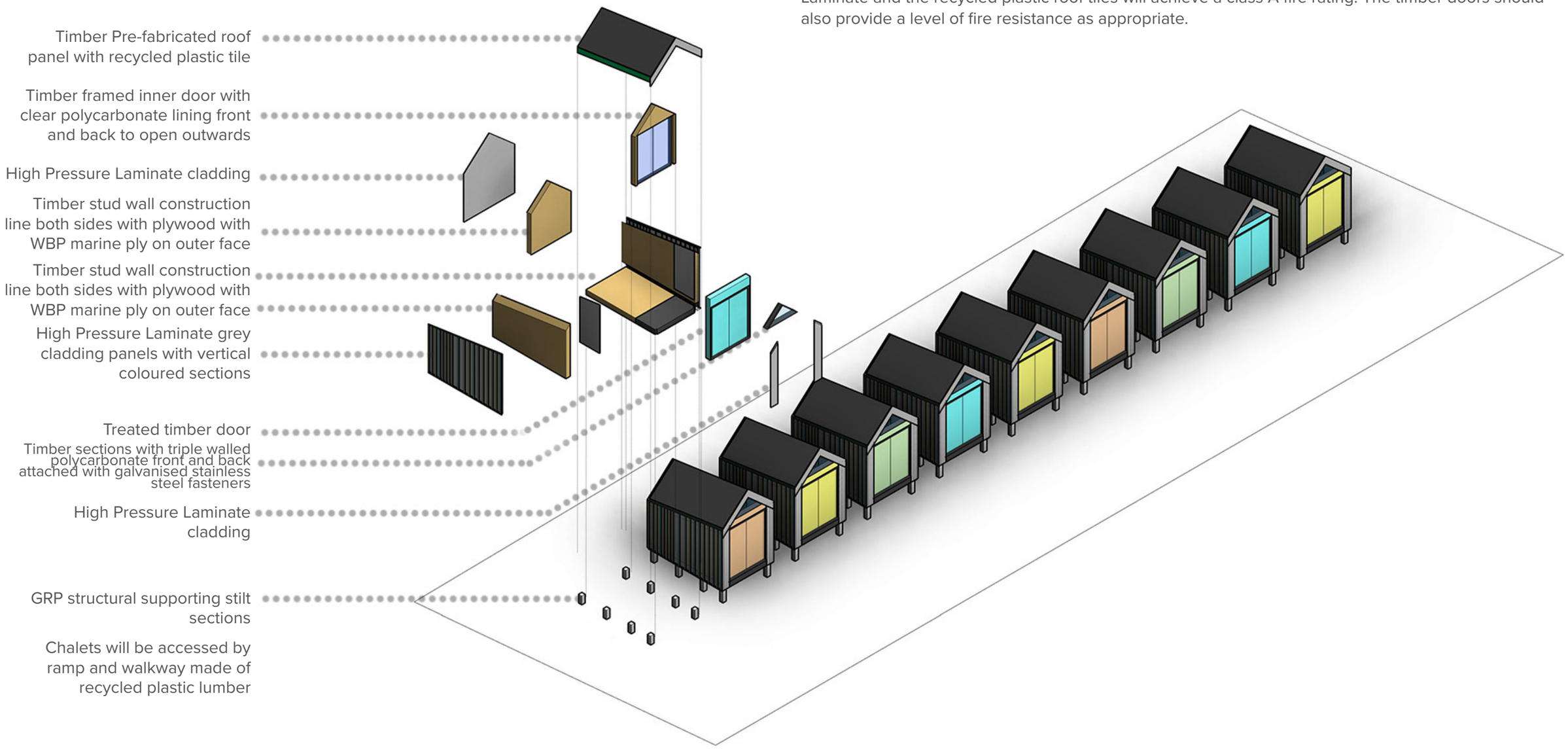
Axonometric Diagram

04 Chalet Design Proposals

Re-Imagined Design - Construction Approach

This construction strategy looks to balance the requirements of sustainability and robustness in a marine environment. To achieve this the construction uses mostly sustainable materials and integrates as much timber elements as possible. Difficult to recycle materials, such as GRP, are used sparingly. A GRP base is formed to protect the timber structure above and allow this to drain and dry out. All elements are prefabricated to ensure the quality of construction, improve efficiency, cost and make construction easier in a location with access issues.

Recycled plastics are used as a resilient and robust material in this environment but also offer a sustainable alternative to the GRP. To resist fire and vandalism external cladding is to be High Pressure Laminate and the recycled plastic roof tiles will achieve a class A fire rating. The timber doors should also provide a level of fire resistance as appropriate.



Chalet Design Options Pros & Cons Comparison Matrix

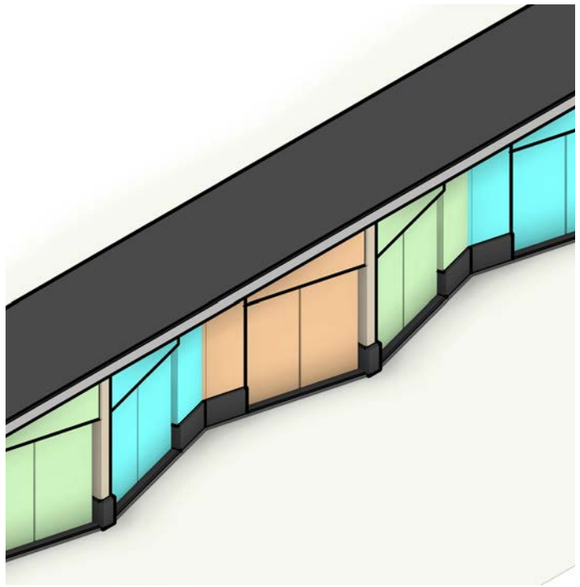
Adapted Existing

Pros

- Easiest to construct.
- Closest in appearance to existing chalets.
- Most resilient design to the elements and vandalism.

Cons

- The least visually impactful.
- No natural light when doors are closed.
- Highest use of plastic and GRP making it the least sustainable option.
- Use of timber structure and end on end design requires fire seperation.



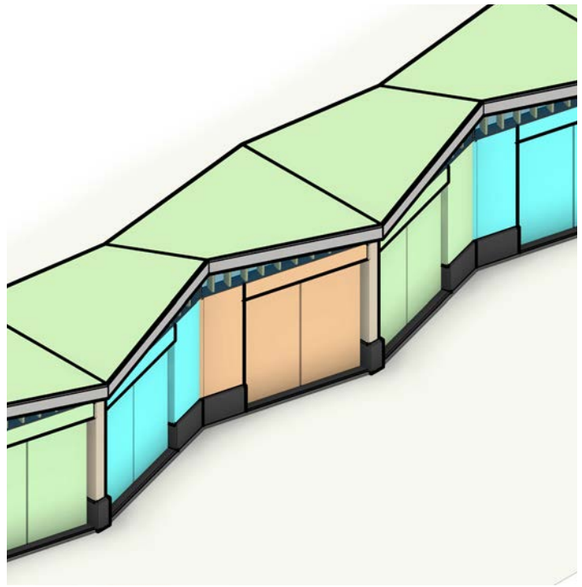
Radical Adapted Existing

Pros

- Retains the economical design of the chalets but has some of the charm of the beach huts.
- Windows allow natural light in when doors are closed.
- Sedum roof improves biodiversity.

Cons

- Features such as the roof make it more costly than the Adapted Existing option.
- Use of timber structure and end on end design requires fire seperation.



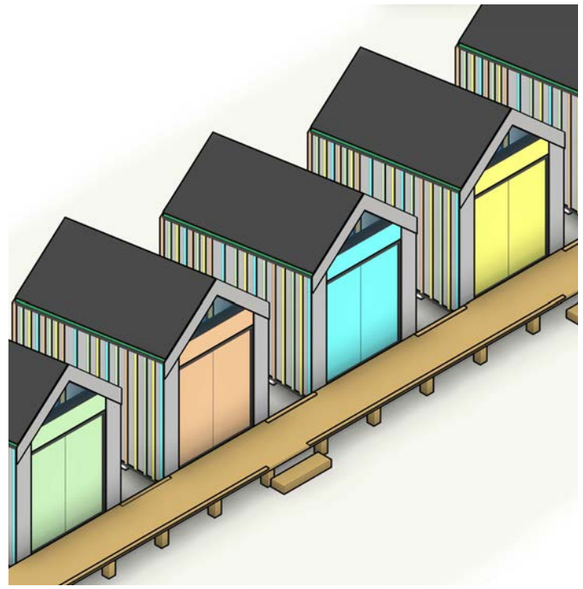
Re-Imagined Design

Pros

- Mimics charm of the beach hut.
- Protected private patio.
- Admits most natural light inside.
- Most fire resistant.
- Least vulnerable to flooding.
- Off site fabrication means least amount of on site labour.

Cons

- Raised level makes it more challenging to provide wheelchair access.
- Occupies the largest footprint.
- Potential for cliff debris and litter to collect between units.



05 Summary & Conclusions

The options outlined within this report represent increasingly ambitious approaches to the design of beach chalets. While each design option meets the core requirements, they progressively expand the scope of what a beach chalet can be. As such, they each have increasing cost implications. This report is accompanied by a clear breakdown in the pricing of each option, to enable the form of implementation to be delivered depending upon available budgets or other constraints.

Regarding the identified sites, only those sites recommended should be considered for beach chalets. Of these sites, Madeira Drive, Rottingdean and Saltdean offer the best opportunities to develop beach chalets. Madeira Drive has the key advantage of its prime location but the obvious constraint of potential clash with the Black Rock Rejuvenation development. Rottingdean and Saltdean both have the advantage of having larger sites with more potential for development due to the significant amount of space in terms of volume however these locations are more remote.

18
5

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