



Design and Access Statement

April 2022

Contents

1 Introduction.....	2	5 The Proposal	42
Proposal Summary.....	3	Master Plan Aims.....	43
Project Team	3	Outline Master Plan	44
Vision and Brief.....	4	Character and Landscape Approach	45
		Site Layout.....	46
2 Site Context.....	6	Building Layout	47
Site Location	7	Scale	48
Development Context.....	9	Use and Amount.....	49
Ecological Designations	10	Illustrative Master Plan.....	52
Topography.....	11	Physical Model Views	57
Orientation and Climate.....	12	Lodge Accommodation	59
Site History and Heritage Assets	13	Access and Movement.....	61
Site Access and Rights of Way.....	15	Inclusive Access	65
		Community Safety.....	66
3 Interpretation	18	Lighting Design.....	66
Response to Planning Policy	19	Environmental Sustainability	67
Defining the Development Zone	20		
Construction Approach.....	25		
4 Design Development	26		
Initial Master Plan.....	27		
Public Consultation	29		
Brief Development.....	32		
Master Plan Design Development	35		



Introduction



Proposal Summary

This Design and Access Statement has been prepared by Holder Mathias Architects on behalf of Marvel Ltd, together with their consultants, in support of an Outline Planning Application for a destination sports, leisure and tourism led, mixed-use development proposal on land to the South West of the Rhydycar roundabout on the A470, in Merthyr Tydfil in the South Wales Valleys.

Project Team

Applicant	Marvel Ltd
Masterplan	Holder Mathias Architects
Planning Consultant	Carney Sweeney
Project Management, Cost Consultancy and Construction Methodology	Gleeds
Environmental Engineering, Sustainability, Climate Change, Energy and Utilities	Hoare Lea
Geotech	Tetrattech
Hydrology	Tetrattech
Surface water drainage and flood risk	Tetrattech
Air Quality	Tetrattech
Noise	Tetrattech
Light Assessment	Tetrattech
Highways and Transport	Tetrattech
Waste	Tetrattech
Ecology	Bioscan UK
Arboriculture	Tetrattech
Landscape Design	Tir Collective
Heritage	EDP
Economic Impact	Aecom
Design and Snow Centre	J+S Architecture and Engineering

Vision and Brief

Vision

The 'vision' for the application proposals is premised on the development of an exemplary, and internationally recognised, sports, leisure and tourism destination able to offer a unique experience to both the people of South Wales and the UK as a whole. The new centre will be extremely well-connected, will be a National Centre of Excellence offering world-class facilities for indoor snow sports as well as a wide variety of indoor and outdoor pursuits for the benefit of both elite athletes and recreational users. These facilities will be supported by a diversity of associated accommodation able to cater for the long or short stay visitor. The new centre will also complement and enhance the existing sport, leisure and tourism 'offer' currently thriving in the South Wales Valleys and Brecon Beacons such as Bike Park Wales and Zip World.

The proposals aim to enable and encourage local, regional and national trips as well as facilitate longer stays in the area, and, by adding to the growing critical mass of all-year round leisure opportunities, continue to strengthen Merthyr Tydfil's renaissance and position as both the destination of choice in this regard and the gateway to the Brecon Beacons.

Functional Brief

Following extensive technical and economic development studies into suitable uses for the site, particularly given its location, accessibility and catchments, as well as inherent site constraints such as topography, ecology and heritage considerations, a viable mix of resort uses was identified at an early stage.

The applicant began the work of developing the leisure resort complex following acquisition of the site. One of the key over-arching objectives was to design a leisure resort which would complement and build on the success of existing leisure businesses such as Bike Park Wales and Zip World which had already established Wales as a destination for adventure tourism. Rhydyar West seeks to attract much more adventure tourism to Wales and develop the nation as a hub in this respect; making Merthyr the 'base-camp' from which to explore South Wales and the gateway to the Brecon Beacons.

Technical and leisure sector consultants were engaged very early on to help to shape the brief and to determine complementary functions thereby ensuring that this 'vision' could be made a reality. Early leisure development briefs were explored, and long lists of potential attractions were evaluated and then narrowed down to identify what would be the most successful and best mix of leisure attractions. This was all carried out in consultation with a range of local and national groups and individuals including Merthyr Council and Visit Wales. A key milestone in the evolution of the development was the applicant's

introduction to Snowsport Cymru Wales by the Head of Economic Development of Merthyr Council in 2015. Snowsports Cymru Wales ("SCW") had been seeking a site to develop a National Centre of Excellence for snow sports and a home for the Welsh National, Olympic and Para/ Special Olympic teams. SCW evaluated a number of potential sites in the South Wales region and found that the Rhydyar West site presented the best and most viable option, particularly when factoring-in location, topography and other key factors – so a partnership to realise this ambition was created between the applicant and SCW. More recently, the development has also gained the support of GB Snowsport to establish the UK National Centre of Excellence and training headquarters. The applicant's vision (in partnership with SCW and GB Snowsport) is to create the "Wembley Stadium" of Snowsports, located in Merthyr in the heart of the Welsh Valleys.

Further detailed technical and design work was undertaken to create this resort proposal. The design team collaborated (especially via regular meetings) with a vast range of stakeholders, organisations, businesses (local and national) and individuals including Welsh Government, Cardiff and Capital Regions City Deal, GB Snowsport, Snowsport Cymru Wales, Visit Wales, Cadw, local heritage groups, GGAT, Merthyr Council (various departments over the years including planning, economic development and regeneration, legal, rights of way, ecology), NRW and the Coal Authority. The design team has collaborated with the MTCBC Economic Development department, GB Snowsport, Snowsport Cymru Wales and experienced existing operators to ensure the development is capable of meeting their aspirations. The development proposals have evolved and undoubtedly benefitted as a result.

A key anchor of the resort development will be the longest indoor snow centre in the UK (incorporating the national headquarters and training headquarters for Snowsports Cymru Wales and GB Snowsport). The application proposals were to establish a master plan that would provide for all functions in support of a new destination sports, leisure and tourism resort, and should include:

- An International Ski Federation (FIS) standard indoor snow centre capable of hosting National and International Indoor ski competitions
- A water park;
- Space for indoor adventure activities;
- Space for outdoor adventure activities;
- A variety of resort accommodation, including up to 418 hotel keys and 30 forest lodges;
- Ancillary food and beverage and retail offers;
- Conference facilities

- New public spaces and extensive external landscaped areas, including the provision of public access to existing Heritage Assets; and
- Ancillary accommodation in support of the above, including parking, public transport drop off, active travel infrastructure, energy centre, management infrastructure and back-of-house areas

During the early stages of the project, in addition to the main leisure resort, the project development team were tasked with investigating the potential to provide up to 650 homes to the north of the Application site running parallel and adjacent to the A470 (on part of the applicant's wider landholding). Given the wider site's inherent constraints, and following feedback from a variety of stakeholders, this component of the project has since been omitted and so does not form part of this application.





Site and Context

2

Site Location

The Application site forms part of a wider landholding which together can be roughly described as being bound to the North by the village edge of Heolgerrig, to the East by the A470 dual carriageway, to the South by the National Grid Pylons which cut East to West across the valley, and to the West by a variety of footpaths and brideways which sit just below the Mynydd Aberdâr ridge.

The Application site itself occupies a 30.4ha parcel of land, and is located in the South Eastern corner of the applicant's wider landholding, on the lower slopes and plateaux of the East-facing flank of the Taff valley to the Southwest of the A470 at the Rhydycar Roundabout. Within its confines, it is scattered with historic mine workings, spoil tips and the like, as well as the remains of historic canal and railway line features, all of which have since become redundant and fallen into disrepair - some of these features benefit from statutory or local protection.

Subject to the below, the site is not currently accessible to the public due to the danger posed by the various historic mine workings. These workings include deep vertical shafts and unstable structures as well as underground mines and tunnels, all of which have, over time, caused sink holes to appear.

There is one public right of way which enters the site adjacent to the A470 underpass and continues to the Abernant Tunnel. A number of additional claimed rights of way exist (some of which are likely to be established following due process).





Development Context

The proposed development sits within the wider context of the Taff Valley, and only a short distance from Merthyr Tydfil and the beginning of the Brecon Beacons National Park.

A variety of attractions already exist, to which the Application proposals will seek to add, thereby helping to not only reinforce this current position, but to help create a greater critical mass and hence the encouragement of more multi-day visits to the area in general.

South Wales Metro

Merthyr Tydfil Railway Station

- (A) Pentre Bach Railway Station
- (B) Troed-y-Rhiw Railway Station
- (C) Proposed Future South Wales metro Station
- (D)

Long-distance Cycle Routes

NCN 8 (Taff Trail)

- 8 NCN 46 (Heads of the Valleys Trail)
- 46 NCN 447 (Trevithick Trail)
- 477 NCN 478
- 478 Proposed Abernant tunnel link

Local Attractions and Historic Features

- 1 Rhydycar Leisure Centre
- 2 Bike Park Wales
- 3 Trago Mills
- 4 Cyfarthfa Iron works
- 5 Cyfarthfa Castle and Gardens
- 6 Cefn Coed Viaduct
- 7 Taf Fechan Nature Reserve
- 8 Brecon Beacons National Park
- 9 Morlais Castle Ruins
- 10 Brecon Mountain Railway
- 11 Zipworld Tower
- 12 Rock UK
- 13 Red Kite Trails, Gelligaer and Merthyr Common



Ecological Designations

With its rich history of spoil tips and mine workings, together with a lack of disturbance by human activity, the site has become home to a unique series of habitats. These habitats now cover the majority of the Application site and have since been bestowed the protection of various local and national designations. These designations are shown on the adjacent map, and listed below:

 Site of Special Scientific Interest (SSSI)
The majority of the land which surrounds the application site to the North, East and West are included as part of the SSSI

 Sites of Importance for Nature Conservation (SINC)

SINC 12: Cwm Glo

SINC 36: Rhydyar West

 A small area of Ancient Woodland exists on the South-Eastern tip of the site, however this exists outside of the proposed development area



Topography

Located at the base of the east-facing flank of the Mynydd Aberdare ridge, the topography of the land holding can be described in general terms as sloping up from the eastern flank of the Taff valley from east to west.

The Application site itself consists predominantly of made ground, comprising many features that have built up over the course of the site's historic mining and industrial past. The overall gradient profile across this area is relatively gentle, with a significant increase in steepness beyond the man-made areas.

The most notable topographic features are highlighted on the adjacent map and can be described as follows:

1: Nant Cannaid Gorge

The gorge was created through the natural erosion of Nant Cannaid as it runs from the hillside in an Easterly direction towards the valley.

2: Glyndyrys tip

3: Fan Tip

4: Cwm Upper and Lower Tips

5: Collier's Tips

6: Railway cuttings and embankments

The Cyfarthfa junction of the Gethin railway with the railway linking Merthyr to neighbouring valleys through the Aberdare tunnel shows significant man-made earthwork cuttings and embankments to the West of the former railway alignment, in places leaving level differences over 15m. Towards the East, are embankments - these can be seen where the railway would have crossed the valley into Merthyr Tydfil itself.

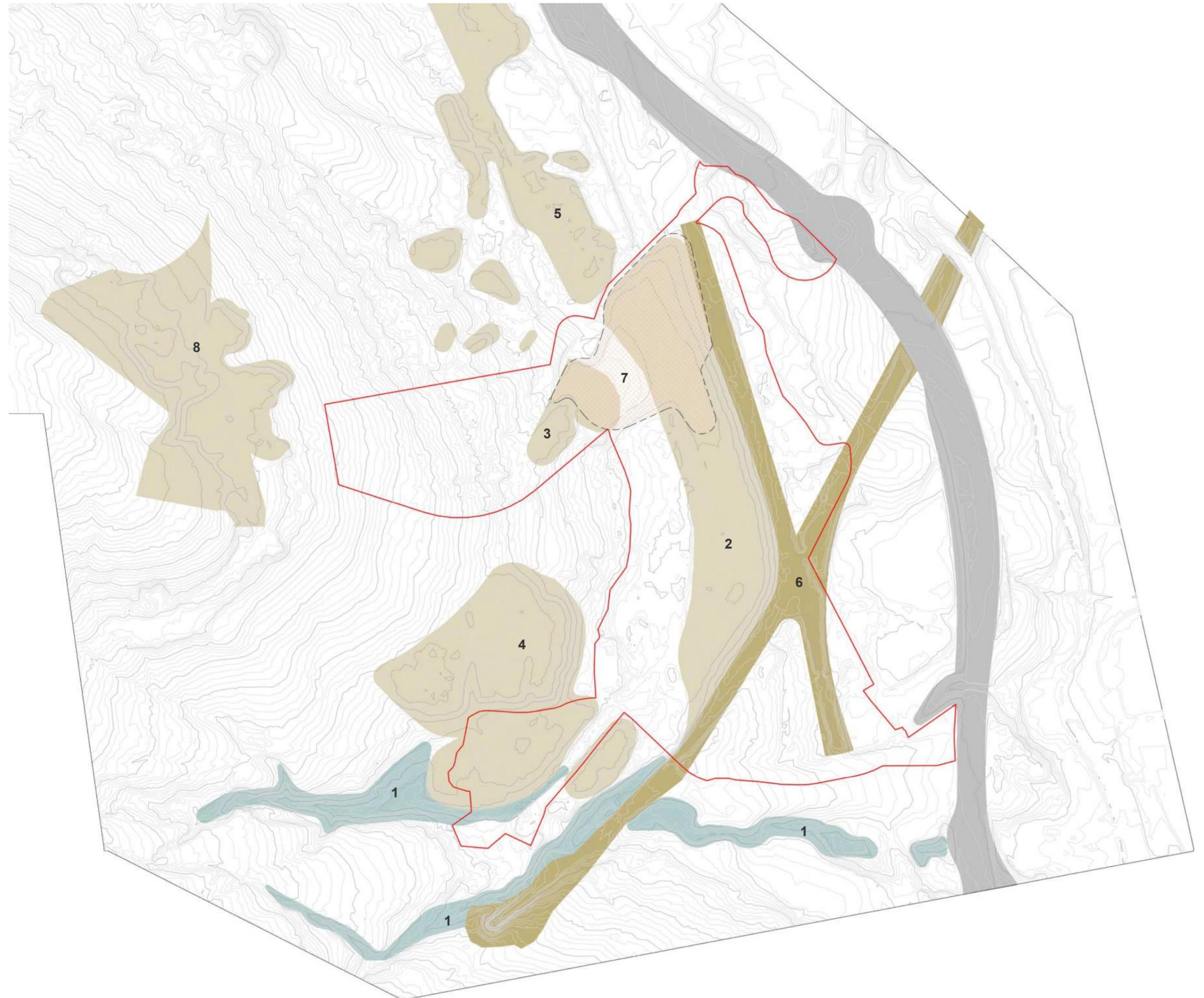
7: A470 embankment and spoil Tip

With the cut and fill operations to construct the A470 dual carriageway, excess spoil from the works was deposited on the site, overlaying Fan Tip and the northern part of Glyndyrys Tip

8: Black Pins Early Ironstone Workings

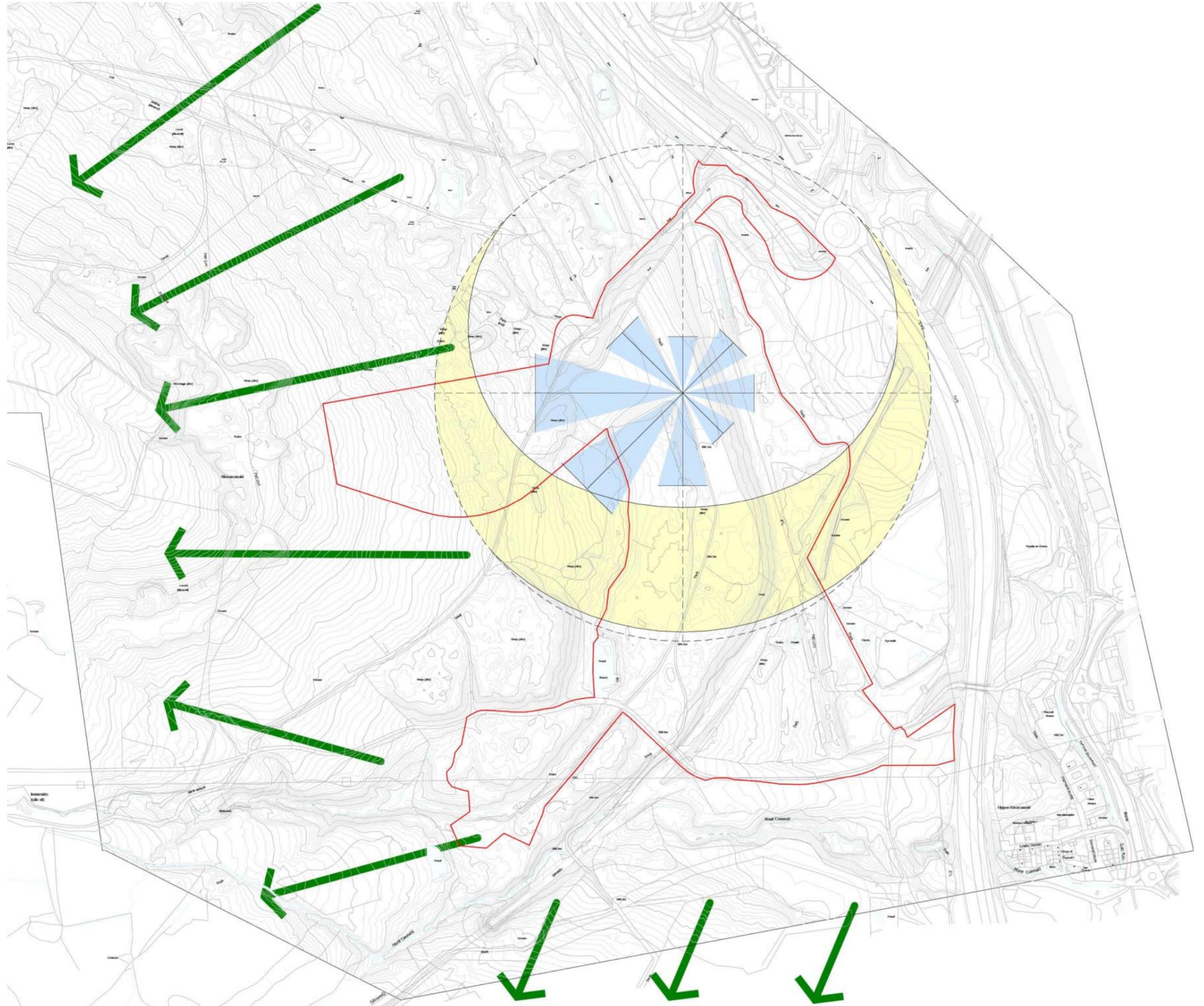
Ancient ironstone workings have left a clearly visible plateaux within the landscape

As a result of the extensive historical mining activity on the site, the land has a widespread variety of tunnels, shafts, adits and other below-ground excavated features which manifest themselves and appear at the surface of the landscape, through sink holes. In addition, the nature of the historic tips is such that spoil was generally dumped on unused parts of the site rather than being engineered – something which again, has expressed itself, over time, through localised land slippage of the tips themselves as water has penetrated and interacted with the materials on site.



Orientation and Climate

- The ridge to the west, formed by the Mynydd Aberdar formation, provides shelter from the westerly and south-westerly prevailing winds that blow across the site. In a more localised context, the southern flank of the Nant Cannaid Gorge creates a bowl which sweeps along the southern boundary, and in doing so, provides an additional level of protection from the prevailing winds.
- The Application site's topographic orientation provides good exposure to the sun in early morning and mid to late afternoon.
- However, the ridge provides later afternoon / early evening overshadowing of the Taff valley in general and hence also of the Application site itself.
- The predominant views from the site are long views towards the north and the southwest, and more proximate views towards the opposite face of the valley to the east
- The development benefits from some visual shielding when approached along the A470 from the South, and due to the curving topography of the landform, as described above, it can prevent direct views of the site from along the valley.



Site History and Heritage Assets

A summary of the key heritage features that can be found within the Application site boundary and within its vicinity are listed below:

1. Valley of Neath railway cutting and tunnel portal (GM606)

Initially surveyed by Isambard Kingdom Brunel – only the original cutting into the bedrock and Pennant sandstone tunnel portal now remains (B)

2. Cwm Pit and Head of Railway (GM607)

Representing the most complete coal mine complex in the Merthyr Tydfil area, the monument contains a variety of built features including long revetment walls, the remains of associated mining activity buildings, a balancing pond and a chimney base (A)

3. Cyfarthfa Balance Pond and Leat (GM608)

The largest preserved pond within the Cyfarthfa estate, the pond and leat were constructed in order to feed water to the balance engines which in turn powered the deep level mines

4. Black Pins Early Ironstone Workings (GM609)

The remains are remnants of early surface ironstone workings.

In addition to the above, a number of notable features still remain within the Application boundary, and although not benefitting from specific designation, they do nonetheless present opportunities to place the site in the wider context. These include a variety of railway bridges (C) and culvert remains, as well as the location of Cyfarthfa Junction (D).

Other notable historic features surrounding the site are as follows:

- i. remains of Glyndyrys Signal box
- ii. Glyndyrys pond
- iii. Lower Collier's Row
- iv. Old Drift and associated building
- v. Pen-Cae





(1)



(2)



(3)



(4)



(5)

(1) Balance pond

(2 / 3) Sluice Features

(4) Cwm Pit Retaining features and (5) detail

(6) Cwm Pit Chimney Base

Railway features:

(7) steel bridge with Abernant Tunnel in the background

(8) Stone arched railway bridge and associated retaining structures



(6)



(7)



(8)

Site Access and Rights of Way

The Application site benefits from a number of excellent existing pedestrian and vehicular points of access and rights of way. These key links are highlighted on the adjacent map and described below:

Active Travel access points

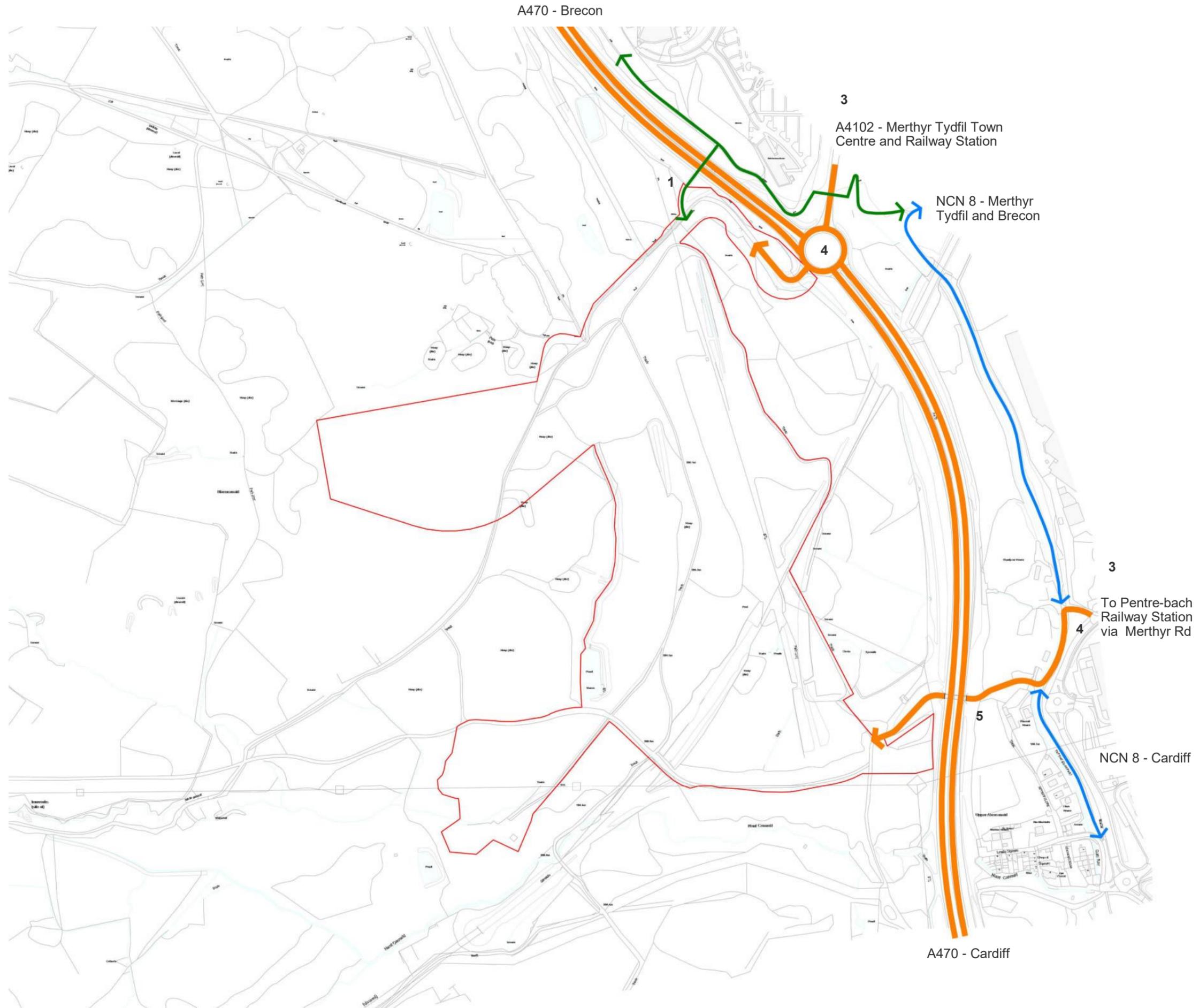
- Merthyr Footbridge**
A short way north of the Rhydyar Roundabout is an existing footbridge across the A470. The footbridge provides access to an existing network of footpaths to the north towards Cae'r Wen, and south where it connects with the National Cycle Network paths
- National Cycle Route**
It should be noted that the unclassified road immediately beyond the A470 underpass is designated as part of the National Cycle Network Route 8 - the Taff Trail.

Public Transport

- The site is located approximately equidistant to both Merthyr Tydfil and Pentre-bach railway stations on the South Wales Metro, and is accessible by active travel modes or by private vehicle.

Vehicular access points

- Rhydyar Roundabout**
As part of the construction of the Rhydyar Roundabout on the A470, a spur was created in anticipation of development on the landholding, including the Application site
- A470 Underpass**
To the South of the Application site, there is a single-lane underpass to the A470 which leads via an unclassified road to the system of Abercanaid Dragon Parc service and access roads, and eventually links-up to the A454 Pentrebach Road / Merthyr Road roundabout.

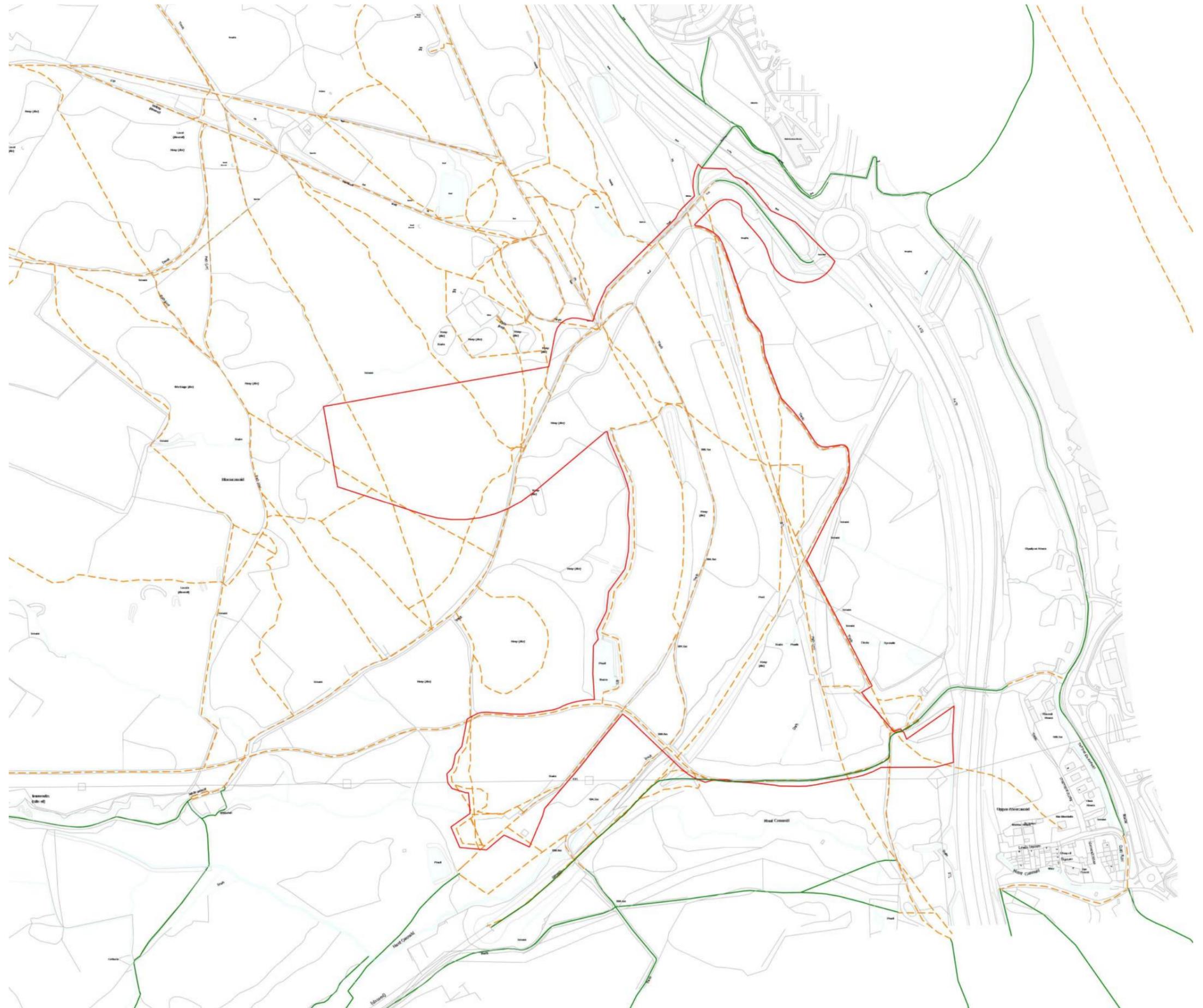


- Vehicle Access
- Footpaths
- National Cycle Route 8 - Taff Trail

Rights of Way

Due to its historic use as a mining site, the land is peppered with unprotected shafts of varying depths. It also features areas of unstable ground as well as underground tunnel systems, which themselves, have been subject to collapse and as a consequence have caused sinkholes to appear. As a result, public access to the site is currently restricted (subject to the one public right of way detailed above).

Notwithstanding the above, a number of historic rights of way - bridleways and footpaths - are claimed across the Application site as indicated on the adjacent map.



- Public Rights of Way
- - - Claimed Rights of Way



Interpretation

3

Response to Planning Policy

A summary of the key aspects of planning policy which have had an impact on the design, and in particular how these key elements have been taken into account, are set out here:

SW4	Settlement Boundaries The proposed development sits outside the settlement boundary. Policy SW4 allows development in such locations where the proposal is for tourism, recreation or leisure facilities or complementary development where the need for a countryside location is fully justified. The countryside location has been central to the vision to create a flagship Welsh and UK leisure resort and the need for a natural slope for the snow centre and the size of the development has also precluded an 'in-settlement' and in centre location. As such, the proposed development can be argued to meet the criteria for a 'countryside development' as described in this policy.
SW10	Protecting and Improving Open Spaces Development proposals that improve the quality, quantity or access to open space will be supported by this policy. The proposed development will connect a number of claimed rights of way across the site and will improve access to some previously inaccessible Scheduled Ancient Monuments. If the claimed rights of way are formalised, these may be haphazard or potentially dangerous. The development offers the opportunity to provide access in a rational and safe way. The development as a whole will improve access to public open space.
SW11	Sustainable Design and Placemaking The proposed development seeks to build on, and incorporate, existing links to the site from the surrounding area, such as the existing spur from the A470 which gives primary access to the site, the underpass which links to Abercanaid, and the pedestrian bridge which provides links to Merthyr Tydfil. In addition, there are some proposed links, such as the active travel link (proposed by others) through the Aberdare Tunnel – the proposed development anticipates this link. In this way, the proposed development will form a destination which is well connected with its wider surroundings by means of a mixture of transport and movement modes. The proposed development and public areas will be designed around attractive and sustainable places which in themselves will provide a high-quality, accessible and inclusive experience, as described in further sections of this document.
CW1	Historic Environment The proposed development will allow the heritage assets on the site to become accessible to the public via sensitively managed access. Proposals to provide this facility include interpretation notice panels, and enhanced access, all as described in this document, as well as works to stabilise and manage the on-site heritage assets themselves as set out in the relevant Heritage chapters of the Environmental Impact Assessment.
EnW1	Nature Conservation and Ecosystem Resilience The proposed development will impact on a designated (Site of Special Scientific Interest (SSSI)). The development design has been through multiple iterations aiming to reduce the loss of SSSI to the minimum necessary to deliver the core element of the development (the indoor snow centre) with the result that loss is limited to approximately 3.4% of the statutory site. The rest of the Application site impacts on non-statutory SINC (Site of Importance for Nature Conservation) designations centred on land which has a history of human disturbance, such as through its historic mining activities or the deposition of the A470 construction spoil. The development proposals seek to avoid or mitigate for impacts on species interests associated with these designations, and to compensate for losses via improved management of the balance of the land and potentially via off-site compensation measures.

EnW2	Internationally and Nationally Protected sites and species Encroachment into the SSSI has been limited to the components of the proposed development which could not reasonably have been provided in any other location, namely the indoor snow centre and its associated servicing. These components are critical to the basis and establishment of the proposed development and crucial to its National and UK significance. Despite the loss of part of the designated SSSI however, through the development proposals, the remaining parts / area can be actively managed with a view to enhancing their inherent ecological value. Mitigation and compensation of SSSI loss is addressed in detail in the specific Ecology report being submitted alongside this Design and Access Statement.
EnW3	Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves and Priority Habitats and Species (In relation to SINC 35 and 36) The development has been positioned to avoid or minimize landtake from the SSSI and in consequence involves landtake from two SINC designations covering the non-SSSIU parts of the landholding. The development is partly positioned within SINC 36 (Rhydycar West) and affects a very small part of SINC 12 (Cwm Glo). These are areas of the site that have previously been disturbed by industrial, construction and mining activities. To offset the loss of parts of these designated SINCS through the development proposals, the remaining parts / area will be actively managed with a view to enhancing their inherent ecological value.
EnW4	Environmental Protection Although significant in scale, the proposed development has nonetheless been designed in such a way that it can be brought forward with little adverse effect on people, property or the natural environment in general.
EnW5	Landscape Protection (In relation to SLA3: West Merthyr Flank) The proposed development has been designed with a view to minimising its visual impact on the landscape. In this regard, careful consideration has been given to the precise locations and massing of the different components of the proposed development, including, where appropriate, the use of landscaped bunds, plateaux, and, hillside integration through cut and fill construction techniques.
EcW7	Tourism, Leisure and Recreation Development The proposed development represents a resort with national and UK significance, and the Application site has been chosen for a combination of its inherent demographic and accessibility, topography, landscape, natural backdrop, proximity to the Brecon Beacons National Park and key links to transport arteries in Wales and the UK. Through its all-year-round contribution to the leisure and tourism industry, the proposed development will also offer significant and positive benefits for the local community and economy, including many full and part-time employment opportunities.

Defining the Development Zone

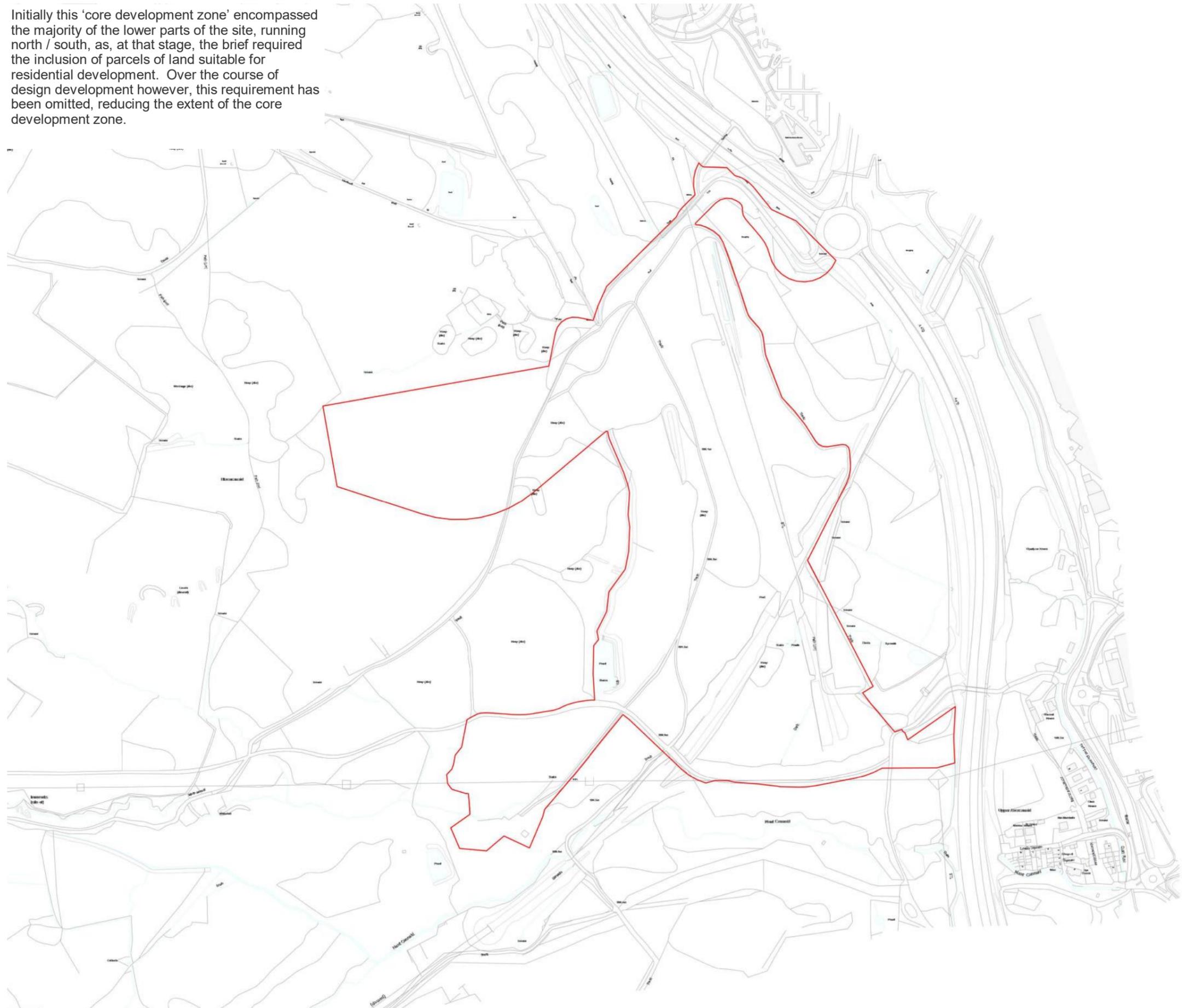
Core Development Zone

Given the applicant's extensive land ownership, the first objective was to define the most appropriate location for any proposed development. Establishing this position was carried out as a direct response to both the site's inherent conditions and the constraints that have been identified in the previous section – these are as follows:

- Extensive ecological survey work, undertaken over a number of years, suggested areas where development would have the least impact on the site's ecology, both in terms of the impact on designated sites, important habitats and protected species, and the overall evaluation of the site's ecological assets in relation to its wider system of habitats. It also identified areas where any form of development would have an unacceptable and detrimental impact on the ecology – for example through impacting on cited SSSI interest features such as colonies of marsh fritillary butterfly or hotspots of high waxcap fungi diversity.
- Development should have neither a directly adverse impact on the site's heritage features and Scheduled Ancient Monuments (SAMs), nor impact adversely on their immediate settings. Conversely, development should identify opportunities for the provision of safe public access whereby the public can enjoy and interpret the features in the context of both their immediate historical context and the wider history of the Merthyr Valley.
- Development should seek to minimise the degree of direct cut and fill construction required and instead maximise the benefits offered by its inherent topography, and in particular, for the specific location of the Indoor Snow Centre, and the potential re-use of land which is already to an extent 'man-made', such as the areas of displaced A470 construction spoil.
- The development proposals should build on the area's existing links, with a view to ensuring that the site can be made as accessible to the residents of Merthyr Tydfil and other neighbouring settlements as possible.
- Where possible, public access across and around the development proposals should be provided.
- Built forms should be positioned within the lowest parts of the site thereby presenting the least visual impact in the daytime, as well as at night.

In consideration of the above, it was possible to define a 'core development zone', that is to say, an area into which the various components of the development proposals could be appropriately located relative to each other, and where their basic design and technical (briefing) parameters could be fulfilled.

Initially this 'core development zone' encompassed the majority of the lower parts of the site, running north / south, as, at that stage, the brief required the inclusion of parcels of land suitable for residential development. Over the course of design development however, this requirement has been omitted, reducing the extent of the core development zone.

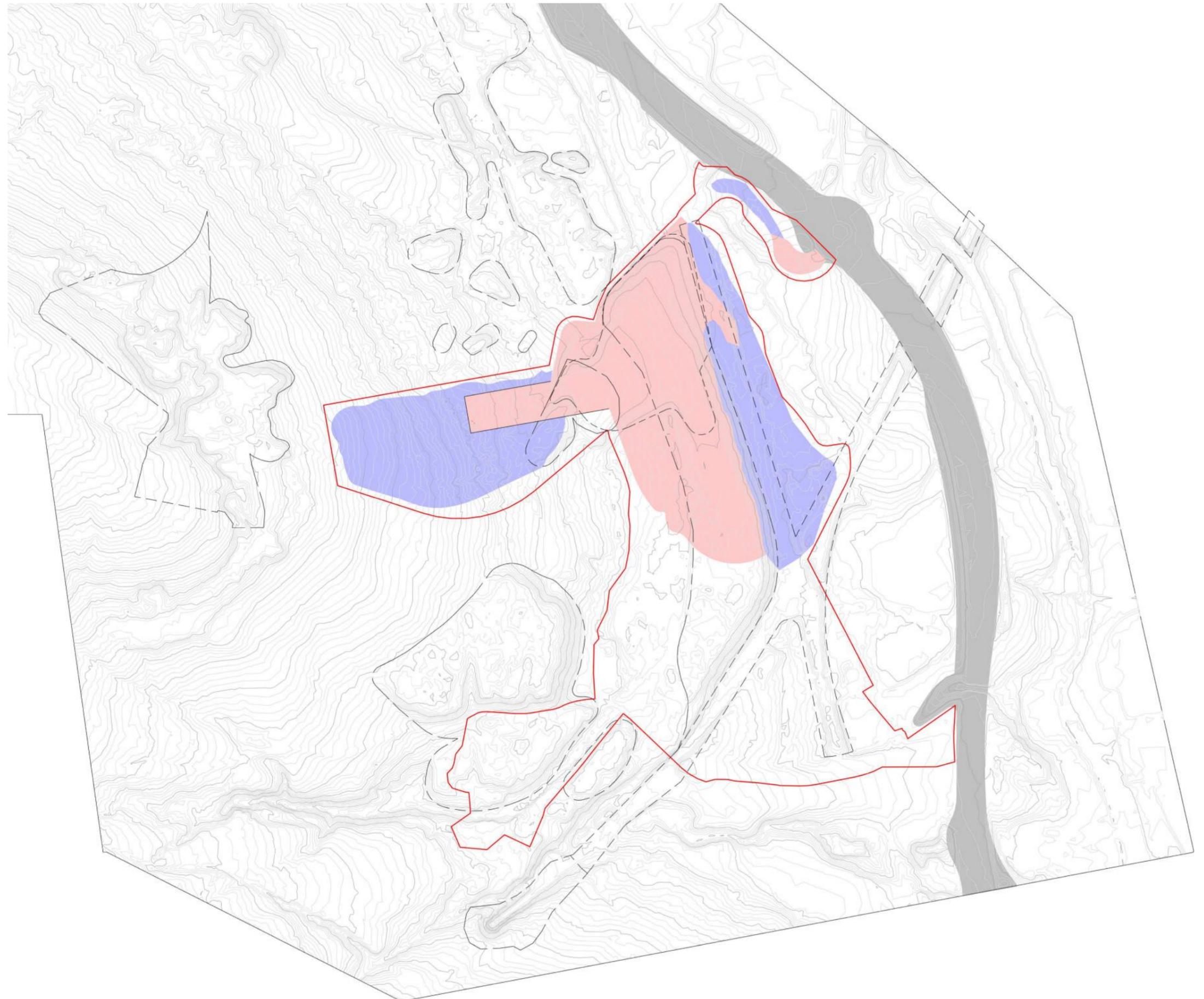


Preparing the development area

Within the development area, it has been established that approximately half of the site comprises made ground formed by the displaced A470 construction spoil, and the many and varied former mining works tips and deposits. Due to the mining legacy at the site, remediation and enabling works will be required before any development can take place - this will be undertaken as part of the cut and fill process.

This position presents an initial challenge in respect to carrying out the development - the remaining heritage features on the site for instance had to be given due consideration, as did the habitats and associated species which have progressively inhabited the industrial remains over time. This position offers the opportunity to overcome some of the larger level differences across the site and render it accessible with the desired topographic levels and gradients for construction of the proposed buildings and associated external areas.

Over the course of the design development process, the requirement for remediation and subsequent re-levelling has been continually considered, with a view to ensuring that a balance of cut and fill can be achieved across the site without the need for either spoil removal, or material needing to be brought in from elsewhere. In this way, the development proposals will seek to use the remediation process to create a plateau which in turn will support the formation of the new resort proper. In going through this iterative process, the output has been continually assessed in terms of its impact on the site's ecology, and this has fed back into each subsequent iteration.

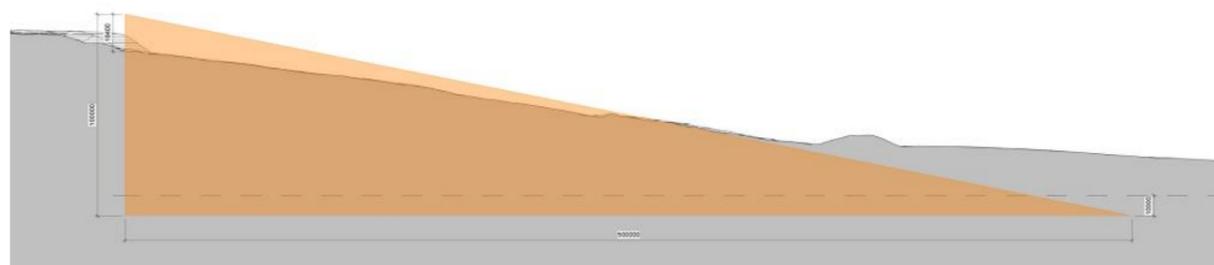
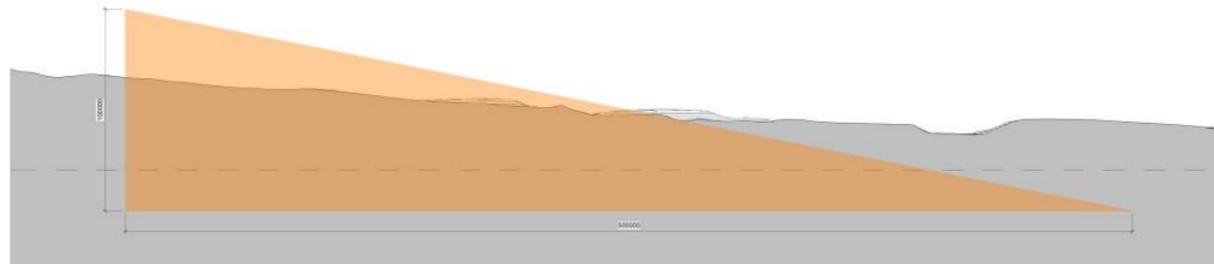
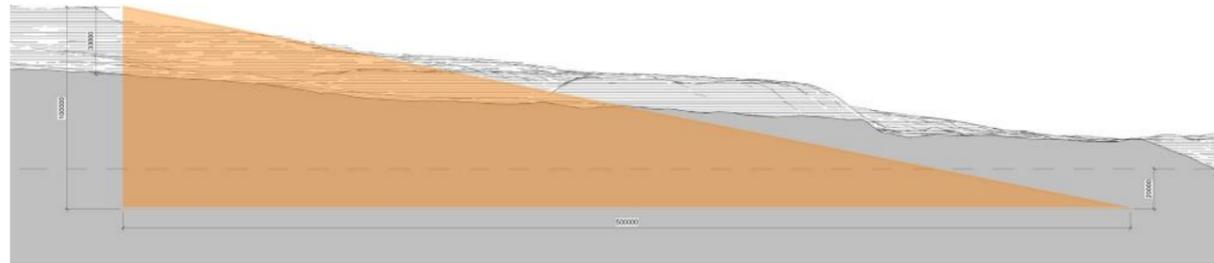
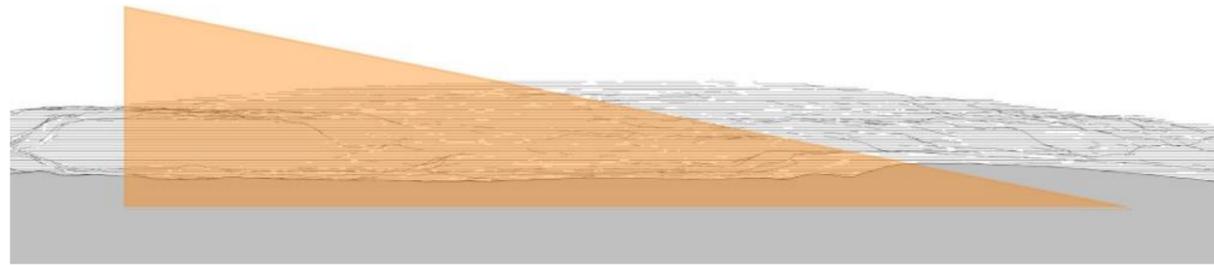


 Areas of fill
 Areas of cut

Indoor Snow Centre Positioning

Having established the maximum extent and essential land coverage for the evolving design proposals, the primary challenge to developing an appropriate masterplan for the new resort was the positioning of the Snow Indoor Centre. At the length of c.500m – this length was required as part of the initial brief - and with a gradient of approximately 1 in 10, it is not only significant in scale, massing and visual presence (and hence impact), but it represents the single largest building component within the new resort as a whole, accounting, on its own, for circa half of the total built accommodation floor area.

The Indoor Snow Centre is the focus of the new resort, and its precise location in relation to the evolution of the masterplan was critical – all of the associated and complimentary building components that together form the resort, are to be positioned around it. In consideration for the most appropriate location for the Indoor Snow Centre, this was guided by the impact on site ecology, heritage and topography, as well as the visual impact in relation to the wider surroundings. Accordingly, a number of options were explored and considered with particular emphasis on the parts of the site that offered the most suitable gradient and the most suitable orientation. These location options were initially considered wholly within the Core Development Zone, however due to the potential need for both greater cut and fill of the hillside and compromises in orientation, options that explored locations adjacent to, but nonetheless outside of the Core Development Zone, were also considered – a comprehensive assessment of the Indoor Snow Centre's full impact was thus possible.



Option 1: *Avoiding the SSSI and heritage assets completely.*

This proposal would involve constructing a free-standing slope and associated structure, which, if even partly buried, would have a height of around 80m. This would be an extremely imposing structure in any context, particularly as effectively a 'wall' of building at its peak would amount to the equivalent of a circa 25-storey building. The option would not only be hugely imposing, but it would appear to completely ignore the benefit that the chosen design has to offer, that is to say, the opportunity to set the structure into the hillside and by doing so significantly diminishing its visual impact.

Option 2: *Avoiding the SSSI, and locating the snow centre to the South of the site.*

Although an improvement on Option 1, this part of the site presents difficulties in relation to fitting the building onto the site in-plan due to the extents of ownership. Apart from this, the alignment of the local topography is far from ideal. In addition to this, the heritage considerations for this location are such that it might adversely affect both the Balance Pond and the Cwm Pit Scheduled Ancient Monuments. It may also severely impact on the site's areas of purported ancient woodland. Another consideration is the existing National Grid pylon line which runs directly East-West in this location – something which would present enormous challenges as the structure would still stand proud of the surrounding land by a significant degree.

Option 3: *Encroaching into the SSSI – north-west to south-east orientation / shallow gradient*

Although this option encroaches into the SSSI, it runs across areas of made ground, in the form of the Colliery's spoil tips, and roughly parallel to the existing former tramways on the site. Moreover, it would need significant construction at the top of the slope in order to achieve the level differences required, as well as significant excavations below the level of the A470 spoil heaps at its base. Critically however, compared to the chosen design, this option would be more damaging to key interest features underpinning the SSSI designation including waxcap grasslands, locations of foodplant for marsh fritillary and areas of marshy grassland and so for this reason the option was discarded.

Option 4: *Encroaching into the SSSI – west to east orientation / steep gradient*

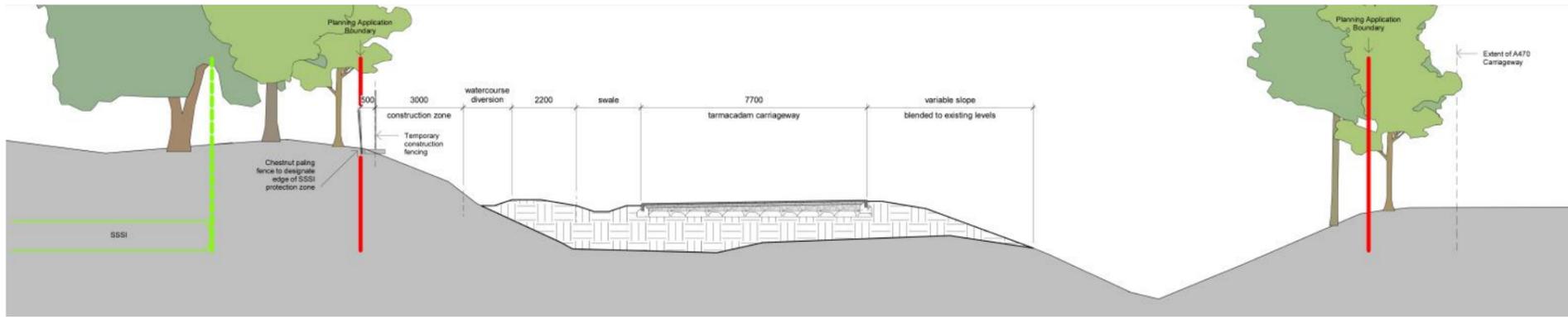
As with Option 3, this option encroaches into the SSSI. However, by starting in the same location, but with a different orientation, and by excavating the A 470 spoil tip at its base, coupled with the benefit of using the steepest section of the hillside, this option offers the best and most natural alignment to the hillside relative to the Indoor Snow Centre's 1 in 10 gradient requirement. In this way, the most practical and effective form(s) of construction can also be employed, and the levels which result only create a relatively modest projection above the level of the surrounding landscape. Furthermore, despite its locational impact on the SSSI when compared with Option 3, by avoiding both marshy/ Molinia dominated grasslands, and waxcap-rich grasslands, this option avoids the principal interest features underpinning the Cwm Glo a Glyndyrys SSSI and it therefore has a lower overall ecological impact than option 3. Of all the options considered, the visual impact offered by this option will have the least effect on the surrounding landscape.

Construction Approach

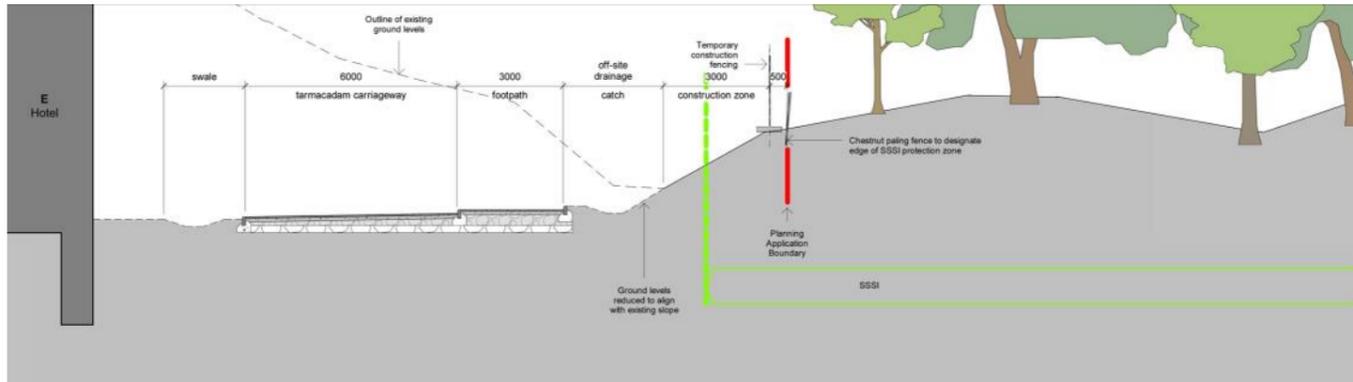
Given the constraints posed by the site's inherent geology, topography and ecology, as outlined earlier in this document, a construction methodology has been prepared to ensure that, in particular, the SSSI can be defined and protected from incursion whilst construction works are carried out. In order to achieve this, a series of detailed section studies have been prepared. These have established the absolute minimum requirements for construction and hence a position whereby the development zone edge can be defined and demarked. The section studies have also helped to define the location for any temporary construction hoarding (to secure the site) as well as the safe working zones required to enable the works in general, in particular, the extensive remedial earth works and the stabilisation and re-levelling works, both of which are required to make the site safe for future construction and access. A number of the key sections are illustrated here - the entire study has been included as part of the Application.

The outcome of these studies have defined the required construction zone and hence the Application boundary.

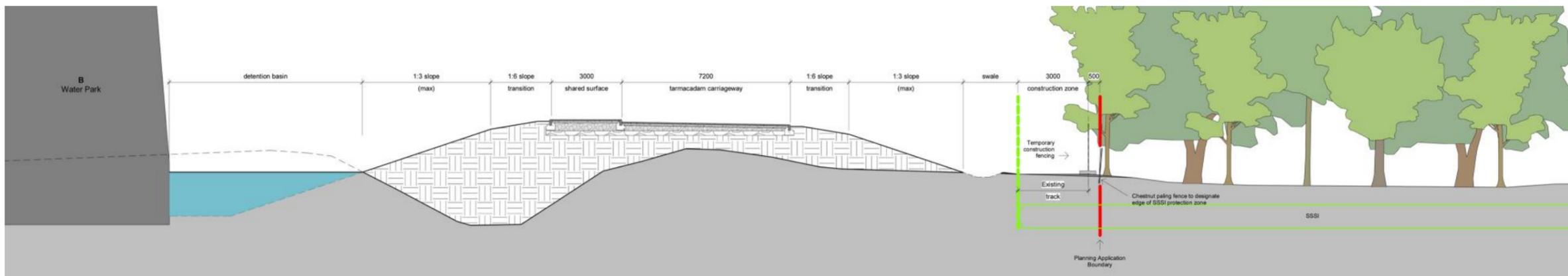




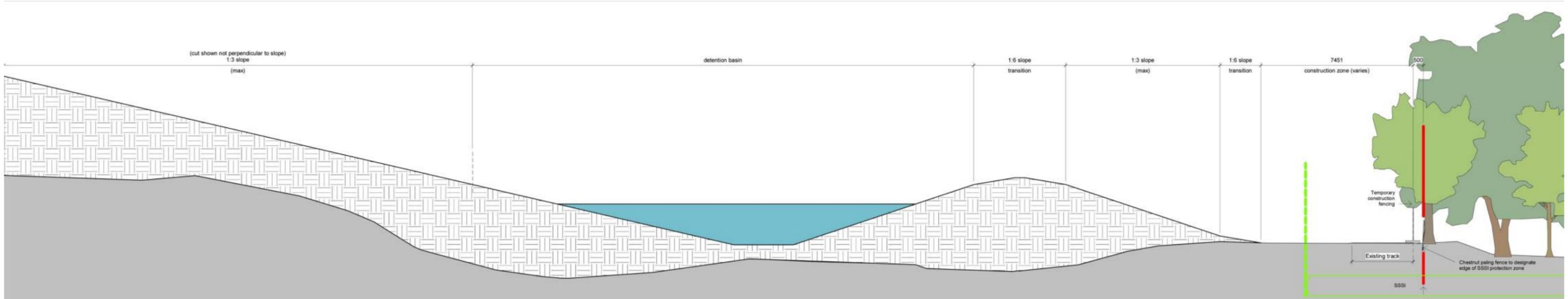
Section 3



Section 6



Section 8



Section 13



Design Development

4

Initial Master Plan

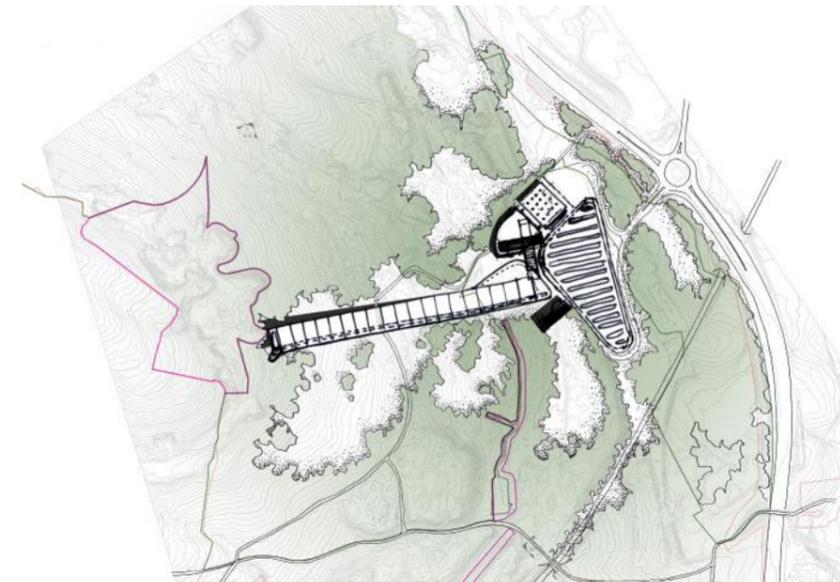
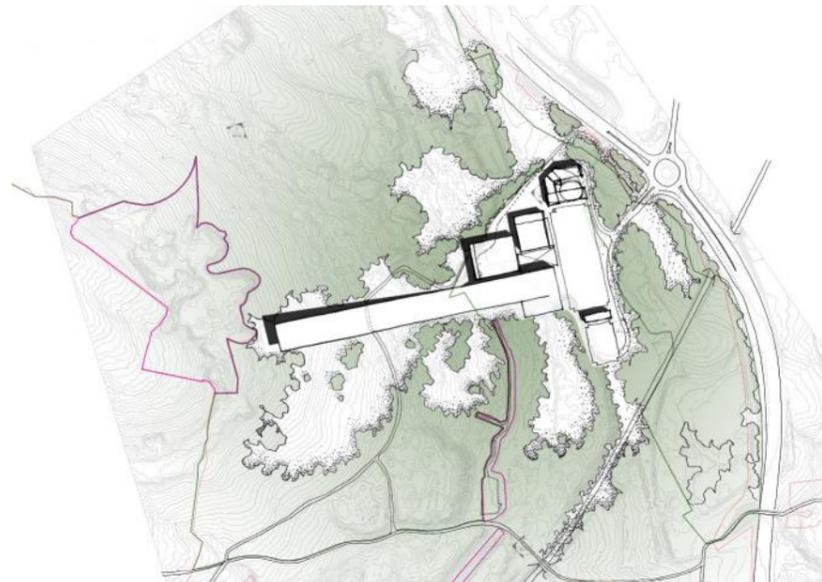
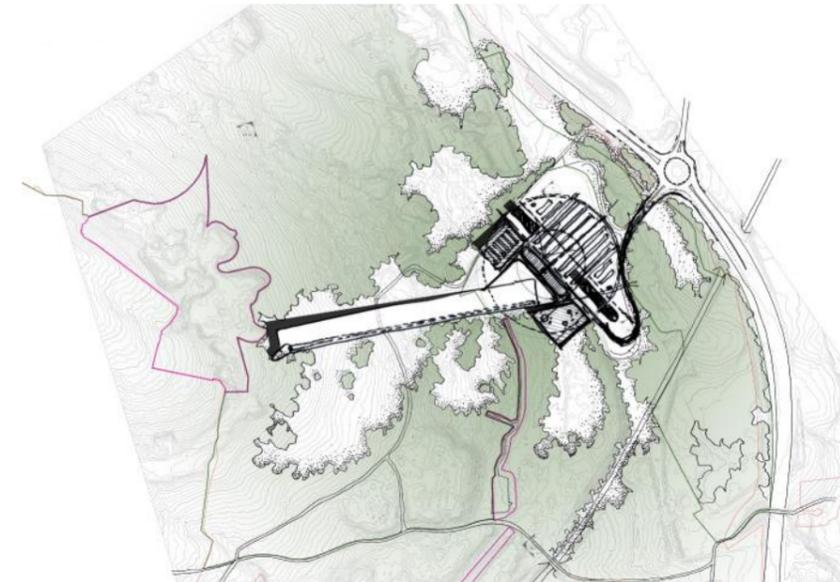
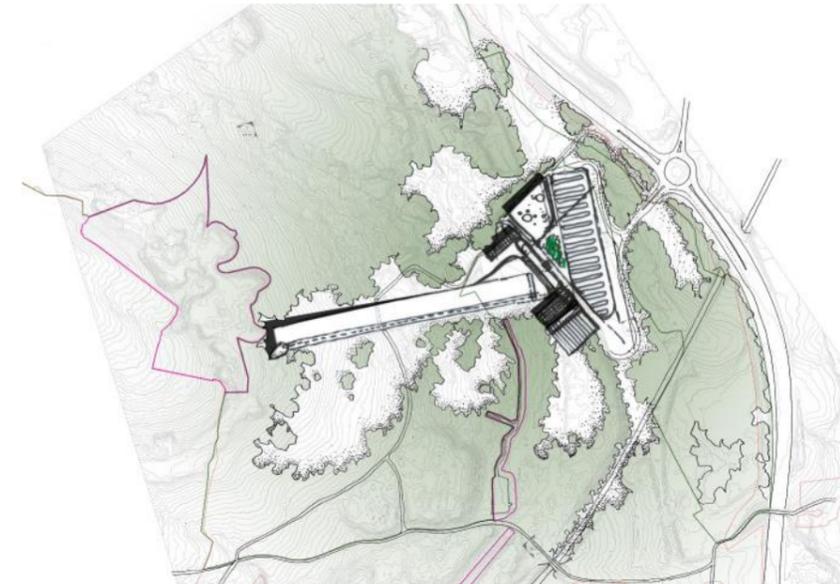
Initial Layout

Having established the preferred position for the Indoor Snow Centre, the evolution of the masterplan focused primarily on avoiding development within any other parts of landholding designated as part of the SSSI as well as other key features such as heritage.

Early scheme permutations and options concentrated on providing the various building components that were required to fulfil the brief. These were generated in a variety of different configurations, and then tested against the following considerations:

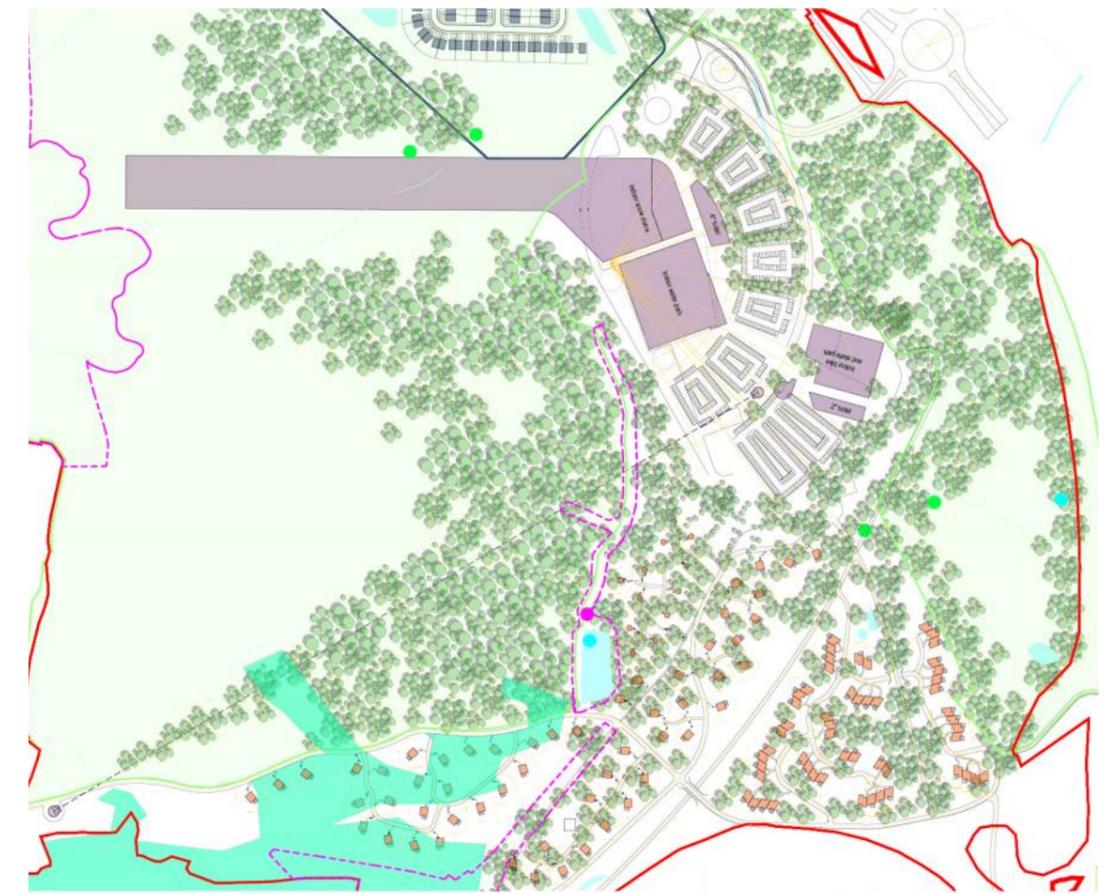
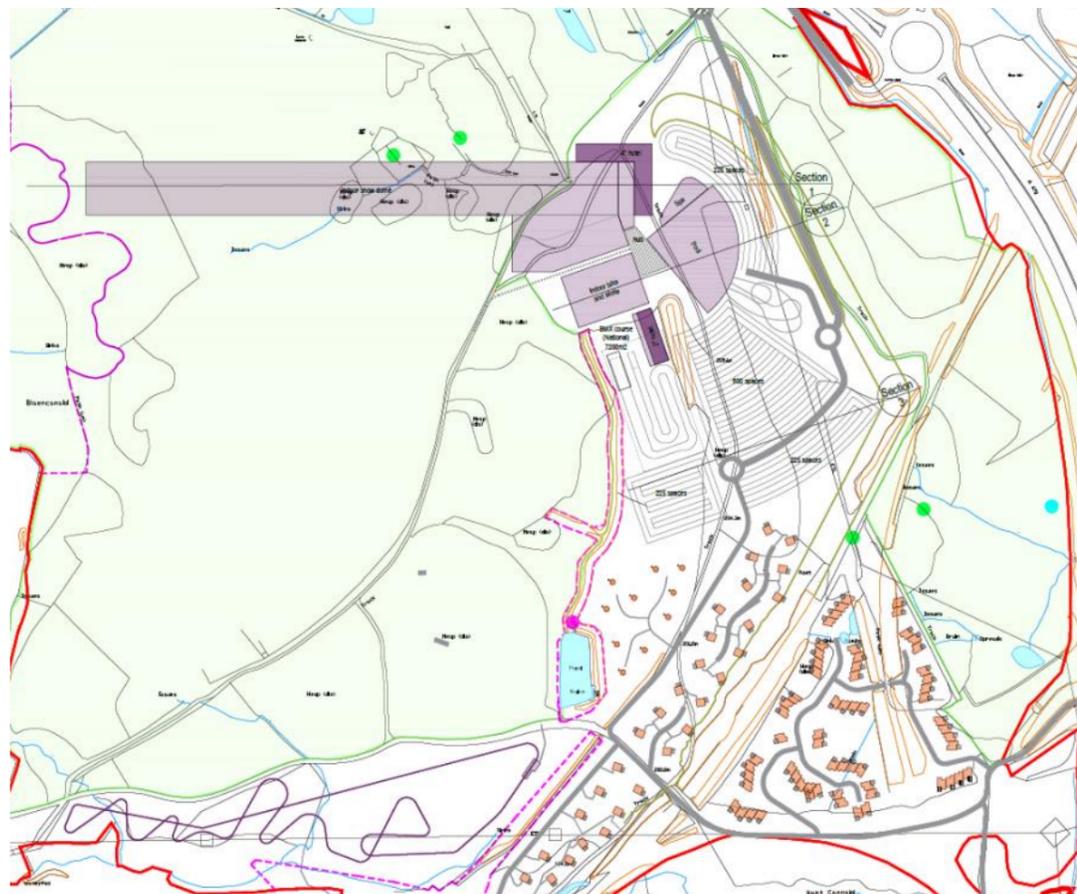
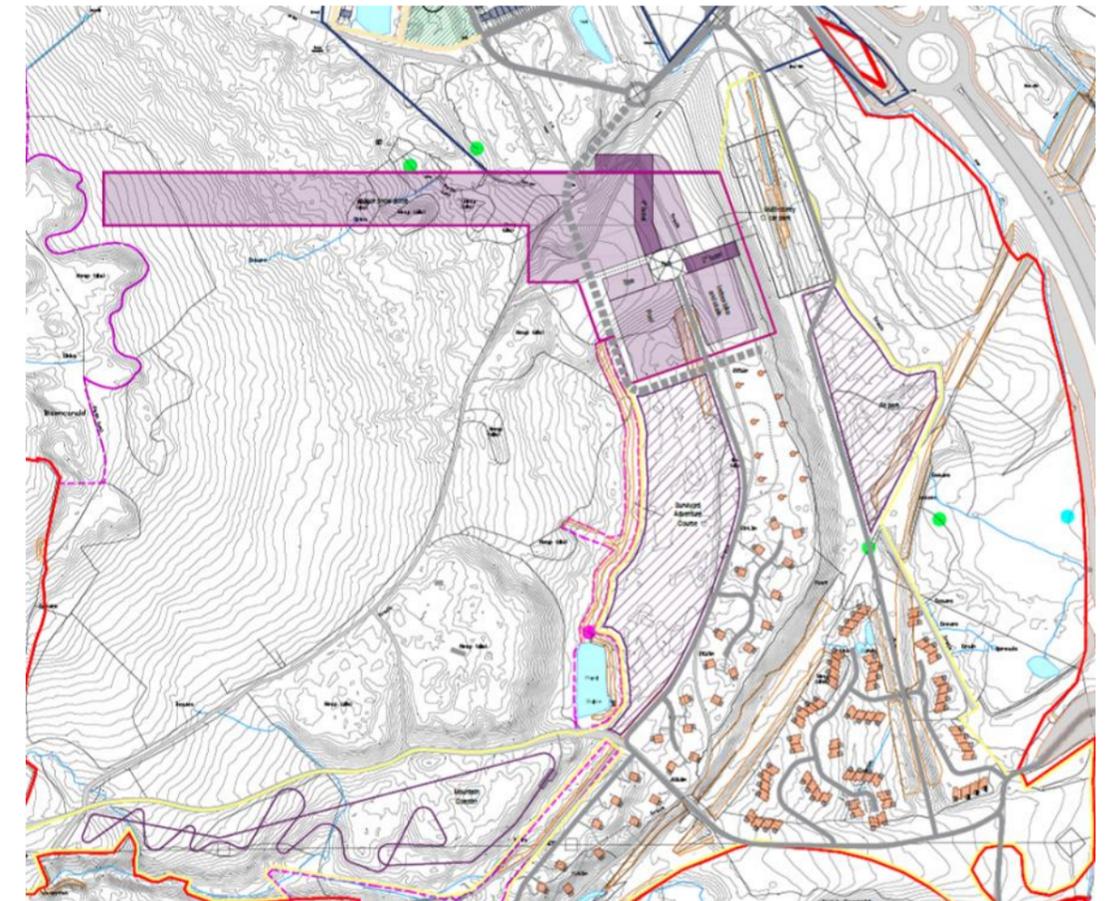
- **Site Ecology**
Could the development, as a whole, take place within the confines of the land holding that was not designated as part of the SSSI, and could the development be positioned to avoid other ecologically sensitive areas of the site?
- **Heritage**
Could the development take place without adversely impacting on the various heritage features that have been defined and identified as Scheduled Ancient Monuments (SAMs) – indeed could the development be designed and planned in such a way that incorporated these features into its immediate context and setting and at the same time be made available to visitors and the public?
- **Cut and Fill**
Could the development situation, through a thorough understanding of the site's inherent topography, and in consultation with the project Geotechnical Engineers, find a balance, and an equilibrium, between the need to avoid creating an excess of soil, and hence the need to remove it from the site, and the need to import soil from elsewhere?

During this process, a number of the components of the brief were developed – either adapted, added or omitted - for example, the bike and skate park were removed in favour of an additional Indoor Activity Centre, and over time, the classification of the various hotel buildings evolved to provide what was considered to be the most ideal range and quantum of inclusive accommodation. By splitting the hotel accommodation into different blocks and typologies (classifications), different operations and offerings could be considered, and in this way, accommodation more suited to schools, sports teams and lower-budget travellers could also be considered.



Following the early scheme permutations and options, a sequence of development layouts was explored. Starting as a range of simple phased blocks, the masterplan began to develop towards the creation of a series of options which explored a more cohesive and deliberate approach to meaningful placemaking and the establishment of a destination resort of local and national significance. Consideration was also given to whether the resort could be either a single complex, or perhaps two smaller scale clusters of development which could be capable of being phased and potentially run by different operators.

During this period of design development, it became apparent, particularly when optimising the Indoor Snow Centre's slope requirements relative to the topography of the site, that, in order to avoid a clash with Black Pins Scheduled Ancient Monument, its orientation needed to alter slightly to run directly east-west.



Various early stage capacity study options
 Top row: November 2017; bottom left: December 2017; bottom right: April 2018

Public Consultation

As detailed above, while the applicant has been consulting widely with the public for many years (since inception of the vision around 2015), there have also been more formal public consultation events including:

Initial Stakeholder Consultation Workshop

The first public introduction to the scheme proposals was held in February 2018, and took the form of an initial stakeholder consultation workshop. The workshop focused on the principle of leisure (and at that time, potentially residential) development on the land holding, and was thoroughly explained to the participants through a typology image based presentation including initial thoughts masterplan(s) – the session encouraged feedback, which, in general was extremely positive.

Public Presentation

Following the initial Stakeholder Consultation Workshop, the masterplan began to evolve as two specific (parallel) development scenarios - these would then be put forward at a formal Public Presentation involving an official public project launch and exhibition in Merthyr Tydfil in June 2018.

The two scenarios that were explored suggested either a single phase development involving a sole operator, or a development involving several smaller sites where different operators could be curated on an 'as and when' basis across multiple phases.

The first scenario was considered preferable as it would enable the fastest opportunity to create the kind of 'critical mass' needed to achieve the project vision. Given the early stage of the scheme's evolution however, at the time, flexibility was considered critical to allowing the 'market' the opportunity to start to influence its precise nature, content, size and direction.

Public Engagement through Online Events and Social Media

Following the public presentation in 2018, and in parallel with the evolution of the design, a continual process of informing and engaging with the public was maintained to gather opinion and seek informal feedback. During the pandemic lockdowns, these focussed in particular on digital means such as social media, online forums and the project website which helped to get local involvement and to foster debate. Some of these means of engagement included the following:

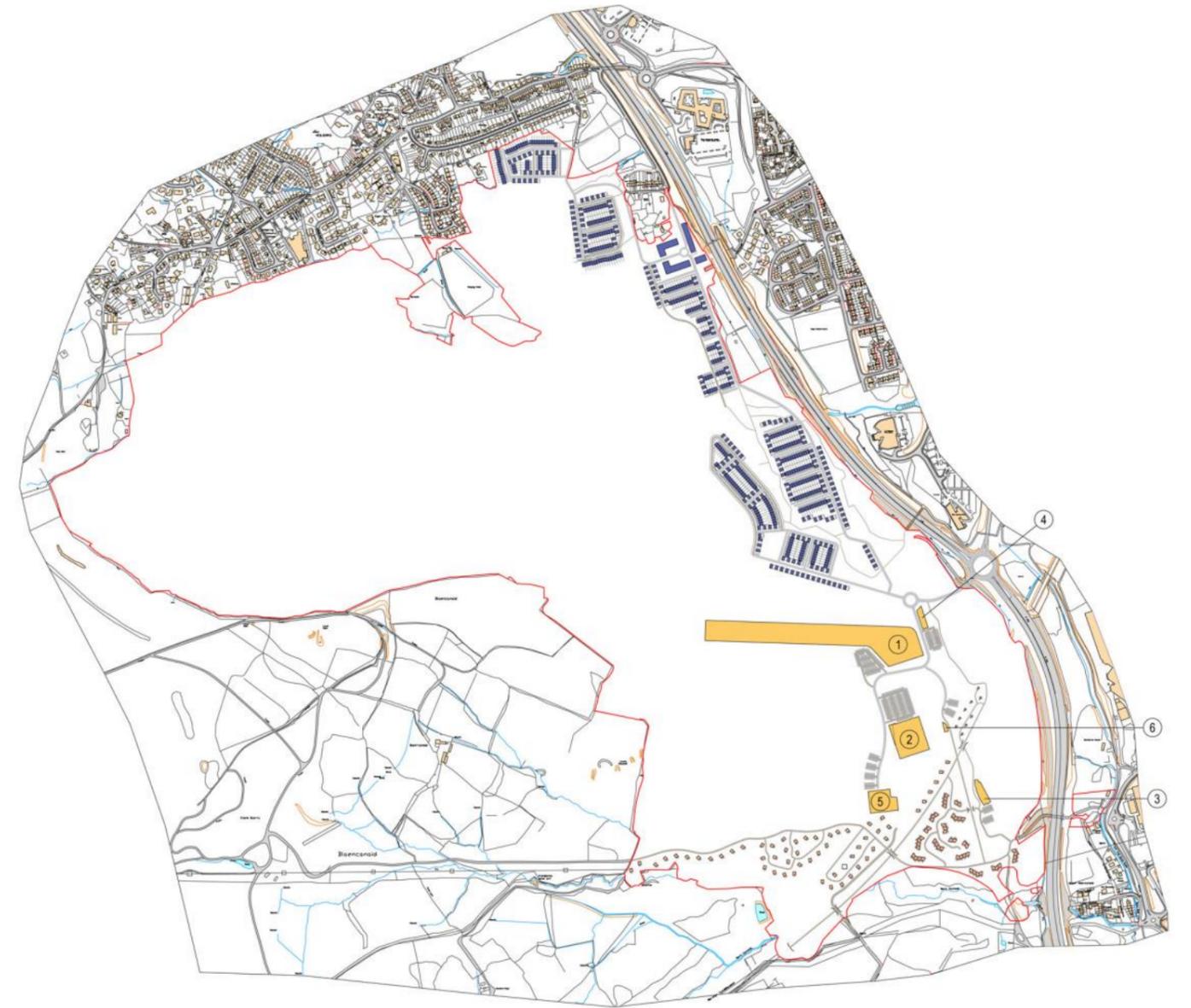
- Online Live-broadcasts on social media, providing the public opportunities to attend informational sessions and Question and Answer sessions which provided valuable development feedback as the design progressed
- The curation of an on-line video library of answers to Frequently Asked Questions about the project to enable the public to find out more about the emerging scheme
- Video Conference focus-group discussions with stakeholder groups and other interested organisations to help to progress the design from a technical perspective
- An interactive online survey which has provided valuable feedback and enabled the applicant to actively engage with participants on a range of questions and issues

In addition to the above, a programme of press-releases, online films and digital updates were released as a means to keep interested locals up to date with the design progress and programme of the development.





Single operator scenario



Phased development scenario



- Residential
- Leisure

- ① Snow Centre
- ② Water Park
- ③ Spa Hotel
- ④ Sport Hotel
- ⑤ Bike and Skate Park
- ⑥ Lodge Welcome



Brief Development

After the Initial Stakeholder Consultation Workshop and the subsequent Public Presentation, there followed a period of consolidation, and the opportunity was taken to re-assess the initial brief against the feedback that had been received through these two events. Cognisance was also paid to the various questionnaire responses that had been received after the two events, as well as the social media posts that were received through the evolving project website. As a result, a number of key changes were proposed as follows:

Residential Development

Although the primary focus of the scheme was concerned with its leisure and resort components, the residential components were nonetheless considered just as important. During the initial stages of the master plan's evolution, and leading up to the Public Presentation in particular, the residential components were suggested as being planned across the least sensitive ecological areas within the SSSI - they were only considered however in terms of outline capacity.

Given that the areas of the site being suggested for residential clearly fell outside of the development boundary of the Local Plan, coupled with the inherent sensitivities surrounding development within the SSSI and around the existing heritage features, it was decided that the residential components would be entirely removed from the scheme. As such, the Application proposals do not contain any residential development.

Leisure Development

Although there were two versions of the masterplan exhibited at the Public Presentation, these were based on commercial leisure sector consultant input with a view to offering the most open approach and opportunity to the market, and in particular the active Indoor Snow Centre operators. Through extensive market testing, significantly experienced operators were identified and, importantly, ones that had expressed a keen interest in operating the majority of the proposed development as a comprehensive destination leisure resort.

This position afforded a new impetus to the project and one that provided the opportunity to develop the master plan against an evolving outline brief for each individual building component, to include consideration for how they might be either linked together or be appropriately located relative or adjacent to each other, to create a new and exciting 'place'.

The next phase of the master plan's design evolution revolved around working closely with the interested parties to achieve and agree an appropriate level of accommodation and key layout adjacencies for the resort which would in turn provide a sustainable business operation. The various workshops, presentations and discussions

during this period provided an important and invaluable insight into how the operation of the resort could influence the continuing evolution of the master plan, particularly when considering the impact on the visitor and guest experience – an experience which would start right from the approach journey at the point of entry into the site off the A470 Rhydycar roundabout, through to the hiring of sports equipment, the view from a hotel or lodge window, or simply the ability to people-watch over a cup of coffee or a glass of something refreshing. In this way, the relationships between the key functions of the new resort from the point of view of efficient operation, component building form, hierarchy and relative disposition within the master plan, legibility and useability, could all begin to be considered in a more holistic way. These various aspects were also considered in relation to the specific mix of leisure attractions and the cross-section of accommodation that the new resort should offer as a response to the likely demographic and the potential numbers of long and short stay guests and day trip visitors.

This process revealed that, through further reflection on the evolution of the initial master plan (s), there was scope to improve the way in which the scheme could function and develop. The key changes to the initial brief are set out in this section.

Indoor Snow Centre

The original brief for the Snow Centre was set to provide a slope of c.500m in length. This was a notional size based on the research and recommendations of leisure industry consultants at the outset of the project, with the intention that this would provide a nationally significant slope which:

- would be of a scale and specification such that it could form the basis for the provision of a National Centre of Excellence for Welsh and UK snowsport by providing a new training headquarters and base for the national teams – something for which these organisations are currently forced to travel abroad as a suitable facility currently does not exist in the UK. This requires the Snow Centre to meet International Ski Federation (FIS) - snow sports' governing body - technical requirements so that the centre can host professional, national and international team training and competitions;
- would provide a step change for the UK snowsport tourism industry as it would have national appeal as a snowsport leisure destination and in doing so would help to make snowsport facilities more accessible to the general public in the UK and create a flagship leisure facility for people of all abilities to enjoy;
- would combine these factors to be able to open up new sources of talent and provide suitable and accessible training pathways to generations of potential future athletes competing at a local, national and international level.

As the project progressed, extensive consultations were held with both Snowsport Cymru Wales and GB Snowsport. The project led to the engagement of specialist international technical advisors and designers of these types of snowsport facilities. It was the involvement of these specialists which led to the potential to reconsider the originally assumed size requirement for the main slope, which was subsequently reduced from 500m to circa 400m in length. Besides the obvious immediate benefit to the site's ecology through a reduced take of land designated SSSI, it had further potential benefits in terms of a reduced visual and physical impact, whilst retaining its status of being a nationally significant slope - offering a step change to the type of training facility available in the UK, and putting it on a par with other such facilities internationally currently used by the National teams instead.

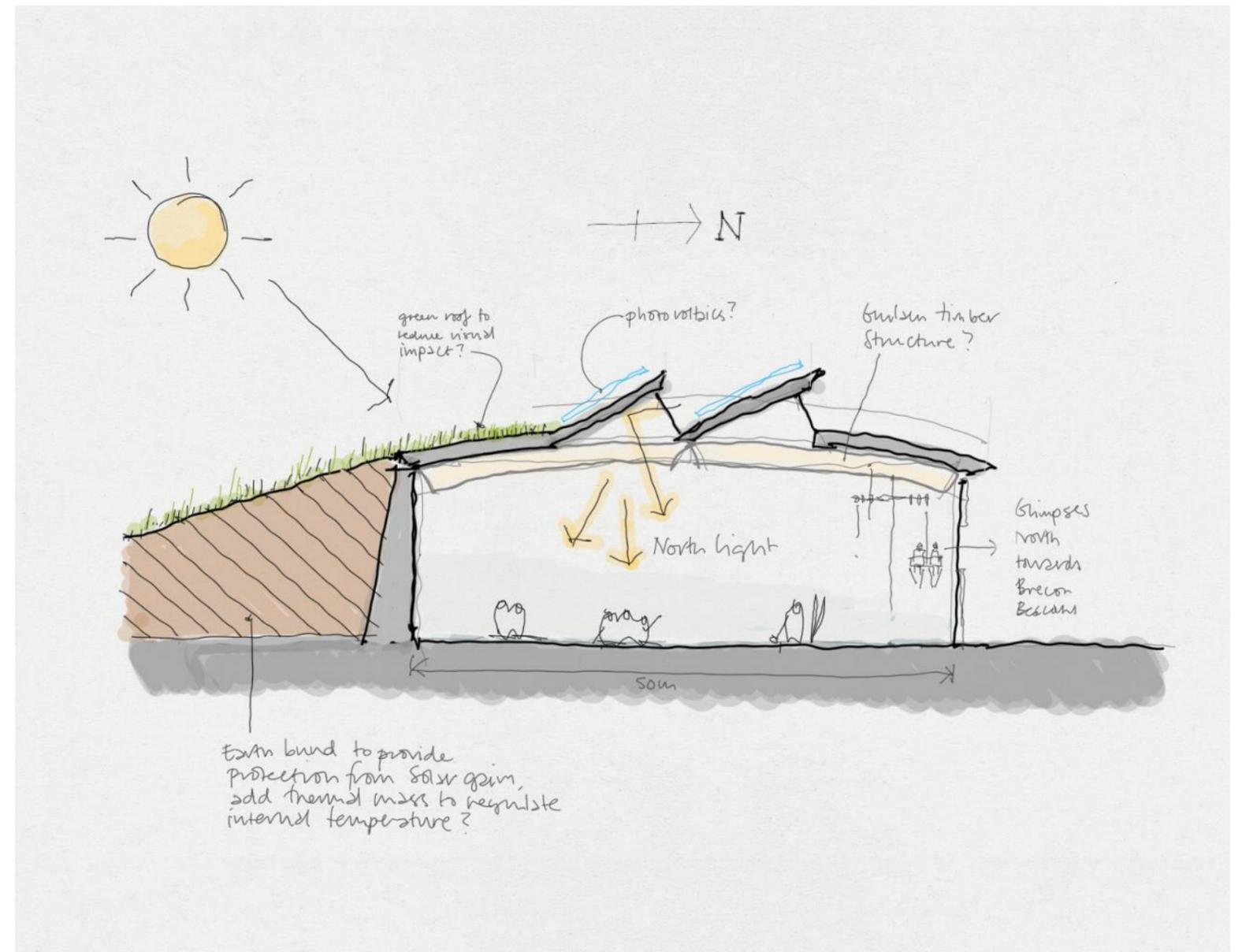
The Snow Centre has the support of Snowsport Cymru Wales and GB Snowsport to become the home for elite athlete training and the National Centre of Excellence for Snowsport. At present, Snowsport Cymru Wales and GB Snowsport are compelled to travel to European venues such as Landgraaf in The Netherlands for training. Rhydycar West can expect to attract both domestic professional teams, as well as international teams for such training, as well as being able to host national and international competitions. Similarly,

a significant number of the UK's snowsport participants regularly visit European venues purely based on the significance of the size and the "on snow" experience that these centres offer compared to the existing snow centres in the UK.

Besides the length of the new Snow Centre's slope and its relationship to the site's inherent topography, its sustainability was also a key consideration. Its energy use in particular, is directly proportional to the building's size, performance and orientation of the internal snow slopes themselves. Equally important to its success and experience is the need to minimise daily fluctuations in its internal temperature - something which in practice, means, in addition to a high thermal performance building envelope, the minimum exposure possible of the building's external surfaces to solar radiation.

In order to optimise the slope's geometry, it was proposed that the new centre's lower section(s) will need to be set 'into' the natural levels of the surrounding landscape, and where it sticks 'out' above these levels, it is felt that any surplus material that might be generated from the creation of the development plateau, could form a more or less continuous earth bund along its southern elevation. This arrangement would effectively appear (visually) as an extension of the hillside up to (and potentially on to) the new centre, and as a result, hide it from view, particularly in relation to the key established views looking north up the Valley as they frame the Brecon Beacons in the distance.

Such an earth bund, positioned in this way, could provide opportunities for new habitat(s), it could also help to provide a buffer against solar radiation, which in turn, could help to keep the new centre at a more stable temperature and hence its overall energy demand down. It is worth noting that in order to further off-set some of the energy use, photovoltaics will also be applied sensitively around the site - this will need however to be balanced against the ambition to minimise visual impact – and in a similar way, the potential for heat exchange between the new snow centre and the indoor water park will also be exploited.



Resort Accommodation

As both a short and long stay destination resort, it is important that the accommodation being proposed can cater to the predicted variety and type of visitors that it is intended to serve.

Accordingly, the accommodation offer was revised to be able to cater to a wider range of potential visitors, i.e. from people keen to indulge in spa-type hotel accommodation to those simply seeking basic, cost-effective accommodation. The original specification for 4 and 5-star equivalent accommodation, though not inappropriate at the time and in its entirety, has been revised and presented as four categories of accommodation as follows:

Standard Accommodation

The 'standard' accommodation offer represents the majority of the available accommodation, and is proposed as consisting of lifestyle / sport-type hotel accommodation equivalent in service level to a 3/4-star hotel.

Premium Accommodation

A smaller proportion of the available accommodation will be dedicated to providing a 'premium' accommodation offer, incorporating, for example, direct access to spa, fitness and well-being facilities in an environment intended to provide guests with a fully immersive and relaxed experience.

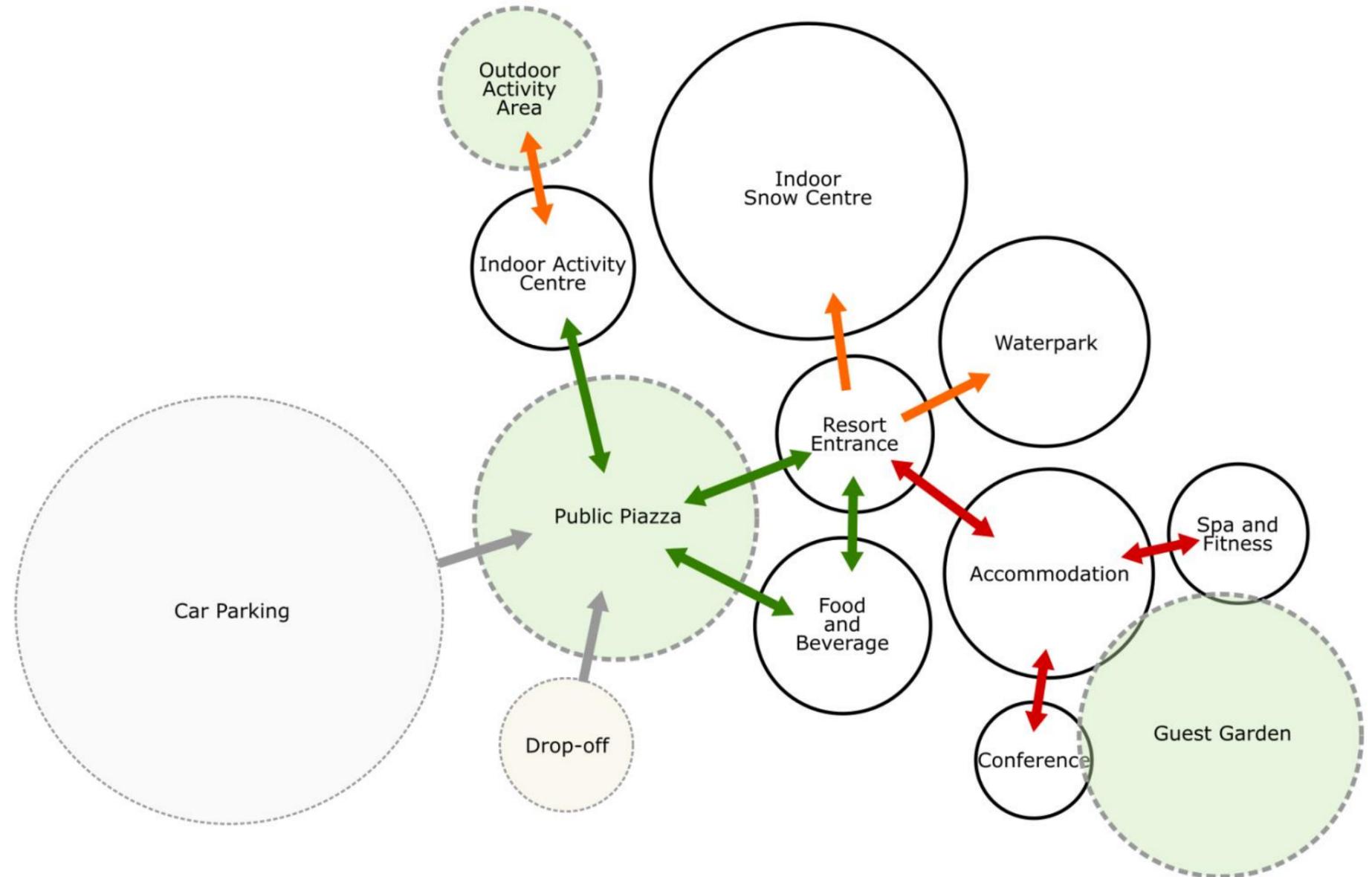
Sport and Value Accommodation

An important addition to the type of accommodation being proposed, particularly when compared to the original brief, is for a more affordable form of accommodation. This is a direct response to the desire to provide a more accessible type of accommodation – a type of accommodation which can cater equally as well to school groups or sports teams, as it might to families or small groups of people who wish to enjoy the resort facilities as well as the attractions on offer in the wider area, but might be on a more restricted budget. This offer is critical to ensuring that the facility is accessible to as wide a spectrum and demographic of people as possible.

Forest Lodge accommodation

A degree of 'forest lodge' accommodation has always been a key aspect of the resort accommodation 'offer' as a whole. The initial ambition was for around 90 forest lodges, however, a more in-depth analysis of the proposed part of the site where they were originally intended to be located, revealed that the geological issues in particular, together with the need for appropriate (wider) remediation, would result in the loss of much of the woodland habitat. This would have resulted in an unacceptable level of harm to the site's ecology, and as such, the lodge strategy was revised downwards with its provision limited to

those areas of more undisturbed ground, where lodges could sensitively be positioned within the existing woodland. In this way, the brief was revised to a provision of up to 30 forest lodges, to be located at the southern end of the site, where they can more easily serve those visitors wishing to enjoy other local attractions such as Bike Park Wales, or those visitors wishing to stop-off as part of longer-distance cycle rides – along the Taff Trail for example. Looking ahead, with the anticipated opening-up of the former Abernant railway tunnel as part of the active travel network, they can cater to those undertaking much longer distance east-west routes across the South Wales valleys. There will be a mix of one and two bedroom lodges to accommodate different market segments ranging from couples to larger families and groups of friends.

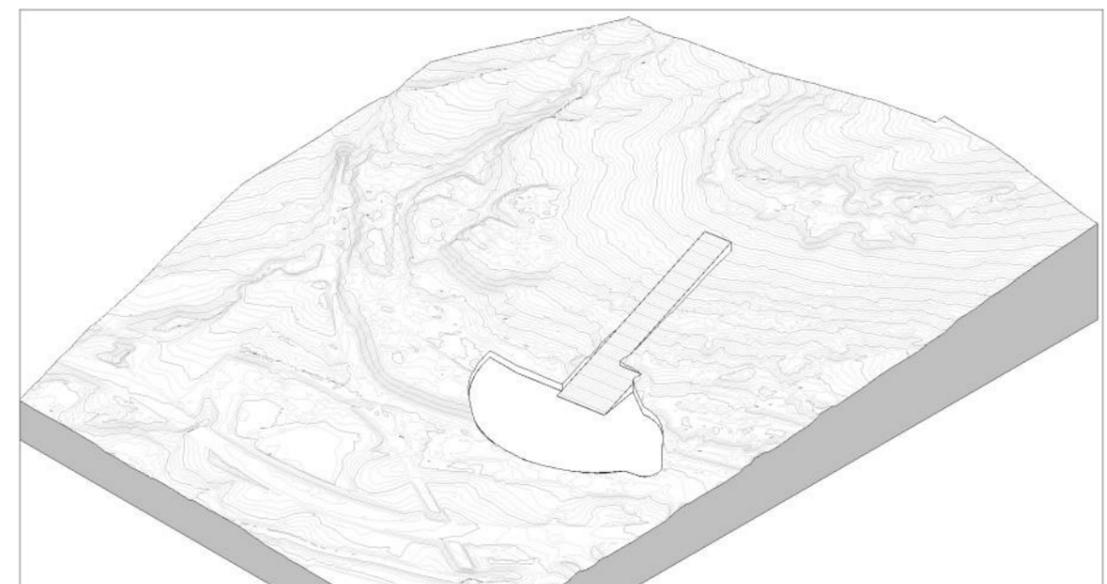
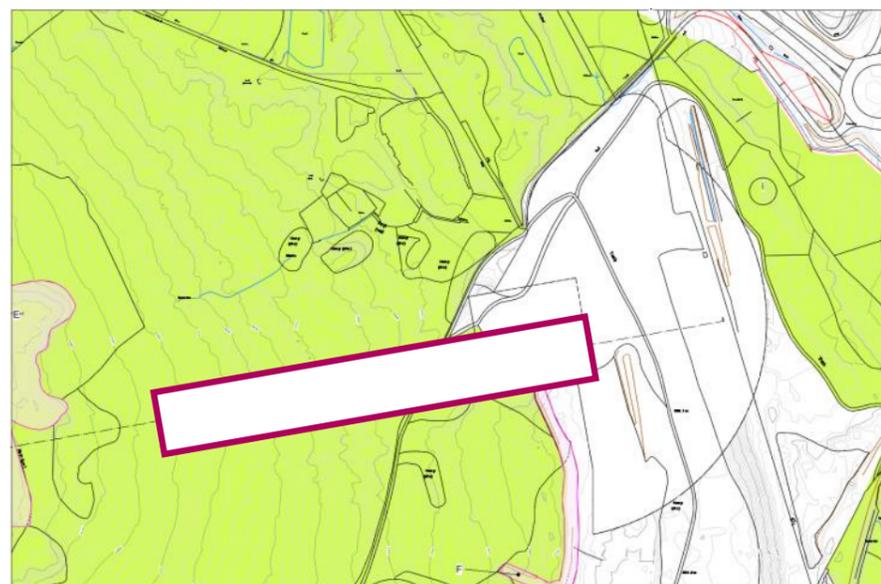
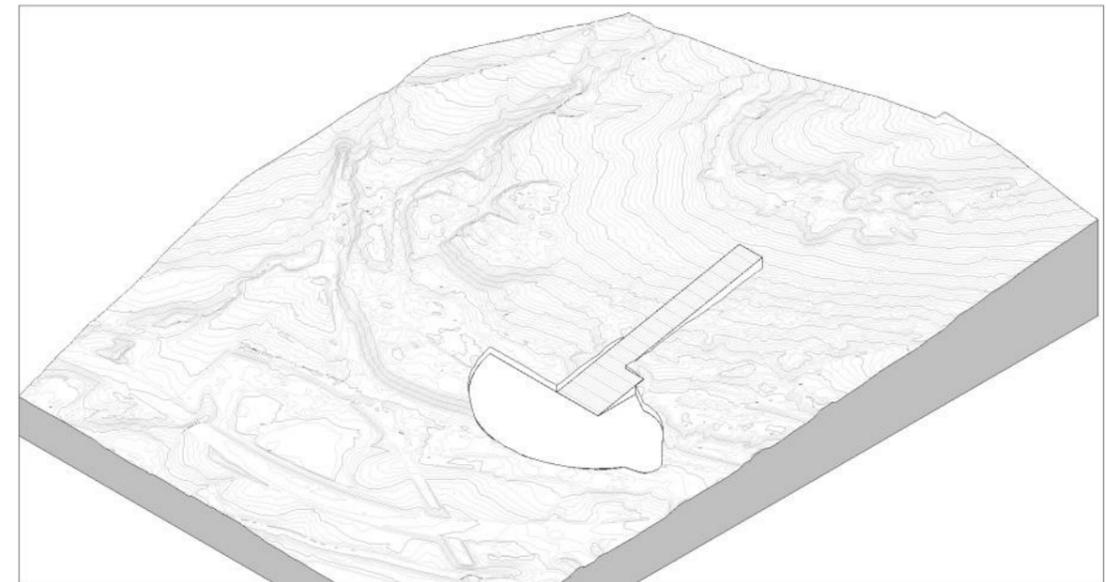
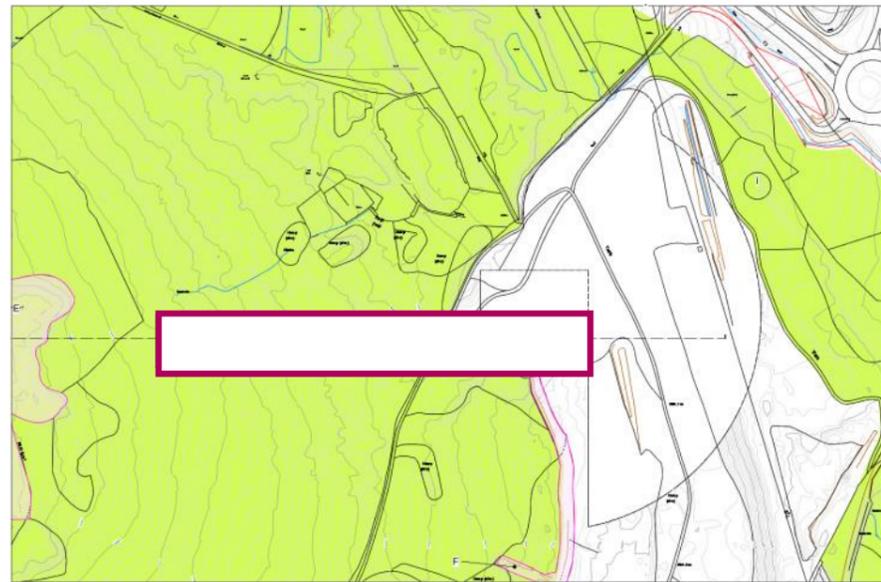
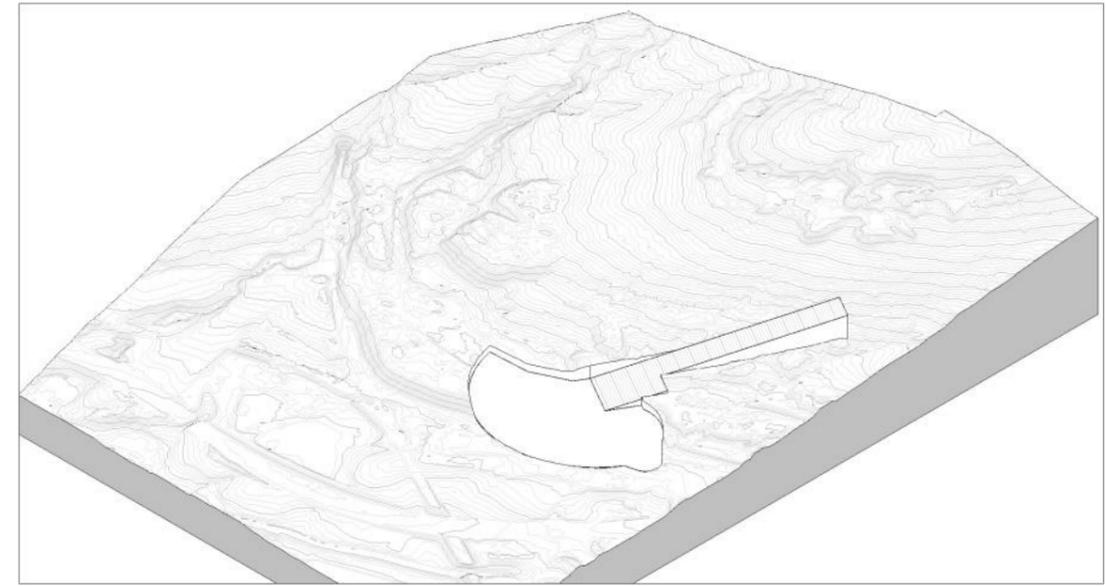
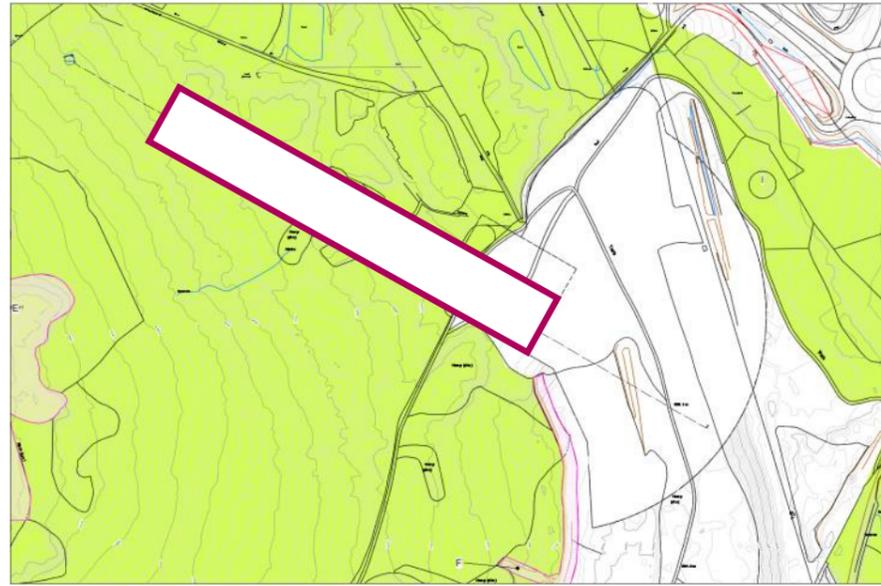


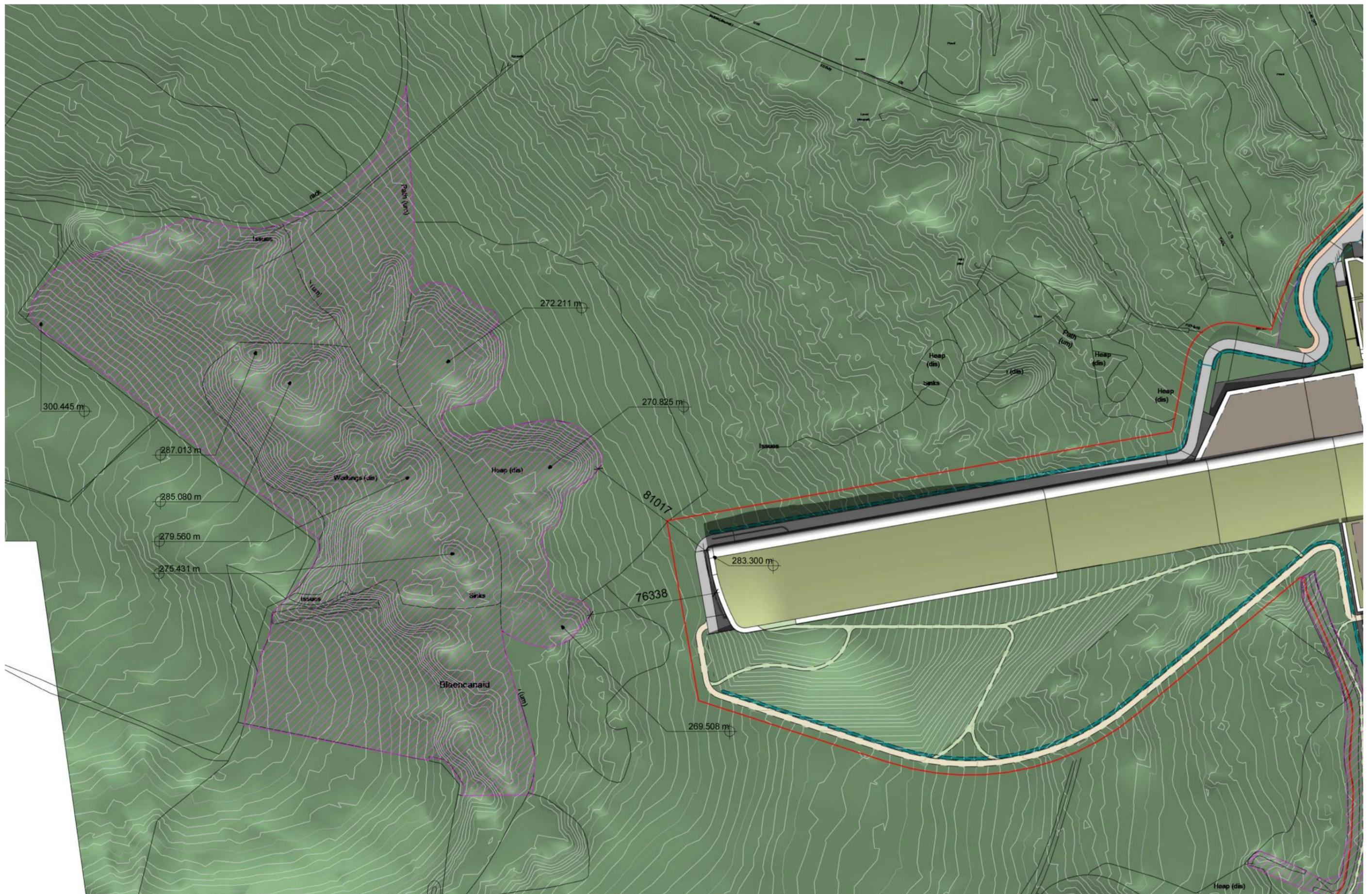
Masterplan Design Development

Revised Indoor Snow Centre Positioning

With the reduction in the length of the Indoor Snow Centre from 500m to circa 400m, the opportunity arose to reconsider its more precise position on the hillside. The original length was a major determining factor in respect to its original location – as discussed earlier in this document – however, its slope optimisation, and the need to avoid any direct impact on the Black Pins Scheduled Ancient Monument (SAM), as well as the outcome of the ecological surveys, left only a single viable location. The shorter length also offered an opportunity to re-visit its relationship to the setting of the Black Pins SAM in particular, and a potentially improved slope optimisation to the west – this position would reduce the construction footprint required and so lessen the ecological impact further. A number of different orientations were tested, each of which focused on utilising the steepest part of the hillside. These helped derive a preferred (optimum) location - 260 degrees in relation to due North - both in terms of the best, most efficient, integration into the hillside, and an overall position further south of the SAM and thus reducing as much as possible the presence of the building in the setting of the monument and respecting the prominence of the monument's characteristic tips, whilst still avoiding the most ecologically sensitive parts of the site.

The preferred location now presented a minimum distance from the SAM of circa 80m. Again, this would help to lessen the impact on the wildlife habitats, particularly if there were to be a requirement to provide safe access.





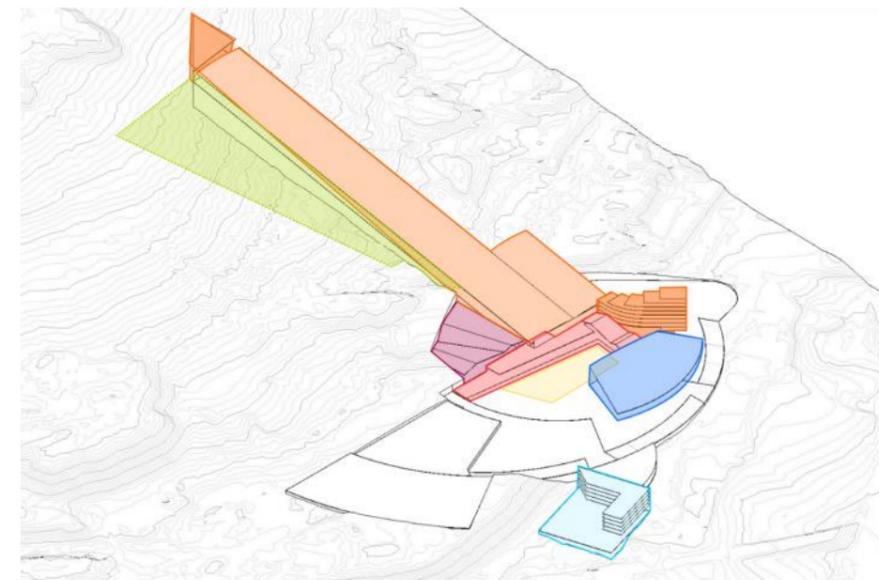
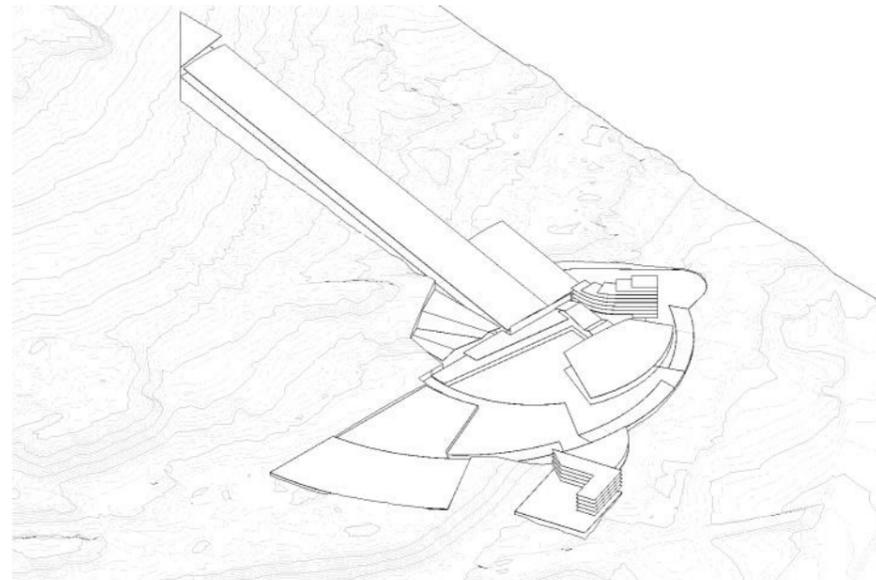
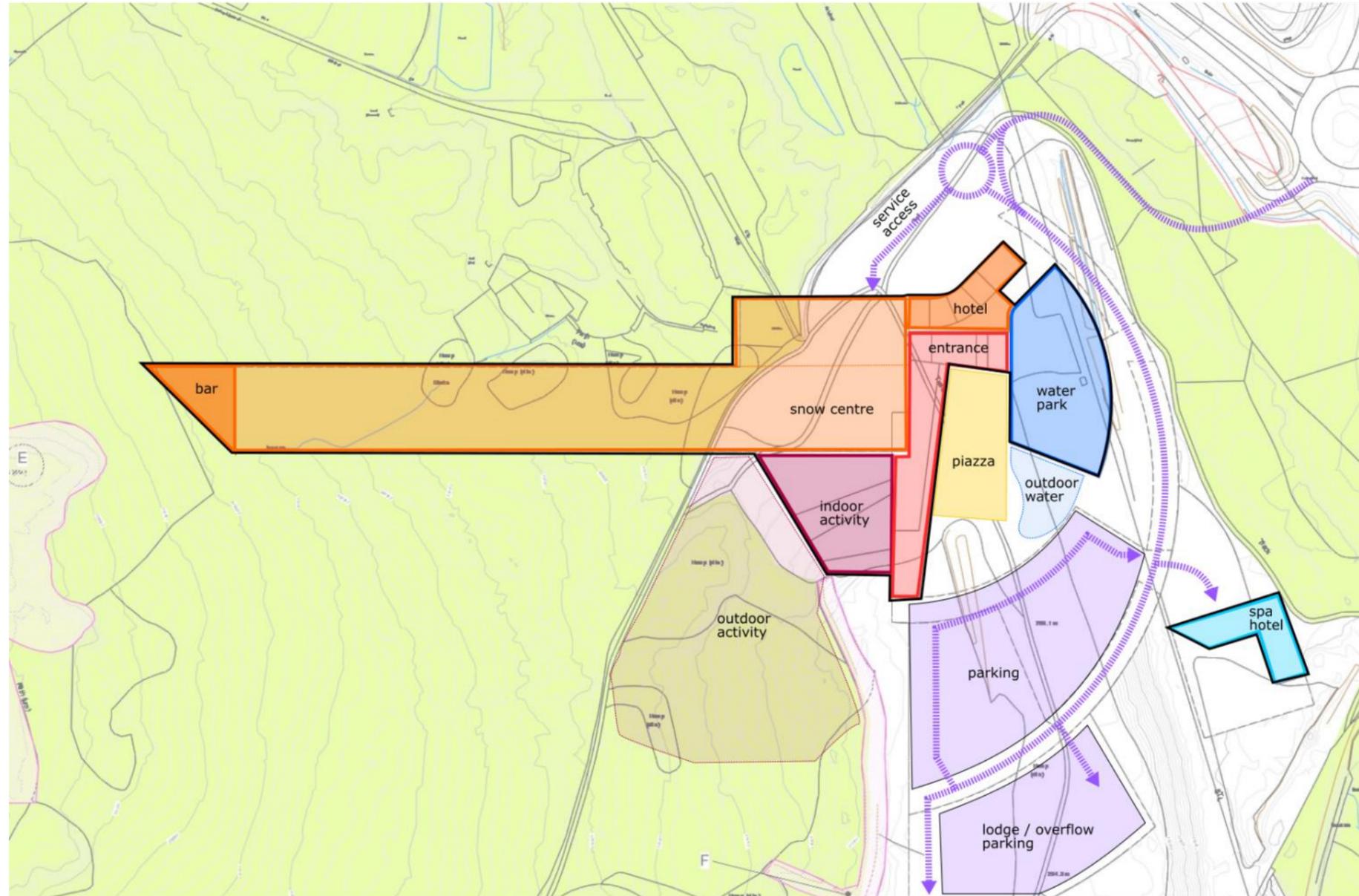
Masterplan Design Development

Masterplan Development

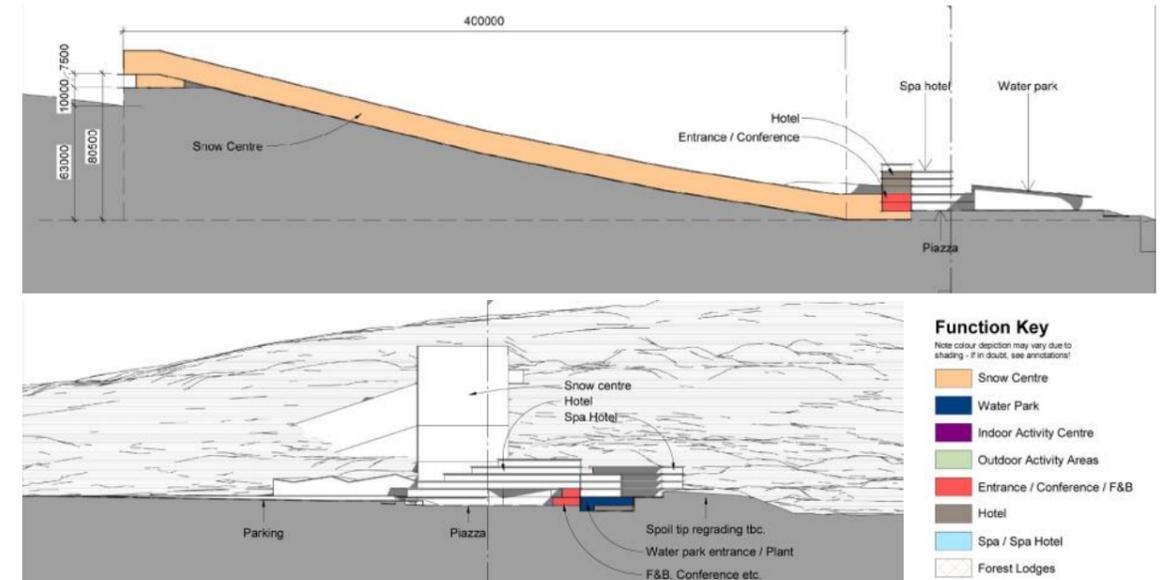
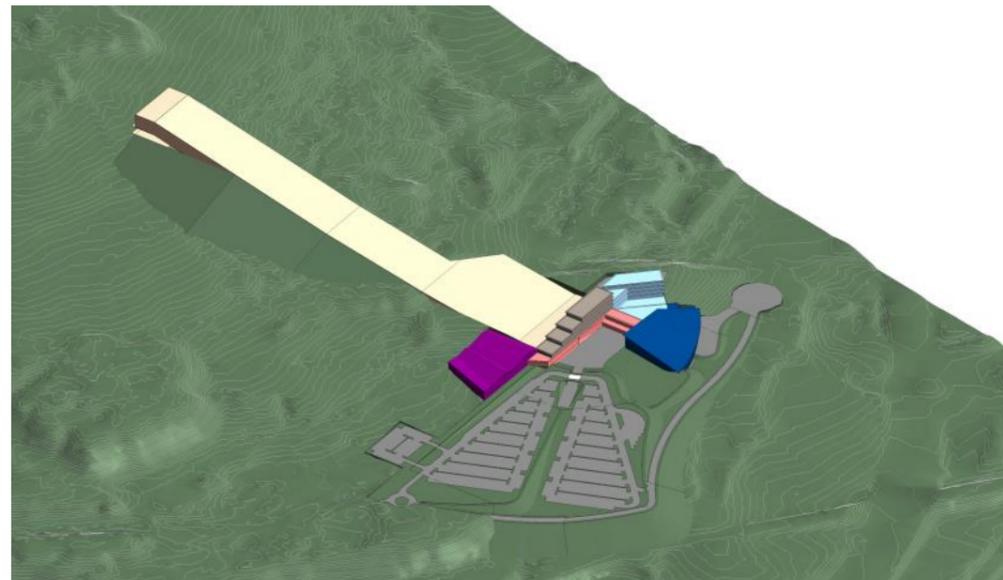
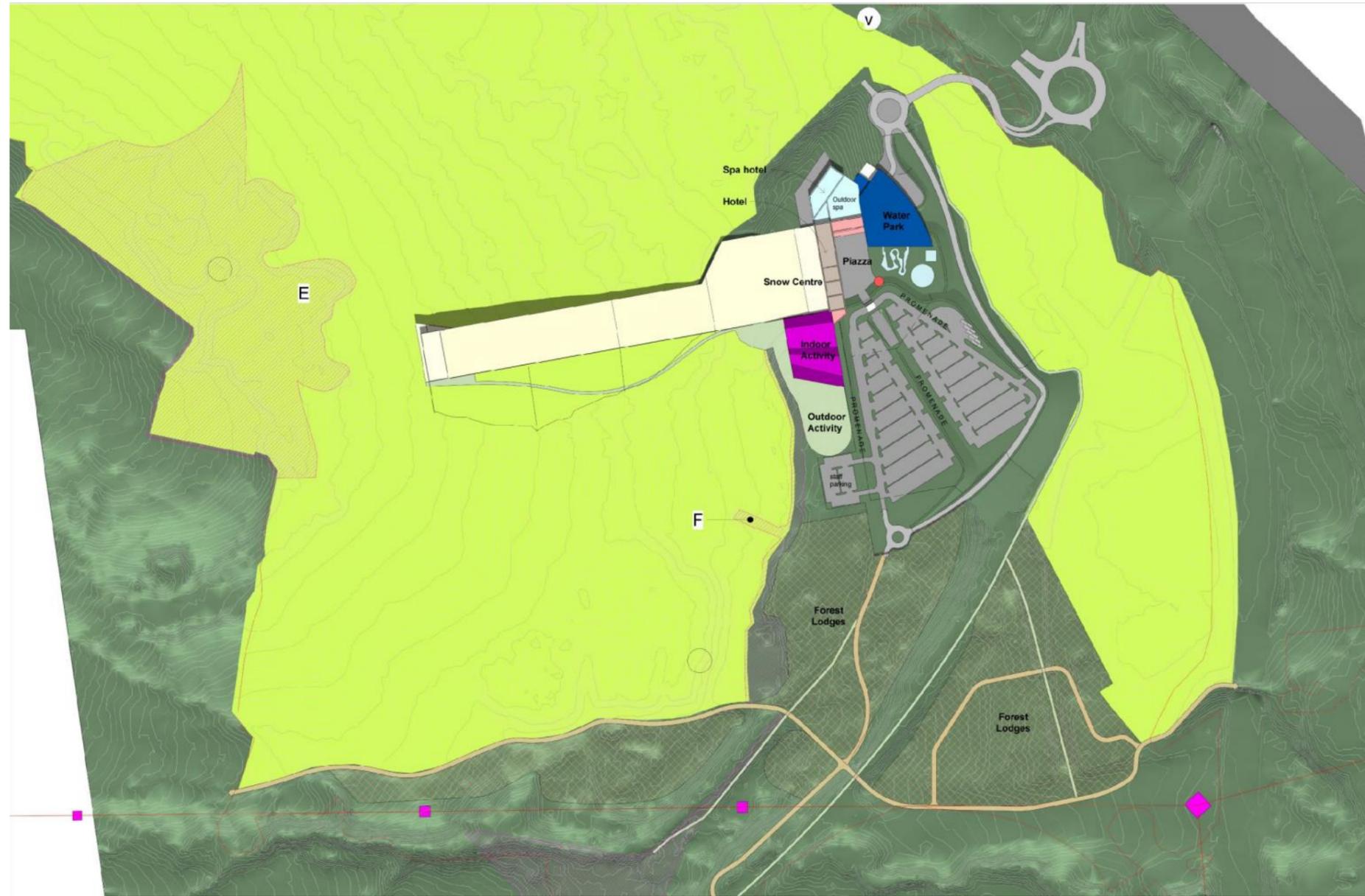
As the brief for the resort and the majority of the leisure facilities in particular became more consolidated and focused around the potential for a single operator, the approach to the resort layout and the master plan was further evolved to acknowledge the importance of both the 'arrival' experience and the legibility of the resort for the guests and visitors, as well as the configuration, layout, functionality and inter-adjacencies of the individual building components when considered together. Crucial to this aspect of the continuing evolution of the master plan in this regard was not only the way that guests and visitors would approach the resort, but how they would comfortably move between its different parts and areas, and, how the spaces between the buildings could create an attractive and welcoming resort environment.

Key to the positioning of the various building components, was how they would combine together in height, scale, mass and profile to create and define these spaces. The notion of a central 'piazza' – a comfortable, welcoming space able to 'hold' the resort's guests and visitors, and capture not only the views 'down' the valley, but the south facing orientation – became a key aspect of the master plan's continuing evolution, and that this space would help to define the resort and give it an identifiable centre and 'heart'. Through studies into the different building components' volumes and configurations, it was felt that a layout which could optimise a south-facing orientation and capture the sun for as long as possible and one that would help to ensure that this central 'piazza' space would be pleasant to use all year round should be pursued. It was also felt that the central space could be further enhanced by dropping the level of the piazza itself slightly so that a greater sense of enclosure and sun trap could be created.

Whilst evening sun penetration from the west was a consideration with a view to being able to offer outside spaces for 'apres-ski' events in the early evening, unfortunately the existing topography of the valley's eastern ridge will always cut this opportunity short (depending on the time of year). As such, a higher degree of spatial enclosure was introduced, and, over a number of iterations, the building volumes themselves were tested and re-configured to provide the optimum level of definition, whilst at the same time ensuring that they would not be excessively overshadowed.

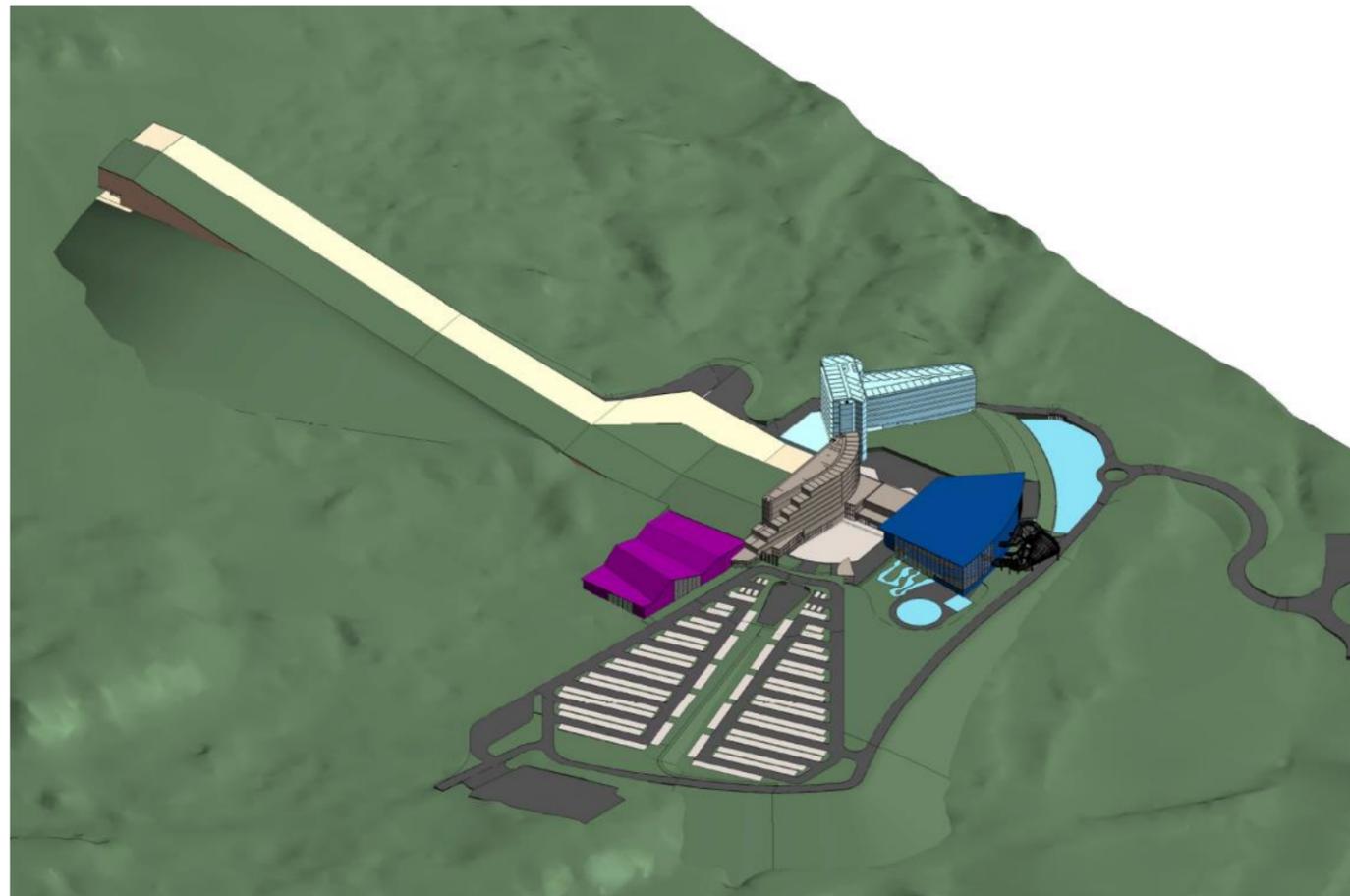
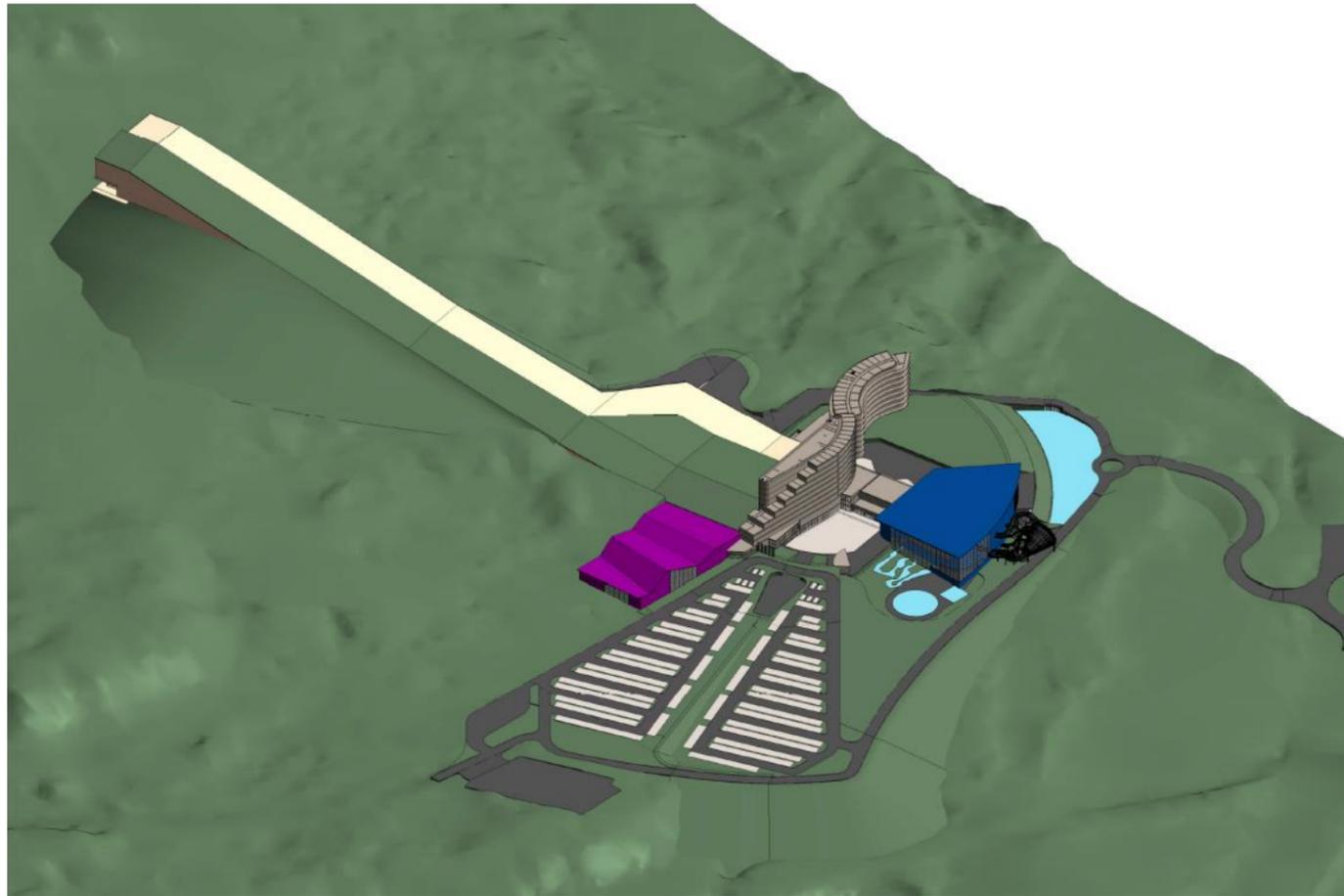


Early diagrammatic concept massing development options explored the opportunity to create a central space or 'piazza' (previous page). It should be noted, that the indoor snow centre, at this stage, was still assumed at its original length of circa 500m, however the principle of a single entrance from a central space or 'piazza', with the resort's various building components fronting three of the four sides, leaving the southern side open, was considered an important aspect of the evolving masterplan. Moreover, setting the central space at a lower level than the adjacent (main) car park provided the opportunity for meaningful visual separation between them, as well as a degree of shelter from the prevailing weather and the potential for a sun trap. Further development of this aspect (this page) considered the resorts scale, massing and profile(s) including the indoor snow centre's disposition, its response to solar orientation, its relationship to the surrounding landscape, and equally, its ability to protect the more sensitive wildlife habitat(s) from outdoor human activity.



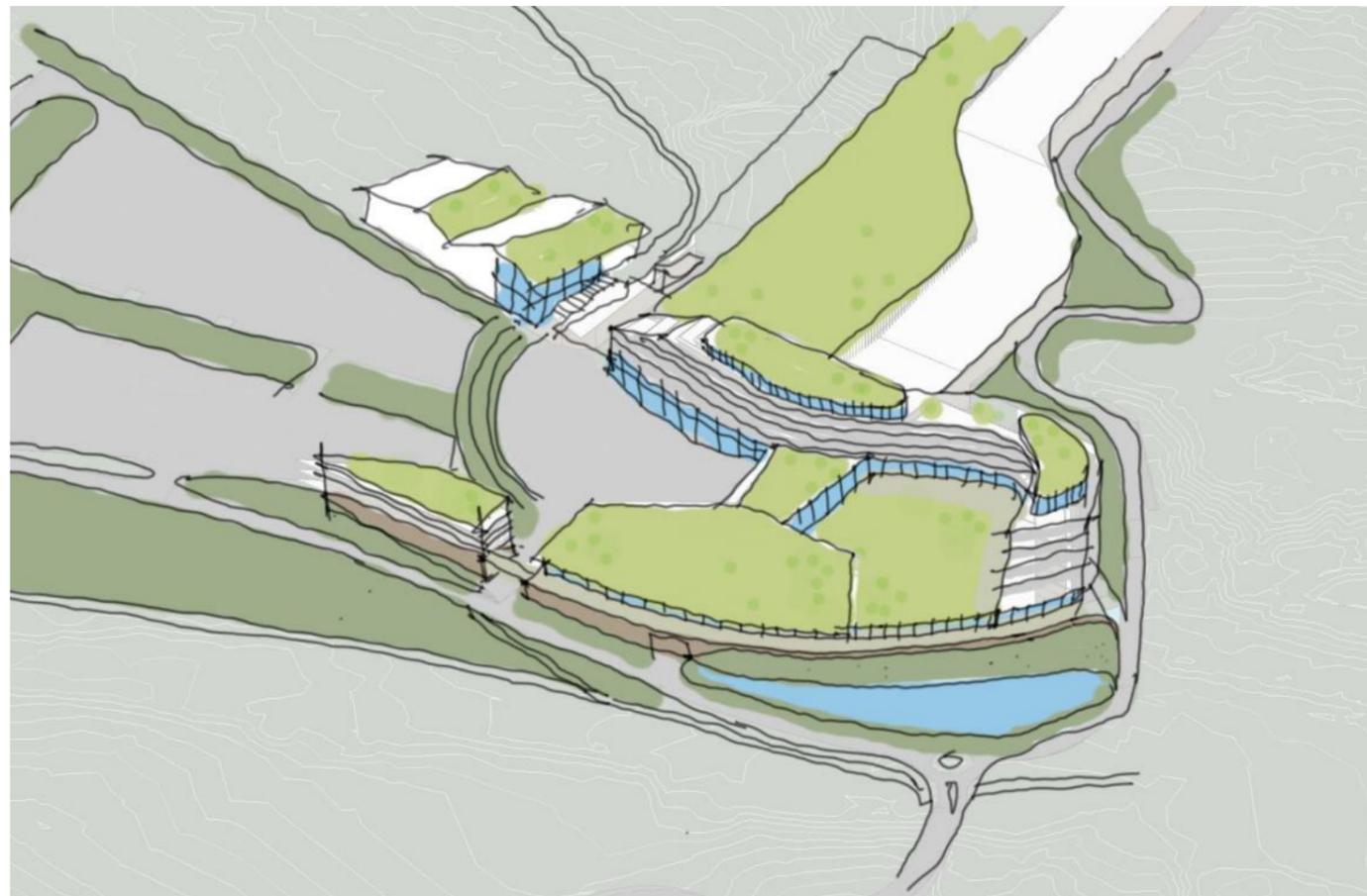
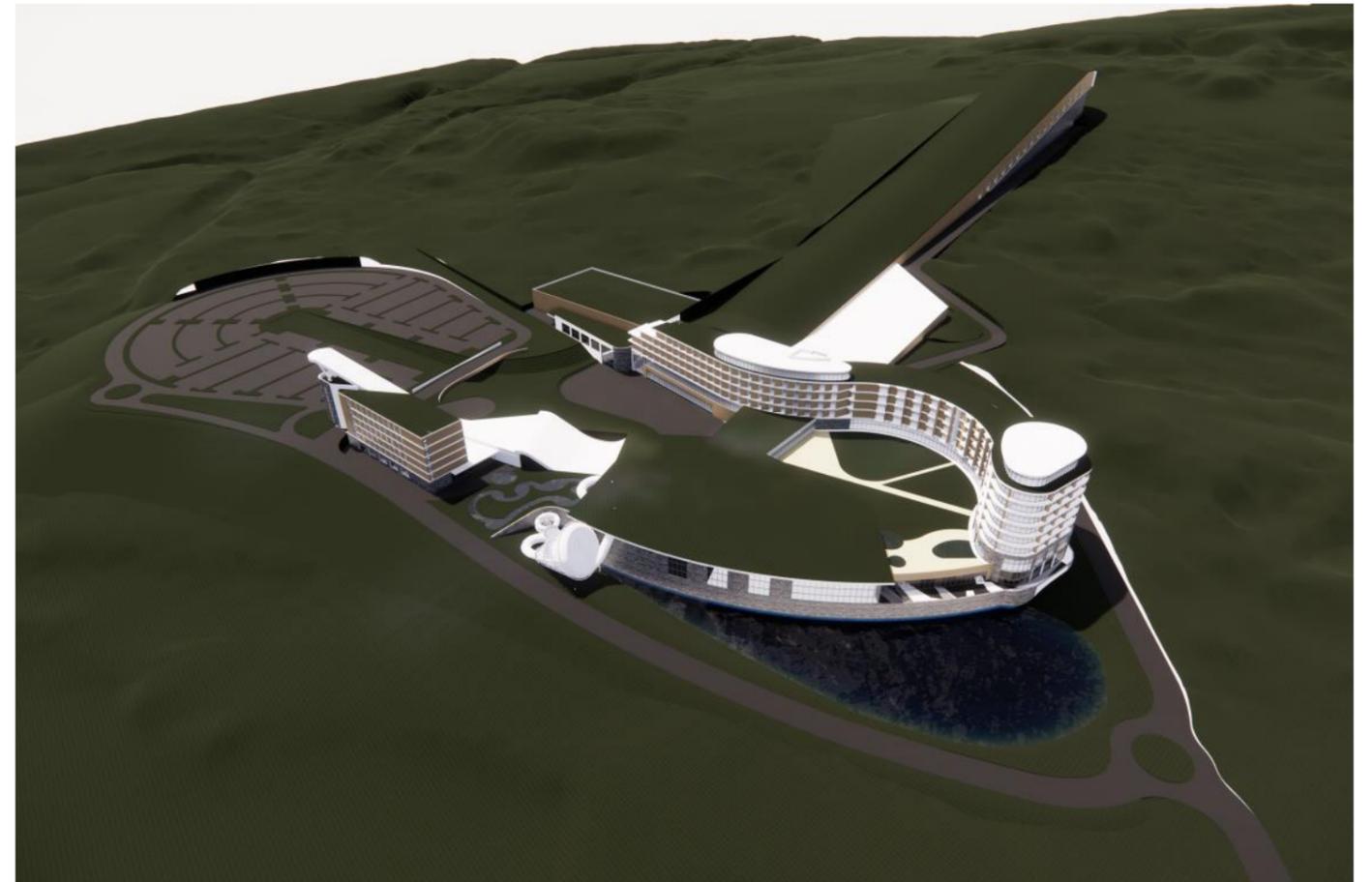
Master Plan Design Development

This page illustrates the development of the scale and massing options with a reduced reliance on the need for lodge accommodation, resulting in an increased volume of accommodation within the resort itself. The two images show the initial impact of this additional built form - both presented the scale and massing of the accommodation components, it was felt, as too dense and too high - their over-bearing impact on the resort spaces and, more importantly, the visual impact on the wider valley were both considered too great.



This page illustrates much lower scale building volumes and the development of defined (multiple) resort spaces. Through this process, the notion of an entirely separate Sport and Value hotel accommodation building became more clearly defined, and in so doing the resort complex as a whole began to become more differentiated and legible, providing the opportunity for different spaces with different energy levels: the vibrant buzz of the piazza on the one hand, and the more restorative privacy of the garden space on the other.

The design also began to be developed in a way that created opportunities to consider the expression of the different building components – how their individual massing could be broken down to appear as a collection of smaller buildings with a more responsive expression for instance. In this way, the provision of what might be a single, taller, premium accommodation component at the northern end of the resort that could act as a landmark or beacon when viewed from the A470 was considered and given expression.





The Proposal

5

Create a development which respects the site's ecology

The master plan has been designed to have the absolute minimum impact possible on the site's ecology. This will be achieved by:

- ensuring that a sound understanding of the site's ecology, key species and the wildlife habitats which support them, where they are located, and the key dependencies within the matrix of habitats on the site;
- using the knowledge of the site's ecological assets to ensure that any proposed development is located where the impact on these environments can be kept to an absolute minimum, for example, by avoiding development on the most ecologically sensitive habitat areas of the site;
- ensuring, as a general principal, that the scale of development on the site is kept to the absolute minimum required to viably meet the brief.

Creating a Destination with a Sense of Place

The master plan promotes the creation of a sport, leisure and tourism destination which will:

- provide new world-class facilities in support of an exciting and unique mix of activities;
- welcome a wide demographic of guests and visitors, as well as people simply coming to explore the site's natural and heritage attractions.

This will be achieved by:

- creating a hierarchy of views and spaces which together establish a legible visitor experience from the site entrance point(s) to the (main) car park, to the 'piazza', to the resort entrance(s), as well as an appropriate backdrop to the range of activities and accommodation forming the resort 'offer' itself;
- proposing building component height, scale, massing, profile, configuration and relative disposition, in combination with the site's topography to create a series of pleasant, comfortable spaces with an appropriate human scale;
- creating a development which will sit sensitively within both its immediate surroundings and its wider context, whilst making best use of the site's inherent physical and visual assets.

Improve Connectivity and Accessibility

The master plan will enhance and promote links into the surrounding areas by:

- encouraging guests and visitors to explore the range of existing activities that are already available in the area;
- enabling guests and visitors to easily explore the towns and villages that surround the new resort;
- encouraging local residents to come and use the facilities or to work at the new resort.

This will be achieved through:

- the improvement of existing pedestrian links to the site north to Merthyr Tydfil;
- re-instatement of public access to some of the existing paths and bridleways that historically cross the site.

Create a sustainable development that promotes sustainable leisure and tourism

The new resort aims to promote sustainable development by way of the following measures:

- activity combinations which are complementary in their energy use requirements with a view to minimising energy demand and waste;
- well considered, sustainably conscious master-planning with a view to ensuring best use is made of the site's orientation in relation to minimising energy demand and waste;
- deliberate and calculated localised alterations to the existing topography to create development plateaux through the retention of all originally displaced A470 construction and existing spoil, on site;
- improving connectivity to surrounding areas, and promoting active travel and public transport modes over the use of the private car.

The development promotes sustainable sport, leisure and tourism through:

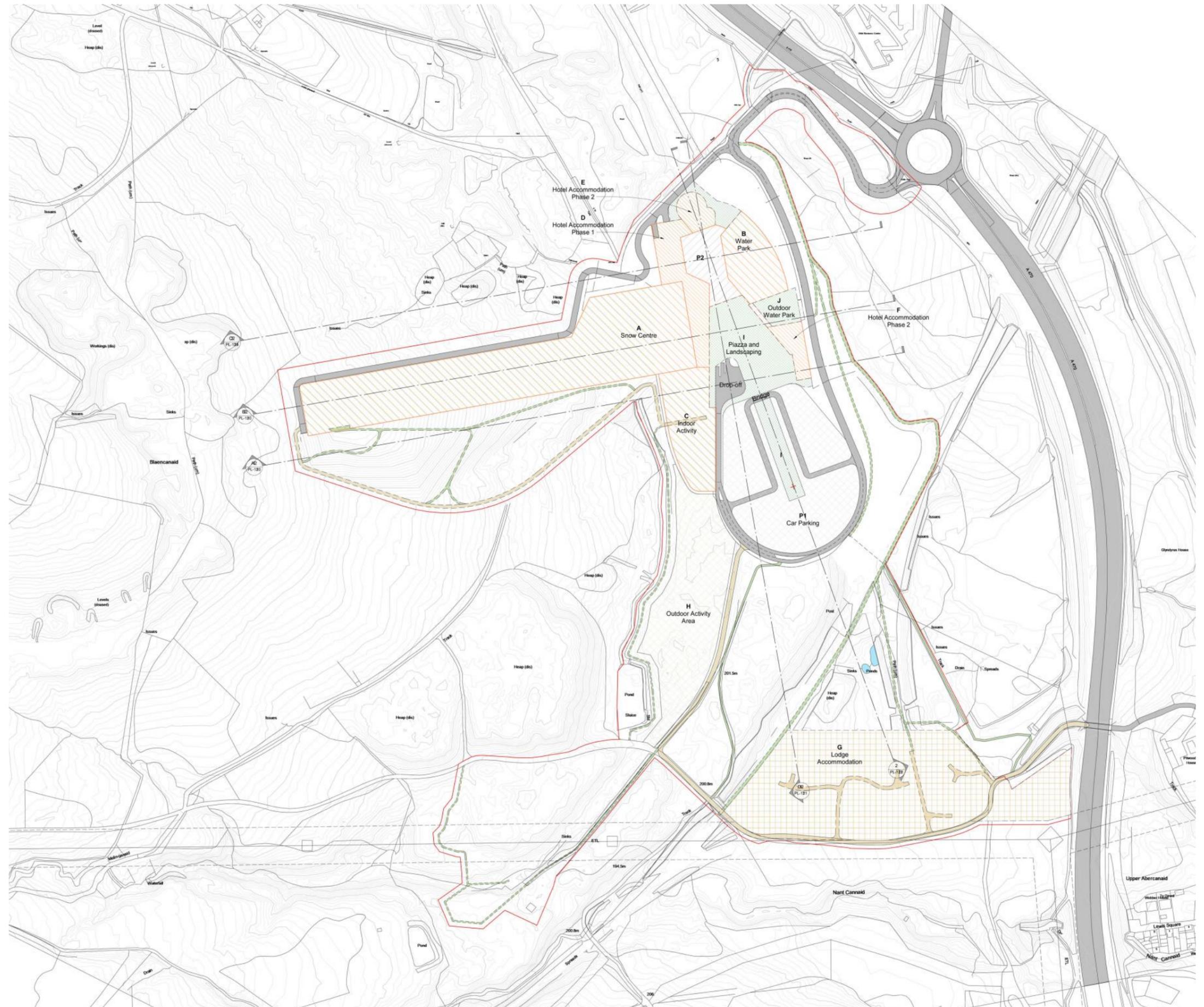
- the creation of a destination resort that offers an all-year round alternative to holidays abroad;
- the provision of facilities to an area that will contribute to the success of existing attractions in the area, rather than competing with them;
- economic sustainability – the initial, and most recent, economic and social impact studies show that the new resort will bring long-term economic, social and health benefits to the area, through the potential additional spend generated by people staying and visiting the development, creation of long-term high quality jobs to the area and enhancement of sport, leisure and wellness offerings in the area.

Outline Master Plan

Overview

The proposed outline master plan is shown here. It covers a development area of 30.4 hectares and provides for a sport, leisure and tourism development comprising the following facilities:

- **a circa 400m Indoor Snow Centre**
the UK's largest facility of this kind will be appropriately sized to enable it to host both elite international level ski events and practice sessions as well as general recreational skiing activities. The facility will serve as the training HQ and national centre of excellence for GB Snowsport and Snowsport Cymru Wales – the Welsh and UK national Olympic and Para/ Special Olympic teams. The development will create the “Wembley Stadium” of snow sports, located in Merthyr Tydfil in the heart of the Welsh Valleys;
- **a destination Indoor Water Park**
a significant and extensive year-round all-weather family experience which will complement the indoor snow centre offer, which will comprise a range of pools and rides with associated pool-side seating areas and will cater to all ages and abilities.
- **an Indoor Activity Centre**
an exciting adventure attraction providing further complementary all-weather activities – adding further to the creation of a critical mass for the resort as a whole
- **Hotel accommodation**
a range of standard and premium hotel accommodation able to cater to the long and short stay guest and visitor
- **Sport and Value Hotel accommodation**
a stand-alone hotel building specifically designed to cater to a range of groups and individuals from: school groups; sports teams; small groups; and, other budget-conscious travellers, with a view to ensuring that the offer is accessible to as wide a range of people as possible
- **Forest Lodge accommodation**
a group of purpose-designed forest lodges aimed at providing alternative accommodation for long (or short) stays, and catering to guests and visitors who can use them as a base, from which to use the new resort facilities, or to explore attractions within the wider area
- **associated development components in support of the above**
as part of the new resort, to include: restaurants, F&B outlets, associated and complimentary retail, site access infrastructure comprising connections to local foot and cycle paths, cyclist facilities, public transport connectivity for shuttle buses as well as local services, as well as car parking; drop-off; back-of-house delivery and service areas; plant and associated maintenance and support service areas etc.



Character and Landscape Approach

Key to organising, curating and presenting the visitor experience of the new resort, involves not only the specific positioning of its different building components within the landscape setting of the site, but a full consideration of their individual configurations and relative dispositions. In this way, the experience of, for example, the key spaces, the views and vistas in, out, through and between the new resort's different building components, together with the backdrops within and around them, all of which help to define its setting, enclosure, entrance and activity, can be thoroughly considered and set up. These key spaces, to be successful, will also need to offer experiences in their own right. There are five identifiable key spaces that form the heart and immediate context of the resort's external experience(s) – these are set out in this section and comprise the following:

1. The Lake

The new resort will initially present itself on arrival off the A470 Rhydyar roundabout with a view across a new pond or small lake. The lake has a dual purpose, on the one hand, it acts as part of the new resort's surface water attenuation system, and on the other hand, it helps to create the opening setting (or scene), and the new resort's all-important first guest and visitor impression and feeling of arrival.

2. The Boulevard and Landscaped Buffer

For the majority of guests and visitors, once safely parked-up in the (main) car park and headed (on foot) towards the new resort, the Boulevard and Landscaped Buffer will provide its first impressions. The Boulevard is proposed as a meandering (but strongly directional) linear park. It is also intended to provide guests and visitors with a sense of anticipation before their (formal) arrival into the Piazza. At the same time, it is intended to provide a vertical transition between the (main) car park level and the level of the Piazza that will appear recessed into the landscape – this is the Landscaped Buffer. The Landscaped Buffer will be achieved through positive planting and a series of gradual meandering footpaths and small waiting and gathering spaces - on high-volume arrival days, these can be used by the potential operator to host welcome stands and activities, all of which add to the sense that "the new resort experience starts here".

3. The Piazza

The Piazza will be the focal point for outdoor activities – activities not only for the guests and visitors, but for the general public, and importantly, the local community. As the main 'welcome space' to the new resort, it is a place that is intended to generate a particular vibrancy and 'buzz' throughout the year. In order to create this attractive and welcoming environment, the piazza will be:

- highly accessible via a variety of means – either directly from the (main) car park, or

from the drop-off area, or from the routes that lead out into the wider areas of the site;

- the new resort's focal point – it's heart, and its arrival, congregating and orientating space;
- south-facing and set 'down' into the landscape to increase the sense of enclosure and to help ensure that the environmental conditions (the sunshine in particular) can be fully exploited such that it can offer opportunities to sit-out for as much of the year as possible;
- suitably lined by building volume and building frontage (edge) thereby providing the space with a comfortable sense of enclosure;
- flanked by active ground and upper floor frontages, with the ability to allow the guests and visitors inside to look-over, or spill-out into the space, thereby creating opportunities for further vibrancy, animation and atmosphere;
- suitably sized to provide opportunities for seasonal functions such as (local) markets and fairs, temporary facilities in support of specific sporting events, or other social and cultural attractions, all of which, it is hoped will attract people to visit the new resort;
- comprised largely of areas of hard landscaping in order to facilitate all of the above.

4. The Garden Courtyard

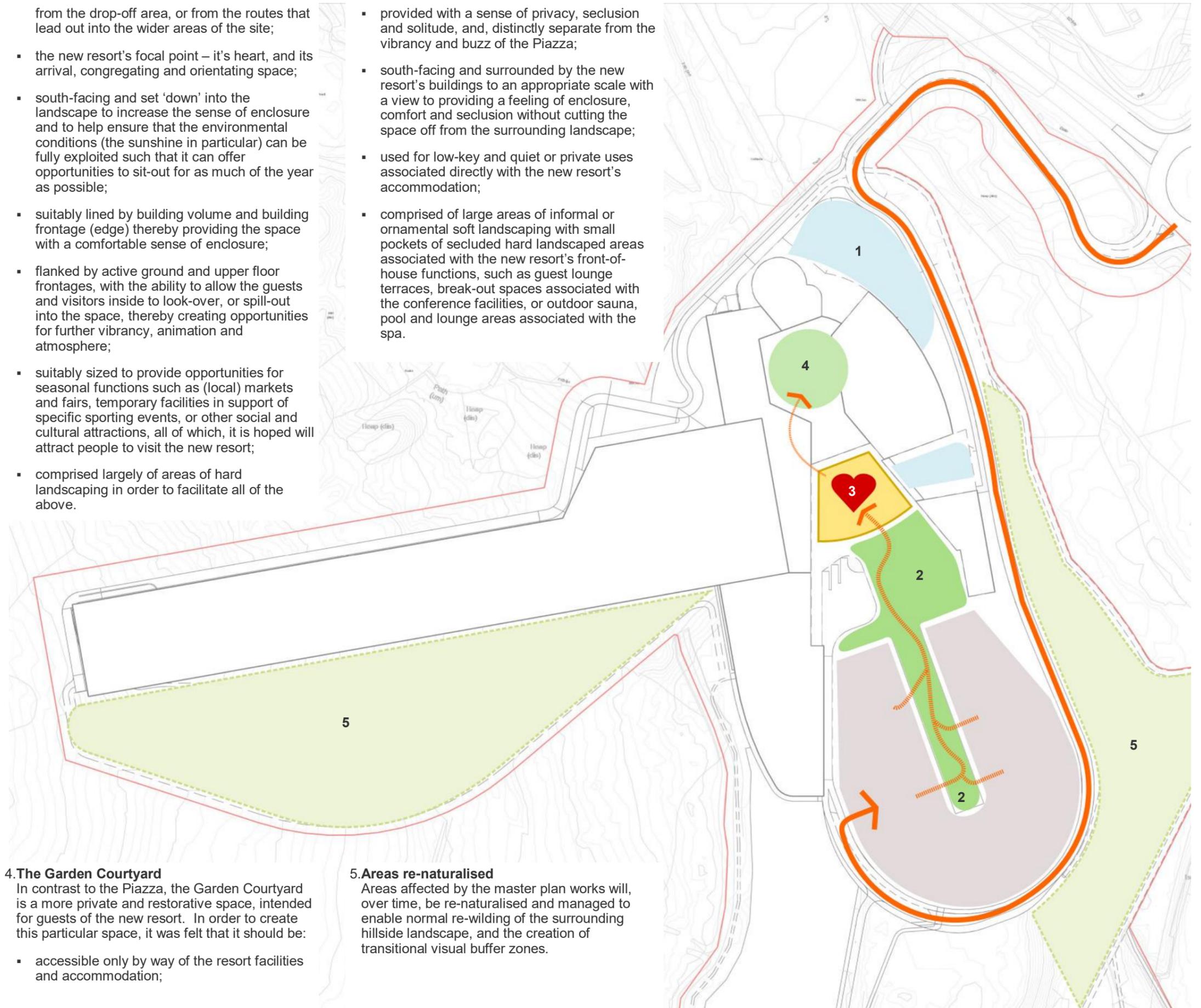
In contrast to the Piazza, the Garden Courtyard is a more private and restorative space, intended for guests of the new resort. In order to create this particular space, it was felt that it should be:

- accessible only by way of the resort facilities and accommodation;

5. Areas re-naturalised

Areas affected by the master plan works will, over time, be re-naturalised and managed to enable normal re-wilding of the surrounding hillside landscape, and the creation of transitional visual buffer zones.

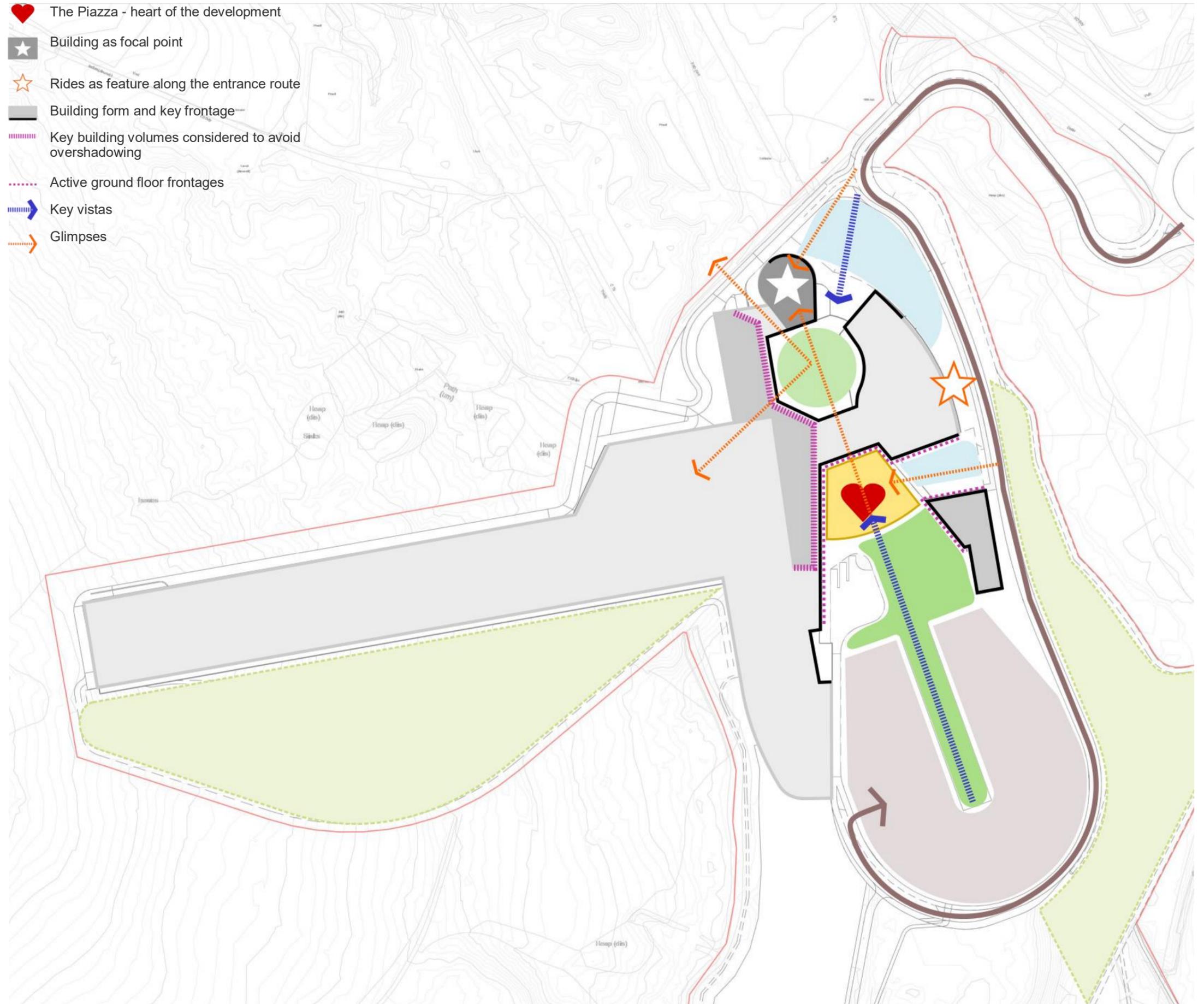
- provided with a sense of privacy, seclusion and solitude, and, distinctly separate from the vibrancy and buzz of the Piazza;
- south-facing and surrounded by the new resort's buildings to an appropriate scale with a view to providing a feeling of enclosure, comfort and seclusion without cutting the space off from the surrounding landscape;
- used for low-key and quiet or private uses associated directly with the new resort's accommodation;
- comprised of large areas of informal or ornamental soft landscaping with small pockets of secluded hard landscaped areas associated with the new resort's front-of-house functions, such as guest lounge terraces, break-out spaces associated with the conference facilities, or outdoor sauna, pool and lounge areas associated with the spa.



Site Layout

Within the area of the site that has been identified as having the least ecological impact in relation to development generally, as described previously, and pursuant to the specific requirements of the Indoor Snow Centre, the remaining building components that comprise the new resort, have been configured, disposed and sized to aid the creation of a sense of place. Accordingly, consideration has been given to:

- using building forms that create positive 'edge' and enclosure of the public realm and landscaped spaces;
- positioning of buildings so that they avoid unduly overshadowing of external spaces and ecological habitat(s);
- breaking down the built forms by function to derive a series of individually distinguishable and recognisable components – these different components, together, it is considered, should complement the particular rationale and environment being sought for each space, and to add to their physical and visual distinctiveness;
- the visual impact of the configuration and disposition of the individual building component forms, together, in relation to the sequence of arrival experiences between the A470 Rhydydar roundabout and the Piazza – the meandering nature of the approach 'drive' offers several vantage points, which, if entering on foot or by vehicle, will assist navigation, orientation and legibility – these vantage points also set-up key vistas and the provision of particular local 'landmark' moments;
- the overall height of each building component, such that a legible internal hierarchy can be created;
- the overall height, scale, massing and profile of the development with particular concern for the sensitive relationship to the surrounding hillside and its visual impact on the wider context of the Merthyr valley;
- positioning the different building component forms such that they maximise views up, down and across the valley, whilst avoiding internal over-looking;
- using landform(s) to effectively shield parts of the larger building components, such as the Indoor Snow Centre, from view.

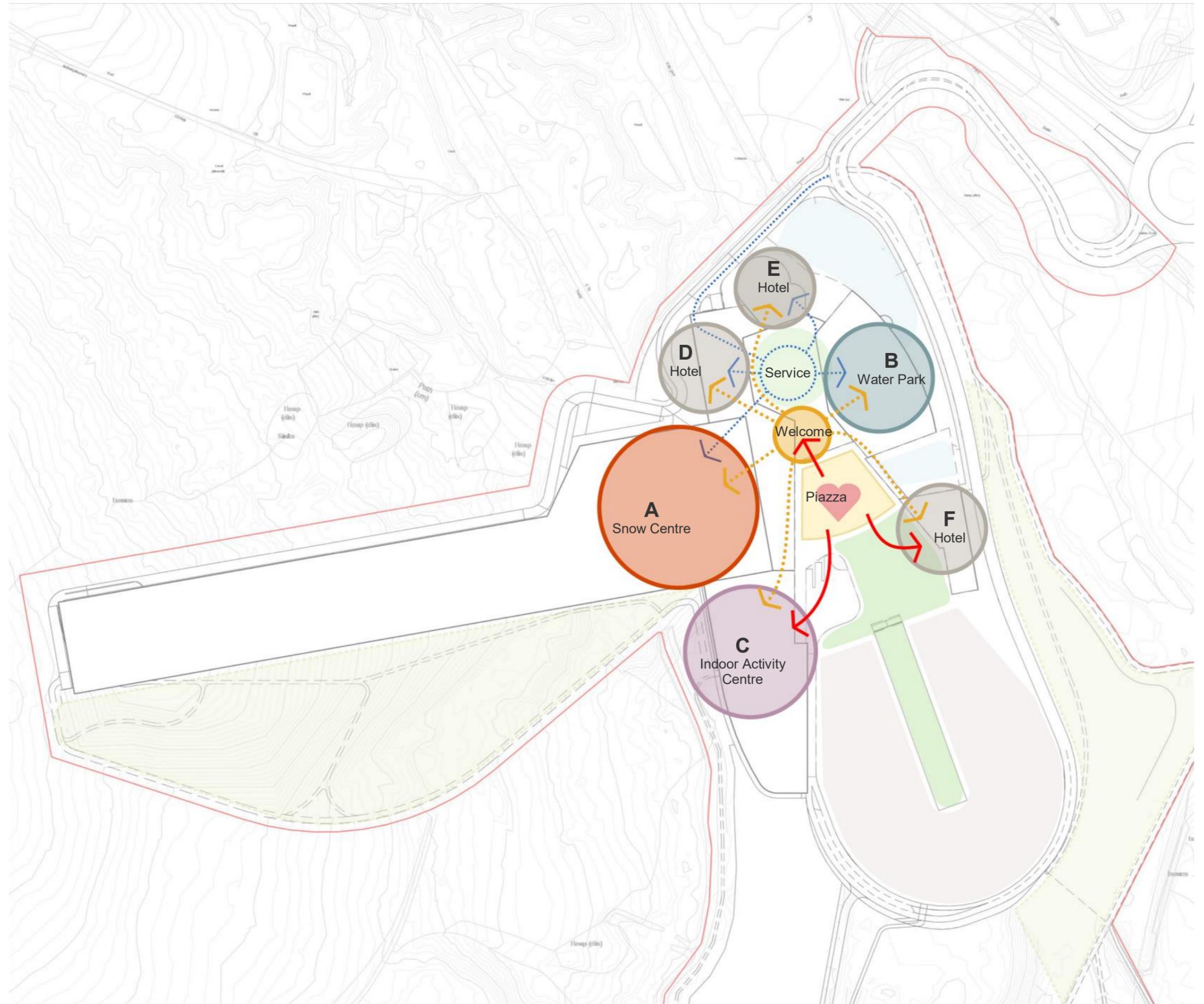


Building Layout

Although the specific designs for the internal arrangement of the proposed building components will be subject to 'reserved matters', the arrangement of the building uses has nonetheless been considered to ensure that the relevant internal adjacencies and relationships that are key to the successful and efficient operation and running of the new resort can be provided – both at the front of house and back of house. The main entrance to the new resort is directly off the Piazza, and leads to a central, welcoming, concourse that is proposed to provide the first point of contact for all guests and visitors to the resort's different internal environments, and will be the means by which to oversee access to each of the resort's key attractions, as well as being its check-in and reception point for the different accommodation building components, as required.

The only two building components that have been positioned so that they have the ability to be operated separately from this position are the Hotel Accommodation building component F and the Indoor Activity Centre B. Hotel Accommodation building component F, in this regard, has the potential to attract and cater to guests who may wish to use it as a base to explore the wider area(s), or for teams, school parties or groups who may be more budget conscious and may require a higher degree of independence. By contrast, the Indoor Activity Centre, has the opportunity to be either accessed independently, or through the resort, or both, depending on how the potential operator(s) management regime is eventually agreed. Both these building components have been positioned within the master plan to extend and define the degree of enclosure to the Piazza.

To avoid being part of the guest, visitor and the public's experience of the new resort, the core building components have also been arranged so that they can be discretely serviced from a single yard or area, masked by the courtyard garden. Furthermore, any shared plant is intended to be located in the same way so that there is a central point of access for supply, service and maintenance.



→ Direct access from Piazza

○ Resort Entrance Hub

→ Internal Routes to facilities

○ Servicing Hub (below garden)

→ Service Routes

Scale

In relation to the scale of the proposals for the new resort, the key objectives have been to ensure that development in general creates a commercially successful resort, and at the same time, to ensure that its impact on the site's ecology is kept to a minimum. This required a fundamental understanding of the minimum requirements of each development component.

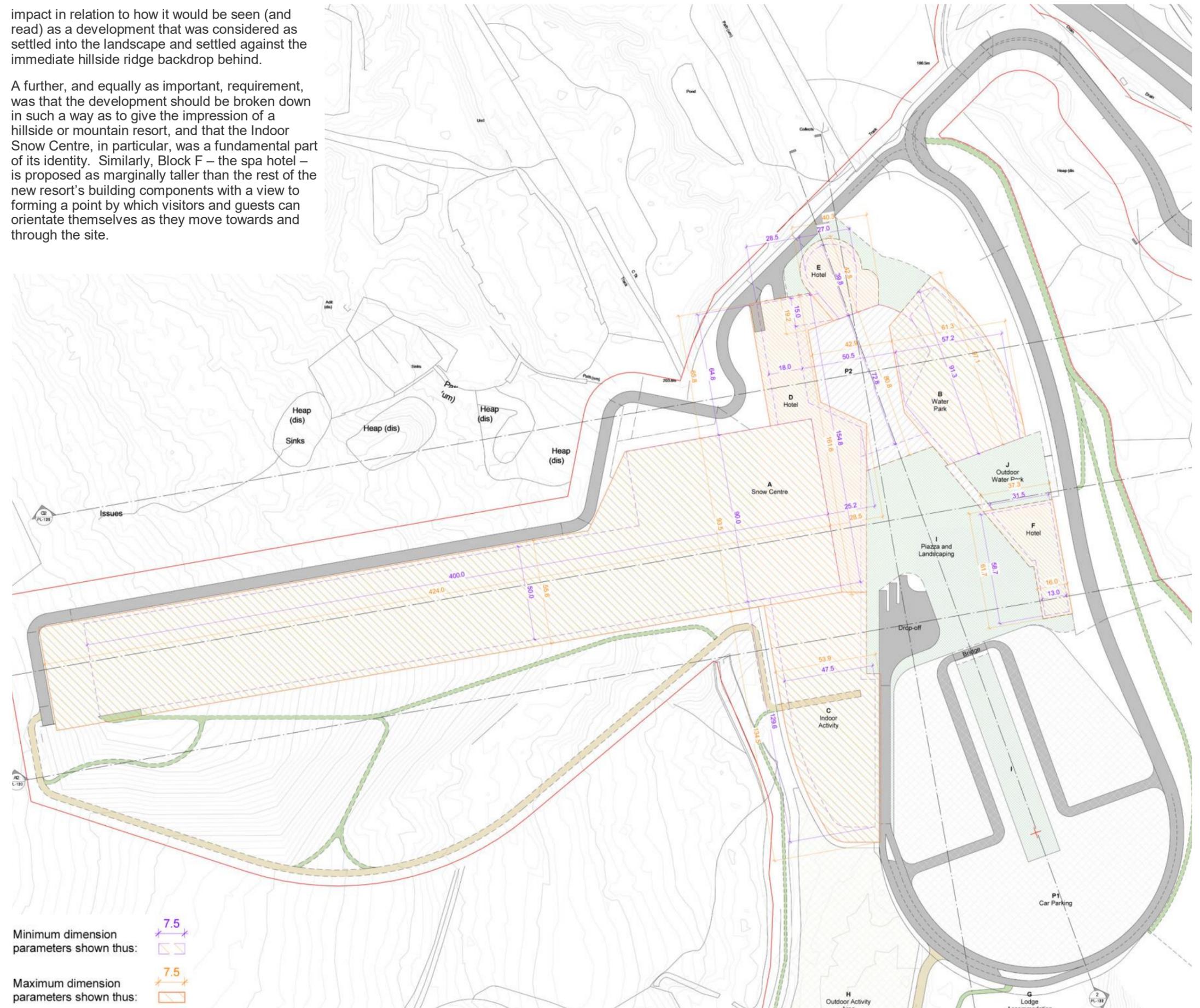
To ensure that the new resort's different building components were each able to fulfil their individual functional criteria and at the same time, create appropriately enclosed and comfortable external spaces that could 'sit' contently within their landscape setting, their scale and relative (volumetric) disposition was an important consideration. In this way, consideration was given to their minimum functional (spatial) requirements, as dictated by their proposed typology. Of particular importance, are the specialist building components such as the Indoor Snow Centre, where for instance the slope length and the vertical drop are key considerations as these need to meet the minimum requirements of the sport's governing body. These specific requirements were considered against the particular requirements of the other key building components – requirements such as minimum headroom and unobstructed interior spaces or volumes for example – and set in the context of the operational requirements of both the resort as a whole, and as a destination leisure and tourism facility. The same is true, albeit without sport governing body requirements, of the Indoor Water Park and the Indoor Activity Centre, both of which have been sized in conjunction with the potential operators to ensure that their operational and capacity requirements can be appropriately met.

With the different Hotel accommodation components and the ancillary buildings, enclosures and areas, there is scope to introduce variations in the scale of the resort as a volumetric composition. Furthermore, their particular functionality can be used to introduce additional opportunities for the enlivening of their facades as well as the spaces that they enclose – the use of profile, layering, recession and projection in both the vertical and horizontal planes being perhaps the most obvious.

Throughout the evolution of ideas and notions around the most appropriate scale for the new resort, the aim has always been to promote, as far as possible, a predominantly lower scale of development, and one that, through the use of devices that can create horizontal emphasis – something which can visually promote a lower scale - could present, and be visually perceived, as a group of building components that would, on the one hand, be individually legible, and on the other hand, be collectively coherent. This position, it was felt, would also help to optimise views and glimpses between, over and through the different building components 'out' to the adjacent hillside and surrounding areas beyond, from the various external spaces and approaches to the new resort, and at the same time, ensure minimal visual

impact in relation to how it would be seen (and read) as a development that was considered as settled into the landscape and settled against the immediate hillside ridge backdrop behind.

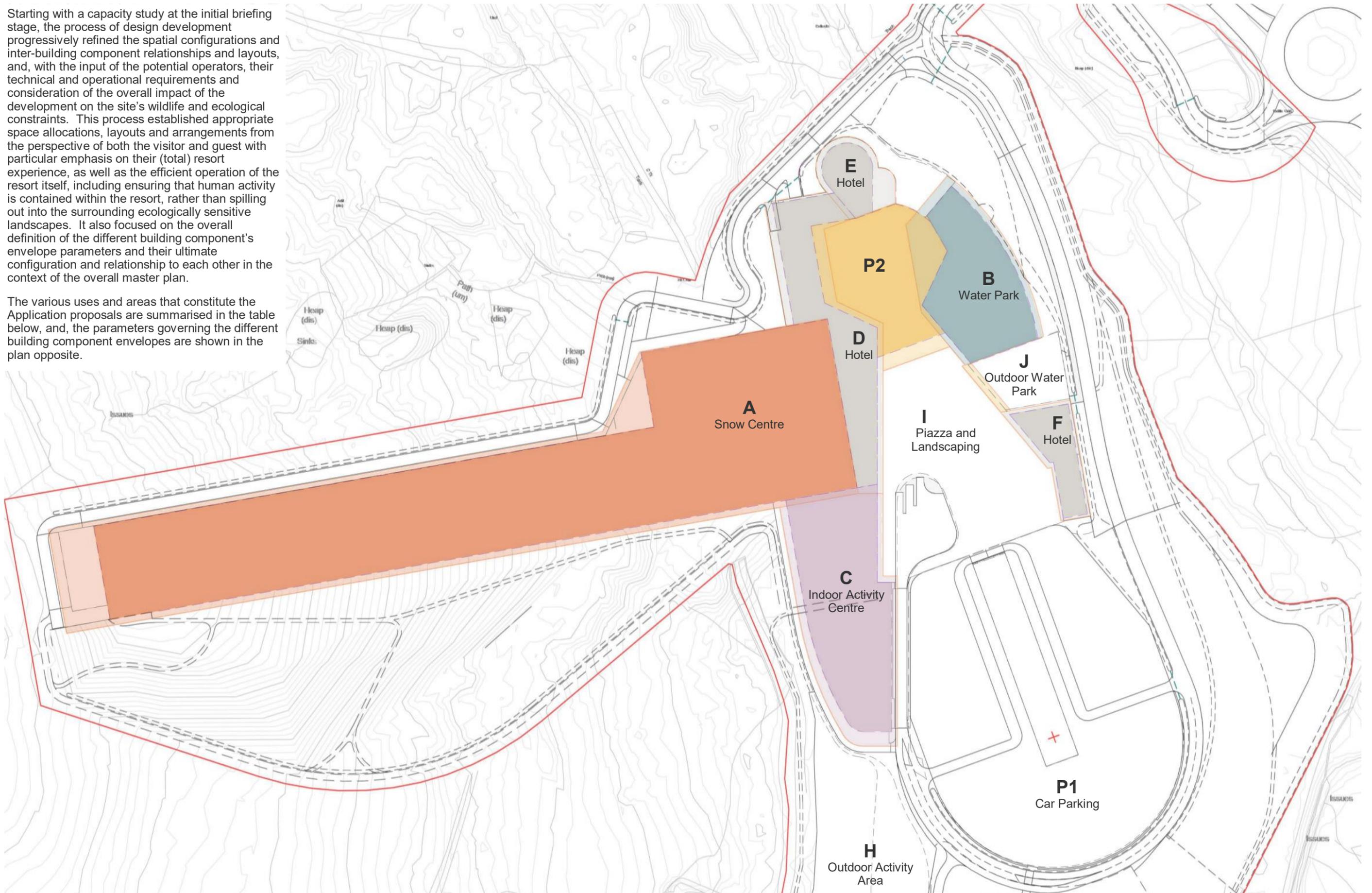
A further, and equally as important, requirement, was that the development should be broken down in such a way as to give the impression of a hillside or mountain resort, and that the Indoor Snow Centre, in particular, was a fundamental part of its identity. Similarly, Block F – the spa hotel – is proposed as marginally taller than the rest of the new resort's building components with a view to forming a point by which visitors and guests can orientate themselves as they move towards and through the site.



Use and Amount

Starting with a capacity study at the initial briefing stage, the process of design development progressively refined the spatial configurations and inter-building component relationships and layouts, and, with the input of the potential operators, their technical and operational requirements and consideration of the overall impact of the development on the site's wildlife and ecological constraints. This process established appropriate space allocations, layouts and arrangements from the perspective of both the visitor and guest with particular emphasis on their (total) resort experience, as well as the efficient operation of the resort itself, including ensuring that human activity is contained within the resort, rather than spilling out into the surrounding ecologically sensitive landscapes. It also focused on the overall definition of the different building component's envelope parameters and their ultimate configuration and relationship to each other in the context of the overall master plan.

The various uses and areas that constitute the Application proposals are summarised in the table below, and, the parameters governing the different building component envelopes are shown in the plan opposite.



	A	B	C	D	E	F	G	P2
	Indoor Snow Centre	Indoor Water Park	Indoor Activity Centre	Hotel Accommodation	Hotel Accommodation	Hotel Accommodation	Lodge Accommodation	Parking and service areas
Use Class	D2 - Assembly and Leisure	D2 - Assembly and Leisure	D2 - Assembly and Leisure	C1 - Hotel plus Ancillary	C1 - Hotel plus Ancillary	C1 - Hotel plus Ancillary	C1 - Hotel plus Ancillary	Ancillary
Accommodation	Indoor Snow Centre incorporating FIS International standard main and learner slopes, snow play areas.	Indoor (sub-tropical) Water Park incorporating pools, feature water rides and poolside lounge areas.	Space to house a curated selection of indoor adventure activities.	Resort hotel comprising up to 198 bedrooms.	Spa hotel comprising up to 100 bedrooms.	Sport and Value hotel comprising up to 120 bedrooms.	Up to 30 free-standing single-storey woodland lodges.	Car parking providing up to 180 parking spaces.
	Ancillary facilities such as equipment hire, changing, on-slope food and beverage snack opportunities as well as supporting back-of-house and plant areas	Ancillary facilities such as changing village, poolside food and beverage snack opportunities as well as supporting back-of-house and plant areas	Ancillary facilities such as reception area, changing rooms, food and beverage snack opportunities as well as supporting back-of-house and plant areas	Ancillary facilities including resort reception, food and beverage, conference facilities, co-working and other guest facilities; as well as back-of-house and plant areas	Ancillary facilities including indoor and outdoor fitness and spa facilities, food and beverage, and other guest facilities; as well as back-of-house and plant areas	Ancillary facilities including food and beverage, and other guest facilities; as well as back-of-house and plant areas	Ancillary facilities including reception and management building and dedicated lodge parking	Service area including delivery loading and unloading, storage and plant rooms
Maximum storeys above ground	3	3	3	6 + plant	8 + plant	5 + plant	1	2
Maximum Footprint (m2)	27600 m2	4900 m2	5800 m2	4900 m2	1275 m2	1400 m2	0 m2	3000 m2
Maximum GIA (m2)	39200 m2	7500 m2	9000 m2	15500 m2	7000 m2	4900 m2	2250 m2	8500 m2
Minimum Level (m above AOD)	283.5 m	203.0 m	206.5 m	217.0 m	223.4 m	209.8 m	(subject to topography)	201.0 m
Maximum Level (m above AOD)	287.5 m	213.0 m	212.5 m	224.5 m	231.9 m	214.8 m	(subject to topography)	206.0 m
		218.0 m (local maximum feature at to accommodate ride tower)	220.0 m (local maximum feature at to accommodate vertical ride)					
Minimum building height (m)	15 m	8.0 m	11.5 m	22.0 m	28.4 m	16.8 m	3.5 m	6.0 m
Maximum building height (m)	21 m	20.5 m	20.0 m	32.0 m	39.4 m	21.3 m	4.5 m	13.5 m

Use and Amount

	P1	H	I	J	K
	Surface Parking Areas	Outdoor Activity Area	Piazza and Landscaped Approach	Outdoor Water Park	Heritage Walking Trails
Use Class	Ancillary	Outdoor activity / Amenity	Outdoor activity / Amenity	Outdoor activity / Amenity	Outdoor activity / Amenity
Accommodation	Surface car parking providing up to 650 parking spaces	Outdoor space for installations and equipment to accommodate outdoor adventure activities	Hard and soft landscaped areas	Space for outdoor pools, water rides and associated deck areas set amongst soft landscaped areas	Upgrades to existing forest walking trails, including localised upgrading of footpath surfaces, introduction of outdoor seating benches, directional signage and interpretation boards
Maximum Footprint (hA)	18000 m2	15000 m2	8900m2	1500m2	

Illustrative Master Plan



- A – Snow Centre
- B – Water Park
- C – Indoor Activity Centre
- D – Resort Hotel
- E – Spa Hotel
- F – Sport and Value Hotel
- G – Lodges
- H – Outdoor Activity Area



- A – Snow Centre
- B – Water Park
- C – Indoor Activity Centre
- D – Resort Hotel
- E – Spa Hotel
- F – Sport and Value Hotel
- G – Lodges
- H – Outdoor Activity Area



- A – Snow Centre
- B – Water Park
- D – Resort Hotel
- E – Spa Hotel

The key 'first impression' provided by an overview of the recognisable spa hotel, the Indoor Snow Centre in the background and Indoor Water Park and its external rides. Set against a lake in the foreground, and against the backdrop of the valley hillside it provides an instant overview of some of the activities on offer within the resort.

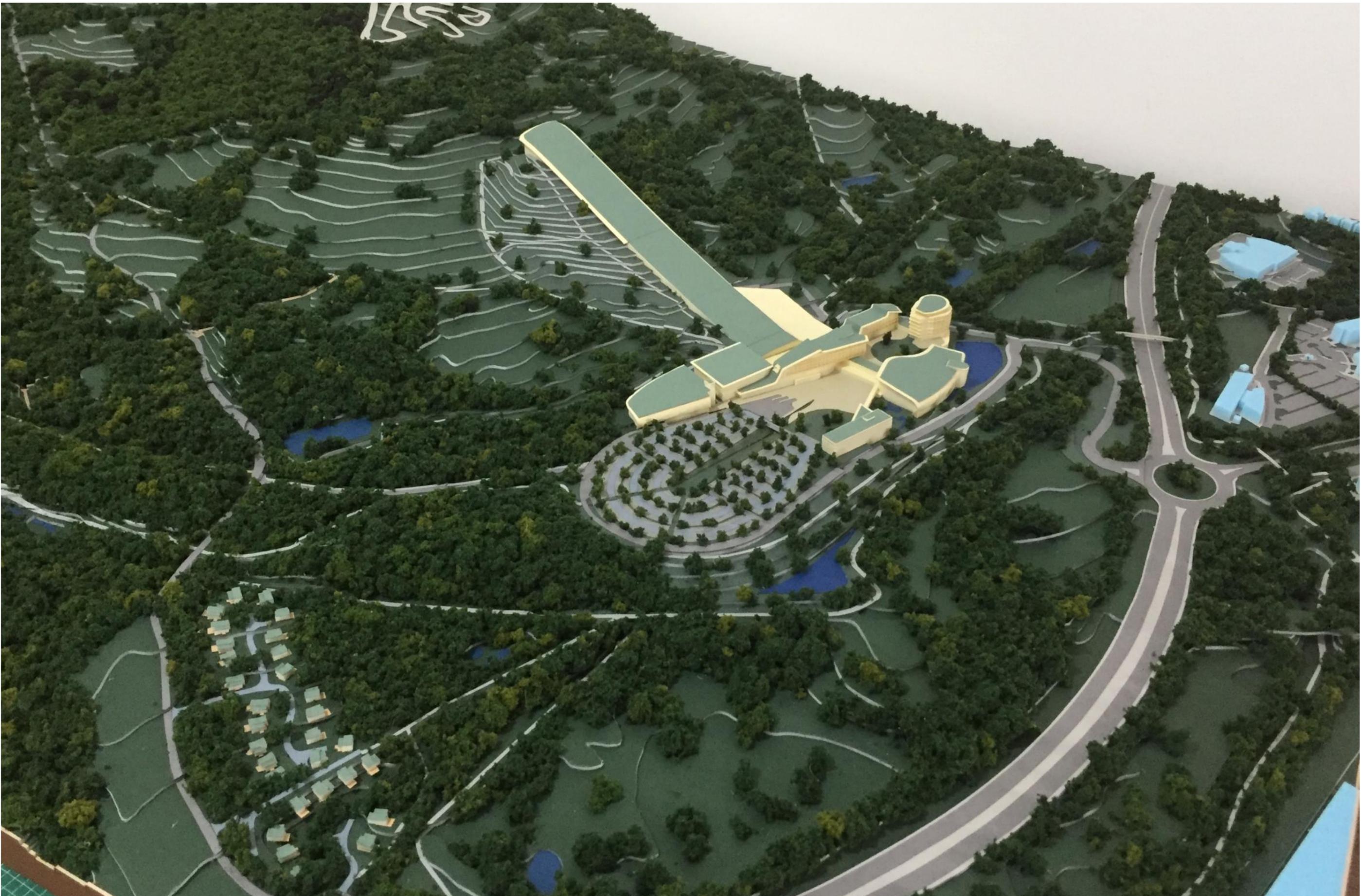


B – Water Park
D – Resort Hotel
E – Spa Hotel

The landscape approach sets up a key vista towards the resort's central Piazza, directly towards the taller mass presented by the Spa hotel. The Indoor Activity Centre and Sport and Value hotel flank the view, with their relative positioning setting out their different offer level to the rest of the resort



Physical Model Views





Lodge Accommodation

The lodge accommodation aims to create a (living) holiday experience that immerses its guests in the site's woodland environment, away from everyday life. It is imperative that they are constructed in such a way that the environment in which they are seeking to benefit from, is not inadvertently damaged, or its character altered by their construction.

To achieve this requires a bespoke and sensitive approach to the site, the design of the lodges themselves and in particular their construction, all with the aim of avoiding any damage to the woodland. To this end, a specific construction technique has been developed which has been proven to prevent and / or minimises any damage to trees, undergrowth or seedbanks.

As part of the detailed design stage, through up-to-date topographic and ecological surveys together with individual tree locations and their root protection zones, the precise layout(s) of the lodges will be determined. This information in practice however can sometimes be too rough to sensitively position and construct each lodge together with its supporting infrastructure (on paper) due to the very localised lie of the land as well as the ever-changing nature of tree conditions and quality of the local undergrowth. It should therefore be noted that the position of tracks and lodges in drawings may be subject to minor alterations at the delivery stage, and that each lodge will be individually set out on site so that account can be taken of the local conditions in accordance with a Woodland Management Plan.

To help illustrate this approach in more detail, reference has been made to similar woodland lodge projects that have been completed across the country, including in ancient woodland in the Forest of Dean.

The design of the lodges themselves can be considered as complementary in relation to the forest surroundings in which they sit – if required, in the future, they can be completely removed without a trace. Their situation is premised on a form of raised platform construction which offers low ecological impact during construction, and preserves the seedbed for the future. It also mitigates consideration of the effects of topography and impacts on trees, undergrowth and site water run-off, and such like, within the forest.

The typical construction methods that are often employed are illustrated opposite:





1.



2.

1. Any site clearance for piling is minimal, and where required, only undertaken within the area directly beneath a woodland room.
2. In most cases, such clearance will not be required, and slabs simply sit above the particular site's natural topography. It should be noted that the undergrowth adjacent to each lodge is barely disturbed by the construction works.
3. Off-site manufactured flat-pack construction minimises site operations within the woodland, with only equipment to manoeuvre individual panels into place required.
4. The ground around each lodge recovers quickly once construction activities have ceased and scaffolding is removed. The final effect is of lodges sitting comfortably within their woodland setting, with no obvious signs of ecological disturbance.



3.



4.

Access and Movement

Active Travel Modes

The Application proposals have given due consideration to the transport hierarchy ensuring that options for the use of active travel modes or public transport are the starting point of design. This is particularly important, as it will encourage guests, visitors and staff to reduce their reliance on the use of private cars to visit the facilities, and similarly, when making their way around the site guests and visitors (and staff) will adopt the same active modes when exploring the local surroundings and places of interest.

To achieve this position, the Application proposals intend to create pedestrian and cycle access routes that run to, around and through the site, thereby re-connecting Merthyr Tydfil back to the network of footpaths and bridleways which historically provided access and egress to and from the site – it should be noted however, that this can only be achieved where the site can be made safe through the implementation of the new resort. The network of footpaths and bridleways that will run to, through and around the new resort are shown in the adjacent plan, and are summarised in the sections below.

Access to the site

From Merthyr Tydfil town centre, there are two primary routes into the site for pedestrians and cyclists. From the north via the existing Rhydyicar footbridge which provides access from the waterside footpaths and the Taff Trail, and from the south via the existing A470 underpass to the existing bridleway which bounds the south of the site to the Taff Trail and footpaths into Abercanaid. From the south and west, the site links-up with a network of existing footpaths and bridleways which in turn lead south towards Bike Park Wales and beyond, and west 'up' the hillside towards the ridge summit.

Travel through the site

As part of the Application proposals, allowance has been made for two key strategic, active, travel links that can provide access and egress to and through the site. The first, is the re-instatement of the bridleway that runs from east to west, and generally parallel to, the Abercanaid stream thereby re-establishing access and egress from Abercanaid to the wider network of footpaths and bridleways on the hillside. The second, is the strategic cycleway that is proposed to connect National Cycle Network (NCN) route 8 to NCN route 478 to Aberdare via the restored Abernant tunnel. This is proposed as a spur off the main east-west bridleway and as such, the Application proposals have fully anticipated its creation. Both routes are anticipated within the master plan so that they can be brought forward in future with relevant local authority and third sector partners.

Travel within the site

Pedestrian and cyclist movement within the site is a key aspect of the Application proposal's circulation strategy - once cars have been parked-up, the majority of the new resort's experience thereafter is anticipated as almost entirely through active travel modes. Key links are proposed through and around the site to enable pedestrians (and cyclists) to access and egress the facilities within the new resort as part of their exploration of the surrounding and local areas.

Facilities for cyclists

Within the development parameters, provision will be made for cycle parking. This is intended to cater for a number of different user groups as follows:

Secure cycle parking for staff – space allocation will be made for a secure compound within the back-of-house areas of the new resort. As part of this facility, staff changing areas, including showers and personal locker storage, and equivalent universal access facilities, will also be provided.

Secure cycle parking for day visitors – space allocation within the public areas of the new resort will be conveniently positioned near the main entrance.

Secure cycle parking for visitors (and guests) – space allocation within the public areas for those visitors (and guests) wishing to make use of local and NCN cycle trails and routes, or staying in the new resort's hotel accommodation when visiting, for example, Bike Park Wales, which is conveniently accessible via existing routes towards the south of the site.

- Footpaths
- Potential Links to existing footpaths
- Cycle path NCN 8 - The Taff Trail
- Public Right of Way to Abernant Tunnel
- Shared surface path (Paved)
- Shared surface path (unpaved)
- Heritage Trails



Vehicles

Access to the site

The principal access to the site will be via a highway engineered enlargement and improvement scheme to the existing spur from the A470 Rhydycar roundabout. From here, an access road will be created that more or less follows the original alignment of the existing track, ie running initially parallel to the dual carriageway, before returning back on itself, cutting briefly through a small section of SSSI, to 'land' at an existing plateau at the north east corner of the site.

This relatively minor encroachment into a part of the SSSI has been identified as having a moderately low ecological impact, affecting areas of secondary woodland and scrub and, comparatively, species and poor pasture within the designated area. It is proposed effectively as a re-use of the existing spur off the A470 Rhydycar roundabout.

In addition to this entrance, a second access will be provided to the lodges which will use the existing underpass to the A470 from Abercanaid

Access within the site

Vehicular access within the site is limited to the entry sequence that directs visitors and guests to the new resort's main car parking zones and, in respect to the southern access point, to the lodge accommodation car park. From these points, no further general vehicle access within the site is proposed - access in general will be limited to service and emergency vehicles only.

Service Vehicles

Service vehicle access has been designed so that it can generally be segregated completely from the main visitor experience. Although the existing access arrangement will be shared by all vehicles, it is generally proposed that once in the site, day-to-day service access is provided along the new circulation road to the northern edge of the development only, to give access either to the below-ground service yard, or along the hillside access track to service the Indoor Snow Centre.

The master plan is set out so that all access to the main resort functions from a service perspective are centrally accessible from the service yard.

Incidental service vehicles, such as event vehicles setting up for activities and events in the main piazza, can use the route used for drop-off vehicles where a dropped kerb will be provided with removable bollards which can be either electronically remotely operated or manned when such event set-up activities are planned or expected.

Emergency Vehicle Access

Access and egress for emergency vehicles can be provided in a number of ways, depending on the

nature of the emergency. For fire-fighting vehicles, all access and service roads are accessible, and will facilitate appropriate coverage to all building component areas and facades, including the hillside track that runs alongside the Indoor Snow Centre – all in compliance with Part B of the Building Regulations.

In addition to access for fire-fighting vehicles, access for emergency medical personal and ambulances will also be facilitated. It is intended that the primary pick-up area, in this regard, will be via the service yard, which, given its direct access to all key areas of the new resort, will offer a good, legible arrangement, and one that will also offer a degree of privacy to those involved - away from the main activities of the new resort itself. In addition, access for ambulances may also be provided at various points along the length of the Indoor Snow Centre thereby giving a more direct, and faster, access to casualties should such a need arise. For any special events that might be taking place in the Piazza, planned access can be provided in a similar way to the service access to these areas.

Public Transport, Coaches and Taxis

Access to the site

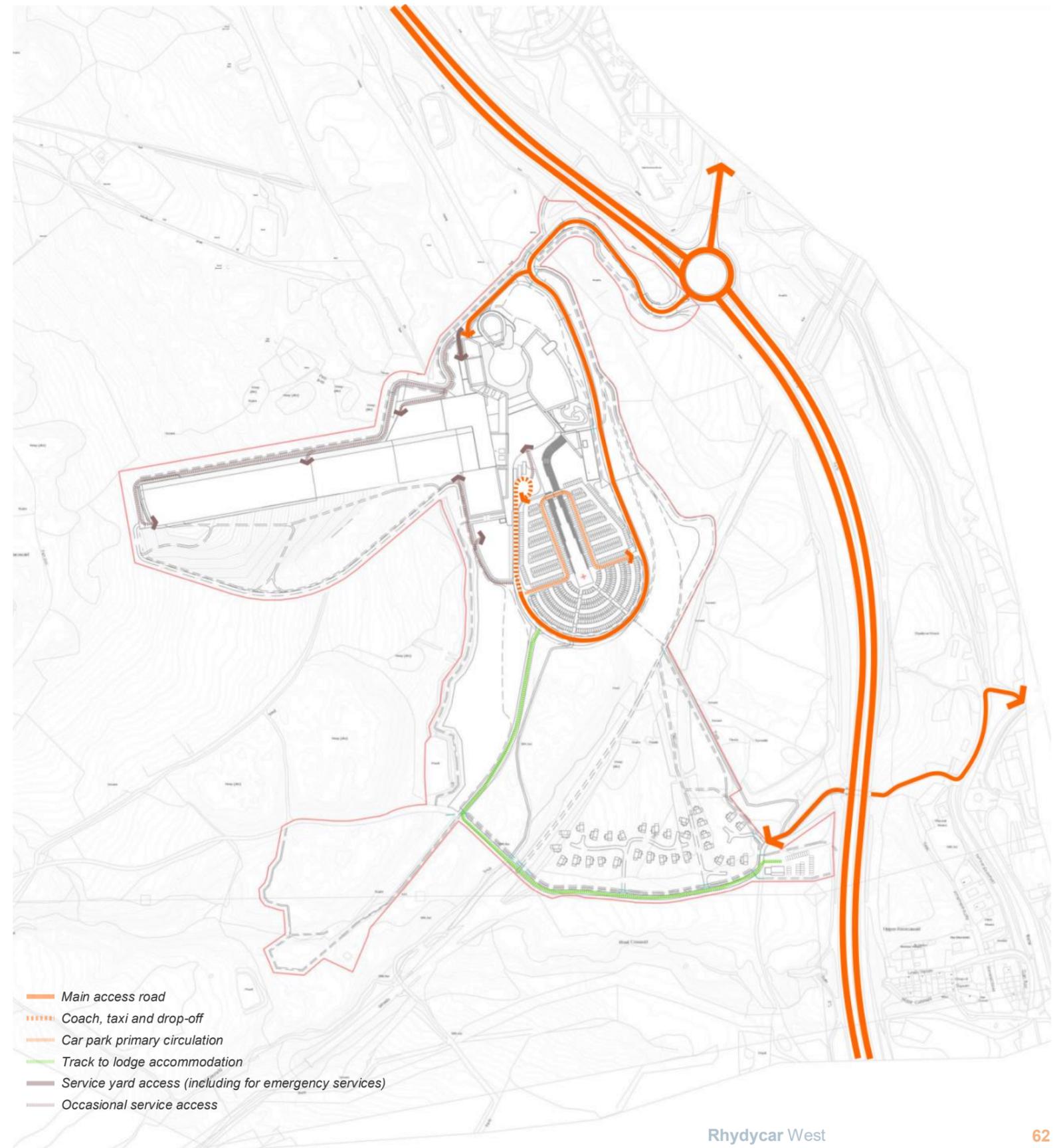
Appropriate access for public transport is essential to reducing reliance on private cars. Key to promoting this position is the means by which to enable the 'last mile' or so of these journeys, particularly by train or bus, to be planned and made easy. The simplest way to achieve this, is to facilitate easy access and egress to and from the site for local buses via dedicated pick-up and drop-off lay-by areas close to the new resort's Piazza and other external areas - essentially integrating the site into the local bus network. Apart from enabling visitors and guests to get to the site, and close to the main entrance, it will also enable them to use the network to explore the attractions of the surrounding towns and villages. Moreover, the new resort's staff, particularly if they live locally, can also use this as their means of getting to and from work on a daily basis.

To facilitate this position, the Application proposals include specific infrastructure - convenient drop-off for buses, coaches and taxis will help to ensure that the public transport option is fundamentally viable and an attractive alternative to using the private car. Routing for these vehicles is provided such that they can remain segregated from the main car parking areas and at the same time offer quick and easy access and egress to and from the site and the new resort in particular.

Access for local buses and coaches is via the same routes as the general vehicular traffic. With a dedicated drop-off area directly adjacent to the Piazza, complete with vehicle turning area and covered passenger waiting areas, direct and easy access to the heart of the new resort is provided.

As part of the Application proposals, and in order to encourage greater use of public transport to and

from the site, a dedicated bus shuttle service has been suggested that can connect the new resort directly to Merthyr Tydfil railway station.



Heritage Trails

The Application proposals have been developed to ensure that, wherever possible, the site can be made safe for public access and the enjoyment of the area. In this way, the opportunity exists to open-up to the public (and the visitors and guests of the new resort), some of the key heritage features that still exist within the Application boundary, as well as provide safe access to the various Scheduled Ancient Monuments (SAMs). The SAM's can thus be appreciated in the context of both their immediate surroundings, and the wider mining and industrial history that Merthyr Tydfil is famous for. To successfully facilitate this situation, a network of publicly accessible footpaths and trails are proposed, which, once instated, will allow people to experience these features up close.

Although the specific details of the trails will be determined at a later stage, they should, in principle, provide the means by which the public (and visitors and guests of the new resort) can access and navigate their way around the site and the different features safely, and without undue harm to the surrounding ecological features. The aim is to allow the public to observe the remaining historic features and the natural environment in which they are set, to include the provision of information boards to enable people to understand and interpret the features and the wider historic context which gave rise to them.

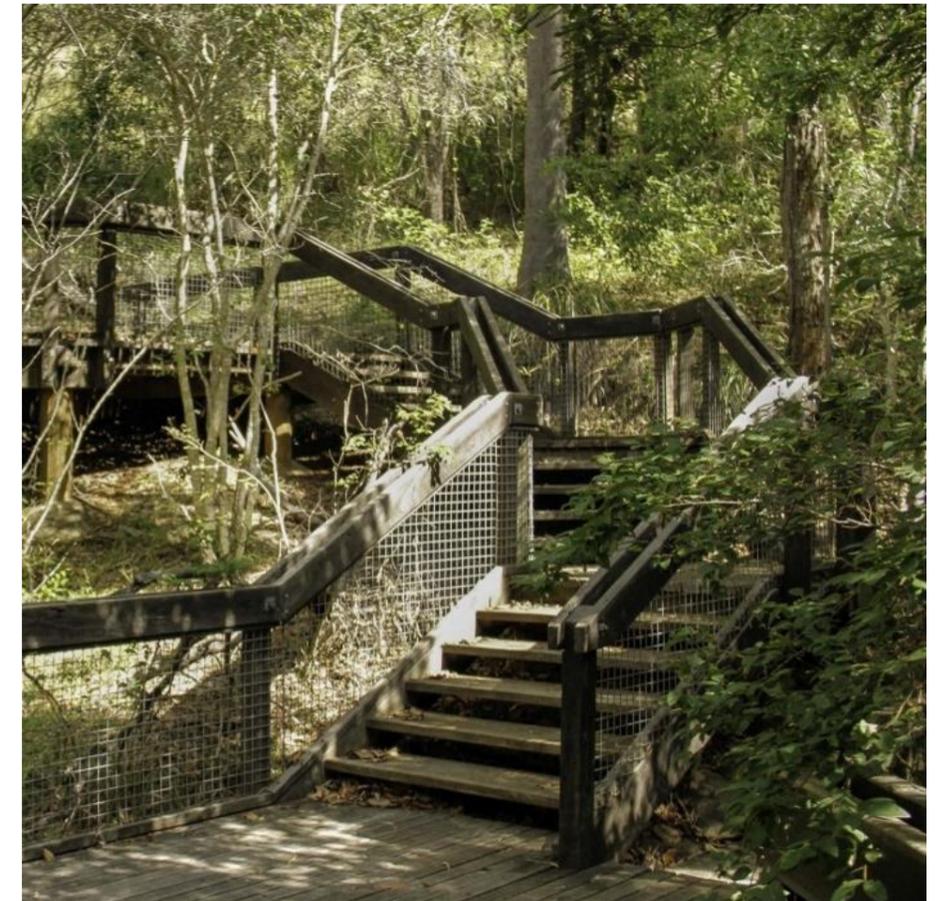
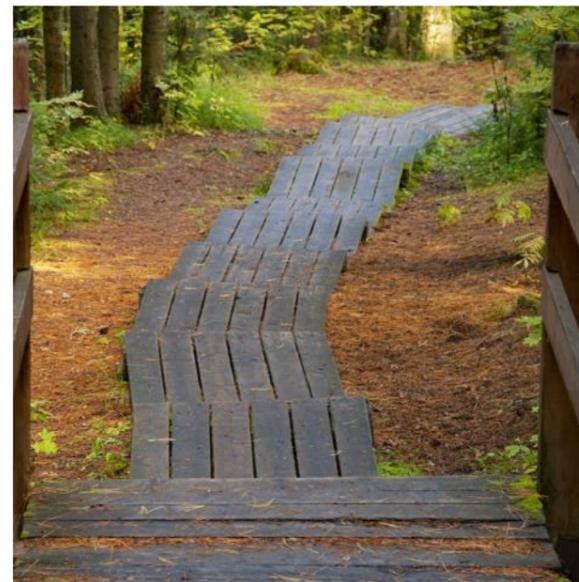
In providing these trails, the public will be encouraged to follow the designated routes rather than wandering through the woodland and inadvertently damaging either the historic features or the wider ecology of the woodland environment, and the rest of the site in general.

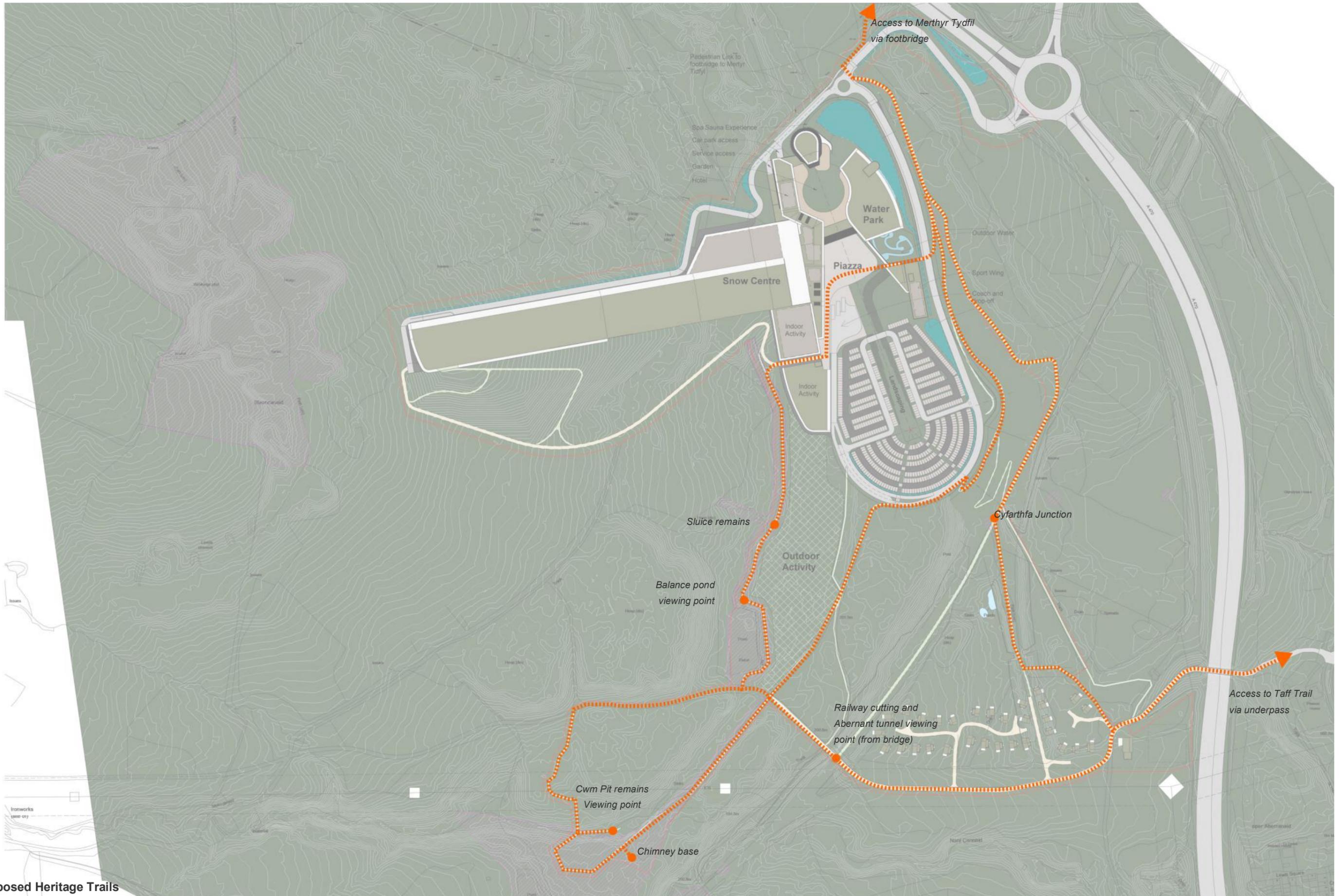
Furthermore, the detailed design of these trails will ensure that they meet the principles of universal access, albeit within what might be considered 'reasonable', given the inherently undulating topography, the natural woodland environment and the site's inherent ecological sensitivity generally, all within which the heritage features are located, and the balance between their protection and the retention of the basis of their natural settings. To this end, it is suggested that the identified routes should be those that already form part of the existing network of footpaths and bridleways across the site, and in so doing, the following should be considered:

- an approach to protection, and the minimum harm to the SAMs and the ground that surrounds them, in accordance with Cadw's heritage conservation principles;
- working with Merthyr Council to ensure that the heritage assets on the Application site and wider site are well linked and integrated into the wider Merthyr Borough and South Wales heritage and historical attractions. The objective is to

complement and add to the existing heritage and history network of attractions and features which tell the story and legacy of Wales's industrial history;

- the introduction of way-finding aids, such as map boards at the start of each route, or at key locations and junctures, as well as smaller scale directional markers along each route to help ensure that people can navigate the trails independently;
- the provision of discreet interventions to improve the walkable surface of existing paths, for example, through the introduction of self-binding gravel surfaces, or boardwalks or steps, all with a view to ensuring that safe access can be provided, and that the potential for erosion of the existing surfaces can be limited. In all cases, additive solutions should be considered that can act as wearing surfaces, thus retaining and preventing further erosion to the existing ground around the individual SAMs, and preventing disturbance to any potential sources of historic evidence which may be held in the ground;
- the introduction of resting places with seating at no more than 400m intervals, ideally located in areas where the historic features, landscape or key views can be appreciated - depending on their location, these might vary in scale from small informal areas with individual seats and benches to larger scale picnic areas;
- the provision of interpretation boards, sensitively designed so that they do not detract from the natural environment or from the features themselves, but designed in such a way that could provide an appropriate level of information in an engaging manner and bilingually in (Welsh and English) – these boards could vary from the inclusion of basic text or images, to simpler features which might encourage specific interactions with the surroundings, and that might perhaps broaden the appeal of the trails to a wider audience. Similarly, such interpretation boards could also include content highlighting the current ecological importance of the site, to include reference to the different species of wildlife and plant life etc. that can be witnessed as part of the trail(s).





Inclusive Access

Although the practicalities of inclusive / universal access have been part of building design for several decades, with para-sports having made their way into the public consciousness since the 2012 London Olympics in particular, and the on-going re-shaping of the definition(s) of impairment together with the widening debate over who ought, or indeed must, be considered in the design of buildings, spaces and landscapes, the master plan seeks to enable the provision of a universally accessible and inclusive new resort. This is to say, the creation of an environment which is designed such that it does not inherently present undue barriers to anyone who might wish to use the buildings or their facilities, and that everyone can be empowered to do so with as high a degree of independence as possible.

When designing a master plan such as Rhydycar West, an abundance of guidance is available on how to design to prevent the creation of undue barriers to their use. The context of the proposed new resort however throws up innate challenges, not least due to the inherent topography in which it is situated, but the nature of the natural woodland environment around it. With this in mind, the following considerations have been taken into account to help ensure that all parts of the master plan are designed with the lowest possible barriers to their universal access and inclusive use:

Access to the site

The pavements and footpaths that form part of the main site access routes to and from the site have been positioned and configured to present as shallow a gradient as possible. Given that some of the level changes involved will be significant, the footpaths can become excessively long. In these particular situations, the overall travel distance(s) are weighed-up against the slope that needs to be negotiated, and where this is felt to be impractical, alternatives are provided, thereby giving users a choice in this regard.

If arriving by public transport or taxi, and to facilitate ease of access for those visitors and guests with reduced mobility, the drop-off area has been positioned within the site so that it not only provides level access, but is in close proximity to the Piazza and hence the main entrance to the new resort. For those visitors and guests arriving by car, accessible parking bays have been provided within both the new resort's main car park and its spa hotel accommodation car park, again, so that level access to the new resort's various building components can be gained.

Circulation within the site

Between key areas of the site where changes in level are required, these have been designed so that they can be considered, to all intents and purposes, as level – that is to say that their specific gradients are set at circa 1:40 or circa 1:60 wherever possible, only increasing in gradient where it is unavoidable. In these latter situations, allowance has been made either for additional

space to provide alternative means to negotiate the level change, or through the provision of alternative equivalent arrangements so that the level change can be avoided altogether.

Circulation within the buildings

Although the Application proposals do not describe the detailed internal layouts of the various building components that together comprise the new resort, they have nonetheless been positioned so that level access can be provided to each entrance threshold. Within each building component, appropriate spatial allowances will be made for lift access to all levels above or below ground (main access and egress) level so that visitors can comfortably access all floors of the new resort.

In terms of the provision of universal access rooms across the new resort's various hotel accommodation 'offer', the Application proposals will allow for a high proportion of rooms to be accessible to people with reduced mobility. This is particularly important, as the Indoor Snow Centre facility is expected to become the UK's Centre of Excellence for snow sports, including para sports, and as such, may need to simultaneously, cater for larger than normal groups of people with reduced mobility.

Furthermore, it is intended that all facilities and attractions will be designed so that access and provision will be in full compliance with BS 8300, as well as FIS and National Governing Bodies' design guidance.

Design for legibility

Aside from the practical considerations of catering for people with physical impairments, there are emerging standards and guidance for catering for people with other conditions such as Autism Spectrum Disorder, ADHD, as well as others which fall under the spectrum of Neurodiversity. Although such guidance is currently in its infancy, key aspects from it which are possible to provide within the master plan, include design which:

- is legible – in that it is easy to understand and to navigate;
- creates open and welcoming and easy to find entrances;
- incorporates nature as an inherent part of the design to provide a sense of calm and relaxation; and,
- provides different types of spaces – spaces that range from buzzing vibrant public spaces, to spaces that are more secluded and offer places to retreat to.

With the measure and considerations highlighted above, the master plan will enable a fully inclusive and accessible facility to be created.

Community Safety

There are several wider aspects to consider in order to more fully understand the impact of the design in relation to creating a safer environment.

Firstly, by virtue of its development typology as a destination sports, leisure and tourism resort, in general, visitors, guests and users of the site facilities and spaces will often be unfamiliar with their (apparently) temporary surroundings. Moreover, they are visiting with a view to relaxing and unwinding or to use the facilities provided by the Indoor Snow Centre, the Indoor Water Park or the Indoor Activity Centre. To ensure that these two seemingly opposing factors are reconciled, the Application proposals have been developed to create an appreciable sense of safety.

Secondly, the site is located on a hillside, and is relatively secluded, with much of its immediate surroundings, covered by dense woodland. These factors immediately present the site as a suitable location and setting for a destination resort / retreat, but conversely if designed incorrectly, these factors could quickly combine to give a sense of exposure, of being cut-off and hence vulnerable.

Thirdly, there is an expressed desire that the open spaces are publicly accessible, however with the new resort's apparent remoteness and seclusion, such spaces can run the risk of being perceived as desolate no-mans' lands during quieter periods.

Through the evolution of an appropriate environment for the site and the new resort, extensive consideration was given to the way in which the design could promote actively managed spaces, as set out in other sections of this document. It is within this context that design for community safety is to be considered. It should also be considered at a level above an equivalent development in an urban setting, and, in this regard, a number of steps have been taken to ensure that a safe environment is created as follows:

1. The creation of a site layout that is legible and easy to understand for first-time visitors and guests. The way that roads and spaces are configured forms a major part of the immediate legibility of the place – the relationship of clearly recognisable building forms and functions to their immediate surroundings can provide an understanding of how the site is set-up and operates. This kind of legibility will give the impression of a well-managed, and hence safe, environment. At the same time, it will deter people with malicious intent from entering the site – this may be particularly effective as there is only a single vehicular entrance in general use providing access to and from that requires surveillance.
2. The design has been developed with a view to promoting active frontages to all public spaces thereby ensuring that there is always a sense of activity and hence, by default, passive or natural surveillance.
3. By only considering a limited number of well-defined public outdoor spaces, and by concentrating large numbers of activities within them - outdoor seating, drop-off, arrival, planned activities, waiting areas, general circulation, etc – they will, between them, provide a system of passive or natural surveillance.
4. By enhancing the new resort's layout with a comprehensive and carefully designed signage system, visitors and guests should not suddenly find themselves unclear as to where they need to be or to go.
5. The provision of an external lighting scheme that is appropriate to the setting of the new resort has been considered. It has taken due regard of the fact that the inherent topography of the surrounding hillside coupled with the density of woodland will, by their nature, create shaded places, particularly during the winter months when daylight hours are reduced. Lighting schemes will need to create a balance between personal safety, through the avoidance of sharp contrasts, long shadows and bad colour rendering, with the inherent ecological sensitivities of the site.
6. The specification of the windows and doors will be such that they will deter break-ins, particularly in areas such as private terraces, with particular emphasis given to those which are not easily over-looked by others.
7. Where appropriate, the design will consider planting layouts that can create dense natural barriers that can help to keep people away from security sensitive areas.
8. The master plan has given due consideration to the clustering and amalgamation of accommodation to ensure that no areas of the new resort are perceived as remote and therefore vulnerable to incidental low-level

crime.

9. The layouts of the various building components, albeit that they are limited at this stage, have nonetheless provided opportunities for directional views, and hence a sense of privacy, without creating entirely unobservable space.
10. Sensitive and targeted use of CCTV will be considered in areas that might otherwise be especially prone to theft, vandalism or anti-social behaviour such as the new resort's main car park, or cash handling areas, or access points to amenity buildings etc.
11. Publication of central contact numbers to areas that are staffed 24 hours a day will be considered to enable visitors and guests to speak directly to someone should they need to talk through any security and safety concerns.

Lighting Design

A lighting assessment has been undertaken and has shown that the development will not have adverse impacts in terms of lighting. In order to ensure this, the strategy and principles set out below will be considered in future reserved matters application(s) to ensure that an appropriate balance can be maintained between creating safe and welcoming environments, and the desire to safeguard the needs of the site's inherent ecology, its existing condition relative to its immediate context, and any potential impacts on the wider surrounding areas, such as the undeveloped character of the Special Landscape Area, and in the wider context, the Dark Sky Reserve within the Brecon Beacons to the North. The outline approach to external lighting will nonetheless consider the following:

- upward light distribution - luminaire selection(s) should ensure that there is no light distribution upward of the horizontal;
- control of lighting intensity - light sources should be shielded from lateral view, with selection of low-wattage light sources, such as LED;
- avoidance of unnecessary light spill.

In practice, lighting design will consider safety and orientation, by focusing on footpaths, roads and car parking areas, and, by avoiding the blanket illumination of large areas. In addition, the external illumination of the various building component frontages, for decorative effect, will be limited

Environmental Sustainability

Given the site's natural surroundings - a key aspect of the many benefits that the new resort will offer – environmental sustainability is an extremely high design priority. In this regard, it should be noted that 'sustainable design' covers not only the environmental impact of the new resort, but the socio-economic and wellbeing benefits that it can bring.

This approach covers everything from pollution reduction and building(s) energy use, to the wider environmental impact considerations of travel to the facilities, to minimising the development's ecological impact, and to creating environments that are healthy for people. This will be done through a range of methods outlined in this section.

Again, as the Application proposals are 'outline' at this stage, the specific details surrounding sustainable construction can only be aspirational, however they have been listed here as considerations for future reserved matters application(s) and are noted in grey in the table opposite.

It should be further noted that this section of the document only provides a summary position - more information can be found in the Environmental Impact Assessment (EIA) and other supporting documentation in support of the Application, in particular specific and detailed environmental and sustainability reports.

Energy

At this (outline) stage of the new resort's design evolution, consideration has been given to ensuring that the requirement for energy can be minimised – this has been done by considering the following:

- by ensuring that the various building components are positioned in such a way that their form and orientation are optimised in relation to energy reduction, solar gain(s), and the avoidance of over-heating;
- by creating a new resort with an inherently efficient footprint, and one which optimises façade to footprint ratios; and,
- by ensuring that particular building components within the new resort that have complementary energy profiles in terms of their heating and / or cooling demands are placed in relatively close proximity to each other to ensure that systems and exchange mechanisms can be integrated and efficiently run – for the new resort, the potential for heat exchange between the Indoor Snow Centre and the Indoor Water Park is obvious.

The scheme will be fully compliant with the current Building Regulation Part L, and will be specifically achieved by:

- the use of comprehensive Building Energy Management Systems to help ensure that waste heat drawn from cold spaces such as the Indoor Snow Centre can be captured and used to provide energy to more heat-intensive uses such as the Indoor Water Park pool(s) and the various hotel accommodation buildings;
- supplementing the new resort with technologies which further reduce energy demand, such as high-efficiency heating systems, natural ventilation of the various building components for cooling (where possible), and, the use of energy efficient lighting systems such as LED technology;
- by using appropriate renewable sources such as photovoltaics or solar hot water, air-source heat pumps or combined heat and power plant – these will be dependent on the location and use of the building, however, the use of photovoltaics on large areas of roof with the potential for south-facing orientation such as the Indoor Snow Park and the Indoor Water Park offer good opportunities in this regard - their visual impact however, will need to be considered; and,
- through the provision of A-rated appliances throughout the new resort.

Materials

The choice of materials can have a significant impact on the environment. At reserved matters stage, the design of the new resort will have considered:

- (wherever possible) the optimisation of material (s) that favour low-embodied carbon, such as timber;
- materials with a low whole-life carbon impact – use of the BRE Green Guide to Specification A or A+ rated materials is a very useful reference source in this regard;
- the appropriate use of recycled construction materials, or materials with a high-recycled content;
- specific detailing to ensure robust and durable construction;
- the use of materials and systems that are non-ozone depleting, and, do not use ozone depleting refrigerants - particularly for heat transfer systems.

Transport

A number of provisions within the master plan have been made which, it is hoped, will ensure that sustainable forms of transport are encouraged, for example, through:

- integrated connections into the local active transport networks such as the National Cycle Network, as well as local cycle routes and footpaths towards Merthyr Tydfil and Abercarnaid, and links into the existing network of footpaths and bridleways that connect to the site;
- the provision for convenient (and regular) shuttle bus services, coach and local bus drop-off so that 'the last mile', i.e. travel from the train station to the site, can be completed by public transport, and hence, a viable and attractive alternative to the use of private cars;
- a master plan that is designed with a high degree of consideration for pedestrians and cyclists so people can visit all parts of the site without having to use a private car; and,
- signing up to a travel plan which will encourage active and sustainable modes of travel for staff and visitors;
- the provision of appropriate infrastructure for the charging of electric vehicles.

Management

A project of this scale requires the involvement and support of the public, and should always have the ability to address any concerns or needs that they may have. In order to establish how this may be achieved, the scheme has, throughout its evolution to date, sought positive engagement through the widest range of stakeholder and community participation and events (see details above).

A lot of waste and negative environmental, social and economic impact can often be designed-out at the early stages of design evolution, or controlled through appropriate management procedures. These could include:

- a form of procurement that will ensure that a competent contractor, with a track record of delivering high quality and sustainable design will be engaged;
- registering the new resort for the Considerate Constructor's Scheme (or similar) to ensure local residents and communities are not adversely affected by the construction works;
- mitigating construction site impacts such as noise, dust and contamination etc;

Health and Wellbeing

The new resort, by virtue of its typology, will strive to ensure that the environments it creates are of the highest quality and in particular that they are conducive to health and wellbeing, by:

- ensuring that access to the surrounding hillside (and beyond) is maximised, either directly, through access and egress to well managed and legible pathways, or indirectly, through the framing of views
- ensuring that the development doesn't adversely impact the experience(s) of people passing around and through the site;
- making sure that people can easily control their environment – lighting, noise and privacy for example; and,
- making sure that the materials used to construct the new resort are not harmful to the occupants, either directly through contact or indirectly through giving off harmful substances over time.

In operation, the new resort will bring added health and wellbeing benefits to both the wider community and the entire region, through its varied sports, recreation and leisure activities.

Land use and ecology

The bio-diversity of the site, and its inherently rural 'feel' are key attractors in relation to the new resort's leisure (holiday) destination ambitions. As such, it is imperative that the design maintains, and wherever possible improves, these particular assets, qualities and characteristic, by:

- reducing the impact of the various building components on ecologically sensitive parts of the site through the use of innovative design, and, where possible, by avoiding construction in these areas;
- protecting the ecologically sensitive areas of the site by providing sufficient buffer zones within the design to enable construction to take place without encroaching on protected zones;
- the introduction of active site management, and as such, the potential to improve and enhance the site's existing natural habitats as well as encourage increased bio-diversity and the long-term stability and sustainability of the local eco-systems;
- the adoption of a Woodland and Ecology Management plan;
- incorporating newly planted areas into the site than can not only feature native species, but complement the surrounding habitats and thereby avoid invasive, and, wherever possible, non-native species;

In operation, it will also be possible to:

- provide educational resources for visitors, guests and staff with a view to raising awareness of the ecology of the site, for example through events or informative signage boards around the site etc.

Waste

Reducing waste in construction is the first tenet in the philosophy of 'reduce-re-use-recycle'. As such, it is essential that the design of the new resort is inherently efficient, optimises the use of materials, and, minimises waste. Over the course of new resort's design evolution to date, and in particular through the involvement of the potential operators, the amount of development has been optimised both physically and in relation to its efficient operation.

In developing the design further, waste can be designed-out by:

- the thorough geo-technical analysis and balance of site cut and fill, to avoid any removal of excess soil from site or the reliance on import fill, and hence the avoidance of any unnecessary visual or physical impact beyond the site boundaries;
- optimising the use of material(s) modules to minimise construction waste;
- optimising the potential for off-site factory construction as a way to further reduce construction waste and to increase efficient design and construction;
- the use of recognised industry-standard waste management procedures; and,
- enabling segregated waste streams for recyclable, compostable and general waste.

In operation, it may also be possible to:

- establish resort management policies that encourage zero waste to landfill; and,
- educate visitors and staff on ways to reduce waste production in general.

Water Use

- Reduction of water use and reduction of storm water run-off through the use of rainwater harvesting and grey-water re-use systems within the new resort.
- Provision of SUDS features to ensure storm water run-off is attenuated to prevent erosion and the overwhelming of watercourses further down-stream.
- Specification of low water-use appliances wherever possible within the new resort.

Socio-economics

A development of this scale could redefine Merthyr Tydfil and the wider region, as a high quality sport, leisure and tourism destination, and in so doing, divert spending into the local economy of funds that might otherwise have gone towards trips elsewhere and abroad.

It is essential that a scheme such as Rhydycar West is able to contribute in the long term to the economic wellbeing of the area, and to the communities that it affects. Some of the direct benefits of the new resort will include:

- job creation for local people, both during construction and in the longer term through the operation of the new facilities;
- the creation of increased spending by visitors and guests to the area;
- the extension of the tourism season to all year round, through the creation of a more balanced income pattern into the area;
- opportunities for local companies and organisations to supply the site during construction and the new resort itself once complete and operational; and
- the creation of a Centre of Excellence within the UK, including all of the spin-off benefits that the new resort can bring to the perception of the wider region.

In operation, it will also be possible to:

- source food, drink and operational services from local companies and suppliers; and,
- improve the local skills base through staff training programmes and apprenticeships.

Pollution

Pollution should be minimised by the following measures:

- the attenuation and filtration of rainwater on roads and car parking areas to prevent contamination of watercourses from vehicles;
- the design of energy efficient building systems that reduce noxious emissions and noise;
- the provision of transport strategies which reduce the reliance of private (combustion engine) cars.



Rhydycar West



Rhydyar West

Rev.	Status	Date	Check	Description
P1	S0	15/02/2022	SH	ISSUED FOR PAC

Holder Mathias Architects
The Bonded Warehouse
Atlantic Wharf
Cardiff CF10 4HF

Tel: +44 (0)29 2049 8681

Cardiff | London | Munich

www.holdermathias.com