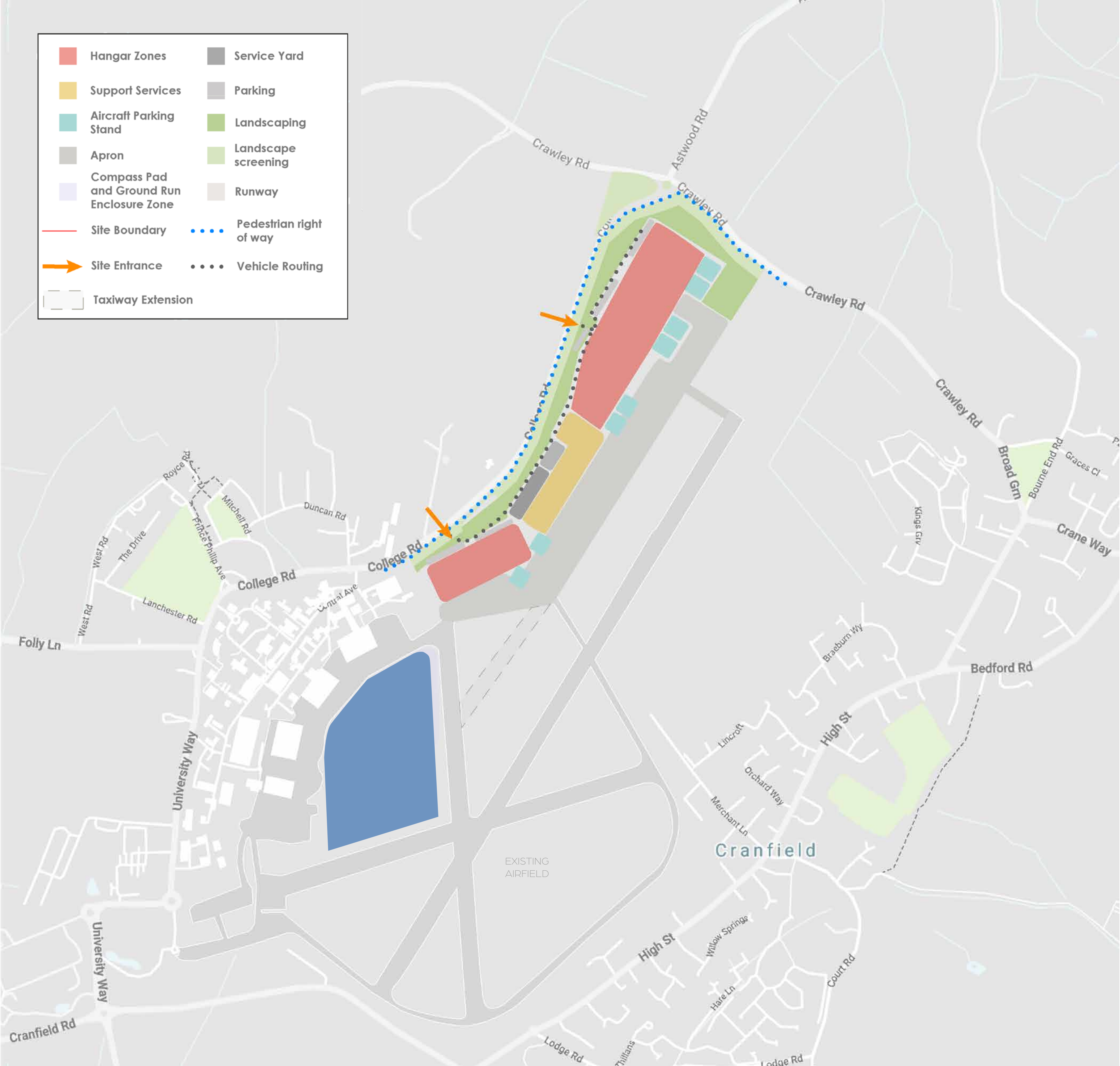




# Approach to the development

- Our intention is to concentrate development in the north-west corner of the Airfield allowing us to locate the core facilities close to the existing runway.
- Building locations would be determined by the physical constraints of the site. Large hangars are proposed to be placed at the widest point to suit height restrictions near the runway. Aircraft parking stands would need to be adjacent to the hangars connected to the taxiway. Workshops and support facilities are grouped where the site naturally narrows.
- Landscape screening is proposed to the northern and western edges of the site through shrub and tree planting and, potentially, raised bunding.
- Vehicular access to the site is proposed at two points to reduce the likelihood of vehicle queuing onto the road network. Vehicle and pedestrian entry would be via controlled security gatehouse and barrier arrangements.



Drawing illustrating areas where development is likely to take place



We have prepared an illustrative masterplan proposal to show how the site could be developed under the principles we have developed for the site. However, as we are making an application for flexible development parameters, the site may not be built exactly as shown here.

### Aircraft facilities

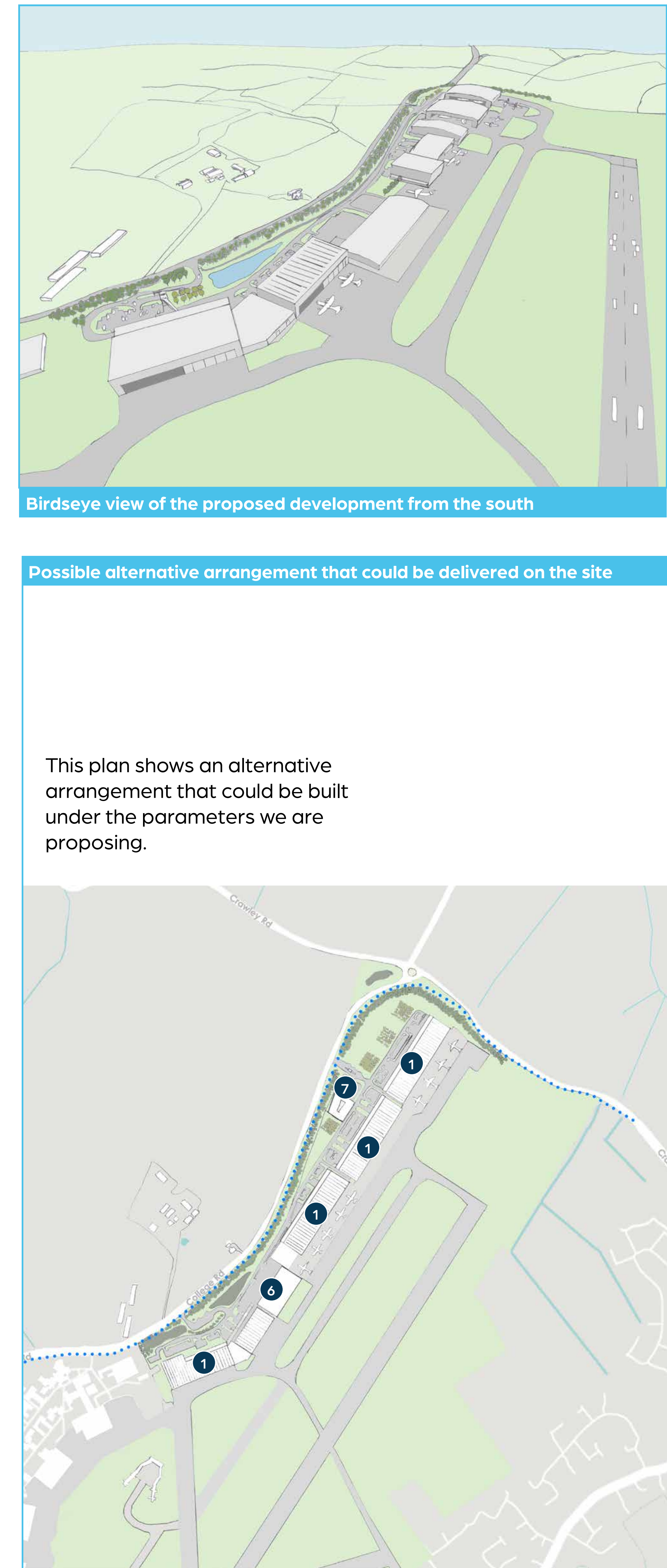
- 1 Up to 16 hangar bays able to provide space for the servicing of C130 Hercules aircraft (or equivalent), together with support space for technical workshops, offices and training rooms.
- 2 Enclosed aircraft paintshop and support plant
- 3 Aircraft parking stands and manoeuvring areas
- 4 New taxiways and link to existing runway
- 5 Enclosed ground run enclosure for engine testing

### Support operations

- 6 General manufacturing support workshops and stores
- 7 Central office support accommodation
- 8 Compass swing pad for instrument testing
- 9 Security gatehouses and controlled vehicle and pedestrian access
- 10 Secure fencing to landside perimeter of Air Park site

### Landscape and amenity

- 11 Employee and visitor car parking, vehicle circulation roads
- 12 Delivery and loading yard, waste management areas
- 13 Surface water attenuation measures including balancing ponds
- 14 Landscape screening bunds, general soft landscaping
- 15 Existing runway and taxiway refurbishment
- 16 External amenity areas for Employees





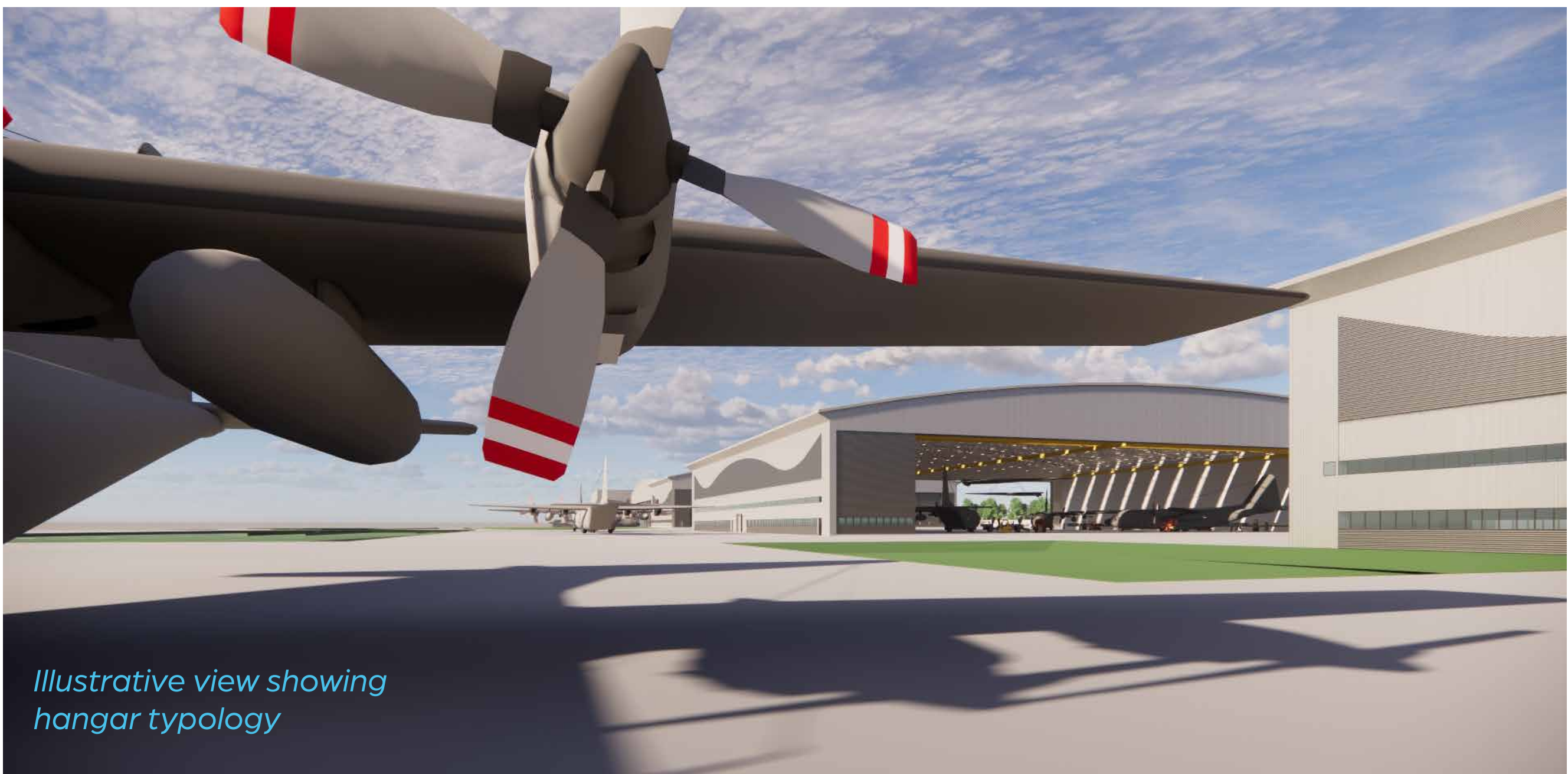


# Built form

The aircraft hangars need to be designed to meet the specific requirements of the aircraft we expect to handle at Cranfield and are derived from clearances required for aircraft movement and overhead cranes. The maximum height for the aircraft hangars would be 27 metres.

Where possible we will aim to minimise internal building heights while still meeting the required specification. The exterior envelope of the buildings will be designed to minimise light breakout, but will allow natural light into the internal spaces via rooflights, to help minimise the need for artificial lighting.

Illustration showing view looking west along Crawley Road



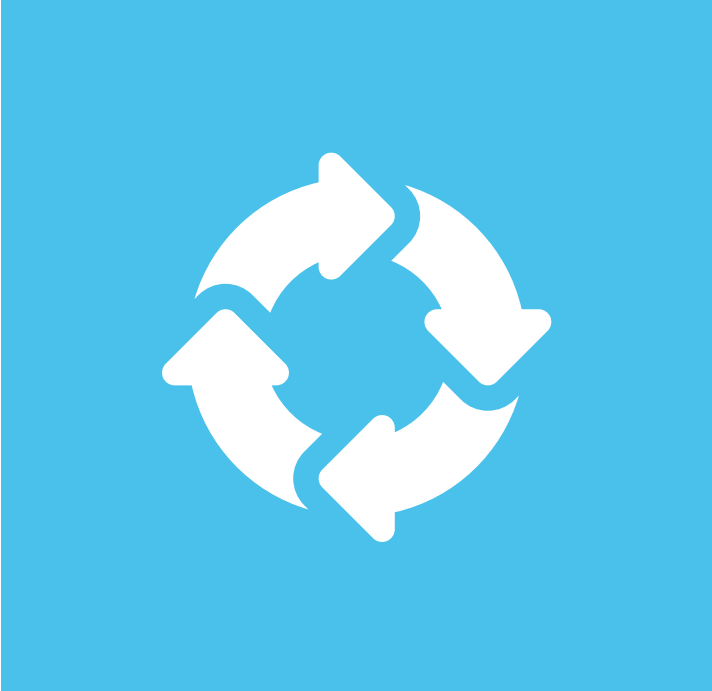
## Precedent images for design quality

We are currently looking at a range of building types for the hangars that represent the status of the site as the Marshall Aerospace headquarters and which embrace high standards of design, energy efficiency and sustainability.

Our planning application will not include the detailed design of the buildings at this stage, but will set out the standard and guidelines the future development will have to meet, for example to ensure a consistent approach to building façades and materials.







# Taking a sustainable approach to development

Marshall is committed to making a difference and alleviating the pressures placed on the environment, whilst maximising social and economic benefits through the business's investments.

The relocation to Cranfield represents a major opportunity to invest in efficient buildings and low carbon technologies, which will help us move towards our net zero targets by 2030.

Our initial thoughts on key topic areas, considerations and approaches have been set out here.

## Environmental assessments

We will submit an Environmental Statement as part of our planning application. The next stage of this process will be to commence the detailed technical impact assessments to identify the likely potential environmental impacts of the construction and operation of the development based on the initial designs.

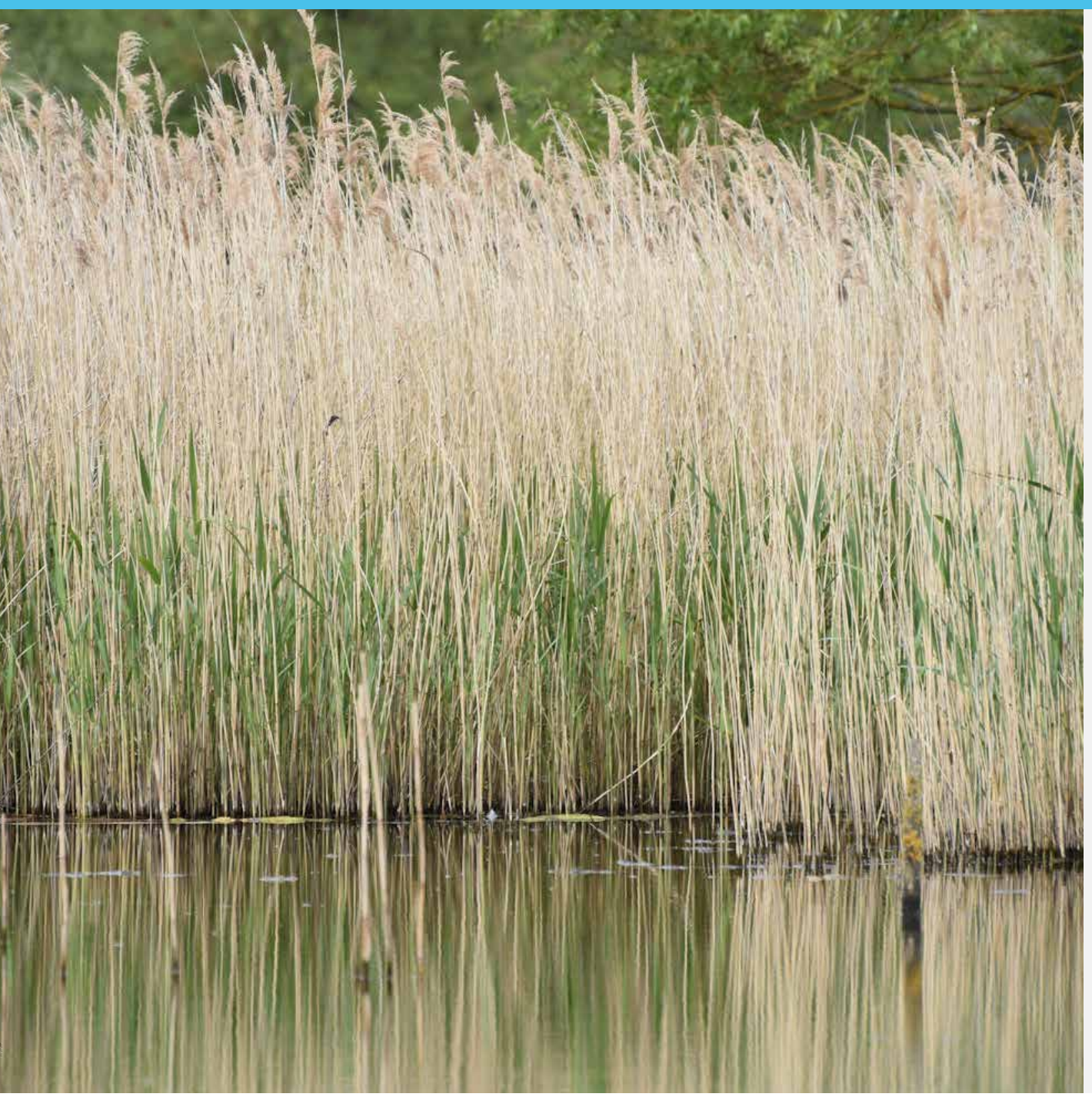
### Operate as Net Zero for our Ground Operations



Marshall is committed to reducing the risks posed by climate change. Our approach at Cranfield will be:

- Delivery of energy efficient buildings and site infrastructure.
- On site renewable energy generation, meeting as much of our needs as possible.
- Purchasing renewable energy from accredited offsite sources.
- We will explore relevant building design standards against which to benchmark our proposals

### Managing our Environment Responsibly



The scheme is being evolved to address key environmental constraints and opportunities such as:

- Biodiversity net gain on site where possible or off site if necessary
- Minimising the adverse effects of our operations on air quality (including odour)
- Visual impact
- Flood and drainage risk
- Ground contamination

### Build-in Climate Resilience



Buildings and infrastructure will be designed to be robust and resilient to future climate risks.

- The masterplan uses green and blue infrastructure to reduce climate stress.
- Adaptable buildings, able to better deal with future changes.
- Water conservation measures will be included throughout.

### Considerate Aircraft Operations



We are undertaking assessments to ensure that we can mitigate the impact of the aircraft operations on site as much as possible:

- Minimising the noise associated with our customer aircraft, from arrivals and departures and engine testing
- Ensure noise generating plant is acoustically treated in accordance with approved British Standards as set out in relevant policy and guidance

### Neutralise Embodied Carbon and Promote Circularity



We recognise that the movement of aerospace operations to Cranfield will require significant construction activities in order to realise our vision. Our approach will aim to reuse and re-locate what we can and reduce embodied carbon of the new development in line with best practices:

- New buildings and infrastructure will be developed using Life Cycle Assessment techniques to understand their 'embodied impacts'.
- Lower carbon construction methods and materials will be explored wherever possible and appropriate.
- We will work with Cranfield University and the wider estate to promote circularity in operation.

### Promoting Health & Wellbeing



Marshall is committed to facilitating a healthy environment for employees and the local community:

- Travel Planning will promote active travel where possible, including facilities for walking and cycling
- Wellbeing design principles will be followed for the design of occupied buildings.





# Aircraft operations and noise

## Our operations

As a Maintenance, Repair and Overhaul (MRO) business, Marshall Aerospace routinely undertakes work on customer aircraft, which can vary from a routine service (similar to that which you would have for your car), through to a complete overhaul which could include stripping down the aircraft and replacement and upgrade of systems. For a routine service, an aircraft may be with us for around six weeks. A major overhaul might require an aircraft to be in our hangars for up to 18 months. Therefore whilst we are proposing a significant number of aircraft hangars, this does not equate to a large number of Air Traffic Movements (ATMs), meaning an arrival or departure. Following any significant maintenance or overhaul work, we may need to test aircraft systems and run the engines prior to any test flights or the aircraft leaving Marshall Aerospace for delivery to the customer.

Last year Cranfield Airport generated in excess of 30,000 ATMs. Marshall operations will generate no more than an additional 1,500 ATMs in any one year, half being departures and half being arrivals. That averages at just more than four flights every day with, in most cases, two of these being to the east of the Airport and two to the west.

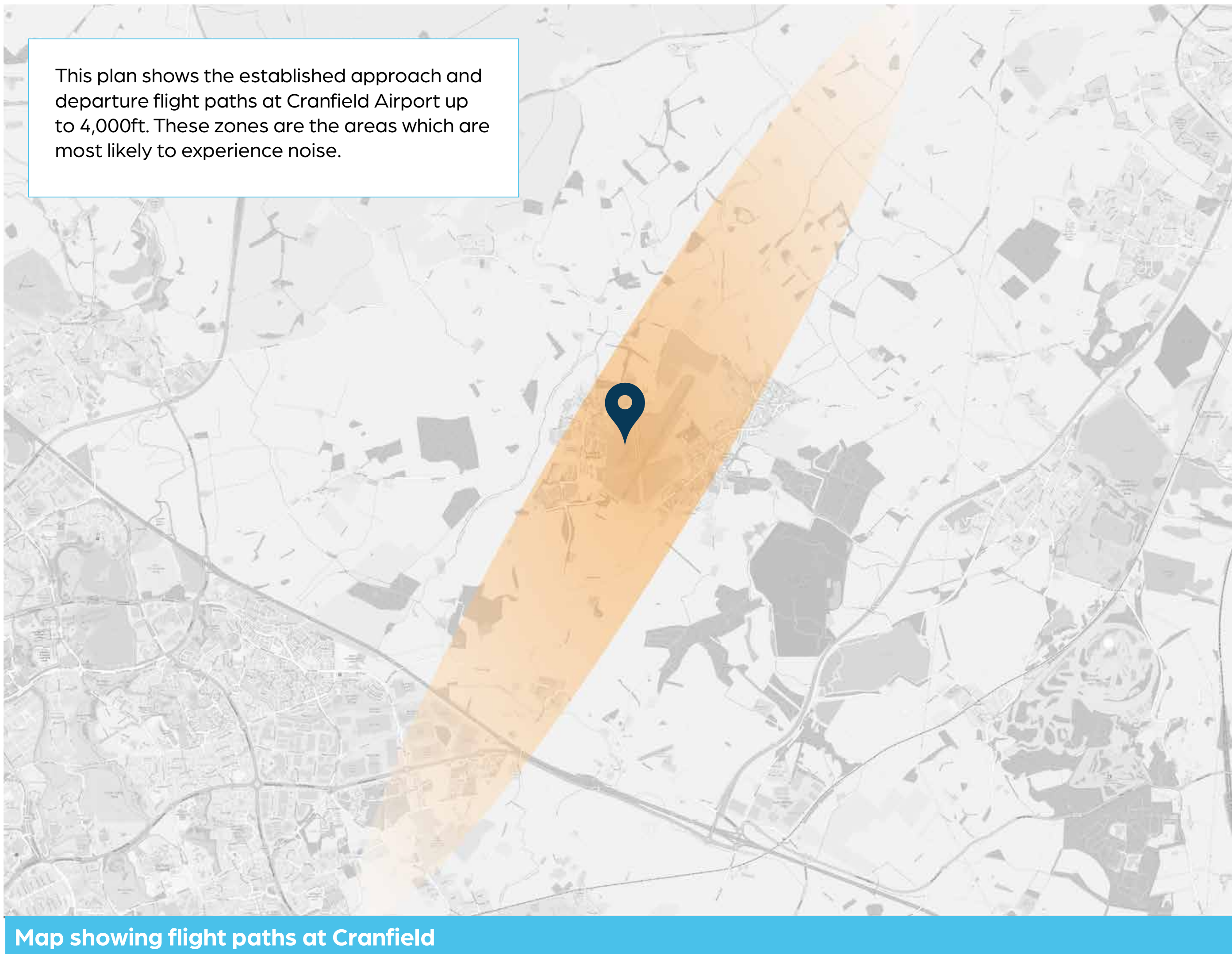
However, the nature of our activities mean the aircraft types are different to those of Cranfield, tending to be larger and, in general, noisier, but less frequent.

## Our commitments

At the core of our proposals is ensuring that the activities we undertake are managed to reduce the effects of our aircraft operations for those that live nearby. This includes managing the noise that occurs as a result of aircraft flying to and from the Airport, and the noise that occurs as a result of the need to test their engines on the ground.

We have identified the following opportunities to reduce the impact on the local area:

- No more than an additional 1,500 ATMs in any one year
- Night-flights will be avoided save for exceptional circumstances such as when we might need to receive or despatch an aircraft in support of a critical mission (for example last year’s evacuation of Kabul)
- We propose the construction of a purpose built Ground Run Enclosure (GRE) to reduce the noise impact of engine testing
- Existing engine testing that already occurs at Cranfield Airport, and which currently is undertaken unabated on the runway / taxiways, will be moved to the new Ground Run Enclosure so to be better contained.
- Engine testing will only occur within prescribed hours and limited to a maximum of 500 hours in any year (including existing Cranfield activities).



We will provide more information on the results of our detailed assessment to you in summer 2022 ahead of making a planning application and will try to address any questions you might have on our operations.

Once all this is complete, our final noise assessment will be presented in an Environmental Statement that will accompany our planning application.





# Engine testing

## Ground Run Enclosure (GRE)

As part of our commitment to being a good neighbour, at our current home at Cambridge Airport, we operate a purpose built Ground Run Enclosure (GRE) to reduce the noise impacts of engine testing on the neighbouring community.

The GRE is a steel structure, into which aircraft will be towed to allow pre-flight engine testing to take place. The Cambridge GRE has four sides (with closing front doors) to ensure the aircraft is fully enclosed during a test. Louvres on the facility allow airflow into the aircraft engines to allow them to operate safely, a jet blast deflector ensures jet wash is managed safely, whilst sound blotting panels reduce the noise emitted outside of the GRE (its principal purpose). The use of the facility is controlled by the planning permission to ensure the effects on our neighbours are managed, including the requirement for commissioning stage noise monitoring, limits on operating hours and controls on the amount of testing that can be undertaken.

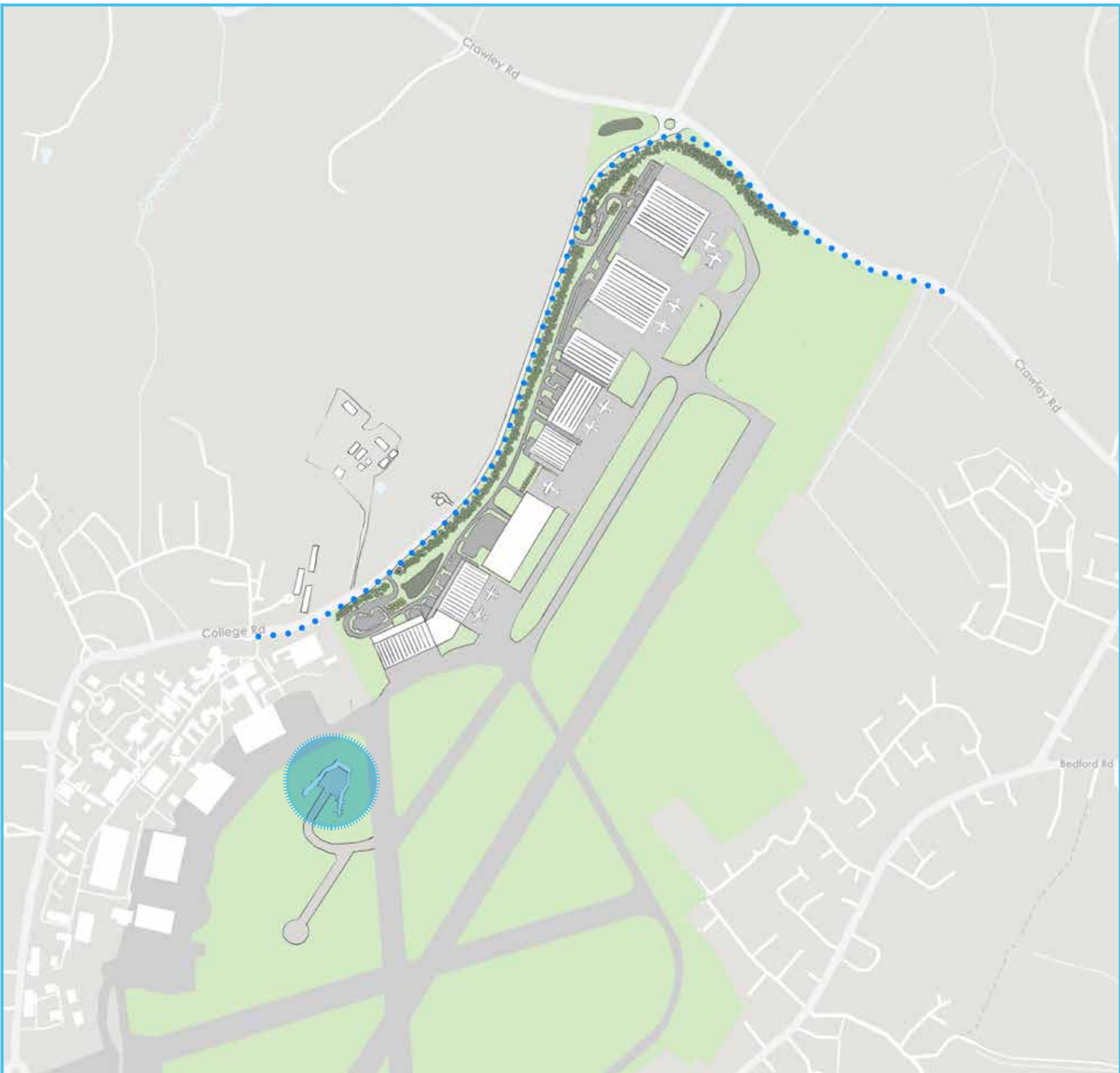
We propose to design a purpose built facility at Cranfield which will manage noise impacts, in line with the approach at Cambridge. With our GRE at Cambridge, we have been able to operate without significant complaints from our neighbouring communities or from residents moving in to new developments close to the airport.

We do not intend to design the facility at the outline planning application stage, but we will make commitments on the noise performance of the facility. We propose to provide further details on design principles for the GRE, and likely community noise impacts, prior to submission of our planning application.

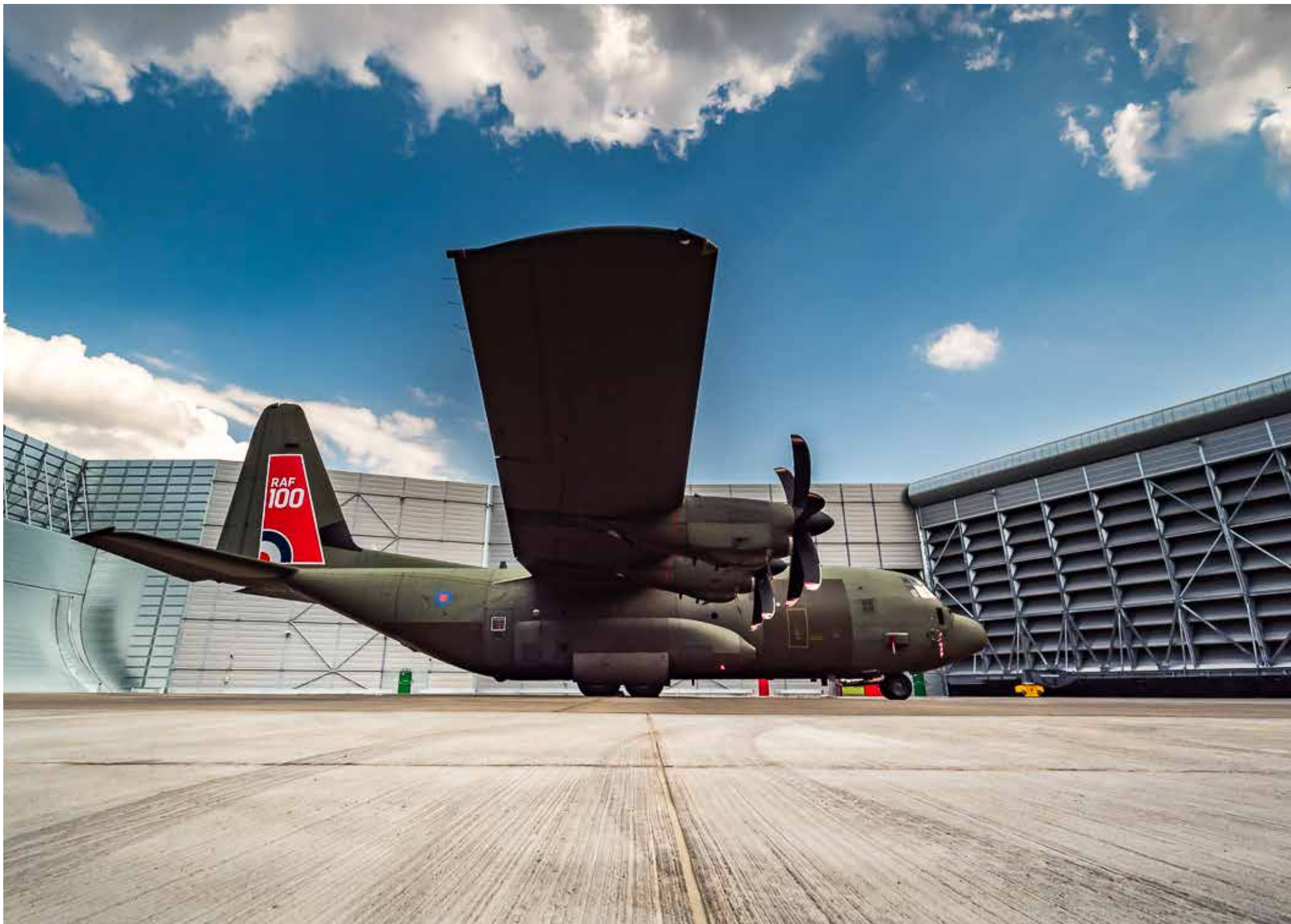
## What is engine testing?

Aircraft engine testing refers to the running of aircraft engines on the ground to test engine performance and aircraft systems.

This is a common activity during or following completion of any aircraft maintenance work and is a key part of ensuring that aircraft are safe to fly.



Digram showing proposed location of the GRE at Cranfield



Internal view of the GRE at Cambridge Airport



Birdseye view of the GRE at Cambridge Airport





# Landscape and views

## Landscape character and views

Cranfield Airport is located in a medium to large scale plateau landscape, with an open and exposed character with long distant views. A number of ancient semi-natural woodlands, such as Holcott Wood, are located predominantly along the slopes falling towards the north of Marston Vale.

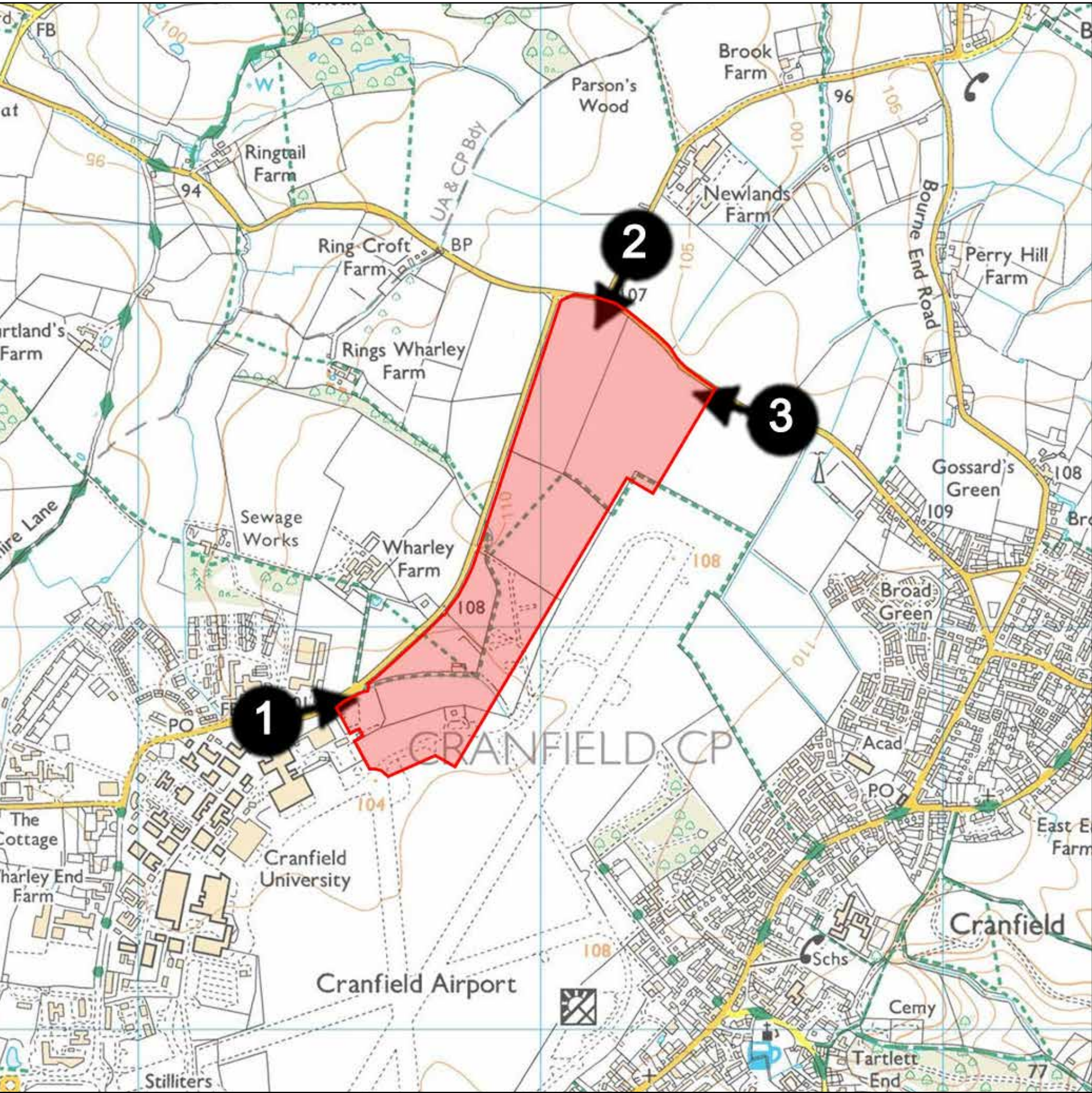
Alongside the village is Cranfield University, whilst the main area of settlement is located on the plateau, the nature of the hilly surrounds and well vegetated settlement edges ensures that it is not visible until you are upon it. Further east the views open up allowing longer distance views across Marston Vale.

A range of building types are proposed including hangars of up to 27 metres in height, which will be visible in the landscape. Tree screening and a landscaped bund are proposed along College Road and Crawley Road to help soften the views. Building materials will be selected to be sensitive to the surrounding landscape.

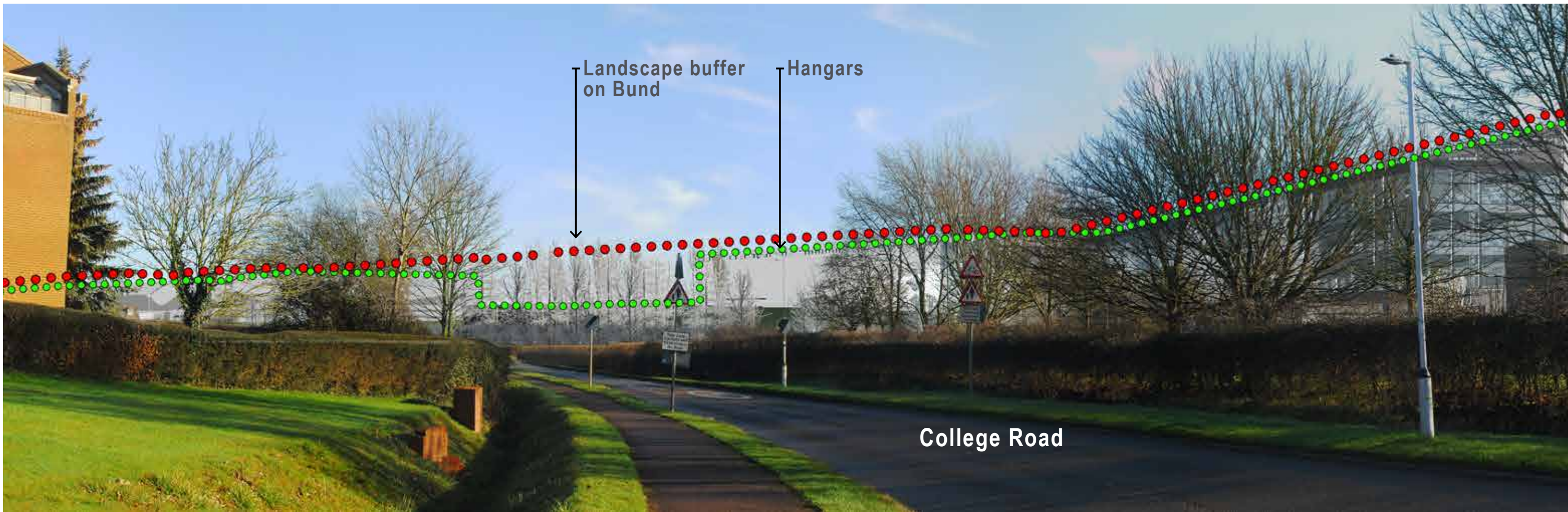
### Key

- ..... Maximum extent of the proposed parameters for the outline planning application. It is unlikely that the full parameter will ever be built out.
- ..... Outline showing the area of development indicated in the illustrative masterplan presented in this exhibition.

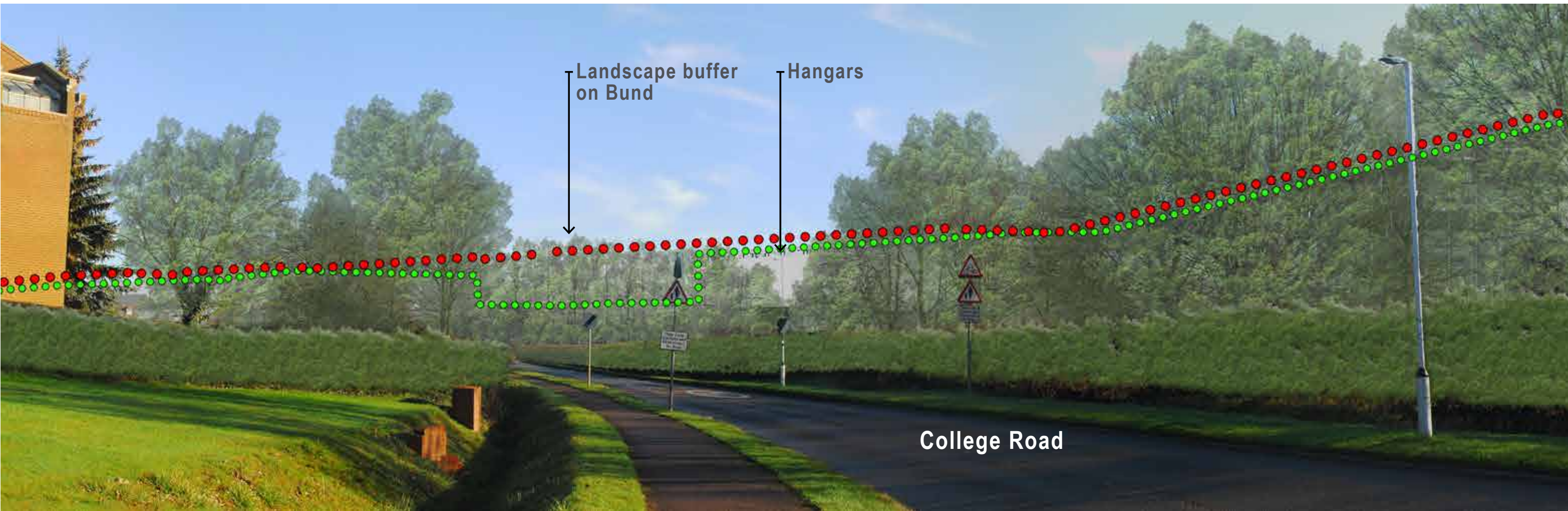
### Viewpoint Locations



## 1 Viewpoint 1: Looking north along College Road



Winter View



Summer View

## 2 Viewpoint 2: Looking south from Astwood Road

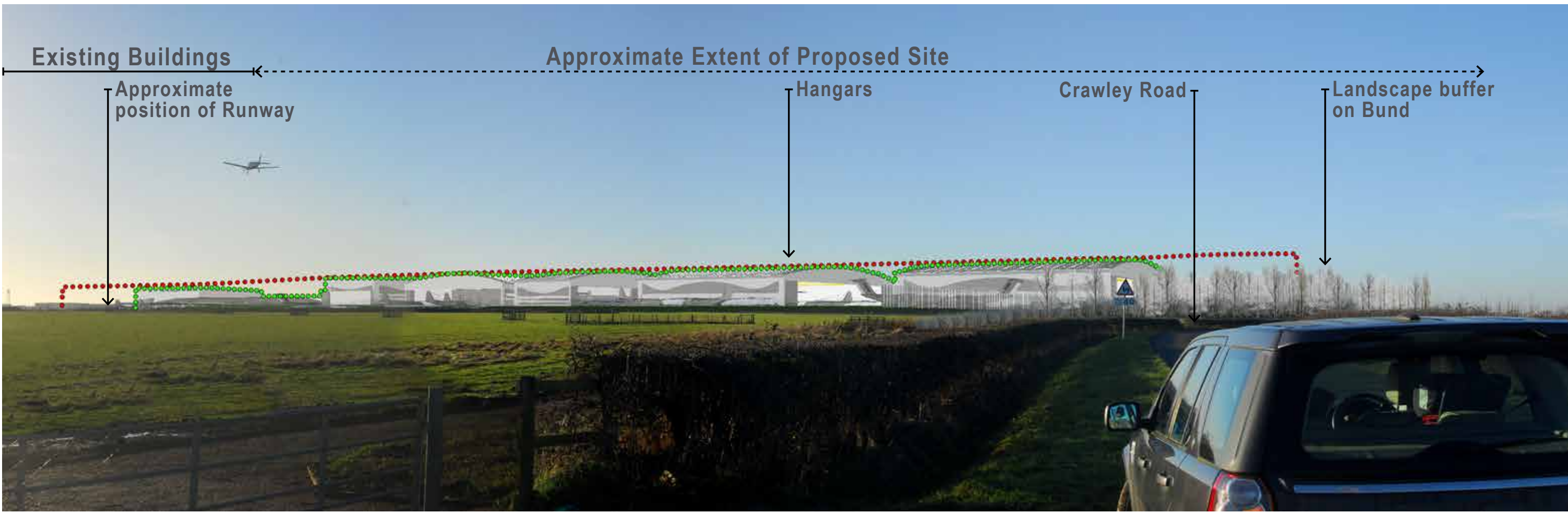


Winter View

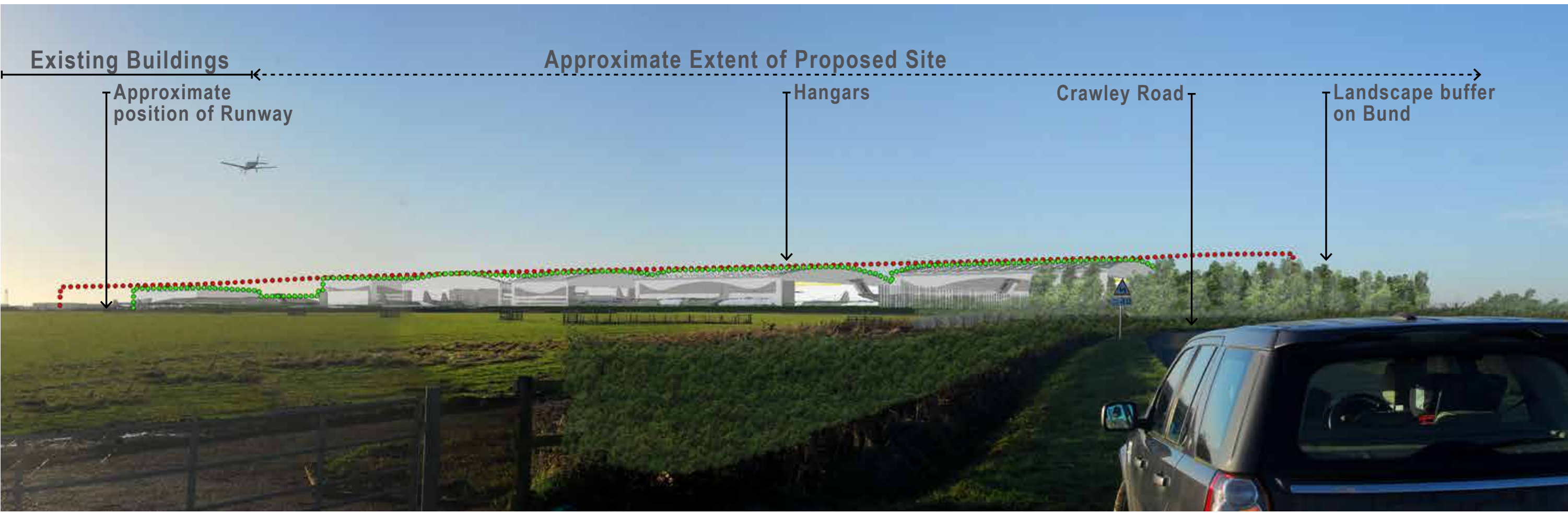


Summer View

## 3 Viewpoint 3: Looking west on Crawley Road



Winter View



Summer View





# Emerging transport strategy

We understand that transport and traffic congestion is a key concern for local communities. We are consulting early to give an overview of our emerging proposals and we recognise that more work is required to understand and communicate the transport implications of our proposals. This board provides a summary overview of our considerations and we commit to providing more information ahead of making a planning application.

Our transport approach will seek to maximise the accessibility of the site by non-car modes and minimise impacts on local road networks in Cranfield and the surrounding area. The aim is to reduce reliance on private car to access the site, so that we do our part to tackle issues of net zero carbon, air quality, road safety and local congestion. We must recognise, however, that opportunities for non-car access are limited by the site's location. Our sustainability strategy will incentivise the use of electric vehicles with benefits to both traffic noise and air quality.



In support of the planning application, we will submit a Transport Assessment, Travel Plan and Construction Management Plan.

These documents will consider potential impacts and provide appropriate improvements to mitigate the impact of the development and which meets relevant transport policies for the area.

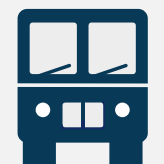
As an established business, our Travel Plan will focus on the requirements of our existing workforce as well as the needs of new employees and those from the local area.

## Current opportunities being explored for the development



### Reducing impacts through shift patterns

We are able to flex our workforce's working patterns so that wherever possible employees can arrive and depart outside of peak hours to reduce pressure on the road networks and minimise our impact on existing congestion. This will be most applicable for the operational staff working on the aircraft, e.g. fitters and technicians.



### Potential for employee shuttle bus

We are investigating the potential for staff shuttle buses linking the site with nearby public transport interchanges, for example Park & Ride sites at Bedford and Milton Keynes, and Ridgmont railway station. These buses could also improve accessibility for existing residents and workers of Cranfield.



### Encouraging car-sharing options

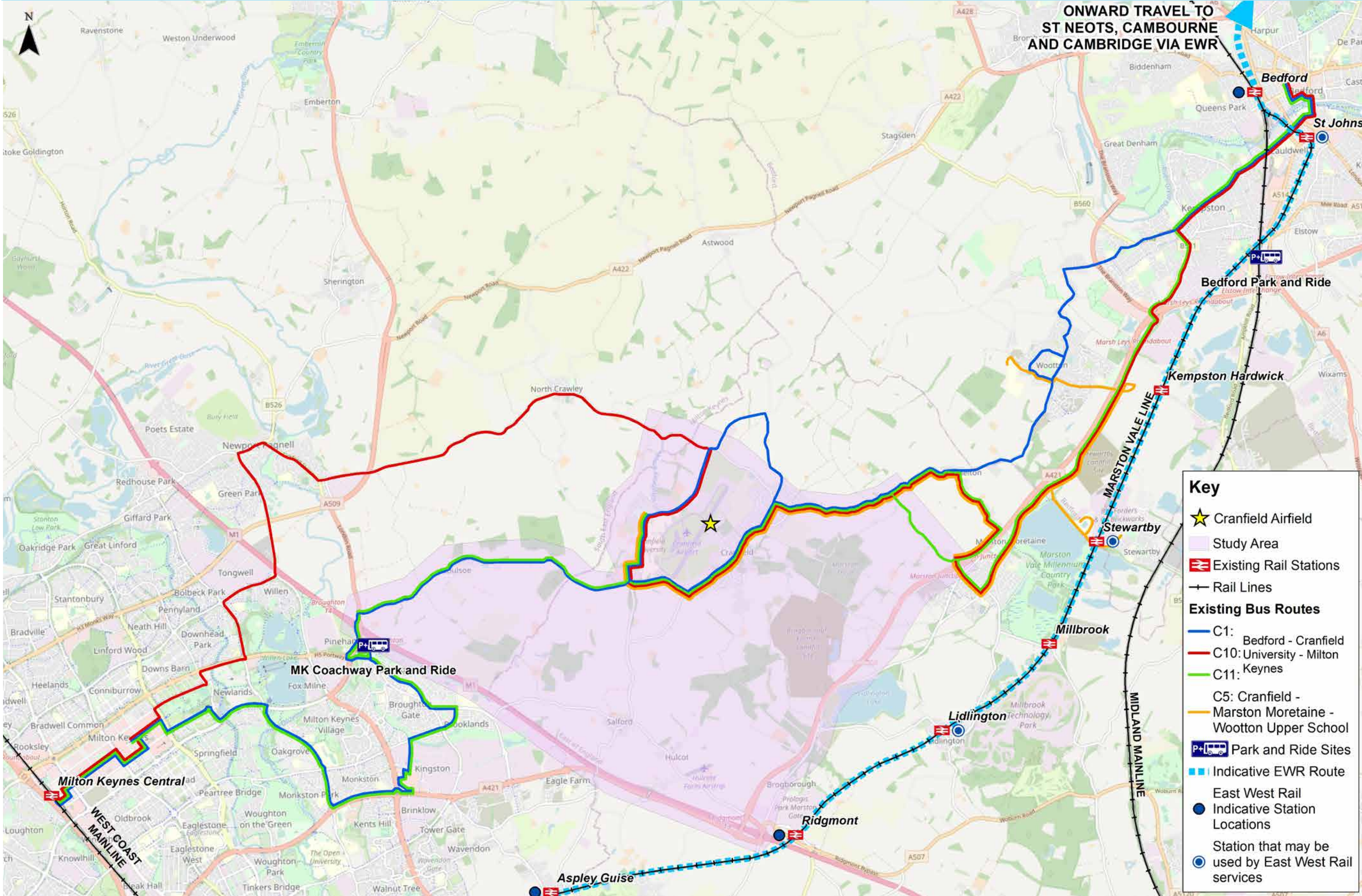
In our travel plan we encourage car sharing to minimise car trips, vehicles on the roads and the impact on air quality.



### Modifications to local junctions

The transport assessment will identify localised improvements, for example this may include modifications to the junction between College Road and Crawley Road, as well as others, in order to minimise traffic impacts and improve capacity.

## Existing transport infrastructure



## Local Considerations

The site is well located to benefit from the following existing sustainable transport infrastructure:

- Walking / Cycling** – Existing footway and cycleway, linking the Site and the Campus, is located along the northern side of College Road. There are also numerous Public Rights of Way (PRoW) around the Site. National Cycle Route (NCR) 51 is located approximately 1.9 km cycling distance south of the Site, passing through Cranfield village on Lodge Road and Court Road.
- Public Transport** – The Site is in close proximity to several bus stops. Cranfield University Main Gate bus stops are served by the Uno C1, C5, C10, C11 Cranfield Connect and CX Cranfield Express bus services whilst the Longbourns bus stops are served by the four Uno services and Road Runner Community Transport A2 bus service.
- Park and Ride** – The Park & Ride at Milton Keynes Coachway is located approximately 4.0 km southwest from the proposed development and is the closest existing Park & Ride site.
- Rail** – The Site is located east of the Marston Vale Line, with several railway stations accessible by bike or car including Millbrook Railway Station (8.0 km), Ridgmont Railway Station (8.5 km), Aspley Guise Railway Station (8.5 km) and Lidlington Railway Station (9.3 km).

The site will also benefit from the East West Rail (EWR) which is a major railway project that aims to deliver a new transport connection between Oxford and Cambridge via Bedford by a combination of upgrades and refurbishments to existing sections of railways and the construction of new sections of railway infrastructure, potentially including Ridgmont Station.

## Assessment process

As part of our transport assessment work, we will be investigating the impact of the following key local junctions, we currently understand these to be:

- Crawley Road / College Road
- Bedford Way / Crane Way
- Beancroft Road / Marston Hill
- Wavendon Road / Broughton Road / Cranfield Road

This will also address the impact of traffic during the construction period. We welcome views on other areas which require consideration.





# Next steps & future engagement

## Further consultation

This exhibition has been an introduction to Marshall’s ambitions for relocation to Cranfield Airport. We will continue to work with and engage the community as the project progresses through the design and planning process.

We would welcome feedback from the community on these initial proposals to help inform the outline planning application design. We will review the feedback received at this consultation and will provide more information on the project later this year.

**We will provide more information on the following areas ahead of making a planning application:**

## Advanced proposals

Updated information on the design proposals and the draft scheme informing the outline planning application, including developed technical strategies.

## Transport

Additional detail on transport impact and proposals, including assessment of the impact on local road networks, travel plan details and proposed upgrades or mitigation to support the development.

## Noise

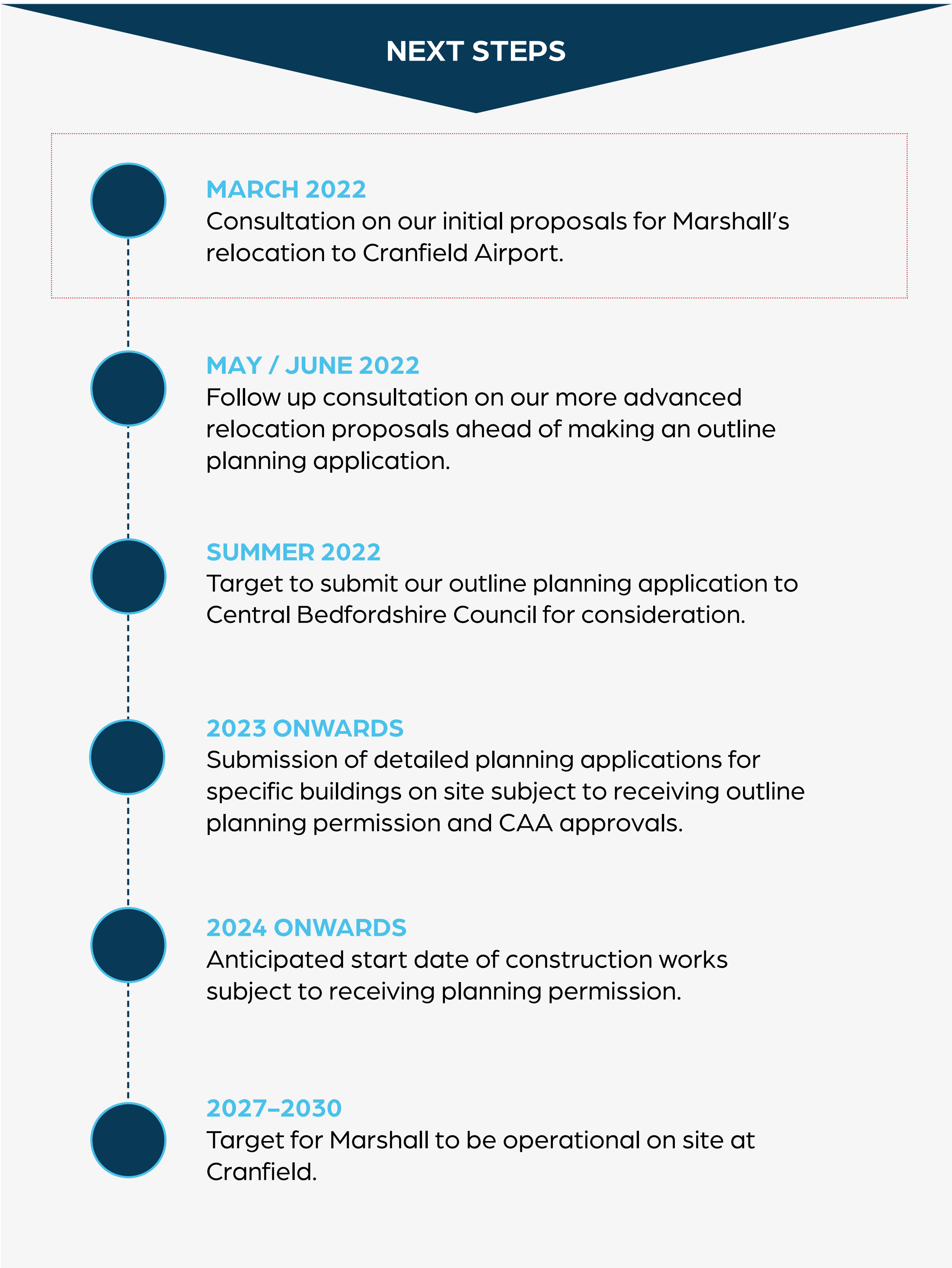
Additional detail on assessed noise impacts, ranges, levels and specific mitigations.

## Operations

Additional detail on Marshall’s workforce strategy and our approach to skills, training and local recruitment.

## Construction

Information on our proposed construction management strategy and programme.



## QUESTIONS?

If you have any questions about our proposals or would like more information about the project, please get in touch:



[marshallaerospace.com/relocation](https://marshallaerospace.com/relocation)



[consultation@marshallaerospace.com](mailto:consultation@marshallaerospace.com)



# Cranfield Airport Early Works

In addition to our intentions at Cranfield, Cranfield University is considering bringing forward some early projects ahead of Marshall's final decision to move.

These projects include:

- The relocation of the fuel farm is a requirement arising from the existing Air Park planning permission and equally relevant to Marshall given its location on our proposed site. Cranfield University is therefore developing its proposals for a new fuel farm, and proposes to consult the community on its proposals in the near future, ahead of submitting a planning application in due course.
- Cranfield University has also secured funding that will enable the installation of a Primary and Secondary Radar system. Cranfield Airport is one of the few airports in the UK which operates procedurally within complex airspace, without the aid of surveillance systems monitoring the aircraft. The installation of a radar system would allow precision approaches to Cranfield Airport. We therefore welcome the potential for early introduction of radar capability at Cranfield. Cranfield University is developing its own site assessment report in order to identify a potential preferred site and will be consulting the community on proposals for the radar in the near future.



Photos of existing Cranfield Airport facilities