Gatwick Airport Northern Runway Project

Design and Access Statement
Volume 5

Book 7

VERSION: 1.0

DATE: JULY 2023

Application Document Ref: 7.3

PINS Reference Number: TR020005

APFP Regulations 5(2)(q) **Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009**

Contents

6.0 SITE WIDE DESIGN GUIDELINES

6.1 INTRODUCTION

6.1.1 The design of the projects set out in Section 5 of this DAS is at an early feasibility stage. This means they have been designed to test the viability of the masterplan but they are not a fixed design of the future developments.

6.1.2 When further design work takes places, GAL wants to ensure that both the highest design standards are adhered to whilst ensuring there is a proportionate degree of flexibility to enable creativity and innovation.

6.1.3 Due to the nature of the design process and the timing of the consenting process, GAL requires a degree of flexibility as to where certain elements of the Project, particularly the highway works can be constructed. The **draft DCO** (Doc Ref 2.1) is accompanied by a set of plans which provide details of the proposals. Each of the main components of the authorised development is attributed a work number ('Work No.'). The work numbers should be read alongside the Work Plans which are set out at Schedule 1 of the **draft DCO** and define the location of the authorised development as well as any limits of deviation as set out in **Article 6** and on the **Parameter Plans** (Doc Ref 4.7).

6.1.4 The maximum extent and area of each Work No. are shown on the Work Plans and Parameter Plans; with the approximate level of the finished works, the height of the structure (m) and/or maximum parameter height within which this Work would be undertaken described within this DAS and **ES Chapter 5: Project Description** (Doc Ref. 5.1). The Parameter Plans are discussed further in Section 7 of this DAS with Figure 2 showing the scope of the project, with works with a specific parameters height drawing shown in blue and those without in yellow.

6.2 DESIGN GUIDE

6.2.1 DESIGN GUIDE INTRODUCTION

6.2.1.1 This section sets out the 'Framework for Good Design' which categorises the development and provides aims for each that any design as part of the Project should achieve. The works under the DCO cover a wide range of development including airfield infrastructure to more commercial led developments such as hotels and passenger focused areas.

6.2.1.2 Whilst the technical and operational requirements for the development of any component of the masterplan will have its own specific design requirements, GAL want to ensure each is governed by key overarching principles set in a framework as represented in the diagram at Figure 2.

6.2.1.3 To make the Design Guide as robust as possible GAL have taken into consideration national and local guidance in the development of these aims.

6.2.2 NATIONAL AND LOCAL GOVERNMENT DESIGN GUIDANCE

6.2.2.1 The government's National Planning Policy Framework (NPPF) makes clear that creating high quality buildings and places is fundamental to what the planning and development process should achieve.

6.2.2.2 Design guidance within this report is based upon the government's planning practice guidance documents, the National Design Guide (2021) which aims to foster the creation of sustainable communities.

6.2.2.3 The National Design Guide states that the long-standing, fundamental principles for good design are that it is: fit for purpose; durable; and brings delight. It explains that buildings are an important component of places and proposals for built development are a focus of the development management system. However, good design involves careful attention to other important components of places. These includ place and building context and:

- Hard and soft landscape;
- Technical infrastructure – transport, utilities, services such as drainage; and
- Social infrastructure – social, commercial, leisure uses and activities.

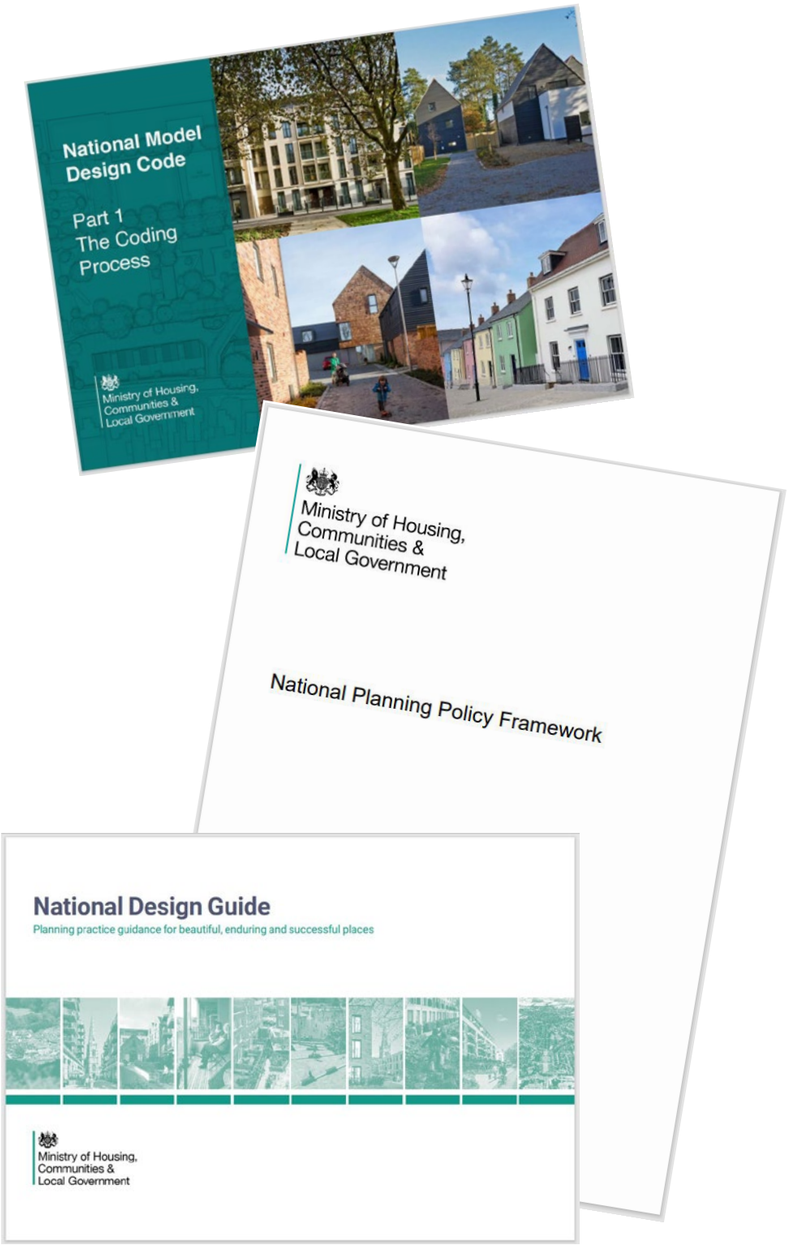


Figure 1. *Government Design Guidance Documents*

6.2.3 DESIGN GUIDE INTRODUCTION

6.2.3.1 This section sets out the 'Framework for Good Design' which categorises the development and provides aims for each that any design as part of the Project should achieve. The works under the DCO cover a wide range of development including airfield infrastructure to more commercial led developments such as hotels and passenger focused areas.

6.2.3.2 Whilst the technical and operational requirements for the development of any component of the masterplan will have its own specific design requirements, GAL want to ensure each is governed by key overarching principles set in a framework as represented in the diagram at Figure 2.

6.2.3.3 To make the Design Guide as robust as possible GAL have taken into consideration national and local guidance in the development of these aims.

6.2.4 NATIONAL AND LOCAL GOVERNMENT DESIGN GUIDANCE

6.2.4.1 The government's National Planning Policy Framework (NPPF) makes clear that creating high quality buildings and places is fundamental to what the planning and development process should achieve.

6.2.4.2 Design guidance within this report is based upon the government's planning practice guidance documents, the National Design Guide (2021) which aims to foster the creation of sustainable communities.

6.2.4.3 The National Design Guide states that the long-standing, fundamental principles for good design are that it is: fit for purpose; durable; and brings delight. It explains that buildings are an important component of places and proposals for built development are a focus of the development management system. However, good design involves careful attention to other important components of places. These includ place and building context and:

- Hard and soft landscape;
- Technical infrastructure – transport, utilities, services such as drainage; and

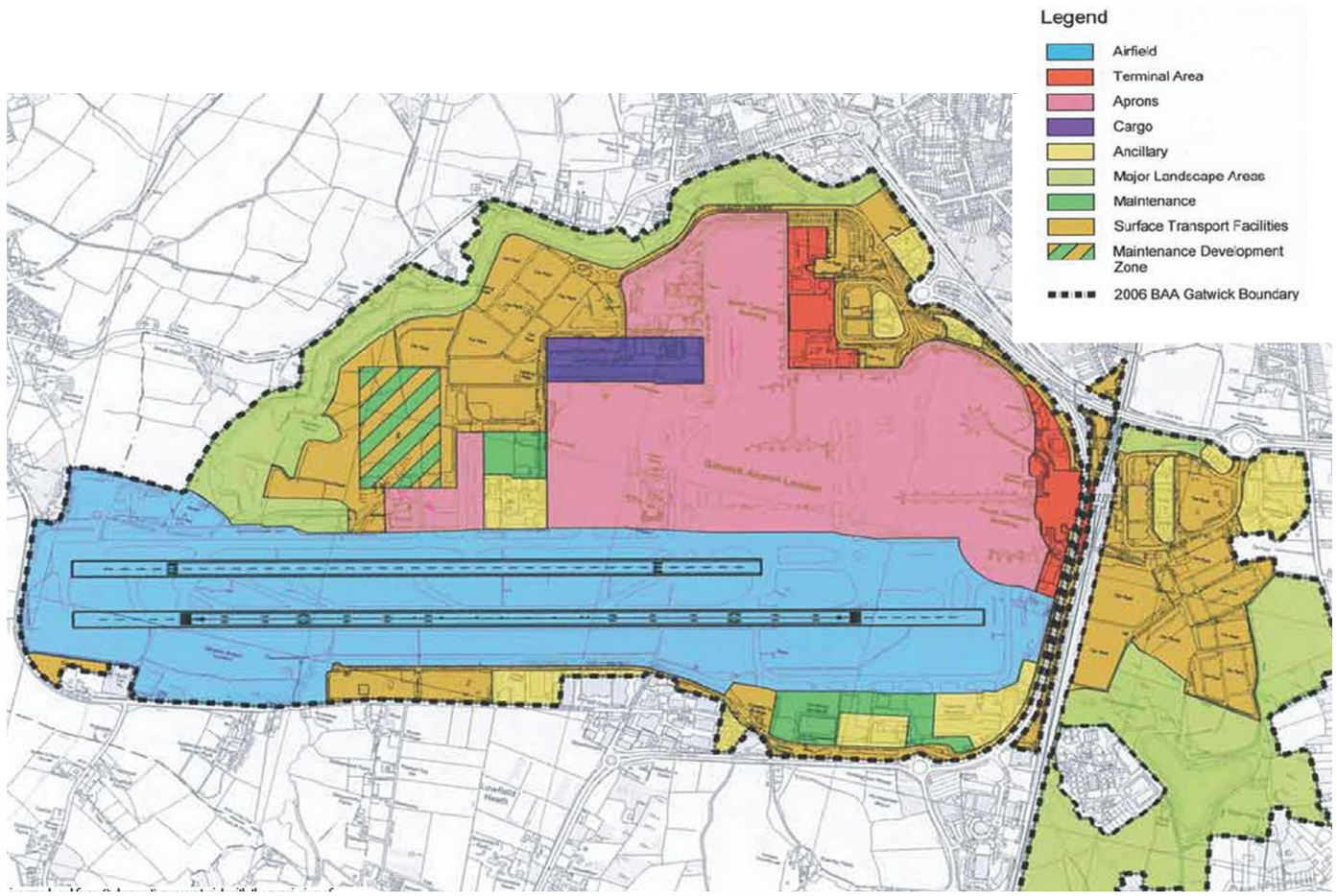


Figure 2. *Image from Crawley Local Plan / Gatwick Airport SPD*

- Social infrastructure – social, commercial, leisure uses and activities.

6.2.4.4 The guide also stresses that a well-designed place is unlikely to be achieved by focusing only on the appearance, materials and detailing of buildings. It comes about through making the right choices at all levels, including:

- The layout (or masterplan);
- The form and scale of buildings;
- Their appearance;
- Landscape;
- Materials; and
- Their detailing.

6.2.4.5 This guidance has been taken into consideration through the development of the masterplan proposed as part of this DCO application and will continue to be a core consideration throughout the succeeding design of its components.

6.2.5 LOCAL GOVERNMENT DESIGN GUIDANCE

6.2.5.1 Guidance contained within Crawley's Local Plan and adopted **Supplementary Planning Document (SPD)**, extent shown in Figure 3, has been used in the design development process to guide how the proposed development has been formed and will be a key consideration in the detailed design of the various components.

6.2.5.2 The specific policies of Crawley's Local Plan that apply to the design of the Project are:

Crawley Local Plan 2015

6.2.5.3 **Policy CH2** Principles of Good Urban Design requires developments to be of a high-quality design. The policy sets out the ways in which successful places can be designed, including responding to local character, creating continuous frontages, creating attractive public spaces, making places connected, proving recognisable routes, consider flexible development forms and providing a mix of compatible uses.

6.2.5.4 **Policy CH3 Normal Requirements of All New Development** states that all proposals will be required to be based on a thorough understanding of the distinctiveness of the site and its surroundings, be of high quality design and be supported by a future management and maintenance plan, contributions towards streetscene improvements will be sought, provide or retain a good standard of amenity for existing and future occupiers, retain existing trees that positively contribute to the area, demonstrate how "Secured by Design" principles have been incorporated into the proposals, and meet the requirements necessary for access, circulation, manoeuvring, parking, (un)loading, and storage of waste/recycling. Proposals should comply with relevant SPDs produced by the Council and advice on signs and advertisements.

6.2.5.5 **CH4 Comprehensive Development and Efficient Use of Land** states that development proposals must use land efficiently and not unduly restrict the development potential of adjoining land, not prejudice the proper planning and phasing of development over a wider area.

6.2.5.6 **CH6 Tree Planting and Replacement Standards** requires proposals that result in a loss of trees to identify the trees to be removed and replaced in order to mitigate for the visual impact from the loss of tree canopies. Where the LPA agrees that additional or replacement tree planting is not feasible or desirable, commuted sums will be sought on a per tree basis.

6.2.5.7 **CH8 Important Views** requires that important views should be protected and/or enhanced and proposals should not result in a direct adverse impact or lead to the erosion of these views. For linear contained views, the robust tree planting that contains the views must be protected and/or enhanced, new developments should be well-screened, and proposals at the end of the corridor must demonstrate that the view would be protected and/or enhanced. For long distance views, the points from which the view can be enjoyed must remain unobstructed and where the view is to an identified feature, development is required to protect and/or enhance this feature. The visual impact of proposals affecting Important Views must be clearly and accurately demonstrated as part of the planning application submission, for example through the use of verified view montages and cross sections.

6.2.5.8 **CH9 Development Outside the Built-Up Area** requires Crawley's compact nature and attractive setting to be maintained. It requires development to be grouped where possible with existing buildings, be located to avoid the loss of important views, reflect local character in terms of design, minimise the impact of lighting, ensure structures are not visually prominent in the landscape, does not generate unacceptable level and/or frequency of noise in areas relatively undisturbed by noise, does not generate inappropriate traffic, and does not introduce a use which is not compatible with the countryside. Where harm to the landscape character cannot be avoided, appropriate mitigation and compensation will be required. Applicants are advised to consider the enhancement opportunities identified in the Crawley Borough Council Landscape Character Assessment. In addition, all proposals must recognise the individual character and distinctiveness, and the role of the landscape character area or edge in which it is proposed.

Crawley Local Plan Submission Draft January 2021

6.2.5.9 **Strategic Policy CL2 Making Successful Places – Principles of Good Urban Design** requires that new forms of development proposals have addressed principles of the existing character, effective use of land, and built form, layout and movement. Major applications must also ensure the proposed urban structure results in movement paths and corridors which take desire lines into account, provide recognisable spaces and routes that are attractive, create continuous frontages, and ensure movement corridors and new development take account of long distant views.

6.2.5.10 **Policy CL3 Movement Patterns, Layout and Sustainable Urban Design** states that all development should seek to use land more efficiently and sustainably, put people before traffic and encourage walking and cycling. Larger schemes will also be required to establish a development form based on sustainable compact layout and scale which must be planned and located adjacent to stations, stops or interchanges and be designed to ensure future users are within eight minute walking distance of such stations or stops.

6.2.5.11 **Policy CL6 Structural Landscaping** states that developments are required to respect and plan for the conservation of the landscape character of the town, and proposals that affect this should demonstrate the visual impact of the proposals and should protect and/or

enhance structural landscaping. Where limited or weak structural landscaping can be identified as a negative factor in the attractiveness of an area, opportunities will be sought to deliver enhancements as part of development proposals.

6.2.5.12 **Policy CL7 Important and Valued Views** states that important views should be protected and/or enhanced and development proposals should not result in a direct adverse impact or lead to the erosion of these views, including the Linear Contained Views, the Long Distance Views, and the Valued Views. The visual impact of proposals affecting Important and Valued Views must be clearly and accurately demonstrated as part of the planning application submission.

6.2.5.13 **Policy CL8 Development Outside the Built-Up Area** requires Crawley's compact nature and attractive setting to be maintained. It requires development to be grouped where possible with existing buildings, identify existing character to guide new development, identify strategic context of such settings and respond intelligently to the landscape, maintain a loose-knit, low density rural character, be located to avoid the loss of important views, reflect local character in terms of design, minimise the impact of lighting, ensure structures are not visually prominent in the landscape, avoid generating unacceptable level and/or frequency of noise in areas relatively undisturbed by noise, avoid generating inappropriate traffic, ensure access to the countryside is maintained and enhanced, and does not introduce a use which is not compatible with the countryside. Proposals which alter the overall character of the area must demonstrate that the need for the development clearly outweighs the impact on landscape character, and mitigation and compensation will be sought in these cases. Applicants are advised to consider the enhancement opportunities identified in the Crawley Borough Council Landscape Character Assessment.

6.2.5.14 **Policy DD2 Inclusive Design** requires proposals to achieve the highest standards of accessible and inclusive design possible. The Design and Access Statement should include an inclusive design statement.

6.2.5.15 **Strategic Policy DD1 Normal Requirements of All New Development** states the development proposals must use land efficiently and not unduly restrict the development potential of adjoining land, nor prejudice the proper planning and phasing of development over a wider area. The policy details how all proposals will be required to provide or retain a good standard of amenity for existing and future occupiers, design the orientation and aspect, retain and reuse existing buildings or demonstrate why this is not feasible, include well-located public spaces that support a variety of activities, include development form which compliments existing character of the area, consider flexible development forms for larger applications, retain existing trees that positively contribute to the area, demonstrate how "Secured by Design" principles have been incorporated, and meet the requirements necessary for access, circulation, manoeuvring, parking, (un)loading, and storage of waste/recycling. Major applications must be supported by an indicative future management and maintenance plan and all proposals will seek streetscene improvements. Development must be guided by the council's waste and recycling guidance document when designing new developments or changing the use of existing buildings.

6.2.5.16 **Strategic Policy DD4 Trees Replacement Standards** requires tree retention and provision needs to be accounted for at an early stage. Following the completion of surveys and analysis of the site, consideration must be given to which trees are the most suitable for retention, including trees of the highest quality should be retained, and trees of moderate and low value should not automatically be considered for removal. Where development proposals would result in the loss of trees, applicants must identify which trees are to be removed and replaced in order to mitigate for the visual impact resulting from the loss of the tree canopies. Where the LPA agrees that additional or replacement tree planting is not feasible or desirable, commuted sums will be sought on a per tree basis.

6.2.5.17 **Policy DD5 Aerodrome Safeguarding** states development will only be supported if it is consistent with the continued safe operation of Gatwick Airport. Proposals that cannot be mitigated to the satisfaction of the statutory consultees are considered to be a hazard to aircraft safety and will be refused.

Crawley Urban Design SPD October 2016

6.2.5.18 The purpose of the document is to provide clear guidance on urban design so that proposals for development can be

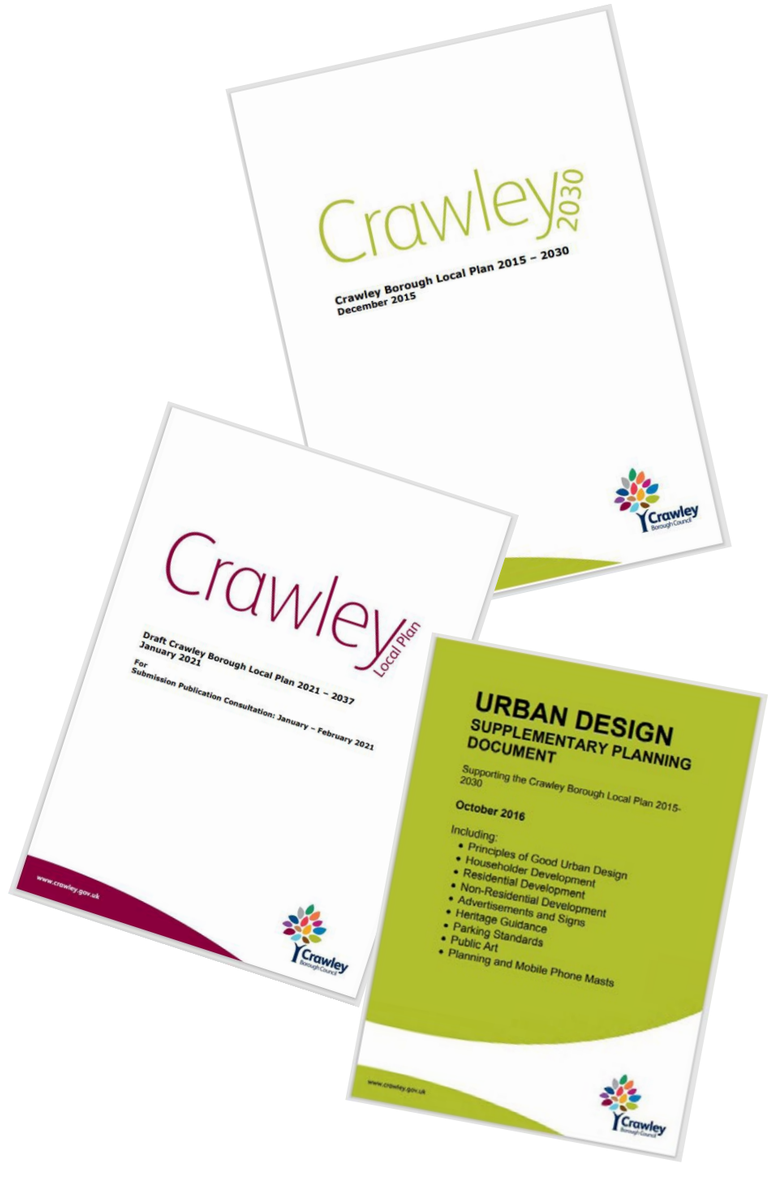


Figure 3. *Local Government Design Guidance*

6.2.6 THE 10 CHARACTERISTICS OF A WELL-DESIGNED PLACE

6.2.6.1 The National Design Guide identifies 10 characteristics of a successful place based upon the objectives for good design as set out in the NPPF (Figure 4). These (along with supporting guidance) have been adopted by this DAS, with the aim of informing choices in the design process, and all of which will contribute towards shaping the character of new development at Gatwick Airport.

6.2.6.2 The 10 characteristics are summarised below:

Context - enhances the surroundings

6.2.6.3 Well-designed places are:

- Based on a sound understanding of the features of the site and the surrounding context, using baseline studies as a starting point for design;
- Integrated into their surroundings so they relate well to them;
- Influenced by and influence their context positively; and
- Responsive to local history, culture and heritage.

6.2.6.4 Design choices will be informed by character studies and the historic assets of the place.

6.2.6.5 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- Understanding Place, Historic Area Assessments, Historic England, 2017.

Identity - attractive and distinctive

6.2.6.6 Well-designed places, buildings and spaces:

- Have a positive and coherent identity that everyone can identify with, including residents and local communities, so contributing towards health and well-being, inclusion and cohesion;
- Have a character that suits the context, its history, how we live today and how we are likely to live in the future; and
- Are visually attractive, to delight their occupants and other users. Design choices will be informed by the sense of place and identity of existing buildings.

Figure 4. *National Design guidance : The Ten Characteristics of A Well-Designed Place : Ministry of Housing, Communities and Local Government*

3) Built form - a coherent pattern of development

6.2.6.7 Well-designed places have:

- Compact forms of development that are walkable, contributing positively to well-being and placemaking;
- Accessible local public transport, services and facilities, to ensure sustainable development;
- Recognisable streets and other spaces with their edges defined by buildings, making it easy for anyone to find their way around, and promoting safety and accessibility; and
- Memorable features or groupings of buildings, spaces, uses or activities that create a sense of place, promoting inclusion and cohesion.

6.2.6.8 Design choices will be informed by the nature of the space; private or public.

6.2.6.9 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following; and

6.2.6.10 The Urban Design Compendium, English Partnerships, August 2000, third edition, published by the Homes and Communities Agency in 2013s

4) Movement - accessible and easy to move around

6.2.6.11 A well-designed movement network defines a clear pattern of streets that:

- Is safe and accessible for all;
- Functions efficiently to get everyone around, takes account of the diverse needs of all its potential users and provides a genuine choice of sustainable transport modes;
- Limits the impacts of car use by prioritising and encouraging walking, cycling and public transport, mitigating impacts and identifying opportunities to improve air quality;
- Promotes activity and social interaction, contributing to health, well-being, accessibility and inclusion; and
- Incorporates green infrastructure, including street trees to soften the impact of car parking, help improve air quality and contribute to biodiversity.

6.2.6.12 Design choices have been and will be informed by the objective of creating connected places and provision of active travel, car and cycle parking and servicing.

6.2.6.13 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- Manual for Streets, Department for Transport and Department for Communities and Local Government, 2007;
- Manual for Streets 2, Department of Transport, 2010;
- Cycle infrastructure design (Local Transport Note 1/20), Department for Transport, 2020;
- Highway Tree Management Operations Note 51, Forestry Commission, 2019 ; and
- Inclusive Mobility, Making transport accessible for passengers and pedestrians, Department for Transport, 2005.

Figure 5. ***Built Form:*** *Gatwick South Terminal Forecourt*

Consider Gatwick's existing fabric to create a coherent development

Figure 6. ***Movement:*** *Gatwick Inter Terminal Transit System*

Enhance accessibility by connecting into existing transport links

5) Nature - enhanced and optimised

6.2.6.14 Well-designed places:

- Integrate existing, and incorporate new natural features into a multifunctional network that supports quality of place, biodiversity and water management, and addresses climate change mitigation and resilience;
- Prioritise nature so that diverse ecosystems can flourish to ensure a healthy natural environment that supports and enhances biodiversity; and
- Provide attractive open spaces in locations that are easy to access, with activities for all to enjoy, such as play, food production, recreation and sport, so as to encourage physical activity and promote health, well-being and social inclusion.

6.2.6.15 Design choices will be informed by the objective of creating green infrastructure, provision of water and drainage and the an enhancement of biodiversity.

6.2.6.16 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- Environment Act 2021, Department for Environment, Food & Rural Affairs, Environment Act 2021 (legislation.gov.uk);
- National Framework of Green Infrastructure Standards (forthcoming guidance to be announced) ;
- A Green Future: Our 25 Year Plan to Improve the Environment, Department for Environment, Food and Rural Affairs, 2018;
- Nature Nearby - Accessible Natural Greenspace Guidance (NE265), Natural England, 2010;
- Sustainable drainage systems: non-statutory technical standards, Department for Environment, Food and Rural Affairs, 2015, https://www.gov.uk/government/publications/sustainable-drainage-systems-non-statutory-technical-standards; and
- The Biodiversity Metric 2.0 (JP029), Natural England
- The Mosaic Approach: Managing Habitats for Species (B2020-009), Natural England, 2013.

6) Uses - mixed and integrated

6.2.6.17 Well-designed places have:

- A mix of uses including local services and facilities to support daily life.;
- Design choices will be informed by the objectives of intensification, variety of activity and mix, as well as provision of community and local services;

6.2.6.18 Guidance includes the following;

- Effective Use of Land (2019) Effective use of land;
- National Design Guide (2021) Section 11. 'Making Effective Use of Land' and Section 12. Achieving Well-designed Places National design guide; and
- Making The Most of England's Land (2022) Making the most out of England's land (parliament.uk).

7) Public space - safe, social and inclusive

6.2.6.19 Well-designed places:

- Include well-located public spaces that support a wide variety of activities and encourage social interaction, to promote health, well-being, social and civic inclusion;
- Have a hierarchy of spaces that range from large and strategic to small and local spaces, including parks, squares, greens and pocket parks;
- Have public spaces that feel safe, secure and attractive for all to use; and
- Have trees and other planting within public spaces for people to enjoy, whilst also providing shading, and air quality and climate change mitigation.

6.2.6.20 Design choices will be informed by the hierarchy of streets aimed at accommodating a range of travel modes, optimised social interaction and 'secured by design' considerations.

Figure 7. ***Nature:*** *Development in context*

Consideration of ecosystems in areas of natural habitat

Figure 8. ***Public Space:*** *People focused public spaces*

Create safe, secure and attractive for all to use

6.2.6.21 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- Integrated Security, A Public Realm Design Guide for Hostile Vehicle Mitigation - Second Edition, Centre for the Protection of National Infrastructure, 2014; and
- Secured By Design, Police Crime Prevention Initiatives Limited, 2020, www.securedbydesign.com.

8) Buildings - functional, healthy and sustainable

6.2.6.22 Well-designed buildings:

- Provide good quality internal and external environments for their users, promoting health and well-being.
- Relate positively to the private, shared and public spaces around them, contributing to social interaction and inclusion; and
- Resolve the details of operation and servicing so that they are unobtrusive and well-integrated into their neighbourhoods.

6.2.6.23 Design choices will be informed by space standards, best-practice and guidance notes (including space standards), accessibility, lighting, aspect and privacy and 'secured by design' considerations.

6.2.6.24 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- Living with Beauty: report of the Building Better, Building Beautiful Commission, 2020, Ministry of Housing, Communities and Local Government Living with beauty: report of the Building Better, Building Beautiful Commission.

9) Resources - efficient and resilient

6.2.6.25 Well-designed places:

- Have a layout, form and mix of uses that reduces their resource requirement, including for land, energy and water;
- Are fit for purpose and adaptable over time, reducing the need for redevelopment and unnecessary waste; and
- Use materials and adopt technologies to minimise their environmental impact.

6.2.6.26 Design choices will be informed by energy efficiency standards, passive energy design, local low-energy networks and environmental standards.

6.2.6.27 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- BREEAM Technical Standards, BRE, www.breeam.com; and
- UK Government's 'UK and the Sustainable Development Goals'.

10) Lifespan - made to last

6.2.6.28 Well-designed places, buildings and spaces are:

- Designed and planned for long-term stewardship by landowners, communities and local authorities from the earliest stages;
- Robust, easy to use and look after, and enable their users to establish a sense of ownership and belonging, ensuring places and buildings age gracefully;
- Adaptable to their users' changing needs and evolving technologies; and
- Well-managed and maintained by their users, owners, landlords and public agencies.

6.2.6.29 Design choices will be informed by management plans and community participation.

6.2.6.30 In addition to the National Planning Policy Framework, National Design Guide and National Model Design Code, guidance includes the following:

- Community engagement: guidance for local authorities, Ministry of Housing, Communities and Local Government, 2019.

Figure 9. ***Buildings:*** *Typical roof light arrangement*

Building designs that make use of Natural light promoting health and well being

Figure 10. ***Resources:*** *Typical off-site construction delivery*

Use of efficient building methods to reduce waste

6.3 LANDSCAPE, TOWNSCAPE AND VISUAL AMENITY

6.3.1 The design principles relating to Landscape, Townscape and Visual are set out within the **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3) . It details the overarching ecological strategy for the site and how the habitat creation that forms part of the landscape zones will ensure the Project delivers an overall enhancement for ecology. The broad objectives of the landscape proposals as set out in the oLEMP are:

- Landscape integration,
- Landscape amenity
- Visual amenity
- Public access
- Biodiversity

Landscape Integration

6.3.2 Further design proposals should be developed in a manner that is appropriate for the setting within Gatwick Airport, responding to the adjacent urban and rural land uses and the existing character of Gatwick Airport.

6.3.3 Green infrastructure should be retained wherever possible. Where development is required within or adjacent to green infrastructure, it should be well integrated and opportunities for further expansion of the green infrastructure network within and around Gatwick Airport should be considered.

6.3.4 Development should seek to enhance, restore and reintroduce characteristic landscape elements which have been lost or degraded.

Landscape Amenity

6.3.5 Landscape amenity should be preserved through proposals that respond to the existing scale and character of Gatwick Airport. They should seek to enhance the experience of people working within and visiting Gatwick Airport, the local communities that live near Gatwick Airport and people travelling through the area.

Visual Amenity

6.3.6 Visual amenity should be protected through ensuring that visually significant vegetation is retained where practicable. Where possible, landscape elements are introduced to provide a positive contribution to Gatwick Airport and the surrounding landscape/townscape while seeking to minimise adverse effects on visual receptors and protect important views.

Public Access

6.3.7 Footpath and cycleway routes within and surrounding Gatwick Airport should be maintained and enhanced. Links should be provided to the strategic network to benefit people living and working within the area.

6.3.8 Where public open space is impacted, replacement open space should be provided with linkages to the existing public rights of way network.

Biodiversity

6.3.9 The design should protect, manage and enhance the nature conservation value at Gatwick Airport.

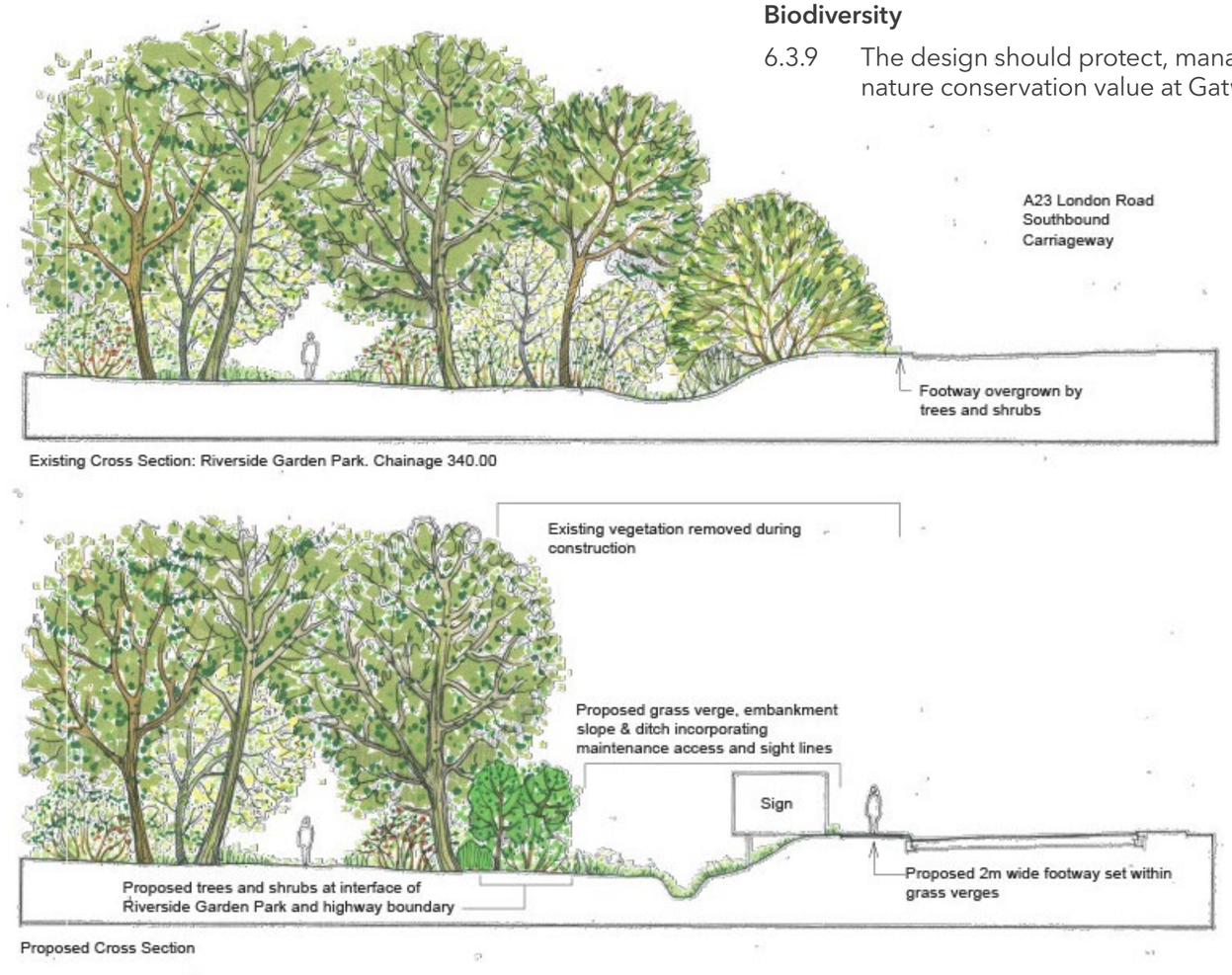


Figure 11. *Surface Access Principles of design cross section ES Figure 8.8.1*

6.4 HISTORIC ENVIRONMENT

6.4.1 There are opportunities to minimise the impact of the Project on the historic environment as part of the detailed design of lighting, vegetation clearance and planting, and the design of environmental mitigation measures which could impact buried archaeological remains.

6.4.2 Lighting should be designed with consideration of heritage assets and conservation areas to minimise obtrusive light in so far it is reasonable. This includes consideration of lighting impacts at the Church Meadows replacement open space site, which is the work nearest to a conservation area.

6.4.3 Vegetation clearance and planting should consider the impact on views of heritage assets. Opportunities to improve or enhance public access to land within and adjacent to conservation areas should also be a consideration as part of the design of open space and public rights of way.

6.4.4 The design of environmental mitigation measures (including access arrangements) should consider the potential presence of buried archaeological remains. In the case of the land required for environmental mitigation at Museum Field and Brook Farm there is the potential during detailed design of the flood compensation area to reduce impacts on buried archaeology.

6.5 BIODIVERSITY

6.5.1 Improving the quality and quantity of green space can offer biodiversity benefits as well as benefits to the local community. GAL aspires to have an industry leading 'net-gain' approach to protecting and enhancing biodiversity at Gatwick Airport. There are opportunities to integrate and enhance the existing biodiversity areas within the Gatwick Airport site boundary such as the River Mole corridor .

6.5.2 The Design Principles relating to biodiversity are set out within the **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3) It details the overarching ecology strategy for the site, including how the habitat creation that forms part of the landscape zones will ensure the Project delivers an overall enhancement for ecology.

6.5.3 Opportunities should be identified to integrate designs with existing features of ecological value to enhance their biodiversity value whilst continuing to avoid adverse impacts on ecologically sensitive habitats. Nature conservation values should also be appropriately protected, managed and enhanced.

6.5.4 Examples of opportunities that should be pursued include the provision of mosaic of habitats comprising scrub, grassland and bare or poorly vegetated ground at the proposed Museum Field earth bund to provide a matrix of habitats suitable for a variety of invertebrates.

6.5.5 The design of the proposed Museum Fields Environmental Mitigation Area should consider the creation of new habitats in the western part of the site, comprising woodland, wet woodland, scrub and tree planting and species-rich grassland. The design of this area will enhance habitat used by foraging bats, helping to encourage bats away from both the new and existing runways.

Figure 13. *Biodiversity including habitat creation*

Figure 12. *Work at Gatwick Airport as part of the biodiversity strategy*

6.6 GREENHOUSE GASES AND CLIMATE CHANGE

Greenhouse Gases

6.6.1 GAL recognises the role that must be played by airports in supporting the transition to a global low carbon future for the aviation industry, whilst also maintaining the critical role that aviation plays in boosting international connectivity, trade, tourism and travel. GAL signed the Airport Council Europe pledge in 2019, to reach Net Zero for direct emissions before 2050.

6.6.2 This includes the commitment to achieve Net Zero for GAL Scope 1 and 2 emissions by 2030 as set out in GAL's sustainability policy Second Decade of Change to 2030 (Figure 14) and secured as part of the application in the **ES Appendix 5.4.2: Carbon Action Plan** (Doc Ref. 5.3). This target would be achieved through a range of carbon reduction measures that are identified within the Carbon Action Plan. All new buildings constructed as part of the Project will be designed and constructed for Net Zero emissions during operation. Where possible the design of new infrastructure should also consider the use of cutting-edge approaches to energy efficiency. GAL will actively support the reduction of Scope 3 emissions arising from airport buildings and ground operations.

6.6.3 The CAP provides outcomes that GAL will commit to as part of further design work. With regards to airport buildings and ground operations, consideration should be given to measures to reduce emissions arising from energy use for buildings, infrastructure and operations to provide heating, cooling, lighting and power needs; fuels for airside and landside vehicles; electricity transmission and distribution emissions; refrigerant losses; fuels for fire training; water consumption and treatment; and operational waste disposal and treatment.

6.6.4 Tables 3-1, 3-2 and 3-3 of the **ES Appendix 5.4.2: Carbon Action Plan** (Doc Ref. 5.3) set out potential measures that the detailed design of buildings could consider to reduce their carbon emissions. As the CAP is a control document, the measures presented within that table are not reproduced within this DAS or the Design Principles.

Climate Change

6.6.5 As a responsible operator, GAL has a commitment and procedures to ensure that climate risks are not increased and therefore it is integral that climate resilience is considered throughout detailed design. The design should consider the resilience design process and principles. These are:

i. Understand the risks - The exposure and vulnerability of a site to climate hazards is highly dependent upon location conditions (e.g., proximity to water bodies, the surrounding built environment, etc.), design considerations, and operation of assets. Climate resilience measures should hence be underpinned by a robust understanding of the specific levels of risk at the site in question, taking into consideration the local and regional context.

ii. Prioritise a system level approach - The choice to focus on the risks associated with a single asset may obscure wider systemic factors that contribute to risk. An alternative system-wide approach that identifies interdependencies and feedbacks has the potential to improve resilience more effectively, from both an economic and embodied carbon perspective.

iii. Integrate nature-based solutions - Nature-based resilience measures can be attractive alternatives or accompaniments to traditional grey infrastructure options. Such measures have the ability to generate multiple co-benefits, including the ability to sequester carbon and enhance biodiversity, whilst also being more flexible to changing resilience requirements moving forward. Often these measures require far less embodied carbon to implement as opposed to grey infrastructure solutions. The multitude of possible co-benefits means that green infrastructure measures can be adjusted to support the specific local ambitions for resilience and sustainability.

iv. Consider carbon implications and seek co-benefits - It is important to consider the impact of resilience measures on the operational and embodied carbon of developments. In the choice of which resilience approach to take, adaptation measures should be prioritised that do not have a negative impact on whole-life greenhouse gas emissions where possible.

v. Design for future adaptability - Considering the uncertainty associated with the nature of climate change over the longer term, assets need to be designed for adaptability in order to be sufficiently resilient. Designing for adaptability (e.g., providing extra space for future drainage system expansion) can extend the design life of assets, limiting the need for deconstruction and reconstruction to account for future change and thereby reducing embodied carbon.

vi. Establish operational and maintenance to enhance resilience - Effective maintenance regimes can help to mitigate residual risk, reducing damage and disruption associated with extreme weather events. These regimes include robust early warning systems and appropriate emergency response measures, such as investment in temporary additional flood barriers. Such measures should be accounted for within early design phases, despite the fact that their development and implementation will occur later.

6.6.6 An array of potential adaptation options exist that could be adopted to mitigate the varying climate change risks facing the Project. Specific measures are set out in the Design Principles that should be considered when designing with resilience with respect to the following events:

- Overheating risk in buildings;
- Flooding;
- Storms;
- Snow, ice and cold; and
- Heatwave related drought.

Net zero

Continue Gatwick's net zero transition and further improve local air quality by:

Airport emissions:

- Achieve Net Zero for GAL Scope 1 and 2 GHG emissions by 2030.
- Sourcing 50% of airport network electricity and 50% of heat network from UK renewable sources via onsite generation and direct purchase agreements (PPAs) by 2030;
- Requiring all GAL and airport duty vehicles, ground support equipment and mobile construction equipment to meet zero or ultra-low emission standards by 2030;

Aircraft and surface access emissions:

- Playing our part in UK aviation and ground transport transition to net zero carbon.
- Working with airlines and fuel providers to implement the Sustainable Aviation decarbonisation roadmap and interim goals.
- Working with transport partners to increase airport passenger and staff usage of public transport and zero and ultra-low emission journey modes to 60% by 2030.

Local Environment

Water:
Reduce the airport's potable water consumption by 50% on a per passenger basis by 2030 compared to 2019, continue to improve the quality of water leaving the airport and work with partners to promote local water stewardship.

Waste:
Ensure that by 2030 all materials used at Gatwick in operations, commercial activity and construction, are repurposed for beneficial use i.e. repaired, reused, donated, recycled, composted or converted to fuel for heating or transport.

Biodiversity:
Have a sector-leading 'net gain' approach to protecting and enhancing biodiversity and habitats on the airport estate, including zero use of herbicides by 2030; and support biodiversity partnerships in our region.

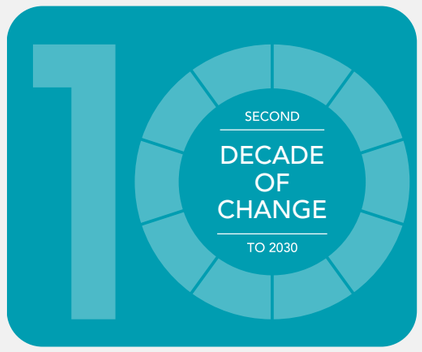


Figure 14. *Gatwick Airport Second Decade of Change Aims and Goals*

Figure 15. *Electric Vehicle Charging*

Figure 16. *Photovoltaic Panels*

6.7 NOISE

6.7.1 The design of buildings and structures can play an integral role in the reduction of noise arising from activities at Gatwick Airport including aircraft, traffic and plant.

6.7.2 Noise mitigation bunds, walls and barriers should be designed in a manner that is consistent the heights and lengths outlined in Section 5 of this DAS. Where possible, opportunities should be identified and implemented to incorporate ecological and landscape features to soften the design of these features and provide habitat.

6.7.3 Generally, detailed design should ensure that noise emissions from noise sources are minimised where practicable. Plant associated with new facilities should be designed with noise attenuation where necessary to avoid noise disturbance to noise-sensitive uses on and off-site.

6.7.4 When designing noise-sensitive facilities such as offices and hotels, insulation should be provided to ensure that internal noise standards are met.

Figure 17. *Noise Barrier Wall*

6.8 RESOURCES AND WASTE

6.8.1 GAL aspires for all materials used at Gatwick Airport to be re-purposed for beneficial use i.e. repaired, reused, donated, recycled, composted or converted to fuel for heating or transport. The **Appendix 5.3.2 Code of Construction Practice – Annex 5 Construction Resources and Waste Management Plan** (Doc Ref. 5.3). sets targets out the detailed measures for the diversion of waste from landfill during construction (excluding spoil) of the Project.

6.8.2 The waste hierarchy ranks waste management options according to what is best for the environment. It gives priority to waste prevention. When waste has been generated, priority is given to preparing it for re-use, then recycling, then recovery, and last of all disposal (for example, landfill). The waste hierarchy is a key element of sustainable waste management and following the hierarchy is a legal requirement of the Waste (England and Wales) Regulations 2011 (as amended).

6.8.3 The design of the Project should identify opportunities for the reuse of assets, components, products and materials from existing buildings, structures and features at the site that are to be removed or relocated to aid achieving these targets.

6.8.4 Buildings and structures will be designed to standard dimensions of blocks or frames to minimise off-cuts and wasted material. The use of mMaterials with recycled content should be considered during detailed design.

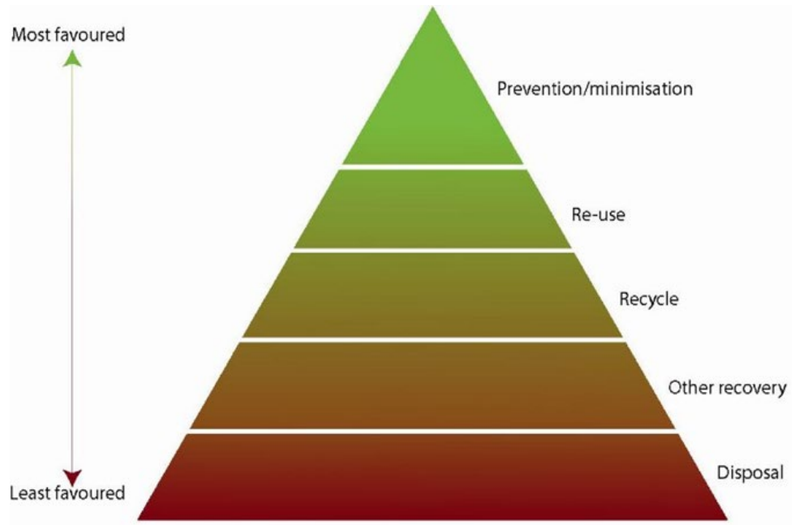


Figure 18. *Resource and Waste Hierachy*

Figure 19. *Re-Use of Materials in Construction*

6.9 WATER ENVIRONMENT

6.9.1 As part of its Second Decade of Change to 2030, GAL is aiming to reduce potable water consumption at Gatwick Airport by 50% on a per passenger basis, continue to improve the quality of water leaving Gatwick Airport and to work with partners to promote water stewardship.

6.9.2 Sustainable Drainage Systems (SuDS) will be at the core of the detailed drainage designs. SuDS are water management practices that seek to mimic the natural environment and replicate the natural drainage prior to development. This should prioritise the infiltration of runoff to ground where practicable over the restriction of runoff rates (i.e. attenuation). Based on preliminary ground investigation, the majority of Gatwick Airport is located within an area of clay geology so infiltration may not be feasible.

6.9.3 Infiltration basins and retention ponds (Figure 20) should not appear utilitarian or urban and should be designed to appear as naturalistic elements within the wider setting, that take account of existing topography, gradients and field boundaries. Planting should be provided to soften edges where this is appropriate to the context.

6.9.4 The design of surface water drainage should ensure that storage attenuation features are appropriately sized to cater for the 1 in 100 Annual Exceedance Probability (AEP) storm event. Engagement with the Environment Agency shallshould continue with additional attenuation allowances to account for climate change being designed as required by Environment Agency guidance. The design of drainage and water mitigation measures should consider the exceedance of the networks/measures capacity and ensure that this would occur safely.

6.9.5 Where development is proposed within a fluvial floodplain, the design shallshould ensure that there is no increase in flood risk to other parties.

6.9.6 As part of its Second Decade of Change to 2030, GAL is aiming to reduce potable water consumption at Gatwick Airport by 50% on a per passenger basis, continue to improve the quality of water leaving Gatwick Airport and to work with partners to promote water stewardship.

6.9.7 Sustainable Drainage Systems (SuDS) will be at the core of the detailed drainage designs. SuDS are water management practices that seek to mimic the natural environment and replicate the natural drainage prior to development. This should prioritise the infiltration of runoff to ground where practicable over the restriction of runoff rates (i.e. attenuation). Based on preliminary ground investigation, the majority of Gatwick Airport is located within an area of clay geology so infiltration may not be feasible.

6.9.8 Infiltration basins and retention ponds (Figure 20) should not appear utilitarian or urban and should be designed to appear as naturalistic elements within the wider setting, that take account of existing topography, gradients and field boundaries. Planting should be provided to soften edges where this is appropriate to the context.

6.9.9 The design of surface water drainage should ensure that storage attenuation features are appropriately sized to cater for the 1 in 100 Annual Exceedance Probability (AEP) storm event. Engagement with the Environment Agency shallshould continue with additional attenuation allowances to account for climate change being designed as required by Environment Agency guidance. The design of drainage and water mitigation measures should consider the exceedance of the networks/measures capacity and ensure that this would occur safely.

6.9.10 Where development is proposed within a fluvial floodplain, the design shallshould ensure that there is no increase in flood risk to other parties.

6.9.11 Design principles relating to the design of surface access drainage is secured within the Surface Access Drainage Strategy (Annex B of the Flood Risk Assessment).

Figure 20. *Typical Drainage Attenuation Pond*

Figure 21. *Natural Environment Watercourse*

6.10 LIGHTING

6.10.1 The exterior lighting vision for the Project at Gatwick Airport will define the experience and environment through which the staff and passengers will move, whether they are at the start or the end of their journey or going to work.

6.10.2 The underlying strategy for the use of light in the Project and the wider Gatwick Airport has six elements:

- To create an inclusive, comfortable environment and passenger experience that is positively memorable.
- To aid wayfinding and help passengers on their journey to, through and from the airport.
- To create continuity and coherence between spaces.
- The conservation of energy.
- Minimising obtrusive light and its impact on neighbouring receptors.
- Safety and security for all Gatwick Airport users.

Amenity

6.10.3 A primary function of the lighting will be to provide appropriate levels of illumination to enable people to see in spaces where there is an absence of natural light. The extent to which people need to see after dark will vary from area to area, with some requiring high levels of visual acuity whilst others should enable just a basic understanding of scale and the ability to identify a safe passage through a space.

6.10.4 The lighting design for each project will consider the manner in which the space that is being designed will be used after dark as well as its relationship to spaces adjoining it.

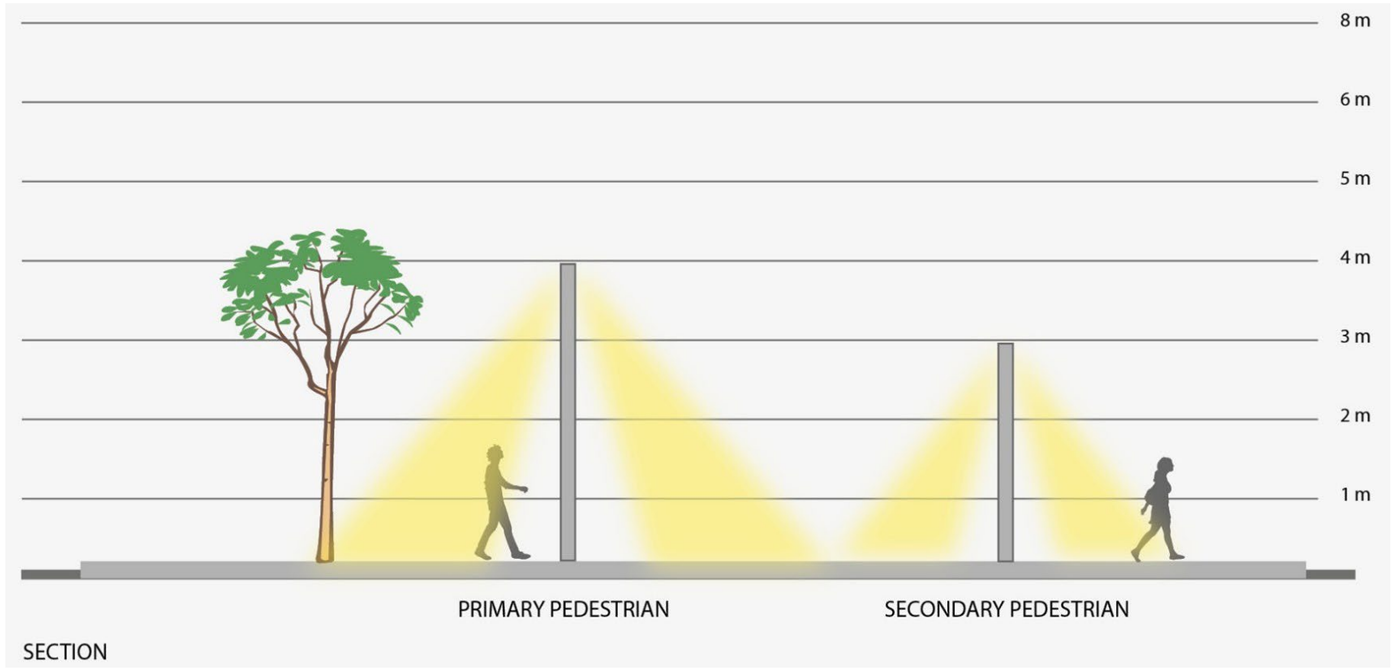


Figure 22. *Lighting Diagram Principles of lighting pedestrian walkways*

Figure 23. *Typical Lighting Arrangement for Primary and Secondary Pedestrian Paths*

Legibility and Wayfinding

6.10.5 During daylight hours people use elements of the manmade and natural environments to build a 'mental map' of an area. This helps them to orientate themselves, navigate from place to place and gain an understanding of the scale and nature of a space and its relationship to the wider context.

6.10.6 After dark many of these 'visual cues' disappear and it is largely left to artificial light and natural darkness to inform the interpretation of a space and its relationship to those around it.

6.10.7 The most visible elements in a nocturnal landscape can tend to take on a more dominant role in a person's 'mental map'. The most visually prominent elements are generally those that are perceived as being the brightest, although other factors such as colour, scale, animation and personal association also play important roles.

6.10.8 By developing a considered and consistent lighting approach to the key navigational tools such as roads and pedestrian paths (See Figures 22 & 24), light will play a crucial role in supporting legibility and accessibility and in reinforcing specific visual and physical connections across Gatwick Airport.

Accessibility

6.10.9 The design of artificial light must support the various needs of the passengers and staff of the airport after dark. This includes those with special needs and the elderly.

6.10.10 Supporting a highly accessible after-dark environment will include avoiding excessive contrasts, avoiding direct and reflected sources of glare, avoiding shiny, mirrorlike surfaces at pedestrian level, controlling shadow and limiting potentially confusing upward lighting.

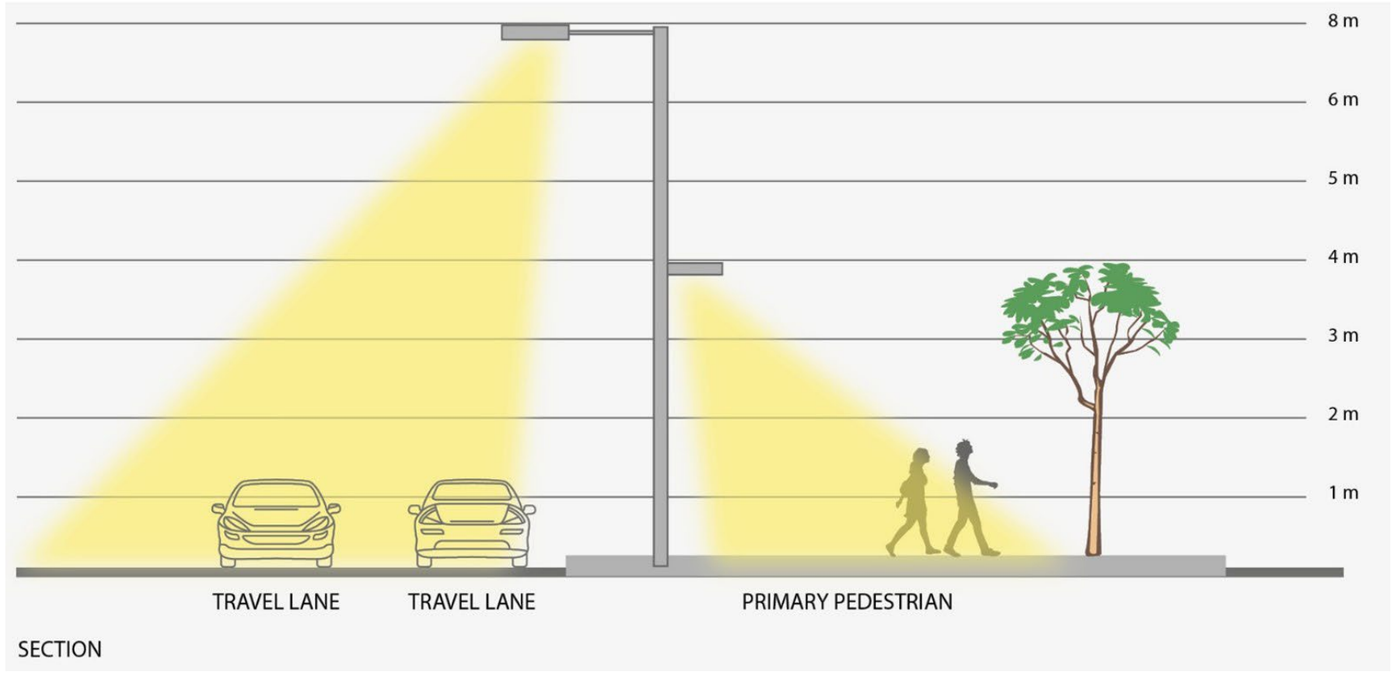


Figure 24. *Lighting Diagram Principles of lighting roadways adjacent to pedestrian walkways*

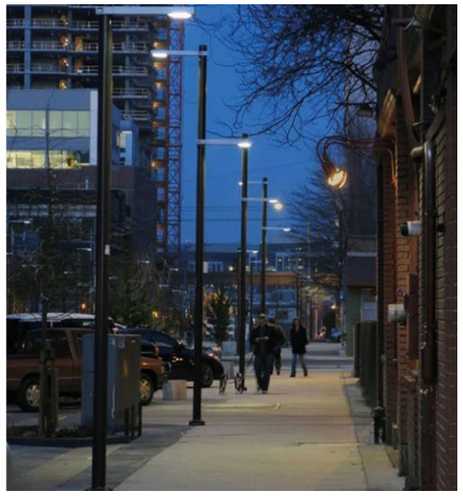


Figure 25. *Typical lighting arrangement for Pedestrian paths combined with vehicular*

Energy and Costs

6.10.11 The lighting design should give due consideration to the following:

- Energy efficiency in design, construction and operation (e.g. LED lighting, circularity), Efficiency of energy supply (e.g. smart lighting controls), renewable energy integrated into the design of integrated of the new facilities. (e.g. coordination of lighting with the car park canopy PV arrays).
- Energy is a very important element in the operation and maintenance of any building. Gatwick Airport operates 24-hour 365 day a year. As a consequence, the choice of lighting, equipment and the control of lighting levels and thus the energy consumption is of vital importance. Lighting will respond to the presence or absence of staff and passengers, reducing the light output when a space is empty.

Safety and Security

6.10.12 Artificial light must be designed to assist in maintaining a safe environment at all times. This includes positively defining potential hazards such as steps and ramps and areas where pedestrians encounter moving vehicles, at for example, pedestrian crossings. Such areas may be defined after dark through passive techniques, such as landscape materials with appropriately contrasting reflectance, as well as through active illumination; such as through the use of focused light and increased intensity (See Figure 26).

6.10.13 Light should be designed to provide an overall sense of security throughout the airport, including supporting both active surveillance (e.g. CCTV) if/when required and modelling of people and surfaces should be provided where required. Where the CCTV surveillance is supported by infra-red technology, the requirement for additional light in the visible spectrum may not always be necessary. Consultation with the security consultants is recommended throughout the design development. It should be noted that perceptions of safety and security are not necessarily dependant on providing high intensities of light and indeed, in some cases, low levels of light can be important in maintaining a sense of security and privacy. Creating an environment that feels secure will largely be dependent on ensuring that spaces are legible, appear well maintained, give due consideration to inclusivity and do not inhibit adaptation. In general, lighting will be controlled to remain contained within the site boundary.

6.10.14 Any lighting provided in the vicinity of these areas will require specific consideration to ensure that potential adverse effects are identified, controlled and mitigated.

6.10.15 Mitigation is typically in the form of lighting equipment utilising precise optics and lenses, baffles and light shields, in conjunction with a suitable lighting control regime. Individual habitat requirements may necessitate the specification of a particular lighting spectrum.

6.10.16 Surveys to date have identified populations of the following fauna of conservation interest:

- Great crested newts breeding in ponds in woodland adjacent to Horleyland Wood and to the north of the River Mole near to the Bear & Bunny Nursery;
- Bat assemblage including Bechstein's bat Myotis bechsteinii roosting in low numbers in several woodlands; Terrestrial invertebrate assemblage;
- Range of breeding birds of varying status;
- Small badger setts to the north and south of the runways; and
- Grass snake Natrix in grasslands along the River Mole corridor.

6.10.17 When designing the lighting at locations where there may be fauna of interest, an experienced ecologist should be consulted and the necessary baseline assessments are conducted to understand the relevant local concerns to ensure that the scheme will not impact on the requisite dark environments necessary for undisturbed habitation.

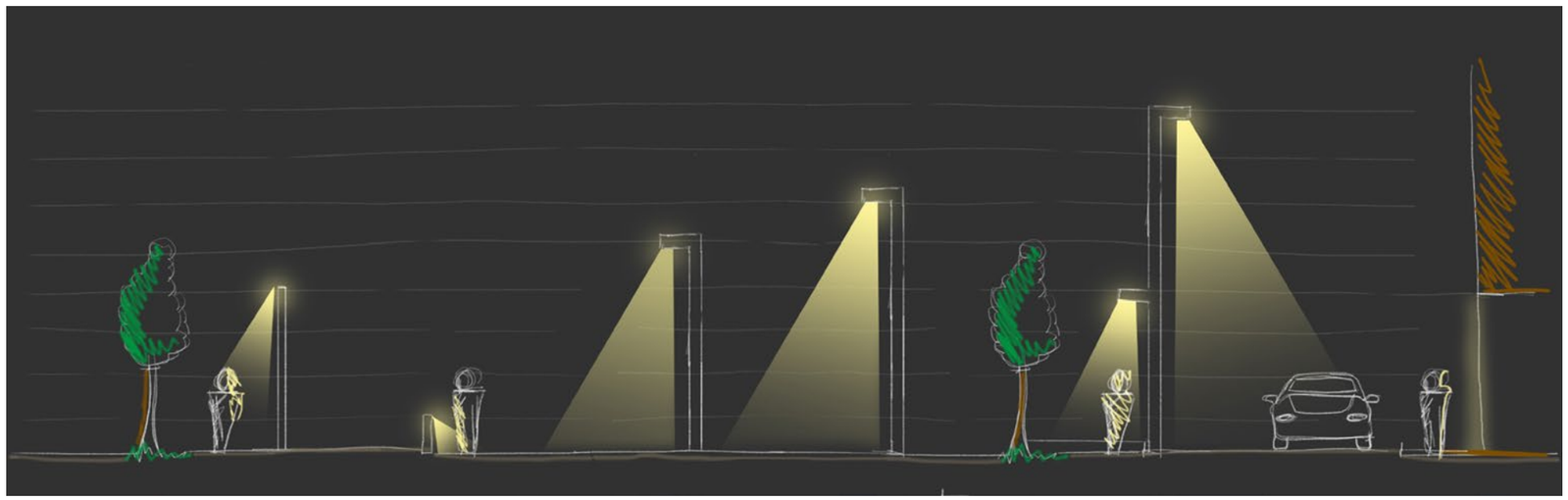


Figure 26. *Family Hierarchy of Luminaires*

Obtrusive Light

6.10.18 It is essential for the operation of Gatwick Airport that lighting is provided across the external areas after sunset. The Environmental Protection Act 1990 defines the following as a statutory nuisance in Section 79 : artificial light emitted from (i) premises; (ii) any stationary object, so as to be prejudicial to health or a nuisance. Figure 27 shows the existing obtrusive light readings around Gatwick Airport.

6.10.19 Consequences often associated with light obtrusion ('light pollution') are the loss of dark night skies and views of the stars, perception of an unsatisfactory nocturnal environment and the harming of wildlife habitats and ecosystems. Light obtrusion has also been shown to have detrimental effects on human health and can present serious physiological and ecological problems. Of key concern to this project, light obtrusion manifests itself as unnecessary energy waste and therefore a contributor to climate change (See Figure 28).

6.10.20 Many obtrusive light effects can normally be mitigated against through sound design principles and adherence to current best practice design guidance from national and international professional lighting institutions. Examples of best practice recommendations can be found in the publications referenced in the ILP Guidance Note 1 GN01: The Reduction of Obtrusive Light.

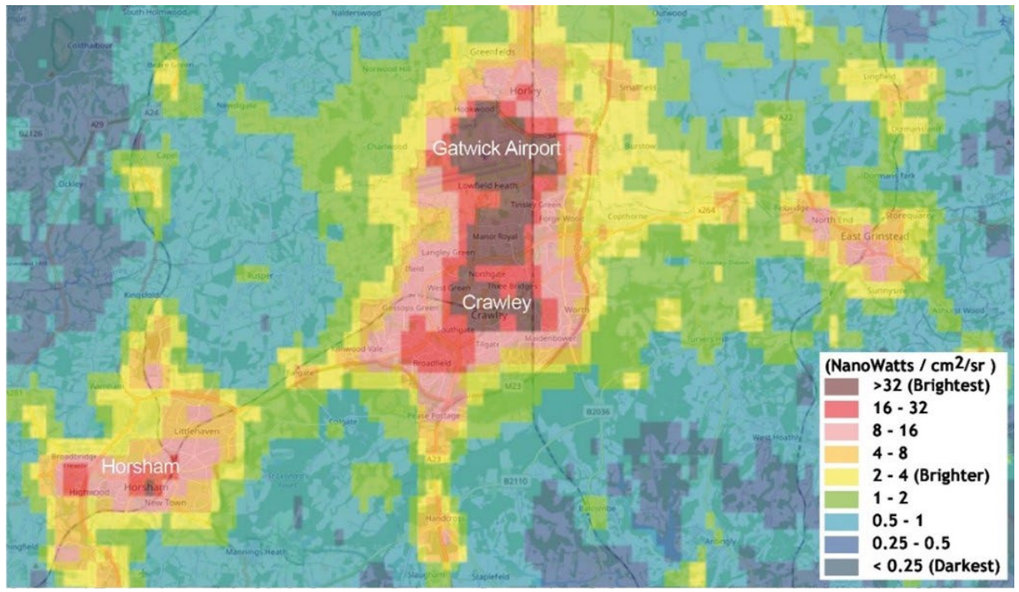


Figure 27. *Obtrusive light mapping in the Gatwick area*

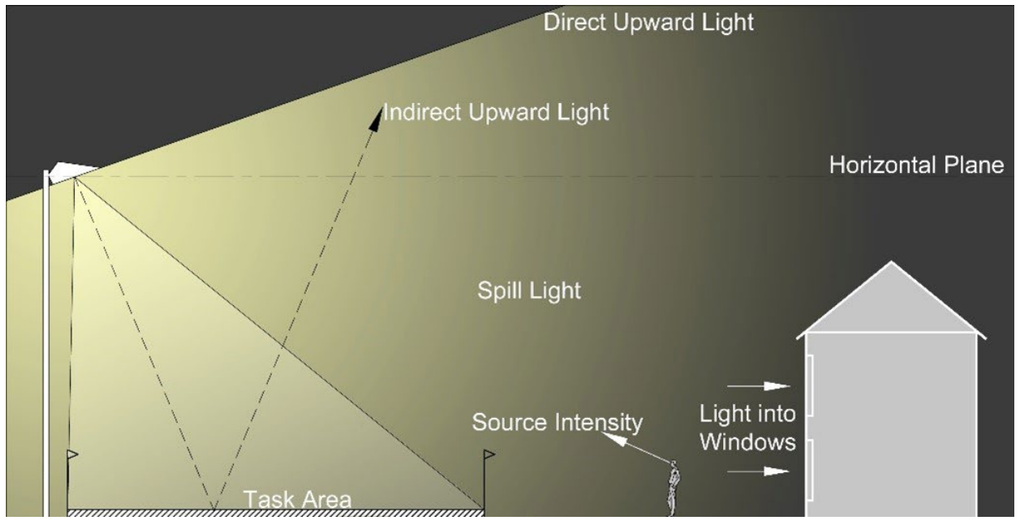


Figure 28. *Obstrusive Light*

6.11 SURFACE ACCESS, ROADS AND BRIDGES

6.11.1 Building on the scheme's framework for good design, the preliminary design proposals for the surface access works have given due consideration to a range of relevant design standards and guidance as summarised below as well as the National Policy Statement for National Networks. The detailed design of the surface access works will continue be developed in accordance with these principles.

Highways

6.11.2 National Highway's strategic road network elements have been designed in accordance with the Design Manual for Roads and Bridges (DMRB). Consideration has also been given to National Highways' The Road to Good Design, which sets out that good design:

- makes roads safe and useful;
- is inclusive;
- makes roads understandable;
- fits in context;
- is restrained;
- is environmentally sustainable;
- is thorough;
- is innovative;
- is collaborative; and
- is long-lasting.

6.11.3 Proposed highway structures such as those shown in Figure 29, have been designed in accordance with the principles set out in DMRB CD 351 'The design and appearance of highway structures'. The design is to continue to be developed in accordance with the values set out in this document which include:

- commitment to aesthetics;
- community/stakeholder engagement;
- understanding of sensitivity of context;
- balancing cost and aesthetics;
- sustainability of outcomes;
- rigour within the design process; and
- collaboration between all relevant disciplines.

Figure 29. *Indicative precedent images showing typical 'Highways' design*

6.11.4 Local highway authority roads have been designed in accordance with relevant design standards including Manual for Streets. The detailed design of these works will continue to be developed in accordance with these standards.

6.11.5 The design proposals included as part of this DCO application have been subject to a Stage 1 Road Safety Audit in accordance with DMRB GG 119 Road Safety Audit, which includes an independent review of the road safety implications of the proposed engineering interventions for all road users. Detailed design of surface access works should continue to comply with the requirements set out within that standard.

Active Travel

6.11.6 The principal objective of GAL's Surface Access Strategy is to promote and support an increase in sustainable travel by passengers and staff accessing the airport. The provision of new and enhanced active travel routes, as shown in Figure 30, for pedestrians and cyclists forms an important part of this strategy.

6.11.7 Active travel infrastructure proposals have been designed with due consideration of relevant design guidance including the Department for Transport's Local Transport Note (LTN) 1/20 'Cycle Infrastructure Design'. The scheme has taken account of the five core design principles set out in LTN 1/20 in developing proposals that build on existing infrastructure provision to provide routes that are coherent, direct, safe, comfortable and attractive. The design proposals were also informed by DMRB CD 143 'Designing for walking, cycling and horse-riding' with further due regard to the principles of inclusive design.

6.11.8 In accordance with DMRB GG142 'Walking, cycling and horse-riding assessment and review, a walking, cycling and horse-riding assessment and review was undertaken for the scheme assessing existing infrastructure provision, reviewing existing local plans and strategies for active travel infrastructure and identifying opportunities for improvement. To feed into this assessment a survey count of walking, cycling and horse-riding users was undertaken in the vicinity of the scheme to assess usage of existing routes.

6.11.9 The **ES Appendix 18.8.2: Public Rights of Way Management Strategy** (Doc Ref 5.3) sets out the approach to managing the construction and operational impacts of the Project on PRoW to reduce disruption to users as far as possible. The PRoWs that would be temporarily and permanently impacted by the Project are set out within that document.

6.11.10 Taking account of these standards and guidance documents, the proposed active travel infrastructure will provide enhanced connectivity for users on a range of routes including between Longbridge Roundabout and the North and South Terminals, between Longbridge Roundabout and Riverside Garden Park, between southern Horley and the North Terminal, and between Balcombe Road and the South Terminal.

Figure 30. *Indicative precedent images showing typical 'Active Travel' design*

6.12 BUILDING DESIGN

6.12.1 This section provides the following guidance for each of the building typologies:

- A brief summary of the key building typologies as shown in illustrative Figure 31.
- Overview of function and how this informs the building form
- Appearance and materiality;
- Design considerations and standards;
- Precedent and benchmarking/best-practice examples; and
- Typical design arrangements including elements, heights and materiality.

Figure 31. *Typical Building Typology Images*

6.12.2 TERMINAL BUILDINGS

TERMINAL EXTENSIONS

Function

6.12.2.1 The new terminal extensions will provide the following enhanced facilities:

- Retail, catering, CIP Lounges, seating and general circulation; and
- Passenger processing areas including check-in, security and baggage reclaim.

Appearance and Materials

6.12.2.2 The extensions will incorporate the following design and constructional features:

- A site-wide consistent, contemporary aesthetic to ensure that the extensions complement the existing buildings, complement each other and reflect modern design techniques, high quality design materials, and a suitable terminal building asthetic;
- External appearance will be permeable and inviting with lightweight cladding and large areas of glazing will offer excellent views across the airfield; and
- Materials could include metal rainscreen cladding, composite cladding and curtain walling.

Design Considerations and Standards

6.12.2.3 The design of these buildings should have regard to the following:

- Floorplate configuration to promote natural daylight, and ventilation;
- Core and floorplate design to permit future flexibility;
- 'Intelligent' building management systems.
- Climate change impact and energy performance;
- Health and wellbeing (including DDA compliant access etc.);
- Renewable energy generation (including photo-voltaic cells;
- Rainwater harvesting (grey) water storage for toilets;
- Security, safety and low energy lighting;
- Efficient servicing and recycling;
- Integrated information and wayfinding;
- Modern methods of construction;
- 'Green' materials; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.2.4 Design guidance/standards to consider includes the following:

- International Civil Aviation Organization (ICAO): ICAO Annex 14: Aerodromes & ICAO Doc 9157: Aerodrome Design Manual;
- International Air Transport Association (IATA): IATA Airport Development Reference Manual (ADRM);
- European Civil Aviation Conference (ECAC): ECAC Doc 30: Airport Planning Manual;
- ECAC Doc 30: Airport Planning Manual: CAP 168: Licensing of Aerodromes; and
- ASIAD, Aviation Security in Airports gudiance.

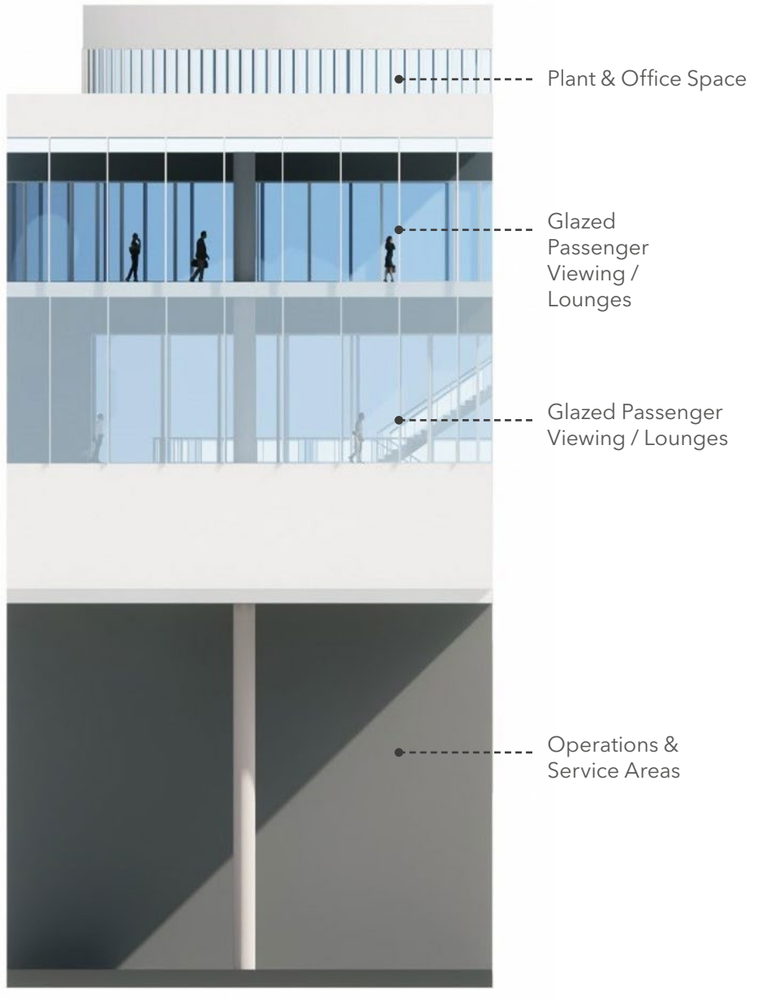


Figure 32. *Indicative Elevation showing Typical 'Terminal Extension Building' Design*

Figure 33. *Typical 'Terminal Building' Design*

PIERS

Function

6.12.2.5 The pier 7 building will provide the following facilities:

- Review of functions by Bronwen (aircraft are only parked on one side). It is not narrow and not connected. Passenger common lounges, retail areas, gaterooms;
- Passenger circulation, processing and waiting areas for passengers to embark and disembark the aircraft;
- Access structures to allow boarding of the planes either with direct 'contact' gates or access to the apron level to board at ground level; and
- Passenger service areas including Retail, catering and toilet facilities.

Appearance and Materials

6.12.2.6 The buildings will incorporate the following design and construction features:

- A site-wide consistent, contemporary aesthetic to ensure that the extensions complement the existing buildings, complement each other and reflect modern design techniques, high quality design materials, and a suitable terminal building asthetic.
- The external appearance will comprise lightweight cladding and large areas of glazing, providing excellent views across the airport and runways.

Design Considerations and Standards

6.12.2.7 The design of these buildings should have regard to the following:

- Health and wellbeing (including DDA compliant access etc.);
- Floorplate configuration to promote natural daylight, ventilation;
- Core and floorplate design to permit flexibility of seating and passenger waiting areas;
- 'Intelligent' building management systems;
- Climate change and energy performance;
- Renewable energy generation (including photo-voltaic cells);
- Rainwater harvesting (grey) water storage for toilets;
- Security, safety and low energy lighting;
- Efficient servicing and recycling;
- Technology and construction techniques and 'green' materials;
- Lifecyle costs, demolition and future recycling of building fabric;
- Design guidance/standards includes the following; and
- BREEAM Technical Standards, BREEAM Technical Standards | BRE Group.

6.12.2.8 Design guidance/standards to consider includes the following:

- International Civil Aviation Organization (ICAO): ICAO Annex 14: Aerodromes & ICAO Doc 9157: Aerodrome Design Manual;
- International Air Transport Association (IATA): IATA Airport Development Reference Manual (ADRM);
- European Civil Aviation Conference (ECAC): ECAC Doc 30: Airport Planning Manual.

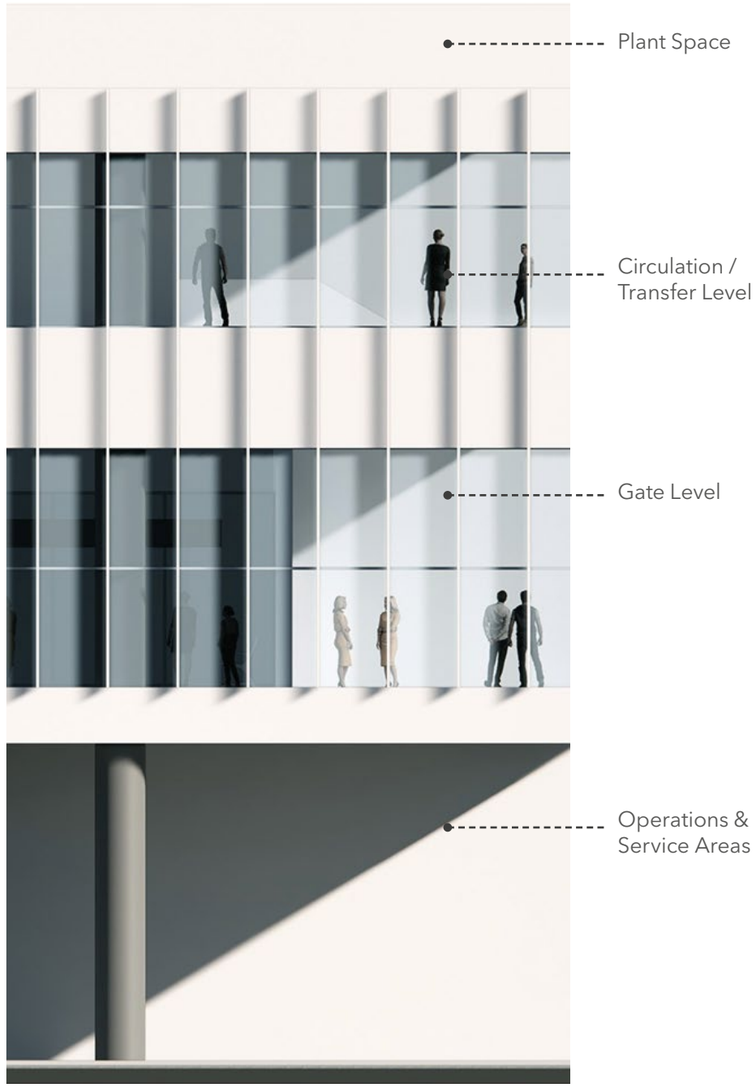


Figure 34. *Indicative Elevation showing Typical 'Pier' Design*

Figure 35. *Typical 'Pier' Design*

6.12.3 COMMERCIAL BUILDINGS

HOTELS

Function

6.12.3.1 The four hotel buildings will provide the following facilities:

- Hotel accommodation to cater for airline passengers, flight crews and staff, including; bedroom suites, reception, bar and dining, lift, stair and toilet facilities as well as back-of-house including, kitchens, staff facilities, plant, servicing and taxi drop-off.
- The public realm around the commercial buildings should be of good quality and provide visual and active amenity for the use of the staff and visitors to the buildings.

Appearance and Materials

6.12.3.2 The buildings will incorporate the following design and constructional features:

- A contemporary design and to ensure that the building complements its surroundings, reflect modern design techniques, high quality design and materials, and an aesthtic to suit hotel building typology;
- The external appearance will comprise lightweight cladding and large areas of glazing to the welcoming foyer, reception, bar and dining areas (providing views across the airport), with more limited window areas to bedroom suites to control aircraft sound.

Design Considerations and Standards

6.12.3.3 The design of these buildings should have regard to the following:

- Sound insulation and fenestration;
- Building height due to flightpaths;
- Health and wellbeing (including DDA compliant access etc);
- Floorplate configuration to promote natural daylight and ventilation
- Core and floorplate design to ;ermit flexibility in provision of seating within the dining areas;
- 'Intelligent' building systems and information;
- Climate change and energy performance;
- Renewable energy generation (including photo-voltaic cells, ground-source heat pumps etc.);
- Bio-diversity, green walls, and external landscape/ecology areas and sustainable urban drainage (SUDs);
- Rainwater harvesting (grey) water storage for toilets;
- Technology and construction techniques and 'green' materials; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.3.4 Design guidance/standards to consider includes the following:

- Visit England National Quality Assessment Criteria;
- BSI Standards, 2008, New guidance from BSI British Standards ensures everyone gets a good night's sleep: BSI (bsigroup.com);
- BS 8300: Design of Buildings and their Approaches to Meet the Needs of Disabled People, BSI; and
- Secured by Design, Commercial Developments Verison 2, 2015.

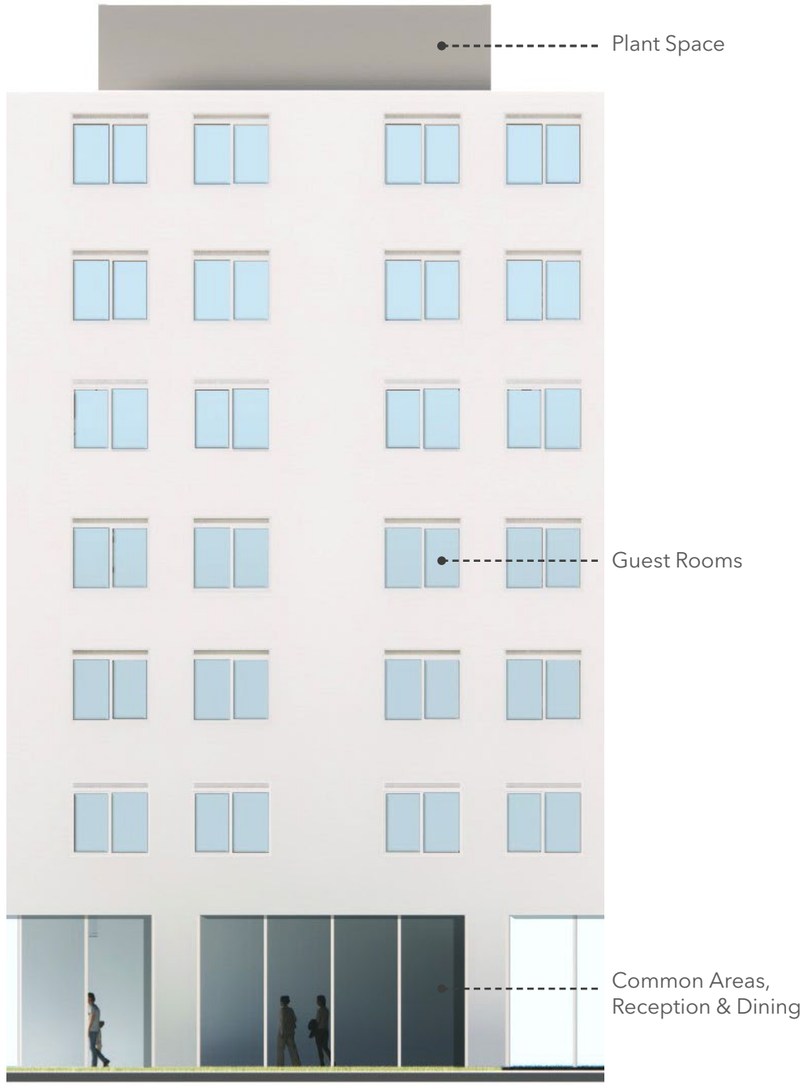


Figure 36. *Indicative Elevation showing Typical 'Commercial Building' Design*

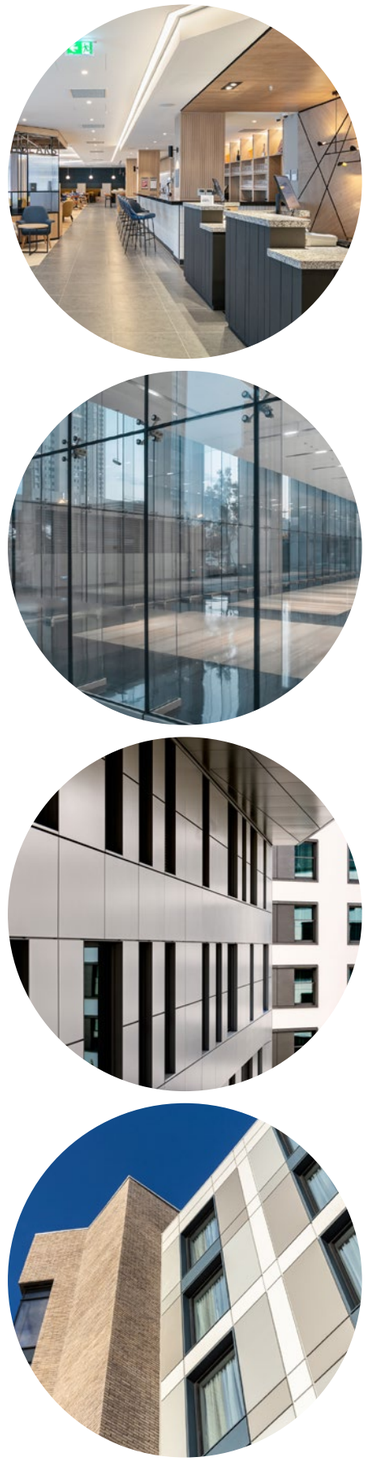


Figure 37. *Typical 'Hotel' Design*

OFFICE BUILDINGS

Function

6.12.3.5 The office building will provide the following facilities:

- Accommodation in a single stand-alone building;
- Internally; workspace, foyer, common parts and toilets, as well as plant and service/refuse space; and
- External public realm, service access, a vehicular 'drop-off' zone, soft landscape and break-out area.

Appearance and Materials

6.12.3.6 The building will incorporate the following design and constructional features:

- A contemporary design and to ensure that the building complements its surroundings, reflect modern design techniques, high quality design and materials, and an aesthetic to suit office building typology;
- The external appearance will comprise lightweight cladding and large areas of glazing, providing excellent views, natural light and attractive work place;
- The occupant entrance will be clearly visible and enhanced with landscape and public realm; and
- The façade will comprise lightweight cladding, large areas of glazing, solar shading and passive colling and energy.

Design Considerations and Standards

6.12.3.7 The design of these buildings should have regard to the following:

- Evolving patterns of work;
- Health and wellbeing (including DDA compliant access etc);
- Floorplate configuration to promote natural daylight, and ventilation;
- Core and floorplate design to permit flexibility in provision of tenant workspace;
- 'Intelligent' building management systems;
- Climate change and energy performance (especially the gap between design intention and operational performance);
- Renewable energy generation (including phot-voltaic cells, ground-source heat pumps etc.);
- Bio-diversity, green walls, and external landscape/ecology areas and sustainable urban drainage (SUDs);
- Rainwater harvesting (grey) water storage for toilets;
- Security, safety and low energy lighting;
- Efficient servicing and recycling;
- Technology and construction techniques and 'green' materials; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.3.8 Design guidance/standards to consider includes the following:

- BCO Guide To Specification BCO: BCO Guide To Specification 2019 Digital;
- BREEAM for Offices BREEAM | BRE Group;
- Government Workspace Design Guide Accessible Draft v1.0 (parliament.uk); and
- Secured by Design, Commercial Developments Version 2, 2015

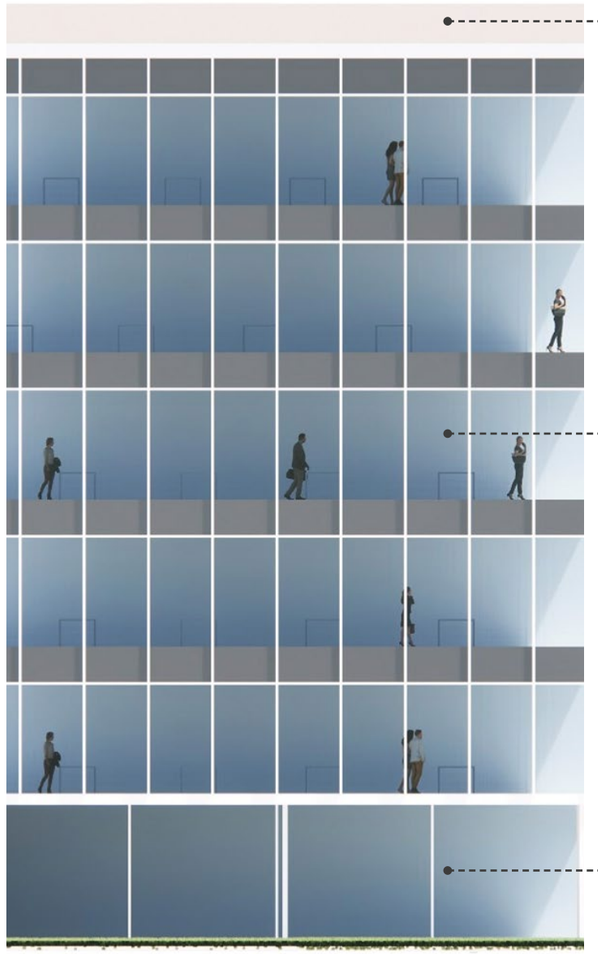


Figure 38. *Indicative Elevation showing Typical 'Office Building' Design*

Figure 39. *Typical 'Office Building' Design*

6.12.4 CAR PARKS

MULTI-STOREY CAR PARKS

Function

6.12.4.1 The MSCP buildings will provide the following facilities:

- Stacked multi-storey car park designed for car, motorcycle, and bicycle storage; and
- Incorporating parking decks, ramps, stair cores and lifts, as well as ticketing areas.

Appearance and materials

6.12.4.2 The buildings will incorporate the following design and constructional features:

- MSCP buildings can be constructed from an open, galvanised or painted, metal frame or constructed in pre-cast or in-situ concrete;
- The façades will maintain open area for natural ventilation. In most locations there isn't a need for additional cladding but in the case of MSCP in Car Park H this may be considered where it faces newly created public realm (See Section 5.10); and
- The entrance and circulation cores will be clearly visible to aid in intuitive wayfinding.

Design Considerations and Standards

6.12.4.3 The design of these buildings should have regard to the following:

- Comparison of level floor/ramp and ramped floor options;
- Security, safety, CCTV, slip resistance and low energy lighting;
- Disability parking;
- Renewable energy;
- Ventilation and smoke extraction;
- Drainage petrol/oil interceptors;
- Charging points for electric vehicles;
- Technology and construction techniques and 'green' materials; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.4.4 Design guidance/standards to consider includes the following:

- Car Park Design, 2023, ESI, Car park design - The Institution of Structural Engineers;
- BS 8206-2: Code of Practice for the Design of Operational and Management Considerations for Car Parks;
- New build car park guidelines for car park designers, operators and owners (British Parking Association, 2016);
- Design Recommendations for Multi-Storey and Underground Car Parks, 2014, NBS;
- Secured by Design, Commercial Developments Version 2, 2015; and
- BS 8300-1,-2 : 2018, Design of buildings and their approaches to meet the needs of disabled people BSI.

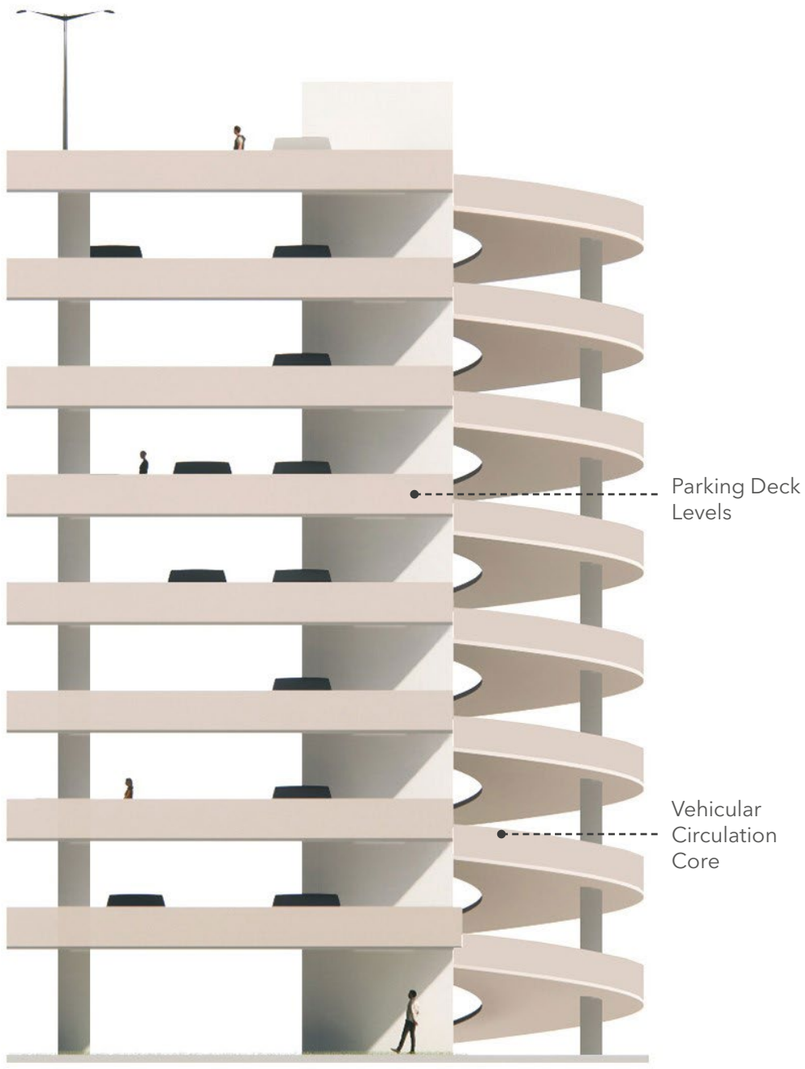


Figure 40. *Indicative Elevation showing Typical 'MSCP Car Park' Design*

Figure 41. *Typical 'MSCP Car Park' Design*

DECK PARKING

Function

6.12.4.5 The deck parking building will provide the following facilities:

- One or two raised decks for car and motorcycle; and
- Incorporating vehicular and access ramps, stairs and ticketing areas.

Appearance and materials

6.12.4.6 The building will incorporate the following design and constructional features:

- MSCP buildings can be constructed from an open, galvanised or painted, metal frame, timber frame or constructed in pre-cast or in-situ concrete;
- The entrance will be clearly visible;
- The building form will be unobtrusive;
- Generally, the MSCP buildings will be constructed from an open, galvanised, painted, metal frame with no external cladding; and
- It will have mast lighting and where appropriate solar PV to upper deck canopies.

Design Considerations and Standards

6.12.4.7 The design of these buildings should have regard to the following:

- Security, safety, CCTV, slip resistance and low energy lighting;
- Disability parking;
- Ventilation and smoke extraction;
- Drainage petrol/oil interceptors
- Charging points for electric vehicles;
- Technology and construction techniques and 'green' materials;
- Renewable energy; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.4.8 Design guidance/standards to consider includes the following:

- Car Park Design, 2023, ESI, Car park design - The Institution of Structural Engineers;
- BS 8206-2: Code of Practice for the Design of Operational and Management Considerations for Car Parks;
- New build car park guidelines for car park designers, operators and owners (British Parking Association, 2016);
- Design Recommendations for Multi-Storey and Underground Car Parks, 2014, NBS;
- Park Mark Safer Parking, 2010, Ass of Chief Police Officers SPS New Build Guidelines; and
- BS 8300-1:2018, Design of Accessible and Inclusive Environment, BSI.

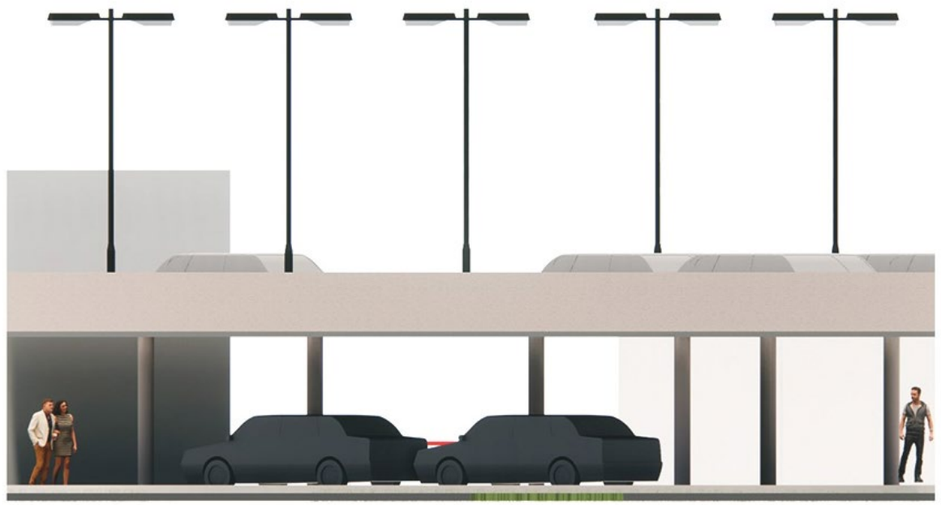


Figure 42. *Indicative Elevation showing Typical 'Deck Parking' Design*

Figure 43. *Typical 'Deck Parking' Design*

SURFACE PARKING

Function

6.12.4.9 Surface parking will provide the following:

- Dedicated paved areas used for vehicle parking.

Appearance and Materials

6.12.4.10 The surface parking will incorporate the following design and constructional features:

- Layout of spaces will potentially be arranged in parallel, perpendicular and angle formations; and
- Parking to have solid surface or where appropriate to be surfaced with a permeable material (such as 'Grasscrete' paving), to facilitate sustainable drainage.

Design Considerations and Standards

6.12.4.11 The design of these buildings should have regard to the following:

- It will have mast lighting and CCTV
- Security, safety, CCTV, slip resistance and low energy lighting;
- Disability parking;
- Drainage and petrol/oil interceptors;
- Charging points for electric vehicles;
- Technology and construction techniques and 'green' materials;
- Renewable energy and PV panels; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.4.12 Design guidance/standards to consider includes the following:

- BS 8300-1:2018, Design of Accessible and Inclusive Environment, BSI; and
- New build car park guidelines for car park designers, operators and owners (British Parking Association, 2016).

Figure 44. *Indicative Elevation showing Typical 'Surface Parking' Design*

Figure 45. *Typical 'Surface Parking' Design*

6.12.5 OPERATIONAL BUILDINGS

OPERATIONAL & RECYCLING

Appearance and Materials

6.12.5.1 The building will incorporate the following design and construction features:

- A contemporary design and to ensure that the building complements its surroundings, reflect modern design techniques, efficient methods of construction and materials;
- Profiled metal or composite sheet cladding and roofing with translucent panels for natural daylighting;
- Steel or timber portal frame, with profiled metal cladding and translucent panels for natural daylighting; and
- Steel chimney/flue extract where required.

Design Considerations and Standards

6.12.5.2 The design of these buildings should have regard to the following:

- Health and wellbeing (including DDA compliant access etc);
- Renewable energy sources (including photo-voltaic cells, ground-source heat pumps etc.);
- Bio-diversity, green walls, and external landscape/ecology areas and sustainable urban drainage (SUDs);
- Rainwater harvesting (grey) water storage for toilets;
- Security, safety and low energy lighting;
- Efficient servicing and recycling; and
- Modern methods of construction;
- Lifecycle costs, demolition and future recycling of building fabric;
- Height of chimney;
- Existing sewers, service cables and substation (to be retained);
- Surface parking with disability provision.

6.12.5.3 Design guidance/standards to consider includes the following:

- Environmental Permitting Guidance. 2015, Dept for environment Food and Rural Affairs, Environmental permitting guidance: waste incineration.

Figure 46. *Indicative Elevation showing Typical 'Operational Building' Design*

Figure 47. *Typical 'Operational Building' Design*

OPERATIONAL & RECYCLING

Appearance and Materials

6.12.5.4 The building will incorporate the following design and construction features:

- A contemporary design and to ensure that the building complements its surroundings, reflect modern design techniques, efficient methods of construction and materials;
- Profiled metal or composite sheet cladding and roofing with translucent panels for natural daylighting;
- Steel or timber portal frame, with profiled metal cladding and translucent panels for natural daylighting; and
- Steel chimney/flue extract where required.

Design Considerations and Standards

6.12.5.5 The design of these buildings should have regard to the following:

- Health and wellbeing (including DDA compliant access etc);
- Renewable energy sources (including photo-voltaic cells, ground-source heat pumps etc.);
- Bio-diversity, green walls, and external landscape/ecology areas and sustainable urban drainage (SUDs);
- Rainwater harvesting (grey) water storage for toilets;
- Security, safety and low energy lighting;
- Efficient servicing and recycling; and
- Modern methods of construction;
- Lifecycle costs, demolition and future recycling of building fabric;
- Height of chimney;
- Existing sewers, service cables and substation (to be retained);
- Surface parking with disability provision.

6.12.5.6 Design guidance/standards to consider includes the following:

- Environmental Permitting Guidance. 2015, Dept for environment Food and Rural Affairs, Environmental permitting guidance: waste incineration.

FIRE STATION

Function

6.12.5.7 The satellite fire station will provide the following facilities:

- Fire tender parking, storage and maintenance;
- Staff welfare facilities;
- Office accommodation;
- Command centre.

Appearance and Materials

6.12.5.8 The building will incorporate the following design and constructional features:

- A contemporary design and to ensure that the building complements its surroundings, reflect modern design techniques, efficient methods of construction and materials and an

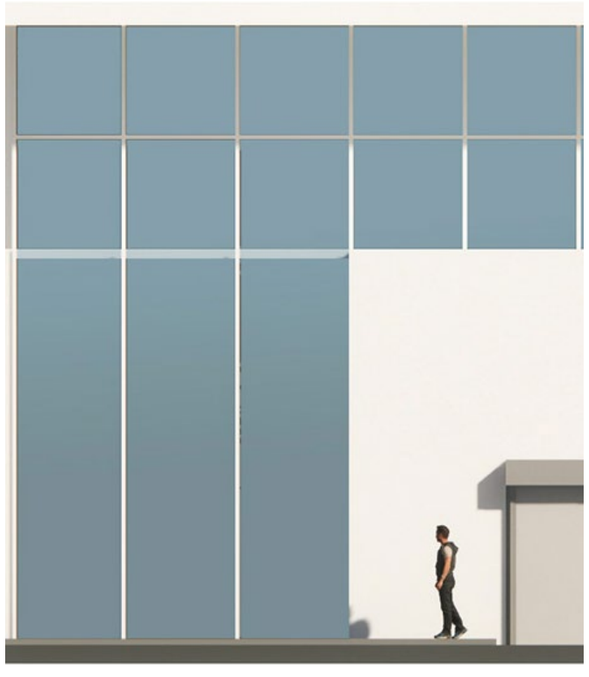


Figure 48. *Indicative Elevation showing Typical 'Fire Station' Design*

Figure 49. *Typical 'Fire Station' Design*

HANGARS

Function

6.12.5.9 The hangar will provide the following facilities:

- Hangar space to support maintenance needs of aircraft up to Code E; size of the airport growth to face future traffic increase;
- Workspace and stores;
- Associated office, staff welfare, service and plant space;
- Apron to accommodate aircraft; and
- Staff parking.

Appearance and Materials

6.12.5.10 The building will incorporate the following design and constructional features:

- A contemporary design and to ensure that the building complements its surroundings, reflect modern design techniques, efficient methods of construction and materials; and
- Steel portal frame with profiled metal or composite sheet cladding and roofing with translucent panels for natural daylighting.

Design Considerations and Standards

6.12.5.11 The design of these buildings should have regard to the following:

- Climate change and energy performance;
- Renewable energy sources (including photo-voltaic cells, ground-source heat pumps etc.);
- Rainwater harvesting (grey) water storage for toilets;
- Security, safety and low energy lighting;
- Efficient servicing and recycling;
- Diversions of existing below ground services;
- Modern methods of construction; and
- Lifecyle costs, demolition and future recycling of building fabric.

6.12.5.12 Design guidance/standards to consider includes the following:

- International Civil Aviation Organization (ICAO): ICAO Annex 14: Aerodromes & ICAO Doc 9157: Aerodrome Design Manual;
- International Air Transport Association (IATA): IATA Airport Development Reference Manual (ADRM);
- European Civil Aviation Conference (ECAC): ECAC Doc 30: Airport Planning Manual; and
- ECAC Doc 30: Airport Planning Manual: CAP 168: Licensing of Aerodromes.

Figure 50. *Indicative Elevation showing Typical 'Hangar' Design*

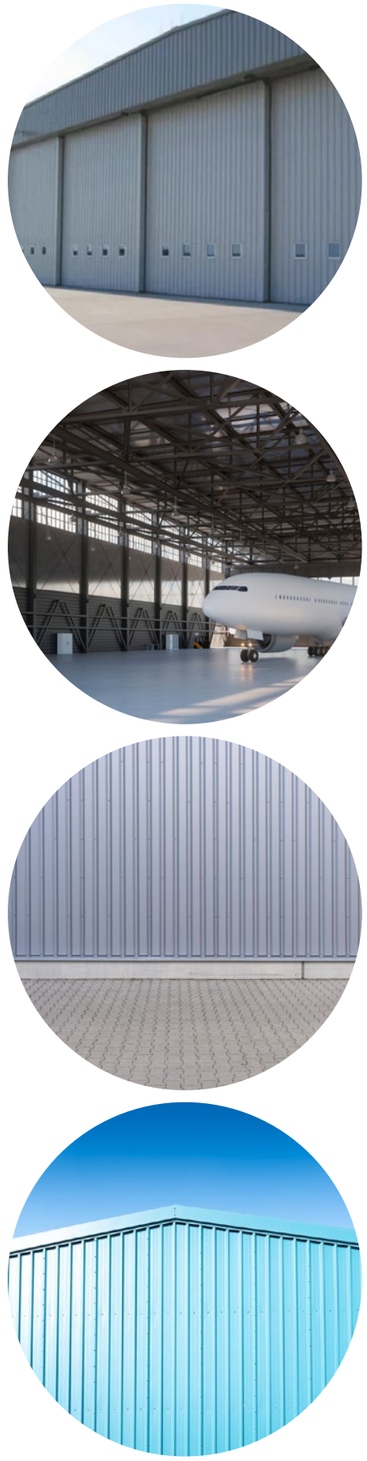


Figure 51. *Typical 'Hangar' Design*

6.13 USEFUL LINKS

6.13.1 Below are the web links to information referenced in Section 6.

Context and Community

- Community engagement: guidance for local authorities, Ministry of Housing, Communities and Local Government, 2019, https://www.gov.uk/guidance/community-engagement-and-eu-exit-guidance-for-local-authoritie
- Understanding Place, Historic Area Assessments, Historic England, 2017, [redacted]
- Understanding Place, Historic Area Assessments, Historic England, 2017, [redacted]
- Streets for All, Advice for Highway and Public Realm Works in Historic Places, Historic England, 2018, [redacted]
- Manual for Streets, Department for Transport and Department for Communities and Local Government, 2007, www.gov.uk/government/publications/manualfor-streets
- Manual for Streets 2, Department of Transport, 2010, www.gov.uk/government/publications/manual-forstreets-2
- Cycle infrastructure design (Local Transport Note 1/20), Department for Transport, 2020, https://www.gov.uk/government/publications/cycle-infrastructure-design-ltn-120
- Highway Tree Management Operations Note 51, Forestry Commission, 2019 https://www.gov.uk/government/publications/highway-tree-management-operations-note-51
- Inclusive Mobility, Making transport accessible for passengers and pedestrians, Department for Transport, 2005, https://www.gov.uk/government/publications/inclusive-mobility
- A Green Future: Our 25 Year Plan to Improve the Environment, Department for Environment, Food and Rural Affairs, 2018, www.gov.uk/government/publications/25-year-environment-plan
- Nature Nearby - Accessible Natural Greenspace Guidance (NE265), Natural England, 2010, https://webarchive.nationalarchives.gov.uk/20140605145320/http://publications.naturalengland.org.uk/publication/40004?category=47004

Design

- National Design Guide: https://www.gov.uk/government/publications/national-design-guide
- New Build Design Standards, NFCC, New Build Design Standards [redacted]
- Park Mark Safer Parking, 2010, New Build Guidelines [redacted]
- National Design Guide (2021) Section 11. 'Making Effective Use of Land' and Section 12. Achieving Well-designed Places National design guide - GOV.UK (www.gov.uk)
- Integrated Security, A Public Realm Design Guide for Hostile Vehicle Mitigation - Second Edition, Centre for the Protection of National Infrastructure, 2014, https://www.cpni.gov.uk/system/files/documents/40/20/Integrated%20Security%20Guide.pdf

Sustainability and the Environment

- Gatwick Second Decade of Change Sustainability statement and goals [redacted]
- The Biodiversity Metric 2.0 (JP029), Natural England, [redacted]
- The Mosaic Approach: Managing Habitats for Species (B2020-009), Natural England, 2013, [redacted]
- Effective Use of Land (2019) Effective use of land - GOV.UK (www.gov.uk)
- UK Government's 'UK and the Sustainable Development Goals' https://www.gov.uk/government/topicalevents/uk-voluntary-national-review-of-progress-towards-the-sustainable-development-goals

7.0 PARAMETERS FOR IMPLEMENTATION

7.1 PARAMETERS FOR IMPLEMENTATION

7.1.1 The design of the projects set out in Section 5 of this DAS is at an early feasibility stage. Each of the main components of the authorised development is attributed a work number ('Work No.'). The work numbers should be read alongside the **Work Plans** (Doc Ref 4.5)which are set out at Schedule 1 of the draft DCO (Doc Ref 2.1) and define the location of the authorised development as well as any limits of deviation as set out in Article 6 and on the **Parameter Plans** (Doc Ref 4.7).

7.1.2 The maximum extent and area of each Work No. are shown on the Work Plans and Parameter Plans; with the approximate level of the finished works, the height of the structure (m) and/or maximum parameter height within which this Work would be undertaken described within this DAS and **ES Chapter 5: Project Description** (Doc Ref. 5.1).

7.1.3 A number of things can influence the parameters for development beyond the current design area. These can be an allowance for design development at later stages of design and also extra space needed for construction of the works.

7.1.4 The approach to how the parameters were developed is different for the surface access works due to the level of design detail available at the point of developing this masterplan.

7.1.5 There are also elements which haven't been fixed in their location and don't have a defined parameter area yet but are expected to happen within the Order Limits. This includes works like:

- Earthworks;
- Sewers and drainage;
- Landscaping;
- Foot, cycle paths and bridleways;
- Utilities; and
- Street and urban realm alterations.

7.1.6 The parameters have defined for the 'Airport Development Parameters' includes projects for the terminal, commercial and operational buildings, as well as car parking and the airfield works.

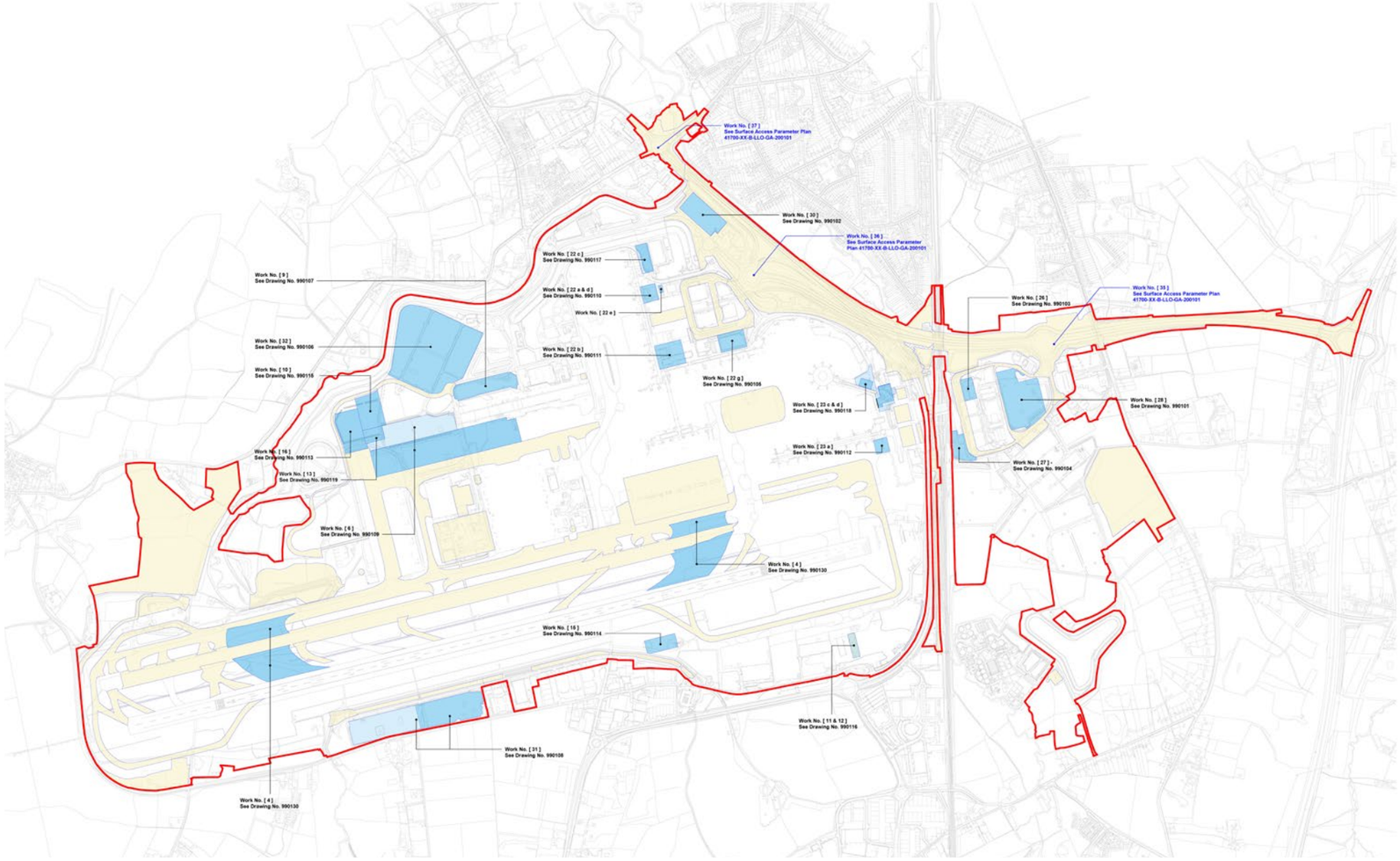


Figure 52. *None Highways Parameters Location Plan*

7.2 AIRPORT DEVELOPMENT PARAMETERS

7.2.1 For the projects where a specific site is known, a parameter plan has been produced. This plan then shows the extent of the 'maximum development envelope' for each. The extent of these was developed giving consideration to adjacent plots which have existing uses or other proposed developments under the Draft DCO.

7.2.2 In general the parameter areas follow existing lines of ownership or defined plots such as existing sites. Within these plots GAL has considered constraints that would limit development of the proposed use. Where these are present, the parameter for development excludes these, for example mature trees, ecological habitats and existing road infrastructure that is not being impacted by the Project.

7.2.3 The 'indicative proposal' outline is then shown inside of this line to give an idea of likely scale of such a development at that site.

7.2.4 The height for each plot has also been defined and this has taken into consideration a number of limiting factors such as the visual impact on adjacent or neighbouring areas.

7.2.5 As noted in Section 3, Gatwick Airport is required to adhere to safeguarding aerodrome regulations and therefore those height restrictions influence the parameter plan heights. The permitted height of any building or structure is governed by a series of 3-Dimensional planes that extend outwards from the runway. They are collectively named as Protected Surfaces and are made up of the Obstacle Limitation Surfaces (OLS) and Instrument Flight Procedure Surfaces (IFPS).

7.2.6 The Parameter Plans for each site are defined in the set of Airport Development Parameters plans submitted as part of the Draft DCO. An example of this is shown on figures 52 and 54 which show the maximum height in section (Figure 53) and the maximum site parameter area in plan view (Figure 54).

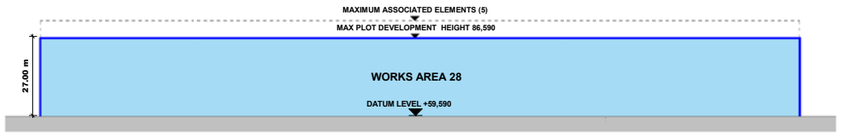


Figure 53. *Example Parameters Section (Car Park H Site)*

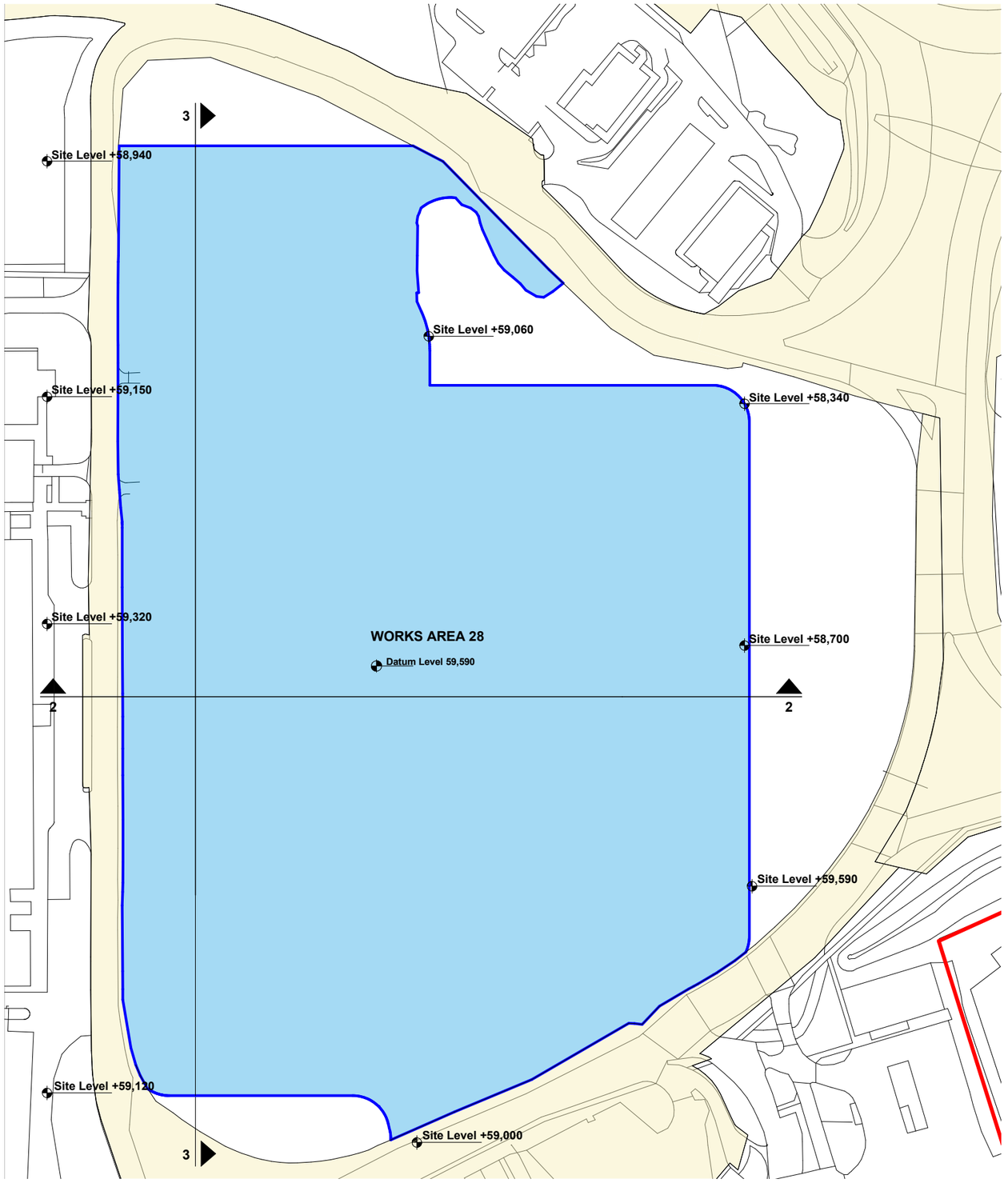


Figure 54. *Example Parameters Plan (Car Park H Site)*

7.3 HIGHWAYS PARAMETERS

7.3.1 The designs for surface access highway works described in this document are preliminary and will be developed further in the future at the detailed design stage.

7.3.2 A set of Parameter Plans have been produced for the surface access works such as those shown in Figures 55 and 56. These plans show the lateral limits of deviation for the surface access works which define the maximum engineering footprint of the surface access works, excluding utilities and planting. The extent of lateral limits of deviation is influenced by environmental considerations including existing vegetation and flood plains; adjacent land plots and their usage; the degree of uncertainty in relation to existing site features such as existing ground conditions and condition of existing assets; design standard requirements for the proposed works; and sufficient flexibility to allow for refinement of the design proposals at the detailed design stage.

7.3.3 The preliminary design is shown inside the lateral limits of deviation to illustrate the scale and layout of the surface access works.

7.3.4 The preliminary design of the vertical alignments of the proposed highway works are illustrated in the **Engineering Section Drawings**. These illustrate the heights of each highway relative to existing ground levels. The vertical limits of deviation set out in the Draft DCO define the maximum extent to which the proposed vertical alignments can move up or down, typically defined as up to 1m upwards and up to 1.5 metre downwards.

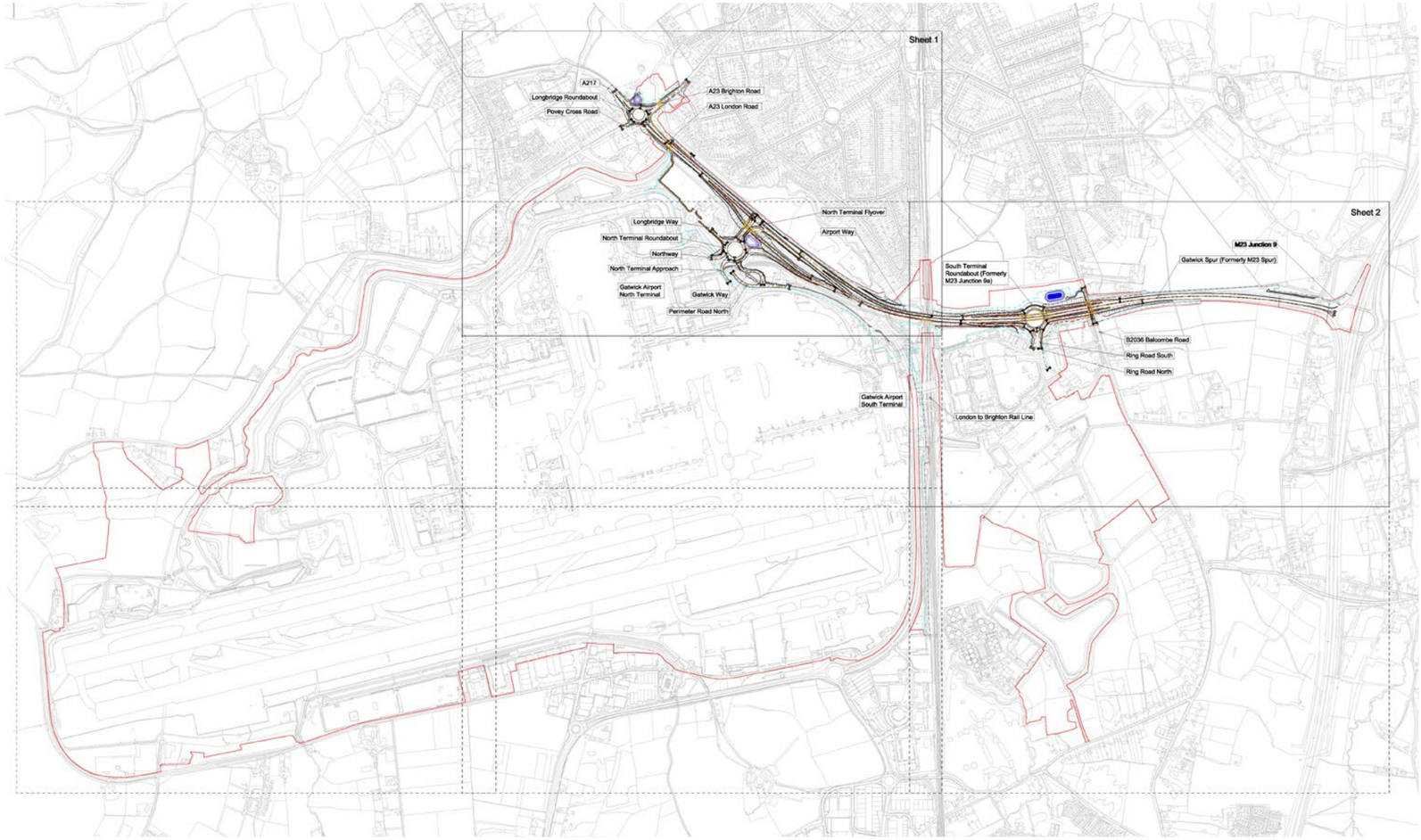


Figure 55. *Highways Parameters Location Plan*

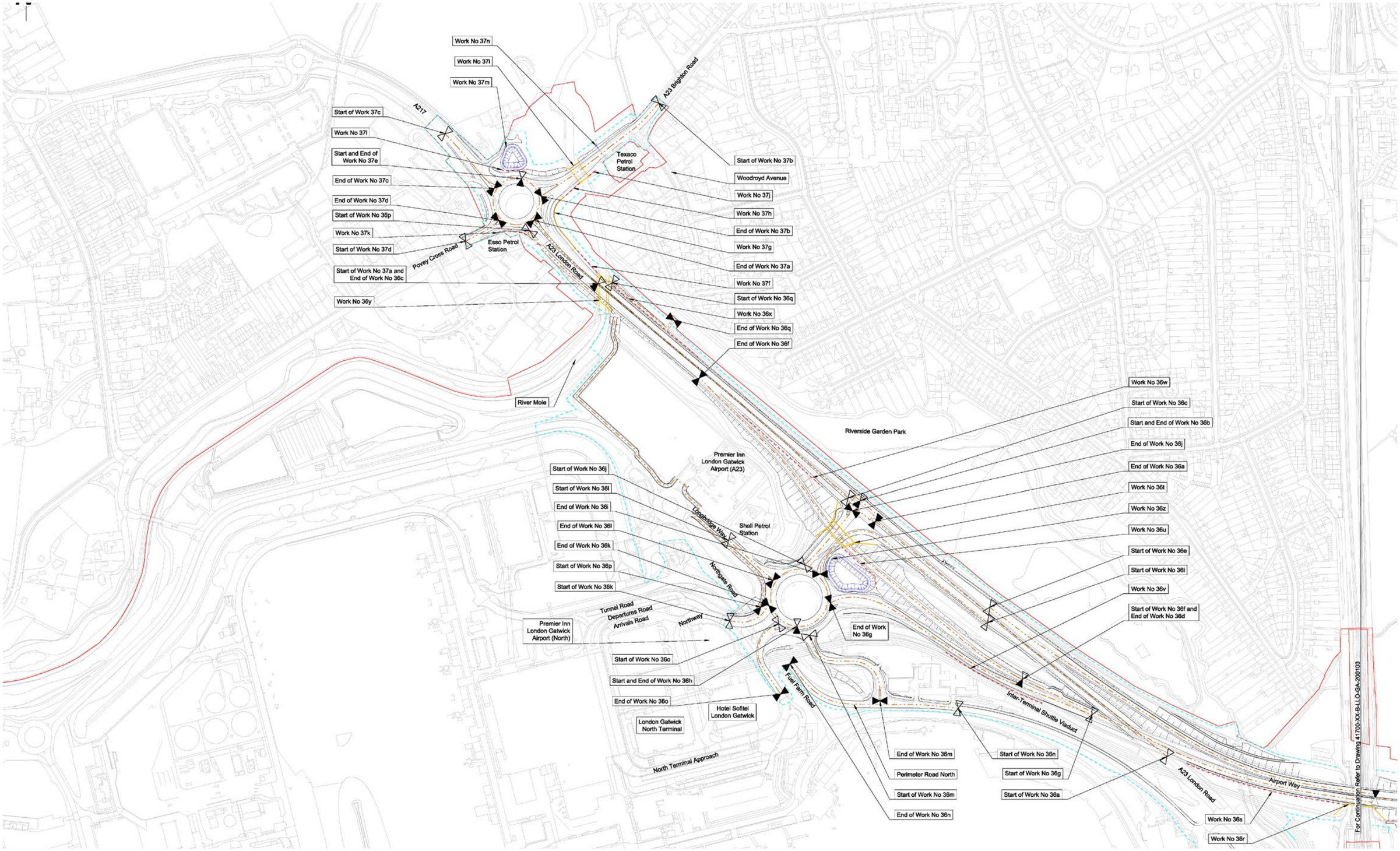


Figure 56. *Example of Typical Highways Parameters Plan*

8.0 TEMPORARY CONSTRUCTION COMPOUNDS

8.1 INTRODUCTION

8.1.1 Construction of the Project would be undertaken in accordance with a **ES Appendix 5.3.2: Code of Construction Practice** (Doc Ref. 5.3). This legally secures the implementation of environmental mitigation measures for the construction of the Project. The mitigation measures identified in the Code of Construction Practice have been identified through the EIA process and are reported in the Environmental Statement. They describe how GAL will manage and minimise disturbance and other environmental impacts from demolition and construction activities (as identified in the Environmental Statement). The Coide of Constrcution Practice also ensures that best practice standards will be applied and that there is a system in place for managing complaints.

8.1.2 GAL and its contractors will be required to implement the environmental management measures set out in the version of the Code of Construction Practice as approved by the Secretary of State, for all construction activities authorised by the Draft DCO to deliver the Project.

8.1.3 This section sets out the process for the siting, design and layout of the temporary construction compounds required for the construction of the Project.

8.1.4 GAL anticipates that seven construction compounds will be required to support the construction of the Project. The locations of these compounds are shown on Figure 57 and described below:

- MA1 – Main Contractor Compound – the main compound that will be used to support the Project office and most of the key services including the main welfare facility, car parking, airside screening and batch plants.
- Airside Satellite– this compound will support the core airfield works located within the north-western area of the airfield.
- Car Park Z – this compound will be used as a staging and laydown area for the core airside works.
- Car Park Y – this compound will be used for reprocessing the hard-excavated material from the core airside runway works. Following the completion of the airside works, the compound will be used to support the North Terminal Roundabout surface access works.

Figure 57. *Locations of Temporary Construction Compounds*

- South Terminal Roundabout– this compound will support the surface access works to the South Terminal Roundabout.
- Longbridge Roundabout – this compound will support the Longbridge Roundabout surface access works. The compound will include storage for site containers, short-term material laydown and a pick-up point for workforce vans.
- Car Park B – this compound will support the widening works of the Airport Way bridge over the London to Brighton railway. The compound will include storage for site containers, short-term material laydown and a pick-up point for workforce vans.

8.1.5 The following sections set out the indicative locations, activities, sizing, maximum heights and access for each of the proposed compounds.

8.2 REQUIREMENTS

8.2.1 When determining the location of the construction compounds, the following objectives were considered:

- Minimise disruption to local communities as far as practicable.
- Ensure there is no impact on operations at Gatwick Airport.
- Meet construction and logistics requirements while retaining a degree of flexibility to locate the most appropriate construction activities at each compound location.
- Build facilities only once to avoid relocation during construction.
- Minimise workforce commute times .
- Minimise internal movement of people and materials between the construction sites.

8.2.2 It is anticipated that the Project would be constructed over a period of approximately 14 years. The proposed compounds would be required for various durations throughout this period. Table opposite illustrates the indicative duration of each compound.

8.3 INSTALLATION OF THE COMPOUNDS

8.3.1 The general process to establish the construction compounds comprises the following:

- Installation of secure fencing around the site.
- Clearance of the site to remove existing items/structures that are not required as part of the construction compound.
- Marking out roadways and safe walking routes and parking areas.
- Installation of temporary welfare and office facilities.
- Installation of temporary batching plants and bulk material handling.
- Installation of bus terminus and airside process facility (where appropriate).

8.3.2 The contractor facilities are expected to comprise of temporary modular accommodation units. Examples of these units are shown in Figure 58. The accommodation units will be delivered to the site via road vehicle and installed using a mobile crane. The same method will be performed in reverse for the removal of these buildings.

8.3.3 On completion of the Project (or the relevant works that the compound is required for), all temporary compounds would be restored to their previous land use following completion of the works except for the Car Park B Compound that would become replacement open space.

Figure 58. *Examples of Temporary Construction Compounds*

COMPOUND	2023	2024	2025	2026	2027	2028	2029	;2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
MA1 - MAIN CONTRACTOR COMPOUND																		
AIRFIELD SATELLITE COMPOUND																		
CAR PARK Z - (STAGING AND LAY DOWN)																		
CAR PARK Y - MATERIAL PROCESSING AND LAY DOWN AREA																		
SOUTH TERMINAL ROUNDABOUT CONTRACTOR COMPUND																		
LONGBRIDGE ROUNDABOUT - SITE WELFARE FACILITIES*																		
CAR PARK B - A WAY RAIL BRIDGE WIDENING																		

Temporary Compounds Timeline

8.3.4 MA1 - MAIN CONTRACTOR COMPOUND

8.3.3.1 The Main Contractor Compound (MA1) would be located in the south eastern part of Gatwick airport, to the west of Perimeter Road (Figure 55). The site is currently hard stand used for long-stay car parking with access gained from Perimeter Road South as shown on Figure 59.

8.3.3.2 The compound would be securely fenced and is anticipated to accommodate the following:

- main office and welfare facility (including meeting room space, canteen, locker rooms and waste processing area);
- two batching plants, with associated bulk material storage and handling bays;
- airside processing facility for people, vehicles and materials;
- short term material laydown;
- parking (approximately 500 cars, 10 vans and 5 bus spaces) for contractor, project manager and supply chain vehicles restricted parking spaces based on the assumption that three people would use two vehicles and the provision of car pooling and public transport options, safe walking routes; and
- staff bus stops.

8.3.3.3 The main compound is anticipated to occupy an area of approximately 4 hectares. The tallest elements within the main compound are expected to be components of the batching plants at a maximum of 25 metres above ground level. .

8.3.3.4 The location is anticipated to serve the majority of the daily construction workforce and the project management team. The main compound would support approximately 700 construction workers.

Figure 59. *Overall Site Location - MA1 - Main Contractor Compound*

8.3.3.5 It is likely that a new temporary access from the existing Perimeter Road East would be required to enable separation of construction traffic from the existing operational traffic. A separate control point will be provided for access to the compound.

8.3.3.6 Two new accesses will be required at Perimeter Road East. The southernmost access will serve as the HGV access point to the batch plant and material laydown areas of the compound. A vehicle access will also be provided to the north along Perimeter Road East for staff to ensure that access is separate to HGV traffic. It is expected that approximately 530 car parking spaces would be provided at the site.

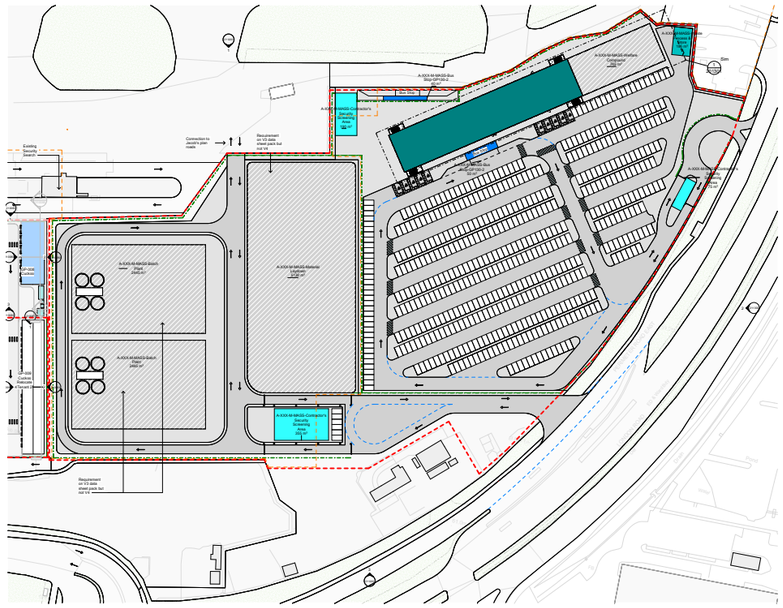


Figure 60. *Proposed Ground Floor Plan - MA1 - Main Contractor Compound*

8.3.5 AIRFIELD SATELLITE COMPOUND

8.3.5.1 The Airfield Satellite Compound will be to the west of Taxiway Uniform and south of the Boeing hangar (Figure 62). The site is currently a mix of hard stand with an existing batching plant from a previous contractor site area and greenfield as shown on Figure 61. This compound would be securely fenced and is anticipated to accommodate the following:

- satellite office and welfare facility (including meeting room space, small canteen, locker rooms, waste processing area);
- two concrete batching plants, with associated bulk material storage and handling bays;
- short term material laydown;
- security screening area;
- parking (approximately 250 car, 10 van, 5 bus spaces);
- safe walking routes;
- staff bus stops; and
- two warehouses.

8.3.5.2 The compound is anticipated to occupy an area of approximately 3.5 hectares. The tallest elements within the compound are expected to be components of the batching plant at a maximum of 25 metres above ground level. The location is anticipated to serve airfield works, including the provision of a stockpile location and crusher operation.

8.3.5.3 The compound would support approximately 370 construction workers.

8.3.5.4 The access road to the Airfield Satellite Compound would be via part of Larkins Road. Approximately 750 metres would be strengthened and widened from the current single lane (5 metres wide) to a two way carriageway (7.5 metres wide) up to 10 metres in width to allow for wagon overhang, plus an additional 2 metres for construction.

Figure 61. *Overall Site Location - Airfield Satellite Compound*

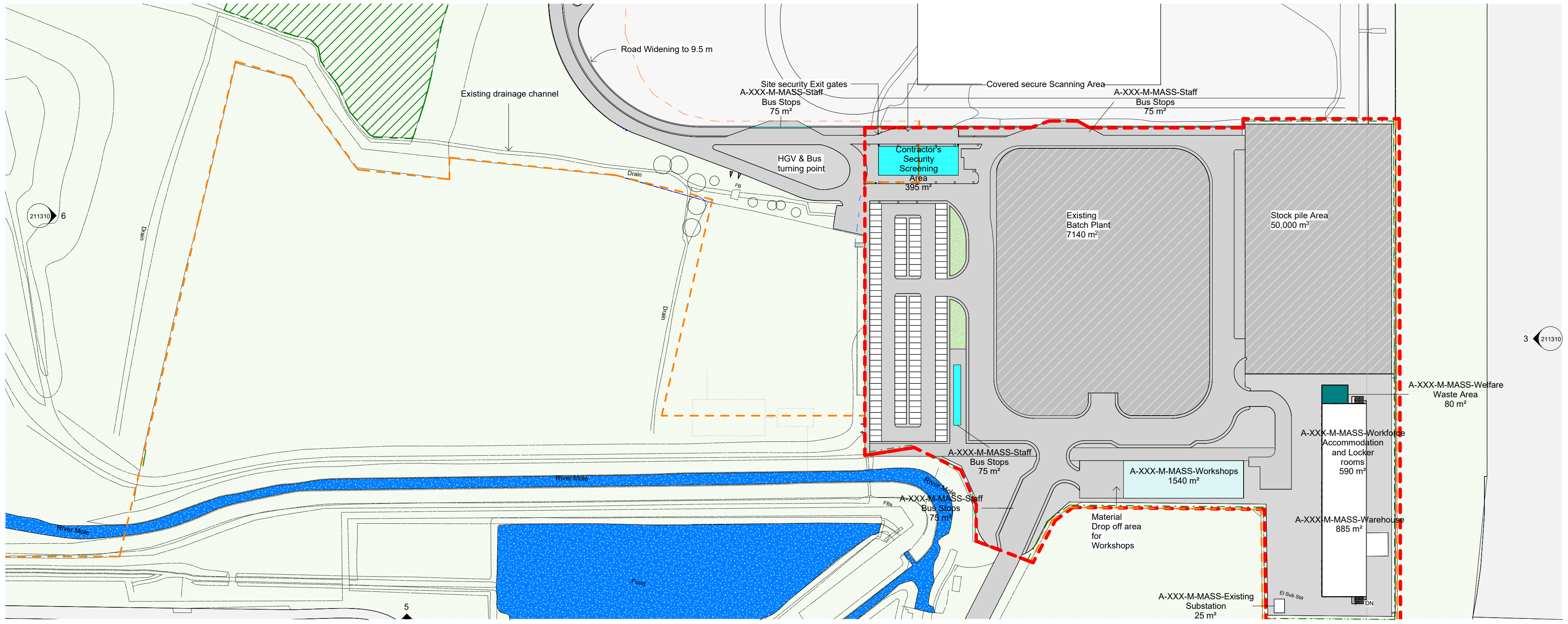


Figure 62. *Airfield Compound Proposed Site Plan - Airfield Satellite Compound*

8.3.6 CAR PARK Z (STAGING AND LAYDOWN)

8.3.6.1 The Car Park Z compound would be located to the southeast of the airfield (Figure 63). This area is currently used for as a car park with Airfield and Landside

8.3.6.2 The compound would be fenced and is anticipated to accommodate the following:

- a staging and laydown area;
- site offices and welfare facilities;
- parking (approximately 20 car, 2 van and 4 HGV spaces);
- mobile crusher;
- security screening area; and
- warehouse.

8.3.6.3 It would occupy an area of approximately 1.8 hectares. The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level.

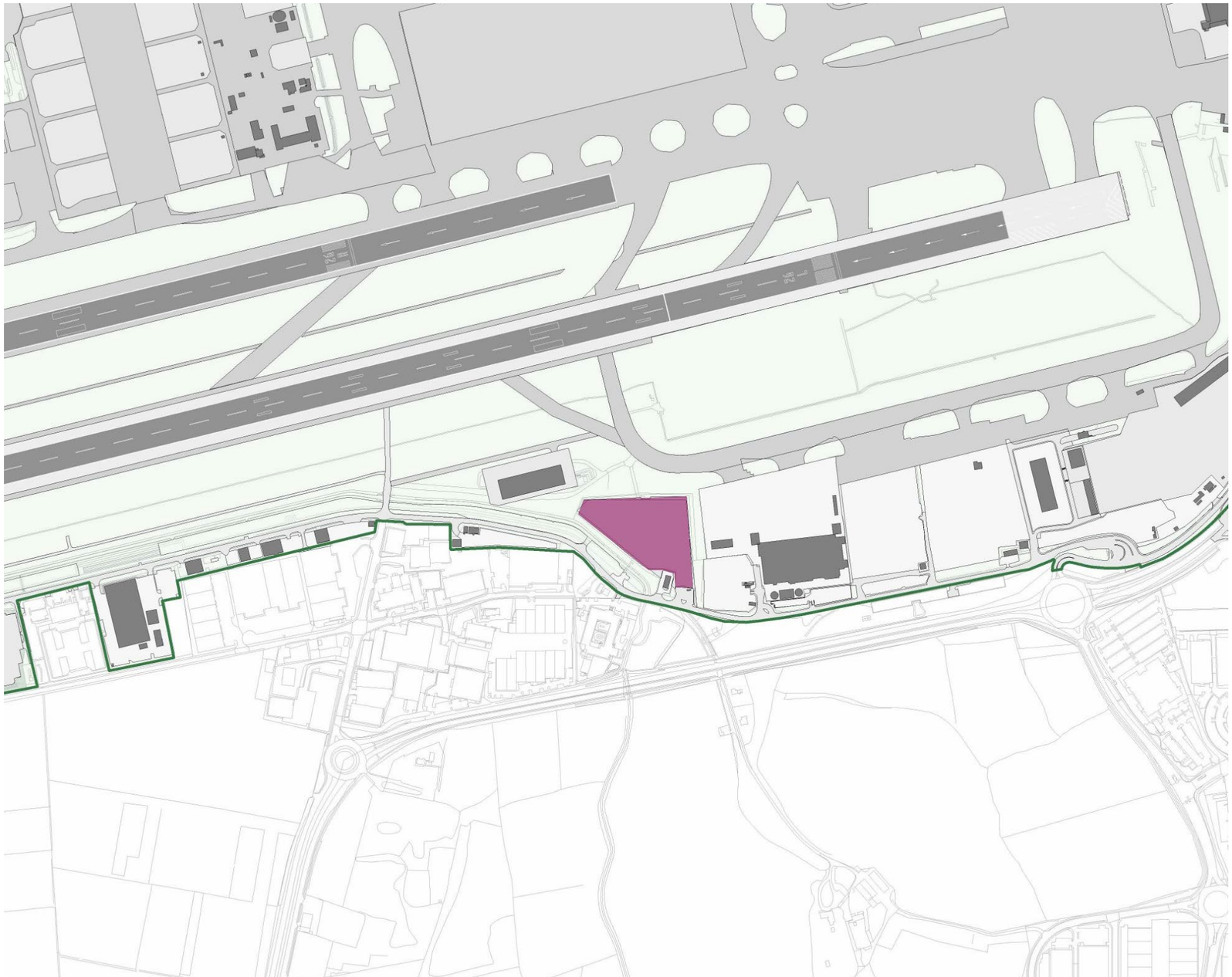


Figure 63. *Overall Site Location - Car Park Z*

8.3.7 CAR PARK Y COMPOUND

8.3.7.1 The Car Park Y compound would be located off the Northgate Roundabout to the north of Gatwick Airport (Figure 64). The site is currently used a surface level car parking with access gained from Perimeter Road North as show on Figure 64.

8.3.7.2 For the compound's initial use as the airside materials processing area, the area would be fenced and is anticipated to comprise:

- Material processing plant area;
- Material storage and laydown areas;
- Wheel wash areas for HGVs;
- Site offices and welfare facilities;
- Mobile crusher and loader;
- Warehouse;
- Parking (approximately 10 car, 2 van and 5 HGV spaces);
- Security screening area.

8.3.7.3 For the compound's later use for the surface access works (North Terminal Roundabout) the area would be fenced and is anticipated to comprise:

- Site offices and welfare facilities;
- Security screening area;
- Stockpiling;
- Wheel wash area; and
- Parking (approximately 50 car, 10 van, 5 bus, 15 HGV and 10 articulated vehicle spaces).

8.3.7.4 It would occupy an area of approximately 1.8 hectares. The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level.

8.3.7.5 Access to the site is currently provided from the roundabout on Perimeter Road North/Longbridge Way/ Northgate Road which also provides access to the Premier Inn Hotel. It is proposed at all vehicles enter the compound using the existing access. The configuration of the access will be optimised to reduce vehicle conflicts and prevent vehicles from turning right.

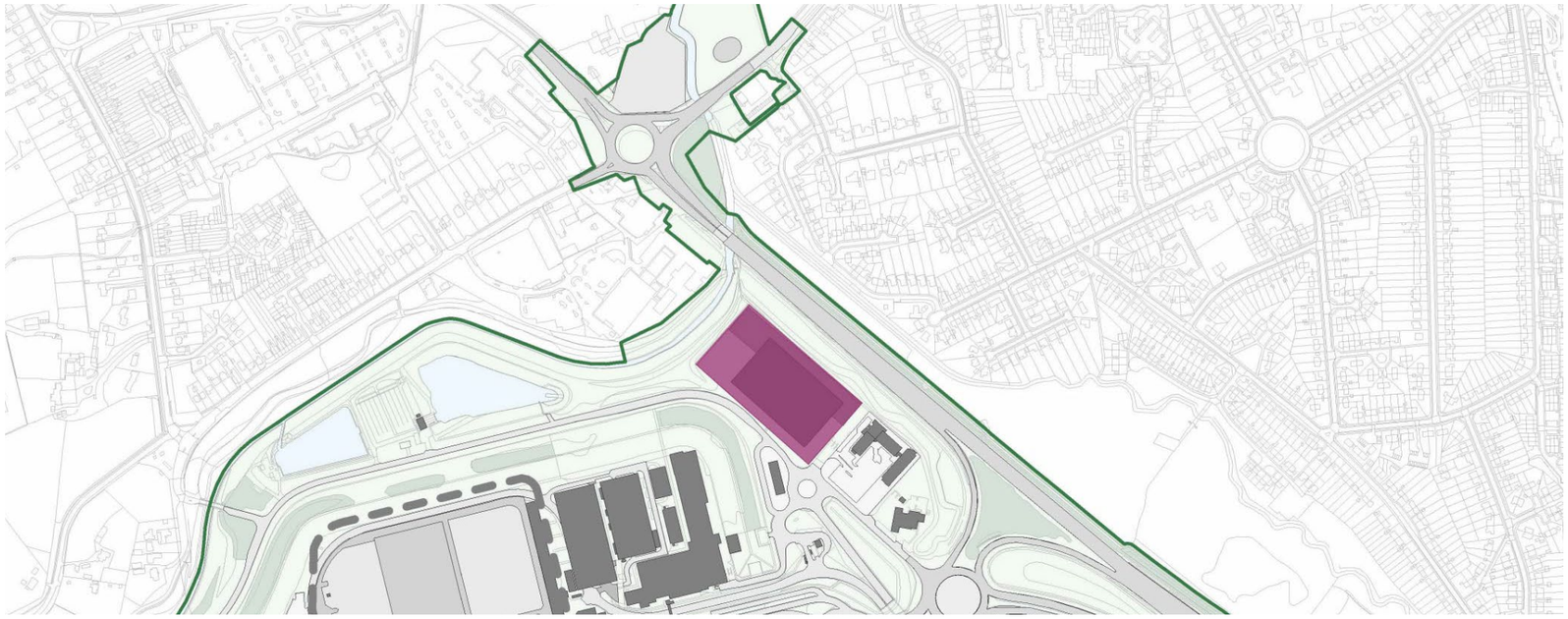


Figure 64. *Overall Site Location - Car Park Y Compound*

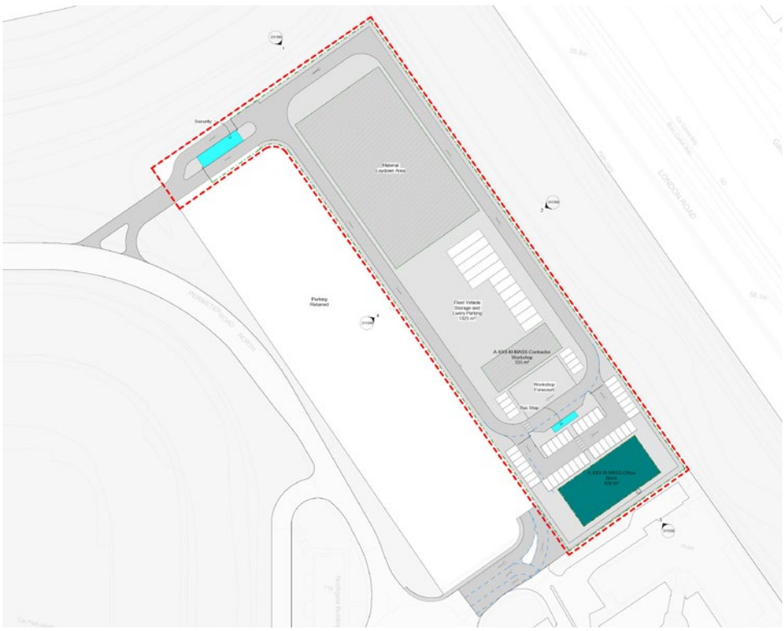


Figure 65. *Indicative Car Park Y Compound Site Layout*

8.3.8 SOUTH TERMINAL ROUNDABOUT CONTRACTOR COMPOUND

8.3.8.1 The South Terminal Roundabout Contractor Compound would be located to the north of the South Terminal Roundabout (Figure 66). The site is currently a field (Reigate Field) with areas of woodland located to the east of Gatwick Airport shown on Figure 66.

8.3.8.2 The compound would be fenced and is anticipated to accommodate the following:

- Access controlled access from the South Terminal Roundabout;
- Office and welfare facilities (including meeting room, canteen, locker rooms);
- material laydown area;
- Security screening area;
- Batching plant;
- Two warehouses and a workshop;
- Stock piling;
- Traffic break down recovery centre;
- Wheel wash area; and
- Parking for contractor, project manager and supply chain vehicles (approximately 169 car, 10 van, 5 bus spaces).

8.3.8.3 It would occupy an area of approximately 3 hectares. The tallest elements within the compound are expected to be components of the batching plant at a maximum of 25 metres above ground level.

8.3.8.4 There would be a bund for noise and visual screening. Materials storage would be located to the west of the compound to distance it from residential properties on Balcombe Road and there would be potential to locate other facilities in this area.

8.3.8.5 The compound would support approximately 250 construction workers.

8.3.8.6 Access to the compound would be afforded by a temporary access off the South Terminal Roundabout as shown on Figure 67.

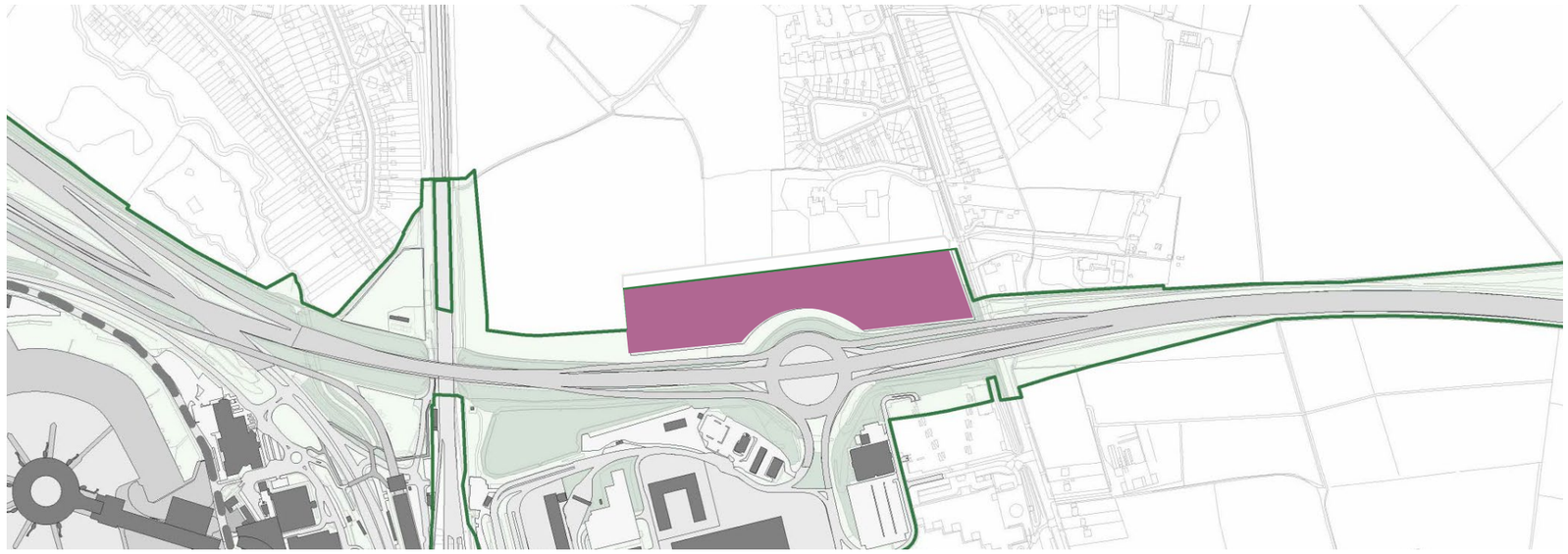


Figure 66. *Overall Site Location - South Terminal Roundabout*

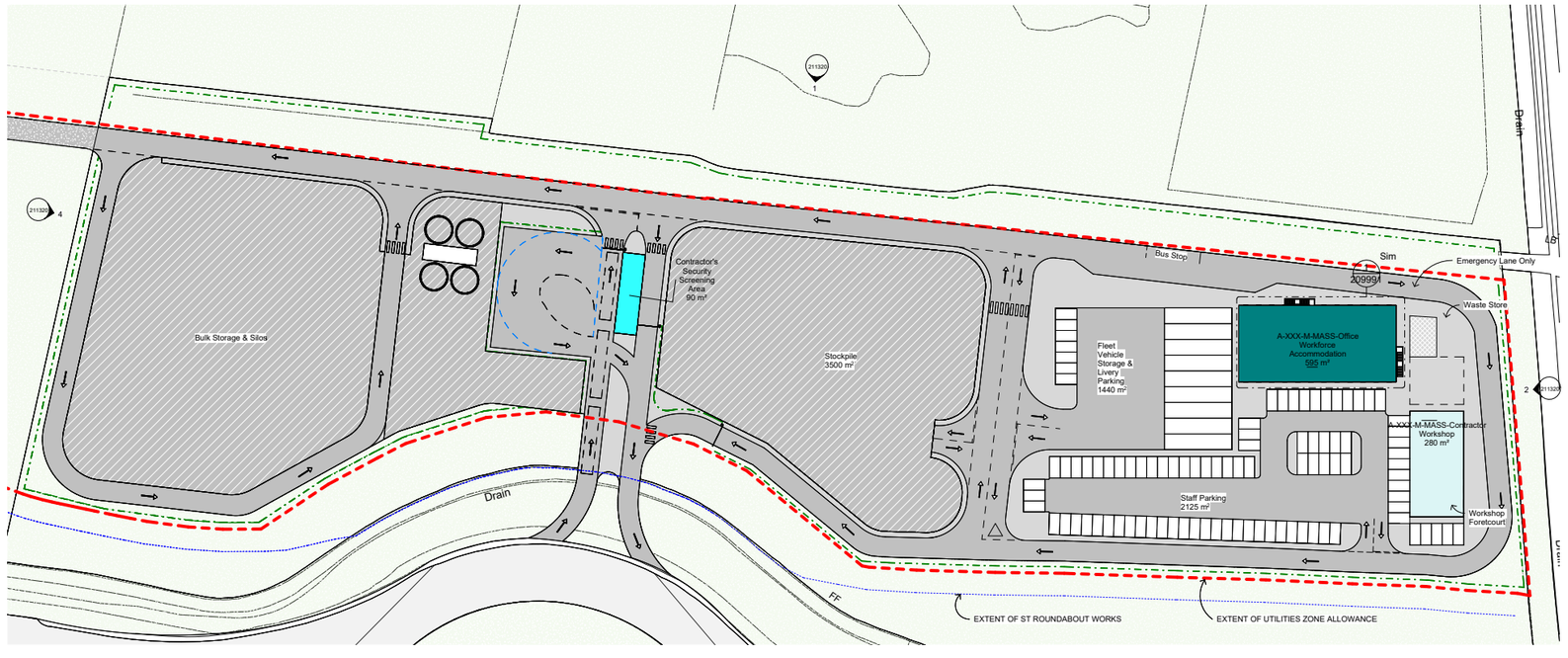


Figure 67. *Overall Site Plan - South Terminal Roundabout*

8.3.9 LONGBRIDGE ROUNDABOUT SITE WELFARE FACILITY

8.3.9.1 The Longbridge Roundabout Contractor Compound will serve the works to the Longbridge Roundabout. It is located to the north of Gatwick Airport at the northern extent of the Longbridge Roundabout (Figure 68). The site is currently a field which is surrounded by trees and woodland with the River Mole separating the site from Church Meadows.

8.3.9.2 The compound would be securely fenced and is anticipated to accommodate the following:

- office and welfare facility (including meeting room space, small canteen/locker rooms, waste processing area);
- material laydown; and
- parking for contractor, project manager and supply chain vehicles (approximately 27 car, 4 van spaces).

8.3.9.3 The Longbridge roundabout satellite compound is anticipated to occupy an area of approximately 0.3 hectares. The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level. The welfare containers would be either two storey or on steel legs due to the flood risk at the site.

8.3.9.4 The compound would accommodate approximately 40 construction workers.

8.3.10 CAR PARK B COMPOUND - A WAY RAIL BRIDGE WIDENING

8.3.10.1 The Car Park B compound would be used for the works to widen the Airport Way bridge over the railway line. Part (approximately 0.3 hectares) would be to the north of the bridge (as shown on Fugure 68) and part (approximately 0.17 hectares) to the south of the bridge. The northern part of the site is currently a field with the southern part being used as surface car parking.

8.3.10.2 The compound would be securely fenced and is anticipated to accommodate the following:

- Office and welfare facility (including welfare waste area);
- Material lay down;
- Wheel wash area; and
- Parking (approximately 30 car, 4 van spaces.

8.3.10.3 The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level.

8.3.10.4 The compound would accommodate approximately 40 construction workers.

8.4 SITE RESTORATIONS

8.4.1 MA1, Airside Satellite, Car Park Z and Car Park Y compounds will be reinstated to their original condition after the completion of the construction works. The rest of the compounds will be stripped and the sites use for landscaping, ecological planting and environmental mitigation areas within the Project scope.

8.4.2 The land used for the construction compound will be restored to their original condition before the construction activities took place. This will involve removing temporary structures, excess material removal, grading and levelling of the area to its original topography.

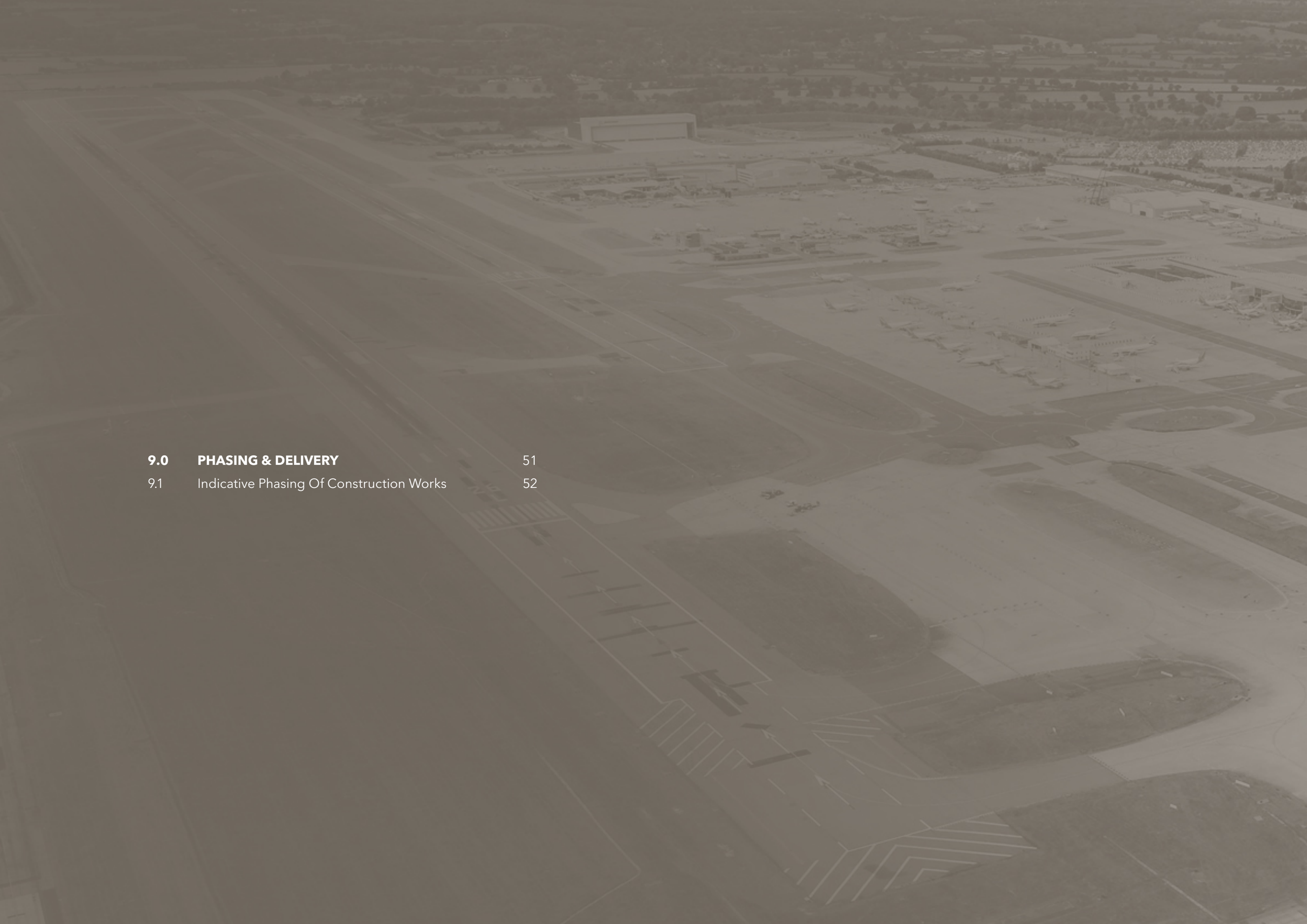
8.4.3 All service connections, such as water, gas and electricity will be reinstated to their original condition.

8.4.4 Any damage caused to the environment, such as vegetation or landscaping, will be repaired or replaced. These works may involve planting new trees or shrubs, repairing damaged sidewalks and curbs, or installing new landscaping features.

8.4.5 The reinstatement works will comply with all the regulatory requirements and guidelines, including the necessary permits and approval from the relevant authorities.

Figure 68. *Site Location - Longbridge Roundabout Site Welfare Facility*

Figure 69. *Site Location - Car Park B Compound*



9.0 PHASING & DELIVERY

9.1 INDICATIVE PHASING OF CONSTRUCTION WORKS

9.1.1 This section sets out the indicative construction programme for the Project. It has been based on an assumption that construction would commence in 2024, however this timing is indicative and the actual commencement year of the Project will be dependent on the securing of development consent and the associated discharge of requirements.

9.1.2 The below sets out the key construction activities and phasing at various intervals during the construction period to provide an understanding of the types of works that are likely to be constructed concurrently and their duration.

9.1.3 An indicative construction programme has been based on construction commencing in 2024, however the actual timing of the Project will be dependent on the timing of securing development consent and the discharge of the associated requirements.

9.1.4 The programme for the main airfield construction works will be approximately five years in duration to enable the altered northern runway and taxiways to be complete and fully operational in combination with the main runway in 2029.

9.1.5 During the construction period the northern runway would not be available as a standby runway for a period of several months.

9.1.6 The construction of other works that form part of the Project would continue past 2029.

9.1.7 The indicative phases of the Project are described in the following tables (Figures 70, 72, 74 & 76).

9.1.8 Figure 70 indicatively shows the construction activities that would occurring in 2026. The activities likely to be in construction in 2026 are predominantly those that are within the Gatwick Airport site. These include the alterations to the northern runway and associated airfield, extensions to the North Terminal and South Terminal, and construction of the hotel and commercial facilities, car parking and flood compensation areas.

9.1.9 Figure 71 shows the location of these activities.

9.1.10 PHASING 2026

Construction Sequencing 2024-2029 : Activities	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Repositioning of Existing Northern Runway, Reconfiguration of Taxiways															
Stand Amendments															
Reconfiguration of Airport Facilities															
Internal Access Routes															
Terminal Extensions															
Hotels															
Car Parking															
Surface Access															
Water Management, Foul Water and Substations															
Landscaping and Ecological Planting															

Figure 70. *Indicative Construction Phasing Schedule (2026)*

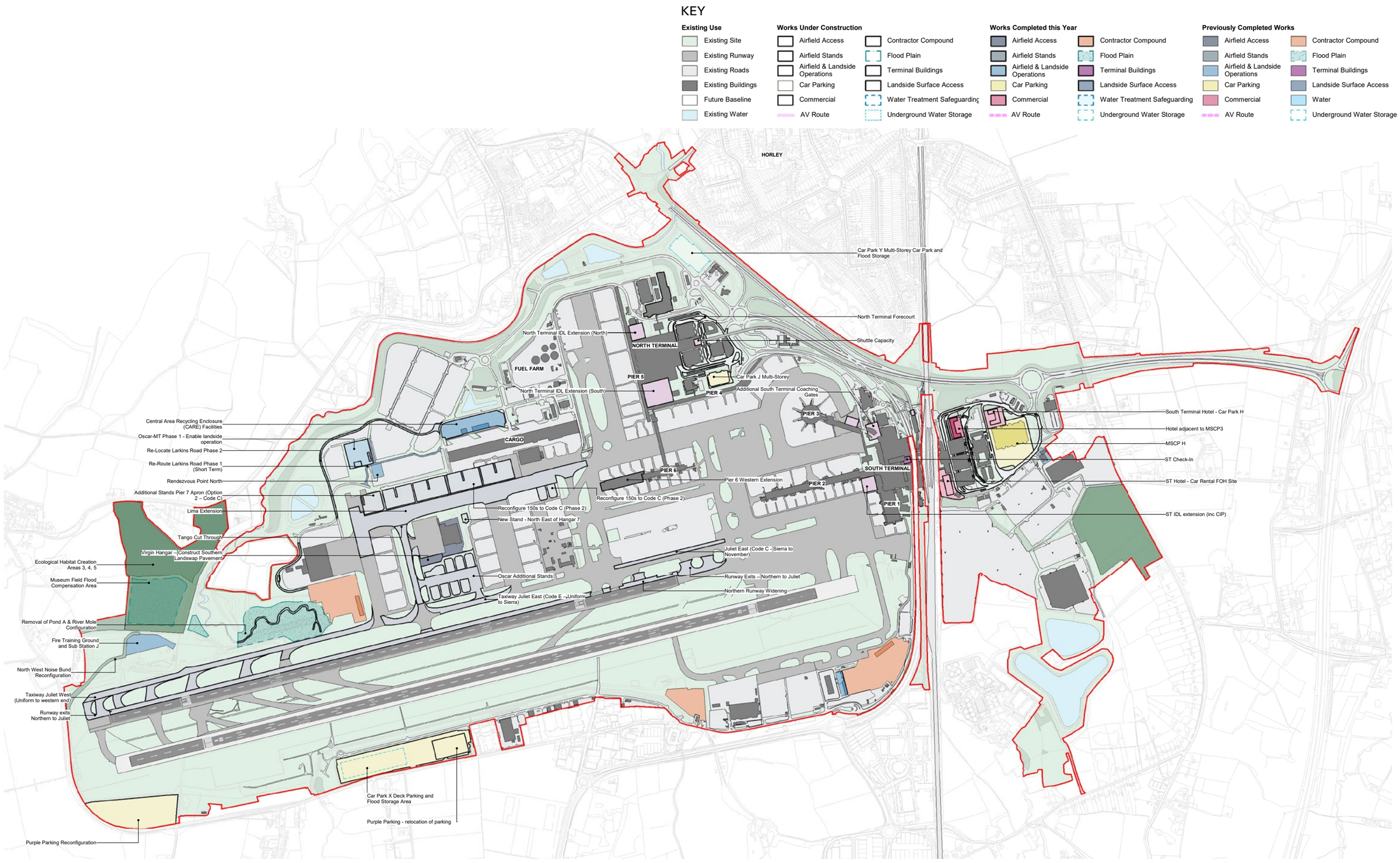


Figure 71. *Phasing Plan (2026)*

9.1.11 PHASING 2029

9.1.12 Figure 72 indicatively shows the construction activities that would occurring in 2029. Most of the Project would be in the construction phase at this point in time, including the construction of the surface access improvements, with the exception being the construction of Pier 7.

9.1.13 Figure 73 shows the location of these activities.

Construction Sequencing 2029 Onwards : Activities	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Reconfiguration of Taxiways															
Pier and Stand Amendments															
Aircraft Holding Area															
Reconfiguration of Airport Facilities															
Internal Access															
Terminal Extensions															
Offices and Hotels															
Car Parking															
Surface															
Water and Substances															
Landscaping and Ecological Planting															

Figure 72. *Indicative Construction Phasing Schedule (2029)*

KEY

Existing Use
- Existing Site
- Existing Runway
- Existing Roads
- Existing Buildings
- Future Baseline
- Existing Water

Works Under Construction
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Works Completed this Year
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Previously Completed Works
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage

HORLEY
Longbridge Roundabout Open Space
Longbridge Construction Compound
Longbridge Roundabout
Car Park Y Contractor Compound for Surface Access
NT Roundabout Expansion
North Terminal Baggage Hall
North Terminal IDL Extension (North)
NORTH TERMINAL
NT Security and Check-in
FUEL FARM
PIER 5
North Terminal Long Stay Car Park
North Terminal IDL Extension (South)
PIER 4
Additional South Terminal Coaching Gates
PIER 3
Oscar-MT Phase 2 - Relocation
Central Area Recycling Enclosure (CARE) Facilities
CARGO
Re-Locate Larkins Road Phase 2
Rendezvous Point North
PIER 6
SOUTH TERMINAL
PIER 2
PIER 1
Additional Stands Pier 7 Apron (Option 2 – Code C)
Reconfigure 150s to Code C (Phase 2)
New Stand - North East of Hangar 7
Ecological Habitat Creation Areas 3, 4, 5
Oscar Additional Stands
Taxiway Juliet East (Code E – Uniform to Sierra)
Taxiway Juliet West - Spur
Taxiway Juliet West (Uniform to western end)
Runway Exits – Main to Northern
East-West track between
End around Taxiway West
Purple Parking Reconfiguration
End around Taxiway East (Yankee)
RFFS provison south of main runway
Ecological Habitat Creation 2
Car Park B - Airport Way Rail Bridge Widening Site Welfare Facility
South Terminal Roundabout Expansion
South Terminal Hotel - Car Park H
South Terminal Forecourt
MSCP H
Destinations Place Hotel
South Terminal IDL Extensions (inc CIP)
Water Treatment Works

Figure 73. *Phasing Plan 2029*

9.1.14 PHASING 2032

9.1.15 Figure 74 indicatively shows the construction activities that would occurring in 2032. These activities are likely to be the extensions to the North Terminal and South Terminal, hotel and commercial facilities, car parking, flood compensation areas, surface access improvements, reconfiguration of airfield facilities, Pier 7, and the reinstatement of construction compounds no longer in use.

9.1.16 Figure 75 shows the location of these activities.

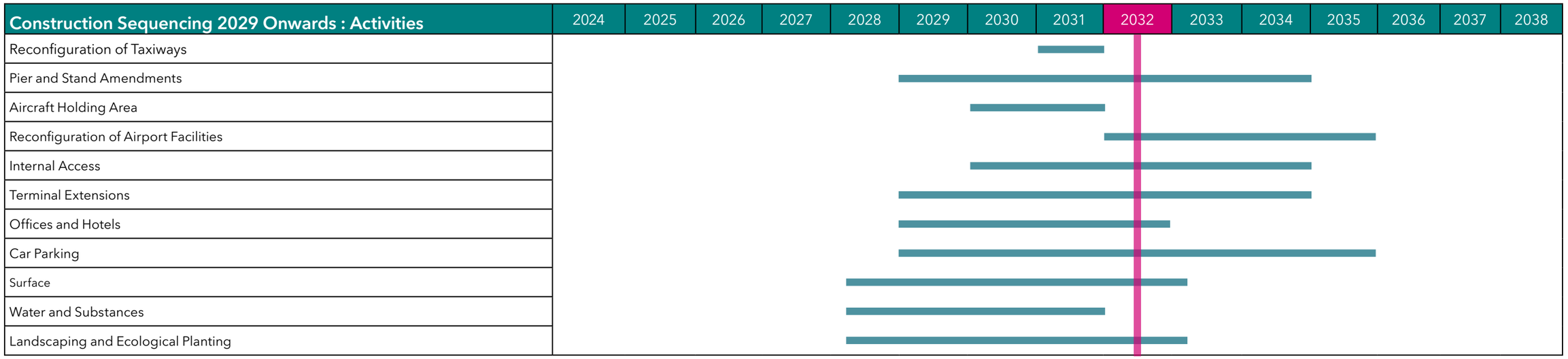


Figure 74. *Indicative Construction Phasing Schedule (2032)*

KEY

Existing Use
- Existing Site
- Existing Runway
- Existing Roads
- Existing Buildings
- Future Baseline
- Existing Water

Works Under Construction
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Works Completed this Year
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Previously Completed Works
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage

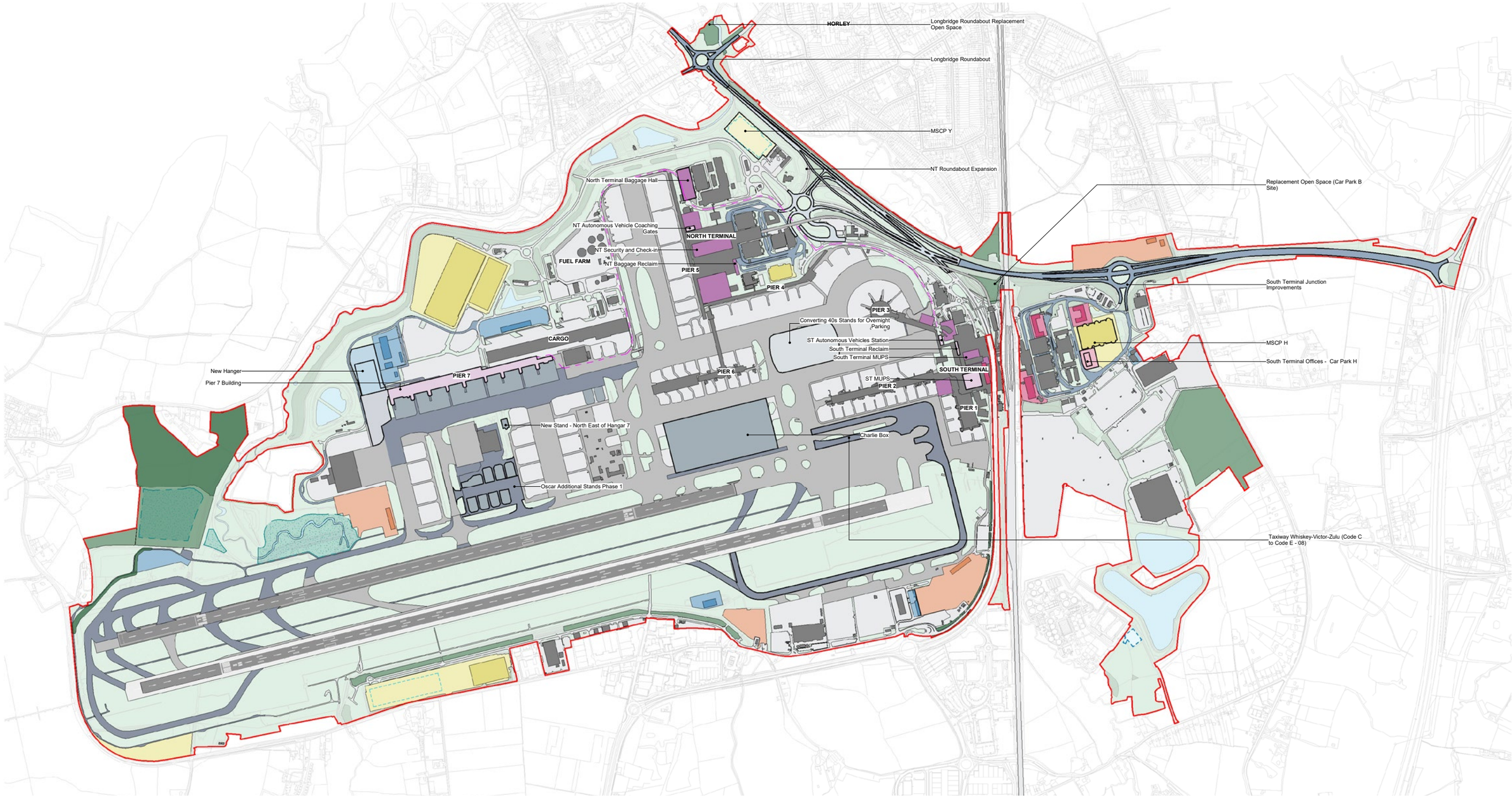


Figure 75. *Phasing Plan 2032*

9.1.17 PHASING 2038

9.1.18 Figure 76 indicatively shows the construction activities that would occurring in 2038. Figure 77 shows the general locations of these activities once completed.

Construction Sequencing 2029 Onwards : Activities	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Reconfiguration of Taxiways															
Pier and Stand Amendments															
Aircraft Holding Area															
Reconfiguration of Airport Facilities															
Internal Access															
Terminal Extensions															
Offices and Hotels															
Car Parking															
Surface															
Water and Substances															
Landscaping and Ecological Planting															

Figure 76. *Indicative Construction Phasing Schedule (2038)*

KEY

Existing Use
- Existing Site
- Existing Runway
- Existing Roads
- Existing Buildings
- Future Baseline
- Existing Water

Works Under Construction
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Works Completed this Year
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Previously Completed Works
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage

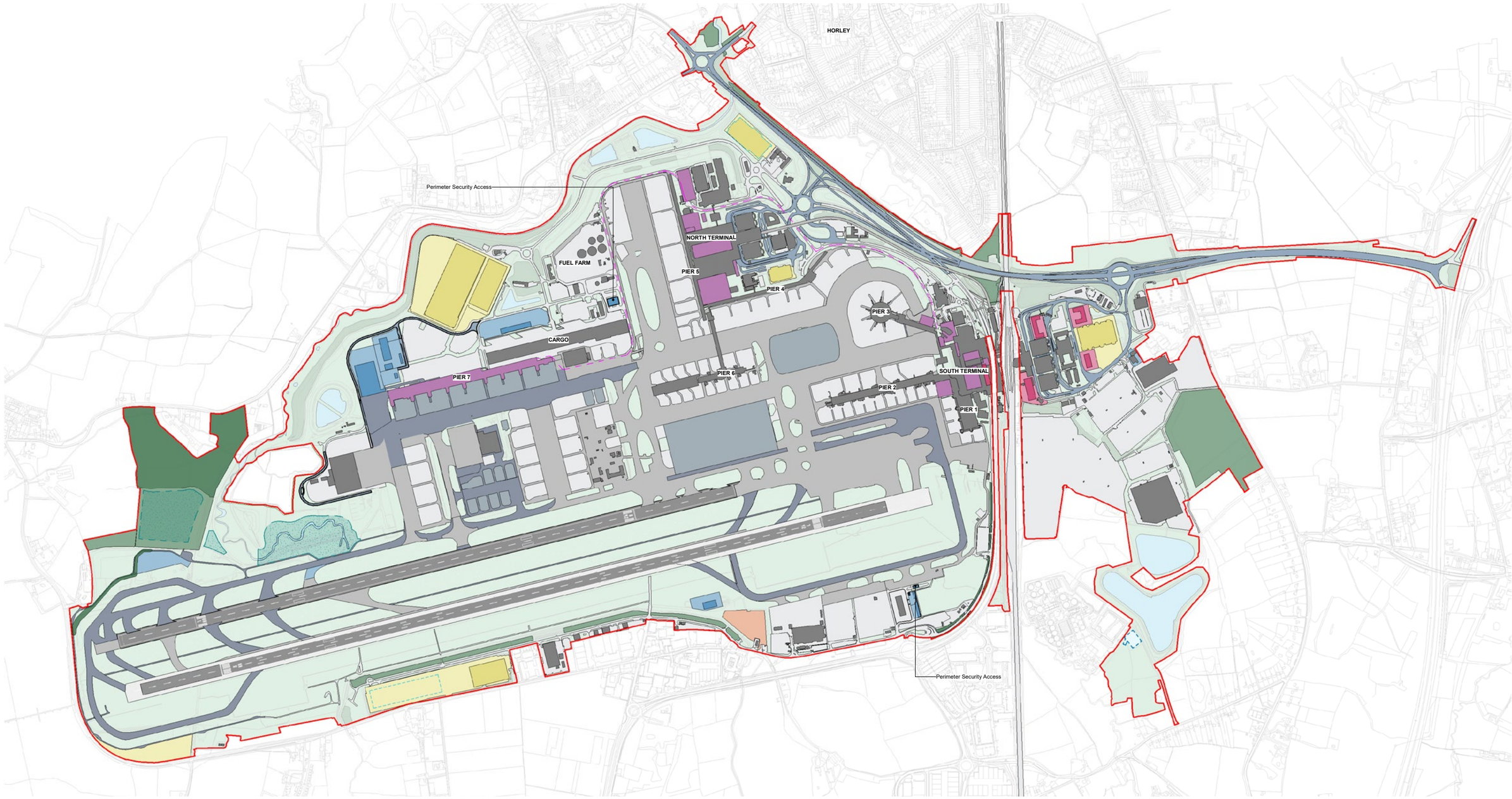


Figure 77. *Phasing Plan 2038*

APPENDIX

Appendix 1 - Design Principles

Introduction

1.1.1 This Appendix describes the Design Principles that underpin the design and integration of the Project into its context. They are written to capture the key principles documented within this DAS that have shaped the indicative design thus far as part of development of the masterplan, and to make a commitment that these will be maintained and developed as part of future detailed design and delivery phases of the Project.

1.1.2 The Design Principles represent a 'forward-looking' view of the key components of the design, whereas the earlier volumes of this DAS illustrate the process whereby the masterplan was achieved. The principles will be followed at the detailed design stage (following a Development Consent Order (DCO) being granted).

1.1.3 The Design Principles reflect the design commitments of GAL in relation to the Project. They are intended to set out a unified approach to design and capture the collective knowledge of the Project team at the time of making an application for development consent. They create an overarching, shared resource which give clarity to stakeholders over the required design outcomes. They give more detail on design intent and objectives to be achieved, whilst providing some flexibility for the detailed designs to be developed.

Approach to Control of Design

1.1.4 These Design Principles will be secured through the DCO and will provide certainty as to the principles that will be applied in designing the Project. They provide stakeholders with assurance on how the design of the Project will be developed following the grant of consent.

1.1.5 Two DCO requirements in Schedule 2 of the Draft DCO (Doc Ref. 2.1) require that before work can commence on any relevant part of the Project details of buildings, structures and works must be submitted to and approved by the relevant local planning authority or relevant local highway authority. These details must be in accordance with these Design Principles. One requirement restricts the development of local highways and the other restricts development of the authorised development (excluding highway works and excepted development).

1.1.6 This Appendix forms one of a suite of control documents that capture the Project's operational design-related commitments.

1.1.7 Other control documents that also secure measures related to the Project's design include:

- The plans contained within Book 4 – Plans and Drawings;
- ES Appendix 5.3.2 Code of Construction Practice (including its subsidiary plans) (Doc Ref. 5.3);
- ES Appendix 8.8.1 Outline Landscape and Ecology Management Plan (oLEMP) (Doc Ref. 5.3);
- ES Appendix 5.4.2 Carbon Action Plan (Doc Ref. 5.3);
- ES Appendix 5.4.1 Surface Access Commitments (Doc Ref. 5.3);
- ES Appendix 11.9.6 Flood Risk Assessment - Annex 2 Surface Access Drainage Strategy (Doc Ref. 5.3); and
- ES Appendix 18.8.2 Public Rights of Way Management Plan (Doc Ref. 5.3).

1.1.8 This Appendix will be a control document and should be read in conjunction with the other control documents and ES Appendix 5.2.3 Mitigation Route Map (Doc Ref. 5.3) to understand the full suite of mitigation measures proposed.

1.1.9 The below sets out where design principles are secured in other control documents:

- In the case of landscape and ecological design, detailed landscape requirements are secured in the oLEMP. These Design Principles provide landscape and ecological commitments in addition to those commitments and it is integral that these documents are read in parallel when designing works. The Draft DCO includes a requirement that before works are commenced on any part of the Project, a landscape and ecology management plan (LEMP) must be submitted to and approved by the relevant planning authority. The LEMPs must be in accordance with the oLEMP.
- There are specific requirements in the Draft DCO for the approval of detailed drainage designs. The detailed drainage designs for the proposed development (with the exception of the highways works and excepted development) must be in accordance with the drainage design principles included within this Appendix. The detailed Design Principles for the highway works must be in accordance with the Surface Access Drainage Strategy which has been discussed with the local hihgway authorities and National Highways.
- Construction-related design commitments (including compound siting and design) are set out in the Code of Construction Practice and its subsidiary plans. A DCO requirement specifies that the construction of the authorised development must be carried out in accordance with the Code of Construction Practice.

Scope of the Design Principles

1.1.10 The works subject to detailed design approval are set out in the Schedule 2 Requirements of the Draft DCO. The relevant local planning authority (and in some cases the relevant highway authority) will approve the detailed design in accordance with the requirements set out in Schedule 2. This includes ensuring that the detailed design is in general accordance with the Design Principles.

1.1.11 To assist with the evaluation of the design against the Design Principles, they have been split into four categories:

- Project-Wide Design Principles;
- Detailed Built Form Design Principles;
- Detailed Drainage Design Principles; and
- Detailed Landscape Design Principles.

1. SITE-WIDE DESIGN PRINCIPLES	
LANDSCAPING	
L1	Any retained trees, scrub and hedgerows which are features of ecological value will be reviewed to see if they could be incorporated within the design, where feasible to do so.
L2	Tree and shrub planting will be provided within built-up areas (such as car parks) to reinforce retained tree lines and across the Project. The landscape planting will include a variety of native trees and shrubs and wildflower grasslands.
L3	New woodland will be planted along the highway works and new road alignments. In particular, an existing non-native hedgerow comprising Leyland cypress between the A23 London Road and Perimeter Road East will be replaced with a native species-rich hedgerow.
L4	Vegetation retention proposals for all elements of the Project that coincide with existing significant vegetation including hedgerows, woodland, trees, shrubs, wetland and amenity planting or elements of the Project will be designed to: • Ensure green infrastructure assets are retained wherever possible and adverse impacts on the important features and locally distinctive patterns of development at Gatwick Airport are minimised. • Minimise adverse impacts on the character of surrounding landscapes and townscapes. • Prevent the coalescence of the airport and settlements of Crawley and Horley. • Protect important urban green spaces, including Riverside Garden Park and Church Meadows. • Ensure that visually significant vegetation is retained to minimise adverse effects on visual receptors, protect important views and protect the natural beauty and setting of the AONBs and the National Park.
L5	The management of, or implementation of, proposed mitigation to enhance existing green infrastructure including hedgerows, woodland, trees, shrubs, wetland and amenity planting will be designed to: • Enhance the character, visual quality and biodiversity of Gatwick Airport and its surrounding landscape/townscape. • Enhance the screening capacity of visually significant vegetation.
L6	Proposed woodland, tree, scrub, shrub, wetland, amenity and grassland planting will be designed to: • Ensure a high quality environment is created within Gatwick Airport and its surrounding landscape/townscape. • Provide replacement/compensation planting where vegetation would be removed, particularly as a result of surface access improvements within and adjacent to the A23/M23 Spur corridor.
L7	Proposed earth shaping, embankments, cuttings or bunds will be designed to: • Ensure that visual screens are provided to minimise adverse effects on visual receptors and provide an opportunity for the creation of diverse habitats. • Provide replacement/compensation features where they have been removed.
L8	Proposed fences, walls or barriers will be designed to: • Ensure that visual screens are provided to minimise adverse effects on visual receptors. • Provide replacement/compensation features where they have been removed.
L9	Proposed hard landscaping will be designed to: • Enhance existing green infrastructure including hedgerows, woodland, trees, shrubs, wetland and amenity planting; • Enhance the character, visual quality and biodiversity of Gatwick Airport and its surrounding landscape/townscape. • Enhance the screening capacity of visually significant vegetation.

BUILT FORM	
BF1	All new buildings constructed as part of the Project will be designed and constructed for Net Zero emissions during operation.
BF2	Detailed design will consider how to reduce reliance on the energy grid during prolonged warmer/colder seasons and more extreme temperature events, particularly low carbon heating and cooling systems and ventilation systems. It will also consider measures to reduce water use and increase re-use across new buildings.
BF3	The design of buildings should consider the implementation of design measures/features to manage the risk of extreme storm events, flood events and heatwave related drought events.
NOISE	
N1	In general, detailed design should aim to minimise noise emissions from noise sources and ensure that noise-sensitive facilities are designed to insulate them from external noise to meet good internal noise standards. There are also noise barriers and bunds (described below) which should be designed to deliver the noise screening for aircraft and other sources as reported in the Environmental Statement.
N2	Plant associated with new facilities should be designed with noise attenuation where necessary to avoid noise disturbance to noise-sensitive uses on and off-site, in particular with reference to BS4142 for off-site receptors as referred to in the Environmental Statement.
N3	To reduce adverse noise impacts associated with the proposed surface access improvements, the design shall include: • A new right turn onto the A23 from the North Terminal Roundabout which removes the current need for traffic wishing to turn right instead having to turn left up to the Longbridge Roundabout, around it, and back down the A23, thus reducing traffic flows on this section of the A23. • Approximately 1 metre high noise barrier along the North Terminal Roundabout flyover elevated section (facing Riverside Garden Park). • Approximately 1 metre high noise barrier along the South Terminal Roundabout flyover elevated section, north side.
RESOURCES AND WASTE	
RW1	Detailed design should seek opportunities to repurpose the use of existing assets, components, products and materials at Gatwick Airport.
LIGHTING & AMENITY	
LA1	The extent to which people need to see after dark will vary from area to area, with some requiring high levels of visual acuity whilst others should enable just a basic understanding of scale and the ability to identify a safe passage through a space.
LA2	The lighting design for each project will consider the manner in which the space that is being designed will be used after dark as well as its relationship to spaces adjoining it.
LA3	A considered and consistent lighting approach should be developed for the key navigational tools such as roads and pedestrian paths. Light will play a crucial role in supporting legibility and accessibility and in reinforcing specific visual and physical connections across Gatwick Airport.
LA4	The design of artificial light must support the various needs of the passengers and staff at Gatwick Airport after dark. This includes those with special needs and the elderly. Supporting a highly accessible after-dark environment will include avoiding excessive contrasts, avoiding direct and reflected sources of glare, avoiding shiny, mirror-like surfaces at pedestrian level, controlling shadow and limiting potentially confusing upward lighting.
LA5	Energy efficiency should be considered at all stages of the Project, including design, construction and operation. This includes the efficiency of the energy supply and whether renewable energy measures could be integrated into the design of the Project.
LA6	Artificial light must be designed to assist in maintaining a safe environment at all times. This includes positively defining potential hazards such as steps and ramps and areas where pedestrians encounter moving vehicles, at for example, pedestrian crossings. Such areas may be defined after dark through passive techniques, such as landscape materials with appropriately contrasting reflectance, as well as through active illumination; perhaps using focused light and increased intensity.

LA7	Lighting should be designed to provide an overall sense of security throughout Gatwick Airport, including supporting both active surveillance (e.g. CCTV) if/when required and modelling of people and surfaces should be provided where required. Where the CCTV surveillance is supported by infra-red technology, the requirement for additional light in the visible spectrum may not always be necessary. It should be noted that perceptions of safety and security are not necessarily dependant on providing high intensities of light and indeed, in some cases, low levels of light can be important in maintaining a sense of security and privacy. Creating an environment that feels secure will largely be dependent on ensuring that spaces are legible, appear well maintained, give due consideration to inclusivity and do not inhibit adaptation.
LA8	In general, lighting should be controlled to remain contained within the site boundary. Positioning and the use of shields could be used to prevent unintended light spill.
LA9	Lighting in the vicinity of sensitive receptors should ensure that potential adverse effects are identified, controlled and mitigated. Mitigation should typically be provided in the form of lighting equipment utilising precise optics and lenses, baffles and light shields, in conjunction with a suitable lighting control regime. Individual habitat requirements may necessitate the specification of a particular lighting spectrum, however this should be proportionate and not at the expense of safety.
LA10	The lighting design should consider sustainable development and be designed to minimise adverse impacts on biodiversity, local residents and users of public rights of way and open space through specifying types of lighting equipment, mounting location, materiality, durability and light source to minimise disruption to safety and security during operation.
LA11	Lighting will be designed to avoid disturbance to areas of value for bats by shielding adjacent habitats of value.
2. SPECIFIC BUILT FORM PRINCIPLES	
NORTH AND SOUTH TERMINAL BUILDINGS	
DBF1	The extensions to the terminal buildings shall incorporate the following design features: • A contemporary aesthetic ensuring that the extensions and the existing buildings complement each other, reflect modern design techniques and use high quality design materials. • The façade will be optimised where possible to provide natural light and views to the airfield. • Materials will include metal cladding and glazed curtain walling.
DBF2	The design of buildings will have regard to the following considerations: • Health and wellbeing. • Accessibility for all. • Floorplate configuration to promote natural daylight and intuitive wayfinding. • Efficient servicing and recycling. • Flexibility for future change. • Consider the re-use of existing structure and building fabric. • Sense of place and passenger experience. • Robust fabric and materials. • Acoustic environment design.
PIERS	
DBF3	The extensions to the terminal buildings shall incorporate the following design features: • A contemporary aesthetic ensuring that the extensions and the existing buildings complement each other, reflect modern design techniques and use high quality design materials. • The façade will be optimised, where possible, to provide natural light and views to the airfield. • Materials will include metal cladding and glazed curtain walling. • Building form to consider future expansion and flexibility.

DBF4	The design of buildings will have regard to the following considerations: • Health and wellbeing. • Accessibility for all. • Floorplate configuration to promote natural daylight and intuitive wayfinding. • Efficient servicing and recycling. • Correct segregation of passenger and operational flows. • Intuitive wayfinding. • Passenger experience. • Accessibility for all. • Robust fabric and materials. • Consideration for the generation of renewable energy. • Security. • Acoustic environment design.
HOTEL BUILDINGS	
DBF5	The buildings will incorporate the following design features: • A contemporary aesthetic reflecting modern design techniques and use high quality design materials, suitable for its immediate context and adjacent buildings. • The external appearance will comprise lightweight cladding and areas of glazing to the public areas of the building. With windows to individual rooms taking into consideration privacy and acoustic requirements.
DBF6	The design of buildings will have regard to the following considerations: • Health and wellbeing. • Accessibility for all. • Floorplate configuration to promote natural daylight and ventilation. • Security, safety and low energy lighting. • Efficient servicing and recycling. • Internal acoustic standards between adjacent rooms or public areas. • Renewable energy generation.
OFFICE BUILDINGS	
DBF7	The building will incorporate the following design features: • A site-wide; consistent, contemporary, and light, industrial aesthetic to ensure that the building complements its surroundings, reflects all new buildings complement each other, reflect modern design techniques, high quality design and materials, and an industrial/aviation aesthetic. • Clearly defined entrance points. • The building form will be complemented by soft landscape including amenity space for employees. • The façade will incorporate large areas of glazing to give visual amenity and natural light to the users, with floor plate depth to be considered to avoid deep floor plates.

DBF8	The design of buildings will have regard to the following considerations: • Functionality and efficiency to support the daily operations and tasks of the employees. • Flexibility. • Comfort and wellbeing. • Spaces that promote collaboration and communication. • Technology integration. • Privacy and acoustics. • Accessibility for all. • Solar and passive shade. • Servicing and waste recycling. • Security, access control and CCTV. • Renewable energy generation.
MULTI STOREY AND DECK CAR PARKING	
DBF9	The buildings will incorporate the following design features: • A naturally ventilated open façade. • Clearly visible entrance and circulation cores. • The building form will be unobtrusive with the structural solution providing the building form and language. • Additional specific façade design guidance for Multi-Storey Cark Park H is detailed in Section 6.10.2 of the DAS.
DBF10	The design of buildings will have regard to the following considerations: • Level floor/ramp and ramped floor options. • Security, safety, CCTV, slip resistance and low energy lighting. • Blue badge holder parking. • Ventilation and smoke extraction. • Charging points for electric vehicles. • Renewable energy generation. • Safe walking routes for pedestrians. • Access control and ticketing. • Cycle, scooter and motorcycle parking.
SURFACE PARKING	
	The surface parking will incorporate the following design features: • Clear and orderly layout of spaces to aid circulation and space recognition. • Easy identifiable entrance and exit systems. • Parking to have solid surface or where appropriate to be surfaced with a permeable material (such as 'Grasscrete' paving), to facilitate sustainable drainage.

	The design of buildings will have regard to the following considerations: • It will have mast lighting and CCTV. • Security, safety, CCTV, slip resistance and low energy lighting. • Blue Badge holder parking. • Use of recycled fabric from Gatwick Airport as sub-base or similar. • Safe walking routes for pedestrians. • Access control and ticketing.
TAXIWAYS	
DBF13	Where proposed taxiways would bisect parts of floodplain areas syphoned connections are proposed to retain floodplain connection on both sides of the taxiways.
DBF14	Earthworks and bunding of approximately 8 metres in height shall be provided at the western end of northern runway and noise barriers approximately 10 metres in height shall be provided for approximately 500 metres to the north of the relocated Taxiway Juliet and around the boundary of the re-located fire training ground.
PERIMETER ROAD SOUTH	
DBF15	The design will include the construction of a 300mm high weir on the southern entrance to the River Mole runway culvert (eastern box).
DBF16	Creation of a fish pass on the existing weir located immediately upstream of the River Mole runway culvert to improve fish passage particularly during low flow conditions.
SURFACE ACCESS	
DBF17	Local highway authority roads are to be designed in accordance the relevant local design standards, including the Manual for Streets.
DBF18	The design will include an noise barrier approximately one metre in height along the North Terminal roundabout flyover elevated section (facing Riverside Garden Park).
DBF19	The design will include an noise barrier approximately one metre in height along the South Terminal roundabout flyover elevated section, north side.
DBF20	The extension to the existing culvert under the A23 on the Burstow Stream Tributary will be designed to be as short as possible and would be designed with a depressed invert and a natural bed gradient in order to maintain continuity of flow and sediment transport capability. The culvert would also be designed with splayed wing walls to reduce the light and dark barrier.
DBF21	An active travel path for pedestrian and cyclists will be provided to connect Longbridge Roundabout to Car Park Y on the southern side of the highways improvement works. This will include a raised embankment on the right bank of the River Mole. To maintain floodplain connectivity culverts will be installed beneath the travel path.
DBF22	The permanent lighting design as part of the Longbridge Roundabout highways improvements will consider the proximity to the Church Road (Horley) Conservation Area..
DBF23	The extent of vegetation clearance and planting as part of the Longbridge Roundabout highways improvements should be designed to avoid visual impacts on views across the Church Road (Horley) Conservation Area.
DBF24	The design will include the provision of a permanent additional pedestrian route linking Riverside Garden Park into the replacement public open space in Car Park B, linking with the Sussex Border Path to the north of the A23.
CARE FACILITY	
DBF25	The building will incorporate the following design features: • Structural frame, with lightweight cladding and translucent panels where possible for natural daylighting.

DBF26	The design of buildings will have regard to the following considerations: • Health and wellbeing (including DDA compliant access etc). • Security, safety and low energy lighting. • Efficient servicing and recycling. • Safe pedestrian walking routes. • Lifecyle costs, demolition and future recycling of building fabric. • Surface parking with disability provision.
FIRE STATION	
DBF27	The building will incorporate the following design features: • A contemporary aesthetic reflecting modern design techniques and use high quality design materials, suitable for its immediate context and adjacent buildings. • Large opening doors with fast action open.
DBF28	The design of buildings will have regard to the following considerations: • Health and wellbeing (including DDA compliant access etc). • Security, safety and low energy lighting. • Efficient servicing and recycling. • Safe pedestrian walking routes. • Lifecyle costs, demolition and future recycling of building fabric. • Surface parking with disability provision. • Good quality staff accommodation and amenities. • Consideration for the generation of renewable energy.
HANGAR	
DBF29	The building will incorporate the following design features: • Longspan structural frame and large doors to provide clear width access for aircraft. • Metal cladding and roofing with use of transparent or translucent panels for natural daylighting in the main hangar space.
DBF30	The design of buildings will have regard to the following considerations: • Security, safety and low energy lighting. • Consideration for the generation of renewable energy. • Good quality staff accommodation and amenities. • Consideration for the generation of renewable energy.
3. DRAINAGE PRINCIPLES	
AUTHORISED DEVELOPMENT (EXCLUDING THE HIGHWAY WORKS AND EXCEPTED DEVELOPMENT)	
DDP1	Surface water drainage storage attenuation features (tanks, ponds etc) will be sized to cater for the 1 in 100 (1%) Annual Exceedance Probability (AEP) storm event plus an allowance for climate change as required by Environment Agency guidance.
DDP2	Loss of fluvial (river) floodplain would be mitigated to ensure no increase in flood risk to other parties through syphons and the flood compensation areas.

DDP3	Infiltration basins and retention ponds will not appear utilitarian or urban and would be designed to appear as naturalistic elements within the wider setting, that take account of existing topography, gradients and field boundaries. Planting would be provided to soften edges where this is appropriate to the context. The drainage design shall incorporate Sustainable Drainage Systems (SuDS) that provide for runoff treatment and reduce the risk of flooding in local catchments by providing storage and attenuation.
DDP4	The design of drainage and water mitigation measures should consider the exceedance of the networks/measures capacity and ensure that this would occur safely.
DDP5	Surface water drainage systems should be developed in accordance with the ideals of sustainable development (i.e. SuDS). These should seek to mimic the natural environment and replicate the natural drainage prior to development. This should prioritise the infiltration of runoff to ground where practicable over the restriction of runoff rates (i.e. attenuation). It should be noted that based on the preliminary ground investigation the majority of Gatwick Airport is located within an area of clay geology so infiltration may not be feasible.
DDP6	Improvements to the wastewater sewer system will include the following: • Replacement of pumps and the pumping main at pumping station PS06 to provide additional capacity; and • Construction of a new pumping station on the east side of the Brighton-London mainline railway to convey all wastewater flows from this area to Crawley STW to relieve the gravity outfall pipe discharging to Thames Water's Horley STW sewer network.
DDP7	The Project will include additional treatment of flows from the long term storage lagoons to increase capacity for the storage of de-icer contaminated runoff.
DDP8	Car parks will include measures (e.g. interceptors) to ensure no detrimental water quality impact upon receiving watercourses.
DDP9	Ground and groundwater conditions will be taken into account in the detailed design to minimise risk to groundwater quality, to minimise impedance to groundwater flow and to minimise risk of groundwater flooding.
DDP10	Storage features within the drainage network will be sufficient for the mitigation and to minimise any impact on water quality may including: • A below ground storage Car Park Y up to 32,000m3 within the existing airfield water drainage network. • A new surface water drainage pumping facility from the Pond A catchment.
DDP11	A drainage network would be installed, consisting of carrier drains, filter drains, ditches and attenuation basins/ponds, along with flow control arrangements to limit discharges to watercourses.
DDP12	Drainage requirements will consider no environmentally significant detriment to the water quality of the receiving watercourses.
DDP13	Airfield syphons connections are proposed to retain floodplain connection on both sides of the proposed taxiways. Six syphons beneath the noise bund would maintain floodplain connectivity.
DDP14	The design of water treatment works should ensure that there is sufficient capacity at the long-term storage lagoons.
DDP15	The new pumping station at the south-west of the site will be sized based on the final design of the Project to ensure runoff from new impermeable areas associated with the alterations to the runway and taxiways (within the existing Pond M catchment) is controlled to greenfield runoff rates.
DDP16	Soft/bio engineering will be used in preference to concrete where natural riverbanks require protection at the connecting spillways to the new flood compensation areas (FCAs) from watercourses. The bank forms would also be varied where they are being altered/ lowered to aid natural variance of flow in the channel. Planting would take place on the Museum Field FCA. This would restore natural vegetation to the floodplain whilst protecting the banks from erosion. The FCAs would include measures to reduce their own impact including: • Fish refuges such as at low points within the FCA that could be connected to the watercourse by swales to encourage any fish that move with rising flood water to return to the river as flood waters recede. • Design flow control structure(s) to reduce water levels slowly (if the water level receded rapidly fish are more likely to be stranded).
DDP17	A daylighted channel on the River Mole culvert will be provided and designed with a depressed invert and a natural bed gradient to maintain sediment transport capability. The extension will also be designed with splayed wing walls to reduce the light and dark barrier, as well as include baffles (refuges within a culvert that assist fish with their journey upstream) in the new channel or a low flow channel to retain sediment and create suitable depth of flow under a range of conditions. An expanded metal grid will be provided where the River Mole channel runs below the Taxiway Juliet and this new section of channel will include a low flow channel and a bed with substrate to allow vegetation to establish.
DDP18	Syphoned connections will be installed beneath the noise mitigation feature in the north-western area to maintain floodplain connectivity from Man's Brook.

HIGHWAY WORKS (WORK NO. 35, 36 AND 37)	
DDP19	The drainage design for the highways works should comply will theprinciples set out in the ES Appendix 11.9.6 Flood Risk Assessment - Annex 2 Surface Access Drainage Strategy. (Doc Ref. 5.3).
4. DETAILED LANDSCAPE PRINCIPLES	
REPLACEMENT OPEN SPACE	
DLP1	The location of open space should be easily accessible by all groups of people, including those with disabilities. The design of the space should also consider the needs of different groups of people, such as families with children, older adults, and people with disabilities.
DLP2	The activities and amenities provided in the open space should be versatile and suitable for different age groups and interests. For example, the space could include areas for sports, playgrounds, seating areas, and green spaces for picnics and relaxation.
DLP1	Open spaces should be well-lit and have clear lines of sight to prevent criminal activity and anti-social behaviour. Security measures should be provided, such as CCTV cameras, to deter criminal activity and provide a sense of safety for users.
DLP4	There should be footpath connections between the existing areas of open space in Riverside Garden Park and Church Meadows and replacement areas in Car Park B and to the west of the River Mole adjacent to Church Meadows.
DLP5	Woodland, scrub and species-rich grassland creation within Car Park B to provide an extension of Riverside Garden Park.
DLP6	Creation of new habitats within a newly created mitigation area north and east of Longbridge Roundabout comprising woodland, scrub and tree planting and species-rich, wet and dry grassland creation.
DLP7	Marginal planting would also be introduced around new attenuation ponds.
MUSEUM FIELD ENVIRONMENTAL MITIGATION AREA	
DLP8	The design of the Museum Field Environmental Mitigation Area should consider the creation of new habitats in the western part of the site, comprising woodland, wet woodland, scrub and tree planting and species-rich grassland.
DLP9	The proposed earth bund in the south and east of Museum Field should provide a mosaic of habitats comprising scrub, grassland and bare or poorly vegetated ground to provide a matrix of habitats suitable for a variety of invertebrates.
DLP10	The flood compensation areas (including access arrangements) at Museum Field and Brook Farm shall be designed in a manner that minimises the disturbance of buried archaeological remains as far as practicable.
DLP11	An extension to the River Mole footpath should be provided to the land at Museum Field and Brook Farm.
ACTIVE TRAVEL ROUTES	
DLP12	Active travel measures are to be designed in with due consideration of relevant design guidance such as LTN 1/20 Cycle Infrastructure Design.
DLP13	Active travel measures should consider the inclusive design principles as set out in DMRB CD 143 Designing for Walking, Cycling and Horse-Riding.
DLP14	The Project's active travel path for pedestrian and cyclists connecting Longbridge roundabout to Car Park Y on the southern side of the highways improvement works includes a raised embankment on the right bank of the River Mole. Culverts should be used beneath the path to maintain floodplain connectivity culverts.

A2 LAND USE MASTERPLANS

The Indicative Masterplans in this appendix show Gatwick Airport by land-use categories for a given year of development. This charts the change in land use for both existing land and works proposed in the Project. The final drawing shows just the proposed works as part of the Project.

Land Use Key

Existing Site

- Existing Runway
- Existing Roads
- Existing Water
- Existing Woodland
- Order of Limits Boundary

Land Use

- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage
- Environmental Mitigation
- Water Treatment Safeguarding

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

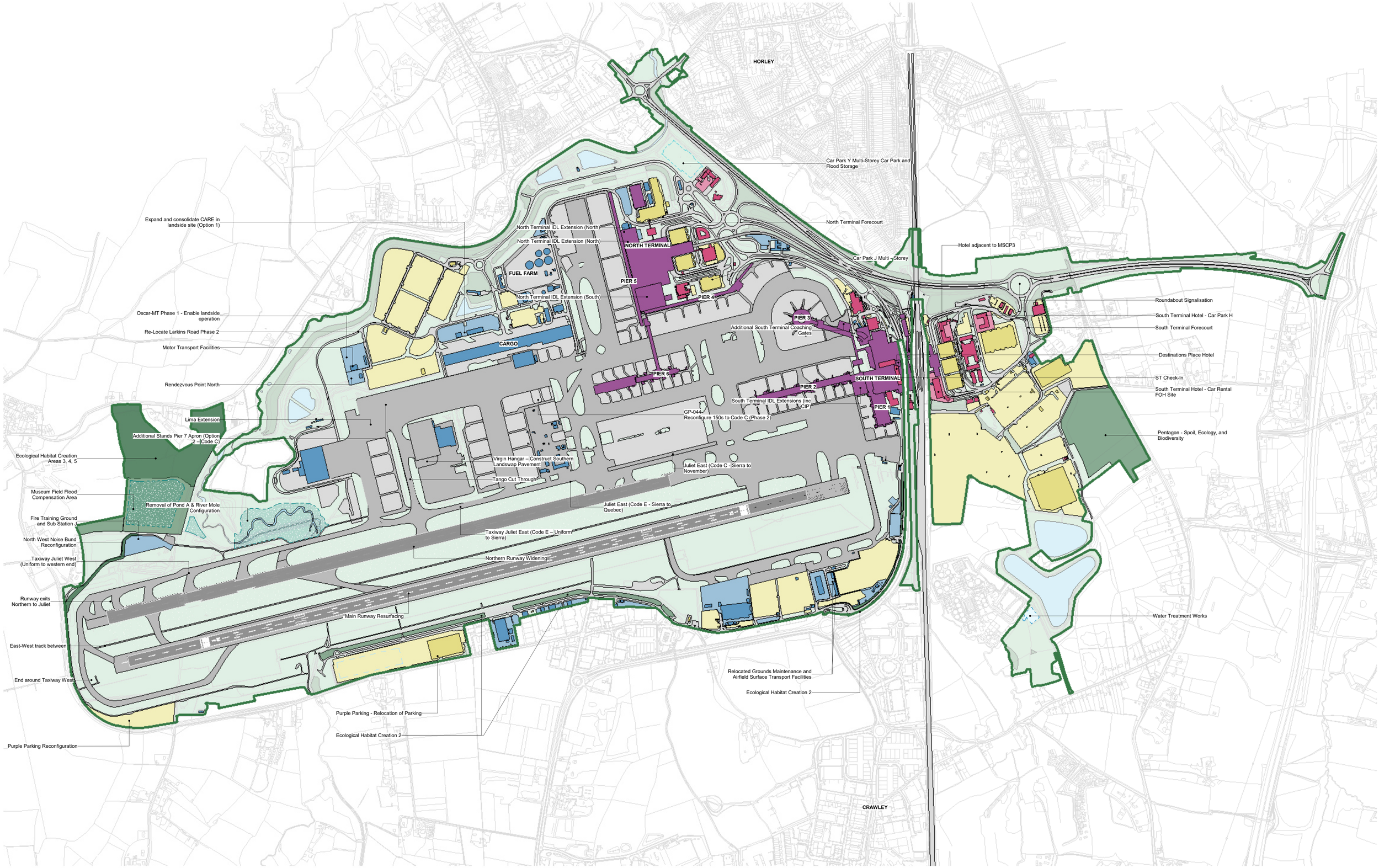
LONDON GATWICK

Project name
Gatwick Airport Northern Runway

Title
General Arrangement
APFP Regulation 5(2)(o)
Land Use Plan 2022

Process Function Code (PFC) XXX			GAL Project No. 41601
Process Function Code Description XXX			Originator's Job No. B754 NRP
Drawing Originator Chapman Taylor			Drawn Date 01.07.2023
Checked by VZ	Checked Date 01.07.2023	Drawn by YS	Status Information
Approved by LK	Approval Date 01.07.2023	Scale 1:7500	Reason for Issue IFR
Location-Level-Discipline-PFC-DocType-UniqueNumber 20000 - XX - A - XXX - GA - 17100			Revision P01

ISO A1 Landscape



Land Use Key

Existing Site

- Existing Runway
- Existing Roads
- Existing Water
- Existing Woodland
- Order of Limits Boundary

Land Use

- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage
- Environmental Mitigation
- Water Treatment Safeguarding

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

LONDON GATWICK

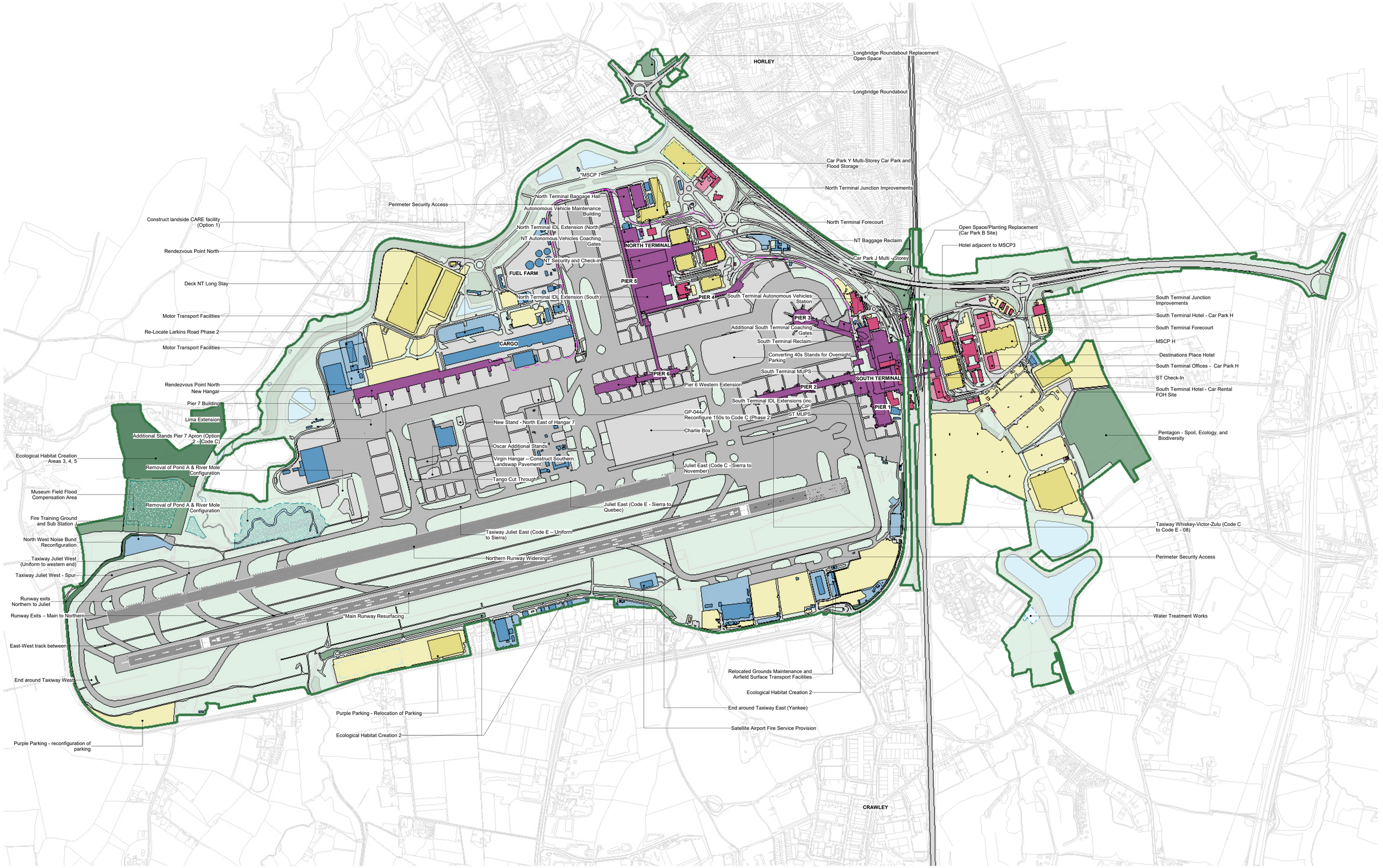
Project name	Gatwick Airport Northern Runway
Title	General Arrangement APFP Regulation 5(2)(o) Land Use Plan 2029

Process Function Code (PFC)			GAL Project No.
XXX			41601
Process Function Code Description			Originator's Job No.
XXX			B754 NRP
Drawing Originator			Drawn Date
Chapman Taylor			01.07.2023
Checked by	Checked Date	Drawn by	Status
VZ	01.07.2023	YS	Information
Approved by	Approval Date	Scale	Reason for Issue
LK	01.07.2023	1:7500	IFR

Location-Level-Discipline-PFC-DoctType-UniqueNumber: 20000 - XX - A - XXX - GA - 17111

Revision: P01

ISO A1 Landscape



Land Use Key

Existing Site

- Existing Runway
- Existing Roads
- Existing Water
- Existing Woodland
- Order of Limits Boundary

Land Use

- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage
- Environmental Mitigation
- Water Treatment Safeguarding

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

LONDON GATWICK

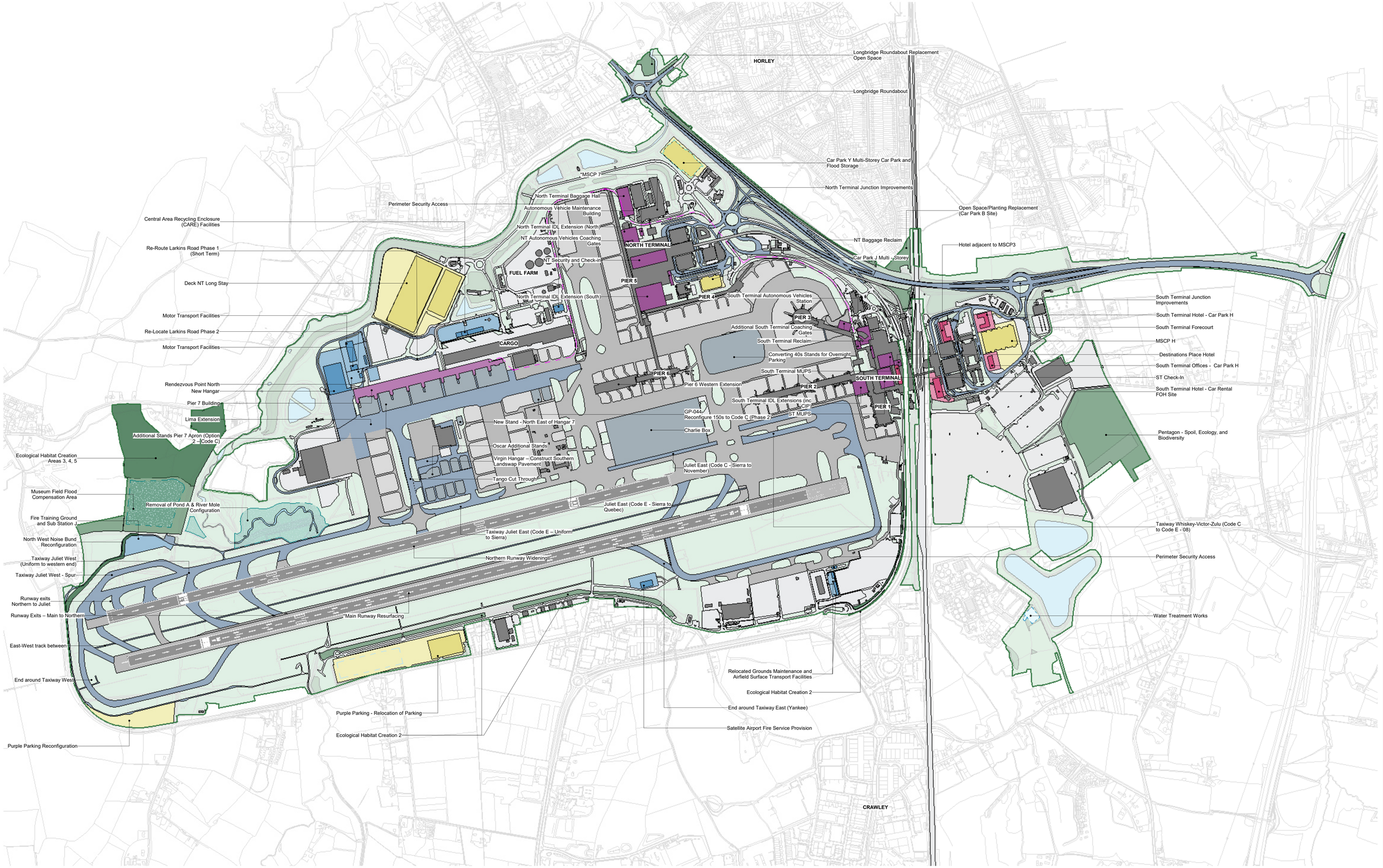
Project name	Gatwick Airport Northern Runway
Title	General Arrangement APFP Regulation 5(2)(o) Land Use Plan 2038

Process Function Code (PFC)			GAL Project No.
XXX			41601
Process Function Code Description			Originator's Job No.
XXX			B754 NRP
Drawing Originator			Drawn Date
Chapman Taylor			01.07.2023
Checked by	Checked Date	Drawn by	Status
VZ	01.07.2023	YS	Information
Approved by	Approval Date	Scale	Reason for Issue
LK	01.07.2023	1:7500	IFR

Location-Level-Discipline-PFC-DoctType-UniqueNumber: 20000 - XX - A - XXX - GA - 17114

Revision: P01

ISO A1 Landscape



Land Use Key

Existing Site

- Existing Runway
- Existing Roads
- Existing Water
- Existing Woodland
- Order of Limits Boundary

Land Use

- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage
- Environmental Mitigation
- Water Treatment Safeguarding

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

LONDON GATWICK

Project name
Gatwick Airport Northern Runway

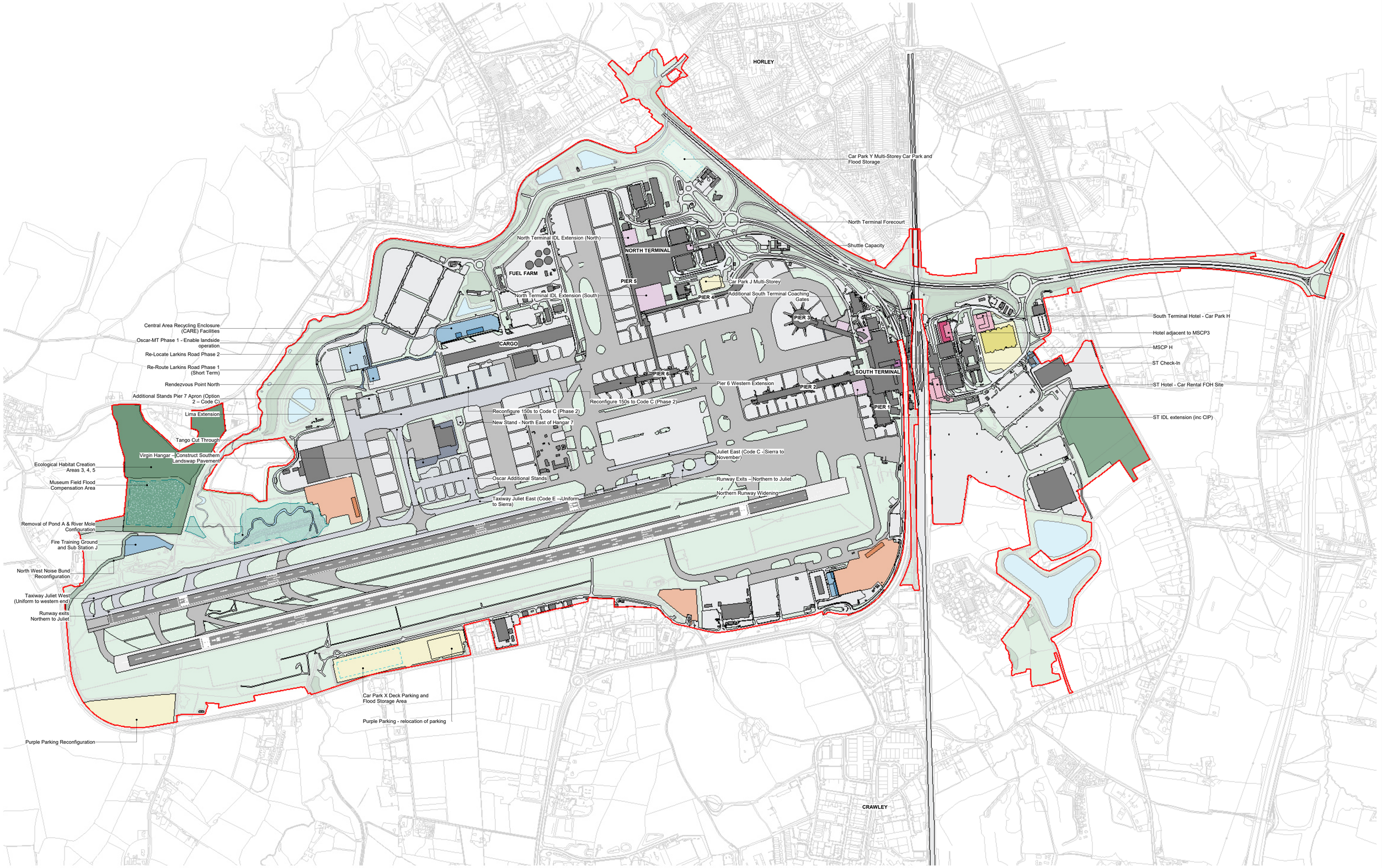
Title
General Arrangement
APFP Regulation 5(2)(o)
Proposed Works Masterplan

Process Function Code (PFC)			GAL Project No.
XXX			41601
Process Function Code Description			Originator's Job No.
XXX			B754 NRP
Drawing Originator			Drawn Date
Chapman Taylor			01.07.2023
Checked by	Checked Date	Drawn by	Status
VZ	01.07.2023	YS	Information
Approved by	Approval Date	Scale	Reason for Issue
LK	01.07.2023	1:7500	IFR
Location-Level-Discipline-PFC-DocType-UniqueNumber			Revision
20000 - XX - A - XXX - GA - 17121			P01

ISO A1 Landscape

A3 CONSTRUCTION PHASING PLANS

The construction phasing plans in this appendix show the indicative works (categorised by land-use) and if they are 'under construction' or the works have been completed by the given year.



Phased Construction Key

Existing Use	Works Under Construction	Works Completed this Year	Previously Completed Works
Existing Site	Airfield Access	Airfield Access	Airfield Access
Existing Runway	Airfield Stands	Airfield Stands	Airfield Stands
Existing Roads	Airfield & Landside Operations	Airfield & Landside Operations	Airfield & Landside Operations
Existing Buildings	Car Parking	Car Parking	Car Parking
Future Baseline	Commercial	Commercial	Commercial
Existing Water	AV Route	AV Route	AV Route
	Contractor Compound	Contractor Compound	Contractor Compound
	Flood Plain	Flood Plain	Flood Plain
	Terminal Buildings	Terminal Buildings	Terminal Buildings
	Landside Surface Access	Landside Surface Access	Landside Surface Access
	Water Treatment Safeguarding	Water Treatment Safeguarding	Commercial
	Underground Water Storage	Underground Water Storage	Water
			Underground Water Storage

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

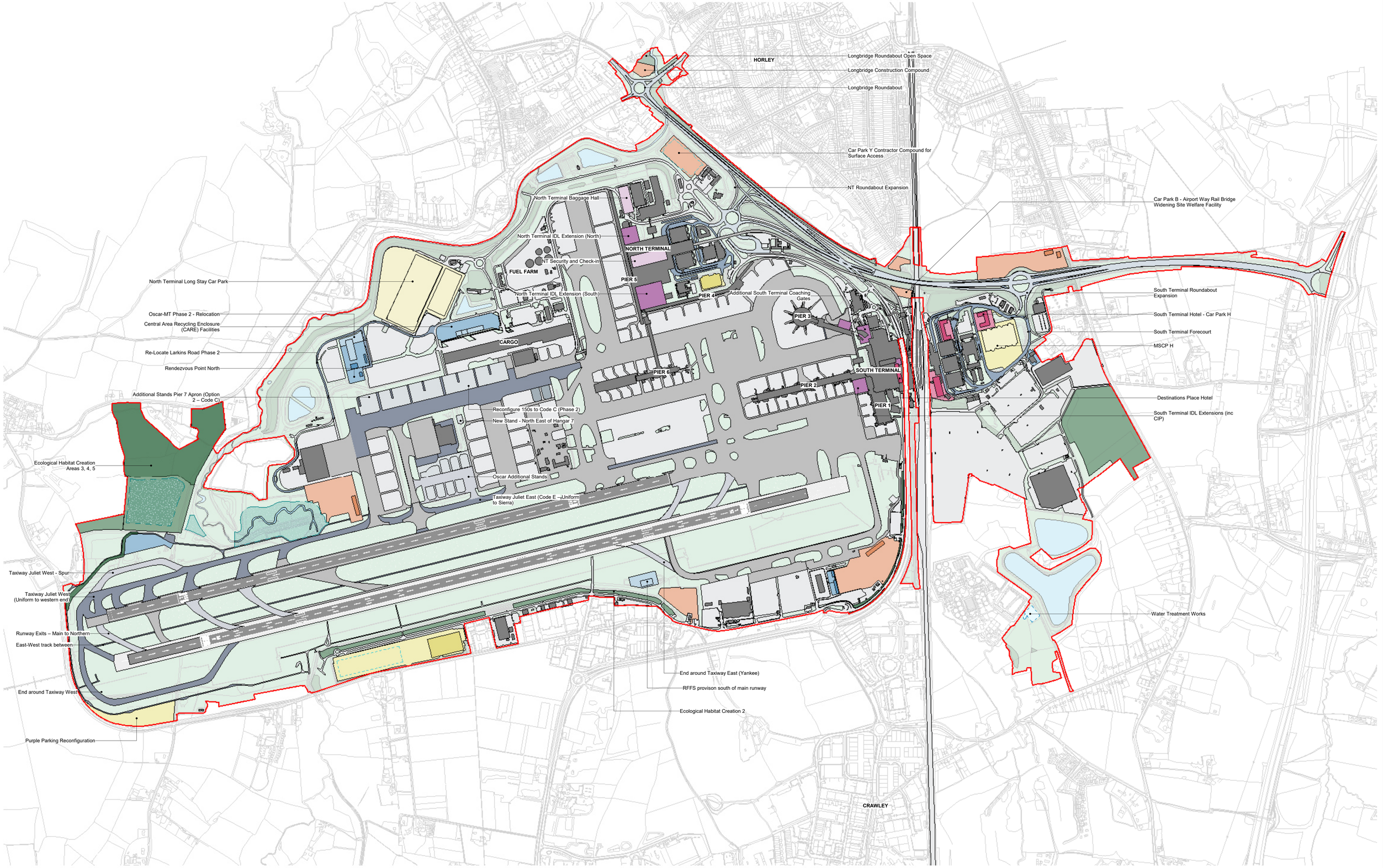
LONDON GATWICK

Project name
Gatwick Airport Northern Runway

Title
General Arrangement
APFP Regulation 5(2)(o)
Phased Construction Plan 2026

Process Function Code (PFC) XXX			GAL Project No. 41601
Process Function Code Description XXX			Originator's Job No. B754 NRP
Drawing Originator Chapman Taylor			Drawn Date 01.07.2023
Checked by VZ	Checked Date 01.07.2023	Drawn by YS	Status Information
Approved by LK	Approval Date 01.07.2023	Scale 1:7500	Reason for Issue IFR
Location-Level-Discipline-PFC-DocType-UniqueNumber 20000 - XX - A - XXX - GA - 17202			Revision P01

ISO A1 Landscape



Phased Construction Key

Existing Use
- Existing Site
- Existing Runway
- Existing Roads
- Existing Buildings
- Future Baseline
- Existing Water

Works Under Construction
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Works Completed this Year
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water Treatment Safeguarding
- Underground Water Storage

Previously Completed Works
- Airfield Access
- Airfield Stands
- Airfield & Landside Operations
- Car Parking
- Commercial
- AV Route
- Contractor Compound
- Flood Plain
- Terminal Buildings
- Landside Surface Access
- Water
- Underground Water Storage

Plans are for illustrative purpose only.

1 : 7500
600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

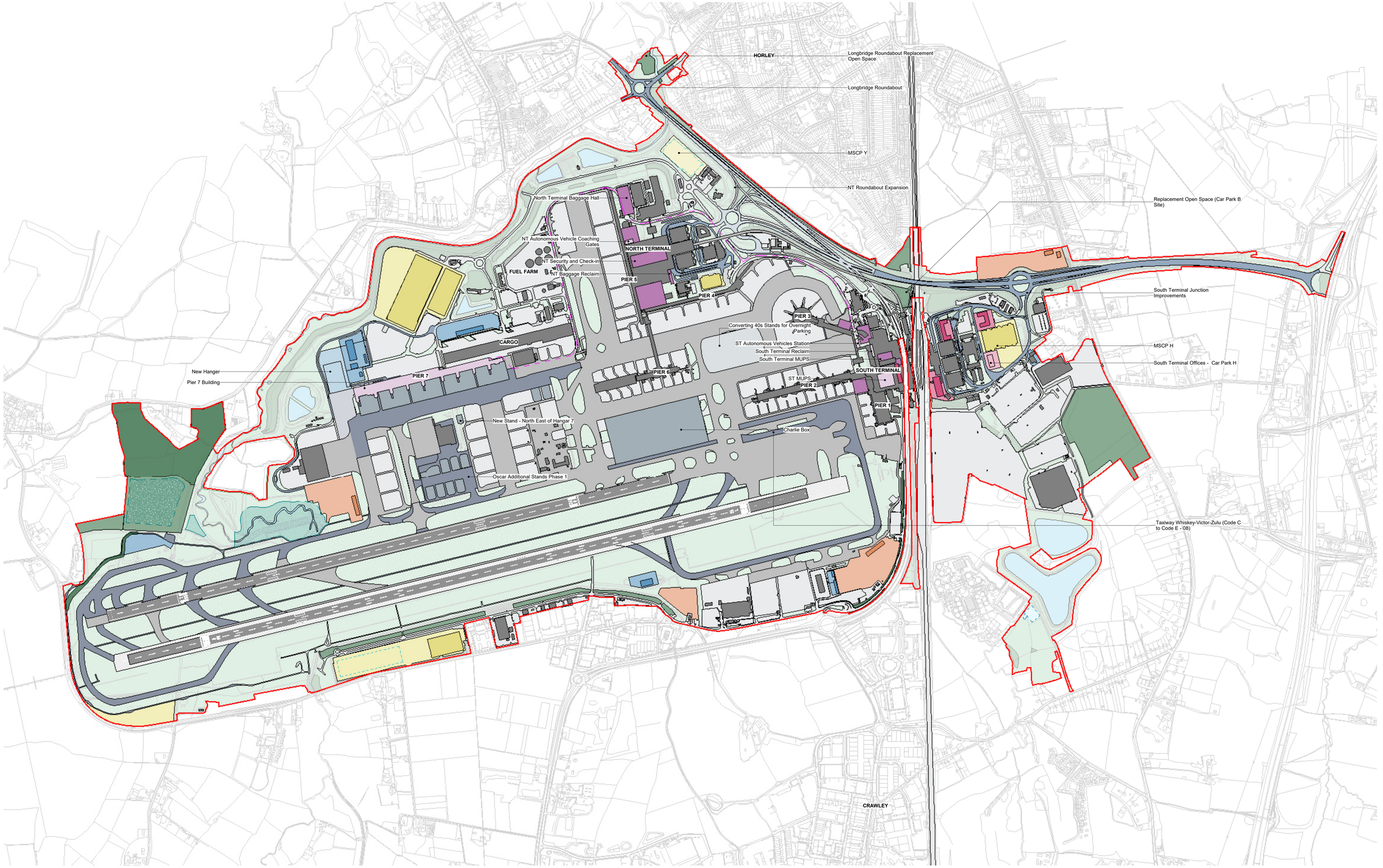
LONDON GATWICK

Project name
Gatwick Airport Northern Runway

Title
General Arrangement
APFP Regulation 5(2)(o)
Phased Construction Plan 2029

Process Function Code (PFC) XXX			GAL Project No. 41601
Process Function Code Description XXX			Originator's Job No. B754 NRP
Drawing Originator Chapman Taylor			Drawn Date 01.07.2023
Checked by VZ	Checked Date 01.07.2023	Drawn by YS	Status Information
Approved by LK	Approval Date 01.07.2023	Scale 1:7500	Reason for Issue IFR
Location-Level-Discipline-PFC-DocType-UniqueNumber 20000 - XX - A - XXX - GA - 17205			Revision P01

ISO A1 Landscape



Phased Construction Key

Existing Use	Works Under Construction	Works Completed this Year	Previously Completed Works
Existing Site	Airfield Access	Airfield Access	Airfield Access
Existing Runway	Airfield Stands	Airfield Stands	Airfield Stands
Existing Roads	Airfield & Landside Operations	Airfield & Landside Operations	Airfield & Landside Operations
Existing Buildings	Car Parking	Car Parking	Car Parking
Future Baseline	Commercial	Commercial	Commercial
Existing Water	AV Route	AV Route	AV Route
	Contractor Compound	Contractor Compound	Contractor Compound
	Flood Plain	Flood Plain	Flood Plain
	Terminal Buildings	Terminal Buildings	Terminal Buildings
	Landside Surface Access	Landside Surface Access	Landside Surface Access
	Water Treatment Safeguarding	Water Treatment Safeguarding	Water
	Underground Water Storage	Underground Water Storage	Underground Water Storage

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

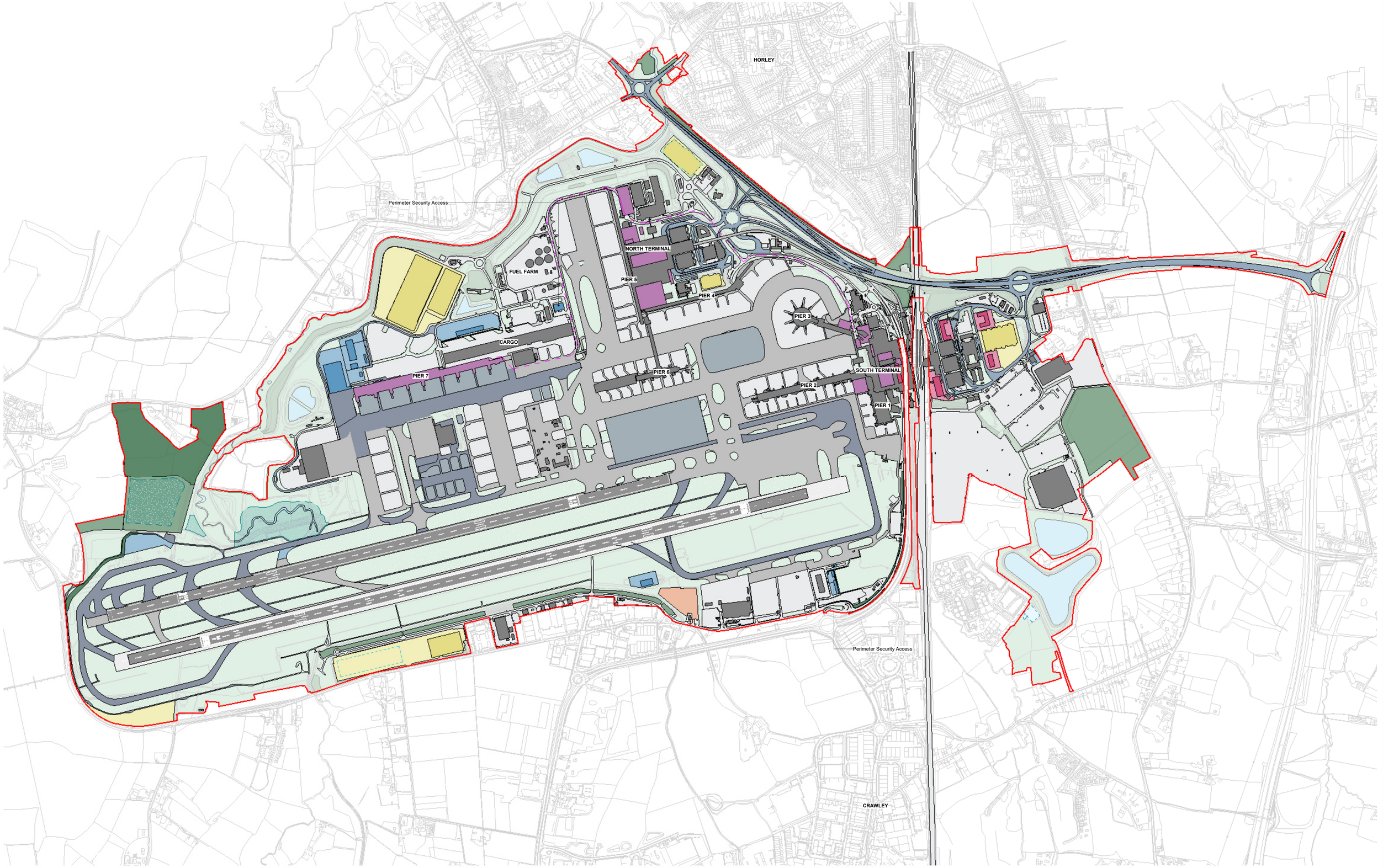
Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

LONDON GATWICK

Project name: Gatwick Airport Northern Runway			
Title: General Arrangement APFP Regulation 5(2)(o) Phased Construction Plan 2032			
Process Function Code (PFC): XXX			GAL Project No.: 41601
Process Function Code Description: XXX			Originator's Job No.: B754 NRP
Drawing Originator: Chapman Taylor			Drawn Date: 01.07.2023
Checked by: VZ	Checked Date: 01.07.2023	Drawn by: YS	Status: Information
Approved by: LK	Approval Date: 01.07.2023	Scale: 1:7500	Reason for Issue: IFR
Location-Level-Discipline-PFC-DocType-UniqueNumber: 20000 - XX - A - XXX - GA - 17208			Revision: P01

ISO A1 Landscape



Phased Construction Key

Existing Use	Works Under Construction	Works Completed this Year	Previously Completed Works
Existing Site	Airfield Access	Airfield Access	Airfield Access
Existing Runway	Airfield Stands	Airfield Stands	Airfield Stands
Existing Roads	Airfield & Landside Operations	Airfield & Landside Operations	Airfield & Landside Operations
Existing Buildings	Car Parking	Car Parking	Car Parking
Future Baseline	Commercial	Commercial	Commercial
Existing Water	AV Route	AV Route	AV Route
	Contractor Compound	Contractor Compound	Contractor Compound
	Flood Plain	Flood Plain	Flood Plain
	Terminal Buildings	Terminal Buildings	Terminal Buildings
	Landside Surface Access	Landside Surface Access	Landside Surface Access
	Water Treatment Safeguarding	Water Treatment Safeguarding	Water
	Underground Water Storage	Underground Water Storage	Underground Water Storage

Plans are for illustrative purpose only.

1 : 7500

600 3000 6000 7500M

N

Rev	Date	Description
P01	01.07.23	Issue For Information

CHAPMAN TAYLOR
GLOBAL ARCHITECTS & MASTERPLANNERS

LONDON GATWICK

Project name
Gatwick Airport Northern Runway

Title
General Arrangement
APFP Regulation 5(2)(o)
Phased Construction Plan 2038

Process Function Code (PFC) XXX			GAL Project No. 41601
Process Function Code Description XXX			Originator's Job No. B754 NRP
Drawing Originator Chapman Taylor			Drawn Date 01.07.2023
Checked by VZ	Checked Date 01.07.2023	Drawn by YS	Status Information
Approved by LK	Approval Date 01.07.2023	Scale 1:7500	Reason for Issue IFR
Location-Level-Discipline-PFC-DocType-UniqueNumber 20000 - XX - A - XXX - GA - 17214			Revision P01

ISO A1 Landscape

GLOSSARY

Glossary

Introduction

1.1.1 This document contains a list of definitions and abbreviations, collectively called the Project Glossary, that are commonly used across the DCO Application. Individual application documents contain separate glossaries with additional terms that are specific to the content of the document.

Definitions

Airport Boundary - the boundary of Gatwick Airport is defined on the Airport Boundary Plan (Figure 78). The airport is divided in two landside and airside areas, described below.

Airside - the area within the Airport Boundary that relates to the aircraft movement area of an airport, adjacent terrain and buildings or portions thereof, and to which access for the general public is restricted. For example, this includes the airfield, runways, taxiways and hangers. The Airside area is shown on the Landside and Airside Boundary Plan (Figure 79).

Air Transport Movement ("ATM") - a landing or take-off of an aircraft.

Application Site - (also referred to as the 'Project Boundary' and 'Site Boundary') – the application site is defined by the Order Limits shown on the **Location Plan** (Doc Ref. 4.1).

Autumn 2021 Consultation – the statutory consultation which ran for 12 weeks from 9 September to 1 December 2021. The consultation set out the key elements required to enable dual runway operations and support increased passenger numbers, along with a Preliminary Environmental Information Report which presented the preliminary findings of the environmental impact assessment of the Project's proposals as at that point in time.

Associated Development – development within the Order Limits that is associated to the Northern Runway Project in line with Section 115 of the Planning Act 2008.

Development Consent Order ("DCO") – the Development Consent Order will secure the extent of the consent and what development can be carried out and grants the undertaker the powers which are necessary to deliver the Project. A draft Development Consent Order is submitted as part of the DCO Application.

DCO Requirements – a requirement under the Development Consent Order which is proposed to control the construction, operation and maintenance of the development (if consented).

Environmental Statement – presents the findings of the Environmental Impact Assessment for the Project and forms Book 5 of the Application. EIA is the process of identifying and assessing the significant effects likely to arise from the Project. This requires consideration of the likely changes to the environment, where these arise as a consequence of the Project, through comparison with the existing and future baseline conditions and describing any mitigation measures which are required.

Gatwick Airport – an international airport located in the county of West Sussex between the towns of Crawley and Horley. Gatwick Airport is majority owned by VINCI Airports, with the remainder owned by a consortium of investors managed by Global Infrastructure Partners.

Gatwick Airport Limited – the company licensed to operate Gatwick Airport (i.e. the 'airport operator') by the Civil Aviation Authority and the Applicant for the Application for development consent for the Project under the Planning Act 2008.

Gatwick Diamond – business led private/public sector partnership promoting economic growth in a defined area between Croydon and Brighton. Part of the Coast to Capital Local Enterprise Partnership.

Landside – the area within the Airport Boundary (and outside the Airside) to which the general public has unrestricted access. For example, this includes access roads, car parking areas, public transport interchanges, hotels, offices and terminal check-in areas. The Landside area is shown on the Landside and Airside Boundary Plan (Figure 79).

Nationally Significant Infrastructure Projects ("NSIPs") – major infrastructure projects relating to energy, transport, water, waste water or waste and which are defined under the Planning Act 2008. The 2008 Act sets out thresholds above which certain types of infrastructure development is considered to be nationally significant and requires permission through a Development Consent Order. The Northern Runway Project is classed as a NSIP due to the passenger increase and the road improvements needed to support it.

National Highways – a government-owned company charged with planning, building, operating, maintaining and improving motorways and major A roads in England (collectively called the strategic road network). National Highways was formerly titled the Highways Agency and Highways England.

Northern Runway Project – (also referred to as the 'Project' or the 'Proposed Development') – comprising the proposals for which development consent is being sought under the Planning Act 2008. The Northern Runway Project proposes alterations to the existing northern runway at Gatwick Airport which, together with the lifting of the current planning restrictions on its use, would enable dual runway operations. The Project includes a range of infrastructure and facilities which, with the alterations to the northern runway, would enable an increase in the airport's passenger throughput capacity.

Off-Airport Land – land falling within the Order Limits of the Northern Runway Project outside the Airport Boundary. This principally relates to the surface access improvement works, including improvements to highways and active travel routes, that are part of the Northern Runway Project.

Order Land – land over which the application is seeking compulsory acquisition or temporary possession powers.

Order Limits – the limits shown on the Location Plan (Doc Ref. 4.1) comprising the extent of the proposed Project boundary.

Passenger Throughput – the number of air passengers that use the airport, including arrivals and departures. The throughput is usually referred to on an annual basis, i.e. the annual passenger throughput.

Preliminary Environmental Information Report ("PEIR") ,– presents the preliminary findings of the environmental impact assessment. The Autumn 2021 Consultation presented the preliminary environmental information to enable consultees to understand the likely significant environmental effects of the scheme proposals based on the environmental information available at the time and measures proposed to avoid, prevent, reduce or mitigate any residual environmental effects.

Section 106 Agreement – a legal agreement between the Applicant and specific Local Authorities that will set out the planning obligations that are not considered appropriate to be secured as requirements to the DCO.

Summer 2022 Consultation – a hybrid statutory/non-statutory consultation which ran for six weeks from 14 June to 27 July 2022. The targeted, statutory consultation element considered changes to the proposed highway improvement works; and the non-statutory Project update element included an update on other proposed changes to other aspects of the proposals which were not considered to lead to any new or materially different significant environmental effects from those reported in the Autumn 2021 Consultation.

Inter-terminal transit system ("ITTS") – the automatic shuttle service at Gatwick Airport that runs between the North and South Terminals for airport passengers, visitors or staff travelling by foot.

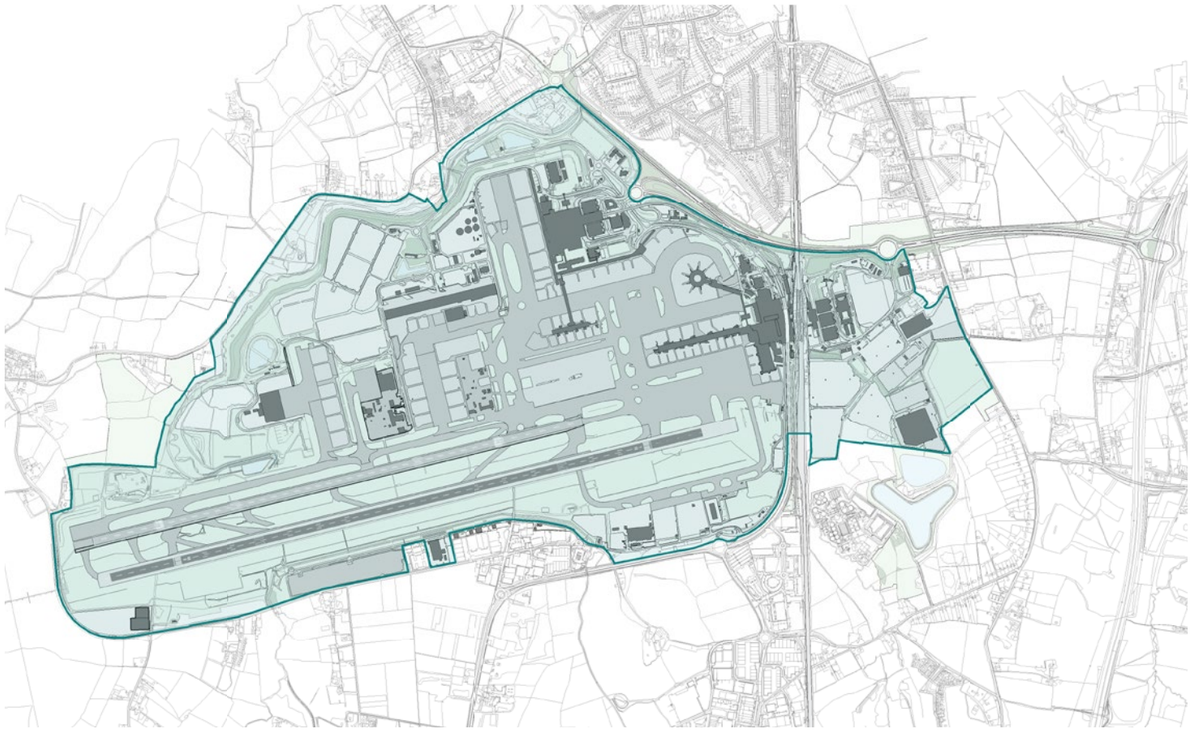


Figure 78. *Gatwick Airport - Airport Extent*

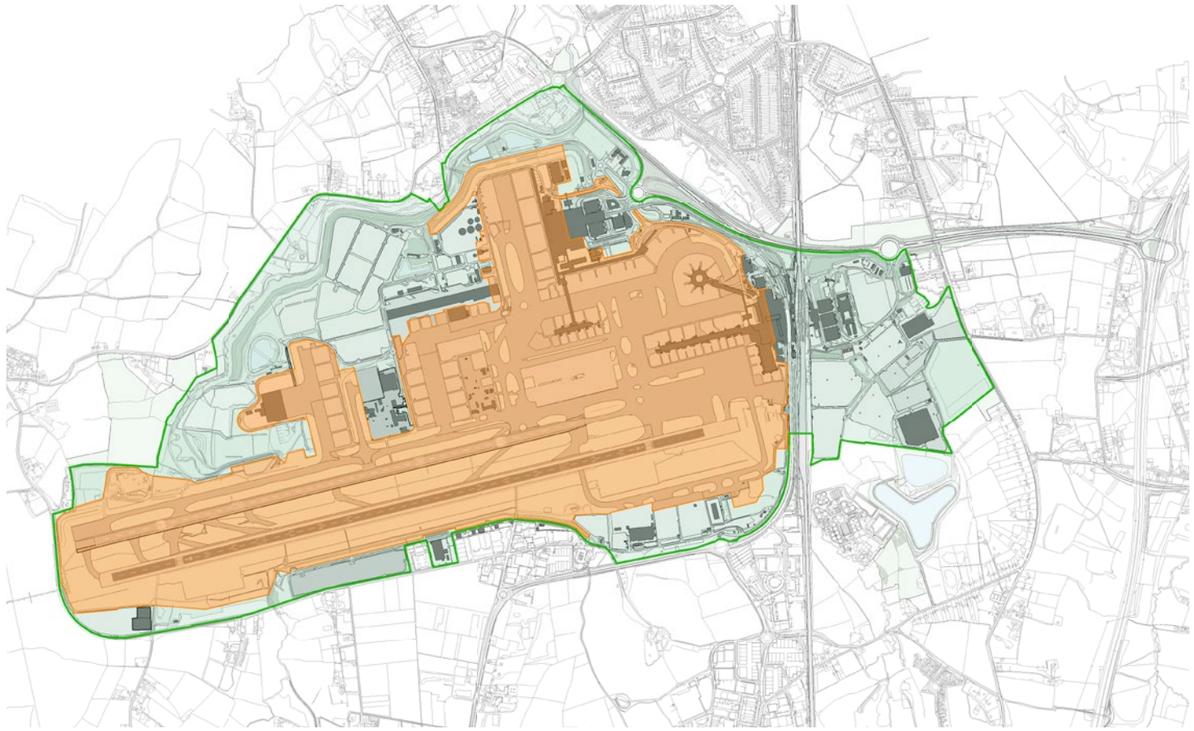


Figure 79. *Gatwick Airport - Landside/Airside*

Abbreviations

ANPS	Airport National Policy Statement
APF	Aviation Policy Framework
ATC	Air Traffic Control
ATM	Air Transport Movement
BAA	British Airports Authority - the former owners of Gatwick Airport
BOH	Back of House - None Public Areas
CAA	Civil Aviation Authority
CAP	Carbon Action Plan
CMMP	Construction Materials Management Plan
CoCP	Code of Construction Practice
CTMP	Construction Traffic Management Plan
CWTP	Construction Workforce Travel Plan
DCO	Development Consent Order – the form of planning consent for Nationally Significant Infrastructure Projects
DfT	Department for Transport
EIA	Environmental Impact Assessment
ES	Environmental Statement
FRA	Flood Risk Assessment
FOH	Front of House - Public Areas
GAL	Gatwick Airport Limited
GATCOM	Gatwick Airport Consultative Committee
ICAO	International Civil Aviation Administration
IDL	International Departures Lounge
ITTS	Inter-terminal transit system (or 'shuttle')
LEP	Local Enterprise Partnership
LGW	London Gatwick Airport
LTO	Landing and Take-off cycle
mppa	Million passengers per annum
MRM	Mitigation Route Map
MSCP	Multi-storey Car Park
NATS	National Air Traffic Services
NRP	Northern Runway Project
NSIP	Nationally Significant Infrastructure Project
NT	North Terminal
oLEMP	Outline Landscape and Ecology Management Plan
PEIR	Preliminary Environmental Information Report
RET	Rapid Exit Taxiway
SAC	Surface Access Commitments
ST	South Terminal
STW	Sewage Treatment Works
TA	Transport Assessment
WMP	Water Management Plan

List of Figures

SITE WIDE DESIGN GUIDELINES

PARAMETERS FOR IMPLEMENTATION

TEMPORARY CONSTRUCTION COMPOUNDS

PHASING & DELIVERY

GLOSSARY

DESIGN AND ACCESS STATEMENT

VOLUME 5

LONDON GATWICK