

Our Northern Runway: making best use of Gatwick

Highway Improvement Changes and Project Update

CONSULTATION DOCUMENT

Summer 2022

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Foreword



As the nation looks forward to a busy summer reuniting with family and friends after a difficult two years, here at Gatwick we're confident in our recovery and looking even further ahead.

We're planning for future growth and looking forward to generating 18,400 additional jobs and bringing around £1.5bn of annual value to the region. We're planning on unlocking new capacity and increased resilience from the airport's existing infrastructure, and to doing it in a way that is as low-impact and sustainable as possible: by bringing our Northern Runway into regular use alongside our Main Runway.

The Government has recently published its Strategic Framework for the Future of Aviation '*Flightpath to the Future*' which highlights its continued commitment to the sustainable growth of the aviation sector, recognising the vital importance of aviation to the UK. From supporting economic growth, to creating jobs, aviation adds huge value and promotes a Global Britain. It also has an essential role to play in the personal value it provides to individuals and businesses, providing connections all around the world. Like us, the framework recognises the importance of looking ahead for aviation and the importance of building back better and greener. The Government remains supportive of '*sustainable growth in airport capacity, ensuring that capacity is used in a way that delivers for the UK*' which is exactly what our Northern Runway Project seeks to achieve.

When we shared our Northern Runway Project proposals during consultation in Autumn last year, we were very grateful to receive feedback that has helped shape and refine our plans. We have listened to that feedback, continued our design and assessment work, and have now updated some of our proposals as a result.

In response to comments on our road improvement plans, we have revisited previous designs and considered new possibilities that strike a balance between the needs of both local non-airport and airport traffic and potential environmental effects. The changes to our road improvement proposals are set out in this document. Before taking our plans forward, I am keen to hear your feedback and am pleased to be able to invite you to participate in consultation on these proposals.

Alongside our work on road improvements, and with feedback from our previous consultation in mind, we have refined our proposals - for car parking, hotels and offices, the airfield, water management, carbon, and noise, amongst others - while also continuing to develop our mitigation proposals to secure the new environmental commitments proposed as part of the Project. We welcome your feedback on these updates, which are also included in this document.

I encourage everyone to take time to review our proposals and provide feedback by 11.59pm on 27 July 2022. Let's look forward together.

Stewart Wingate

Chief Executive Officer, Gatwick Airport

1 Introduction

1.1 The Northern Runway Project

1.1.1 London Gatwick Airport is a key piece of national infrastructure, an economic engine for local and regional growth, and the airport of choice for millions of passengers. The airport experienced a sustained period of growth between 2009 and 2019, with passenger numbers increasing from 31 million to more than 46 million a year. Whilst the COVID-19 pandemic has affected the aviation sector over the last two years, we have seen a strong start to recovery and there is confidence that passenger and airline demand at Gatwick will return to previous levels over the next four to five years and then continue to grow. We want to plan for this recovery and future growth.

1.1.2 We also want to contribute towards meeting national demand for aviation growth, including providing resilience (such as the ability to recover from disruption) within the London airport system and cater for Gatwick-specific demand. In 2019, Gatwick Airport was the busiest it's ever been and the busiest daytime, single-runway airport in the world. Operating at this level from a single runway brings particular challenges, as the airport sometimes struggles to recover quickly from routine but unplanned events or more serious incidents, and in turn this can have a disproportionate effect on airlines, airport staff and passengers. The airport currently has no significant capacity to meet growing demand at the busiest times, although we expect growth to continue in the off-peak periods.

1.1.3 To add further longer-term capacity and greater resilience to Gatwick's existing infrastructure, we are proposing a sustainable approach to airport growth by enabling dual runway operations from both our existing main and northern runways and managing that growth with new environmental commitments.

1.1.4 We are calling this proposal our 'Northern Runway Project' (the Project) (NRP).

Project overview

1.1.5 We seek permission to bring the existing northern runway into routine operation. This runway is parallel to the main runway and is currently restricted under a planning condition for use as a standby/emergency runway. Routine use of the northern runway alongside the existing main runway would provide a dual runway operation at Gatwick Airport. No new flight paths would be created as a result of the Project.

1.1.6 The Project includes the development of a range of infrastructure and facilities, largely within the confines of the existing airport boundary, as well as major road enhancements to improve access to the airport. Collectively, the Project proposals include:

- alterations to the existing northern runway, including repositioning its centreline 12 metres further north to enable dual runway operations;
- reconfiguration of taxiways;
- pier and stand amendments (including a proposed new pier);
- reconfiguration of other airfield facilities;

- extensions to the North and South Terminals;
- provision of additional hotels and office space;
- provision of reconfigured car parking, including new surface and multi-storey car parks;
- surface access (highway) improvements;
- reconfiguration of existing utilities, including surface water, foul drainage and power; and
- landscape / ecological planting and environmental mitigation.

1.1.7 The Project also includes new commitments to a noise envelope, a Carbon Action Plan, a sustainable transport strategy and biodiversity enhancements.

1.1.8 The Project will enable passenger throughput to be increased to approximately 75.6 million passengers with 382,000 Air Traffic Movements (ATMs) in 2038, and around 80.2 million passengers with some 386,000 ATMs per annum in 2047. This represents an increase in capacity of approximately 13 million passengers per annum compared to the 2038 and 2047 future baseline.

Consultation and engagement

1.1.9 We previously consulted on the Northern Runway Project between 9th September and 1st December 2021, for a period of 12 weeks (the Autumn 2021 Consultation). This consultation presented our Project proposals, outlining the need for and benefits of the Project, providing preliminary information regarding the Project's likely environmental impact and explaining how we could mitigate them.

1.1.10 We are grateful for the extensive feedback that has been received from the local community, others with an interest in the Project and statutory consultees, including local authorities. That feedback has and is continuing to guide us in refining and revising our proposals and strategies for the Project.

1.1.11 As our proposals continue to be refined, we want to share them with you and seek any further views before we make our application. This consultation updates stakeholders and the local community on our ongoing work and refinement of the Project proposals and includes information on design changes to the proposed highway improvements (the Summer 2022 Consultation). We are carrying out targeted, statutory consultation on the design changes to the proposed highway improvement works and have written to the people we consider to be directly affected to invite their feedback to the consultation but we are also keen to hear your views.

Development Consent Order

1.1.12 The increase in the level of passenger capacity, along with the road improvements needed to support it, means the Project is classed as a Nationally Significant Infrastructure Project (NSIP) and we need to apply for a Development Consent Order (DCO) to build and operate it. DCO applications are examined independently by the Planning Inspectorate and determined by the Secretary of State in accordance with the Planning Act 2008.

1.1.13 The feedback received from the Autumn 2021 Consultation and this Summer 2022 Consultation, along with further technical work and environmental studies, will inform the development of our proposals ahead of submission of our DCO application to the Planning Inspectorate, which we

expect to be during the first half of next year.

- 1.1.14 The Planning Inspectorate will then review and examine the application, including inviting submissions of views from local people and other interested parties, before making a recommendation to the Secretary of State for Transport, who will take the final decision on whether or not to grant consent.
- 1.1.15 Guidance on the DCO pre-application process and the Planning Act 2008 can be found on the Planning Inspectorate's website: <http://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/>

Environmental Impact Assessment

- 1.1.16 Environmental Impact Assessment (EIA) is a process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions (i.e compared with what would be likely to happen without the project).
- 1.1.17 For NSIPs in England, the legislative requirements for EIA are set by The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). The Project will be subject to an EIA given the nature and scale of the development proposals.
- 1.1.18 The Autumn 2021 Consultation presented the preliminary findings of the EIA process, often referred to as 'preliminary environmental information'.¹ For each environmental topic, it explained the approach to the assessment, the existing and likely future environmental conditions and the preliminary findings of the likely significant effects of the Project, based on the information available at the time. It also contained initial details on the measures proposed to avoid, prevent, reduce or offset significant adverse effects, known as mitigation measures.
- 1.1.19 This Summer 2022 Consultation includes updates on the preliminary environmental information in respect of the highway improvement changes, including our latest thinking on measures to mitigate the likely adverse effects of them.
- 1.1.20 It also provides an update on other changes to the Project we are proposing in light of consultation feedback. These changes do not introduce any new or materially different significant effects from those set out in the Autumn 2021 Consultation.

Future Airspace Strategy Implementation South (FASI-South).

- 1.1.21 Airspace within the UK is regulated by the Civil Aviation Authority and managed by NATS En Route (NERL), which is a subdivision within the National Air Traffic Services (NATS). Quite independently of our proposals, NATS, in partnership with the Department for Transport and the CAA, is currently reviewing the airspace over London and the south-east of England, with the aim of addressing existing constraints and allowing for future growth in air transport. This review is

¹ <https://www.gatwickairport.com/business-community/future-plans/northern-runway/documents#>

known as FASI-South.

1.1.22 The FASI-South changes are not required in order to enable a dual runway operation at Gatwick.

1.1.23 The FASI-South process is in its early stages and has yet to develop a short-list of airspace change options. We will continue to keep this process under review through the development of our DCO application and consider the potential effects of any proposed airspace changes should the scope of these become clear ahead of the DCO submission.

1.2 This consultation

1.2.1 The material for this Summer 2022 Consultation comprises this Consultation Document (plus appendices) and a Consultation Newsletter.

1.2.2 The remaining chapters of this main document are:

- **Chapter 2** – which details the design changes proposed to the highway improvements since the Autumn 2021 Consultation and explains the optioneering and assessment work that has been carried since consultation and in response to feedback. It also sets out the preliminary environmental information that has been updated to reflect the highway design changes.
- **Chapter 3** – which explains the other changes to the Project made since the Autumn 2021 Consultation in response to consultation feedback, together with an update on ongoing assessment work.
- **Chapter 4** – which summarises the next steps for the Project.

1.3 Responding to the consultation

1.3.1 This Summer 2022 Consultation period commences on 14th June 2022 and ends at 11.59pm on 27th July 2022. We welcome your comments on our proposals.

1.3.2 As with the Autumn 2021 Consultation, we are conducting this consultation virtually and via online activity.

1.3.3 To learn about the updates to our Project:

- Read this Consultation Document (including the appendices) and the Consultation Newsletter
- View hard copies of the consultation documents at our deposit locations (all in public places) (see Table 1.1 for locations)
- Visit our website - www.gatwickairport.com/futureplans - where you can download our consultation documents and view videos showing our highway improvement changes and updated proposals
- Book a Telephone Surgery to speak to an expert by visiting our website or calling the freephone hotline
- Call our freephone hotline **0800 038 3486** to speak to someone Monday to Friday, 9.30am to 5.30pm
- Send an email to feedback@gatwickfutureplans.com
- Follow us on Facebook, Instagram, LinkedIn and Twitter

Table 1.1: Deposit Locations

Venue	Opening
Horley Library, Unit 1, 55-57 Russell Square, Victoria Rd, Horley RH6 7QH	Tuesday to Saturday - 9.30am to 5pm Closed Sunday and Monday
Horley Leisure Centre, Anderson Way, Horley, RH6 8SP	Monday to Friday - 7am to 10pm Saturday and Sunday - 8am to 5pm
Tesco Extra, Reigate Road, Hookwood, Horley, RH6 0AT	Monday to Saturday – 6am to Midnight Sunday – 10am to 4pm

- 1.3.4 All consultation documents will be available to download from our website. The consultation documents are also available on USB or in hard copy on request. We will provide a hard copy of the consultation documents free of charge but reserve the right to make a charge for reasonable postage and copying costs in respect of any request for multiple copies of the documents.
- 1.3.5 For those without broadband/computer access or who are unable to travel to view hard copies of the documents, we will also loan (on request and for a limited period) tablets loaded with all consultation information if preferred to hard copies.
- 1.3.6 A response can be provided in any of the following ways:
- Complete the online consultation questionnaire on our website gatwickairport.com/futureplans;
 - Email your comments to - feedback@gatwickfutureplans.com; or
 - Write to us at the freepost address (no stamp required) - **Freepost SEC NEWGATE UK LOCAL.**
- 1.3.7 Your response must be received by no later than **11.59pm on 27th July 2022.**
- 1.3.8 We are inviting you to provide general comments. The online questionnaire has been designed to be answered having read the information in this document, or in our Consultation Newsletter. However, to help you identify where there is a specific question in the online questionnaire relating to a particular matter, you will see this logo appear in this document:



- 1.3.9 These are the questions that are included in our online questionnaire. Please go online to give us your feedback or see above for other ways in which you can respond:

1. Road improvements – design and mitigation

In response to feedback on our road improvement plans, we revisited previous designs and considered new options to provide a better layout that still meets the needs of local non-airport and airport traffic and minimises potential environmental effects. We have created a more intuitive layout to ensure safety during construction and operation and to take account of travel to, from and between local communities.

What are your views on our updated road improvement proposals?

2. Car parking

In response to feedback from our Autumn 2021 Consultation, we have reviewed our approach to car parking in the context of our commitments to sustainable travel. We are now proposing fewer new on-airport car parking spaces to cater for growth and replace spaces lost due to Project works. We are also mindful of local planning policies requiring on-airport parking to help prevent additional, off-airport parking and its associated impacts on local communities.

What are your views on our car parking proposals, including for additional on-airport spaces to assist with reducing existing off-airport unauthorised spaces?

3. Project updates

Some of our proposals – including in relation to the airfield, hotels and offices, water management, carbon, noise and others - have evolved in response to feedback from the Autumn 2021 Consultation and due to further design, development, and environmental assessment work.

What are your views on our Project updates? Please specify the topics to which your comments refer.

- 1.3.10 Postal responses will be accepted up to three working days after this deadline and responses received after this date will not be taken into consideration. Please note that your responses or other representations may be made public.
- 1.3.11 For more information, to raise any enquiries on the consultation or this document, to request a copy of the document or USB stick, or to arrange to speak to a member of the team, you can contact us by calling the **Project Hotline (0800 038 3486)** during normal business hours (Monday to Friday, 9am to 5.30pm). Outside of these hours, callers will be able to leave a message requesting a call-back.
- 1.3.12 Alternatively, you can email feedback@gatwickfutureplans.com or visit the Project website gatwickairport.com/futureplans.

2 Highway Improvement Changes

2.1 Introduction

- 2.1.1 Following feedback on the options presented in the Autumn 2021 Consultation, we have been considering potential changes to the highway improvement designs. In considering the potential changes, we have focussed on three areas, responding to consultation comments, reviewing the assessment process used for option development and refining the proposed design so that we incorporate further layout improvements. Sections 2.2 and 2.3 below describe our option assessment review and the design changes we propose, with reference to the comments received following our Autumn 2021 Consultation.
- 2.1.2 Although the Project would contain proposals to reduce the proportion of staff and passenger trips to and from Gatwick that are made by car, the combination of airport growth and an increase in non-airport traffic over the next 25 years means that some improvements will be necessary to ensure the safe and efficient movement of vehicles on the road network. Our proposed investment in the roads and junctions close to the airport provides important benefits to local communities as well as supporting airport access.
- 2.1.3 Please take this opportunity to look at the highway proposals and why they are required. Whilst much of the Project is focused on airport activity, the highway improvements have a direct relationship to non-airport traffic, with our proposals taking account of travel to, from and between local communities. This makes your comments and responses to questions in this consultation especially important to us.

2.2 Optioneering and assessment

- 2.2.1 The Preliminary Environmental Information Report (PEIR), in the Autumn 2021 Consultation, included an assessment of the impacts of the highway improvement works proposed as part of the Project. The PEIR documentation included a summary of the options considered.
- 2.2.2 In response to the Autumn 2021 Consultation, we received a number of comments from key stakeholders that have led us to proposing some changes to the highway design. We revisited our Option Assessment to ensure that a thorough and transparent evaluation process was used to optimise these proposed changes. We were assisted by National Highways who gave technical advice on safety, compliance with standards and impact on users.
- 2.2.3 The development of highway improvement options requires a balance to be made between different, sometimes competing, factors. Each potential design option is assessed against all of these factors to arrive at a preferred design. The over-riding requirement is to ensure the highway mitigation prioritises the safety of all users. At the same time, the design should deliver the capacity needed to operate efficiently as well as limiting the potential impacts on the natural and built environment and on communities surrounding the airport. In summary, the option development process considers the following criteria:
- Safety (during operation and construction)
 - Highway operation and maintenance

- User experience
- Effective design
- Airport operations
- Construction
- Environmental impacts
- Delivery

2.2.4 Within each criteria are a series of sub-criteria, representing the potential impacts of the highway mitigation option being considered. A fuller description of these criteria and how the assessment was undertaken is provided in **Appendix 1**. Under each of the criteria, all options were assessed as follows:

- **Good** – likely to be acceptable and where risks can be mitigated
- **Relatively good** – still likely to be acceptable but not as good and with greater risks
- **Feasible** – requirements appear to be achievable by mitigation but with compromise
- **Less feasible** – achieving requirements may be problematic and may not be fully mitigated
- **High risk** – significant risks to achieving consent would remain even with mitigation
- **Unworkable** – does not meet critical requirements and cannot be mitigated

2.2.5 One of the reasons that this assessment approach is so important are the physical constraints that exist to making changes to the highway layout. One objective for the preferred layout was to remove some of the conflicts between local non-airport traffic and airport traffic. This includes how Airport Way and A23 London Road connect and allow traffic to move freely in all directions. However, this cannot easily be achieved due to the proximity of Riverside Garden Park to the north and significant airport assets such as the Inter-Terminal Shuttle and Police Station to the south. The assessment process helped to highlight these competing issues in order to arrive at the best solution.

2.2.6 Our review included all the options discussed in the Autumn 2021 Consultation along with additional options previously considered but not fully assessed and some new options.

2.2.7 Each option was considered independently and assessed on a scale between good and unworkable using all the criteria listed. It was possible to screen certain options and variants out on the basis that other options achieved the same or better scores against the criteria without some of the negative impacts to the environment or surrounding land and property assets.

2.2.8 The highway designs presented in the Autumn 2021 Consultation and assessed in the PEIR minimised impacts on the environment and surrounding land but National Highways requested we resolve a number of safety concerns and departures from design standards. A number of variants were considered that sought to make design improvements and address these safety concerns, including reverting to a roundabout layout rather than a signalised intersection at our North Terminal. The Options Assessment concluded that making modifications to the design presented in the Autumn 2021 Consultation, and keeping many of the key features, would be a better solution than taking a significantly different layout approach.

2.2.9 We consider that the new junction arrangement at North Terminal is the optimum solution and the one that will now be developed further through to the DCO. The main differences from the solution outlined in the PEIR (described in more detail in Section 2.3) are:

- Use of a signalised roundabout junction at the entry to and exit from North Terminal rather than the signalised intersection proposed in September's consultation
- Relocation of eastbound Airport Way traffic to the new signalised junction on the A23 London Road to remove the issue of merging traffic close to the start of the new flyover at South Terminal Roundabout
- Modifications to Airport Way westbound, and the approach to Longbridge Roundabout arising from further design development and optioneering

2.2.10 As part of the option development for this revised layout we have reviewed specific design aspects for westbound Airport Way and A23 London Road. We assessed different combinations of two or three lanes on Airport Way and the link leading to North Terminal Roundabout filtering off to the left or right and with different lane arrangements at the diverge. We also considered the safety and operational benefits of widening the westbound A23 London Road towards Longbridge Roundabout.

2.2.11 The preferred solution, developed in consultation with National Highways, provides extra resilience and enhanced operation by adding a third lane westbound on Airport Way and A23 London Road to provide sufficient traffic capacity over the DCO assessment period up to 2047. We have also created a simpler, more intuitive layout that provides for both non-airport traffic and airport traffic. Where possible this has avoided further significant environmental impacts, which have been considered alongside safety and operational concerns.

2.2.12 These changes to the highway proposals are a key part of this consultation. We are seeking your views on the approach that we have taken, including the options and assessment criteria used, and asking if respondents support the changes in highway layout we have made since the Autumn 2021 Consultation.



2.3 Updated proposals

2.3.1 The Autumn 2021 Consultation included proposed changes to the highways adjacent to the airport, which are required to accommodate increases in traffic arising from the Project. The PEIR set out how the preferred options have been developed and the proposed mitigation for each. Changes to the following sections of the highway network were laid out, relating to three junctions and their approaches:

- Upgrade of the Eastbound M23 Spur Road from two to three running lanes, to mirror the improvements already made on the westbound carriageway
- Grade separation of South Terminal Roundabout to increase capacity
- A new signalised junction connecting North Terminal to the A23 London Road, to improve capacity and traffic flow, mitigating the existing need for south-bound traffic to u-turn at Longbridge Roundabout
- A re-configured junction at North Terminal, replacing the existing roundabout with a signalised intersection and a flyover for northbound A23 traffic, to reduce traffic conflicts and increase capacity
- Enhancement of Longbridge Roundabout to increase capacity and improve safety

2.3.2 Consultation responses from key stakeholders raised a series of questions, comments and concerns with the proposed layouts which resulted in further technical engagement with National Highways, Surrey County Council and West Sussex County Council (as the relevant local highway authorities) to improve our plans. The changes we propose in this consultation are intended to either address design issues that key stakeholders felt were unacceptable or to take opportunities identified to improve the proposed layout within design guidance. The technical review examined further options to refine the junction proposals considering the following factors:

- Safety and operation including the impacts on users
- Correlation to design standards
- Meeting capacity requirements for airport and non-airport traffic to 2047
- Construction methods and approach to managing disruption
- Minimising wider impacts including environmental topics

2.3.3 The description of the highway improvement changes that follows details the revised proposals by section, starting at the eastern end close to the M23 Junction 9 and finishing at Longbridge Roundabout on the A23. The description provides information on the new proposals and summarises where and how these differ from the Autumn 2021 Consultation material. The plan provided in **Appendix 2** shows the land required for the Highways Improvement Changes since the Autumn 2021 Consultation and how this has changed. Figures 2.2 to 2.5 below show the proposed changes. The description also picks up any points of interest regarding how the road improvements would be constructed and any mitigation associated with them (for example drainage features or mitigation from road traffic noise). The seven sections used for the project description are illustrated in Figure 2.1 below and comprise:

- (1) M23 Spur, east of Balcombe Road
- (2) South Terminal Roundabout, including a new flyover and adjoining slip roads
- (3) Airport Way
- (4) North Terminal Roundabout, including a new flyover and connection to the A23 London Road
- (5) A23 London Road
- (6) Longbridge Roundabout, including the segregated left turn from A23 Brighton Road in to A23 London Road
- (7) A23 Brighton Road, including the bridge over the River Mole

Figure 2.1 : Components of the proposed highway improvements



2.3.4 We are in the process of reviewing the detail of our proposed construction strategy for highway works in view of the design changes made and will engage with key stakeholders (including National Highways and our local highway authorities) to seek to agree the principles of the construction strategy and programme. A significant proportion of the work can be completed with narrowed lanes or lane closures, rather than full road closures requiring diversionary routes. Our aim is to minimise disruption to road users whilst maintaining safety and, wherever possible, to avoid the most restrictive traffic management taking place during peak times. The highway construction is still programmed to be completed between 2029 and 2032 (as reported in the PEIR in 2021). Where construction would impact on access to other rights of way, such as footpaths, we would agree appropriate diversion routes. Our initial proposals where this would be the case are shown in Figures 2.3A to 2.3D in **Appendix 4**.

M23 Spur (1)

2.3.5 The proposal for the M23 Spur is similar to the one set out in the Autumn 2021 Consultation. The aim is to provide a three lane “all lane running” eastbound carriageway that is similar to the recently completed westbound carriageway. The existing eastbound hard shoulder would be converted to a running lane and lane widths would be modified. Some widening of the highway may be required which would result in additional construction access requirements to the north. This would temporarily remove access to the Sussex Border Path, which would be diverted requiring access to third party land. This has been allowed for in a revision of the Project site boundary (see **Appendix 3**). We are continuing discussions with National Highways to arrive at a final solution that minimises the land take required whilst meeting other scheme objectives which we will take forward into the DCO submission. The proposals are illustrated in Figure 2.2 below:

Figure 2.2 : Proposed Gatwick Spur Road improvements



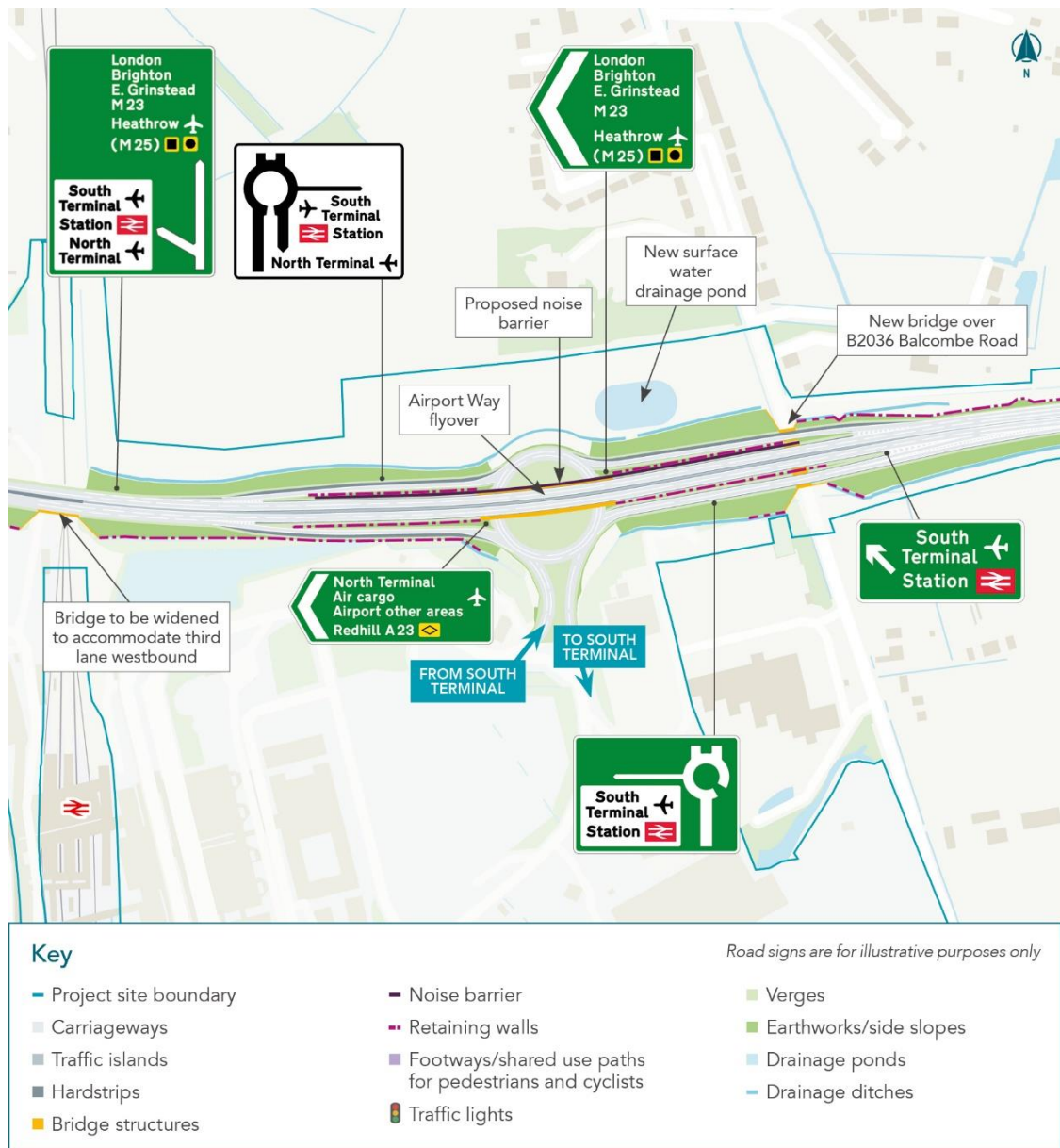
2.3.1 **Changes since Autumn 2021 Consultation:** We have amended the Project site boundary (see the plan provided in **Appendix 3**) to take account of the potential construction impacts of widening the eastbound carriageway, which would be resolved in the Preliminary Design submitted for the DCO. The M23 Spur would be re-classified as an A-road which would result in it changing its name (in the project drawings we have referred to it as the 'Gatwick Spur'.)

South Terminal Roundabout (2)

2.3.2 The proposals for South Terminal Roundabout are similar to those presented in the Autumn 2021 Consultation. This assumes a new east-west flyover carrying traffic to and from M23 Junction 9. Minor design amendments have been made to the westbound on-slip to reflect the changes to Airport Way (to provide additional resilience and accommodate potential traffic growth). A new

drainage pond is still envisaged as a permanent feature to the north-east of the roundabout. We also propose to use part of the land north of the roundabout as a temporary construction compound, which would require an additional temporary northern arm off the roundabout. The construction of the new slip roads connecting to the east of the roundabout and extending over Balcombe Road (the eastbound on-slip and the westbound off-slip) both require temporary land take for construction and permanent diversion of rights of way - see Figures 2.1B and 2.1C and Figures 2.3A to 2.3D in **Appendix 4**. These diversions would be minimised and set out as part of the wider rights of way strategy. The existing Balcombe Road bridge structure would be replaced with a new structure to accommodate the proposed M23 spur and slip roads at this location. The proposals are illustrated in Figure 2.3 below:

Figure 2.3 : Proposed South Terminal Roundabout improvements



- 2.3.3 **Summary of changes since Autumn 2021 Consultation:** The changes made to the westbound on-slip would necessitate more substantial modifications to an existing pond on airport land south of Airport Way, which would be carried out as part of the Project. We have been able to refine and reduce the amount of land proposed for temporary access on the north side of the road either side of the roundabout for utilities and construction access. We have further refined our proposals for using part of the land north of South Terminal Roundabout as a temporary construction compound and this is reflected in a revision to our Project site boundary (see **Appendix 3**).

Airport Way (3)

- 2.3.4 A thorough review of potential options for the layout of Airport Way has taken place, particularly in the westbound direction, which has the highest peak hour traffic flow. A number of design options with two or three westbound lanes between the South Terminal westbound on-slip and the diverge for the North Terminal flyover / North Terminal Roundabout were considered. The options also encompassed variations on the position of the North Terminal flyover to either the north or the south of Airport Way. This choice impacts the amount of traffic weaving between lanes through this section of the proposed scheme. The positioning of the flyover also has implications for the length of the structure and its construction complexity because of constraints on each side. The preferred solution presented in this consultation provides the optimal balance between these considerations, improving the capacity and safety of the design, reducing the need for traffic to change lanes over a short distance and minimising the potential construction impacts of the flyover.
- 2.3.5 In consultation with National Highways, we have now added a new third lane, westbound over the railway to provide a lane gain rather than a taper merge for westbound traffic joining from South Terminal Roundabout, which adds both resilience and capacity. Traffic for North Terminal is able to use two lanes to diverge to the left while traffic towards Horley continues straight onto and over the flyover. The third lane, widening Airport Way, would involve widening the existing bridge deck over the Brighton Main Line railway and widening the embankment on the south side of Airport Way. The structure carrying Airport Way over the A23 London Road is not affected, though the position of the traffic lanes on this structure would be changed to best fit with the proposed layout, and modifications to the wingwalls may be required to accommodate earthworks changes in the vicinity of the structure.
- 2.3.6 Analysis of traffic flows indicate that the Airport Way eastbound carriageway does not require widening though improvements to the slip road connecting the eastbound A23 London Road with Airport Way would be made. Changes to the eastbound slip tie in with the proposed enhancements to North Terminal Roundabout which would mean that all traffic from North Terminal heading towards the M23 motorway would turn right at a new signalised junction on the A23. The changes also involve widening the road at the point where traffic leaves the A23 on to Airport Way to provide two lanes and more capacity. The new arrangement replaces the current layout where traffic from the A23 has to merge with Airport Way, which can be slow in peak periods.
- 2.3.7 Construction of the additional westbound lane over the railway would require careful planning as changes to the embankment immediately to the east and west of the railway would temporarily

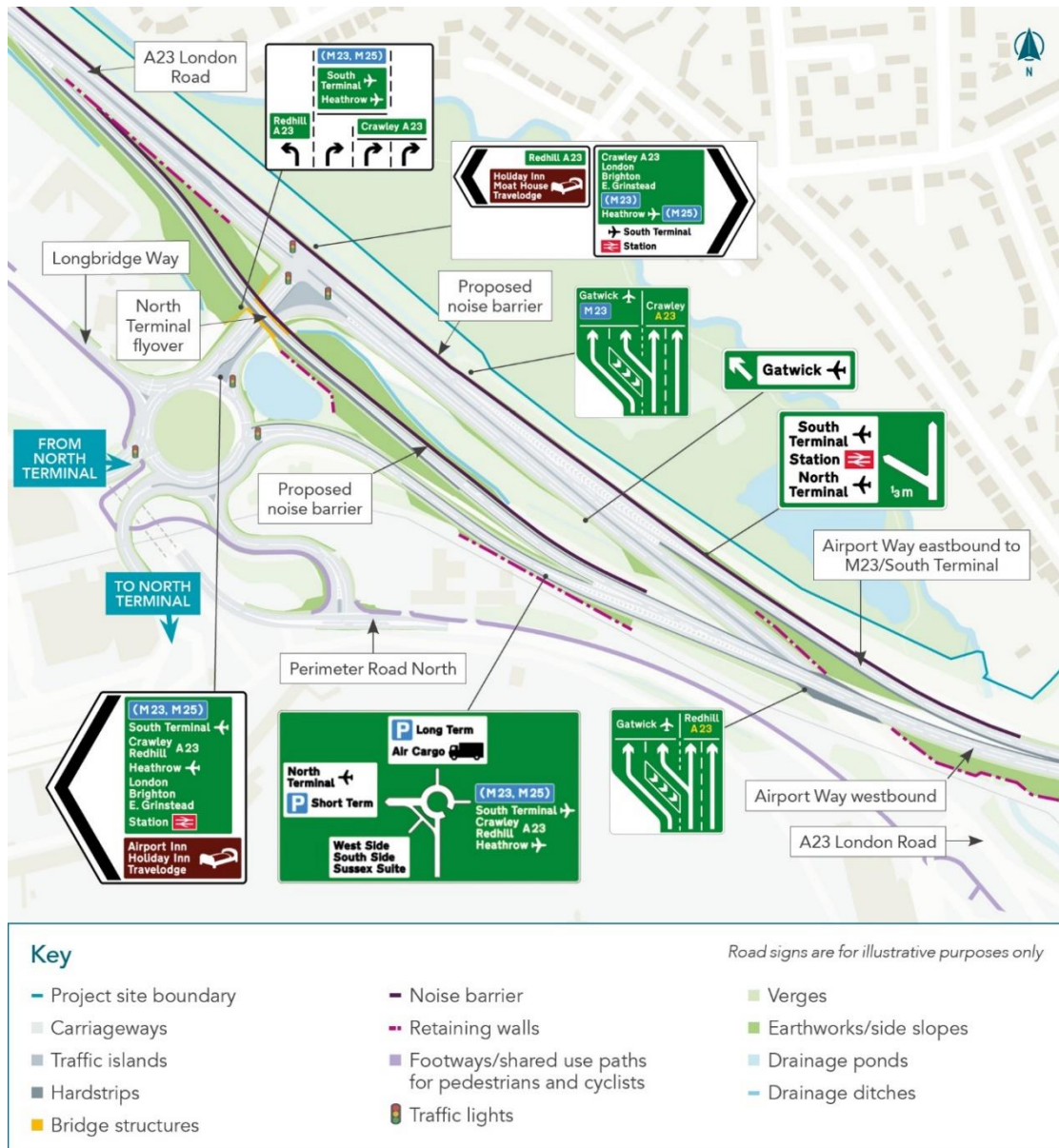
affect important pedestrian and cycle routes. For the safety of users of the National Cycle Route 21, which passes underneath Airport Way, it would be necessary to close the route while construction is taking place on the nearby embankment, during which a suitable diversion will be provided - see Figure 2.3A in **Appendix 4**.

- 2.3.8 **Summary of changes since Autumn 2021 Consultation:** A third lane has been added to the westbound Airport Way providing extra capacity and resilience (see Figure 2.3). Working adjacent to and over the railway would require a short closure period to complete the new carriageway deck, and we would maintain walking and cycling routes between Horley and the airport at all times during construction. The temporary areas required for construction access are located to the south of Airport Way on land that Gatwick owns and these are included in our revised Project site boundary. The Airport Way eastbound link from North Terminal roundabout to the on-slip connection from A23 London Road would be removed. Eastbound traffic from North Terminal would access the M23 spur via the proposed signalised junction on the A23 London Road and the proposed upgraded diverge from A23 London Road onto Airport Way eastbound.

North Terminal Roundabout (4)

- 2.3.9 The proposed layout for North Terminal Roundabout has undergone the greatest change since the Autumn 2021 Consultation. A number of questions and concerns were raised about the complexity of the proposed layout so we undertook a complete review of all potential solutions in consultation with National Highways and local highway authorities. This review balanced safety and operational considerations, reflected in design guidance, with the physical constraints at this location, and the potential land, community and environmental impacts, particularly those on the Riverside Garden Park area. One of the fundamental aims during this redesign of the junction solutions was to improve capacity and performance by separating airport and non-airport traffic whilst limiting any increase in land take outside the highway boundary.
- 2.3.10 We propose to keep the westbound flyover connection between Airport Way and Longbridge Roundabout but the signalised junction layout proposed in the last consultation has been replaced by a more conventional roundabout design, similar to that which exists now but with some arms removed or relocated. The roundabout would have a slightly larger diameter to increase its capacity and the existing eastbound Airport Way exit has been replaced with a connection via a new signalised junction with the A23 London Road. Links to and from the A23 have also been redesigned. These changes make the roundabout operation more efficient but also retain the direct route from North Terminal south towards Crawley from the previous proposal, which removes the need for u-turning at Longbridge Roundabout. Alongside the revised layout an additional drainage pond would be provided to take surface water run-off from the highways. The improved junction layout would remain largely within the existing highway boundary, with some additional land-take impacts on the south side of the road to accommodate the new westbound flyover carrying traffic towards Horley, as noted in the Project Site Boundary Plan in **Appendix 3**. This flyover would include a noise barrier along the elevated section and this was described in the original PEIR. The proposed design, including the locations of the proposed noise barriers, is illustrated in Figure 2.4 below:

Figure 2.4: Proposed North Terminal Roundabout improvements



2.3.11 Summary of changes since Autumn 2021 Consultation: The junction layout at North Terminal has been revised to a more conventional roundabout solution, with changes to entry and exit routes. As well as simplifying the final layout, the revised scheme would make it easier to sequence the works whilst minimising the impact on the existing network. There would be considerable loss of vegetation from within the highway boundary, which would be replaced. We are reviewing how and where this can best be achieved within the new highway layout, noting the requirement for new drainage ponds and the structural work supporting the new flyover. The flyover would cross the new link between North Terminal Roundabout and the A23, passing north of the Premier Inn and petrol station located on Longbridge Way. Some alteration to the existing bund behind these facilities would be required to accommodate the earthworks supporting the flyover.

A23 London Road (5)

- 2.3.12 The changes to the layout of North Terminal Roundabout have a knock-on impact on the A23, in particular the location and layout of the new signalised junction allowing traffic exiting the terminal to turn left and right on to the A23 London Road. To make sure there is extra capacity for traffic turning east and south from North Terminal, the right-turn on to the A23 has been widened to three lanes, resulting in improvements on the A23 itself from this point to where traffic heading towards the M23 and South Terminal splits on to Airport Way. Although we are not moving the eastbound carriageway edge into Riverside Garden Park, we propose the installation of a noise barrier between the road and the park from a point by the bridge over the River Mole to a point close to where Airport Way crosses Gatwick Stream (the revised indicative location is shown in Figure 2.4). This is to provide noise mitigation from existing and new traffic for those properties adjacent to Riverside Garden Park. Modifications to the existing verge, footway and embankment slope on the northern side of the A23 London Road would be required to accommodate this noise barrier.
- 2.3.13 We are proposing to increase A23 westbound capacity by adding a third lane, from where the new flyover meets the A23 as far as Longbridge Roundabout, which improves compliance with National Highways' design guidance. This would involve widening the carriageway to three lanes westbound over the River Mole (this would become a lane gain rather than a taper merge). The existing bridge over the river is a skewed structure at an angle to the main carriageway and further analysis is required to determine the best construction approach for the new lane. Our aim is to minimise disruption as far as possible but we recognise that the traffic management that would be necessary during the construction would result in delays on this busy section. A complete construction and traffic management plan is currently being developed and would be shared with National Highways and local highway authorities for discussion prior to the DCO submission. The widening of the highway bridge over the River Mole also has potential to affect the pedestrian route between North Terminal and Longbridge Roundabout. Our rights of way strategy will include a new pedestrian and cycle link that would provide a high-quality, shared-use path between these junctions. We also propose a new pedestrian link to improve the route between Longbridge Roundabout and Riverside Garden Park. All these changes are included within the Project Site Boundary Plan in **Appendix 3**, including the temporary requirements associated with maintaining access. The details of our rights of way strategy will be developed in consultation with local authorities to optimise the improvements being made.
- 2.3.14 **Summary of changes since Autumn 2021 Consultation:** Proposals for a noise barrier between the highway and the southern boundary of Riverside Garden Park have been refined and are included in the design. To construct this noise barrier and ensure sufficient future maintenance access there would be some construction activity along the edge of the park, involving temporary vegetation loss and embankment works. These have been included in our Project Site Boundary Plan (see **Appendix 3**). We are mindful of the need to minimise the impact on both the amenity and ecology value of the park and this has strongly influenced our proposals. To accommodate the widening of the westbound A23 London Road over the River Mole (a lane gain merge rather than a taper merge as indicated at PEIR) alterations to the bridge deck would be required. The bridge deck modifications would also incorporate the new shared path proposed to provide

improved connectivity for pedestrians and cyclists between Longbridge Roundabout, North Terminal and South Terminal.

Longbridge Roundabout (6)

- 2.3.15 Our proposals for Longbridge Roundabout remain similar to those presented in the Autumn 2021 Consultation. Further work has been undertaken to look in more detail at the construction requirements at this junction and the adjacent works on A23 Brighton Road, where there is a second crossing of the River Mole. This has highlighted the difficulty of undertaking work to widen the segregated left turn lane from A23 Brighton Road to A23 London Road, which is supported on a stilt structure within the River Mole floodplain. Widening this structure would lead to some loss of vegetation close to the existing structure but we would seek to minimise this loss and retain at least a 10m wide area adjacent to the River Mole to manage the effects on ecology and to maintain a visual screen. During construction, a temporary access route would be provided to work safely in this area whilst minimising any impacts. On the west side of the roundabout there would be some impact to the corner of the petrol station, to accommodate the footway alongside the improved roundabout. This impact would be minimised by installing a short retaining wall at this location. Adjustments to the A217 Reigate Road arm of the roundabout would also impact the landscaping at the front of the Holiday Inn and require minor adjustment to the access road leading to the hotel and car park. We propose a new drainage pond permanently located in land to the north of the roundabout (at Gatwick Dairy Farm), land which would also be used for the temporary laydown of construction materials and equipment during the works to Longbridge Roundabout. The proposals are illustrated in Figure 2.5 below.
- 2.3.16 **Summary of changes since Autumn 2021 Consultation:** A three-lane roundabout entry from A23 London Road would be retained as per the previous design, but with the additional section of widening to three lanes from the North Terminal flyover as described above. Changes to the extent of the construction works have been made to accommodate expected challenges for gaining access to the area of the segregated left turn stilt structure alongside the River Mole.

Figure 2.5 : Proposed Longbridge Roundabout improvements



A23 Brighton Road (7)

2.3.17 The changes to the short section of A23 Brighton Road, over the River Mole and as far as the junction with Woodroyd Avenue remain similar to those described in the Autumn 2021 Consultation. Further work has been undertaken on construction method and phasing for widening the A23 Brighton Road bridge over the River Mole north-east of Longbridge Roundabout, specifically to ensure that disruption during construction is minimised. These works are separate to the widening of the stilt-structure but would be co-ordinated. Our current proposal would be to work on each side of the carriageway in sequence. The new bridge structure would need to accommodate utilities as well as the new carriageway and footways. Ensuring this can be

completed efficiently in the constrained area within the river floodplain is one of the most complex parts of our proposals. Access to the areas either side of the River Mole is required and we are looking at all options to ensure this can be done safely. A further drainage pond is proposed within Church Meadows (in addition to the one at Gatwick Dairy Farm) as surface water from the carriageway would need to drain separately to either side of the River Mole. Our wider mitigation strategy will set out how land with amenity value lost to permanent features such as drainage ponds would be re-provided.

- 2.3.18 **Summary of changes since Autumn 2021 Consultation:** Due to the difficulty with accessing land to the east of the A23 Brighton Road adjacent to the River Mole, and the need to re-provide utilities alongside the widening bridge over the river, the Project site boundary for temporary construction now includes an access route via Woodroyd Avenue and past the garages. We would expect access to these garages to be maintained during this period.

Summary

- 2.3.19 The highway improvement changes set out above have been subjected to a further environmental assessment, which is described below.
- 2.3.20 The highway design and extent of the areas for construction shown in this consultation represent a considerable refinement of our plans since the last consultation. They have resulted in an improved layout that more closely fits with design guidance and advice from National Highways while providing more capacity and resilience within an area which is subject to several constraints. We are keen to hear your views on the improvements we have made to our proposals and the reasons we have set out for why we have proposed the approach shown.
- 2.3.21 It is important to note that we have not developed our highway mitigation to encourage people to drive to the airport. Our Airport Surface Access Strategy (ASAS) will show our commitment to increasing the proportion of trips that are made by public transport and other sustainable transport modes. The highway improvements are necessary to ensure the efficient and safe movement of airport and non-airport traffic both of which are expected to grow in volume over the next 25 years. Accordingly, we have made sure that our proposals provide necessary capacity for growth, ensure the smooth flow of traffic between Crawley and Horley and deliver improved connections between the M23 motorway and the airport.
- 2.3.22 It should be noted that design work on these proposals to prepare a preliminary design for the DCO will continue and this may result in minor modifications within the limits shown in this consultation material. We will consider all comments received during this consultation when finalising our design for the DCO application.
- 2.3.23 These changes have resulted in an amended Project site boundary (see **Appendix 3**) which is also set out in this consultation and represents the limits within which we currently believe the permanent and temporary extent of works could be undertaken. Between now and the DCO submission we will work hard with stakeholders to reduce or even avoid the impacts described here wherever possible. In particular, where we can further reduce and minimise the impact on adjacent non-highway land through design refinement and discussion with highway authorities, this will be reflected in the DCO application proposals.

2.4 Updated Preliminary Environmental Information (PEI) Summary

2.4.1 The PEIR submitted with the Autumn 2021 Consultation presented the preliminary findings of the EIA process for the Project at that time. In view of the highway improvement changes set out in Section 2.3 above, updated Preliminary Environmental Information (PEI) has been prepared to identify the extent of any new significant effects or materially different significant effects due to the highway improvement changes from those reported in the PEIR. New significant effects are those that were not identified in the PEIR and have arisen as a result of the highway improvement changes, whereas materially different significant effects are those that were identified in the PEIR but have changed in their level of significance. This updated PEI is provided in **Appendix 4** for each of the environmental topics addressed in the PEIR and is summarised in Table 2.1 below:

Table 2.1 : Summary of updated Preliminary Environmental Information for the highway improvement changes

Highway Improvement Changes	Analysis of Significant Effects Compared to the PEIR
1 M23 Spur	<p data-bbox="523 972 1078 1001">Landscape, Townscape and Visual Resources</p> <p data-bbox="523 1010 1378 1279">There would be a new significant effect that would be major adverse, on walkers using the public rights of way that link to the north of the Sussex Border Path (367 and 381). This is because the mature vegetation of the hedgerow and trees would be removed to widen the M23 Spur and walkers would gain open views of the road, retaining wall and traffic. The effect would be in the long term, pending the maturation of the replacement trees following their replanting.</p> <p data-bbox="523 1330 735 1359"><i>Further mitigation</i></p> <p data-bbox="523 1368 1374 1597">We are continuing discussions with National Highways to arrive at a solution that minimises the land take required and minimises the loss of existing vegetation, whilst meeting other scheme objectives and that solution will be taken forward in the DCO submission. This would have the potential to reduce effects on walkers using public rights of way 367 and 381 to minor adverse, which would not be significant.</p> <p data-bbox="523 1648 971 1677">Agricultural Land Use and Recreation</p> <p data-bbox="523 1686 1386 1874">There would be a new significant effect that would be temporary and moderate adverse, on users of the Sussex Border Path. The construction of the eastbound carriageway would require the temporary closure and diversion of this long-distance path. The diversion route would require users to walk an additional distance of more than 500m.</p> <p data-bbox="523 1926 671 1955">Other topics</p> <p data-bbox="523 1964 1382 2027">There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic</p>

Highway Improvement Changes	Analysis of Significant Effects Compared to the PEIR
	<p>Environment; Ecology; Geology and Ground Conditions; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; and Health and Wellbeing.</p> <p>Further information is provided in Appendix 4.</p>
2 South Terminal Roundabout	<p>Landscape, Townscape and Visual Resources</p> <p>There would be a new significant effect that would be moderate to major adverse on occupiers of the residential property on Balcombe Road. This is because mature vegetation of the hedgerow and trees would be removed, and the occupiers would gain filtered views of the Project through retained garden vegetation. The effect would be in the long term, pending the maturation of the replacement trees following their replacement.</p> <p><i>Further mitigation</i></p> <p>We are continuing discussions with National Highways to arrive at a solution that minimises the land take required and minimises the loss of existing vegetation, whilst meeting other scheme objectives and that solution will be taken forward in the DCO submission. This would have the potential to reduce effects on occupiers of the residential property to minor adverse, which would not be significant.</p> <p>Agricultural Land Use and Recreation</p> <p>There would be a new significant effect that would be temporary and moderate adverse, on users of the Sussex Border Path as set out for the M23 Spur above.</p> <p>Other topics</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic Environment; Ecology; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; and Health and Wellbeing.</p> <p>Further information is provided in Appendix 4.</p>
3 Airport Way	<p>Agricultural Land Use and Recreation</p> <p>There would be a new significant effect that would be temporary and moderate adverse, on users of the Sussex Border Path and public footpath 360/360Sy. This is due to the widening of Airport Way over the</p>

Highway Improvement Changes	Analysis of Significant Effects Compared to the PEIR
	<p>railway and widening of the embankment on the south side of Airport Way that would require temporary closures of these paths. The diversion of these routes would require users to walk in excess of an additional 500m.</p> <p>There would be a new significant effect that would be temporary and moderate adverse, on users of the National Cycle Route 21. The works would require temporary closure of National Cycle Route 21. The diversion route would require works within Gatwick Airport to widen the existing route of the Sussex Border Path along a section of public footpath 355a and would require cyclists to dismount their bikes for the short section of the footpath.</p> <p>Other topics</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic Environment; Landscape, Townscape and Visual Resources; Ecology; Geology and Ground Conditions; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; and Health and Wellbeing.</p> <p>Further information is provided in Appendix 4.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic Environment; Landscape, Townscape and Visual Resources; Ecology; Geology and Ground Conditions; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; Health and Wellbeing; and Agricultural Land Use and Recreation.</p> <p>Further information is provided in Appendix 4.</p>
5 A23 London Road	<p>Landscape, Townscape and Visual Resources</p> <p>The highway improvement changes would involve a noise barrier and maintenance access provision that would partially encroach into Riverside Garden Park requiring permanent vegetation removal (up to approximately 8m width); temporary construction access/vegetation removal would be required in Riverside Garden Park between the highway fence or existing drainage ditch and footpath track (up to approximately 6m width); and an access ramp that would encroach into</p>

Highway Improvement Changes	Analysis of Significant Effects Compared to the PEIR
	<p>public open space requiring permanent vegetation removal (up to approximately 13m width) and temporary vegetation removal (up to approximately 9m width). There would be new and materially different significant effects on people using the edge of Riverside Garden Park closest to the A23 and occupiers of four single storey residential properties on Longbridge Road.</p> <p><i>People using Riverside Garden Park</i></p> <p>There would be vegetation removal extending from highway land into Riverside Garden Park, changing the character of the edge of the park and enabling more open views of A23 temporary construction activities and operational road/traffic. There would be effects that would change from not significant to significant that would range from minor to major adverse on people using Riverside Garden Park.</p> <p>The complete removal of vegetation between the eastbound carriageway and the footpath/track within Riverside Garden Park to accommodate the footpath ramp east of the River Mole bridge and construction of a retaining wall would result in a new significant effect that would be moderate to major adverse, on people using Riverside Garden Park.</p> <p><i>Occupiers of four single storey residential properties on Longbridge Road</i></p> <p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space and the Gatwick Stream to accommodate the footpath ramp east of the River Mole bridge, enabling more open views from properties and rear gardens of A23 temporary construction activities and operational road/traffic and hotels beyond. Greater extent of vegetation removal required extending east of Longbridge roundabout into the woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond. New woodland planting in the remaining undeveloped areas would, in time, partially screen and soften the road and views of traffic. This would result in changes in effects that range from not significant to significant that would be moderate to major adverse, on occupiers of four single storey residential properties on Longbridge Road.</p> <p><i>Further mitigation</i></p>

Highway Improvement Changes	Analysis of Significant Effects Compared to the PEIR
	<p>Minimise the loss of woodland where possible and seek to retain a larger than 10m wide strip of woodland west of the River Mole that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to moderate adverse, which would not be significant.</p> <p>Other topics</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic Environment; Ecology; Geology and Ground Conditions; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; Health and Wellbeing; and Agricultural Land Use and Recreation.</p> <p>Further information is provided in Appendix 4.</p>
6 Longbridge Roundabout	<p>Landscape, Townscape and Visual Resources</p> <p>The highway design changes would involve expansion of the roundabout including slip road and shared footpath/cycleway east into woodland requiring vegetation removal (up to approximately 45 m width). New replacement woodland planting east of Longbridge Roundabout would, in time, partially screen and soften the road infrastructure.</p> <p>The greater extent of vegetation removal required extending from highway land into the woodland, would enable more open views of Longbridge Roundabout/A23 temporary construction activities and operational road/traffic and hotels and petrol station beyond. New woodland planting in the area cleared for construction would, in time, partially screen and soften the road and views of traffic. There would be changes in effects from not significant to significant, that range from moderate to major adverse, for occupiers of four first floor and four second floor apartments of two blocks of three-storey buildings on Longbridge Road.</p> <p><i>Further mitigation</i></p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10m wide strip of woodland west of the River Mole and retention of trees within the centre of Longbridge Roundabout that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to moderate adverse, which would not be significant.</p>

Highway Improvement Changes	Analysis of Significant Effects Compared to the PEIR
	<p>Retention of mature trees within the centre of the Longbridge Roundabout will be prioritised to avoid opening-up views across the junction between public open space and residential/commercial properties and reduce the dominance of traffic within this location.</p> <p>We are continuing discussions with National Highways and the local highways authorities to arrive at a solution that minimises the land take required and minimises the loss of vegetation, whilst meeting other scheme objectives and that solution will be taken forward in the DCO submission.</p> <p>Other topics</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic Environment; Ecology; Geology and Ground Conditions; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; Health and Wellbeing; and Agricultural Land Use and Recreation.</p> <p>Further information is provided in Appendix 4.</p>
7 A23 Brighton Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Historic Environment; Landscape, Townscape and Visual Resources; Ecology; Geology and Ground Conditions; Water Environment; Traffic and Transport; Air Quality; Noise and Vibration; Climate Change; Socio-economics; Health and Wellbeing; and Agricultural Land Use and Recreation.</p> <p>Further information is provided in Appendix 4.</p>

3 Project update

3.1 Introduction

- 3.1.1 In this chapter, we describe how other elements of the Project (not specific to the Highway improvement works described in the previous chapter) have been developed or changed since our Autumn 2021 Consultation. The proposals have evolved through further design and development work that we have completed, informed by continued environmental assessment of our proposals. They have also been influenced by updated policy and guidance along with the comments received from the Autumn 2021 Consultation.
- 3.1.2 The changes to the NRP described in this chapter would not affect the way in which our proposal for dual runway operations would operate. Nor would they affect our forecast growth in air traffic movements or passenger throughput which remains at 75.6 million passengers with 382,000 ATMs in 2038 and around 80.2 million passengers with some 386,000 ATMs in 2047.
- 3.1.3 The Project updates described in this chapter are not considered to lead to new or materially different significant environmental effects from those reported in the PEIR as part of the Autumn 2021 Consultation. These updates will inform the EIA process which will underpin the production of the Environmental Statement to be submitted as part of the DCO application.
- 3.1.4 Our updates continue to be the subject of an options appraisal for the design and layout of the various main components of the proposals so that the feasibility and potential impacts of each of the component parts is properly considered.
- 3.1.5 Since we consulted on our proposals in Autumn 2021, the following work in particular has been progressed to develop the project proposals:
- Review and analysis by the Gatwick team of all the responses that were received from the Autumn 2021 Consultation and identification of the key aspects of the development which required further consideration, development and/or amendment in response to the comments made. This will be detailed further in the Consultation Report submitted alongside the DCO application
 - Consideration of the projects to be included in the future baseline case (and any changes that are required due to the passage of time and taking account of the latest information)
 - A review of the parking requirements for the NRP
 - Update to the 2019 Airport-Related Employment Land Study (ARELS) modifying the need for airport facilities to reflect the impacts of the COVID-19 pandemic. This, and changes to the future baseline proposals, have resulted in changes to the proposed on-airport hotel and office facilities
 - Consideration of the water interventions required by the NRP in light of the Environment Agency's updated climate change allowance guidance for peak river flows. This has had the effect of reducing the required climate change allowance on the River Mole catchment
 - Selection of the preferred location for the CARE facility
 - Further airfield design development
 - Continued studies to determine how biodiversity enhancement can best be achieved within the NRP

- 3.1.6 Other workstreams have also been progressed in line with what we said in our Autumn 2021 Consultation. This has included developing the Implementation Plan for our Employment, Skills and Business Strategy; advancing our Housing and Local Infrastructure Impacts Assessment; progressing our Airport Surface Access Strategy; developing our Carbon Action Plan and updating our Mitigation Strategy in light of the ongoing environmental assessment work. Progress updates on these workstreams are also contained in this chapter.
- 3.1.7 As part of this consultation, we welcome views on those elements of the Project that have developed or changed since our Autumn 2021 Consultation as described in this chapter.



3.2 Car parking

- 3.2.1 In the Autumn 2021 Consultation, we noted as a result of the changes to the layout of the airfield, including its extension into some landside areas, the need for the Project to include several on-airport car parking projects to replace existing spaces which would be lost due to these project works. Additional spaces were also included to cater for growth in the passenger numbers predicted as a result of the Project.
- 3.2.2 We were also mindful of local planning policies which require airport-related parking to be provided on-airport, as these sites offer more sustainable locations and help prevent additional, off-airport parking and its associated impacts on local communities. Local authorities have indicated a target to reduce the current estimate of 6,300 unauthorised off-airport spaces to 3,000 spaces, a reduction of 3,300 spaces. We therefore also included provision for 3,300 additional future car parking spaces in the Autumn 2021 Consultation, to allow for, and to assist our closest authorities with the removal of existing off-airport unauthorised parking in the areas around the airport.
- 3.2.3 We received a number of comments from stakeholders in response to this aspect of our Autumn 2021 Consultation. Several of these questioned the need for the additional parking spaces described in that consultation, and whether the assumptions were aligned to our commitments for sustainable growth. We have listened and responded to the concerns and comments raised and propose a different approach to providing spaces.
- 3.2.4 In the previous consultation we proposed to include car parking projects (for replacement and growth) totalling up to 18,500 spaces, stating that we would only build those spaces that were necessary, depending on passenger demand and our success in shifting passenger and staff travel behaviour away from car use. We have re-examined this approach in light of our emerging ASAS (see Section 3.3) to identify the minimum number of spaces required. Our estimate of the number of spaces needed also reflects our aspiration for greater efficiency in how we use the spaces available on-airport, so that we optimise the proportion of spaces that are used during our busiest times of the year and increase our occupancy rates to over 85%.
- 3.2.5 This revised approach to car parking provision has been adopted to ensure we support initiatives for sustainable travel and do not over-provide parking which could encourage more car use. It continues to provide for the 3,300 additional spaces to cater for the discussed removal of

unauthorised off-airport parking. We have made six main changes in our estimates of future provision since our Autumn 2021 Consultation:

- Multi-storey Car Park 4 (MSCP4) (1,500 spaces, South Terminal) has been removed from the Future Baseline as, following detailed review, it is not a project that we intend to take forward
- The extra capacity planned by the Hilton hotel (820 spaces, South Terminal), which already has planning permission, is now included in our Future Baseline
- All proposed car parking on Pentagon Field (5,800 spaces, South Terminal) has been removed
- The decking proposed on Car Park X (2,370 spaces, south of the airfield) has been removed (the surface car park would remain)
- The proposed decking of North Terminal Long Stay parking site (4,070 spaces, north of the airfield) has been reduced to 2,000 spaces
- We are now proposing a decked car park on part of the Maintenance Area 01 (MA01) site (up to 2,400 additional spaces, south of the airfield) once this is no longer required as a construction compound. We believe this is a better solution than parking on Pentagon Field or decking on Car Park X

3.2.6 This approach addresses the permanent requirement for parking capacity. Over the course of the Project, some car parks would be temporarily lost during construction and reinstated later in the works schedule. Other spaces would be permanently lost due to being used for other development, such as being displaced by airfield works. This accounts for nearly 7,800 spaces, which would need to be re-provided by new projects just to replace facilities no longer available. We would manage the timing of car park projects to accommodate growth on airport and in line with relevant planning policy and this will inform the timing of some car park projects. However, we would not provide more spaces than are necessary throughout the construction and operational phases of the Project. We will commit to monitor the number of car parking spaces we provide annually, so that we may delay or avoid increasing capacity wherever possible.

3.2.7 As a result of this new approach our proposals for new parking facilities are listed as follows:

New parking provided in the Future Baseline

- MSCP7 (North Terminal, walk to terminal) – 3,250 spaces
- Robotic Parking (South Terminal, walk to terminal) – 2,500 spaces
- Hilton Hotel MSCP (walk to terminal) – 820 spaces

Additional parking provided in the Northern Runway Project

- MSCP Y (North Terminal, walk to terminal) – 3,035 spaces
- MSCP J (North Terminal, walk to terminal) – 890 spaces
- MSCP H (South Terminal, walk to terminal) – 3,700 spaces
- North Terminal Long Stay Decking (North Terminal, bus to terminal) – 2,000 spaces
- MA-01 Decking (South Terminal, bus to terminal) – 2,400 spaces

3.2.8 The total number of new spaces and corresponding spaces lost to other projects are summarised in Table 3.1 and shown in Figure 3.1:

Table 3.1 : Proposed Car Parking Numbers

	A. Future Baseline Projects		B. Permanently Lost Spaces		C. NRP Proposals replacing lost spaces		D. NRP Proposals required for growth		C+D. NRP Proposals for replacement and growth	
	MSCP7	+3,250	Summer Special	-3,345	MSCP Car Park Y	+3,035	NT Long Stay Decking	+2,000	MSCP Car Park Y	+3,035
	Robotics	+2,500	NT Long Stay & Flying Pan	-2,465	MSCP Car Park J	+890	MA01 Decking	+2,400	MSCP Car Park J	+890
	Hilton MSCP	+820	Staff parking (W, B & H)	-1,150	MSCP Car Park H	+3,700			MSCP Car Park H	+3,700
			Purple Parking	-820					NT Long Stay Decking	+2,000
									MA01 Decking	+2,400
TOTAL		+6,570		-7,780		+7,625		+4,400		+12,025

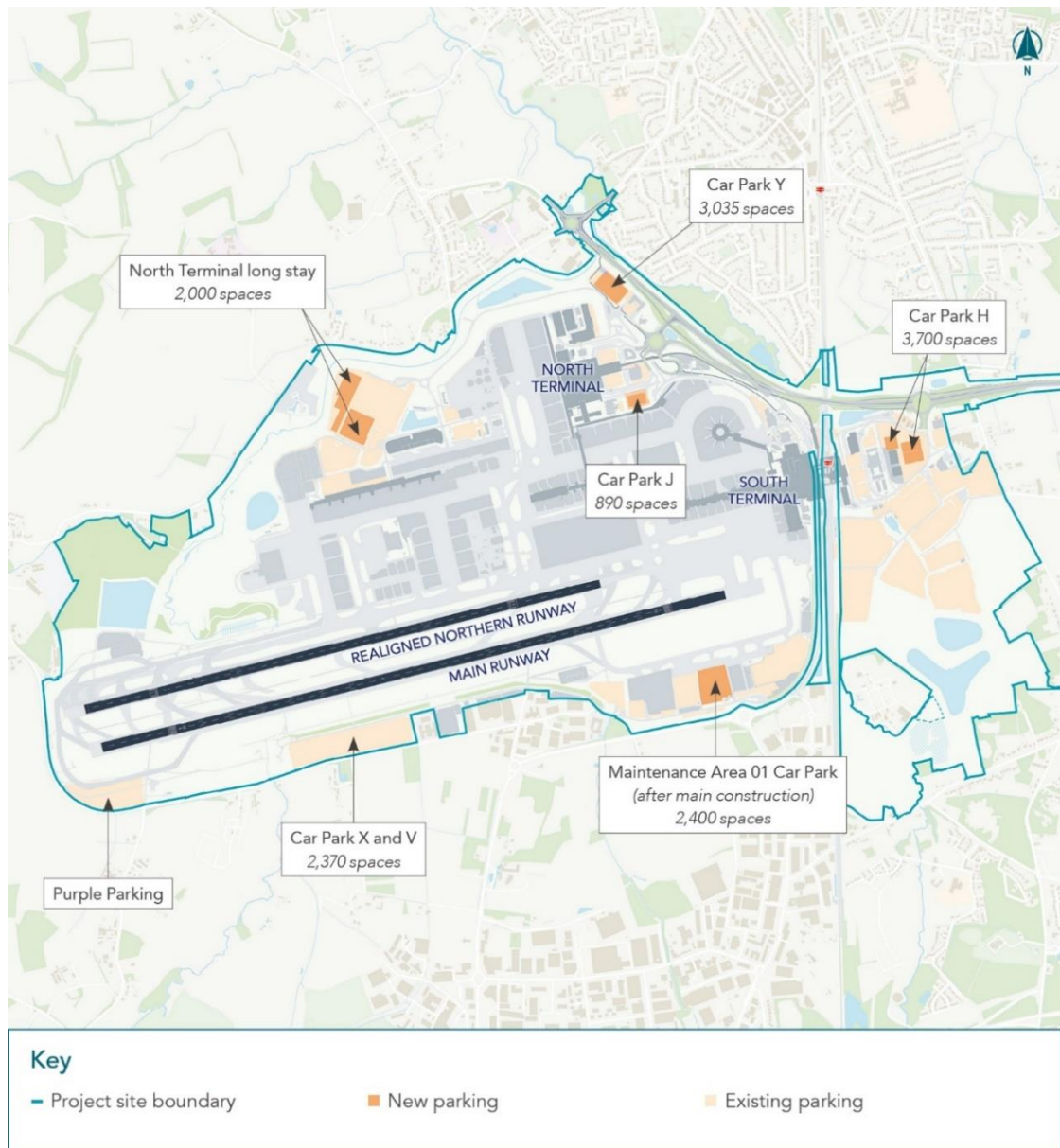
3.2.9 This means that within the NRP DCO application we would only seek permission for up to an additional 12,025 spaces, of which 7,780 would replace spaces permanently lost from the airport. This translates into an overall increase for the Project of 4,245 spaces to cater for passenger growth, which is a significant reduction compared to our Autumn 2021 Consultation proposals. This leads to a significant drop in the number of parking spaces provided per million annual passengers for the NRP compared to either the 2019 Baseline (pre-pandemic) or the Future Baseline, which is consistent with our approach to sustainable travel. As a measure, using only on-airport spaces, this trend is illustrated as follows:

- Baseline (2019) at 46.5mppa and 46,700 spaces = approx. 1,000 spaces/mppa
- Future Baseline (2038) at 62mppa and 53,270 spaces = approx. 860 spaces/mppa
- Northern Runway Project (2038) at 75mppa and 57,515 spaces = approx. 765 spaces/mppa

3.2.10 As part of this consultation, we are seeking views on whether we should continue to include, within our parking proposals for the Project, the identified 3,300 spaces that may be needed to replace off-airport unauthorised spaces and which are included in the revised parking proposals discussed above.



Figure 3.1 : Updated Car Parking Locations (since Autumn 2021 Consultation)



3.3 Airport Surface Access Strategy and Travel Plans

- 3.3.1 Alongside highway improvements and proposals for on-airport parking, our ASAS will describe how we plan to manage and provide for journeys to and from the airport, encouraging both staff and passengers to use sustainable modes where possible. We are now providing further detail on the emerging proposals, which were not available at the time of the PEIR and which will be submitted alongside the DCO application.
- 3.3.2 We already produce a Surface Access Strategy every 4-5 years, linked to previous planning requirements relating to airport growth and also our Decade of Change sustainability strategy. For the NRP, an updated ASAS will be produced as part of our DCO submission that will cover both the construction phase and the operational phase.

- 3.3.3 We are committed to low-carbon growth and our new Decade of Change strategy already sets ambitious carbon reduction targets in the absence of the Project. By 2030, we aim to have over 60% of passengers travelling by public transport, active travel modes or using a zero or low emission vehicle. This will see our public transport mode share exceed 50% and we will continue to deliver investment in walking and cycling routes and charging facilities for electric vehicles.
- 3.3.4 Our ASAS for the Project would build on initiatives and plans that we already have in place, or that we are preparing for our Future Baseline (the things we will do anyway even if the Project were not to proceed). For NRP, we would seek to do more and are considering which measures should be adopted to ensure we maintain a reduction in carbon emissions from surface transport even with the growth delivered by the Project.
- 3.3.5 Gatwick has limited influence and control over the many transport providers and other agencies for which access to the airport is only one of many considerations. However, we actively engage with relevant stakeholders to highlight the priorities for sustainable access to Gatwick and explore opportunities for improvements. For our DCO assessment we must reflect only those changes that are committed and not assume that other measures, which could benefit airport access, would necessarily be provided. This was feedback received in response to our Autumn 2021 Consultation, particularly around future rail improvements that are planned by other providers but not yet funded. Other comments related to a request for further information about our intentions for public transport and active travel access and the relationship between our commitments to sustainable travel and the need for highway improvements and more on-airport parking.
- 3.3.6 It is important to note that providing parking spaces or highway improvements and committing to measures supporting public transport and sustainable modes are not mutually exclusive. It is necessary for us to do both in order to manage growth, not just in airport journeys but also increased activity on networks around the airport for commuting and other journeys (called non-airport traffic). We aim to work with stakeholders and service providers to support journeys specifically related to airport access and develop solutions based on a sustainable business case.
- 3.3.7 Our ASAS will contain information on our approach to the following elements:
- **Bus and coach strategy**, including proposed service improvements
 - **Active travel strategy**, including improved access to and from the airport for staff
 - **Rail strategy**, where improvements can be made to services or infrastructure
 - **Highway strategy**, including the improvements proposed for the Project
 - **Parking strategy**, confirming the relationship between parking and our sustainable transport strategy
 - **Forecourt strategy**, indicating how terminal access would be managed and how we would encourage sustainable travel with our on-airport service providers
 - **Staff Travel Plan**, to support employees choosing sustainable modes to travel to work
 - **Construction Travel Plan**, relating specifically to workers on the NRP
- 3.3.8 The process we are taking to developing our ASAS is broadly as follows:
- Use our forecasts of future airport demand (staff and passengers) to estimate the impacts on transport networks serving the airport, also taking account of non-airport trips

- Factor in known and committed changes to services and infrastructure, both by Gatwick and others (for example road and rail improvements already funded by others, including government)
- Identify how well this achieves our sustainability goals and develop additional measures to promote more sustainable travel, in particular using measures Gatwick can control
- Undertake analysis of how these measures perform, using transport models and make changes to optimise their effectiveness
- Use the outputs from the models to set our estimated mode share targets
- Develop any further supporting measures that may help to encourage sustainable travel choices
- Agree a monitoring strategy which we would report on (which would not be part of the modelling work)

3.3.9 We consider this to be a better approach than setting targets as inputs or developing measures without understanding of how effective they would be. It also allows us to analyse whether there are any unintended effects of our proposals, or if changes or enhancements are required to achieve an optimum strategy.

3.3.10 We are part way through our analysis of the proposals that will make up our ASAS, but we are already fine-tuning some of the measures we expect to include in it. These will be discussed further with our local authorities and key stakeholders. Options currently being considered are summarised in the following sections.

Bus and Coach Strategy

3.3.11 We are analysing potential service improvements for both the local bus network and the wider coach network. Gatwick is already served by a network of services but we are studying how that network could be strengthened.

3.3.12 Regional coach services are being studied that have the potential to target areas that currently have a low public transport mode share but generate significant numbers of trips to and from the airport. These areas include:

- Sevenoaks and the Medway Towns
- East Grinstead and Uckfield
- Tunbridge Wells (via East Grinstead)
- Horsham and Worthing
- Bexley and Ebbsfleet

3.3.13 We would extend the funding of local bus services in line with increases to our Sustainable Transport Fund where these show benefits for local journeys, in particular by Gatwick staff. Areas of focus include support for early morning, late evening and weekend journeys to match different shift patterns. Routes that may offer potential benefits from enhancement include:

- Route 4/5
- Route 10
- Route 20
- Route 22

- Route 100

Active Travel Strategy

3.3.14 We have been developing proposals for improvements to walking and cycling routes for access to the airport alongside the design of highway improvements. This is intended both to avoid any severance of existing links caused by the works and also to enhance them where appropriate and practicable. Specific elements under consideration include:

- Managing access to existing routes during construction, when temporary closures may be required to ensure safety, for example when Airport Way is widened over the railway
- Providing additional routes to improve connectivity, for example a new route between Longbridge Roundabout and North Terminal and improved access from Horley to South Terminal
- Consideration of further improvements to existing routes where there are gaps in the quality of the infrastructure, including a review of the local section of National Cycle Network Route 21 where it passes through the airport
- Investment in infrastructure on-airport to support more cycling to work for airport employees
- Initiatives to promote cycling and walking to both staff and passengers

Rail Strategy

3.3.15 There will be limited opportunity for further rail enhancements beyond the significant works already being undertaken to the Gatwick rail station. This is due to uncertainty over future rail projects and a lack of significant, spare peak capacity on the network.

3.3.16 Gatwick's already high rail mode share will be improved by one of the airport's biggest projects in decades - the expansion of Gatwick Railway Station - due for completion in 2023. This project will provide additional station capacity for passengers and staff using rail to access the airport and a much better user experience. The expanded station will have capacity for the further increases in rail mode share and for the growth required for the Northern Runway.

3.3.17 We are continuing discussions with Network Rail and other stakeholders around the possibility of service improvements outside of peak times, when service levels are lower but a significant number of airport-related journeys could be attracted to rail.

Highway Strategy

3.3.18 We have developed proposals for highway improvements to meet the needs of future airport and non-airport road users to at least 2047 (our final assessment year). Our modelling will determine if further allowances should be made for mitigating impacts on other junctions or the wider network. Importantly we would monitor traffic flows to assess actual changes in demand. Our highway proposals are set out in more detail in Section 2.3.

Parking Strategy

3.3.19 Our parking strategy is set out in more detail in Section 3.2 in relation to capacity required for the Project and an update from our proposed strategy in the Autumn 2021 Consultation. Parking

capacity is linked to other surface access topics, including our mode share targets, and is also used to calculate the value of our Sustainable Transport Fund under our Section 106 obligations. Our estimates of the capacity needed for the Project take account of using all on-airport spaces more efficiently and our commitment to continuing to reduce parking mode share over time. This would also involve gradually increasing the cost of parking relative to using more sustainable modes.

Forecourt Strategy

3.3.20 Our forecourt strategy sets out how we work with on-airport providers such as taxis, car rental companies, local bus and coach companies to allow effective access to the terminals. This is balanced with access to short stay, multi-storey car parks, passenger drop off areas and maintaining access for emergency services and essential operational vehicles. How we manage future demands for forecourt access will be informed by our traffic modelling and may require some reallocation of space to make best use of constrained areas and allow for other changes as part of the project. Our strategy will consider the following:

- Access to and use of the new multi-storey car park at North Terminal (Car Park J)
- Access to the two new hotels adjacent to Gatwick Railway Station and integration with forecourt use
- Provision for improved bus and coach access consistent with our bus and coach strategy
- Improving areas for taxis, car rental operators and passenger drop off making most efficient use of our forecourts and prioritising sustainable modes
- Future increases which may be required in forecourt drop off charges relative to sustainable modes to help deliver our strategy for mode shift
- Ensuring that forecourt capacity is managed consistently with traffic flows at the improved North Terminal and South Terminal junctions

Staff Travel Plan

3.3.21 The ASAS will include an updated Staff Travel Plan to bring together supporting measures for employee journeys, specifically with the aim of promoting sustainable and healthier modes of transport for staff and reducing travel to work by single occupancy car. In addition to specific measures for active travel, our Staff Travel Plan will include those incentives and measures we already have in place, and would continue to enhance, that make it easier for staff to choose sustainable modes. This includes initiatives linked to staff parking, discounts on public transport and incentives that specifically support cycling and the use of zero or low emission vehicles for journeys to work. Our approach to encouraging more use of sustainable modes will also consider the availability and location of staff parking and our aim is to minimise circumstances where single occupancy car use is the default choice.

Construction Travel Plan

3.3.22 A Construction Workers Travel Plan relating to the different phases of delivering both airport and highway infrastructure is being prepared as part of the DCO application. The schedule for completing each component of the Project means that the number of construction workers would

vary over time. Our Construction Travel Plan will take account of peaks in activity but also encourage sustainable travel throughout the construction phase. This would include measures already available to employees working at Gatwick such as discounts on public transport. Our strategy will mitigate the number of construction-related car trips taking place, particularly during traffic peak periods. We are in the process of updating our construction schedule and workforce numbers to provide inputs to our transport modelling and this will inform the additional measures required to provide support and incentives around sustainable travel and best manage any car trips.

Next Steps

- 3.3.23 Following further analysis of the emerging options, discussions with key stakeholders and any responses to this consultation, we will develop a draft ASAS to be submitted as part of our DCO application, including proposed mode share targets.

3.4 Airfield

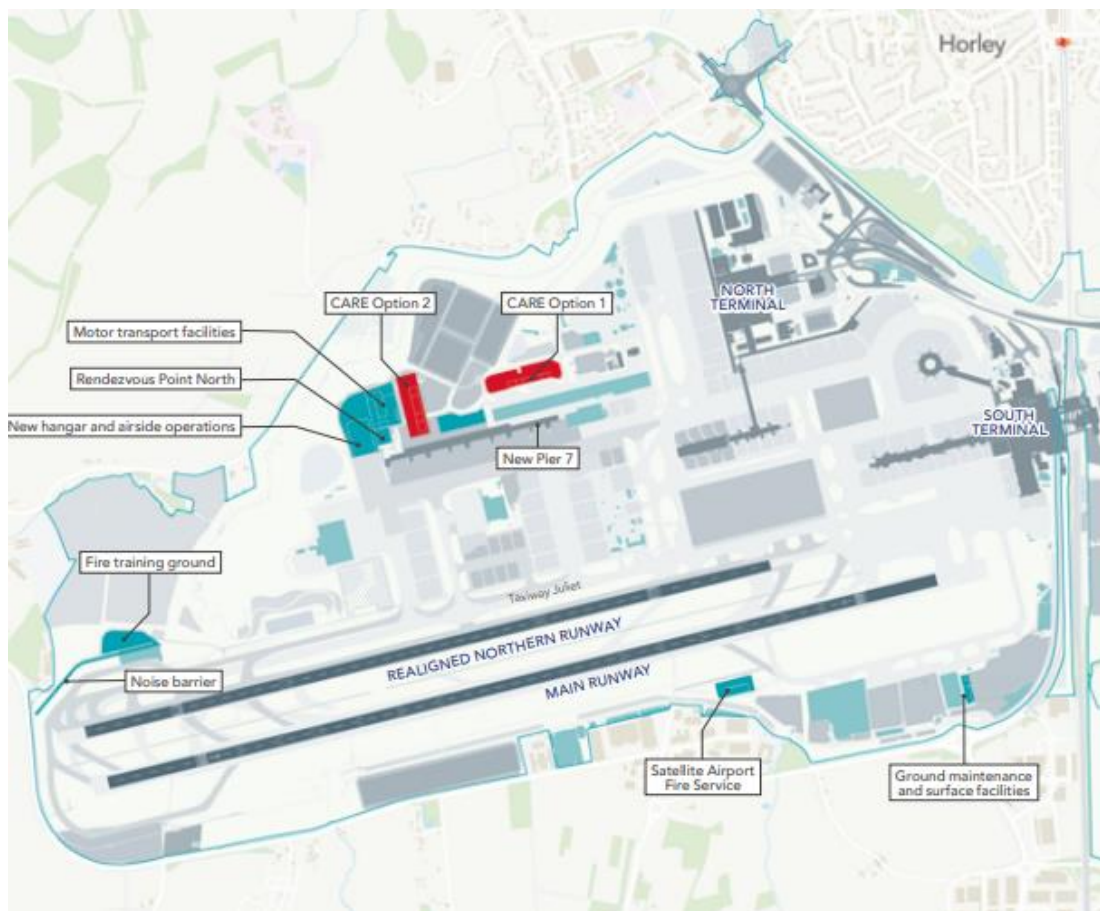
- 3.4.1 We have made a limited number of changes to the airfield design as follows:

- **Aircraft Engine Running Areas** – the preferred locations for aircraft engine running for test and maintenance purposes have been fixed. Testing currently takes place in four locations across the airport, three of which would be affected by the proposals to change current airfield facilities. Two locations for engine ground running are proposed on Taxiway Juliet close to the areas currently used and a third area on Yankee taxiway would be retained. The fourth area, at the east end of Juliet, would no longer be used.
- **Hangar 7** – the existing pavement on the northern side of the Hangar is no longer being re-provided to the south of the Hangar. Revisions have been made to the demise of the hangar site and previous aircraft parking provisions altered, removing the need for re-provision.
- **East-West Inter-Runway Track** – a permeable but trafficable track, for light vehicles only, would be provided between the two runways to facilitate airfield activities such as bird management. Currently, the airfield operational teams can use either the Northern Runway or Juliet Taxiway to gain east-west access but both would be fully utilised for aircraft movements and an alternative, rapid access, route for light vehicles is required.
- **North-West Noise Bund** – the alignment has been revised including a move to the north of the fire training ground and there is a corresponding revised location for the perimeter road. These two changes offer improved noise mitigation for Charlwood residents putting both the training ground and the perimeter road to the south of the bund.
- **Central Area Recycling Enclosure Facilities (CARE)** – in the Autumn 2021 Consultation, we identified two possible locations for the new CARE facility. The existing facility north of Taxiway Juliet would need to be relocated and expanded as part of the Project. The two proposed sites for the new facility were both located in the north-western part of the airport (see Figure 3.2). In the Autumn 2021 Consultation, we asked respondents which location would be preferred and why:

- **Option 1** - to the north of the cargo hall (north-east of Pier 7); or
- **Option 2** - to the north-west of Pier 7

Following the Autumn 2021 Consultation, Option 1 has been selected. Respondents preferred its central location, noting the shorter journey from the central terminal areas where the bulk of our waste originates and its relative remoteness from the airport boundary. We will now progress the design for this building which we expect would be up to 22m in height above ground level with a biomass boiler flue height of up to 50m above ground level and a total footprint of approximately 17,550m².

Figure 3.2 : Location of the two possible locations for the CARE facility (as shown in PEIR)



3.5 Hotels and offices

- 3.5.1 The Project would generate demand for additional on-airport office accommodation and hotel provision in order to meet the needs of airport-related companies and passengers. Since the Autumn 2021 Consultation, we have refined and updated our assessments to further understand the additional office and hotel demand that would be generated by the Project. The updated assessment also takes into account changes to the future baseline position and changes in occupancy rates between 2019 and 2022.

- 3.5.2 We have also taken account of specific consultation feedback relating to our office and hotel proposals, including the need for further clarity on the demand assessment work and how that has determined our proposals.

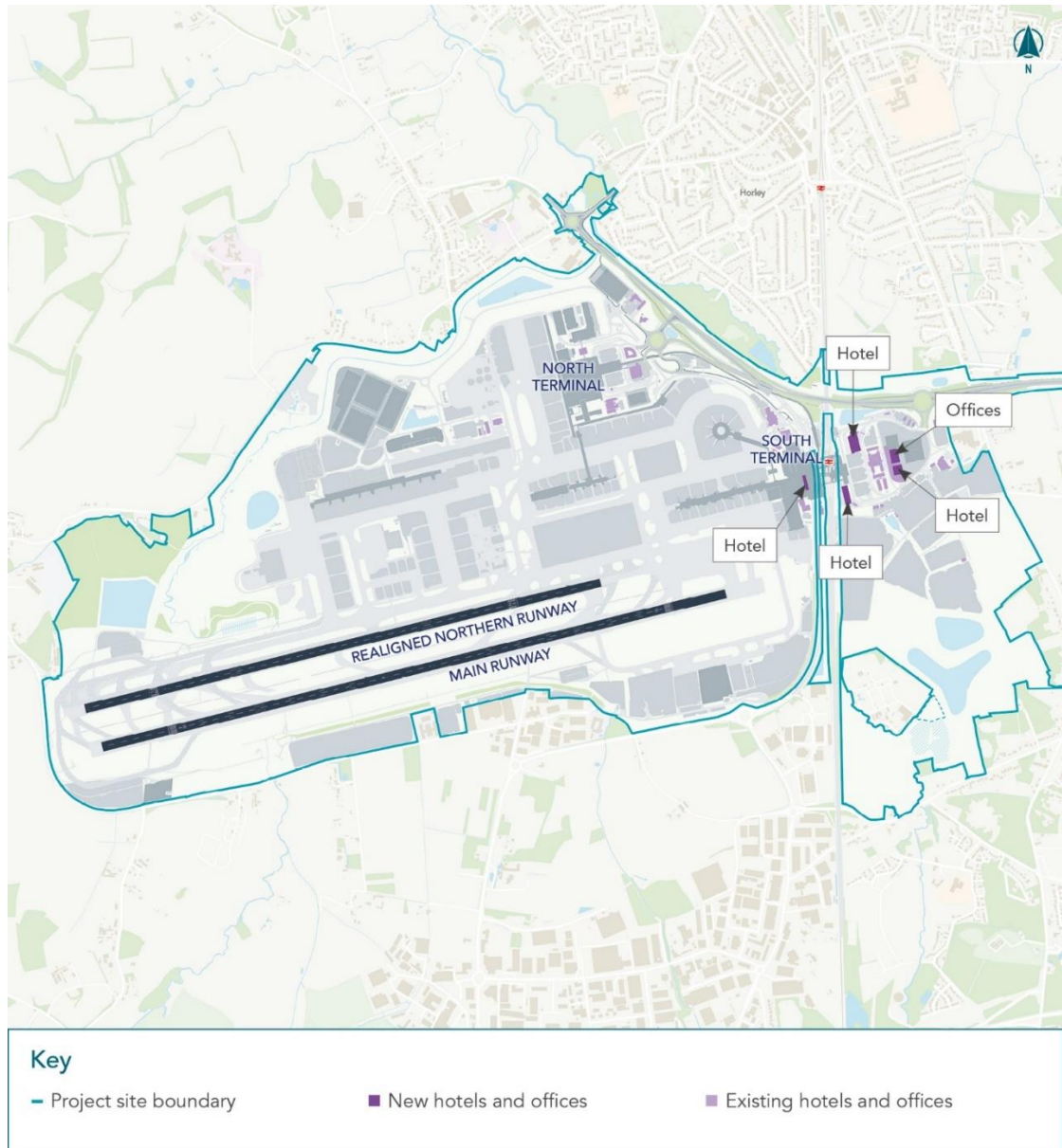
Hotels

- 3.5.3 There is a significant hotel provision both on and off airport. Hotels on the airport tend to be used substantially (but not exclusively) by airport passengers and staff, whereas hotels further from the airport are supported by airport demand, but also meet other needs such as tourism, leisure and business stays.
- 3.5.4 In the Autumn 2021 Consultation, we presented our proposals for 1,000 additional bedrooms in three new hotels located on existing Car Park H, Car Park Y and the former car rental site. These three hotels were to supplement two hotel developments which already benefitted from extant planning permissions granted by Crawley Borough Council – an extension to the BLOC hotel (200 bedrooms) and the reconfiguration of the existing Hilton hotel (50 bedrooms). It is now understood that the BLOC hotel extension is unlikely to proceed and planning permission is expected to lapse in February 2023. As a consequence, this scheme will not be taken forward as a Future Baseline project.
- 3.5.5 Following consultation, we have updated our assessment and estimate of likely hotel demand. The demand for hotels is driven by passenger demand, meaning the demand for hotel beds is expected to return as passenger numbers return to previous levels and continue to grow. We now forecast that there would be an increased requirement for hotel beds as a result of the Project, equating to approximately 3,350 additional hotel beds.
- 3.5.6 Based on the updated assessment, our updated hotel proposals now comprise 1,250 additional bedrooms in four new hotels in South Terminal (see Figure 3.3) (totalling 250 additional bed spaces from the Autumn 2021 Consultation):
- One new hotel on the existing Car Park H (up to 400 bedrooms) (unchanged from the Autumn 2021 Consultation)
 - One new hotel north of Multi-storey Car Park 3 (MSCP3) (up to 400 bedrooms) (unchanged from the Autumn 2021 Consultation)
 - One new hotel on the former car rental site (up to 200 bedrooms) (changed from Car Pak Y in the Autumn 2021 Consultation)
 - Conversion of the Destinations Place office building to a hotel, above South Terminal (approximately 250 bedrooms) (new proposal)
- 3.5.7 As is the case today, we anticipate that the balance in the future demand for additional hotel accommodation would continue to be met through hotels located both on and off the airport, with new hotels being developed to meet market demand in town centres such as Crawley and Horley.

Offices

- 3.5.8 In our Autumn 2021 Consultation, we identified a demand for up to three new office blocks with a total floorspace of approximately 9,000m² which were proposed to be located on existing Car Park H. This floorspace was based on an assessment of likely aviation activity and the correlating relationship to office demand based on the relationship between the two in 2019.
- 3.5.9 Since 2019, the occupation of existing on-airport office floorspace has reduced. This has largely resulted from the impact of the COVID-19 pandemic which has reduced demand for non-airport operations to be located on-airport and on-airport operators seeking greater efficiencies in space (largely through a shift to hybrid working and maximising on-airport operations via technological improvements).
- 3.5.10 Notwithstanding this decline, there is still a need for existing on-airport operators to occupy on-airport office space and this demand would increase as a result of the Project. We now expect, however, that the Project's office demand can be met through a combination of existing vacant office floorspace and the displacement of non-airport related occupiers to off-airport locations. Based on the existing vacancy levels and demand ratios, we now consider that the Project would not itself generate a demand for additional office floorspace until 2038 and by then, only for 300m², which is not sufficient to generate the need for any new office blocks.
- 3.5.11 However, we propose to convert the existing Destinations Place at South Terminal from an existing office into a new hotel. This building is currently occupied by our staff and the loss of this existing on-airport office floorspace would generate the need for one new office block. The exact configuration, phasing and amount of floorspace would depend on the actual timing of requirements. The proposed location for the new office block is shown in Figure 3.3:

Figure 3.3 : Revised hotel and office locations



3.6 Water management

- 3.6.1 Our Autumn 2021 Consultation explained how the existing airport drains to local watercourses via balancing ponds and attenuation lagoons, and that a flood risk mitigation strategy would be required to meet planning requirements and to ensure no increase in the risk of off-site flooding due to the Project. We also identified a series of interventions (for example new flood compensation areas) which would store water in flood conditions. The sizing of the interventions was based on detailed computer modelling of flood events using climate change allowances published by the Environment Agency.
- 3.6.2 In July 2021, the Environment Agency updated its climate change allowance guidance for peak river flows so that it was specific to the river catchment where development was taking place.

This had the effect of reducing the required climate change allowance on the River Mole catchment for the 1% (1 in 100) Annual Exceedence Probability event from 35% to 20%. It was too late to take this change into account in the modelling reported in the PEIR, however, we have since reviewed the flood risk strategy to update it in accordance with the reduction in required allowances. We have also completed further detailed modelling of the airport drainage network, water storage and pollution treatment infrastructure. This modelling has demonstrated that some of the proposed flood compensation areas can be reduced in size, and two can be removed entirely, with no increase in off-site flood risk.

3.6.3 This has resulted in the following changes to the infrastructure required from that discussed in the PEIR (see Figure 3.4):

- Museum Field and Car Park X flood compensation areas (FCAs) would be reduced in size
- The proposed flood compensation area to the south of Crawley Sewage Treatment Works, and the small area to the east of Museum Field are no longer required
- Surface water drainage Pond A and the extension to Dog Kennel Pond are no longer required
- A small treatment works to clean de-icer contaminated runoff is now proposed to the east of the Crawley Sewage Treatment works as part of an overall strategy to reduce flood risk on the airport and improve water quality

3.6.4 We have also engaged further with the Environment Agency, to review options for reducing the effects of extending the existing runway culvert on the River Mole and making improvements to benefit the river upstream and downstream of the airport. A metal grid would now be installed over the newly culverted section of the River Mole to allow daylight to reach the water surface and we would install a fish pass on the weir at the entrance to the culvert on the south side of the airport to improve fish passage upstream.

Museum Field Flood Compensation Area

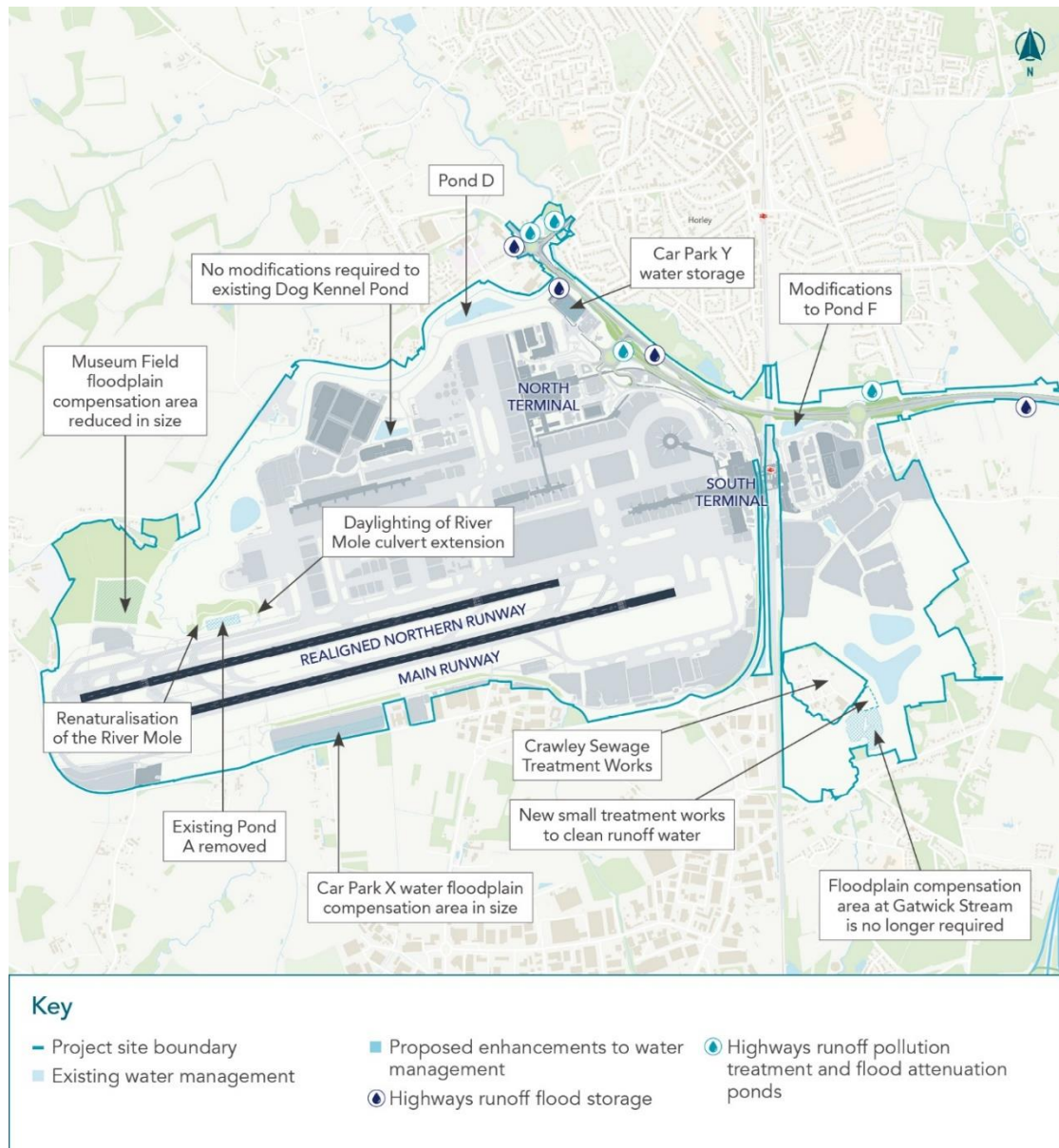
3.6.5 Further work has been undertaken to progress a concept design for the Museum Field Flood Compensation Area and how this would connect to the River Mole. The design also allows for some bunding around the edge of the field. This would reduce the requirement to remove excavated material offsite and assist with both ground noise mitigation and visual screening. Over time, the area would be managed for the benefit of biodiversity and will form an important part of Gatwick's green infrastructure. The area would be accessible to the public, with a bridge over the connection to the River Mole and a walking path around the edge of the flood compensation area (see Figure 3.7).

Gatwick Stream – new treatment works

3.6.6 Updated computer modelling undertaken to understand surface water flood risk, and pollution control has shown that there would be overall improvements in water quality at the main discharge from Pond D to the River Mole if there was additional treatment of water at the pollution storage lagoons. Accordingly, Gatwick will be discussing with the Environment Agency the proposed installation of a small treatment plant on the site of the former Rolls Farm, to the east of

Crawley Sewage Treatment Works. The new plant would treat a proportion of the water stored in the lagoons and either discharge it to the Gatwick Stream or to the airfield.

Figure 3.4 : Surface and foul water improvements



3.7 Landscape and ecology

Landscape

3.7.1 Feedback from the Autumn 2021 Consultation raised matters relating to the requirement for additional representative viewpoint locations, the consideration of sequential visual effects, the clarification of the tranquillity impact assessment methodology, the assessment of effects on the High Weald Area of Outstanding Natural Beauty (AONB) special qualities, the development of landscape mitigation proposals and the preparation of further photomontages/illustrative material.

3.7.2 We are progressing these matters by:

- identifying additional candidate viewpoint locations and undertaking further representative photography;
- undertaking a sequential visual impact assessment of walkers using the Sussex Border Path as it passes through the study area;
- developing a separate section of the methodology to focus on the effects on the perception of tranquillity;
- incorporating an assessment of effects on the special qualities of the High Weald AONB within the Environmental Statement;
- developing landscape proposals to mitigate the effects on landscape and townscape character and visual amenity; and
- preparing further photomontages which incorporate key elements of the Project based on maximum design parameters.

Ecology

- 3.7.3 Responses to the Autumn 2021 Consultation raised matters relating to a number of different issues with respect to ecology. This included, among others, how the NRP would address Biodiversity Net Gain (BNG), various survey efforts and how zones of influence had been defined, consultation with stakeholders, mitigation design and approach to Habitats Regulations Assessment (HRA).
- 3.7.4 Since publication of the Autumn 2021 Consultation, the Environment Act has been granted Royal Assent (in November 2021). The Act sets out the requirement for all development, including NSIPs, to deliver quantifiable BNG. However, the application of BNG to the NSIP regime (and therefore to the Project's DCO application) is subject to further consultation and secondary legislation, the detail and timing of which is still to be confirmed. The Project's proposed approach to BNG is being discussed with key stakeholders. We will ensure that the DCO application includes a high-quality approach to mitigating ecological effects and enhancing biodiversity, whilst meeting all legal and policy requirements.
- 3.7.5 The zone of influence (Zol) for the project was agreed with Natural England during consultation and was defined by considering where impacts could potentially occur. Where this was outside of the project boundary (such as for bats), appropriate survey work was completed in those areas. As the project has evolved, the Zol has changed and, therefore, requirements for further surveys have arisen to ensure that any potential impacts are identified. To that end, we are undertaking further survey work, where necessary, during 2022.
- 3.7.6 We are intending to progress further consultation via a Biodiversity Working Group comprising stakeholders such as the Wildlife Trusts, Natural England and other interest groups. This would help to ensure that their views are taken into consideration with respect to habitat design and associated mitigation.
- 3.7.7 Mitigation design is being developed as the project evolves especially with respect to the highways design. Areas of new habitat creation include the new open space within Car Park B, Museum Field and land to the south of Church Meadows. Integrated concept mitigation designs are being developed for these areas as illustrated in Figures 3.5 to 3.7 below. These concepts

are being designed to bring together ecological, landscape and recreation mitigation objectives as well as providing wider community benefits. This mitigation design will be progressed over the coming months, in consultation with the Biodiversity Working Group.

3.7.8 The approach to the Project's HRA is being refined as traffic and associated air quality modelling has progressed. This includes discussions with various stakeholders with respect to the approach to adopt to enable the effect of ammonia emissions to be accounted for within traffic emissions modelling.

Figure 3.5 : Integrated concept mitigation designs for Car Park B

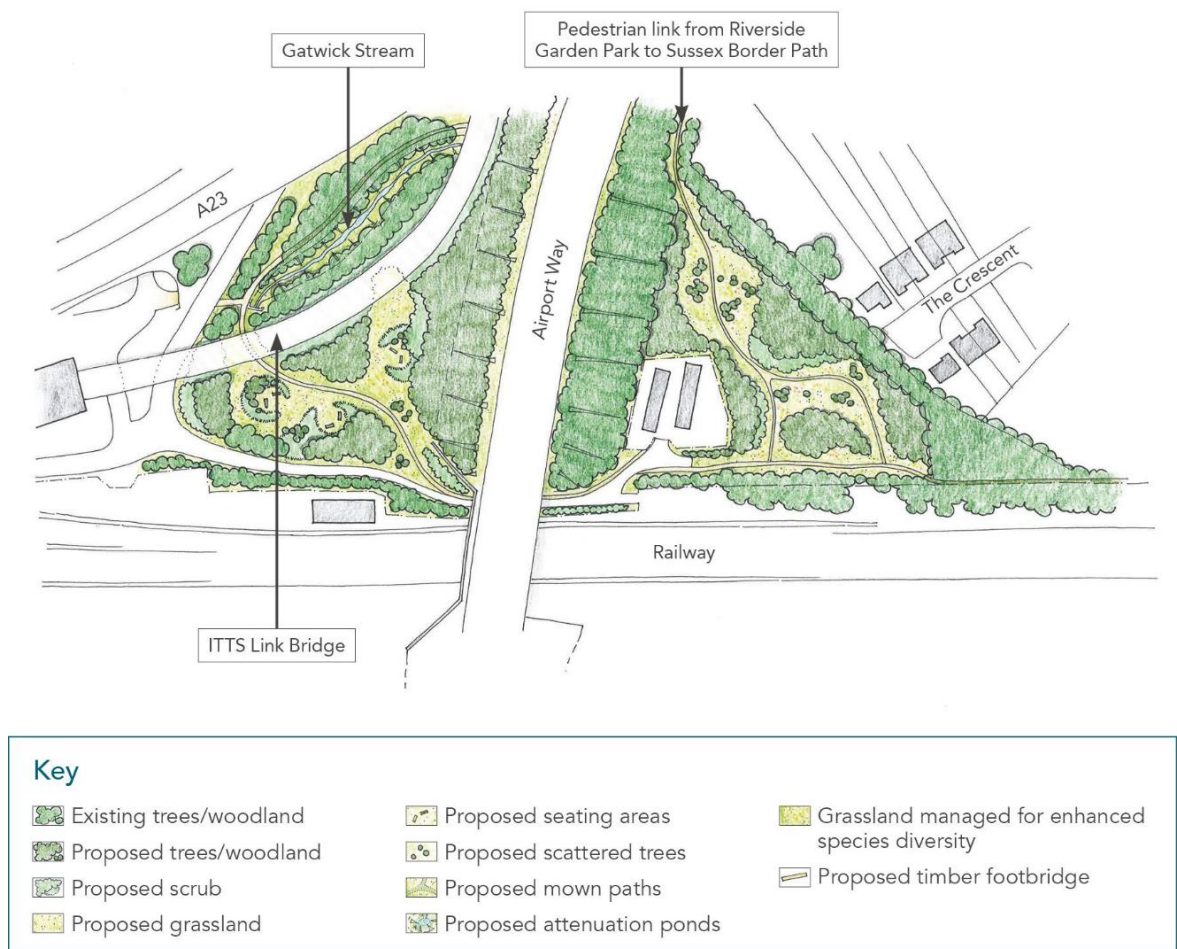
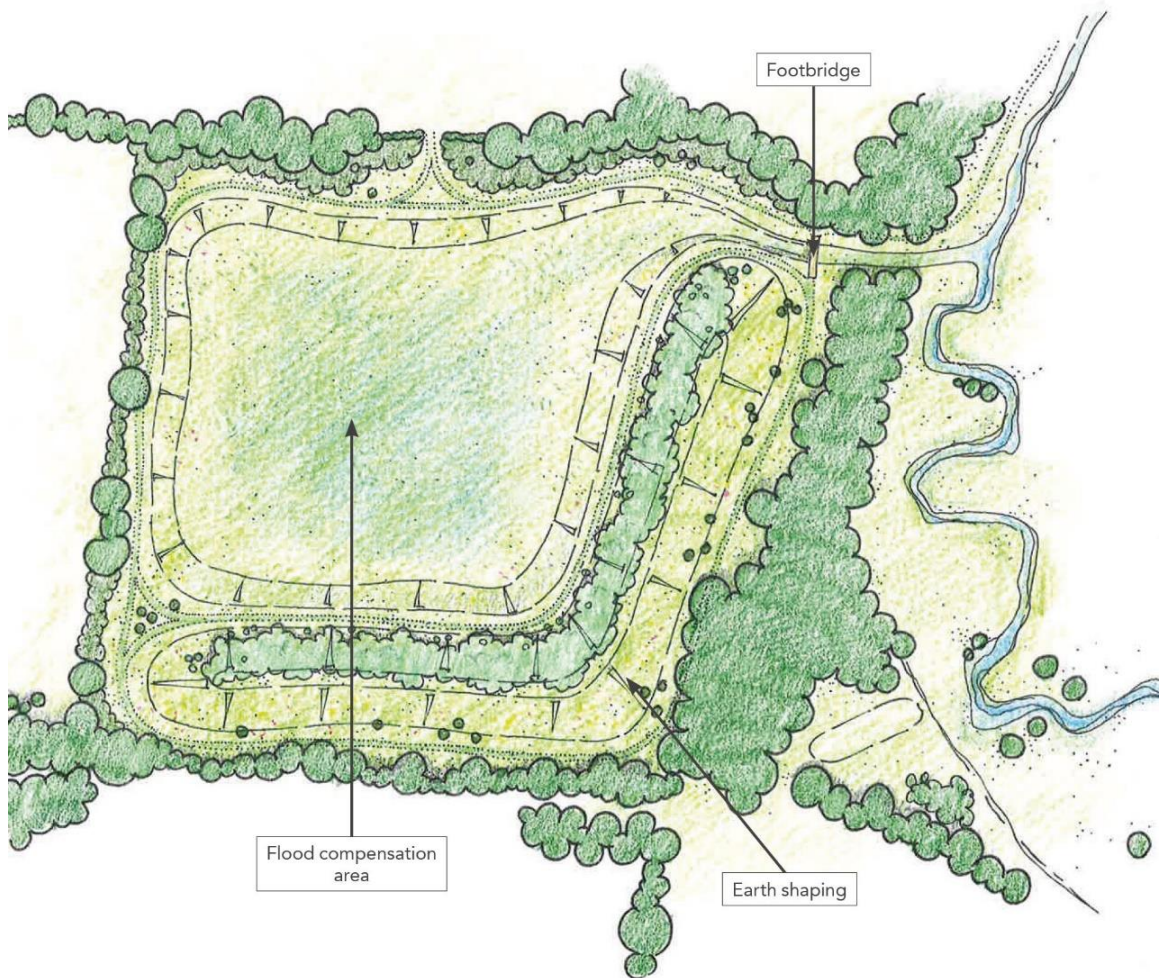


Figure 3.6 : Integrated concept mitigation designs for Church Meadows



Figure 3.7 : Integrated concept mitigation designs for Museum Field



Key					
	Existing trees/woodland		Proposed seating areas		Grassland managed for enhanced species diversity
	Proposed trees/woodland		Proposed scattered trees		Proposed mown paths
	Proposed scrub		Proposed attenuation ponds		Proposed timber footbridge
	Proposed grassland				

3.8 Carbon

Aviation and carbon policy

- 3.8.1 The UK has long been a global leader in tackling climate change. The 2008 Climate Change Act sets the legal framework for reducing emissions across the UK economy and in 2019, the UK became the first major economy to legislate to reach net zero by 2050.²
- 3.8.2 On the pathway to net zero, the UK has interim targets called carbon budgets. In June 2021, the Government set in law the Sixth Carbon Budget limiting the volume of greenhouse gases emitted from 2033 to 2037. This was the first carbon budget under the net zero target. The Sixth Carbon Budget commits to reducing emissions by approximately 78% by 2035 compared to 1990 levels. For the first time, this carbon budget formally incorporates the UK's share of international aviation and shipping emissions, enabling these emissions to be accounted for consistently with other emissions and demonstrating leadership in how the UK accounts for its emissions.
- 3.8.3 These binding commitments place a legal duty on the Government to ensure that the carbon reduction targets are met.
- 3.8.4 The Government also has a duty to ensure the prosperity of the country, including the critical contribution to this made by aviation.
- 3.8.5 These duties are not incompatible and in July 2021 the Government consulted on its strategy to “commit the UK aviation sector to reach net zero by 2050 – or Jet Zero.”³ The Government has also consulted on a target for UK domestic aviation to reach net zero by 2040. This was referred to in the PEIR as part of our Autumn 2021 Consultation but had only been released shortly before we went to consultation. As such, the text below offers an updated summary of the Project in the context of Jet Zero, including in recognition of the subsequent further technical consultation on Jet Zero released by the Government earlier this year.
- 3.8.6 The Jet Zero consultation sets out the Government's aim “for aviation to decarbonise in a way that preserves the benefits of air travel and delivers clean growth for the UK.”
- 3.8.7 As we explained in our Autumn 2021 Consultation, Gatwick is committed to playing our part in the transition to Net Zero. In 2017, Gatwick became the first carbon neutral London airport and our Second Decade of Change sustainability policy⁴ commits us to ambitious decarbonisation targets at the airport in addition to measures designed to help reduce carbon emissions related to surface access and aviation. We have a target to reduce Scope 1 and Scope 2 emissions by a further 25% by 2030 (i.e. to reach 80% under 1990 baseline) as part of our goal to reach net zero before 2040. Scope 1 emissions are from sources directly controlled by Gatwick such as fuel burnt for heating and used in vehicles, and refrigerants. Scope 2 emissions are those associated with electricity consumed by Gatwick. As part of the DCO application, we will submit a draft Carbon Action Plan describing the actions that we would take to reduce carbon impacts within our

² The Climate Change Act 2008 (2050 Target Amendment) Order 2019

³ Jet Zero Consultation – a consultation on our plans for net zero aviation, Department for Transport, 2021

⁴ <https://www.gatwickairport.com/globalassets/company/sustainability/reports/2021/decade-of-change-policy-to-2030.pdf>

control in four main areas – airport buildings and ground operations; construction; surface access; and aviation.

- 3.8.8 To a large extent, emissions from aircraft are outside our control but Gatwick has strongly supported the Government's commitment to net zero aviation and undertaken to play our part in enabling this to become a practical reality as soon as possible. Responses to our Autumn 2021 Consultation, however, included concerns that our plans for growth at Gatwick were inconsistent with a net zero future.
- 3.8.9 The compatibility of forecast aviation growth with carbon commitments is addressed in the Government's Jet Zero consultation and has been elaborated in further technical documents published this year by the Government which provide more background.⁵
- 3.8.10 The Jet Zero consultation provides four different trajectories or scenarios through which aviation forecasts can be met at the same time as achieving net zero by 2050. These involve different combinations of increased aircraft and operational efficiency, the development of Sustainable Aviation Fuels (SAF), the development of zero emission flights through electric or hydrogen powered flight and the use of carbon trading markets or greenhouse gas removal technologies. The Government is investing in the development of each mitigation option but the Jet Zero consultation makes clear that its focus is on achieving net zero, while being flexible over the precise pathway to achieve it. To ensure that net zero is achieved, the Government will closely monitor the carbon trajectory of aviation and intervene to ensure that its absolute commitment is met.
- 3.8.11 The further technical information released by the Government this year is helpful in demonstrating that aviation can continue to grow in response to demand, whilst remaining consistent with climate change policy. In particular, using a core or mid case scenario for economic growth and carbon pricing:
- it forecasts the growth in air passengers taking into account a range of factors, including that airlines will need to pay for the forecast increased costs of carbon;
 - those forecasts nevertheless show a growth in passenger numbers of 70% between 2018 and 2050; and
 - it assumes that average passenger numbers per flight will increase, so that air transport movements in the same period are forecast to grow by 35% to accommodate the growth in passenger demand.⁶
- 3.8.12 The airport capacities assumed in the Government's assessment in support of Jet Zero incorporate known airport expansion plans/commitments, including the third runway at Heathrow and the NRP at Gatwick, and assumes a maximum capacity of 386,000 air transport movements

⁵ Jet Zero: further technical consultation, Department for Transport, March 2022

⁶ Jet Zero: further technical consultation: dataset, Department for Transport, March 2022: airport capacities: scenario assumptions. The figures referenced here and in the tables further below derive from Scenarios 2,3 and 4 – ie all scenarios apart from current trends.

for Gatwick in 2050.⁷

- 3.8.13 Whilst the ‘cost’ of carbon paid for by airlines through trading schemes needs to increase significantly, comparison of the core demand forecasts in Jet Zero with the Department for Transport’s (DfT) 2017 aviation forecasts, show that other factors will nevertheless push forecast demand to very similar levels⁸ (see Table 3.2 below):

Table 3.2 : Terminal passengers (millions)

Scenario	2030	2040	2050
DfT 2017 (Central Case)	356	420	494
Jet Zero Annex C2 - Scenarios 2, 3 and 4 (using central Economic Growth and Oil Price Assumptions)	355	422	482
Jet Zero Scenario 1 – current trends	354	425	493

- 3.8.14 The NRP is not only consistent with this work, therefore, it is assumed as part of it. Table 3.3 below shows that Gatwick’s currently forecast growth in passengers and flights (as set out in the PEIR) is consistent with the core national forecasts which underpin the Jet Zero consultation:

Table 3.3 : Gatwick Forecast Growth as part of NRP versus national core growth assumed in the Jet Zero Consultation

	Jet Zero (Scenario 2/3/4)		Gatwick NRP	
	ATMs (k)	Passengers (m)	ATMs (k)	Passengers (m)
2018	2,180	283.2	280	46
2050	2,933	482.1	387	81
Growth	35%	70%	38%	76%

- 3.8.15 Whilst some may doubt the success of initiatives such as SAF or increased aircraft efficiency, it is important to recognise that the carbon and aviation forecasts set out above are the Government’s forecasts. Even more importantly, the Government has a binding legal duty to meet its climate change commitments and will be obliged to monitor and take further measures to ensure their successful delivery.
- 3.8.16 The implications of this are profound. In order for the trajectory to net zero to be met, Government will need to actively review progress and take such action as is necessary. It cannot be known at this stage what, if any, further action may be necessary and so, for the purposes of Gatwick’s NRP DCO application, it is appropriate to assess the environmental implications of our full forecast growth – particularly as those forecasts are compatible with the forecasts that have informed the Government’s Jet Zero consultation.

⁷ Jet Zero: further technical consultation: dataset, Department for Transport, March 2022: airport capacities

⁸ Factors affecting demand also include reduced fuel costs arising from efficiency, passenger sensitivity to fare increases, and wider factors such as economic growth and population changes.

Implications for the NRP Environmental Statement

- 3.8.17 In our Autumn 2021 Consultation, the PEIR included an assessment of the carbon emissions from growth at Gatwick, including the NRP. The assessment reported that the NRP would result in an increment of 1.387 million tonnes CO₂e or 0.7% of the Government's Sixth Carbon Budget.⁹
- 3.8.18 The estimate of aviation emissions explained that it took no account of the likely impact of measures to limit carbon emissions such as enhanced efficiency, SAF or zero emission flights and was therefore very much a worst-case assessment.¹⁰
- 3.8.19 For the DCO assessment, we propose a more realistic approach, which will estimate emissions taking into account the effect of the measures assumed in the Government's Jet Zero carbon trajectories. Whilst the precise mix of measures cannot be known with certainty, it is clear that measures that produce a downward trajectory in sectoral greenhouse gas (GHG) emissions will be necessary in order to accord with Government's commitments and that the Government is obliged to ensure that this downward trajectory is achieved. In other words, those outcomes will have to be enforced if they do not occur without intervention. For the purposes of monitoring, the Government proposes to monitor aviation emissions against its 'High Ambition' scenario.¹¹ We propose to do the same – i.e. to forecast conformity with that scenario as the most likely outcome for aviation emissions at the airport.¹²
- 3.8.20 The EIA Regulations require the assessment of cumulative impacts for topics within the Scope of the EIA. The Planning Inspectorate highlighted in the Gatwick NRP Scoping Response their expectation that this requirement would be extended to the GHG assessment for NRP.
- 3.8.21 Greenhouse gas emissions contribute to global warming – all developments (whether for housing, business or aviation) contribute to this impact and it is not possible for an individual project to cumulatively assess the implications of every development worldwide. Instead, Governments set carbon targets or budgets to limit these emissions and their effects.¹³
- 3.8.22 It has been suggested that an assessment should be made of local impacts – i.e. the combined effects of developments in the local area. Others have suggested that an assessment should be made of all proposed airport expansion projects. However, neither approach is considered appropriate in the context of the impact and effect of carbon emissions on climate change, which are neither limited to a specific geographic boundary nor a specific sector of the economy.
- 3.8.23 More recent guidance has established instead that the significance of effects might best be

⁹ Consultation Overview para 8.12.8

¹⁰ Consultation Overview para 8.12.7 and PEIR para 15.4.60

¹¹ Jet Zero consultation, Department for Transport 2021, para 2.8.

¹² The High Ambition Scenario is explained in Jet Zero: further technical consultation, Department for Transport, March 2022 at paragraph 3.17, as follows: "This scenario is more ambitious than Scenario 1 (continuation of current trends). It includes the same assumptions on UK ETS carbon price and capacity but there is a step-up in ambition on fuel efficiency improvements, SAF uptake and the introduction of zero emission aircraft. Passenger demand is lower under this scenario than under Scenario 1 due to the higher CORSIA (trading) carbon price assumptions, which feed through into higher air fares."

¹³ Emissions from aircraft such as soot/particulates, and water vapour, also have an impact on global warming although there is no scientific consensus on how best to quantify this impact. They will, however, be referenced within the ES, and are also referenced within the Jet Zero consultation.

judged by comparing emissions with the Government's carbon reduction targets, including the carbon budgets. Those budgets account for the cumulative emissions from a number of sectors on a national scale and so are considered to be an appropriate benchmark from which to assess the individual project's impact in a cumulative sense. That approach is the one we propose to take in our DCO application.

- 3.8.24 We propose to work up the detail of this approach for the DCO application and also to fully develop our commitments carbon reduction and to to sustainable travel to and from the airport for staff and passengers, following further engagement with key stakeholders.
- 3.8.25 In our Autumn 2021 Consultation, we published our Economic Impact Assessment which considered the economic effects of the Project. In September 2021, and after our Economic Impact Assessment was completed, the Department for Business Energy and Industrial Strategy updated the carbon values it uses to appraise policy proposals. Whilst the carbon values used in our Economic Impact Assessment were up to date at the time of its preparation, we will be updating the assessment to reflect the latest carbon values as a part of the planned update to the EIA as part of the DCO submission.

3.9 Noise

- 3.9.1 Since the Autumn 2021 Consultation, we have been progressing work with the noise and vibration impact assessment, including construction and ground noise modelling and mitigation, developing the noise insulation scheme, and working with local authorities to address noise-related responses to the consultation.
- 3.9.2 We have formed a Noise Envelope Group with the aim of engaging with stakeholders to further explore the Noise Envelope proposal set out in the Autumn 2021 Consultation. The first meeting of this Group took place in May 2022. The Group will focus discussions on the themes identified in the consultation feedback to support the creation of a feasible, clearly defined, measurable and enforceable noise envelope proposal.
- 3.9.3 The engagement structure will be based upon the existing Noise Management Board (NMB), in particular utilising the memberships of the NMB Community Forum (NCF) and NMB Delivery Groups (NDG) to form sub-groups. Input will also be sought from airlines, air traffic control, Airport Coordination Ltd, the DfT, Environmental Health Practitioners for Local Authorities, and other industry experts and specialists as appropriate. The materials discussed and resulting discussions will be made available to the public on the NRP website <https://www.gatwickairport.com/business-community/future-plans/>

3.10 Other general updates

- 3.10.1 There are a number of ongoing studies and assessments which inform our developing Project proposals and strategies which are being progressed in consultation with key stakeholders including the host and surrounding local authorities. Below is a summary of how some of the key studies, assessments and strategies have been progressed since the Autumn 2021 Consultation:

Housing and local infrastructure impacts

3.10.2 Following consultation feedback, we are progressing our assessments as follows:

- We have refreshed our socio-economic and economic study areas to look at the Labour Market Area and the five County areas of East Sussex, West Sussex, Surrey, Kent and Brighton and Hove, together with a Local Study Area that encompasses all neighbouring communities around Gatwick. These study areas form the basis of both the socio-economic and economic assessments which will support the Project's DCO application and which will assess the potential effects of the Project on receptors in these areas.
- We are undertaking more detailed analysis on the construction employment expected to be generated by the Project, including the likely quantum, skills and origins of the construction workforce. We are also looking at the trade and skills required by the workforce to assess and understand the impacts on the existing labour market.
- We are assessing the potential impacts of the temporary construction workforce on housing need, specifically the need for short-term temporary accommodation, based on anticipated accommodation types and tenures required by the Project workforce.
- We are assessing a variety of econometric forecasts and scenarios to understand and test the impact of the Project, including long-lasting effect (if any) of the COVID-19 pandemic on local employment.

Employment, Skills and Business Strategy

3.10.3 Following feedback from the Autumn 2021 Consultation, we are refining our Employment, Skills and Business Strategy (ESBS). The ESBS aims to maximise the opportunities that our Project presents for creating sustainable jobs, skills development, career progression and potential for business growth and increased productivity through the construction and operational phases.

3.10.4 We are developing an ESBS Implementation Plan, which will be submitted as part of our DCO application. It will describe how we would deliver the ESBS, setting out clear objectives, actions, milestones, outputs and outcomes.

3.10.5 We are engaging with stakeholders and piloting and testing actions and ways of working in order to inform the initiatives that will be included in the ESBS Implementation Plan. This includes:

- Working with the Construction Industry Training Board and the Civil Engineering Contractors Association to scope a National Skills Academy for construction to enable us and our contractors to connect with job seekers, skills providers, potential supply chain contractors and other infrastructure projects to manage labour demand.
- Trialling delivery of our Science, Technology, Engineering and Maths (STEM) project work with schools at the airport to maximise the motivational potential of this unique environment, rather than conducting it entirely in schools.

- Delivering trial recruitment campaigns alongside the Department for Work and Pensions, Jobcentre Plus, education and skills providers and individual local authority-based employment brokers around volume recruitment. These have involved the full range of businesses across the airport campus. The significant uplift in passenger numbers and associated recruitment demand across the airport for Summer 2022 has provided an ideal opportunity to develop relationships that we can continue to build on into the future.
- Developing processes that would clarify for small and medium sized businesses, the requirements for winning and delivering contracts on-airport and establishing a process for local businesses to be able to register their interest in supplying goods and services .
- Developing relationships to enable us to contribute insight and support to shaping the planned Crawley Institute of Technology and Crawley Innovation Centre as well as adding value to the innovation development network. We are also scoping mechanisms for engaging individual businesses with Gatwick's innovation pipeline.
- Commissioning research into how leading domestic and international airports are successfully working collaboratively with organisations across their surrounding region, to promote themselves and attract investment. This would inform the proposed regional investment and promotion activity strand of the ESBS.

3.10.6 We are developing proposals for steering and governance arrangements for the delivery of the ESBS which will include external partners. Representatives with an excellent knowledge of employment, skills and business needs, opportunities and infrastructure are already working closely with us in an advisory capacity.

3.10.7 We are also looking to identify key delivery partners, identifying the organisations that we would work with, how this could be structured and the key measures and outputs that will be required.

Construction programme and spoil strategy

3.10.8 We are reviewing the spoil strategy to understand the quantities of spoil that we need to remove from various places around the airport to facilitate the build programme. Following further design work, the amount of spoil anticipated to be generated by the Project has decreased compared to that which was assumed in the Autumn 2021 Consultation.

3.10.9 Our spoil strategy aims to retain spoil on-site, where practicable. The excavated material arising from the Project is considered in two main categories; soft (i.e. cohesive clays and other soils) and hard (i.e. concrete or asphalt from demolition works). The excavated concrete and paving material suitable for construction use would be reprocessed into a granular material and reused within the NRP construction works. It is planned to remove the excavated surplus soft material to off-site licenced tip facilities although we are reviewing our options to decrease the number of truck movements and trips on the road network by placing the spoil onto suitable land within the airport where practicable, taking into account environmental, ecological and landscaping considerations. The handling and management of contaminated spoil would be done according to UK legislation and regulations.

3.10.10 Our construction programme remains unaltered from that which was reported in the Autumn 2021 Consultation.

Mitigation Strategy

3.10.11 We explained in the Autumn 2021 Consultation that the development of mitigation measures is part of an iterative EIA process. Measures are therefore still under development as we progress with the EIA in response to the findings of further assessments and in light of changes that we are making to our Project. The assessment of effects in the Environmental Statement will take into account all the measures that would form part of the Project and to which we will be committing.

3.10.12 The Project proposals will include a range of measures designed to reduce or prevent significant adverse environmental effects arising, wherever practicable. In some cases, these measures may result in enhancement of environmental conditions.

3.10.13 All mitigation measures would be captured and recorded in a **Mitigation Route Map** document that we will submit with our DCO application. This document is currently being prepared and will demonstrate that all necessary controls and mitigation have been identified and the method for securing them. It will:

- provide an audit trail of the controls and mitigation measures on which the ES relies on to avoid, reduce and if possible offset significant impacts of the development; and
- set out the way in which they have been, or would be, translated into clear and enforceable controls; either via requirements in the DCO, deeds of obligation or other consent regimes.

3.10.14 The Mitigation Route Map would continue to be updated during the Examination of the DCO application to capture any mitigation that is agreed during that time.

3.10.15 In **Chapter 2** (and in **Appendix 4**), we describe some of the likely measures that may be required to mitigate the impacts of the highways proposals that we are developing, for example, noise barriers. These measures have not yet been finalised but will become more certain as the detailed design for these proposals are developed.

3.10.16 We will continue to engage with key stakeholders and respond to consultation feedback to finalise our mitigation measures.

3.10.17 As the EIA process progresses, further work in relation to mitigation measures will be undertaken and this will inform the design of the Project for which development consent is sought. This would be reflected in the ES. The draft DCO will be developed to be consistent with the measures identified in the ES in order to ensure consistent implementation of the measures identified through the EIA process.

4 Next Steps

4.1 How we will use your feedback

- 4.1.1 Your views are important and will help further shape our future plans.
- 4.1.2 We will consider all responses and feedback to this Consultation to inform the further development of our plans and environmental assessments. We will also use your comments to produce a Consultation Report which will be submitted with our DCO application. This report will explain how we have had regard to all the feedback received during this consultation.
- 4.1.3 By responding to our consultation, your personal data is being collected by GAL and its consultants for use in connection with the consultation process and subsequent DCO application for the NRP. Your response to this consultation may be published (in whole or in part) as part of our Consultation Report (including any personal details if included in the response). We will not otherwise publish personal details or publicly attribute a response to an identified individual. We will not use your personal data for any other purposes.
- 4.1.4 Your response could be made available (with your personal details) in due course to the relevant planning or local authority or Government body, so that they can take it into account. Although not directly within our control, we will request that your personal details are not made publicly available by them and in any event, they will be required to comply with their legal obligations under applicable privacy laws.

4.2 Timeline

- 4.2.1 Once we have considered your responses and finalised our plans, we will make a DCO application for the NRP to the Planning Inspectorate. Prior to submitting the application, we may decide to carry out further consultation on our proposals including those areas where we have decided to materially change our proposals in response to feedback received from this consultation.
- 4.2.2 The Planning Inspectorate will process and examine the DCO application, including encouraging the submission of views from interested parties, before making a recommendation to the Secretary of State who will make the final decision on whether or not to grant consent. Our expected approximate timeline going forward is:
 - Summer 2022 to Spring 2023 - Prepare the DCO** – we will consider feedback to this Consultation and continue to engage with key stakeholders and consider feedback leading to the scheme being fixed and the Environmental Impact Assessment being finalised.
 - Spring 2023 - Submit the DCO application to the Planning Inspectorate**
 - 2023 - Examination of the DCO** - at this stage, the Examining Authority examines the application. This examination must be completed within six months and is primarily conducted through written representations; however, public hearings are normally also held. There will be an opportunity for the public to make representations about the application to the Planning Inspectorate and to engage with the issues through the examination.

2024 - Examining Authority's Recommendation to the Secretary of State for Transport – following the close of the examination period, the Examining Authority has three months to make its recommendation on the application to the Secretary of State.

2024 - Decision made by the Secretary of State for Transport – following receipt of the Examining Authority's recommendation report, the Secretary of State has three months to make a decision on whether or not to grant consent.

Glossary

Term	Description
AONB	Area of Outstanding Natural Beauty
ARELS	Airport Related Employment Land Study
ASAS	Airport Surface Access Strategy
ATM or ATMs	Air Traffic Movement(s): Commercial landings or take-offs of aircraft engaged in the transport of passengers, freight or mail on commercial terms (i.e. scheduled, charter and dedicated freighter flights)
BNG	Biodiversity Net Gain
CAA	Civil Aviation Authority
CARE	Central Area Recycling Enclosure facility
CCAs	Climate Change Allowances
CEA	Cumulative Effects Assessment
CIRIA	Construction Industry Research and Information Association
CITB	Construction Industry Training Board
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
CoCP	Code of Construction Practice
CRoW	Countryside and Rights of Way
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EAT	End around taxiway
EIA	Environmental Impact Assessment
ES	Environmental Statement
ESBS	Employment, Skills and Business Strategy
ETS	Employment and Training Strategy
FASI	Future Airspace Strategy Implementation
FASI-S	Future Airspace Strategy Implementation - South
FCA	Flood Compensation Area
FRA	Flood Risk Assessment
GAL	Gatwick Airport Limited
GHG	Greenhouse Gas
GNMG	Gatwick Noise Monitoring Group
HGV	Heavy Goods Vehicle
HRA	Habitats Regulations Assessment
ICCI	In-combination Climate Change Impacts
IEMA	Institute of Environmental Management and Assessment

Term	Description
ITTS	Inter Terminal Transit System (or Shuttle)
LLC	Low-Cost Carrier
LEP	Local Enterprise Partnership
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserve
LTP	Local Transport Plan
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
mppa	million passengers per annum
MRF	Materials Recovery Facility
MSCP	Multi-storey car park
MtCO _{2e}	million tonnes of carbon dioxide equivalent
NATMs	Non-Commercial Air Traffic Movements: Landings or take-offs of aircraft movements, excluding ATMs. Includes positioning flights by commercial operators, business aviation and recreational / military flights
NaTMAG	Noise and Track Monitoring Advisory Group
NATS	National Air Traffic Services
NCF	Noise Management Board (NMB) Community Forum
NCR	National Cycle Route
NDG	Noise Management Board (NMB) Delivery Group
NERL	NATS En Route
Net Zero	Net zero refers to a state in which the greenhouse gases going into the atmosphere are balanced by removal out of the atmosphere
NIS	Noise Insulation Scheme
NMB	Noise Management Board
NN NPS	National Networks National Policy Statement
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NRP	Northern Runway Project
NSAfC	National Skills Academy for Construction
NSIP	Nationally Significant Infrastructure Project
OS	Ordnance Survey
Overflight	An aircraft overflying a receptor on the ground at a height of less than 7,000 ft above the ground and at an angle of at least 48.5 degrees from the horizontal, as defined by CAP1498
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
PRoW	Public Right of Way

Term	Description
PS	Pumping Station
PTAR	Preliminary Transport Assessment Report
SAF	Sustainable Aviation Fuel
SATURN	Simulation and Assignment of Traffic to Urban Road Networks
SERTM	South East Regional Transport Model
SFRA	Strategic Flood Risk Assessment
SNCI	Site of Nature Conservation Importance
SoCC	Statement of Community Consultation
SPA	Special Protection Area
SPD	Supplementary Planning Document
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
STEM	Science, Technology, Engineering and Mathematics
STW	Sewage Treatment Works
SuDS	Sustainable Drainage Systems
SWMP	Surface Water Management Plan
TAMs	Total Aircraft Movements = ATMs and NATMs
UK	United Kingdom
UKCP	UK Climate Projections
UKCP	United Kingdom Climate Predictions (2009 and 2018)
UKCP18	UK Climate Predictions 2018
WCA	Wildlife and Countryside Act
WebTAG	Web based Transport Appraisal Guidance: https://www.gov.uk/guidance/transport-analysis-guidance-webtag
WFD	Water Framework Directive
ZoI	Zone of Influence

Appendices

Appendix 1

Highway Improvements Options Development Report

Summer 2022

1 Highway Improvements Option Development Report

- 1.1 The Preliminary Environmental Information Report (PEIR), September 2021, included an assessment of the impacts of the highway improvement works that were proposed as part of the Northern Runway Project. These highway works were developed following considerable analysis and concept design that fed an option development process. The PEIR documentation included a summary of the options considered.
- 1.2 We received a number of comments from key stakeholders to the Autumn 2021 consultation material that have led to us proposing amendments to the highway works, specifically around North Terminal and the connections to Airport Way and A23 London Road. These revised proposals are presented in this consultation. As part of this process to arrive at the new proposals GAL has revisited our Option Development approach to ensure that a thorough and transparent evaluation process is used to optimise our changes., with all relevant factors considered. The layouts at South Terminal Roundabout and Longbridge Roundabout are similar to those presented in the PEIR.
- 1.3 The development of highway proposals requires a balance to be made between a range of different, sometimes competing, factors. Each potential option is assessed against all of these factors to arrive at a preferred mitigation design that achieves the best balance across all criteria.
- 1.4 The over-riding requirement is to ensure the highway mitigation prioritises the safety of all users. At the same time, the design should deliver the capacity needed to operate efficiently and limit the potential impacts on the natural and built environment and on communities surrounding the airport. In summary, the option development process considers the following criteria:
- Highway operation and maintenance
 - User experience
 - Effective design
 - Safety (during operation and construction)
 - Airport operations
 - Construction
 - Environmental impacts
 - Delivery
- 1.5 Within each criterion are a series of sub-criteria, representing the potential impacts of the highway mitigation option being considered. These are listed in Table A3.1. Whilst there is no pre-defined weighting attached to the sub-criteria there are a number that could be considered critical to the acceptability of the options considered. In addition to safety-related criteria, these include the permanent impact on the environment and also if the impacts were to put at risk the consent of the Northern Runway Project overall.
- 1.6 Under each of the criteria, all options were assessed as follows:
- **Good**– likely to be acceptable and where risks can be mitigated
 - **Relatively good**– still likely to be acceptable but not as good and with greater risks

- **Feasible** – requirements appear to be achievable by mitigation but with compromise
- **Less feasible**– achieving requirements may be problematic and may not be fully mitigated
- **High risk** – significant risks to achieving consent would remain even with mitigation
- **Unworkable** – does not meet critical requirements and cannot be mitigated

Table A3.1: Assessment Criteria

Highway operation and maintenance	Operational resilience (highways)
	Ability to futureproof (highways)
	Maintenance of infrastructure (inc. issues such as complexity and cost)
	Modelled traffic impacts on local road network (excludes SRN)
	Modelled traffic impacts on wider network (SRN)
User Experience (Airport/non-Airport)	Journey time reliability and delay
	Connectivity of highway layout (logical routes accommodated)
	Impact on essential and emergency services
	Wayfinding and legibility of layout
Design	Complexity of design and design risk (all disciplines)
	Provision for walkers, cyclists, horse riders (as appropriate) and severance
Safety	Compliance with standards
	Safety of road layout (design) (users inc. WCH)
	Safety during construction (users)
	Safety during construction (workforce)
	Safety during operation (workforce)
	Safety during maintenance (workforce)
Airport Operations	Impact on core operations and security
	Impact on ancillary facilities and commercial tenants
	Resilience and futureproofing (airport)

Construction	Complexity of construction
	Construction programme and risk
	Construction impacts on airport operation
	Construction impacts on users (disruption)
	Environmental impacts of construction (temporary)
Environment	Landscape/townscape
	Air quality
	Agriculture and Recreation
	Ground Conditions
	Water and flood risk
	Noise and vibration
	Ecology and Biodiversity
	Health and Wellbeing
	Historic Environment
	Climate Change and Embodied Carbon
	Socio-economic impact
Delivery	Cost and affordability
	Complexity of mitigation (inc. land and compensation costs)


1.7 Our Autumn 2021 Consultation (PEIR Appendix 12.9.1, Annex C) included a summary of the options that were considered most closely before arriving at the previous preferred highway proposals. Considering the consultation responses, we used the assessment framework described above and revisited each option. We also took the opportunity to step back and consider if there were other options that should also be considered. GAL was assisted by National Highways who gave technical advice on safety, compliance with standards and impact on users.




1.8 The options reviewed were developed in concept and are not fully optimised in terms of design. However, they represent typical layout arrangements allowing impacts to be assessed under each of the evaluation criteria and for it to be clear where impacts differ between options. We took the opportunity of our review to consider if other variants of each option should also be




considered. Typical variants may be alternative junction types, removal or relocation of connections and options for how traffic merges or diverges where routes join or split.



- 1.9 One of the reasons that this assessment approach is so important for this part of the network is the physical constraints that exist for making changes to the highway layout. One objective for the preferred layout was to remove some of the conflicts between local non-airport traffic and airport traffic. This includes how Airport Way and A23 London Road connect and allow traffic to move freely in all directions. However, this cannot easily be achieved due to the proximity of Riverside Garden Park to the north and significant airport assets such as the Inter-Terminal Shuttle and Police Station to the south. The assessment process helps to highlight these competing issues to arrive at the best solution, even if this requires some compromise.
- 1.10 Prior to presenting the PEIR information for the Autumn 2021 consultation, five concept design solutions were evaluated to determine our preferred approach. In the descriptions that follow these are options 1-5. Our review undertaken in consultation with National Highways included a sixth main option for the junction and connection arrangement around North Terminal, and revisited the original five, some of which were assessed in more than one variant.
- 1.11 In addition, we considered if our overall approach to connecting the A23 London Road and Airport Way in a similar way to today was the correct approach, or if a more fundamental change would achieve better results. These are summarised below as options seven and eight. It is noted however that from the outset these were considered to have disproportionate impacts on the environment and local communities such that we didn't undertake a full evaluation of them. Table A3.2 sets out a very high-level summary of the option assessed and a brief description of the main impacts, which guided our evaluation.
- 1.12 It is worth noting that our analysis of future traffic flows, made up by both airport and non-airport traffic shows that some improvements and extra capacity will be needed to roads in this area, notwithstanding our commitment to increasing the proportion of trips that will access the airport by public transport. This is necessary to support the safe and efficient movement of traffic up to 2047, which are key parts of our option assessment reflected in our preferred option.

Table A3.2: Assessment Summary

Illustration	Assessment Summary
	<p>Option 1</p> <p>This option retains all the existing connectivity but places the A23 London Road Westbound on a flyover and extends North Terminal Roundabout staying largely within the highway boundary.</p> <p>Performed well in terms of the environment and in providing connectivity but poorly in terms of construction and had a critical failure in terms of safety due to the design of merges and diverges in a very constrained area.</p>

	<p>Option 2</p> <p>Similar to Option 1 but removing the constraint of not widening north into Riverside Garden Park.</p> <p>Introduced considerable negative impacts on the park, identified in several of the environmental topics and did not remove the highway design safety failure.</p>
	<p>Option 3</p> <p>Similar to Option 1 but removing the constraint of not widening south into airport operational areas.</p> <p>As with Option 2, the additional negative impacts, this time on airport operations and existing premises, were significant and did not remove the highway design safety failure.</p>
	<p>Option 4 (presented in September PEIR)</p> <p>Introduces a new signalised junction on the A23 London Road and converts North Terminal Roundabout into a signalised intersection, with a flyover for westbound Airport Way traffic towards A23 London Road.</p> <p>Performed well against operational and construction criteria and also against environmental and land impacts but some significant design safety concerns due to the unusual junction arrangement proposed.</p>

	<p>Option 4 Variant C (presented in this consultation)</p> <p>Variation on Option 4, returning to a roundabout layout at North Terminal and relocating eastbound Airport Way traffic via A23 London Road.</p> <p>Similar benefits to Option 4 but with an improved design that performed better in terms of safety and compliance with standards (note, this option was subject to further refinement to optimise its design)</p> <p>Overall this was considered the best option</p>
	<p>Option 5</p> <p>Introduction of an additional roundabout to separate the flows to and from Airport Way and A23 London Road without the need for grade separation, but no separation of airport and non-airport traffic.</p> <p>Maintained good performance against environmental criteria by using airport land but this severely compromised airport operations. The shorter links between roundabouts also limited capacity and futureproofing.</p>
	<p>Option 6</p> <p>Additional roundabout introduced in Riverside Garden Park to provide separation between A23 London Road and Airport Way traffic, with a westbound flyover to separate some airport and non-airport traffic.</p> <p>Performed well in terms of resilience and futureproofing but with some construction difficulties due to level differences. Considerable impact on environmental topics, especially landscape, recreation, noise and flood risk, which may not have been able to be adequately mitigated.</p>

	<p>Option 7</p> <p>Consideration of re-routing of the A23 to the east or west of the airport to remove the physical conflicts between the A23 London Road and Airport Way in the vicinity of North Terminal.</p> <p>Was not subject to the full assessment due to the disproportionate impact on surrounding land, properties and communities, which it was considered would make it difficult to achieve consent for a DCO which included this option.</p>
	<p>Option 8</p> <p>Reconfiguring of the airport access from the M23 and in particular focusing capacity on South Terminal to remove conflicts at North Terminal and reduce traffic flow.</p> <p>Was not subject to the full assessment due to the potential impacts on the key motorway junction and difficulties for construction. It was not clear if the airport operational constraints this would create could be resolved successfully compared with other options.</p>

- 1.13 Each option was considered independently and assessed as being between good and unworkable using all the criteria listed in Table A3.1. Working through the assessment it was possible to screen certain options and variants out on the basis that other options achieved the same or better scores against the criteria without some of the negative impacts to surrounding land and property assets. An example is in the differences between Options 1, 2 and 3. These provide very similar highway layouts but have different constraints to the north and south. It was found that relaxing the constraint of not widening the highway into Riverside Garden Park (Option 2) or encroaching on existing airport assets (Option 3) created a number of negative impacts without gaining significant benefits in terms of highway layout and safety. As a result, Options 2 and 3 were screened out and Option 1 retained.
- 1.14 Option 4, which was the scheme presented in the Autumn 2021 Consultation and assessed in the PEIR, minimised the impacts on the environment and surrounding land but raised a number of important safety concerns and departures from design standards. Through discussions with key stakeholders it was concluded that the design needed to be amended so a number of variants were considered, including reverting to a roundabout layout rather than a signalised intersection.
- 1.15 Options 5 and 6 explored the degree to which expanding the highway boundary, either further into Riverside Garden Park, or within the airport boundary, would lead to a much better and safer highway layout, that still met future traffic needs. In the case of Option 6, which created a new

roundabout in Riverside Garden Park it was felt that the negative environmental and community impacts were too great.

- 1.16 It was clear that Options 7 and 8 were not suitable as they would have considerably wider impacts than the other options. It was considered that they would only be relevant if the assessment concluded that none of the other options, which focus on North Terminal Roundabout, A23 London Road and Airport Way only, could achieve the main objectives for the scheme.
- 1.17 The option assessment concluded that Options 1, 4 and 5 offered the best solutions considering all criteria but that significant modification of the layouts would be required to ensure a safe and optimum design. In terms of overall capacity and safety a variation on Option 4 was considered to offer the best balance considering all the criteria and closely conformed to design standards.
- 1.18 This new junction arrangement at North Terminal, which retains many of the features of the option presented in PEIR but has a few key differences, is considered to be the optimum solution. This is why we are presenting it to you in this consultation. The main differences from the option assessed in the PEIR are as follows:
- Use of a signalised roundabout junction at the entry to and exit from North Terminal rather than the signalised intersection proposed in September's consultation
 - Relocation of eastbound Airport Way traffic to the new signalised junction on the A23 London Road to remove the issue of merging traffic close to the start of the new flyover at South Terminal Roundabout
 - Modifications to Airport Way westbound, and leading to Longbridge Roundabout arising from further design development and optioneering
- 1.19 The choice of this layout, and in particular the arrangement for traffic travelling westbound between South Terminal Roundabout and North Terminal Roundabout required a further, secondary option assessment dealing with two specific highway design issues:
- The form of the merge layout where traffic from South Terminal join traffic on the westbound flyover, and whether the volume of traffic in each case was better served by three lanes on Airport Way or if this would create weaving issues affecting safety
 - The orientation of the lanes from Airport Way, either taking traffic onto the flyover towards the A23 London Road or leading into North Terminal Roundabout
- 1.20 The secondary option assessment was mainly driven by the safety aspects of merging traffic, weaving between lanes and diverging to separate routes. In summary we assessed different combinations of two or three lanes on Airport Way and the link leading to North Terminal Roundabout filtering off to the left or right and with different lane arrangements at the diverge. The preferred solution, developed in consultation with National Highways, provides extra resilience and enhanced operation by adding a third lane westbound on Airport Way whilst significantly reducing the need for weaving between lanes.
- 1.21 During the design development of this latest option, we were able to review all aspects of the highway mitigation and in consultation with National Highways and local highway authorities we concluded that widening of westbound A23 London Road heading towards Longbridge Roundabout would also be beneficial. These enhancements to the westbound links provide

greater resilience and futureproofing of capacity over the DCO assessment period up to 2047. We have also created a simpler, more intuitive layout that provides for both non-airport traffic and airport traffic.

Appendix 2

Plan showing land required for the Highway Improvement
Changes since the Autumn 2021 Consultation

Summer 2022

KEY

- PEIR boundary
- Additional temporary land
- Additional permanent land
- Reduced land requirement



DOCUMENT

Highway Improvements Changes
Summer 2022 Consultation

DRAWING TITLE

Plan showing land required for the
Highway Improvement Changes
since Autumn 2021 Consultation

DATE

June 2022

ORIENTATION



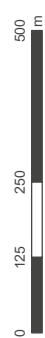
DRAWING NO.
FIGURE A1

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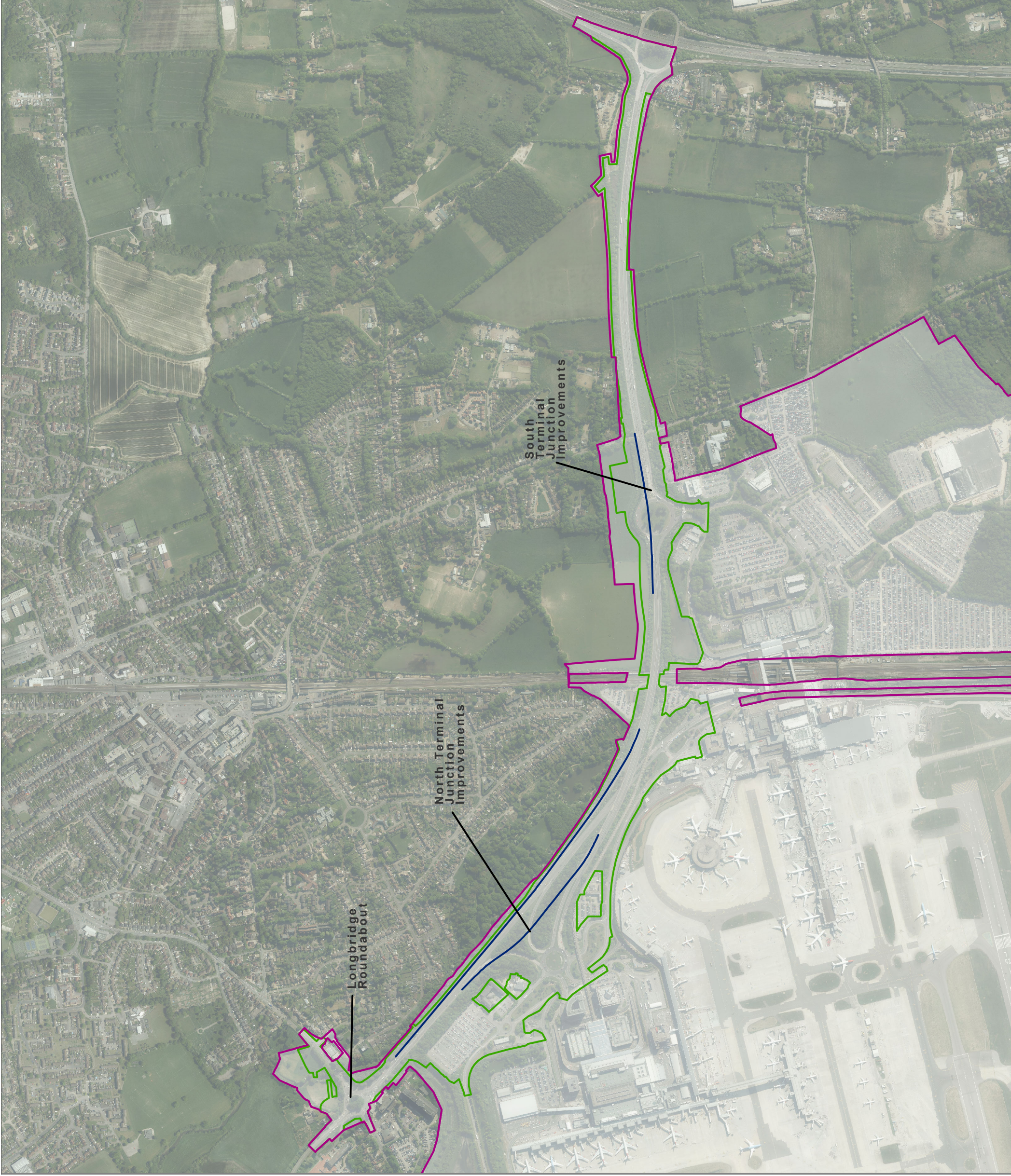
Appendix 3

Plan showing the revised Project Site
Boundary Plan (in part)

Summer 2022

KEY

- Project Site Boundary
- Proposed highways improvement works
- Indicative noise barriers



DOCUMENT

Highway Improvements Changes
Summer 2022 Consultation

DRAWING TITLE

Plan showing part of the revised
Project Site Boundary

DATE

June 2022

ORIENTATION



DRAWING NO.
FIGURE A2

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Appendix 4

Updated Preliminary Environmental
Information (PEI)

Summer 2022

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M23 Sussex Border Path diversion

Figure 2.3d Indicative public right of way and National Cycle Route 21 diversion routes:
Public Footpath 360/360Y diversion

1 Introduction

1.1. Background

1.1.1 The Preliminary Environmental Information Report (PEIR) was prepared on behalf of Gatwick Airport Limited (GAL) and issued in September 2021 as part of the statutory consultation for the proposal to make best use of Gatwick Airport's existing runways (referred to as the Project). It presented the preliminary findings of the Environmental Impact Assessment (EIA) process for the Project at that time in accordance with Regulation 12 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as amended. Regulation 12 requires an applicant to compile 'preliminary environmental information' that allows:

'consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development)'

1.1.2 The highway improvement changes set out in section 2.3 of the Highway Improvement Changes and Project Update Consultation report may mean that some of the significant environmental effects that were reported in the PEIR would be different. Therefore, updated Preliminary Environmental Information (PEI) has been prepared to identify the extent of any new or materially different significant effects due to the highway improvement changes from those reported in the PEIR. The highway improvement changes (from the Project described in the PEIR) are identified in section 2 below. The updated PEI is provided in section 3 and this is followed by a conclusion in section 4.

1.1.3 The updated PEI identifies any new or materially different significant effects as defined below:

- New significant effects are those that were not identified in the PEIR and have arisen as a result of the highway improvement changes.
- Materially different significant effects are those that were identified in the PEIR although have changed in their level of significance. This includes those effects identified in the PEIR as not being significant in EIA terms but which would now be considered significant as a result of the highway improvement changes.

2 Highway Improvement Changes

2.1. Changes from the PEIR

2.1.1 Section 2.3 of the Highway Improvement Changes and Project Update Consultation Document describes the proposed changes to the highway design and why they are required. The changes are described within seven components as shown on Figure 2.1 of the Highway Improvement Changes and Project Update Consultation Document.

2.1.2 There are differences in land requirements as a result of the highway improvement changes. These changes in both temporary and permanent land compared to the Project site boundary identified in the PEIR are shown in Figures 2.1a to 2.1d.

- 2.1.3 The PEIR included a figure identifying the surface access improvements (this was Figure 5.2.1d of the PEIR). Figure 2.2 provides an updated figure showing part of the revised Project site boundary as a result of the highway improvement changes.
- 2.1.4 There are diversions proposed for public rights of way and a National Cycle Route and these are shown in Figures 2.3a to 2.3d.

3 Updated Preliminary Environmental Information

3.1. Updated preliminary environmental information for highway improvement changes

3.1.1 The updated PEI is provided in Tables 3.1.1 to 3.1.12 below. There is one table for each of the environmental topic chapters 7 to 18 of the PEIR as follows:

- Table 3.1.1 Historic Environment
- Table 3.1.2 Landscape, Townscape and Visual Resources
- Table 3.1.3 Ecology
- Table 3.1.4 Geology and Ground Conditions
- Table 3.1.5 Water Environment
- Table 3.1.6 Traffic and Transport
- Table 3.1.7. Air Quality
- Table 3.1.8 Noise and Vibration
- Table 3.1.9 Climate Change and Carbon
- Table 3.1.10 Socio-economics

Table 3.1.11 Health and Wellbeing

- Table 3.1.12 Agricultural Land Use and Recreation

3.1.2 Each topic table reports on an analysis of significant effects compared to those reported in the PEIR for each of the seven highway improvement changes. They identify for each of the highway improvement changes either:

- There are no new or materially different significant effects as a result of this change compared to the PEIR (and provides reasons for this where applicable);
Or
- New significant or materially different significant environmental effects.

3.1.3 Any changes in effect for the Project (as reported in the PEIR, but amended by these highway improvement changes) are also considered in each of the topic tables. This refers to the Summary and Summary of Effects Table that was presented at the end of each of the topic chapters of the PEIR.

Table 3.1.1: Historic Environment – Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Proposed works in this area would not impact on any known or potential heritage assets.
2 South Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Proposed works in this area would not impact on any known or potential heritage assets.
3 Airport Way	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Proposed works in this area would not impact on any known or potential heritage assets.
4 North Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Proposed works in this area would not impact on any known or potential heritage assets.
5 A23 London Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Proposed works in this area would not impact on any known or potential heritage assets.
6 Longbridge Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The revised proposals at this location would not change the significance of any effects on heritage assets from those reported in the PEIR.
7 A23 Brighton Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The revised proposals at this location would not change the significance of any effects on heritage assets from those reported in the PEIR.
Overall changes in effects for the Project	The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes.

Table 3.1.2: Landscape, Townscape and Visual Resources - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>The complete removal of vegetation between the eastbound carriageway and the Sussex Border Path and the construction of a retaining wall on the embankment slope that would be required for the widening of the eastbound carriageway would result in a more intensely developed road corridor that is more visible to walkers using the Sussex Border Path public right of way and occupiers of residential/commercial properties to the north. The hedgerow and mature oak trees which define the field boundary immediately north of the Sussex Border Path would also be removed to accommodate the temporary construction works, resulting in the loss of an important landscape feature. New tree and shrub planting on the embankment slope would, in time, partially screen and soften the road and views of traffic. A new hedgerow and trees would be planted to replace the removed field boundary vegetation. The character of the landscape at the interface of the road and farmland would, in time, be similar to the baseline situation. Levels of visual effect on walkers using the Sussex Border Path and effects on the character of the Low Weald Landscape Character Area within the Reigate and Banstead District are likely to remain the same as those defined in the PEIR.</p> <p>Baseline Conditions Update</p> <p>Walkers using the public rights of way which link to the north of the Sussex Border Path (367 and 381) and occupiers of the commercial building at Marlborough Communications Ltd north of the path were not considered within the PEIR as the relatively low-key nature of the Project in this location and the retention of the vegetation would have prevented change for receptors. Therefore, these would be new receptors for visual effects associated with the highway improvement changes.</p> <p>New Significant Effects</p> <p>Walkers</p> <p>The proposed removal of the mature vegetation of the hedgerow and trees to widen the M23 Spur would enable walkers to gain open views of the road, retaining wall and traffic. Walkers are High sensitivity receptors, experiencing a Medium to High magnitude of change and Major adverse level of effect (Significant). The effect would be in the long term, pending the maturation of the replacement trees following their replanting. This would therefore be a new significant effect compared to the PEIR.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>Occupiers of Properties</p> <p>Mature vegetation within the grounds of Marlborough Communications Ltd would provide some screening of the Project, even if the hedgerow and trees to the south are removed. Occupiers of commercial properties are low sensitivity receptors, experiencing a Low to Medium magnitude of change and Negligible to Moderate adverse level of effect (Not Significant). This would therefore be a new effect compared to the PEIR although not significant.</p> <p>Further mitigation</p> <p>GAL is continuing discussions with National Highways to arrive at a solution that minimises the land take required and minimises the loss of existing vegetation, whilst meeting other scheme objectives and that solution will be taken forward to the Development Consent Order (DCO) submission. This measure would have the potential to reduce effects on walkers using public rights of way 367 and 381 to Minor adverse, which would not be significant.</p>
<p>2 South Terminal Roundabout</p>	<p>The reduction in extent of the construction compound would reduce the prominence of this temporary feature in views from public right of way to the north. Levels of visual effect are likely to remain the same as those in the PEIR or may slightly reduce.</p> <p>The complete removal of vegetation between the eastbound carriageway and the Sussex Border Path and the construction of an extended retaining wall on the embankment slope to the east of the Balcombe Road would result in a more intensely developed road corridor that is more visible to walkers using the Sussex Border Path public right of way and occupiers of a residential property to the north. The hedgerow and mature oak trees which define the field boundary immediately north of the Sussex Border Path would also be removed to accommodate the temporary construction works, resulting in the loss of an important landscape feature. New tree and shrub planting on the embankment slope would, in time, partially screen and soften the road and views of traffic. A new hedgerow and trees would be planted to replace the removed field boundary vegetation. The character of the landscape of the road corridor would, in time, be similar to the baseline situation. Levels of visual effect on walkers using the Sussex Border Path and effects on the character of the Low Weald Landscape Character Area within the Reigate and Banstead District are likely to remain the same as those defined in the PEIR.</p> <p>The extension of the embankment slope into the attenuation pond, the construction of a retaining wall and loss of perimeter vegetation would be visible to people at the adjacent KFC outlet and would result in a more intensely developed</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>road corridor. Sufficient vegetation would be retained for the levels of visual effect defined in the PEIR to remain the same. New tree and shrub planting on the embankment slope would, in time, partially screen and soften the road and views of traffic.</p> <p>Baseline Conditions Update</p> <p>Occupiers of the residential property on Balcombe Road were not considered within the PEIR as the relatively low-key nature of the Project in this location and the retention of the vegetation would have prevented change for receptors. Therefore, these would be new receptors for visual effects associated with the highway improvement changes.</p> <p>New significant effects</p> <p>The removal of the mature vegetation of the hedgerow and trees for the construction of the widening of the M23 Spur would enable occupiers of the residential property to gain filtered views of the Project through retained garden vegetation. The effect would be in the long term, pending the maturation of the replacement trees following their replacement. Occupiers of residential properties are High sensitivity receptors, experiencing a Low to Medium magnitude of change and Moderate to Major adverse level of effect (Significant). This would therefore be a new significant effect compared to the PEIR.</p> <p>Further mitigation</p> <p>GAL is continuing discussions with National Highways to arrive at a solution that minimises the land take required and minimises the loss of existing vegetation, whilst meeting other scheme objectives and that solution will be taken forward to the DCO submission. This measure would have the potential to reduce effects on occupiers of a residential property to Minor adverse, which would not be significant.</p>
3 Airport Way	<p>There would be no new or different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would not affect any additional existing vegetation and no new significant features or infrastructure would be introduced, compared to the Project assessed in the PEIR.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would not affect any additional existing vegetation and no new significant features or infrastructure would be introduced, compared to the Project assessed in the PEIR.</p> <p>An existing section of the Sussex Border Path would be lost within the footprint of the highway construction but there is the opportunity to improve the experience of</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>users with a more attractive permanent on-airport diversion. This diversion would be put in place prior to the commencement of construction works to maintain access along the Sussex Border Path during this phase of the Project.</p>
<p>5 A23 London Road</p>	<p>The complete removal of vegetation between the eastbound carriageway and the highways fence or drainage ditch within/on the edge of Riverside Garden Park and the creation of a 2 metre (m) high noise barrier would result in a more intensely developed road corridor that would, potentially, be more visible to cyclists using National Cycling Route 21 and occupiers of approximately 80 residential properties on the edge of Horley. New, replacement tree and shrub planting would be established on the edge of the park and would, in time, partially screen and soften the road, noise barrier and views of traffic. The character of the landscape of the road corridor would, in time, be similar to the baseline situation. Levels of visual and landscape effect are likely to remain the same as those defined in the PEIR.</p> <p>New and materially different significant effects</p> <p>There would be new and materially different significant effects on people using the edge of Riverside Garden Park closest to the A23 and occupiers of four single story residential properties on Longbridge Road. This is because the highway improvement changes would involve a noise barrier and maintenance access provision that would partially encroach into Riverside Garden Park requiring permanent vegetation removal (up to approximately 8 m width); temporary construction access/vegetation removal required in Riverside Garden Park between the highway fence or existing drainage ditch and footpath track (up to approximately 6 m width); and an access ramp that would encroach into public open space requiring permanent vegetation removal (up to approximately 13 m width) and temporary vegetation removal (up to approximately 9 m width). The changes in effects compared to those reported in the PEIR for people using Riverside Garden Park and occupiers of four single story residential properties on Longbridge Road are set out below per assessment year.</p> <p>People using Riverside Garden Park</p> <p>2029</p> <p>Greater extent of vegetation removal required extending from highway land into Riverside Garden Park, changing the character of the edge of the park and enabling more open views of A23 temporary construction activities. The PEIR reported this as a High sensitivity receptor, Medium magnitude of change and Moderate adverse level of effect (Not Significant). With the highway improvement changes this would be a High sensitivity receptor, Medium to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within Riverside Garden Park to accommodate the footpath ramp east of the River Mole bridge and construction of a retaining wall. People using the open space specifically in this area were not assessed in the PEIR as no footpath ramp was proposed. With the highway improvement changes this would be a High sensitivity receptor, Medium to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this would be a new significant effect.</p> <p>2032</p> <p>Greater extent of vegetation removal required extending from highway land into Riverside Garden Park, changing the character of the edge of the park and enabling more open views of A23 temporary construction activities and operational road/traffic. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage would provide more screening. In the PEIR this was reported as a High sensitivity receptor, Low to Medium magnitude of change and Minor to Moderate adverse level of effect (Not Significant). With the highway improvement changes this would be a High sensitivity receptor, Low to High magnitude of change and Minor to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within Riverside Garden Park to accommodate the footpath ramp east of the River Mole bridge. People using the open space specifically in this area were not assessed in the PEIR as no footpath ramp was proposed and construction of a retaining wall. With the highway improvement changes this would be a High sensitivity receptor, Medium to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this would be a new significant effect.</p> <p>2038</p> <p>Greater extent of vegetation removal required extending from highway land into Riverside Garden Park, changing the character of the edge of the park and enabling more open views of the A23 temporary construction activities and operational road/traffic. Limited scope to replace removed tree/shrub planting within highway land due to noise barrier and maintenance access strip. Some scope to replace planting removed along highway boundary/park interface. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. The PEIR reported a High sensitivity receptor, Low to Medium magnitude of change and Minor to Moderate</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>adverse level of effect (Not Significant). With the highway improvement changes this would be a High sensitivity receptor, Low to High magnitude of change and Minor to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within Riverside Garden Park to accommodate the footpath ramp east of the River Mole bridge and construction of a retaining wall. Limited scope to replace removed tree/shrub planting within highway land due to noise barrier and maintenance access strip. Some scope to replace planting removed along highway boundary/park interface. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. People using the open space specifically in this area were not assessed in the PEIR as no footpath ramp was proposed. With the highway improvement changes this would be a High sensitivity receptor, Medium to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this would be a new significant effect.</p> <p>Occupiers of four single story residential properties on Longbridge Road 2029</p> <p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space and the Gatwick Stream to accommodate the footpath ramp east of the River Mole bridge, enabling more open views from properties and rear gardens of A23 temporary construction activities and hotels beyond. Greater extent of vegetation removal required extending east of Longbridge roundabout into the woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage would provide more screening. The PEIR reported a High sensitivity receptor, Low to Medium magnitude of change and Minor to Moderate adverse level of effect (Not Significant). With the highway improvement changes there would be a High sensitivity receptor, Medium to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>Further mitigation</p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10 m wide strip of woodland west of the River Mole that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>2032</p> <p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space and the Gatwick Stream to accommodate the footpath ramp east of the River Mole bridge, enabling more open views from properties and rear gardens of A23 temporary construction activities, and operational road/traffic and hotels beyond. Greater extent of vegetation removal required extending east of Longbridge roundabout into the woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. The PEIR reported a High sensitivity receptor, Negligible magnitude of change and Minor adverse level of effect (Not Significant). With the highway improvement changes there would be a High sensitivity receptor, Low to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>Further mitigation</p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10 m wide strip of woodland west of the River Mole that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p> <p>2038</p> <p>There would be complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space and the Gatwick Stream to accommodate the footpath ramp east of the River Mole bridge, enabling more open views from properties and rear gardens of A23 temporary construction activities, and operational road/traffic and hotels beyond. Greater extent of vegetation removal required extending east of Longbridge roundabout into the woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond. New woodland planting in the remaining undeveloped areas would, in time, partially screen and soften the road and views of traffic. The character of the river corridor beside the road would, in time, be similar to the baseline situation. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. The PEIR reported a High sensitivity receptor, Negligible magnitude of change and Minor adverse level of effect (Not Significant). With the highway improvement changes there would be a High sensitivity receptor, Low to High magnitude of change and Moderate to Major adverse level</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>Further mitigation</p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10 m wide strip of woodland west of the River Mole that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p>
6 Longbridge Roundabout	<p>The highway improvement changes would involve expansion of the roundabout including slip road and shared footpath/cycleway east into woodland requiring vegetation removal due to more extensive construction activities (up to approximately 45 m width). New replacement woodland planting east of Longbridge Roundabout would, in time, partially screen and soften the road infrastructure. Effects on occupiers of four first floor and four second floor apartments of two blocks of three-story buildings on Longbridge Road are identified below per assessment year.</p> <p>Materially different significant effects</p> <p>2029</p> <p>Greater extent of vegetation removal required extending from highway land into the woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. The PEIR reported a High sensitivity receptor, Low to Medium magnitude of change and Minor to Moderate adverse level of effect (Not Significant). With the highway improvement changes there would be a High sensitivity receptor, Medium to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>Further mitigation</p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10 m wide strip of woodland west of the River Mole and retention of trees within the centre of Longbridge Roundabout that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p> <p>2032</p> <p>Greater extent of vegetation removal required extending from highway land into the woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and operational road/traffic and hotels and petrol</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>station beyond. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. The PEIR reported a High sensitivity receptor, Negligible magnitude of change and Minor adverse level of effect (Not Significant). With the highway improvement changes there would be a High sensitivity receptor, Low to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>Further mitigation</p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10 m wide strip of woodland west of the River Mole and retention of trees within the centre of Longbridge Roundabout that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p> <p>2038</p> <p>Greater extent of vegetation removal required extending from highway land into the woodland, enabling more open views of operational Longbridge Roundabout and traffic and hotels and petrol station beyond. New woodland planting in the area cleared for construction would, in time, partially screen and soften the road and views of traffic. The character of the river corridor beside the road would, in time, be similar to the baseline situation. Effects in winter when vegetation is not in leaf are more likely to be significant than in summer when foliage will provide more screening. The PEIR reported a High sensitivity receptor, Negligible magnitude of change and Minor adverse level of effect (Not Significant). With the highway improvement changes there would be a High sensitivity receptor, Low to High magnitude of change and Moderate to Major adverse level of effect (Significant). Therefore, this effect would change from not significant to significant.</p> <p>Further mitigation</p> <p>Minimise the loss of woodland where possible and seek to retain a larger than 10 m wide strip of woodland west of the River Mole and retention of trees within the centre of Longbridge Roundabout that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p> <p>Retention of mature trees within the centre of the Longbridge Roundabout will be prioritised (where possible) to avoid opening up views across the junction between public open space and residential/commercial properties and reduce the dominance of traffic within this location.</p>

<p>Highway design changes</p>	<p>Analysis of Significant Effects compared to the PEIR</p>
	<p>GAL is continuing discussions with National Highways and local highway authorities to arrive at a solution that minimises the land take required and minimises the loss of vegetation, whilst meeting other scheme objectives and that solution will be taken forward to the DCO submission.</p>
<p>7 A23 Brighton Road</p>	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would not affect any additional existing vegetation and no new significant features or infrastructure compared to the Project assessed in the PEIR.</p>
<p>Overall changes in effects for the Project</p>	<p>Sequential visual effects on walkers using the Sussex Border Path were not assessed within the PEIR. The long distance promoted path forms a 4 kilometre (km) long section associated with five of the seven route sections of the A23 improvements within the Project. When considered as a sequence of moderate adverse effects on views gained within a journey, walkers using the path would experience significant sequential visual effects, as defined in the methodology of the PEIR, Appendix 8.4.1. This would therefore be a new significant effect compared to the PEIR.</p> <p>The differences in effects reported in the Summary and the Summary of Effects table in the PEIR chapter for this topic, having taken into account the highway improvement changes, are as follows per assessment year.</p> <p>2029</p> <p>The effect for people using Riverside Garden Park reported as Moderate adverse in the PEIR summary would change to Major adverse. The complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space to accommodate the footpath ramp/retaining wall east of the River Mole bridge and the creation of a 2 m high noise barrier would result in a more intensely developed road corridor that is more visible.</p> <p>The effect for residents of four houses on Longbridge Road reported as Minor to Moderate adverse in the PEIR summary would change to Moderate to Major adverse. The complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space to accommodate the footpath ramp/retaining wall east of the River Mole bridge, the creation of a 2 m high noise barrier, the removal of woodland east of Longbridge roundabout and trees within the centre of Longbridge Roundabout would result in a more intensely developed road corridor that is more visible.</p> <p>The effect for residents of apartments on Longbridge Road reported as Minor to Moderate adverse in the PEIR summary would change to Moderate to Major adverse. Greater extent of vegetation removal required extending from highway land into the existing woodland, enabling more open views of Longbridge</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>Roundabout/A23 temporary construction activities and hotels and petrol station beyond.</p> <p>2032</p> <p>The effect for people using Riverside Garden Park reported as Minor to Moderate adverse in the PEIR summary would change to Minor to Major adverse. The complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space to accommodate the footpath ramp/retaining wall east of the River Mole bridge and the creation of a 2 m high noise barrier would result in a more intensely developed road corridor that is more visible.</p> <p>The effect for residents of four houses on Longbridge Road reported as Minor adverse in the PEIR summary would change to Moderate to Major adverse. The complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space to accommodate the footpath ramp/retaining wall east of the River Mole bridge, the creation of a 2 m high noise barrier, the removal of woodland east of Longbridge roundabout and trees within the centre of Longbridge Roundabout would result in a more intensely developed road corridor that is more visible.</p> <p>The effect for residents of apartments on Longbridge Road reported as Minor adverse in the PEIR summary would change to Moderate to Major adverse. Greater extent of vegetation removal required extending from highway land into the existing woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond.</p> <p>2038</p> <p>The effect for people using Riverside Garden Park reported as Minor to Moderate adverse in the PEIR summary would change to Minor to Major adverse. The complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space to accommodate the footpath ramp/retaining wall east of the River Mole bridge and the creation of a 2 m high noise barrier would result in a more intensely developed road corridor that is more visible.</p> <p>The effect for residents of four houses on Longbridge Road reported as Minor adverse in the PEIR summary would change to Moderate to Major adverse. The complete removal of vegetation between the eastbound carriageway and the footpath/track within public open space to accommodate the footpath ramp/retaining wall east of the River Mole bridge, the creation of a 2 m high noise</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>barrier, the removal of woodland east of Longbridge roundabout and trees within the centre of Longbridge Roundabout would result in a more intensely developed road corridor that is more visible.</p> <p>The effect for residents of apartments on Longbridge Road reported as Minor adverse in the PEIR summary would change to Moderate to Major adverse. Greater extent of vegetation removal required extending from highway land into the existing woodland, enabling more open views of Longbridge Roundabout/A23 temporary construction activities and hotels and petrol station beyond.</p> <p>Further mitigation</p> <p>Residents of four houses on Longbridge Road Options include the retention of more than a 10 m wide strip of woodland west of the River Mole and retention of trees within the centre of Longbridge Roundabout that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p> <p>Residents of apartments on Longbridge Road Options include the retention of more than a 10m wide strip of woodland west of the River Mole that would provide greater opportunity to minimise the adverse visual effects. This measure would have the potential to reduce effects to Moderate adverse, which would not be significant.</p> <p>Walkers using public rights of way 367 and 381 at M23 Spur Minimise land take and minimise vegetation loss. This measure would have the potential to reduce effects to Minor adverse, which would not be significant.</p> <p>Occupiers of residential property on Balcombe Road at M23 Spur Options include minimising land take and minimising loss of existing vegetation. This measure would have the potential to reduce effects to Minor adverse, which would not be significant.</p>

Table 3.1.3: Ecology - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The amendment of the Project site boundary to account for additional construction areas may result in some

Highway design changes	Analysis of Significant Effects compared to the PEIR
	minor additional plantation woodland (highway planting) loss but this would not be significant.
2 South Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. There would be an additional small, permanent loss of part of Pond F to facilitate the alignment of the westbound spur. However, minor impacts to this feature have already been identified and the additional loss is not sufficient to change the magnitude/significance.
3 Airport Way	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Although the highway design has been amended to allow for the construction of the third westbound lane over the railway, the PEIR assumed all vegetation in this area would be lost.
4 North Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The extent of plantation (highways) woodland that would be lost around the North Terminal Junction would be the same as assumed within the PEIR.
5 A23 London Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The amendment of the Project site boundary to account for the construction of a pedestrian access into Riverside Garden Park near to the Longbridge Roundabout may result in some minor additional broadleaved woodland loss but this is likely to be balanced against areas where the Project site boundary has been constrained closer to the existing highway, reducing the extent of broadleaved woodland loss in those areas. The modification to the River Mole bridges may have the potential to deter bats (and other wildlife) from flying along the Mole during construction. However, as set out in the outline Code of Construction Practice (Appendix 5.3.1 of the PEIR), careful lighting designs would be produced to ensure habitats of value to commuting/foraging bats (such as the River Mole) remain unlit during construction. On this basis, there would be no change to the conclusion in the PEIR (minor adverse).
6 Longbridge Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. There are some changes to the extent of woodland to be lost around the roundabout to facilitate construction but such changes would not be sufficient to change the significance of effects (the overall loss of woodland was assessed as being Moderate Adverse in the PEIR).
7 A23 Brighton Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Some small new areas of woodland to the south of the petrol station would be lost to facilitate access for the

Highway design changes	Analysis of Significant Effects compared to the PEIR
	widening of the River Mole bridge. However, this loss is not sufficient to change the overall significance of broadleaved woodland loss (Moderate Adverse).
Overall changes in effects for the Project	The extent of vegetation removal (primarily highways plantation woodland) would increase slightly as a result of the changes to the highway design compared to that assessed in the PEIR chapter, primarily to facilitate construction. This increase would be appropriately mitigated with additional woodland planting and every effort would be made to retain as much of the plantation woodland as possible, during construction. This increase would not be sufficient to change the overall significance of any of the effects, however. As such, the effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes.

Table 3.1.4: Geology and Ground Conditions - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Potential Areas of Concern (PAOC) are identified in the PEIR Chapter 10 Geology and Ground Conditions. These areas represent potential sources of contamination from existing and historical land uses on the Project site and off-site. The proposed carriageway widening would not encroach upon additional PAOC.
2 South Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The minor footprint changes around Balcombe Road would not encroach upon additional PAOC.
3 Airport Way	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The minor footprint changes around Airport Way would not encroach upon additional PAOC.
4 North Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The changes associated with the North Terminal Roundabout would not encroach upon additional PAOC.
5 A23 London Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The proposed widening works and land modifications would not encroach upon additional PAOC.
6 Longbridge Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further minor changes around PAOC 19 (Esso Petrol Filling Station) would not alter the assessed magnitude of impact.

Highway design changes	Analysis of Significant Effects compared to the PEIR
7 A23 Brighton Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The access route around PAOC 20 (Texaco Petrol Filling Station) would not alter the assessed magnitude of impact.
Overall changes in effects for the Project	The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes. The highway improvement changes would not significantly affect any of the identified PAOC nor alter the assessed magnitude of impact, nor are revisions required to potential receptors and their sensitivity.

Table 3.1.5: Water Environment - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>2024 – 2029</p> <p>All water aspects</p> <p>The M23 spur is located outside the fluvial floodplain and no changes are proposed to the surface water drainage receiving catchment from the PEIR.</p> <p>2029, 2032 and 2038</p> <p>All water aspects</p> <p>The spur is located within Flood Zone 1, therefore outside the fluvial floodplain. The surface water drainage catchment drains to the Burstow Stream and is unchanged from the baseline and the PEIR assessment.</p>
2 South Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>2024 – 2029</p> <p>Water Quality, Water Framework Directive (WFD) and Flood Risk</p> <p>Construction of the widened Airport Way westbound embankment could impact upon Pond F increasing the risk of pollution entering the pond and subsequently the Gatwick Stream. However, this would not be considered to have a significant environmental effect due to proposed mitigation measure (highway runoff</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>attenuation and treatment pond as were included in the PEIR design) and regulatory permitting requirements.</p> <p>2029, 2032 and 2038</p> <p>Water Quality and WFD Aspects</p> <p>The increased rainfall runoff and traffic from/on the highway could increase the risk of pollution reaching the Gatwick Stream, however this would be mitigated through treatment in the proposed attenuation pond to ensure no significant environmental effect.</p> <p>Flood Risk</p> <p>The widening of the westbound Airport Way, west of the roundabout would encroach on to the footprint of Gatwick Pond F. It is considered that loss of storage capacity in that pond can be provided within the revised Project footprint to ensure no increase in flood risk and consequently no significant environmental effect.</p> <p>Water Quality, WFD and Flood Risk aspects</p> <p>Culverting of the highway drainage ditch to the west of Balcombe Road and the extension of the Burstow Stream tributary culvert to the east of Balcombe Road could increase flood risk, remove riparian habitat and natural watercourse. However, this would not be considered to have a significant environmental effect due to proposed mitigation measures (highway runoff attenuation and treatment pond as were included in the PEIR design) and regulatory permitting requirements.</p> <p>Previously in the PEIR the highway surface water drainage was to be directed to a tributary of the Burstow Stream. Instead, this would now drain westwards to the Gatwick Stream via a surface water sewer and ditches. This would not result in any significant environmental effects due to the provision of treatment and attenuation facilities.</p>
<p>3 Airport Way and 4 North Terminal Roundabout</p>	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR.</p> <p>2024 – 2029</p> <p>Water Quality, WFD and Flood Risk</p> <p>Encroachment during construction into Riverside Garden Park could increase flood risk and potentially pollution from construction activities. However pollution management measures and the provision of floodplain compensation areas upstream on the River Mole would ensure there would be no new or materially different significant effects identified as a result of this change compared to those reported in the PEIR.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>The culverting of the A23 embankment toe drain on the southern side of the road could give rise to an increased risk of pollution and sediment reaching the River Mole during construction. However, this would not be considered to have a significant environmental effect due to proposed mitigation measures and regulatory permitting requirements.</p> <p>2029, 2032 and 2038</p> <p>Water Quality, WFD and Flood Risk</p> <p>The widening of the A23 embankment northwards into Riverside Garden Park would remove existing combined River Mole and Gatwick Stream floodplain. However, the floodplain compensation area at Museum Field that would be provided by the Project upstream (as was included in the PEIR) would ensure no increase in existing levels of fluvial flood risk as a result and therefore no new or materially different significant effects as a result of this change compared to those reported in the PEIR.</p>
5 A23 London Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>2024 – 2029</p> <p>Water Quality, WFD and Flood Risk</p> <p>Working over the River Mole could increase the risk of pollution to the watercourse during construction. However, this would not be considered to have a significant environmental effect due to proposed construction mitigation measures included in the PEIR such as runoff and pollution management and regulatory permitting requirements.</p> <p>2029, 2032 and 2038</p> <p>Water Quality, WFD and Flood Risk</p> <p>Changes to the A23 bridge over the River Mole would potentially affect the floodplain connectivity and bank stability, and creation of noise barrier, footpath and embankment would lead to floodplain encroachment. This may result in potential changes to sediment availability and runoff therefore affecting WFD regulation compliance and hydromorphology of the watercourse and requires reassessment. However, this would not be considered to result in a significant environmental effect as it would be set back behind existing bridge abutments.</p>
6 Longbridge Roundabout	<p>There would be no new or materially different significant effects identified as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p>

<p>Highway design changes</p>	<p>Analysis of Significant Effects compared to the PEIR</p>
	<p>2024 – 2029</p> <p>Water Quality, WFD and Flood Risk</p> <p>There would be additional temporary encroachment into the River Mole floodplain east of Longbridge roundabout compared to the Project described in the PEIR which could increase the risk of pollution and flood risk. However, this would not be considered to have a significant environmental effect due to proposed mitigation measures included in the PEIR such as runoff and pollution management and regulatory permitting requirements plus works would be set back from the River Mole watercourse.</p> <p>2029, 2032 and 2038</p> <p>Water Quality, WFD and Flood Risk</p> <p>There would be additional encroachment into the River Mole floodplain east of Longbridge roundabout compared to the Project described in the PEIR which could increase the risk of pollution and flood risk. However, this would not be considered to have a significant environmental effect due to proposed mitigation measures (the highway runoff attenuation and treatment ponds north of the roundabout) and regulatory permitting requirements plus works would be set back from the River Mole watercourse.</p>
<p>7 A23 Brighton Road</p>	<p>There would be no new or materially different significant effects identified as a result of this change compared to those reported in the PEIR for all aspects of the water environment. Measures to manage runoff quality and quantity during construction and the modest widening of highways watercourse crossings would result in no new significant environmental effects</p>
<p>Overall changes in effects for the Project</p>	<p>The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes.</p> <p>All Assessment Years</p> <p>The changes to the highways design since the PEIR would not result in any new or materially different significant effects both during scheme construction and operation.</p> <p>Groundwater:</p> <p>There would be no new or materially different significant effects identified as a result of this change compared to those reported in the PEIR.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>Wastewater and Water Supply</p> <p>There is no change to the assessment presented in the PEIR for any of the highways elements in any of the assessment years related to wastewater and water supply.</p>

Table 3.1.6: Traffic and Transport - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The amended design would not alter the principles of the highway layout, its construction methodology or its expected operation in this location.
2 South Terminal Roundabout	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The change to the westbound on-slip arrangement, since the PEIR, would not alter the principles of the highway layout, its construction methodology or its expected operation in this location.
3 Airport Way	<p>There would be no new or materially different significant effects identified as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>First Full Year of Opening: 2029 - Highway Construction</p> <p>During the highway construction phase, it would be necessary to temporarily close and divert National Cycle Route 21 while embankment works take place at the railway bridge. In relation to pedestrian and cyclist delay, it is expected that the diversion route would minimise additional travel distance as far as possible and therefore the magnitude of impact is expected to be low. Users of National Cycle Route 21 are of low to medium sensitivity and therefore temporary diversions would have a minor adverse effect on pedestrian and cyclist delay in this location. This would be a new effect however it is not considered to be significant.</p> <p>In relation to pedestrian and cyclist amenity, it is expected that the diversion route would avoid interaction with other vehicular traffic as far as possible, although there is the potential for some new interactions to occur which could affect pedestrian and cyclist amenity. Where this occurs, the magnitude of impact would be low, resulting in a minor adverse effect on pedestrian and cyclist delay in this location when the</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>temporary diversions are in place. This would be a new effect however it is not considered to be significant.</p> <p>There would be no new or materially different significant effects expected for the other criteria considered in the PEIR.</p> <p>Interim Assessment Year 2032 and Design Year: 2047</p> <p>The changes to the highway design in this area would not alter the overall operation of the highway network in relation to severance, amenity, safety or delay to pedestrians, cyclists or drivers.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The proposal to provide a revised roundabout arrangement at North Terminal, instead of a signal-controlled junction, may make construction less complex at this location in the period 2029 to 2032 but is not expected to create any new or materially different significant effects. The proposals are expected to create highway operating conditions which are similar to those identified in the PEIR and therefore no new or materially different effects are expected in 2032 or 2047.</p>
5 A23 London Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>First Full Year of Opening: 2029 - Highway Construction</p> <p>During the highway construction phase, the construction of the third westbound lane on the A23 London Road may result in temporary alterations to pedestrian routes between North Terminal and Longbridge Roundabout including the pedestrian bridge over the River Mole west of the A23 London Road.</p> <p>In relation to pedestrian and cyclist delay, the temporary diversion routes would minimise additional travel distance as far as possible and therefore the magnitude of impact is expected to be low. Users of pedestrian routes in this area are of low to medium sensitivity and therefore temporary diversions would have a minor adverse effect on pedestrian and cyclist delay in this location. This is not considered to be significant.</p> <p>In relation to pedestrian and cyclist amenity, it is not expected that temporary diversion routes would result in a change in pedestrian and cyclist amenity in this location.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>There would be no new or materially different significant effects expected for the other criteria considered in the PEIR.</p> <p>Interim Assessment Year 2032 and Design Year: 2047</p> <p>The additional westbound lane on the A23 London Road would not alter the overall operation of the highway network in relation to severance, amenity, safety or delay to pedestrians, cyclists or drivers.</p>
6 Longbridge Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The proposals would not alter the principles of the highway layout, its construction methodology or its expected operation in this location.</p>
7 A23 Brighton Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The proposals would not alter the principles of the highway layout, its construction methodology or its expected operation in this location.</p>
Overall changes in effects for the Project	<p>The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes, which would not alter the overall operation of the highway network in relation to severance, amenity, safety or delay to pedestrians, cyclists or drivers.</p> <p>Changes to the highway design at Airport Way may introduce additional localised temporary minor adverse effects related to pedestrian and cyclist delay and amenity, as a result of the diversion of pedestrian and cycle routes at times within the construction period. These additional effects would not be significant and would not alter the effects for the whole Project that are described in the PEIR.</p>

Table 3.1.7: Air Quality - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The proposed widening of up to 0.5 m on the eastbound carriageway is not considered to materially change the exposure at the nearest receptor which is Retro Services Gatwick (commercial premises).</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
2 South Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>This highway design change would comprise of two approximately 7 m wide slip roads running parallel to the existing highway. The eastbound slipway is not in the immediate vicinity of highly sensitive receptors (residential, schools or hospitals / care homes). The westbound slipway would decrease the distance of commercial receptors to road emission sources from approximately 49 m to 42 m, this therefore, may increase pollutant concentrations at these locations. This would be refined for the Environmental Statement as strategic traffic modelling will allow air modelling to be updated. Although due to the drop off in emissions away from the road side the change at a distance of around 40 m this would not be expected to be significant.</p> <p>In the PEIR it was reported that the introduction of the flyover may decrease the traffic volume on the South Terminal Roundabout, which in turn may reduce pollutant concentrations at nearby receptors, particularly with the aforementioned design changes. Moreover, the elevation of the road sources (~8 m) from the receptors may reduce pollutant concentrations at these locations.</p>
3 Airport Way	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>This design change would involve the westbound widening over the Brighton Main Line – this would be unlikely to result in an increase in pollutant concentrations at highly sensitive receptors due to the distance (approximately 155 m) the nearest receptors are from this design change.</p> <p>Further, proposed changes to lane configurations are intended to improve traffic flow and would result in a reduction in pollutant concentrations in the roundabout vicinity.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>The design change would include an increase in the roundabout diameter along with an improved layout and an introduction to a signalised junction. The latter may result in an increase in emissions from vehicles due to an increase in acceleration and braking. However, there are no highly sensitive receptors within approximately 230 m from the North Terminal Roundabout.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	This design change would also include a westbound flyover from Airport Way which would incorporate a noise barrier on the elevated section. The flyover is approximately 8 m in height and is unlikely to result in a significant increase in pollutant concentrations at the nearby receptors.
5 A23 London Road	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. This design change would include the widening by one lane (3.65 m) on the south-western side. This would not bring traffic closer to high sensitivity receptors.
6 Longbridge Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>There would be minor pavement widening of approximately 2-5 m on all sides. Due to the nature of the area in proximity to the roundabout, this widening would not bring traffic emissions closer to highly sensitive receptors. Furthermore, the design change would include general traffic improvement measures that are likely to contribute to the free-flowing movement of traffic which in turn may reduce pollutant concentrations.</p>
7 A23 Brighton Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>This would involve the northeastern arm of the roundabout and a maximum widening of approximately 2 m on the eastern side to approximately 5.5 m on the western side. Furthermore, it would introduce a designated right turn into the Texaco petrol station – this is likely to help prevent traffic build-up on the northbound.</p>
Overall changes in effects for the Project	The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic are not considered to be different having taken into account the highway improvement changes.

Table 3.1.8: Noise and Vibration - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>Minor adjustments to highway widths are unlikely to significantly change the traffic noise impacts and effects reported in the PEIR.</p> <p>Adjustments to the construction works required to build the Project are unlikely to significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>
2 South Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>Refinement of the noise barrier on the flyover is not likely to significantly change traffic noise impacts and effects from those reported in the PEIR.</p> <p>Adjustments to the construction works required to build the Project are unlikely to significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>
3 Airport Way	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>Adjustments to the Airport Way design, including the third westbound carriageway, are unlikely to significantly change the traffic noise impacts and effects at noise sensitive receptors, as reported in the PEIR.</p> <p>Changes to the construction works required to build the Project would change levels of noise and vibration generated during construction, including the additional works to widen the railway bridge on the south side, but are unlikely to significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>Changes to the North Terminal roundabout layout and adjustments to the flyover alignment would alter traffic noise levels locally and the noise barrier on the flyover has been refined, but these changes are not likely to significantly change traffic noise impacts and effects from those reported in the PEIR.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>Adjustments to the construction works required to build the Project are unlikely to significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>
5 A23 London Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>The design of the Project along the edge of Riverside Garden Park has progressed to further understand the broader environmental impacts of the construction and maintenance of a noise barrier adjacent to the A23, including those associated with diverting the footpath from the A23 into the park. As a result, the location of the noise barrier itself has not changed significantly and the refined design is not likely to significantly change traffic noise impacts from those reported in the PEIR.</p> <p>Updated strategic traffic modelling will allow traffic noise modelling to be updated for the Environmental Statement. It is likely that traffic speeds on the A23 would be reduced as a result of the speed limit being reduced from 50 to 40 mph. If this, in combination with the results of updated strategic traffic modelling, show noise increases in the two Noise Important Areas defined in the Crawley Agglomeration Noise Action Plan (the residential areas around either end of Riverside Garden Park) can be avoided without the need for this noise barrier, it may be shortened or removed.</p> <p>Changes to the construction works required to build the Project would change levels of noise and vibration generated during construction, including the additional works in the park, but are unlikely to significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>
6 Longbridge Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>Changes to the construction works required to build the Project would change levels of noise and vibration generated during construction, including the additional works within the corner of Riverside Garden Park. As reported in the PEIR, further mitigation measures for construction noise and vibration will be developed to minimise impacts, and it is unlikely that the revisions to the design would significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
7 A23 Brighton Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>Changes to the construction works required to build the Project would change levels of noise and vibration generated during construction, including the additional works within Church Meadows and use of the temporary access route from Woodroyd Avenue, both of which could lead to short-term noise impacts which are not likely to be significant with mitigation. As reported in the PEIR, further mitigation measures for construction noise and vibration will be developed to minimise impacts, and it is unlikely that the revisions to the design would significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>
Overall changes in effects for the Project	<p>The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes.</p> <p>Changes to the highway design would affect levels of road traffic noise, but the revised Project design incorporates the noise barriers described in the PEIR, and overall noise impacts and effects are expected to be similar.</p> <p>Changes to the construction works required to build the Project in some areas would change levels of noise and vibration generated during construction. However, as reported in the PEIR, further mitigation measures for construction noise and vibration will be developed to minimise impacts, and it is unlikely that the revisions to the design would significantly change the temporary construction noise and vibration impacts and effects reported in the PEIR.</p>

Table 3.1.9: Climate Change and Carbon - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The revised layout is unlikely to result in additional significant effects and any increased flood risk from impermeable surfaces would be mitigated as per the drainage strategy in the Flood Risk Assessment (Appendix 11.9.1 of the PEIR).</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>Greenhouse Gas Emissions</p> <p>In the context of the wider assessment of greenhouse gas (GHG) impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users were addressed in the PEIR and so no additional user emissions are expected. Relative to the wider construction assessment for this Project this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the UK’s carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.</p>
2 South Terminal Roundabout	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The revised layout is unlikely to result in additional significant effects and any increased flood risk from impermeable surfaces would be mitigated as per the drainage strategy in the Flood Risk Assessment (Appendix 11.9.1 of the PEIR).</p> <p>GHG</p> <p>In the context of the wider assessment of GHG impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users are already included in the existing PEIR and so no additional user emissions are expected compared to the existing analysis. Relative to the wider construction assessment for this Project this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the UK’s carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.</p>
3 Airport Way	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The revised layout would be unlikely to result in additional significant effects and any increased flood risk from</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>impermeable surfaces would be mitigated as per the drainage strategy in the Flood Risk Assessment (Appendix 11.9.1 of the PEIR).</p> <p>GHG</p> <p>In the context of the wider assessment of GHG impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users are already included in the existing PEIR and so no additional user emissions are expected compared to the existing analysis. Relative to the wider construction assessment this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the UK’s carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.</p>
4 North Terminal Roundabout	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Additional drainage would be provided to remove surface water from the highway therefore not increasing flood risk to the road. New drainage ponds would be included to aid surface runoff and reduce the potential for surface flooding. The mitigation already included in the PEIR and those in the revised design would be sufficient, and no further flood risk is anticipated. The loss of vegetation would be re-provided elsewhere and therefore should not negatively affect ecological receptors during extreme weather events such as droughts.</p> <p>GHG</p> <p>In the context of the wider assessment of GHG impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users are already included in the existing PEIR and so no additional user emissions are expected compared to the existing analysis. Relative to the wider construction assessment this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the UK’s carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
5 A23 London Road	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The refined noise barrier supports existing mitigation for noise and climate change in-combination impacts and would be unlikely to result in additional significant effects.</p> <p>GHG</p> <p>In the context of the wider assessment of GHG impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users are already included in the existing PEIR and so no additional user emissions are expected compared to the existing analysis. Relative to the wider construction assessment this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the UK’s carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.</p>
6 Longbridge Roundabout	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. An additional drainage pond would be installed to account for additional surface water runoff. Loss of vegetation is noted during construction. Measures would be included to account for the temporary loss of vegetation. As per the PEIR assessment, any re-provisioned vegetation would include drought tolerant species and mitigate against any possible future climate changes.</p> <p>GHG</p> <p>In the context of the wider assessment of GHG impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users are already included in the existing PEIR and so no additional user emissions are expected compared to the existing analysis. Relative to the wider construction assessment this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	UK's carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.
7 A23 Brighton Road	<p>Climate Change Resilience</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. A drainage pond is proposed within Church Meadow as the carriageway improvements would drain separately either side of the River Mole. The wider mitigation strategy will set out how land with amenity value lost to permanent features, such as the drainage ponds, would be re-provided. It is not anticipated that any significant effects in terms of climate change would occur based on the mitigation built into the Project.</p> <p>GHG</p> <p>In the context of the wider assessment of GHG impacts the change would lead to additional construction impacts (from new materials, transport, and construction activities). However, this would be a small addition to the existing estimated GHG emissions associated with construction of the wider Project. Changes in operational emissions from road users are already included in the existing PEIR and so no additional user emissions are expected compared to the existing analysis. Relative to the wider construction assessment this design change would result in a small increase in GHG emissions across the Project. This design change would not lead to a material change in the overall total GHG emissions from construction, nor would it significantly change the scale of contribution of the overall Project to the UK's carbon budgets. On this basis no change to the assessment of significance arising from this Project is expected.</p>
Overall changes in effects for the Project	<p>Climate Change Resilience</p> <p>The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes. The highway improvement changes would not introduce any new or materially different significant effects and any increase in flood risk would be mitigated.</p> <p>GHG</p> <p>In combination the aggregated impacts of the highway improvement changes into the Project are expected to lead to a small increase in aggregate GHG emissions from the construction process. On this basis no change to the assessment of significance arising from this Project is expected.</p>

Table 3.1.10: Socio-Economics - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes, including the temporary closure and diversion of Sussex Border Path would create some temporary disruption to those using the path by increasing the walking distance for an additional 500 m – equivalent to 6 minutes walking distance considering an average walking pace of 5 km per hour. This path is unlikely however to comprise a primary walking/ access route to key services and employment within the local study area and on this basis this effect is considered negligible.</p> <p>On this basis, this is not expected to create additional disruption above that already identified in the PEIR to the socio-economic receptors.</p>
2 South Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR.</p> <p>The highway improvement changes, including the temporary closure and diversion of National Cycle Route 21, would create some temporary disruption to those using the cycle lane.</p> <p>The indicative diversion would increase the length of the route by between 250 m and 500 m, including c 75 m where cyclists would be required to dismount their bikes. Nonetheless it would maintain a route away from major highways using residential roads and the existing public rights of way network. Given the average cycling speed of 20 km per hour, which is considered “comfortable and touring pace” benchmark, the diversion would increase the travel time by 2.5 minutes (ie 1.5 minutes on bike and 1 minute walking).</p> <p>Based on the latest Census 2011 data, 2.5 % of working-age people in employment in Crawley travel to work with a bicycle. The equivalent for Reigate and Banstead is 1.7 %, which equates to the average of the local study area as a whole. The equivalents across the total population (including those not in employment) equate to 1.8% in Crawley, 1.2% in Reigate and Banstead and 1.2% across the local study area, as a whole.</p> <p>Given that a comparatively small portion of the community would be affected the sensitivity of the receptors is low for businesses and negligible for residents. The magnitude of the impact in terms of business disruption is assessed as low as there would be a comparatively small travel delay of 2.5 minutes, while the magnitude of the impact in terms of resident disruption is assessed as negligible as a very small</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>portion of the residents in the local study area uses this cycle path for commuting purposes.</p> <p>Synthesising the above, the disruption to businesses would have a minor adverse effect, not significant in EIA terms, which is in line with what was assessed in the PEIR.</p>
3 Airport Way	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would have no further impacts on the disruption of businesses or residents in the impact areas or on the rest of the receptors identified.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would have no further impacts on the disruption of businesses or residents in the impact areas or on the rest of the receptors identified.</p>
5 A23 London Road	<p>There would be no new or materially different significant effects identified as a result of this change compared to those reported in the PEIR. The highway improvement changes would have no further impacts on the disruption of businesses or residents in the impact areas or on the rest of the receptors identified.</p>
6 Longbridge Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would have no further impacts on the disruption of businesses or residents in the impact areas or on the rest of the receptors identified.</p>
7 A23 Brighton Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. The highway improvement changes would have no further impacts on the disruption of businesses or residents in the impact areas or on the rest of the receptors identified.</p>
Overall changes in effects for the Project	<p>The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes.</p>

Table 3.1.11: Health and Wellbeing - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>The changes support reducing traffic risks and improved traffic flow. Any increased disruption or disturbance during construction would be temporary and, being mitigated by routine highways construction management practices, is unlikely to be significant for population health.</p> <p>The temporary closure of the Sussex Border Path and the removal of mature trees and vegetation has the potential for behavioral change affecting population physical activity. However, a suitable diversion of the Sussex Border Path is provided. This diversion would be advertised in advance, clearly signposted and comparable in access related considerations. The diversion is part of a long-distance walking route and could add around 15 to 20 minutes walking journey time. This is not considered onerous in this context and contributes to the level of physical activity.</p> <p>The loss of screening would reduce the amenity value of both this public right of way and some dwellings. The change may have a slight adverse effect on community identity drivers of quality of life and mental wellbeing. The scale of the change is not considered likely to have significant population health implications compared to those reported in the PEIR.</p>
2 South Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>The visual changes relate to vegetation loss and how this would change the experience of public rights of way users and a small number of dwellings. The scale of change is unlikely to significantly affect population health through behavioral change or wellbeing drivers. Whilst the amenity of the affected route sections is affected, the route connectivity is maintained, and effects are of a transitory nature for users. Dwellings retain filtered screening from other retained planting. Effects would reduce over time with the maturing of new planting.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
3 Airport Way	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>There is the potential to reduce physical activity, including changes to established behavioral patterns, from the temporary closure of: the National Cycle Route 21 through the underpass between Riverside Garden Park and Gatwick Airport; the Sussex Border path to the west of the railway; and public footpath 360/360Sy to the east of the railway. To avoid such an outcome the Project includes suitable diversions. These would be advertised in advance, clearly signposted and comparable in access related considerations. These diversions could increase journey times by around 10 to 15 minutes for walkers and a few minutes for cyclists. This is considered acceptable in the context of them being long-distance routes. The temporary effects are unlikely to deter local population use or change patterns of physical activity behavior.</p>
4 North Terminal Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>The new improved junction is expected to support reducing traffic risks and improved traffic flow. Any increased disruption or disturbance during construction associated with the works would be temporary and, being mitigated by routine highways construction management practices, is unlikely to be significant for population health.</p> <p>The new section of the Sussex Border Path that would be created in advance of losing the existing route section is expected to be an improved experience for users. This is considered positive but unlikely to be significant for population health.</p>
5 A23 London Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>To accommodate the noise barrier there would be a loss of a strip of public open space along the boundary of Riverside Garden Park and the associated loss of mature trees and vegetation, which screen the A23. This has the potential to adversely affect population health, with the change influencing community identity, as well as the value of the open space in terms of physical and mental health. Most existing dwellings and most parts of the park continue to benefit from screening by mature vegetation in other parts of the park. The most affected routes in the park would be along the boundary with the A23, for which there are alternatives within</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	<p>the park. The park’s space losses would be mitigated by the provision of new open space. The noise barrier would both be a barrier to direct views of traffic and support the park’s longer-term amenity. As new planting matures, the visual impacts would lessen. The integrity of the park would be maintained and continue throughout to provide benefit to population health. Whilst a new minor adverse effect is likely, it is not considered to be a significant population health effect.</p> <p>The upgrading of the pedestrian and cycle link between North Terminal and Longbridge Roundabout is considered beneficial but not a significant effect on population health.</p> <p>The rerouting of the A23 footpath, which is currently partially within the park and partially along the road, to be fully within the park is considered to be an improved pedestrian experience, but not a significant change for population health. Whilst the surveillance from vehicles along the section previously along the A23 would cease, which is relevant to actual and perceived crime, that surveillance was for only part of the route and also involved a degree of road safety risk from close proximity to dual-carriageway traffic. The new park route would initially be in an area cleared of vegetation but would increase in amenity as the new planting matured. The new route may encourage increased active travel along this stretch due to the improved pedestrian experience.</p>
6 Longbridge Roundabout	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>The new improved junction would support reducing traffic risks and improved traffic flow. Any increased disruption or disturbance during construction associated with the works would be temporary and, being mitigated by routine highways construction management practices, is unlikely to be significant for population health.</p> <p>The segment of land along the River Mole that is accessed and partially cleared to allow the bridge construction adjoins Riverside Garden Park but is not publicly accessible. The change is neither expected to affect the open space related health benefits of the park, nor be a sufficient change in visual impact to affect population health.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
7 A23 Brighton Road	<p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR. Further explanation is provided below.</p> <p>Land lost to widening the A23 would be re-provided with new open space adjacent to Church Meadow. This re-provision, including its connectivity to Church Meadow, Riverside Garden Park, St Bartholomew's Church and the former Anderson Centre and Playing Fields is considered positive and suitable embedded mitigation.</p>
Overall changes in effects for the whole Project	<p>The effects described in the Summary and the Summary of Effects table in the PEIR chapter for this topic would not be different having taken into account the highway improvement changes.</p> <p>Whilst there are likely to be a range of additional contributing beneficial and adverse influences from the highway works, these are not expected to change the conclusions on the significance of effects on population health identified in the PEIR.</p>

Table 3.1.12: Agricultural Land Use and Recreation - Analysis of Significant Effects compared to the PEIR

Highway design changes	Analysis of Significant Effects compared to the PEIR
1 M23 Spur	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. The highway improvement changes would lead to the loss of an additional narrow strip of land on the fringe of three fields comprising approximately 1.5 hectares (ha) of agricultural land on the north side of the spur and approximately 0.25 ha of agricultural land within a single farm holding to the south of the spur. The productivity of the remaining areas of the impacted fields and wider holdings would not be affected by the additional small losses within these areas.</p> <p>Recreation</p> <p>Sussex Border Path</p> <p>2029</p> <p>The construction of the eastbound carriageway would require the temporary closure and diversion of the Sussex Border Path along the section running east from</p>

<p>Highway design changes</p>	<p>Analysis of Significant Effects compared to the PEIR</p>
	<p>Balcombe Road where retaining wall structures are to be constructed in close proximity to the path. An indicative diversion route, shown on Figure 2.3b and Figure 2.3c would be provided and would run northwards along Balcombe Road before heading eastwards along Haroldsea Drive to join the existing public rights of way network.</p> <p>The Sussex Border Path is a long-distance route and therefore many users walk considerable distances when using it. However, the diversion route would require users to walk an additional distance of more than 500 m. It is therefore assessed that the required temporary closure and diversion would have a temporary high magnitude of impact on a receptor of medium sensitivity. The effect of the construction on this section of the Sussex Border path is therefore assessed to be of temporary Moderate Adverse significance which is significant in EIA terms. This would therefore be a new significant effect compared to the PEIR.</p> <p>2032</p> <p>At the end of the highways construction phase the Sussex Border path would be reinstated along or in close proximity to its existing alignment on the north side of the M23 spur. No further new or materially different significant effects on recreation are identified during the highways operation as a result of this change compared to those reported in the PEIR.</p>
<p>2 South Terminal Roundabout</p>	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. The area of agricultural land affected to the north of South Terminal Roundabout has been reduced as part of the design changes.</p> <p>Recreation</p> <p>Sussex Border Path</p> <p>As for the design change 1 M23 Spur above the effect of the construction on the section of the path east of Balcombe Road is assessed to be of temporary Moderate Adverse significance which is significant in EIA terms. This would therefore be a new significant effect compared to the PEIR.</p>
<p>3 Airport Way</p>	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. No additional agricultural land would be affected.</p>

<p>Highway design changes</p>	<p>Analysis of Significant Effects compared to the PEIR</p>
	<p>Recreation</p> <p>Sussex Border Path and Public Rights of Way</p> <p>2029</p> <p>The widening of Airport Way over the railway and widening of the embankment on the south side of Airport Way would require temporary closures of the Sussex Border path to the west of the railway and public footpath 360/360Sy to the east of the railway during these works. Additional temporary significant environmental effects on recreation are therefore identified as a result of these works.</p> <p>When the Sussex Border Path would be subject to temporary closure in this location, it is proposed that a diversion (described from south to north) would be available via National Cycle Route 21 on the southern side of the A23 close to Car Park B, north through Riverside Garden Park to join the Millennium Path which heads eastwards alongside The Crescent to rejoin the Sussex Border path (public footpath section 362 located to the north of Airport Way).</p> <p>When public footpath 360/360Sy would be subject to temporary closure a diversion would be available (described from south to north) either:</p> <ul style="list-style-type: none"> ▪ via public footpath 355 Sy/National Cycle Route 21 and public footpaths 355/1Sy and 355a (Sussex Border Path), to rejoin the route at the junction with public footpath 362a at the pedestrian bridge over the railway; or, if the Sussex Border Path is also closed; ▪ via public footpath 355Sy. National Cycle Route 21 through Riverside Garden Park to join the Millennium Path which heads south east alongside The Crescent to rejoin the route at the junction with public footpath 362a. <p>These indicative diversion routes are shown on Figure 2.3d. The diversion of these routes as indicated through the Riverside Garden Park and along the Millennium Path to rejoin the existing network to the north of the railway would require users to walk in excess of an additional 500 m. It is therefore assessed that during the construction period these temporary closures would result in a temporary high magnitude of impact on receptors of medium sensitivity. The effect of the construction of this section on the Sussex Border Path and public rights of way is therefore assessed to be of temporary Moderate Adverse significance which is significant in EIA terms. This would therefore be a new significant effect compared to the PEIR.</p> <p>National Cycle Route 21</p> <p>The widening of Airport Way over the railway and widening of the embankment on the south side of Airport Way would require temporary closure of National Cycle</p>

<p>Highway design changes</p>	<p>Analysis of Significant Effects compared to the PEIR</p>
	<p>Route 21 through the underpass between Riverside Garden Park to the north and Gatwick Airport to the south during these works. New, temporary significant environmental effects on National Cycle Route 21 are identified as a result of these works.</p> <p>It is proposed that a diversion of National Cycle Route 21 would be provided during the temporary closure of the route and the indicative diversion route is shown on Figure 2.3a. From south to north the diversion would run from the junction with the Sussex Border Path (section 355/1Sy) to the south of Airport Way and head north along the route of the Sussex Border path to the pedestrian bridge over the railway. From here, cyclists would head west towards The Crescent and then proceed north west along The Crescent to rejoin the National Cycle Route 21 close to the entrance to Riverside Garden Park.</p> <p>The diversion route would require works within Gatwick Airport to widen the existing route of the Sussex Border Path along this section of public footpath 355a which lies adjacent to the eastern side of the current car park B both to the north and south of the railway. It would require cyclists to dismount their bikes for the short section of the footpath between the pedestrian bridge over the railway and The Crescent (approximately 75 m) where the route is directly adjacent to residential properties.</p> <p>In this case there are limited options for the temporary substitution of the route of National Cycle Route 21 and it would be less convenient than the current route through Riverside Garden Park as cyclists would need to dismount for a short distance. The indicative diversion would increase the length of the route by between 250 and 500 m but it would maintain a route away from major highways using residential roads and the existing public rights of way network.</p> <p>The effect of the temporary closures and diversion of National Cycle Route 21 would therefore have a medium magnitude of impact on a receptor of high sensitivity. The effect of the construction on this section of the National Cycle Route 21 is therefore assessed to be of temporary Moderate Adverse significance which is significant in EIA terms. This would therefore be a new significant effect compared to the PEIR.</p> <p>2032</p> <p>At the end of the highways construction phase the public rights of way, including the Sussex Border Path and National Cycle Route 21 would be open along their existing alignments. No further new or materially different significant effects on</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	recreation are identified during the highways operation as a result of this changes compared to those reported in the PEIR.
4 North Terminal Roundabout	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. No additional agricultural land would be affected.</p> <p>Recreation</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Recreation. An existing section of the Sussex Border Path would be lost within the footprint of the highway construction but there is the opportunity to improve the experience of users with a more attractive permanent on-airport diversion. This diversion would be put in place prior to the commencement of construction works to maintain access along the Sussex Border Path during this phase of the Project.</p>
5 A23 London Road	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. No additional agricultural land would be affected.</p> <p>Recreation</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Recreation. The permanent loss of a strip of approximately 0.825 ha public open space along the southern edge of Riverside Garden Park would not adversely affect the integrity of this resource. This loss would be mitigated by the provision of new areas of public open space as shown in the PEIR located to the east of Riverside Garden Park in areas of existing Gatwick Car Park B which would serve the local community and whilst these would not be immediately contiguous with the park, they would be connected by a pedestrian link.</p>
6 Longbridge Roundabout	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. No additional agricultural land would be affected.</p> <p>Recreation</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Recreation.</p>

<p>Highway design changes</p>	<p>Analysis of Significant Effects compared to the PEIR</p>
<p>7 A23 Brighton Road</p>	<p>Agricultural Land Use</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Agricultural Land Use. No additional agricultural land would be affected.</p> <p>Recreation</p> <p>There would be no new or materially different significant effects as a result of this change compared to those reported in the PEIR for Recreation. New open space would be provided to the south west of Church Meadows equivalent to the area affected within Church Meadows, with links to the existing area of Riverside Garden Park, St Bartholomew's Church and the former Anderson Centre and Playing Fields.</p>
<p>Overall changes in effects for the Project</p>	<p>Recreation</p> <p>Sussex Border Path and Public Rights of Way</p> <p>2029 - 2032</p> <p>The widening of Airport Way over the railway and widening of the embankment on the south side of Airport Way would require temporary closures of the Sussex Border path to the west of the railway and footpath 360/360Sy to the east of the railway during these works. New temporary significant environmental effects on recreation are therefore identified as a result of these works compared to those reported in the PEIR.</p> <p>The diversion of these routes as indicated through the Riverside Garden Park and along the Millennium Path to rejoin the existing network to the north of the railway would require users to walk in excess of an additional 500 m. It is therefore assessed that during the construction period these temporary closures would result in a temporary high magnitude of impact on receptors of medium sensitivity. The effect of the construction of this section on the Sussex Border Path and public rights of way is therefore assessed to be of temporary Moderate Adverse significance which is significant in EIA terms and a new significant effect compared to the PEIR.</p> <p>National Cycle Route 21</p> <p>The widening of Airport Way over the railway and widening of the embankment on the south side of Airport Way would require temporary closure of National Cycle Route 21 through the underpass between Riverside Garden Park to the north and Gatwick Airport to the south during these works.</p>

Highway design changes	Analysis of Significant Effects compared to the PEIR
	The effect of the temporary closures and diversion of National Cycle Route 21 would therefore have a medium magnitude of impact on a receptor of high sensitivity. The effect of the construction on this section of the National Cycle Route 21 is therefore assessed to be of temporary Moderate Adverse significance which is significant in EIA terms and a new significant effect compared to the PEIR.

4 Conclusion

4.1. Key preliminary environmental information updates

4.1.1 There are new and materially different significant environmental effects identified for the topics of Landscape, Townscape and Visual Resources and Agricultural Land Use and Recreation as a result of the highway improvement changes compared to those reported in the PEIR. Further mitigation measures are identified, where applicable, that would potentially minimise the new significant effects and materially different significant effects identified.

4.1.2 No new or materially different significant environmental effects as a result of the highway improvement changes compared to those reported in the PEIR are identified for the following topics:

- Historic Environment
- Ecology
- Geology and Ground Conditions
- Water Environment
- Traffic and Transport
- Air Quality
- Noise and Vibration
- Climate Change
- Socio-economics
- Health and Wellbeing





5 Glossary

5.1. Glossary of Terms

Term	Description
DCO	Development Consent Order
EIA	Environmental Impact Assessment
GAL	Gatwick Airport Limited
GHG	Greenhouse Gas
PAOC	Potential Area of Concern
PEI	Preliminary Environmental Information
PEIR	Preliminary Environmental Information Report
WFD	Water Framework Directive

Figures

KEY

-  PEIR boundary
-  Additional temporary land
-  Additional permanent land
-  Reduced land requirement



DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

DRAWING TITLE

Plan showing proposed changes to the Highways Improvements: Overview

DATE

June 2022

ORIENTATION



DRAWING NO.
FIGURE 2.1a

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For Updated PEI Issue





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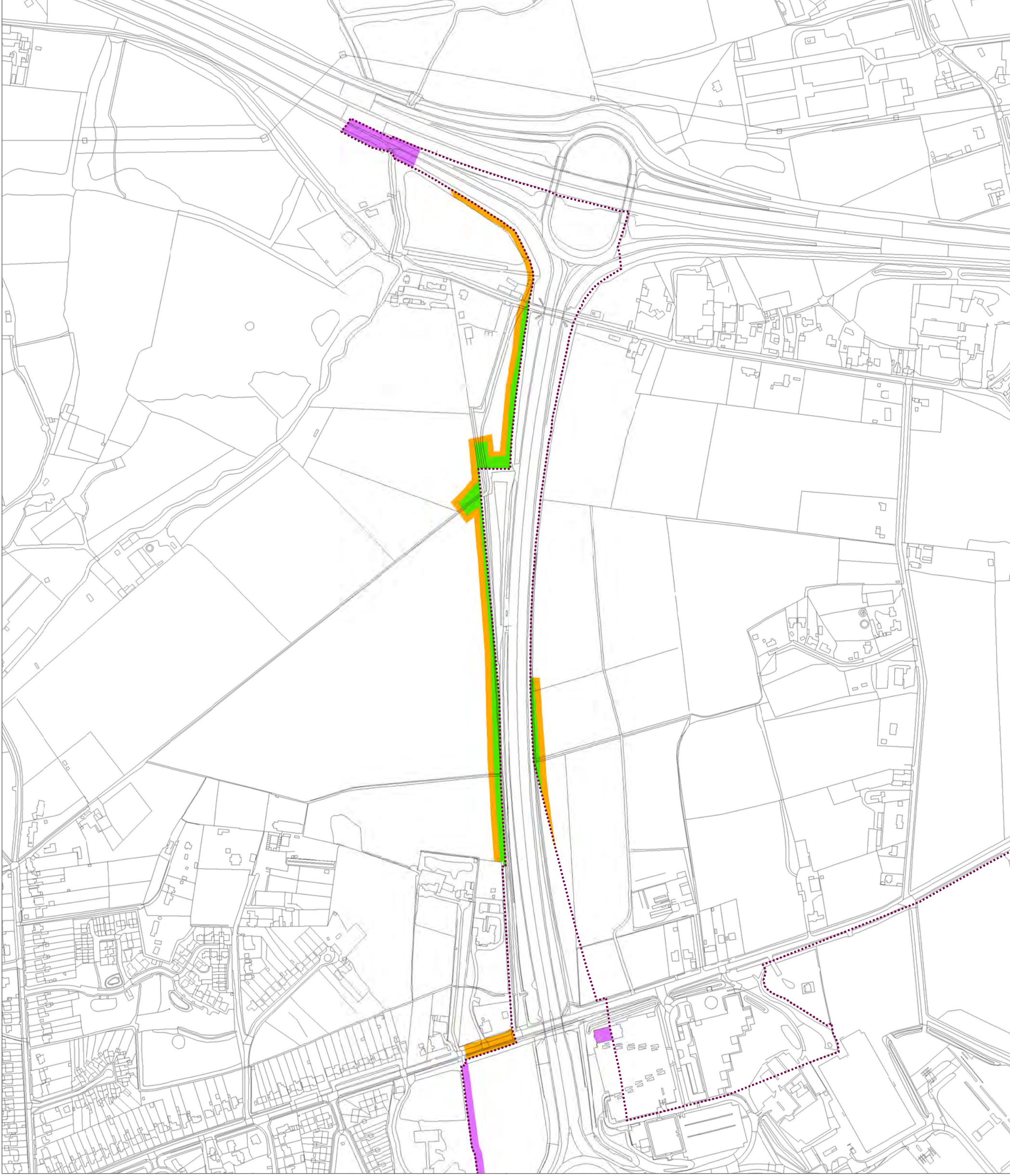


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KEY

-  PEIR boundary
-  Additional temporary land
-  Additional permanent land
-  Reduced land requirement



DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

Plan showing proposed changes to the Highway Improvements:
1 M23 Spur

DATE

June 2022

ORIENTATION



DRAWING NO.
FIGURE 2.1b

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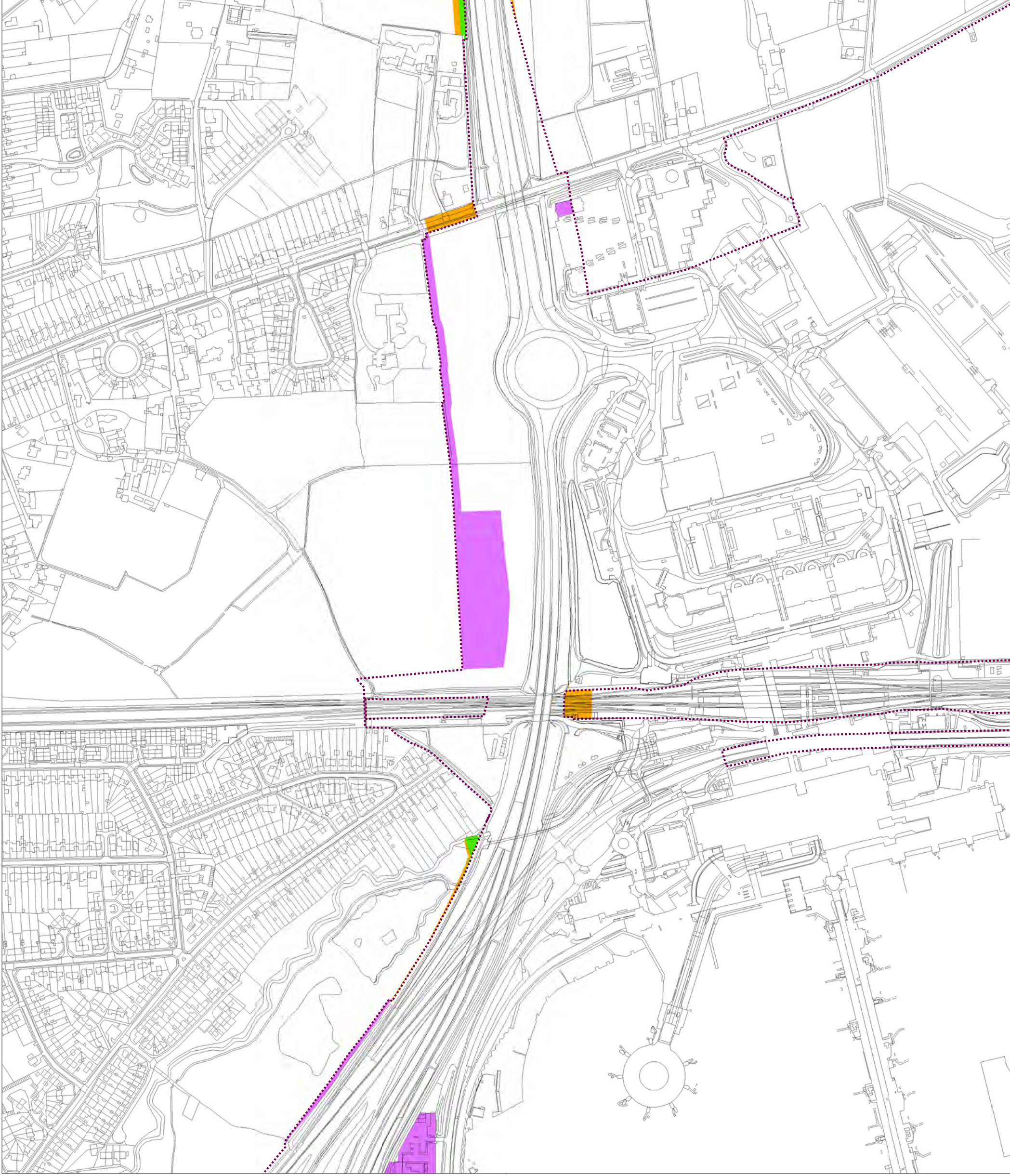


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KEY

- PEIR boundary
- Additional temporary land
- Additional permanent land
- Reduced land requirement



DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

DRAWING TITLE

Plan showing proposed changes to the Highways Improvements:
2 South Terminal Roundabout and 3 Airport Way

DATE

June 2022

ORIENTATION



DRAWING NO.

FIGURE 2.1c

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For Updated PEI issue

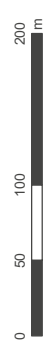
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KEY

-  PEIR boundary
-  Additional temporary land
-  Additional permanent land
-  Reduced land requirement



DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

Plan showing proposed changes to the Highways Improvements:

- 4 North Terminal Roundabout, 5 A23 London Road, 6 Longbridge Roundabout and 7 A23 Brighton Road

DATE

June 2022

ORIENTATION



REVISION

For Updated PEI issue

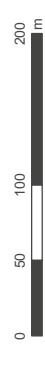
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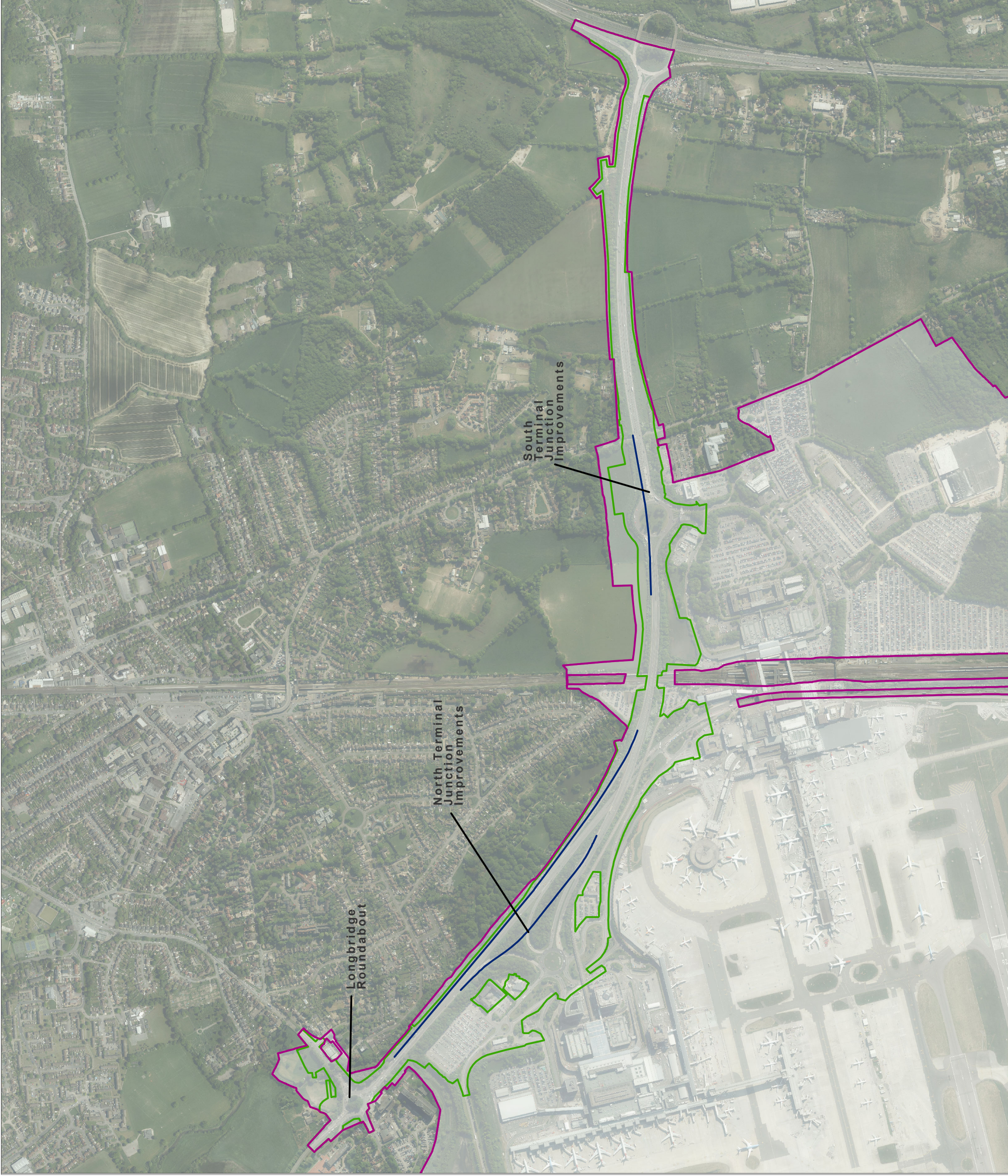


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KEY

- Project Site Boundary
- Proposed highways improvement works
- Indicative noise barriers



DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

DRAWING TITLE

Plan showing part of the revised Project Site Boundary

DATE

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ORIENTATION



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FIGURE 2.2

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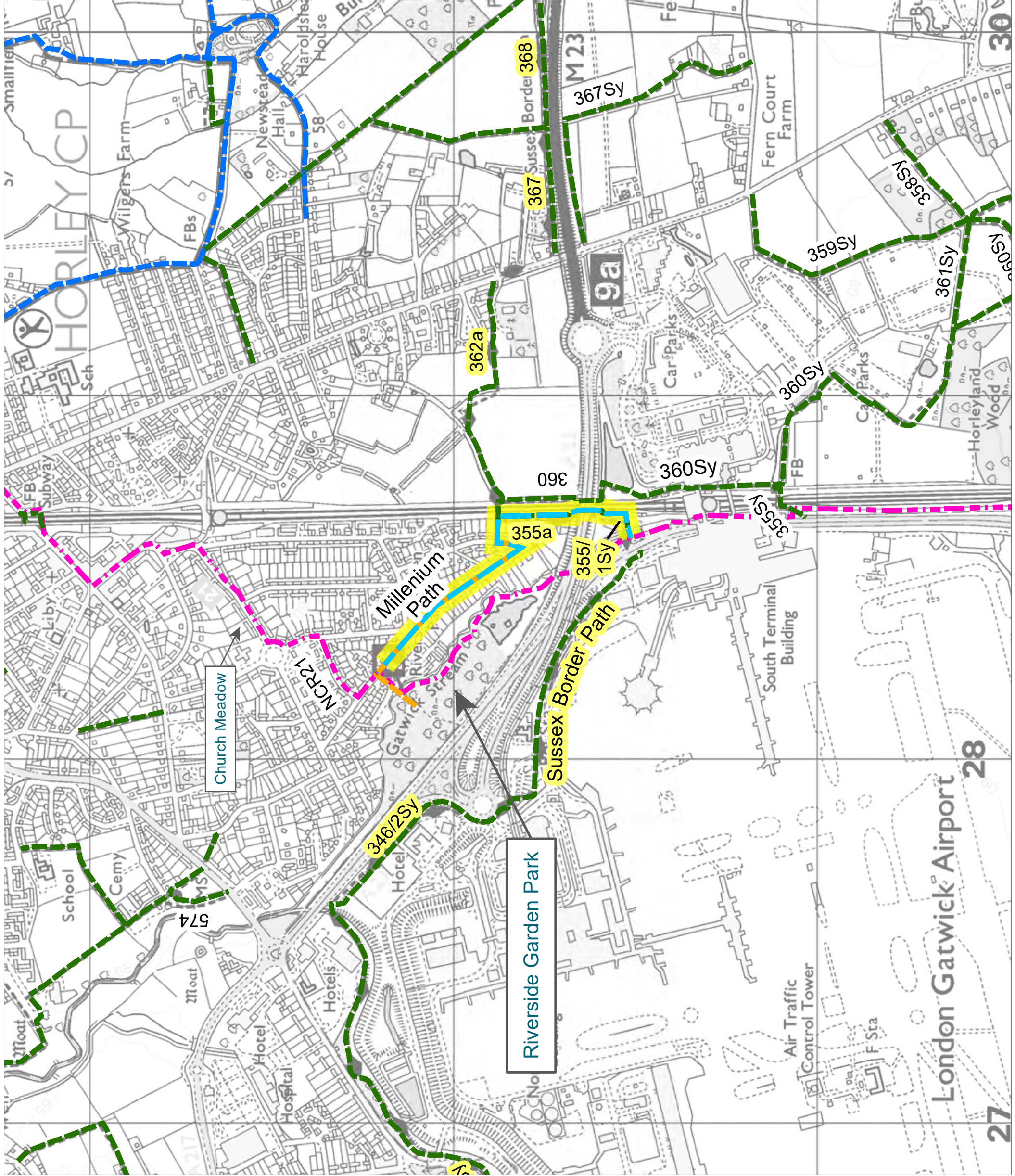


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KEY

-  Bridleway
-  Footpath
-  Other route
-  National Cycle Route 21 (NCR21)
-  Indicative Footpath Diversions



Riverside Garden Park

Millenium Path

Sussex Border Path

Church Meadow

Sussex Border Path - footpath numbers highlighted in yellow form part of this route.

DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

DRAWING TITLE

Indicative Public Rights of Way and National Cycle Route 21 diversion routes: National Cycle Route 21 diversion

DATE

June 2022

ORIENTATION



DRAWING NO.

FIGURE 2.3a

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For Updated PEI Issue

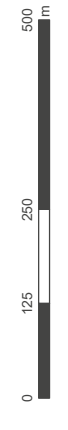
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KEY

- Bridleway
- Byway
- Footpath
- Other route
- National Cycle Route 21 (NCR21)
- Indicative Footpath Diversions

Sussex Border Path - footpath numbers highlighted in yellow form part of this route.

DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

DRAWING TITLE

Indicative Public Rights of Way and National Cycle Route 21 diversion routes: M23 Sussex Border Path diversion

DATE

June 2022

ORIENTATION



DRAWING NO.
FIGURE 2.3c

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For Updated PEI Issue

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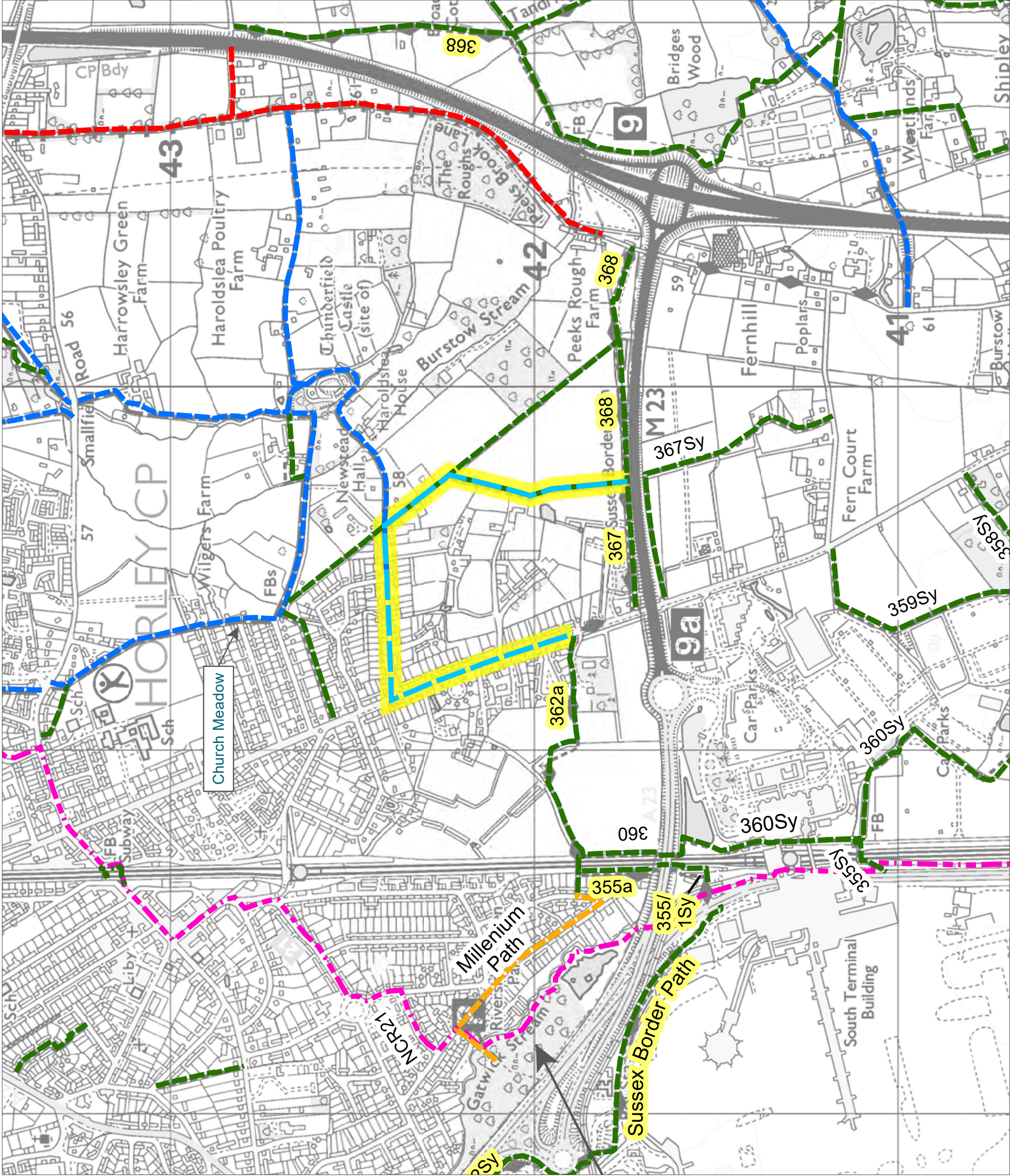
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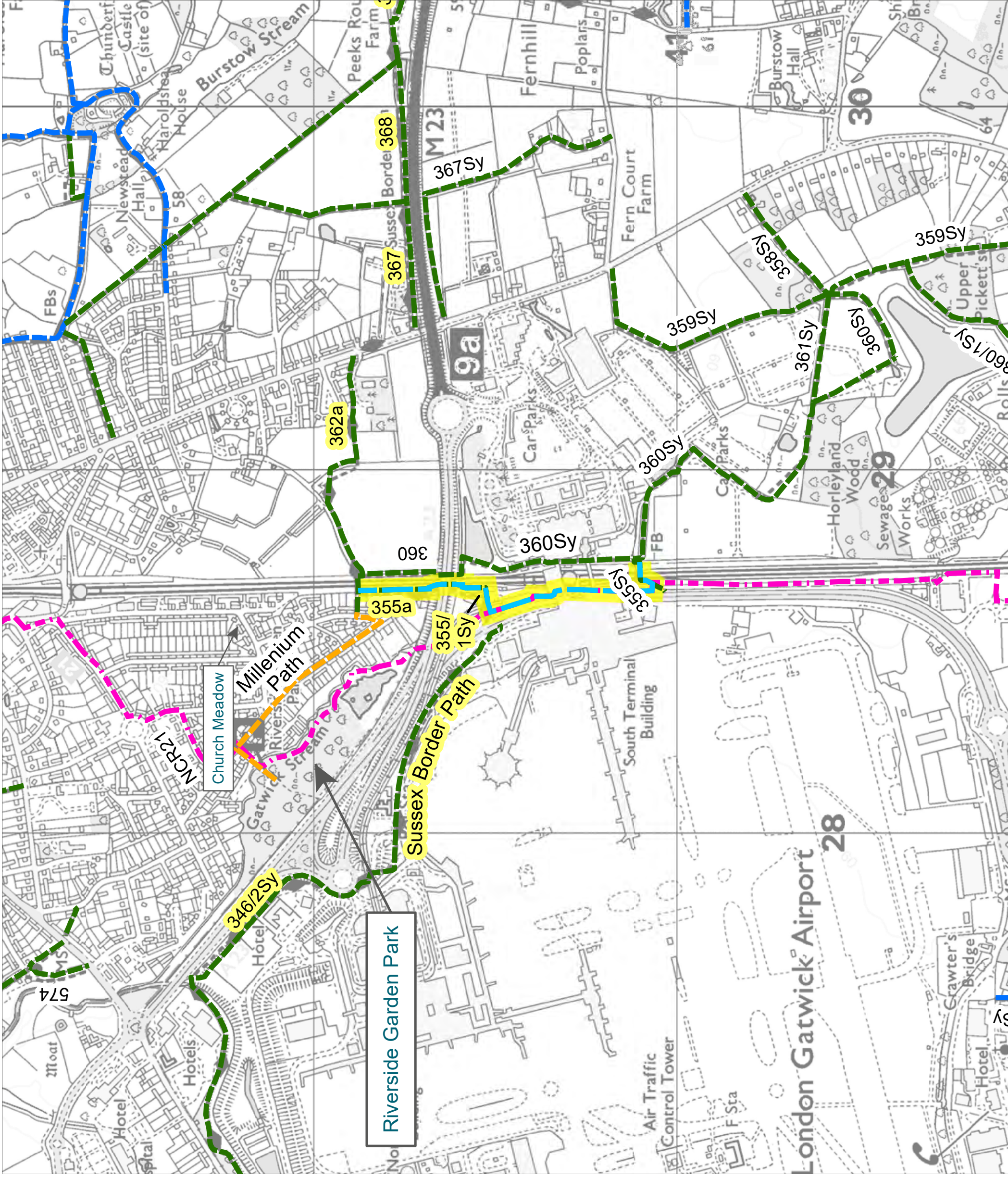
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KEY

-  Bridleway
-  Footpath
-  Other route
-  National Cycle Route 21 (NCR21)
-  Indicative Footpath Diversions



Sussex Border Path - footpath numbers highlighted in yellow form part of this route.

DOCUMENT

Updated Preliminary Environmental Information as a Result of the Highway Improvement Changes

DRAWING TITLE

Indicative Public Rights of Way and National Cycle Route 21 diversion routes: Public Footpath 360/360Y diversion

DATE

June 2022

ORIENTATION

FIGURE 2.3d

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