
# Gatwick Airport Northern Runway Project

## Environmental Statement
## Chapter 5: Project Description – Tracked Version

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## Table of Contents



## Tables



## Figures



## Appendices

# 5 Project Description

## 5.1. Introduction

5.1.1 This chapter provides a description of the Gatwick Northern Runway Project (the "Project") and forms the basis for the environmental assessment provided in this Environmental Statement (ES).

5.1.2 **ES Chapter 1: Introduction** [APP-026] explains the purpose and structure of the ES and **ES Chapter 2: Planning Policy Context** [APP-027] of the ES explains the planning policy context within which these proposals have been developed. **ES Chapter 3: Alternatives Considered** [APP-028] describes the process which Gatwick Airport Limited (GAL) has been through to consider alternative ways of delivering the Project outcomes and information about those alternatives considered in deciding to apply for the Project as described in this Chapter. **ES Chapter 4: Existing Site and Operation** [APP-029] describes the layout of the existing airport and explains how the airport currently operates.

5.1.3 In describing the proposals as considered in this ES and application, this chapter frequently makes reference to the information and context contained within **Chapters 1** to **4** of the ES. It describes the key components and the way in which GAL anticipates delivering the Project. A number of measures that would reduce or avoid adverse environmental effects form part of the Project design. Details of these measures are provided in this chapter and also set out in each topic chapter.

5.1.4 This chapter is structured as follows:

- Section 5.2 describes the components of the Project;
- Section 5.3 describes the anticipated construction process;
- Section 5.4 outlines operation and maintenance; and
- Section 5.5 provides information about decommissioning.

5.1.5 Further information about the Project can be found in the appendices to this chapter which are provided in **ES Volume 3: Appendices** [APP-071 to APP-216] and referenced throughout the text. These are:

- Appendix 5.2.1 Surface Access General Arrangement Plans [APP-076];
- Appendix 5.2.2 Operational Lighting Framework [APP-077];
- Appendix 5.2.3 Mitigation Route Map ~~[APP-078]~~[REP2-011];
- Appendix 5.3.1 Buildability Report [APP-0808~~79~~ to APP-081 and REP2-013];

- Appendix 5.3.2 Code of Construction Practice ~~(Doc Ref. 5.3)~~[REP4-007] and its Annexes [APP-084, APP-086~~3 to APP-087~~, REP2-015, REP3-020, REP3-022, REP3-024, REP3-026, REP4-009, REP4-011, REP5-020 and REP5-022];
- Appendix 5.3.3 Indicative Construction Sequencing [APP-088];
- Appendix 5.3.4 Major Accidents and Disasters [APP-089];
- Appendix 5.4.1 Surface Access Commitments ~~[APP-090]~~[REP3-028]; and
- Appendix 5.4.2 Carbon Action Plan [APP-091].

## 5.2. The Project

5.2.1 The Project proposes to make best use of Gatwick Airport's existing runways and infrastructure through repositioning the existing northern runway, along with lifting the current restrictions on its use, to enable dual runway operations. The Project includes airfield works and the development of a range of infrastructure and facilities to accommodate an increase in aircraft movements and airport passenger numbers, together with surface access elements to provide additional processing capability and improved airport access. Land is proposed as part of the Project to be used to mitigate environmental effects (for example, for habitat creation, flood compensation or provision of recreational routes and public open space).

5.2.2 As an overview, the Project includes the following key works components:

- repositioning of the existing northern runway 12 metres north (measured from the centreline of the existing northern runway);
- airfield works including repositioning and resurfacing of existing and constructing new taxiways, aircraft stands and an access track between the two runways;
- works to airfield support facilities including constructing a new pier, constructing and reconfiguring of aircraft stands, works to power facilities, and relocating the fire training ground and the Centre Area Recycling Enclosure (CARE) facility;
- works and extensions to the existing airport terminals (north and south);
- works to existing and construction of new hotels and offices;
- works to existing and construction of new car parks;
- surface access improvements, including active travel improvements and works to the M23 spur, the A23 London Road, Longbridge Roundabout, and the terminal roundabouts and forecourts;
- water treatment works and surface water and foul water improvements; and

- environmental mitigation works including establishing habitat enhancement areas, flood compensation areas and areas of replacement open space.

5.2.3 The accompanying **Project Description Signposting Document** ~~[AS-137]~~ (Doc Ref. 8.7) identifies the relevant works numbers for the key works components in Schedule 1 of the **Draft Development Consent Order** (DCO) (Doc Ref. 2.1) and signposts to the corresponding ES Figure and paragraphs in this ES Chapter.

5.2.4 The land subject to the application for development consent extends to approximately 735 hectares. The Project site boundary is shown on **ES Figure 1.2.1** contained in **ES Introduction Figures** [APP-047]. Following the consultations in 2021 and 2022, this area has been reduced in size from approximately 820 hectares (in the 2021 consultation) as some areas are no longer considered required for the Project. Areas removed from the Project site boundary include third party land west of Museum Field and on the periphery of the airport and also areas of woodlands and ecological sites including:

- areas of Ancient Woodland (Brockley, Pickets and Horleyland Woods);
- other parcels and stretches of woodland in the area east of the railway line and along the southern boundary; and
- large parts of GAL's two biodiversity action plan areas along the River Mole Corridor and to the south east of the airport, where these are not required for the Project.

5.2.5 Further detail about changes to the Project that have been made following consultation and engagement with the public and stakeholders is set out within the technical chapters and the **Consultation Report** [APP-218 to APP-244].

5.2.6 The proposed location of the key works components proposed as part of the Project are shown on the **ES Project Description** (Figures 5.2.1, sheets a – h) ~~[AS-135]~~ (Doc Ref. 5.2) as follows:

- Figure 5.2.1a: Proposed Airport Works;
- Figure 5.2.1b: Proposed Car Parks;
- Figure 5.2.1c: Proposed Hotels and Offices;
- Figure 5.2.1d: Proposed Surface Access Improvements (not including highways);
- Figure 5.2.1e: Proposed Surface Water and Foul Water Improvements;
- Figure 5.2.1f: Proposed Temporary Construction Compounds;
- Figure 5.2.1g: Proposed Environmental Mitigation Areas; and
- Figure 5.2.1h: Existing Facilities Proposed to be Demolished or Removed.

5.2.7 The proposed location of and further details on the proposed highway improvements outside of the airport are provided in **ES Appendix 5.2.1: Surface Access General Arrangement Plans** [APP-076].

5.2.8 Further details on the key works components proposed as part of the Project are provided below from paragraph 5.2.17 onwards.

### DCO Works Numbers

5.2.9 The Project contains some works which include parameters and limits of deviation which allow designs to be assessed on a reasonable worst case basis considering the potential scale, function and construction and operational resource requirements. This chapter and the associated figures show these parameters and the designs which have informed the ES.

5.2.10 To retain necessary flexibility in the final design, maximum parameters for height and extent have been defined and used in this assessment of environmental effects to ensure a reasonable worst case has been assessed. The use of parameters in EIA is an accepted approach and is further described in **ES Chapter 6: Approach to Environmental Assessment** [APP-031].

5.2.11 Further assumptions and methods to ensure a reasonable worst case scenario is considered are provided in each topic chapter to this ES where relevant.

5.2.12 Schedule 1 of the **Draft DCO** (Doc Ref. 2.1) provides a description of works for which development consent is sought (referred to as the 'authorised development').

5.2.13 Each of the key works components of the authorised development is attributed a work number ('Work No.'). The Work No. should be read alongside the **Works Plans - For Approval** ~~[AS-017]~~(Doc Ref. 4.5) which are set out at Schedule 4 of the **Draft DCO** (Doc Ref. 2.1) which define the location of the authorised development and the **Parameter Plans - For Approval** (Doc Ref. 4.7) ~~[APP-019]~~ which define any limits of deviation.

5.2.14 The maximum extent and area of each Work No. are shown on the **Works Plans - For Approval** ~~[AS-017]~~ (Doc Ref. 4.5) and **Parameter Plans - For Approval** ~~[APP-019]~~(Doc Ref. 4.7); with the approximate level of the finished works, the height of the structure (m) and/or maximum parameter height within which this Work would be undertaken described in the corresponding text in this chapter. These maximum extents for each Work No. are also described in Schedule 2 of the **Draft DCO** (Doc Ref. 2.1).

5.2.15 The key works components of the Project and corresponding works numbers are set out in the **Project Description Signposting Document** ~~[AS-137]~~(Doc Ref. 8.7), together with signposting to the relevant ES Figure and paragraphs in this Chapter.

5.2.16 Schedule 1 of the **Draft DCO** (Doc Ref. 2.1) also includes a provision which sets out a number of minor works that are common to a number of work packages, under the heading "Other Associated Development". These include works such as landscaping and drainage, establishment of construction compounds, vegetation clearance, works to trees, shrubs and hedges and utilities installation.

### Project Components

5.2.17 The following key works components of the Project are described in the following sections:

- repositioning of the existing northern runway;
- airfield works;
- airfield support facility;
- terminal works;
- hotels and offices;
- car parks;
- Surface access;
- water management; and
- environmental mitigation.
- public rights of way strategy;
- appearance and design;
- operational lighting; and
- other mitigation (other embedded mitigation measures that are part of the Project).

### Repositioning of the existing northern runway

5.2.18 The proposals in this application have been developed to enable the existing northern runway to be used alongside the existing main runway. Once operational, the Project would generally result in:

- all arriving aircraft using the existing main runway during normal operations;
- shared departures between the existing main runway and the northern runway (with mainly smaller aircraft using the northern runway); and

- controlled dependency between the two runways to enable safe operations, including crossing of the northern runway by arriving aircraft[1].

5.2.19 The northern runway could be used for both arrivals and departures in circumstances when the main runway is closed, for example during periods of maintenance, in line with current practice.

5.2.20 It is anticipated that by 2047 (the long term forecast year) this could increase Gatwick Airport's passenger throughput to approximately 80.2 million passengers per annum (mppa), compared to a maximum potential passenger throughput in the absence of the Project (with future baseline projects) of 67.2 mppa. Commercial ATMs for 2047 would be 386,000 compared to 326,000 in the absence of the Project. This represents an anticipated increase in capacity of approximately 13 mppa and 60,000 commercial ATMs (see **ES Chapter 4: Existing Site and Operation** [APP-029] for further details).

5.2.21 The existing northern runway is designated 08L/26R such that when the wind is from the east, aircraft approaching the runway operate on a heading of 80°, while when the wind is from the west, aircraft operate on a heading of 260° (see **ES Chapter 4: Existing Site and Operation** [APP-029] for further details). The runway is currently and will remain a non-instrument runway[2], measuring approximately 2.6km in length and 45 metres in width.

5.2.22 The existing northern runway would be adjusted to reposition the centreline 12 metres further north to ensure a separation distance of 210 metres between it and the main runway. This distance is required to meet European Aviation Safety Agency standards for closely spaced parallel runways. The repositioned northern runway would retain a width of approximately 45 metres, plus 7.5 metre wide shoulders. The location of the repositioned northern runway is shown in pink on **ES Figure 5.2.1a** ~~[AS-135].~~(Doc Ref. 5.2).

5.2.23 The redundant 12 metre strip of hardstanding to the south of the repositioned northern runway would be removed and returned to grass. The 33 metre wide section of retained existing runway, together with the new 12 metre strip to the north, would be resurfaced and provided with new markings to form the repositioned northern runway. There would be no change to the overall length of the runway (being 2.6km).

[1] Controlled dependency: to ensure the safety of aircraft operations, an arrival from the main runway would slow or stop short of the northern runway and cross it only after a departure on the northern runway has completed.
[2] A non-instrument runway is one where the pilot is reliant on visual cues (approach and runway lighting, approach path indicators, and paint markings) to make a safe approach and landing to the airport. If the visual cues are not visible to the pilot owing, for example, to fog on the runway or a very low cloud base, then the aircraft may have to hold until conditions improve or divert to an alternate airport. A non-instrument runway is not equipped with an Instrument Landing System but can still be used for low-visibility departures.

5.2.24 The works to reposition the existing northern runway is included as Work No. 1 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Airfield works

#### Runway access track

5.2.25 A new runway access track is proposed between the main runway and the repositioned northern runway in order to allow aerodrome inspections and for other management/maintenance purposes (shown as a blue line on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)). The runway access track is proposed to be surfaced with grasscrete, suitable for use by light vehicles.

5.2.26 The runway access track is included as Work No. 2 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

#### Taxiways

5.2.27 A number of existing taxiways would require works to accommodate the repositioning of the existing northern runway, to provide sufficient room for the safe manoeuvring of aircraft associated with both runways and to accommodate increased aircraft numbers. Redundant areas of hardstanding would be removed as shown in dotted red on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.28 Taxiway works are included as Work No. 4 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1), with further detail on proposed works to each taxiway provided below.

#### Taxiway Juliet

5.2.29 The existing Taxiway Juliet would require an increased separation distance from the repositioned northern runway to allow aircraft to use this taxiway independently of the northern runway operations. There are three components to the repositioning and resurfacing of Taxiway Juliet, in that:

- The western part of Taxiway Juliet (Taxiway Juliet West) would be repositioned approximately 27 metres to the north of its existing position to allow for the movement of large (Code F) aircraft[3].
- The eastern part of Taxiway Juliet (Taxiway Juliet East) between Taxiways Uniform and Sierra would be repositioned approximately 19.5 metres to the north. This would allow for the movement of Code E aircraft along this section of taxiway independently of northern runway operations.
- The eastern part of Taxiway Juliet (Taxiway Juliet East) between Taxiways Sierra and Quebec would be realigned by approximately 14.5 metres to the

[3] Details of aircraft categories are provided in ES Chapter 4: Existing Site and Operation [APP-029].

north and widened by 8 metres to allow for the movement of Code E aircraft independently of the northern runway operations.

5.2.30 In addition, a new spur (known as the Taxiway Juliet West Spur) would be provided to the north of the taxiway to provide a passing lane for taxiing aircraft and to allow air traffic control to effectively sequence aircraft for departure on the main and northern runways during easterly operations.

5.2.31 The proposed repositioned Taxiway Juliet and new Taxiway Juliet West Spur are shown in light blue and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

### Taxiways Lima and Tango

5.2.32 Works to the existing Taxiways Lima and Tango are proposed to create independence in routing to and from the repositioned northern runway for large aircraft.

5.2.33 It is proposed to resurface and extend the existing Taxiway Lima westward, towards the existing Taxiway Uniform, providing a route suitable for larger Code E and Code F aircraft. The extension would be 23 metres in width and approximately 300 metres in length. This would require some work to the pavement (hardstanding) of the existing Taxiway Uniform as well as changes to aircraft stands (see paragraph 5.2.51).

5.2.34 A northern extension to Taxiway Tango is proposed to meet the extended Taxiway Lima, creating a taxiway for Code E aircraft, together with its resurfacing. The extension would be 23 metres in width and approximately 85 metres in length, and connect to the proposed 'Oscar' Area (see paragraph 5.2.52).

5.2.35 The proposed extended Taxiways Lima and Tango are shown in light blue and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

### Taxiways Whiskey, Victor and Zulu

5.2.36 Taxiways Whiskey, Victor and Zulu would be resurfaced to accommodate Code E aircraft. This would involve the provision of new pavements and would largely be located within the area occupied by the existing taxiways but would require an additional area to the north of Taxiway Zulu to accommodate wider body aircraft.

5.2.37 The resurfaced taxiways are shown in light blue and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~ (Doc Ref. 5.2).

### Exit/Entrance Taxiways

5.2.38 Works to reposition and resurface nine exits/entrance taxiways between the northern runway and Taxiway Juliet are proposed to allow aircraft to move from the repositioned northern runway to Taxiway Juliet and to access the repositioned northern runway for departure. They would each have a footprint of approximately 2,000 $m^2$. Two existing exit/entrance taxiways would be removed and one exit/entrance taxiway would be substantially modified, comprising a change in the geometry to enable aircraft turning.

5.2.39 Works to reposition and resurface six exit/entrance taxiways between the repositioned northern runway and the main runway are proposed to allow aircraft to access and egress the main runway, and to allow aircraft to be held before crossing the repositioned northern runway, under the direction of air traffic control. Each taxiway would have a footprint of approximately 5,000 $m^2$.

5.2.40 For the first exits between the repositioned northern runway, the main runway and Taxiway Juliet in either runway direction the actual footprint would be located within 100 metres either side of the indicative position shown as solid green on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2). The limits of these development envelopes are shown as a dashed green line on **ES Figure 5.2.1a**. This flexibility is required to enable the precise location to reflect the relevant regulations and requirements at the time.

5.2.41 Once the works are complete, seven exit/entrance taxiways would connect the main runway to the repositioned northern runway (five of which would operate when the runway operates as 26R and two would operate when the runway operates as 08L). An eighth taxiway would provide an exit from the main runway to the End Around Taxiway West, described in paragraph 5.2.43 below.

5.2.42 On **ES Figure 5.2.1a** ~~[AS-135]~~ (Doc Ref. 5.2) the modified entrance/exit taxiway is shown in hatched green, unaffected entrance/exit taxiways are shown in dark grey, and repositioned and resurfaced entrance/exit taxiways are shown in light green.

### End Around Taxiways

5.2.43 Works are required to provide end around taxiways (at each end of both runways) to allow large aircraft to exit and cross beyond the end of the runway, under the direction of air traffic control. In addition, they would provide an alternative route for all aircraft to leave the runways in case of any issue preventing the use of exit taxiways.

5.2.44 The proposed works to provide end around taxiways would comprise the following:

- End Around Taxiway West: a new end around taxiway linking the repositioned Taxiway Juliet to the main runway. This would allow aircraft landing on the main runway to connect to Taxiway Juliet without affecting the northern runway operations when aircraft are operating on a heading of 260° (footprint of approximately 30,000 $m^2$); and
- End Around Taxiway East: a new end around taxiway would connect from the main runway to the existing Taxiway Yankee, and then onto Taxiway Victor. It would have a footprint of approximately 35,000 $m^2$ and allow aircraft landing on the main runway to avoid affecting northern runway operations when aircraft are operating on a heading of 80°.

5.2.45 The new end around taxiways are shown in dark green on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

### Aircraft Holding Area

5.2.46 Works are proposed to an existing apron area to the north of Taxiway Juliet (referred to as the "Aircraft Holding Area"). This would include reconfiguration of the existing aircraft stands (known as the 130s/140s stands), removal of the Airside Operations Building and pumping station 17, and relocation of de-icer storage tanks and substations BP and BR. This new configuration is known as the "Charlie Box" and would provide new operational aircraft hold points which allow aircraft to be held just prior to accessing the northern runway to optimise runway occupancy efficiency and remove aircraft from busy taxiways. The aircraft holding area (Charlie Box) would include new taxiways across the existing apron area, including:

- four routes for Code E aircraft linking Taxiway Kilo and the repositioned northern runway;
- an east-west taxi route for Code C aircraft to allow independent access/egress from all positions; and
- two routes for Code C aircraft with a Code F taxi lane on Taxiway Kilo to link with taxiways Papa and Quebec and provide alternative routing for Code F aircraft to the runway.

5.2.47 The aircraft holding area (Charlie Box) would occupy an area of approximately 15 hectares and is shown in orange hatching on **ES Figure 5.2.1a** ~~[AS-135].~~(Doc Ref. 5.2).

### Piers

5.2.48 GAL currently operates six piers at Gatwick Airport, namely Piers 1, 2 and 3 at the South Terminal and Piers 4, 5 and 6 at the North Terminal.

5.2.49 A western extension to Pier 6 has been permitted separately to the Project and is included as part of the future baseline for the Project (see section 4.4 of **ES Chapter 4: Existing Site and Operation** [APP-029]). Construction on the extension started in 2019 and work was paused in 2020 due to the COVID-19 pandemic and is expected to resume in 2024 and be complete by 2026. The Pier 6 extension is shown on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2) in dotted yellow.

5.2.50 As part of the Project, a new pier (Pier 7) is proposed to the north west of Pier 6. The proposed Pier 7 building is shown in purple on **ES Figure 5.2.1a** (Doc Ref. 5.2) ~~[AS-135]~~ and would consist of three floors, including an autonomous vehicle station (at ground level), together with limited commercial facilities at the first floor level. It is proposed that passengers would access the new pier via autonomous vehicles from new stations provided at the North and South Terminal buildings (see paragraphs 5.2.106 to 5.2.109). The pier would occupy an area of approximately 10.1 hectares (101,000 $m^2$), with a maximum building height of 18 metres. The apron to the south of Pier 7 would provide new aircraft stands (14 Code C/9 Code E) (see section 4.2 of **ES Chapter 4: Existing Site and Operation** [APP-029]).

### Aircraft Stands

5.2.51 In addition to the new Pier 7, works are proposed to remove, reconfigure and construct new aircraft stands to allow for the necessary flexibility to handle different aircraft types. The areas for the proposed new aircraft stands shown in orange and orange hatching and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.52 The proposed works to aircraft stands include:

- construction of a new area (referred to as the 'Oscar' area) comprising eight remote aircraft stands in the existing area to the north of Taxiway Juliet and south of proposed Pier 7;
- reconfiguration of existing stands to accommodate proposed Pier 7;
- reconfiguration of existing remote aircraft stands to allow for the extended Taxiway Lima and removal of aircraft stand 152;
- conversion of three existing aircraft stands located to the west of Pier 3 to Code C fully serviced overnight aircraft parking/remote aircraft stands.

Conversion would include the installation of fuel hydrants, fixed electric ground power, lighting and stand entry guidance system;
- construction of one new aircraft stand north-east of the existing Hangar 7;
- removal and reduction of existing stands to allow for relocation of Taxiway Juliet East; and
- construction of 14 new aircraft stands north of Taxiway Lima.

5.2.53 Table 5.2.1~~Table 5.2.1~~~~Table 5.2.1~~ sets out the number of aircraft stands that would exist at Gatwick Airport with the Project proposals.

**Table 5.2.1: Number of Proposed Aircraft Stands**

| Type | Number of Stands |
|---|---|
| Code C stands (North Terminal) | 61 |
| Code C stands (South Terminal) | 38 |
| Code C stands (remote) | 74 |
| Code E stands (North Terminal) | 24 |
| Code E stands (South Terminal) | 16 |
| Code E stands (remote) | 17 |
| Code F stands (North Terminal) | 1 |

5.2.54 Works to reconfigure aircraft stands are included within Work Nos. 3, 4, 5, 6 and 7 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Airfield Support Facilities

5.2.55 The following existing airfield support facilities would require reconfiguration or relocation (which would include demolition/removal) and the provision of replacement/additional facilities to accommodate the proposed changes to the airport:

- central area recycling enclosure (CARE) facility;
- motor transport facilities;
- grounds maintenance facilities;
- airfield surface transport facilities;
- rendezvous point north;
- emergency air traffic control tower and TCR Snowbase Building;
- cargo facilities;
- provision for aircraft engine ground running areas;
- fire training ground and satellite airport fire service provision;
- hangars;
- western noise mitigation bund; and
- internal access routes.

5.2.56 These are described further in turn below.

### CARE Facility

5.2.57 Operational waste from Gatwick Airport (both airside and landside[4]) is currently taken to the existing CARE facility located to the north of Taxiway Juliet (shown in turquoise on **Figure 4.2.1a** (Doc Ref. 5.2)). The existing CARE facility includes an existing waste processing building (including a biomass boiler), compound area extending to 2,600 $m^2$, materials recovery facility (MRF) and bin store covering a further 2,500 $m^2$. The existing CARE facility includes a food waste to heat capability, including a biomass boiler, however this is no longer in use as a significant decline in on-site organic food waste generated at the airport has rendered it ineffective without the continual use of supplementary diesel fuel to achieve sufficiently high temperatures. Organic waste is still collected separately at the airport and is then managed off-site via anaerobic digestion.

5.2.58 The Project proposes to demolish the existing CARE facility (shown in **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) to provide new remote aircraft stands in its existing location, and then provide a replacement and repurposed CARE facility.

5.2.59 The proposed replacement CARE facility would be located to the north west of Pier 7 (shown in yellow hatching on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)). The replacement CARE facility would process the majority of airport waste with the exception of food waste from international flights (also known as international catering waste (ICW)) which is a high risk category 1 waste and therefore subject to different management requirements). The replacement facility would comprise a waste sorting facility only, i.e. it would be replaced without the food waste for energy (heat) plant and biomass boiler. Waste material would continue to be taken off-airport to a dedicated waste processing centre(s) and not be processed on the airport. The existing CARE facility would remain in operation until the new CARE facility has been commissioned.

5.2.60 The replacement facility would include a MRF to allow sorting of waste and a storage area for baled waste for collection by external suppliers from both landside and airside operations. The MRF building would occupy an area of approximately 17,550 $m^2$ and be up to 15 metres in height (above ground level) and with elements up to 5 metres below ground level.

5.2.61 In addition to the above, the replacement CARE facility would include:

- card baling facilities,

[4] Airside and landside boundaries are shown in Appendix 2 of the **Glossary** ~~[APP-004]~~[REP3-004].

- vehicle weigh in/weigh out platform (a weighbridge);
- office accommodation and welfare facilities; and
- a hard standing area for recycling storage, a quarantine area and a manoeuvring area for supplier collection vehicles and vehicle movements.

5.2.62 The proposed replacement CARE facility offers the opportunity to manage greater quantities of waste by providing a larger area for vehicle management, material sorting and holding areas for bulked up waste. It also safeguards space for recycling of other types of waste from the airport in the future.

5.2.63 The removal of the existing CARE facility is included as Work No. 8(a) and the construction of the replacement CARE facility is included as Work No. 9 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Motor Transport Facilities

5.2.64 The existing motor transport facilities at Gatwick Airport comprise a range of facilities to maintain a fleet of approximately 300 operational vehicles including snow clearing vehicles, fire tenders, buses, cars and vans. These include; parts and tyre storage, workshops, lamp and brake test facilities, vehicle washing facilities, vehicle refuelling facilities, office and staff welfare accommodation. The existing motor transport facilities are located to the north of Taxiway Juliet (shown in **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) and are proposed to be demolished and replaced in the north western part of the airport (shown in blue hatching on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.65 The proposed replacement motor transport facilities would include car parking, a parts store, ramps, pits, a tyre store, a test area, a workshop, a heavy goods vehicle (HGV) refuelling area, a vehicle wash area, offices and staff welfare. There would also be provision of electric charging and hydrogen vehicle fuelling capability. The buildings and compound area would occupy an area of approximately 15,600 $m^2$, with a maximum building height of 15 metres above ground level and could include elements up to 5 metres below ground level.

5.2.66 The removal of the existing motor transport facilities is included as Work No. 8(b) and the construction of the replacement motor transport facilities is included as Work No. 10 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Ground Maintenance Facilities

5.2.67 The ground maintenance facilities support the maintenance of Gatwick Airport's grounds and green spaces including a shed for tool storage, secure storage of pesticides and other hazardous substances (as required by The Control of

Substances Hazardous to Health Regulations 2002), a small cabin for office/staff welfare, an open vehicle/equipment storage shed as well as parking facilities and a green compost area.

5.2.68 The existing ground maintenance facilities would be demolished (shown in **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) and replaced in an area of hardstanding in the south eastern part of the airport (shown in lilac on **ES Figure 5.2.1a** ~~[AS-135]~~ (Doc Ref. 5.2)). New buildings would include an open vehicle storage shed, closed tool shed, hazardous substances unit and a portacabin style office/welfare area. A yard would be required with sufficient space to park and turn vehicles, together with a green waste composting area. The hardstanding area would be approximately 1,230 $m^2$ and the buildings would have a maximum height of 8 metres.

5.2.69 The removal of the existing ground maintenance facilities is included as Work No. 8(c) and the construction of the replacement ground maintenance facilities is included as Work No. 11 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Airfield Surface Transport Facility

5.2.70 The existing airfield surface transport facility is primarily a storage shed for grit/salt used to keep landside roads and car parks safe in icy conditions. The existing airfield surface transport facility (shown in **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) would be demolished and replaced in an area of hardstanding in the south eastern part of the airport, adjacent to the ground maintenance facilities and would be approximately 1,400$m^2$ in area. New buildings would include open storage, vehicle sheds and a grit and salt store, together with a parking area. The new buildings would have a maximum building height of 15 metres (shown in lilac on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.71 A new autonomous vehicle maintenance building would be constructed near to Pier 5. It would have a footprint of approximately 527 $m^2$ with a height of approximately 12 metres (as shown in red on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.72 The removal of the existing airfield surface transport facility is included as Work No. 8(d) and the construction of the replacement airfield surface transport facility is included as Work No. 12 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Rendezvous Point North

5.2.73 As part of Gatwick Airport's Aerodrome Emergency Plan, rendezvous points have been established to which oncoming vehicles from external responders

(Police, Fire, Ambulance, AAIB, etc) report, in the event of an emergency. From the rendezvous points, responders are escorted to the accident/incident site with the minimum of delay.

5.2.74 The existing Rendezvous Point North is a secure area of approximately 4,500 $m^2$ hardstanding for vehicles, with a small cabin with power and utilities and an airside gate for easy access to the airfield the location is shown in **ES Figure 5.2.1h** ~~[AS-135]~~ (Doc Ref. 5.2). Due to the proposed reconfiguration of this area, the existing Rendezvous Point North would be relocated in order to re-provide a suitable emergency rendezvous area, to the north of the central airport area, for off-airport emergency services. The replacement Rendezvous Point North is shown in light pink on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2). It would require a hardstanding area of approximately 4,490 $m^2$ with a maximum building height of 5 metres.

5.2.75 The removal of the existing Rendezvous Point North is included as Work No. 8(e) and the construction of the replacement Rendezvous Point North is included as Work No. 13 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Emergency Air Traffic Control Tower and TCR Snowbase Building

5.2.76 The emergency air traffic control tower (sometimes referred to as the “standby control tower”) was Gatwick Airport’s control tower from 1958 until 1984 when it was replaced by the current ‘stalk mounted’ tower. The building continues to operate as a ‘standby’ tower if for any reason the main tower is inoperable (for example during maintenance activities). The building also houses multiple IT equipment rooms, training facilities, office and staff welfare accommodation. The emergency air traffic control tower is located south of the existing Hangar 7 and to the west of the surface transport and ground maintenance facilities, as shown in **ES Figure 5.2.1h** [AS-135]. The Project proposes to demolish the emergency air traffic control tower to enable the provision of an additional aircraft stand.

5.2.77 The former TCR Snowbase building is currently disused, having formerly been used for equipment storage and maintenance, (the location is shown on **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) and is proposed to be demolished.

5.2.78 The removal of the existing emergency air traffic control tower is included as Work No. 8(f) and the removal of the existing TCR snowbase building is included as Work No. 8(g) of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Cargo Facility

5.2.79 The cargo facility is owned and operated by Segro and handles freight passing through the airport. Gatwick Airport has almost no freight only flights, but all wide-bodied, long-haul aircraft carry freight in their holds, as well as passengers' baggage. The existing cargo facility occupies an area of approximately 10 hectares, including 23,000 $m^2$ of cargo sheds, with office accommodation and areas for HGV loading, unloading and parking. It currently includes non-cargo activities and is not therefore currently used to its full potential.

5.2.80 The existing cargo facility has capacity to accommodate the existing throughput and the increased cargo throughput that the Project is forecast to generate. No external works are proposed to the existing cargo facility, although some internal operational changes within the facility are proposed.

5.2.81 The internal works to the existing cargo building are not included within Schedule 1 of the **Draft DCO** (Doc Ref. 2.1) as do not require development consent, but are explained here for completeness.

### Locations where Aircraft Engine Ground Running is facilitated

5.2.82 Aircraft engine ground running is the operation of one or more of the engines of an aircraft on the ground to functionally check the operation of the engine or the aircraft systems. If an aircraft requires a high power engine test, it will be directed by air traffic control to one of several designated sites depending on wind direction and airport operations. Aircraft engine ground running is currently facilitated in a number of locations on existing taxiway infrastructure (see **ES Chapter 4: Existing Site and Operation** [APP-029]), some of which would be affected by the reconfigured airfield facilities forming part of the Project.

5.2.83 Three amended locations for engine ground running are proposed along the repositioned Taxiway Juliet, south of Taxiway Zulu and on existing Taxiway Yankee. **ES Figure 5.2.1a** ~~[AS-135]~~ (Doc Ref. 5.2) illustrates where the approximate areas within which this provision would take place, outlined in yellow.

### Fire Training Ground

5.2.84 The Project requires the relocation of the existing fire training ground in order to allow for the repositioned Taxiway Juliet and new Taxiway Juliet West Spur. The existing fire training ground currently occupies an area of approximately 13,050 $m^2$ in the western part of the airfield, to the north of the existing northern runway, and includes a fire training rig, a control centre, a compartment fire training

complex, a road traffic collision mock-up area, classrooms, an underground water storage, a water tower and a deluge system. The facility allows for rescue and firefighting training to ensure maintenance of competency and skills for GAL's own rescue and firefighting service.

5.2.85 It is proposed that the existing fire training ground is demolished (see **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2) for the current location) and replaced to the north of its existing location (shown in pink hatching and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)), occupying a consolidated area of approximately 12,000 $m^2$. The existing rig would be relocated and has a height of 25 metres, with tank depths of up to 5 metres below ground level.

5.2.86 The relocation of the fire training ground is included as Work No. 14 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Satellite Airport Fire Service Facility

5.2.87 A new satellite airport fire service facility would be located to the south of the main runway in order to meet aerodrome certification requirements, including response time to incidents. The facility would be located within a hardstanding area of up to 8,000 $m^2$ and with a maximum building height of 15 metres. The proposed location is shown in pink hatching and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.88 The construction of the satellite airport fire service facility is included as Work No. 16 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Aircraft Hangars

5.2.89 An aircraft hangar has recently been constructed by Boeing in the north west part of the airport (completed in autumn 2019). One additional hangar, sized for Code E aircraft, would be required as part of the Project. This is also proposed to be located in the north western part of the airport, to the north of Larkins Road and Taxiway Uniform. The proposed hangar would have a footprint of approximately 12,440 $m^2$ and would be up to 32 metres in height and could extend below ground level by up to 10 metres. The proposed hangar would be located within the area shown in brown on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2) utilising existing hardstand to provide staff car parking (approximately 100 spaces), a service yard and a bus stop, as shown with a brown dashed line on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.90 The new hangar is included as Work No. 16 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

5.2.91 In addition, the existing Hangar 7 (previously operated by Virgin) in the north west part of the airport would be converted to an airside operation. It is proposed that some support structure on the northern side of the hangar would move slightly southwards in order to accommodate the extension to Taxiway Lima. The structures would be up to 5 metres in height and could involve a depth of up to 5 metres below ground level and would be located on an existing hardstanding area of 1,520 $m^2$. The proposed location of the relocated infrastructure is shown in purple dots and labelled in **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2). The facilities provided to the north of would be "like-for-like" to the current facilities south of the hangar. In addition, the airside bus stop location and pavement would be re-provided for staff access to the facilities.

5.2.92 The reconfiguration of the Hangar 7 support structures is included as Work No. 17 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Western noise mitigation bund

5.2.93 The Project would include the removal an existing bund in the western end of the airfield which attenuates noise to external areas from taxiing aircraft. The existing bund is shown on **ES Figure 4.2.1a** ~~(Doc Ref. 5.2)~~[REP1-019] in pale pink at the western end of the runway and is approximately 25 metres in width, 255 metres in length and up to 12 metres in height. The functionality of the bund would be re-provided as a new bund and wall as shown in orange and labelled on **ES Figure 5.2.1g** ~~[AS-135]~~(Doc Ref. 5.2). The proposed wall would be approximately 450 metres in length. The western section of the noise bund and wall would be up to 8 metres high. The eastern section of the wall (beyond the bund) would be up to 10 metres high. It would be up to 30 metres in width.

5.2.94 The approach to the construction of the new bund and wall would take into account the need to continue to mitigate noise to noise sensitive receptors to the west by retaining sections of the existing bund during the works, working from east to west.

5.2.95 The reconfiguration of the western noise mitigation bund is included as Work No. 18 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Internal Access Routes

5.2.96 Part of the existing Larkins Road (see **ES Figure 4.2.1a** ~~(Doc Ref. 5.2)~~[REP1-019]) within the airport boundary would require realignment further north to accommodate the extension to Taxiway Lima. The relocated route (shown on **ES Figure 5.2.1d** ~~[AS-135]~~ (Doc Ref. 5.2) in brown) allows for a 9.3 metre wide carriageway with 5 metre wide highway verges on either side (except for the area

south of Pond M between Brockley Wood and Hangar 11) and would remain within the existing airport boundary.

5.2.97 The relocation of Larkins Road is included as Work No. 20 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

5.2.98 An airside route for autonomous vehicles would be provided to allow travel between the new Pier 7 and the terminal buildings. This is anticipated to use existing infrastructure and as such is not included in Schedule 1 of the **Draft DCO** (Doc Ref.2.1). The route is shown in yellow dashes on **ES Figure 5.2.1d** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.99 In addition, two existing exit lanes (northern and southern approaches) from the secure airside area would be reconfigured to allow vehicular entry, in order to ensure that there are sufficient vehicle entry points from landside to airside (shown in turquoise and labelled in **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)).

### Power Facilities

5.2.100 Works are proposed to the existing power facilities, including the provision of new or relocation of existing services, cables and substations. Part of the existing airfield high voltage ring would be repositioned to the north to allow for the repositioning of the existing northern runway and Taxiway Juliet.

5.2.101 Locations of the existing substations to be demolished are shown in **ES Figure 5.2.1h** (Doc Ref. 5.2) ~~[AS-135]~~ and locations of new or re-provided substations are shown as pink triangles and labelled on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.102 The existing Substations BJ and BM would be demolished and not replaced. The existing Substations A, J, BK, BP and BR would be demolished and replaced to accommodate the following new facilities:

- Substation J: a priority substation, forming part of the airfield ring. The new substation is likely to comprise a containerised substation, with an additional transformer to replace Substation BM. The substation would occupy an area of approximately 180 $m^2$, with an approximate height of 6 metres above ground level and 3 metres below ground level.
- Substation BK: to be re-provided approximately 12 metres north of the current location, within an area of approximately 144 $m^2$, with a maximum height of 6 metres above ground level and 3 metres below ground level.

- Substations BP, BR and A: to be re-provided, each within an area of approximately 25 $m^2$, with a maximum height of 5 metres above ground level and 3 metres below ground level.

5.2.103 In addition, a new substation is proposed to facilitate new Pier 7. This would be located to the north east of the new Pier 7 and to the north of the cargo facility. It is shown as a red triangle and labelled on **ES Figure 5.2.1a** (Doc Ref. 5.2)~~[AS-135]~~. This would require an area of approximately 25 $m^2$, with a maximum height of 5 metres above ground level and 3 metres below ground level.

5.2.104 The relocation of substations and provision of additional capacity would allow for additional loads and would ensure that substations are located away from areas required for other purposes or at risk of flooding.

5.2.105 Works related to the power facilities either form part of existing work numbers or would be carried out as ancillary or related development under Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Terminal Works

5.2.106 Extensions to the existing North and South Terminals are proposed to accommodate passenger growth in relation to the Project. In addition, a number of internal changes are proposed within the terminals to allow for changes in technology and innovative approaches to passenger experience and baggage handling. The main external extensions are shown in dark blue on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2).

#### North Terminal

5.2.107 Works proposed to the North Terminal building include the following:

- extensions to the International Departure Lounge (IDL), to both the north and south of the current facility.
  - The northern extension would occupy a footprint of approximately 3,300 $m^2$ and result in additional floorspace of approximately 9,900 $m^2$ over Levels 20, 30 and 40 to provide a mix of retail, catering and general circulation space. The ground floor would provide coaching facilities for autonomous vehicle transit to Pier 7. The extension would be up to approximately 32.5 metres in height (above ground level).
  - The southern extension would be contained within an area of up to 175 x 120 metres and up to 30 metres in height (above ground level). This would result in additional floorspace of approximately 12,600 $m^2$ over

Levels 10, 20 and 30 and provide a mix of catering, retail and general circulation space;

- demolition of the CIP building and the circulation building;
- an extension to the baggage hall (providing baggage handling facilities), occupying a footprint and floorspace of approximately 6,552 $m^2$. The extension would be two storeys and up to approximately 12.5 metres in height (above ground level);
- an extension to baggage reclaim with a footprint of approximately 650 $m^2$. The extension would be up to approximately 7 metres in height (above ground level);
- remedial works to the coaching gates;
- internal reconfiguration works to facilities such as check in zones, baggage systems and security; and
- an autonomous vehicle station (shown in orange on **ES Figure 5.2.1d** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.108 Works and extensions to the North Terminal building are included as Work No. 22 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### South Terminal

5.2.109 Works proposed to the South Terminal building include the following:

- an extension to the IDL, occupying a footprint of approximately 3,780 $m^2$ and resulting in additional floorspace of approximately 15,000 $m^2$ over Levels 10, 20, 30 and 40 to provide a mix of retail, catering and general circulation space. The extension would be up to 27 metres in height (above ground level);
- internal reconfiguration works to facilities such as check in zones, baggage systems and security;
- provision of a two-storey coaching gate for autonomous vehicle transit to Pier 7;
- six coaching gates (four gates with a footprint of approximately 3,780 $m^2$ and two gates with a footprint of approximately 1,980 $m^2$ and both and up to 13 metres high);and
- an autonomous vehicle station (shown in pink on **ES Figure 5.2.1d** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.110 Works and extensions to the South Terminal building are included as Work No. 23 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Hotels and Offices

5.2.111 Additional office and hotel provision is proposed to meet the needs of airport companies and passengers. The location of the existing hotels and the proposed hotel and offices are shown on **ES Figure 5.2.1c** ~~[AS-135]~~(Doc Ref. 5.2).

#### Offices

5.2.112 A new office block is proposed on the existing Car Park H site. This would comprise one office building with a net lettable floorspace of up to 5,000 $m^2$, a footprint of 1,024 $m^2$ and up to 27 metres high (above existing ground level). The offices would be located within the area of the site shown in blue hatching on **ES Figure 5.2.1c** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.113 The proposed office on the Car Park H site is included as Work No. 28(b) of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

#### Hotels

5.2.114 Four additional hotels are proposed as follows:

- Hotel on Car Park H site: one new hotel (up to 400 bedrooms) in the location of existing Car Park H at South Terminal (up to 27 metres in height and with a footprint of approximately 4,000$m^2$). The hotel would be located within the area of the site shown in blue hatching on **ES Figure 5.2.1c** ~~[AS-135]~~(Doc Ref. 5.2). The Car Park H hotel is included as Work No. 28(a) of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1);
- Hotel north of MSCP3: one new hotel (up to 400 bedrooms) on a site adjacent to and north of multi-storey car park 3 (MSCP3) at South Terminal (up to 27 metres in height and with a footprint of approximately 4,000$m^2$) shown in pale green on **ES Figure 5.2.1c** ~~[AS-135]~~ (Doc Ref. 5.2). The hotel north of MSCP3 is included as Work No. 26 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1);
- Hotel on the Car Rental Site: one new hotel (up to 200 bedrooms) on the site of the Car Rental facility at South Terminal (up to 16.3 metres in height and with a footprint of approximately 1.5 hectares) shown in pale green on **ES Figure 5.2.1c** ~~[AS-135]~~(Doc Ref. 5.2). The hotel on the Car Rental site is included as Work No. 26 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1); and
- Destinations Place hotel: conversion of Destinations Place offices located at South Terminal to a hotel (up to 250 bedrooms) shown in pale green on **ES Figure 5.2.1c** ~~[AS-135]~~(Doc Ref. 5.2). Any external changes would not exceed the width of the existing building and the height of the existing roof

plant and equipment. The converted Destinations Place hotel is included as Work No. 29 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Car Parks

5.2.115 A range of on-airport car parking is currently provided as set out in **ES Chapter 4: Existing Site and Operation** [APP-029]. In addition to the existing provision, three new car parks would be implemented in the absence of the Project to serve the projected increase in passenger numbers. These form part of the future baseline and are described in section 4.4 of **ES Chapter 4: Existing Site and Operation** [APP-029] and are shown in dotted purple, yellow and green on **ES Figure 5.2.1b** (Doc Ref. 5.2)~~[AS-135]~~. These improvements would add 6,570 spaces and take the future baseline car parking provision to approximately 53,270 spaces in the absence of the Project.

5.2.116 Several car parks would be impacted during the construction phase of the Project and other car parks would be permanently removed as a result of the Project. The car parking strategy for the Project proposes the replacement of the removed car parks along with the provision of new car parking to be located on airport to cater for growth arising from the Project. The following car parking spaces would be permanently removed as part of the Project (their locations are shown in **ES Figure 5.2.1h** ~~[AS-135]~~ (Doc Ref. 5.2)):

- Summer Special – 3,345 spaces;
- North Terminal Long Stay (also referred to as 'Self Park North') and Flying Plan – ~~2,465~~3,627 spaces;
- Staff parking (W, B and H) (shown on **ES Figure 4.2.1b**) – 1,150 spaces;
- Purple Parking (including surface parking and the Purple Parking decked structure) – 820 spaces; and
- Car Park X – 1,125 spaces.

5.2.117 The removal of existing car parks is covered by different work numbers under Schedule 1 of the **Draft DCO** (Doc Ref. 2.1), namely Work Nos. 7, 10, 13, 16, 28, 31, 32, 33 and 34.

5.2.118 New car parking is proposed to replace the removed car parking and to meet additional demand generated by the Project, taking into account GAL's Surface Access Commitments (see paragraph 5.4.7) to increase the share of passenger and staff journeys made by sustainable modes. Following discussions with the local planning authorities and taking account of responses to the Summer 2022 Consultation, GAL is not seeking permission to re-provide capacity that may be withdrawn as a result of enforcement action on unauthorised, off-airport sites.

Table 5.2.2~~Table 5.2.2~~~~Table 5.2.2~~ sets out the car parking provision proposed as part of the Project (see **ES Figure 5.2.1b** ~~[AS-135]~~(Doc Ref. 5.2) where proposed car parks are shown in pink and retained car parks are shown in pale grey).

**Table 5.2.2: Proposed Additional Passenger Car Parking**

| Type | Approximate Footprint (hectares) | Maximum Height (above ground level) | Approximate Car Parking Spaces |
|---|---|---|---|
| North Terminal Long Stay (decked parking) | 11.38~~7.9~~ha (350 x 32~~2~~25 metres) | 11 metres | ~~1,680~~2,842 |
| Multi-storey Car Park J | 1.0ha (120 x 80 metres) | 27 metres | 890 |
| Mulit-storey Car Park Y | 1.9ha (100 x 195 metres) | 27 metres | 3,035 |
| Multi-storey Car Park H | 1.5ha (150 x 100 metres) | 27 metres | 3,700 |
| At the existing GAL Purple Parking Valet site | 2.9ha | (surface level only) | 700 |
| **Total** | | | **~~10,005~~11,167** |

5.2.119 The existing 'Purple Parking' (shown on **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) which is operated by a third party and comprises 3,280 car parking spaces, would be relocated to make way for the End Around Taxiway West. The relocation of this parking provision is proposed at the eastern section of the existing car park X as shown in pink on **ES Figure 5.2.1b** ~~[AS-135]~~(Doc Ref. 5.2) and labelled "purple parking reprovision". The relocation of Purple Parking would displace 1,125 on-airport car parking spaces from car park X, these spaces would be accommodated through the re-use of the existing Purple Parking site (labelled as "Surface Parking " on **ES Figure 5.2.1b** ~~[AS-135]~~(Doc Ref. 5.2)) and extra capacity at the North Terminal Long Stay car park.

5.2.120 The relocated Purple Parking would accommodate 3,280 car parking spaces (to re-provide the same number as the existing site). The relocated facility would comprise a stepped, decked area part of which provides one storey and the remainder providing two storeys above surface level. This decked area would be two storeys of up to 11 metres in height with a footprint of 120 metres by 70 metres in the south eastern section and immediately to the north of this, one storey of up to 7 metres in height with a footprint of 120 metres by 20 metres. The remaining area to the north and west of the decked area would be surface parking. Access to the Purple Parking site could be provided from Charlwood Road or from Perimeter Road South. The works associated with the relocated purple parking onto the car park X site are included as Work No. 31 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

5.2.121 At the existing Purple Parking site, the decking would be demolished and approximately 0.24 hectares of surface parking would be removed (as shown on **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)). A fenceline would be erected along the boundary with the revised end around taxiway west. The surface parking would be reconfigured to create 700 car parking spaces (partially re-providing the equivalent of the 1,125 spaces displaced from the existing car park X). The 425 spaces displaced from car park X would be accommodated through an increase in capacity in the North Terminal Long Stay car park. Further spaces to accommodate growth would also be provided within the North Terminal Long Stay car park.

5.2.122 The works to the existing Purple Parking site are Work No. 33 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1) which is labelled "surface parking" on **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2). Works to the North Terminal long stay car park are included as Work No. 32 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

5.2.123 No increase in car parking for airport staff is proposed and where staff parking is located may change as a result of the Project works. Historically, Gatwick Airport had around 7,200 spaces for staff. However, as staff car mode share has decreased, GAL has taken steps to reduce this by over 1,000 spaces in the last five years. GAL is currently reviewing the optimum allocation of spaces and location for these staff spaces, taking into account an increase in staff numbers and changing work patterns but alongside promoting use of more sustainable travel to work, including car sharing and active travel. Overall, it is proposed to continue to reduce the total number of spaces provided per 1,000 employees across the airport.

5.2.124 Table 5.2.3~~Table 5.2.3~~~~Table 5.2.3~~ shows the overall changes to car parking spaces, taking into account the future baseline, and sets out the spaces that would be permanently removed (locations of these are shown in **ES Figure 4.2.1b** [REP1-019]~~(Doc Ref. 5.2)~~) and the proposed replacement spaces.

**Table 5.2.3 Car parking proposals**

| Permanently Lost Spaces | | Proposed Replacement Spaces | | Proposed Additional Spaces | |
|---|---|---|---|---|---|
| Summer Special | -3,345 | Multi-storey Car Park Y | 3,035 | NT Long Stay Decking | 1,100 |
| NT Long Stay & Flying Pan | -3,627~~2,465~~ | Multi-storey Car Park J | 890 | | |
| Staff Parking (W, B & H) | -1,150 | Multi-storey Car Park H | 3,700 | | |

| Permanently Lost Spaces | | Proposed Replacement Spaces | | Proposed Additional Spaces | |
|---|---|---|---|---|---|
| GAL 'Purple Parking' Valet | -820 | GAL 'Purple Parking' Valet | 700 | | |
| Car Park X | -1,125 | NT Long Stay Decking | ~~580~~1,742 | | |
| **TOTAL** | **~~8,905~~ 10,067** | | **~~8,905~~ 10,067** | | **1,100** |

### Surface Access Works

5.2.125 Improvements are proposed for the highways and active travel routes that serve both the South Terminal and North Terminal roundabouts. The designs and details have been subject to road traffic assessment and detailed engagement with highway authorities, including National Highways. The proposals for surface access improvements reflect refinements made following consultation responses and engagement with National Highways and local highway authorities regarding junction layouts and active travel routes for pedestrians and cyclists (see also **ES Chapter 3 Alternatives Considered** [APP-028]).

5.2.126 In order to accommodate the proposed increase in passenger numbers, the following surface access works are proposed as part of the Project:

- South Terminal: new junction layout providing full grade separation;
- North Terminal: new junction layout including partial grade-separation, improving traffic flow.
- The Airport Way eastbound connection from North Terminal roundabout would be removed with eastbound traffic to travel via a new signal-controlled junction on the A23 London Road and an enhanced eastbound diverge connection onto Airport Way.
- enhancement of the eastbound M23 Spur as part of the South Terminal roundabout improvements, should these not be completed in advance of the airport expansion;
- improvements to Longbridge Roundabout where the A23 meets the A217;
- investment in public transport service enhancements, both locally and to improve accessibility for areas not directly served by rail; and
- new and enhanced active travel routes providing safe connections from surrounding areas.

5.2.127 The approach to construction is to avoid or minimise periods of road closures to reduce impacts on road traffic. It is anticipated that operation of the existing roads/junctions would be maintained during construction of these improvements,

although there would be periods where capacity would be reduced (either through narrow lane running or lane closures).

5.2.128 The proposed surface access works are shown in **ES Figure 5.2.1d** ~~[AS-135]~~ (Doc Ref. 5.2) with further design detail and details of the highways improvements are provided in the plans in **ES Appendix 5.2.1: Surface Access General Arrangement Plans** [APP-076] and described below.

5.2.129 Associated drainage works to accommodate any surface water run-off as a result of the highway improvements, are included in the Project's proposals for each junction.

### South Terminal Junction Improvements

5.2.130 The South Terminal roundabout, M23 Junction 9a (also known as the "Welcome Roundabout") is the sole entry point for traffic into the South Terminal area and for local access roads, including the South Terminal forecourt, long stay car parks and commercial premises. It is served by the M23 Spur to the east (leading from the M23 Junction 9) and Airport Way from the west (leading from North Terminal roundabout). The majority of Gatwick Airport's traffic accesses the airport from the M23 and traffic for both North Terminal and South Terminal must pass through this roundabout.

5.2.131 The westbound M23 Spur was upgraded as part of the National Highways M23 Junctions 8 to 10 Smart Motorway Project, which was completed in Summer 2020 and is now a dual carriageway with three lanes per direction. The eastbound M23 Spur was not widened at the time of the westbound works. Further local improvements to South Terminal roundabout, involving signalisation and minor widening of entries/exits, are proposed in the absence of the Project (these form part of the future baseline, are outlined in section 4.4, **ES Chapter 4: Existing Site and Operation** [APP-029] and shown in dotted purple on **ES Figure 5.2.1d** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.132 The Project proposes that the M23 Spur would be reclassified as an A road (to be known as the "Gatwick spur"). The main carriageway would be raised, through the provision of a flyover bridge (the "South Terminal Flyover Bridge") above the existing roundabout, with on and off slip roads in both directions linking the flyover to the roundabout. The elevated Gatwick Spur/Airport Way would be approximately 8 metres above the existing ground level at its midpoint after allowing for deck construction and surfacing. The length of the flyover structure would be approximately 130 metres. Earthworks would support the approach to

the bridge and reinforced earth-walls or retaining walls would be required between the main carriageway and slip roads.

5.2.133 To the west of the roundabout, the main carriageway would tie into the existing alignment before the bridge over the Brighton Main Line railway ("Airport Way Rail Bridge"). A third lane would be added westbound over the railway from where the improved westbound on-slip joins the main carriageway. To the east, the main carriageway flyover and slip roads to/from the roundabout would tie into the existing carriageway approximately 160 metres east of the bridge over the B2036 Balcombe Road ("Balcombe Road Underbridge"). As the flyover would be above the existing road level as it passes over Balcombe Road this means raising the existing road level over the bridge by approximately 2.2 metres. This would require substantial widening and strengthening of this bridge, and the assumption is for a full replacement. The eastbound M23 Spur would be converted to three lanes.

5.2.134 The works at the South Terminal Junction would include the provision of a noise barrier. The barrier (approximately 600 metres in length and approximately 1 metre in height above highway verge) would be located along the elevated section of highway. The proposed location of the noise barrier is shown in orange and labelled in **ES Figure 5.2.1g** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.135 South of the M23 spur there would be an additional pedestrian route linking Balcombe Road to the existing footway on the east side of Ring Road South approaching the South Terminal forecourt and railway station.

5.2.136 The south terminal junction improvements are included as Work No. 35 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### North Terminal Junction Improvements

5.2.137 The North Terminal roundabout is the entry point to the North Terminal and local access roads, including the northern and east perimeter roads. The existing layout consists of a circular five-arm at-grade roundabout to the north east of the North Terminal and south west of the A23 London Road. There is currently no direct entry to the roundabout southbound from Horley and no direct exit from the roundabout on to the A23 London Road southbound towards Crawley. Local improvements are proposed in the absence of the Project (see **ES Chapter 4: Existing Site and Operation** [APP-029]). The proposed works would include local widening on the junction entry/exit lanes for the North Terminal roundabout, together with signalisation of the roundabout and provision of enhanced signage.

5.2.138 A partial grade-separated junction design is proposed. The size of the existing roundabout would be increased to a larger diameter to create extra capacity and changes made to entry and exit routes. As part of this solution, an elevated flyover (the "North Terminal Flyover Link") would be built to carry traffic between Airport Way (from South Terminal and the M23) and the A23 London Road towards Horley. This would provide extra capacity for movements to and from the airport and would separate airport and non-airport traffic, reducing conflict in peak periods, thereby reducing congestion. Additional improvements would be made to Gatwick Way to accommodate an increase in traffic flow towards Northgate Road.

5.2.139 The exit from the roundabout eastbound towards Airport Way would be replaced by a connection via a new signalised junction with the A23 London Road (the "A23 London Road / North Terminal Link Signal-Controlled Junction") and an enhanced free-flow A23 London Road Southbound Diverge to Airport Way Eastbound. This would remove the need for a merge between traffic leaving the southbound A23 heading towards the M23 and the eastbound Airport Way. The new junction on the A23 London Road would also facilitate a direct movement from the airport to the southbound A23 towards Crawley, removing a current constraint. It is also proposed to introduce a pedestrian crossing at this junction linking the existing footway along the north side of the A23, which would be improved, to Longbridge Way. Northbound traffic from the roundabout heading towards Horley on the A23 London Road would also use this signalised junction with the proposed North Terminal Link replacing the existing arm from the roundabout. Northbound traffic on A23 London Road heading towards North Terminal Roundabout would utilise the proposed replacement A23 London Road Northbound Left-in Diverge to North Terminal Roundabout. The road surface level of the elevated link (the “North Terminal Flyover Link") from Airport Way towards Horley would sit approximately 8 metres above ground level to provide the required clearances as stipulated by National Highways’ safety and design standards.

5.2.140 The flyover structure (the "North Terminal Flyover Bridge") is anticipated to require one span to cross the at-grade carriageways of North Terminal Link and A23 London Road Northbound eft-in diverge to North Terminal Roundabout and the bridge is expected to comprise a typical steel beam superstructure with a concrete slab deck on concrete abutments and piers, with piled foundations. The structure span would be approximately 45 meters long. Retaining walls would be required to separate adjacent links and other infrastructure assets at different levels or gradients. The bund behind the Premier Inn and petrol station on

Longbridge Way would be altered to accommodate the earthworks that would support the flyover.

5.2.141 Airport Way including the Airport Way Rail Bridge would be widened to accommodate a third lane westbound over the railway line, which would require alterations to the embankment on the south side of Airport Way to the east and west of the railway. National Cycle Route 21 currently passes beneath Airport Way in close proximity to the embankment works and this section would need to be temporarily closed during construction to ensure the safety of users. A temporary alternative route would be provided so that access is maintained throughout construction (as shown in Annex 1, Figure A in **ES Appendix 19.8.1: Public Rights of Way Management Strategy** [APP-215]).

5.2.142 The proposed highway improvements incorporate noise barriers, which have been revised since the Autumn 2021 and Summer 2022 Consultations. The works at the North Terminal Junction would include the provision of one noise barrier located along the elevated section of highway carrying the westbound link from Airport Way to the A23 London Road (shown in orange and labelled on **ES Figure 5.2.1g** ~~[AS-135]~~(Doc Ref. 5.2)). This would be approximately 800 metres in length and approximately 1 metre in height.

5.2.143 The highway bridge carrying the A23 London Road over the River Mole (the "A23 London Road Bridge over River Mole") would be widened to accommodate three lanes westbound, extending the length of three lane carriageway back from Longbridge Roundabout to where the new westbound flyover merges with the A23 London Road and to accommodate proposed pedestrian and cyclist infrastructure provision.

### Longbridge Roundabout Improvements

5.2.144 Works are proposed to the Longbridge Roundabout, including alterations to the existing layout. Options have been considered in relation to operational capacity, compliance with design standards and impact on surrounding land and property.

5.2.145 It is proposed to substantially improve the roundabout and provide increased lane widths on the circulatory carriageway to better accommodate vehicle turning movements. The current lanes create a capacity restriction due to goods vehicles needing to straddle two lanes for certain manoeuvres. Enhanced active travel infrastructure would be provided in the vicinity of the roundabout (see plans in **ES Appendix 5.2.1: Surface Access General Arrangement Plans** [APP-076]), comprising:

- significant sections of segregated path for pedestrians and cyclists and signalised crossings allowing enhanced access across all arms of the roundabout;
- provision of a shared use path between the roundabout and Riverside Garden Park, including the provision of a new proposed shared pedestrian and cyclist ramp to the south-east of A23 London Road River Mole bridge to provide enhanced connectivity to and from the park for pedestrians and cyclists; and
- provision of a cyclist ramp on A23 Brighton Road eastbound at the termination point of the shared use path to enable cyclists to rejoin the road carriageway.

5.2.146 The proposed new roundabout would have a slightly larger diameter and would extend further west and north to accommodate the wider circulating lanes, enhanced active travel infrastructure and improved capacity on exit and entry lanes, particularly for the A23 Brighton Road arm to and from Horley. The existing segregated left turn lane from the A23 Brighton Road southbound into the A23 London Road eastbound would be widened along with the associated structures supporting this section of the highway and would incorporate a shared use path heading east from the roundabout. To the northeast of the roundabout, where the A23 Brighton Road crosses the River Mole, an access route for construction would be required via Woodroyd Avenue, past the garages to access to the land to the east of Brighton Road adjacent to the River Mole. The Project site boundary has been modified following the Autumn 2021 consultation which enables retention of an area of vegetation to the east of the roundabout and south west of the River Mole.

5.2.147 A third lane northbound would be introduced on the A23 London Road between the North Terminal Flyover Link merge and Longbridge roundabout. The A23 Brighton Road bridge over the River Mole would be replaced with a widened bridge to accommodate a widened highway and active travel infrastructure at this location.

5.2.148 The Longbridge Roundabout junction improvements are included as Work No. 37 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Forecourts

5.2.149 North Terminal Forecourt comprises North Terminal Approach, Furlong Way, Racecourse Way, Arrivals Road, Departures Road, Coach Road and Northway. These links provide access to the terminal frontage, drop off areas, bus and coach stands, car rental facilities, short stay car park entrances and taxi ranks.

Departures Road includes a restricted access link to the Upper Forecourt for premium drop off (limited to certain airlines only). Long stay car parking at North Terminal is accessed via Longbridge Way as a separate access off North Terminal roundabout.

5.2.150 South Terminal Forecourt comprises Ring Road South, Eastway, Westway, Coach Road, Upper Forecourt, Lower Forecourt and Ring Road North. These links provide access to the terminal frontage, drop off areas, bus and coach stands, coach parking, car rental facilities, long stay and short stay car park entrances and taxi ranks. Upper Forecourt has restricted access and is used for airport taxis, car park shuttle buses and prior to the pandemic provided access for the electric hire car fleet.

5.2.151 The forecourts and approaches to both existing terminals are proposed to be reviewed and enhanced within existing boundaries, to maintain effective routes providing access to the terminal frontage, multi-storey and long stay car parks, hotels and pick-up and drop-off areas for different transport modes. The locations of the forecourt works are shown on **ES Figure 5.2.1d** ~~[AS-135]~~ (Doc Ref. 5.2) in dark green for the North Terminal forecourt and pale green for the South Terminal forecourt.

5.2.152 The upgrades to the North Terminal forecourt are included as Work No. 24 and the upgrades to the South Terminal forecourt are included as Work No. 25 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Active travel improvements

5.2.153 The locations of the proposed active travel improvements described below are shown on **ES Figure 5.2.1d** ~~[AS-135]~~ (Doc Ref. 5.2) and further details are provided on the plans in **ES Appendix 5.2.1: Surface Access General Arrangement Plans** [APP-076].

5.2.154 To improve active travel routes between Longbridge Roundabout and North Terminal, enhanced active travel infrastructure is proposed. This would comprise a segregated path for pedestrians and cyclists between Longbridge roundabout and North Terminal roundabout with a localised narrowing to shared use on the A23 London Road bridge over the River Mole.

5.2.155 To improve active travel routes between Horley and the airport, enhanced active travel infrastructure is proposed (see plans in **ES Appendix 5.2.1: Surface Access General Arrangement Plans** [APP-076]). This would comprise:

- three staged staggered signalised crossing for pedestrians at the northern arm of the A23 London Road / North Terminal Link signal controlled junction;
- signalised pedestrian crossing on Longbridge Way between the Shell petrol station and the approach to the North Terminal roundabout; and
- a footway suitable for potential future use as a shared path for pedestrians and cyclists, on the northern side of the North Terminal link between the A23 London Road / North Terminal Link signal controlled junction crossing and the proposed signalised crossing on Longbridge Way.

5.2.156 Between North Terminal roundabout and South Terminal there would be a shared use path for pedestrians and cyclists with a signalised crossing at North Terminal Approach leading to a widened footway along the northern side of Perimeter Road North permitting shared use.

5.2.157 Improvements to active travel routes are within Work Nos. 35, 36, 37 and 38 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Bus and Coach Improvements

5.2.158 GAL has identified areas of Surrey, Kent and Sussex where improved public transport service coverage would increase the proportion of staff and passengers travelling by public transport in support of GAL's sustainability goals. GAL would invest in securing these routes and fund their operation in partnership with a suitable operator. GAL would also increase the subsidy provided to Metrobus to enhance the service frequency, hours of operation and reach of local bus services in line with mode share targets. This would also improve accessibility between the airport and nearby communities. GAL has an established approach to providing this funding support via its Sustainable Transport Fund.

### Rail Improvements

5.2.159 Improvements to Gatwick Station have been subject to a separate consenting process, with a planning application submitted by Network Rail to Crawley Borough Council in April 2018 and consented in March 2019 (this is included in the future baseline, see section 4.4 of **ES Chapter 4: Existing Site and Operation** [APP-029] and shown as dotted yellow on **ES Figure 5.2.1d** ~~[AS-135]~~(Doc Ref. 5.2). These improvements commenced in 2020 and are due for completion in 2023.

5.2.160 No further improvements are proposed to the rail station platforms or concourse to accommodate the peak flows generated by the Project.

### Water Management Works

5.2.161 The existing airport drains to local watercourses via balancing ponds and attenuation lagoons. In order to accommodate the alterations to the northern runway, to allow for the areas of new development and to meet current planning requirements (including an allowance for climate change), revisions to the existing surface water drainage system are proposed (some of these measures are shown on **ES Figure 5.2.1e** ~~[AS-135]~~ (Doc Ref. 5.2)).

5.2.162 A flood risk mitigation approach has been developed for the Project in consultation with the Environment Agency and West Sussex County Council in their role as Lead Local Flood Authority (see Section 7 of **ES Appendix 11.9.6: Flood Risk Assessment** ~~[APP-147]~~[AS-078]). For fluvial flood risk, the approach ensures that no adverse impact would be likely off site in up to a 1% (1 in 100) annual exceedance probability (AEP) event with a 20% allowance for climate change ("the 1% AEP event + 20% cc"). Indicative designs for fluvial mitigation measures are identified in **Annex 1** of **ES Appendix 11.9.6: Flood Risk Assessment** [APP-148].

5.2.163 The Surface Access Drainage Strategy (see **Annex 2** of **ES Appendix 11.9.6: Flood Risk Assessment** [APP-148]) for surface water runoff provides for different standards of protection for the highways and airfield elements of the Project due to differing projected design lives (this is explained further in Table 3.3.1 of **ES Appendix 11.9.6: Flood Risk Assessment** ~~[APP-147]~~[AS-078]. The airfield elements have a shorter design life than the highways and are designed to accommodate a 1%AEP event + 20% cc. The highways elements are designed to the 1% AEP event +40% cc.

5.2.164 Proposed measures across the Project include the following:

- works to realign existing surface water drainage infrastructure along Taxiway Yankee, providing a connection to Pond D (shown on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)).
- works to protect the existing Substation L from flooding (shown as a blue triangle on **ES Figure 5.2.1a** ~~[AS-135]~~(Doc Ref. 5.2)).
- removal and infilling of airfield drainage Pond A (shown on **ES Figure 5.2.1h** [AS-135]) and construction of a connection to the Pond M catchment.
- construction of an attenuation storage facility beneath Car Park Y of up to 32,000m$^3$ to reduce the risk of North Terminal flooding (shown on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).
- provision of a constructed wetland (reed bed) system south of the pollution storage lagoons on the site of the former Rolls Farm to treat de-icer

contaminated stormwater run-off and discharge from the existing pollution lagoons (shown in yellow on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).

- diversion and extension to part of the River Mole corridor (shown in pale blue and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).
- provision of additional floodplain capacity, through provision of the following flood compensation areas within the airport boundary:
    - Museum Field: Lowering of the existing ground levels in an area known as Museum Field along the western boundary of the site, north of the fire training ground (shown in pink and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).
    - Car Park X: Lowering of the existing ground levels in Car Park X (as shown in pink and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).
- construction of a small weir and fish pass to the River Mole (shown as a blue dot on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.165 The water management works are included within other work numbers or would be carried out as ancillary or related development under Schedule 1 of the **Draft DCO** (Doc Ref. 2.1). Where a specific work number has been allocated that is identified below.

### Museum Field flood compensation area

5.2.166 Museum Field (shown in pink and labelled in **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)) would be lowered by approximately 2.6 metres below ground level. This would provide a new flood compensation area connected to the River Mole, with a footprint of approximately 57,600 $m^2$. The connection to the spillway would require local lowering of the bank of the River Mole. There would be a landscaped bund along the southern and eastern perimeters that would be approximately 6 metres high and a footpath (including footbridge) around the area. There would be a road to the south of the field to enable maintenance access of approximately 5 metres width.

5.2.167 Construction of the flood compensation area at Museum Field is included as Work No. 38(a) of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### River Mole valley

5.2.168 Pond A would be removed and infilled as a result of the move northwards of Taxiway Juliet and the work to create level ground in a strip around the taxiway

(location shown in **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) and a connection to the Pond M catchment would be constructed.

5.2.169 The River Mole would be diverted and extended to the north of its current course to take a more sinuous course than the current alignment and provide approximately a 300 metre length of new river valley (see **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.170 The existing River Mole syphon and river channel at the exit to the culvert would require extension. The channel that the River Mole runs in from the exit to the existing culvert would be extended northwards by 36 metres to enter the new section of river valley. The portion of the River Mole which crosses below the level of the new taxiway strip would be carried in a new section of concrete channel covered by a road traffic specification grid at ground level, for a length of 26 metres to where the river leaves the airfield boundary. The use of the grid would allow daylight to reach the watercourse and vegetation to establish in this section of channel. The River Mole syphon (which activates only in flood conditions) would be extended in a new section of box culvert of around 36 metres in length to connect to the new section of river valley.

5.2.171 Works to the River Mole Valley are included as Work No. 39 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Water treatment works

5.2.172 The proposed water treatment works would comprise a constructed wetland system using reed beds with Forced Bed Aeration (FBA) technology to treat the de-icer contaminated waters. The wetlands are attached-growth biological reactors and accelerate the degradation of organic compounds (such as de-icing chemicals). The system functions by naturally occurring bacteria attaching to the surface of the gravel media to form biofilms. When the contaminated water is distributed across the surface area of the beds, it percolates vertically down though the saturated gravel media. The contact between the contaminants and the biofilms results in biological contaminant degradation and reduced concentrations of organic matter. The FBA system evenly distributes oxygen across the red bed to maintain aerobic conditions, where necessary, as degradation is more efficient under aerobic conditions.

5.2.173 The system would draw at least 100 L/sec from the de-icer pollution storage lagoons and treat this to a standard that would allow discharge to the Gatwick Stream. The works would be located towards the south east of the Project site (shown in yellow and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)).

5.2.174 The footprint of the proposed reed bed system would be approximately 16,000 $m^2$.

5.2.175 Six reed bed areas are proposed, constructed in pairs, surrounded by embankments and timber post and rail fencing. The reed beds would comprise a mix of wetland vegetation species (including those that are resilient to climate change) to create a variety of habitat types. Each reed bed would be lined to prevent groundwater ingress.

5.2.176 Six blowers are proposed to facilitate the FBA system, provided along with acoustic hoods and enclosed by acoustic fencing. The blowers would run continuously in the winter (to prevent stagnation) and intermittently during the summer.

5.2.177 Key components of the reed bed system including:

- bunded nutrient dosing tank and pumps;
- pipework, pumps and blowers;
- bunding;
- car parking;
- cabin and secure storage.

5.2.178 Each of the components listed above would have a maximum height of 3 metres, excluding the cabin and secure storage that would be up to 4 metres in height (above ground level).

5.2.179 During construction, there would be a temporary 2.4m high noise barrier located along the south side of the southern pond.

5.2.180 During operation, the reed beds would be inspected weekly during the winter (and approximately monthly during the summer) and any necessary maintenance would be identified and carried out. Refurbishment would typically be required at 10 to 15 years. This would involve vegetation and sludge removal and disposal, media recycling and replacement of pipework.

5.2.181 The construction of the water treatment works is included as Work No. 43 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Car Park X flood compensation area

5.2.182 The existing Car Park X (shown in pink and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)) would be lowered by a depth of up to 2 metres. It would be 90 x 300 metres and have a footprint of 27,000 $m^2$. It would create approximately 55,000 $m^3$ flood storage and would be reinstated as a surface car park. The car

park would be used partly for staff car parking and partly for the re-provided Purple Parking following completion of the excavation works, with restrictions on its use when flooding is anticipated.

5.2.183 Car Park X would be connected to the River Mole via an outfall structure, which may take the form of a flapped culvert or other arrangement to allow fish to pass back into the River Mole following a flood event. A ramp from the existing road network would be provided to allow access to car park X.

5.2.184 The flood compensation related works to Car Park X are included as Work No. 31 of Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

### Car Park Y attenuation storage tank

5.2.185 An attenuation storage tank would be provided beneath car park Y (shown in red in **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)). The greater the amount of storage provided, the greater the benefit in terms of flood extent and depth. Flood modelling has tested a range of storage capacities from 10,000 $m^3$ to 32,000 $m^3$. Provision of up to 32,000 $m^3$ of capacity significantly reduces risk of flooding to the North Terminal (see **ES Appendix 11.9.6: Flood Risk Assessment** [APP-1487~~ to APP-149~~, AS-078 and REP5-027]).

5.2.186 The structure would fit within the footprint of and structurally support the proposed multi storey car park that would be built above the storage facility. The depth of floor would be at 49.5 metres AOD with an outlet box culvert of 3 metres by 1.2 metres. The inlet to culvert would be at 53.3 metres AOD connecting to the existing inlet structure of pond D. The excavation depth would be approximately 8-10 metres deep depending on the foundation solution. The site would be backfilled and restored to a car park upon completion, and this would be at 57 metres AOD. The storage would be up to 125 by 75 metres with a footprint of 9,375 $m^2$.

### Weir and Fish Pass

5.2.187 A small weir (200mm high) and a fish pass are proposed to the River Mole to improve fish passage. The approximate location for these interventions is shown as a blue dot on **ES Figure 5.2.1e** [~~AS-135~~](Doc Ref. 5.2). The new weir will be installed across the southern face of the east box of the culvert that conveys the river beneath the runways and will enable the concentration of summer low flows in the west culvert box. The fish pass will be installed at an existing weir where the River Mole crosses into the airside area. The effect of the interventions will be to improve opportunities for fish to passage along this section of the River Mole and through the culvert under the airfield.

### Foul Water

5.2.188 In order to provide for the new and improved facilities, including wastewater from the extended terminals, hotels and Pier 7, changes would be required to the foul drainage system to improve capacity and resilience and to provide a new on-airport wastewater treatment works ("On-airport WWTW") ~~facility~~ should it form part of the final consented Project (discussed further below). ~~(t~~The key existing and proposed foul water related components of the Project are shown in **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)~~)~~.

5.2.189 A new pumping station (Pumping Station 7a) would be provided near the existing Pumping Station 7, to accommodate flows from the extended North Terminal and Pier 7 and a pipeline connection to Crawley Sewage Treatment Works (or to the On-airport WWTW if it forms part of the final consented Project). It is shown as a yellow dot and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2). The proposed pumping station would have a fenced compound with an area of 260 $m^2$ and be approximately 3 metres in height (above ground level) with elements up to 6 metres below ground level. It is estimated to have a capacity of approximately 80 litres/second.

5.2.190 A second new pumping station to the east of the railway is proposed to decouple the existing sewerage network east of the railway and remove its load from the South Terminal sewerage system. This pumping station and its pipeline connections would not be required as part of the Project if the On-airport WWTW forms part of the final consented Project. It is shown as a yellow dot and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~ (Doc Ref. 5.2). This would include a new underground pipeline connection between the new pumping station and the Crawley Sewage Treatment Works. The indicative corridor of the pipeline route has been designed to avoid the ancient woodland and make use of existing tracks. It would be up to 1,270 metres in length and require a construction corridor of up to 10 metres wide to install (the indicative corridor is shown in blue and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2)). The proposed pumping station would require a fenced compound with an area of 190 $m^2$ and be approximately 3 metres in height (above ground level) with elements up to 3 metres below ground level. It is estimated to have a capacity of approximately 45 litres/second.

5.2.191 A third new pumping station (Pumping Station 2a) is proposed and new connections via Pumping Station 2 (that would be demolished) and the main sewer (or via a new rising main to convey flows to the On-airport WWTW should this form part of the final consented Project). The proposed pumping station would require an area of approximately 10 $m^2$ and be approximately 2 metres in

height (above ground level) with elements up to 10 metres below ground level. It is estimated to have a capacity of approximately 40 litres/second. The proposed Pumping Station 2a is shown as a yellow dot and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2) and the Pumping Station 2 which would be demolished is shown as a grey triangle on **ES Figure 5.2.1e** ~~[AS-135]~~(Doc Ref. 5.2).

5.2.192 Further proposed improvements include upgraded capacity to existing pipelines, rerouting connections and decommissioning of a number of existing pumping stations (including Pumping Stations 3, 4 and 5 and 17, as shown and labelled on **ES Figure 5.2.1h** ~~[AS-135]~~ (Doc Ref. 5.2)). Pumping Stations 4 and 5 would be converted for use as temporary cesspits for tankering operations (shown as grey triangles and labelled on **ES Figure 5.2.1e** ~~[AS-135]~~ (Doc Ref. 5.2)). There would be a new rising main for Pumping Station 40.

5.2.193 Works to improve the drainage infrastructure of the airport are within the related work numbers or would be carried out as ancillary or related development under Schedule 1 of the **Draft DCO** (Doc Ref. 2.1).

**On-airport WWTW**

5.2.194 The Applicant has put forward proposals for an on-airport wastewater treatment works facility (the On-airport WWTW) as an 'alternative' solution for wastewater treatment to mitigate for ongoing uncertainty regarding capacity constraints in Thames Water Utilities Limited's ("TWUL") local wastewater treatment network. This is proposed as an alternative solution, were the Secretary of State to be minded to include a requirement in the DCO that precluded airport growth arising from the Project being implemented (and wastewater flows discharged) until modelled wastewater flows have been agreed by TWUL and any necessary upgrade works to TWUL's network and processing facilities have been implemented (as has been suggested by TWUL). Should the On-airport WWTW form part of the final consented Project, it would obviate the need for such a DCO requirement as all additional flows generated by the Project (and indeed all airport flows more generally) would be serviced by the on-airport facility. Further detail on the context of the On-airport WWTW is provided in the **Second Change Application Report** (Doc Ref. 10.47).

5.2.195 The On-airport WWTW would be located within the existing Self Park North car park (shown in green on **Figure 4.2.1b** [REP1-019]) and require a footprint of approximately 2.2 hectares. The facility would include the following physical elements, with the maximum height of the proposed structures being up to 9.4m above ground level and up to 2m below ground level:

- Headworks (the entry point for raw wastewater);
- Two circular primary clarifiers, each of approximately 12m in diameter;
- Two aeration basins, each with secondary clarifiers;
- Gravity thickeners;
- Biotower (odour control facility);
- Rotary drum thickeners, belt filter presses and tertiary disk filter facilities, each housed in a dedicated building;
- Blower building accommodating four turbo blowers and one positive displacement blower;
- Chemical storage building;
- Associated pipelines and Pumping Stations;
- Flocculation tank and a rapid mix tank;
- Sludge blend facility and sludge storage area;
- Operations and maintenance building (up to 2 storeys);
- Truck loading area; and
- Outfall from the facility to the River Mole, involving a concrete structure beside the River Mole to dissipate energy prior to discharge to the watercourse[5].

5.2.196 An associated network of wastewater infrastructure would be required within the airport to serve the On-airport WWTW, including new rising mains and a new Pumping Station located next to the existing Gatwick Airport Police Station with a maximum height of 4m above ground level and 7m below ground level.

5.2.197 The On-airport WWTW would treat flows via a conventional activated sludge process with anoxic and / or anaerobic zones for nutrient removal. Chemical dosing would be required: metal salts for phosphorus removal, alkalinity for pH adjustment if needed and polymer for biosolids processing.

5.2.198 The flows into the On-airport WWTW would constitute predominantly domestic wastewater with very small inputs of trade effluent (TE). TE flows would originate from aircraft washing, hire car washing, cooling tower / air conditioning plant residual flows, waste disposal processes at the Central Area Recycling Enclosure (CARE) facility and the Fire Training Ground. Based on GAL's hydraulic modelling, the TE flows would constitute less than 5% of the total dry

~~5.1.1~~ [5] There is an alternative approach to energy dissipation from the River Mole outfall involving the provision of an enlarged chamber within the WWTW boundary. However, a concrete structure was assumed as a worst-case for assessment purposes, as set out in the Second Change Application Report (Doc Ref. 10.47).

weather flows to the new On-Airport WWTW. The majority of Gatwick Airport's TE flows are the result of de-icing activities that would be managed via the constructed wetland (reed bed) system (proposed as part of the Project).

5.2.199 To mitigate and manage potential odour from the facility, all processes would be covered including the primary clarifiers, storage tanks and gravity thickeners. In particular, the foul air from the covered gravity thickeners would be treated by the biotower. The screening removal plant and the headworks would be enclosed within a building with an odour control unit installed to manage odour emissions.

5.2.200 The operation of the facility would entail raw wastewater entering the facility via the headworks for preliminary treatment. Once screened, the wastewater would pass through a grit removal process and then flow to the influent Pumping Station where it would be pumped to the primary clarifiers. There would be two primary clarifiers that would reduce the load on the biological treatment units (comprising the aeration basins and secondary clarifiers) by removing additional total suspended soils and biological oxygen demand.

5.2.201 The primary effluent flows would be treated via two aeration basins (with secondary clarifiers) and thickened using gravity thickeners and rotary drum thickeners (then referred to as 'sewage sludge'). The gravity thickeners would be within a steel framed building and the foul air generated from the sludge fermentation in the gravity thickeners would be treated within a biotower. Biotowers are typically filled with inorganic media whereby special microorganisms grow and form a biofilm. As the odorous air travels through the tower, the biofilm traps and breaks down a significant portion of the Hydrogen Sulphide ($H_2S$), thus reducing the odour levels in this part of the process.

5.2.202 To further treat the sewage sludge, it will be de-watered on site and exported as 'cake', which is relatively inert, to a neighbouring Wastewater and Sewage sludge treatment facility, e.g. TWUL's Crawley Sewage Treatment Works or Southern Water's Goddards Green Sewage Treatment Works, subject to agreement with the third party.

5.2.203 The On-airport WWTW would run on a 24/7 basis, staffed for 16 to 18 hours a day (two shifts a day) with callouts if required. Once constructed, it is anticipated that up to 5 full-time employees would be required for operation and maintenance of the On-airport WWTW.

~~5.2.193~~

### Potable Water consumption

~~5.2.194~~5.2.204 GAL has a Second Decade of Change[6] sustainability target to reduce its potable water consumption by 50% on a per passenger basis by 2030 compared to 2019, from approximately 15L per passenger to around 7.5L per passenger by the end of the decade. The output from the treatment facilities at the pollution storage lagoons could be used as a grey water supply to the airport to assist with meeting this goal, combined with the application of other water efficient methods/technologies and leakage reduction. For the purposes of the environmental assessment it is assumed that consumption remains at 15L per passenger.

## Environmental Mitigation Works

### Landscape and Ecological Planting

~~5.2.195~~5.2.205 The landscape and ecological planting proposals comprise:

- vegetation retention to ensure green infrastructure assets are retained wherever practicable, that important features (such as Riverside Garden Park) are protected and that adverse impacts on the important features at Gatwick are minimised. This would include protection of existing significant vegetation, including hedgerows, woodland, trees, shrubs, wetland and amenity planting or elements of the Project that lie immediately adjacent to significant vegetation that may be affected during the construction phase or during maintenance activities;
- provision of pedestrian routes, replacement areas of public open space at Horley and a pedestrian route from Riverside Garden Park to the replacement open space at car park B, a pedestrian footbridge from Church Meadows to the replacement open space to the west of the River Mole and associated publicly accessible land at Museum Field and Brook Farm;
- the ecology strategy as set out in **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** ~~[APP-113 to APP-116]~~(Doc Ref. 5.3) is to facilitate the creation of a coherent and resilient ecological network that seeks to increase the biodiversity of the Project site in a controlled manner such that it integrates with and supports the existing ecology of the area. This includes creation of new, high value habitats including woodland, tree, scrub, shrub, wetland, amenity and grassland; and

[6] https://www.gatwickairport.com/on/demandware.static/-/Sites-Gatwick-Library/default/dw10c8906f/images/Corporate-PDFs/Sustainability/Second_Decade_of_change_policy_to_2030.pdf

- enhancement of existing green infrastructure including hedgerows, woodland, trees, shrubs, wetland and amenity planting.

~~5.2.196~~5.2.206 The above measures are detailed further in **ES Appendix 5.3.2: Code of Construction Practice** ~~(Doc Ref. 5.3)~~[REP4-007] and **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** (Doc Ref. 5.3)~~[APP-113 to APP-116]~~.

~~5.2.197~~5.2.207 Areas for proposed environmental mitigation included within the Project are set out below. Their locations are shown in blue and labelled on **ES Figure 5.2.1g** ~~[AS-135]~~(Doc Ref. 5.2):

- approximately 0.79 hectares of open space on the Car Park B North site. The land is located immediately to the west of the London to Brighton railway line, north of the current A23. This area is currently used as staff car parking (shown as car park B on **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) and is proposed to provide replacement open space for the Project;
- approximately 0.64 hectares of open space on the Car Park B South site. The land immediately to the west of the London to Brighton railway line, south of the current A23. This area is currently used as staff car parking (the location of existing car park B is shown on **ES Figure 5.2.1h** ~~[AS-135]~~(Doc Ref. 5.2)) and is proposed to provide replacement open space for the Project;
- approximately 0.52 hectares of new planting, replacement open space and a new pedestrian footbridge to the north-east of Longbridge Roundabout. This would comprise landscaping and ecological mitigation planting, replacement open space and a pedestrian footbridge approximately 45 metres in length across the River Mole. The land on the west bank of the River Mole would offset the loss of recreational public open space in Riverside Garden Park and Church Meadows;
- approximately 17 hectares of ecological habitat creation on land to the west of the River Mole including the area of the existing Museum Field. This area adjoins the current Gatwick Biodiversity Area that runs along the river corridor (as shown in pale blue on **ES Figure 5.2.1g** ~~[AS-135]~~(Doc Ref. 5.2)). The primary purpose for the inclusion of this area is for ecological habitat creation and flood compensation. For Museum Field, a 6 metre high landscaped bund around the southern and eastern perimeter is proposed. A pedestrian route, including footbridge, is proposed around the area used of Museum Field that would also be used as a flood compensation area;
- two farm access bridges are proposed over Mans Brook to allow landside maintenance in the locations shown as yellow circles on **ES Figure 5.2.1g**

~~[AS-135]~~(Doc Ref. 5.2). These would be approximately 4.2 metres in width and would require clearance of approximately 1 metre either side of the bridges to enable installation;

- the River Mole diversion would provide opportunities for ecological mitigation in this area in addition to the measures described in paragraph 5.2.168;
- two areas of hedgerow are proposed to the south of the airfield to provide habitat connectivity as follows:
  - Along Perimeter Road East and Perimeter Road South the existing leylandii hedge would be replaced by a species rich hedgerow (approximately 125 metres in length).
  - Along Crawter's Brook there is a 5-6 metre wide amenity grass verge. A short scrub hedge would be grown to provide a green corridor that links Crawter's Wood and habitat suitable for bats located to the west of Gatwick Airport. The detail of the planting would take into account aerodrome safeguarding so as not to infringe obstacle limits or create attractants to wildlife.
- a 15 metre belt of trees are proposed to be planted on the eastern edge of Pentagon Field, adjacent to the Balcombe Road; and
- approximately 1 hectare of land to the south of Pentagon Field proposed for landscape and ecological planting.

~~5.2.198~~5.2.208 Further details about the environmental mitigation areas are provided in **ES Chapter 8: Landscape, Townscape and Visual Resources** [APP-033] and **ES Chapter 9: Ecology and Nature Conservation** [APP-034]. Further information about replacement public open space is provided in **ES Chapter 19: Agricultural Land Use and Recreation** [APP-044]. Details of planting are provided in **ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan** ~~[APP-113 to APP-116]~~(Doc Ref. 5.3).

### Public Rights of Way Strategy

~~5.2.199~~5.2.209 The implementation of the Project would require the temporary diversion of Public Rights of Way (PRoW) and National Cycle Route 21, together with the permanent diversion of two PRoWs associated with the construction of the highways improvements. A PRoW Management Strategy has been prepared (see **ES Appendix 19.8.1: Public Rights of Way Management Strategy** ~~[APP-215]~~[REP2-009]) that demonstrates a planned approach to the management of PRoW during the construction and operation of the proposed development which

maintains public safety and ensures, as far as possible, minimal disruption to PRoW users.

### Appearance and Design

~~5.2.200~~5.2.210 Many of the components of the Project are relocated airfield elements and the appearance of the relocated facilities would be similar to the existing facilities. In some cases, the demolition of ageing facilities and replacement with more modern buildings is likely to result in an overall improvement in terms of appearance.

~~5.2.201~~5.2.211 The proposed extensions to the airport terminals have been designed to 'tie in' and be in keeping with the design of the existing terminal buildings. Proposed works within the terminals would result in a more modern appearance through reconfiguration and installation of new facilities.

~~5.2.202~~5.2.212 The operator of the proposed hotel buildings would inform the external appearance of these buildings, which would be determined prior to construction and in consultation with the local planning authority.

~~5.2.203~~5.2.213 Information about the way in which environmental considerations have contributed to the design of the Project are described in **ES Chapter 3: Alternatives Considered** [APP-028]. This includes demonstrating compliance with Civil Aviation Authority (CAA) and European Aviation Safety Agency (EASA) regulations and specifications as well as International Civil Aviation Organization (ICAO) design recommendations or seeking exceptions in the form of deviations from the standard. An options appraisal process has been undertaken for the design of the Project components using criteria that include whether the option promotes good design.

~~5.2.204~~5.2.214 Information about the design and access principles are provided in the **Design and Access Statement** ~~[APP-253 to APP-257]~~[REP2-032 to REP2-036] that accompanies the DCO application. This includes site wide design guidelines for the operational buildings.

### Operational Lighting

~~5.2.205~~5.2.215 An Operational Lighting Framework has been prepared and this is provided in **ES Appendix 5.2.2: Operational Lighting Framework** [APP-077]. This sets out the framework for the use of external lighting for the operation of the Project (construction lighting is addressed in paragraphs 5.3.132 to 5.3.135).

~~5.2.206~~5.2.216 Objectives include the mitigation of impacts associated with lighting on sensitive receptors, such as residents, heritage sites and local flora and fauna.

Obtrusive light (including flicker, glare, light intrusion and sky glow) are considered by reference to recommendations of relevant guidance notes for reducing obtrusive light and in relation to bats.

~~5.2.207~~5.2.217 Objectives also include energy efficiency in design and operation (eg LED lighting, circularity); efficiency of energy supply (eg smart lighting controls), renewable energy integrated into the design of integrated of the new facilities (eg co-ordination of lighting with the car park canopy PV arrays).

~~5.2.208~~5.2.218 Lighting design considerations are identified for roads, pedestrian crossings, pedestrian paths and cycleways, car parks, hotel and office buildings, aircraft stands and aeronautical ground lighting.

~~5.2.209~~5.2.219 Further information about operational lighting is provided in **ES Appendix 5.2.2: Operational Lighting Framework** [APP-077]. The design principles which will inform the lighting of the detailed design for the Project are in the Appendix to the **Design and Access Statement** ~~[APP-253 to APP-257]~~[REP2-032 to REP2-036].

### Mitigation

~~5.2.210~~5.2.220 A number of mitigation measures have been incorporated into the Project (embedded mitigation). These are described in the topic chapters (**ES Chapters 7 to 19** within sections describing Mitigation and Enhancement Measures Adopted as part of the Project). These measures plus further mitigation measures identified in the topic chapters to further reduce significant environmental effects are compiled in **ES Appendix 5.2.3: Mitigation Route Map** ~~[APP-078]~~[REP2-011] together with how they would be secured. Further information about the types of mitigation identified is provided in **ES Chapter 6: Approach to Environmental Assessment** [APP-031].

## 5.3. Approach to Construction

5.3.1 The anticipated construction methods, timing and sequencing are described in the sections below with further information provided in **ES Appendix 5.3.1: Buildability Report** [APP-080,~~79 to~~ APP-081 and REP2-013] which provides further detail about the approach to construction. Where options remain, the limits of the assessment have been set sufficiently wide to allow a robust assessment to be undertaken of a reasonable worst-case scenario.

5.3.2 Construction would be undertaken in accordance with the **Code of Construction Practice** ~~(Doc Ref. 5.3)~~[REP4-007] and its **Annexes 1-5** [APP-084~~3~~, ~~to~~ APP-

086~~7~~, REP2-015, REP3-020, REP3-022, REP3-024, REP3-026, REP4-009, REP4-011, REP5-020 and REP5-022].

5.3.3 This section describes the indicative construction programme and identifies that construction activities are anticipated from 2024 to 2029 and also from 2029 onwards. It then describes the demolition activities and the approach to construction management. This is followed by a section addressing vulnerability to accidents and disasters during construction.

### Indicative Construction Programme

5.3.4 The timing of the commencement of construction of the Project would be dependent on the timing of securing development consent and other relevant consents and licences and the discharge of the associated requirements.

5.3.5 Facilities to support the growth of air traffic movements (ATMs) and passenger numbers would be sequenced to meet forecast demand and, where appropriate, to align with the main airfield construction. For example, construction of new remote aircraft parking stands would be required early in the programme to mitigate the loss of remote parking stands when Taxiway Lima would be built. Similarly, the construction of additional flood storage capability in an existing surface car park would necessitate the early provision of additional multi storey car park spaces to offset their loss.

5.3.6 Those elements of the Project such as surface access, additional pier served stands, passenger processing capability, car parks and commercial facilities that are required for growth would be phased and delivered to meet ATM and passenger forecasts.

5.3.7 The indicative construction programme, developed to support the DCO application anticipates construction commencing in 2024 and continuing (across different scheme components) until approximately 2038 (as set out in Table 5.3.1 below). The assumptions which inform the indicative construction programme enable a representative assessment of the likely significant effects but are not fixed dates within a prescribed programme or sequence.

5.3.8 The indicative programme for the main airfield construction works is approximately five years' duration that would enable the altered northern runway and taxiways to be complete and fully operational in combination with the main runway in 2029. During the construction period the northern runway would not be available as a standby runway for a period of several months. The indicative sequencing of the construction works is outlined in Table 5.3.1.

**Table 5.3.1: Indicative Sequencing of Construction Works**

| Indicative Sequencing | Component of the Project |
|---|---|
| 2023-2029 | Pre-construction activities (including surveys for any Unexploded Ordnance (UXO) and any necessary pre-construction surveys) |
| 2024-2029 | Early works, including establishment of compounds, fencing, early clearance and diversion works and re-provision of essential replacement services. |
| 2024-2029 | Reconfiguration of existing airfield support facilities (Phase 1)<br>Repositioning of the existing northern runway<br>Airfield works to support use of the repositioned northern runway |
| 2024-2033 | Terminals Works |
| 2024-2032 | Hotels and offices |
| 2024-2035 | Car Parks |
| 2024-2029 | Flood compensation areas |
| 2026-2028 | On-airport WWTW (if included as part of the final consented Project) |
| 2028-2032 | Surface access works including:<br>▪ South Terminal roundabout improvements (2029-2031)<br>▪ North Terminal roundabout improvements (2029-2031)<br>▪ Works to Longbridge roundabout (2028-2031)<br>▪ Opening to traffic 2032 |
| 2029-2034 | Ongoing reconfiguration of existing airfield support facilities (to final state)<br>Further airfield works |
| 2030-2034 | New Pier 7 |
| 2035 | Reinstatement of final land use at temporary construction compound locations |
| 2038 | Completion of all works for the Project |

5.3.9 The following sections further describe the indicative sequencing for the construction of the specific components of the Project together with the construction activities that are currently anticipated during those periods. Firstly the pre-construction activities are described and this is followed by construction activities anticipated to be undertaken, within the indicative sequencing, from 2024 to 2029 and also from 2029 onwards. A diagram illustrating the indicative construction sequencing for the specific components of the Project is provided in **ES Appendix 5.3.3 Indicative Construction Sequencing** ~~[APP-088].~~ [REP2-016].

### Pre-construction Activities

5.3.10 Prior to any construction works being undertaken, the presence of any unexploded ordnance (such as World War II bombs dropped by aircraft) will be determined and any necessary consents obtained.

5.3.11 Some limited pre-construction ecological surveys may be required to inform any protected species mitigation licence that may be required.

5.3.12 A programme of archaeological desk-based assessment and field evaluation has been undertaken as part of the EIA process in order to provide a greater level of understanding of the archaeological potential of such areas. Where appropriate, and following consultation with the relevant advisory bodies, further archaeological evaluation and/or detailed excavation may be undertaken at specific locations in advance of any construction works being allowed to progress in that area. Written Schemes of Investigation are provided in **ES Appendix 7.8.1: Written Scheme of Investigation for post-consent archaeological Investigations – Surrey** ~~[APP-105]~~ [REP2-017] and **ES Appendix 7.8.2: Written Scheme of Investigation for post-consent Archaeological Investigations and Historic Building Recording – West Sussex** ~~[APP-106]~~ [REP2-019] to **ES Chapter 7: Historic Environment** [APP-054].

### Anticipated Construction Activities from 2024 to 2029

5.3.13 This section outlines the construction activities that are anticipated to be undertaken from 2024 to 2029.

#### Early works

5.3.14 A number of activities have been identified that are anticipated to commence promptly after the grant of development consent. Early works would include the following:

- Establishment of the main contractor compound, airfield satellite compound and surface access satellite contractor compounds.
- Fencing, early clearance and diversion works and re-provision of essential replacement services.

#### Repositioning of the existing northern runway

5.3.15 Construction works for the repositioning to the existing northern runway would be undertaken and the redundant 12 metre strip would be broken out and returned to grass.

#### Taxiways

5.3.16 Works at Taxiway Juliet East (Code E) include clearance and paving works. The existing pavement associated with Taxiway Juliet would be removed and the area returned to grass.

5.3.17 Works at Taxiway Juliet East (Code E) include utility diversions, clearance of existing stands, earthworks and paving. The existing pavement associated with

Taxiway Juliet would be removed, the area returned to grass, and drainage would be installed.

5.3.18 Works to provide the Taxiway Lima extension comprise the installation of a new airside fence and relocation or protection of existing services. Existing pavement and buildings would be cleared, together with demolition of an existing underground pumping station/water tanks. Earthworks would be required to allow for provision of new pavement to tie-in to existing pavement levels.

5.3.19 Works associated with the Taxiway Tango cut-through would include relocation or protection of existing services, earthworks, provision of new pavement and reconstruction of some existing pavement to tie-in to the existing finished pavement levels and the new extension to Taxiway Lima.

5.3.20 Works on the runway exit/entrance taxiways between the repositioned northern runway and Taxiway Juliet would be undertaken.

5.3.21 Utility diversion works are anticipated to be carried out to enable the end around taxiways and runway exit/entrance taxiways from/to the main runway to commence.

5.3.22 Works at Taxiway Juliet West include paving works would be undertaken and would progress as earthworks advance. The existing pavement associated with Taxiway Juliet West would be removed and the area returned to grass. Drainage would be installed to serve the new Taxiway Juliet West and Juliet West Spur.

5.3.23 Construction of the Taxiway Juliet West Spur would be undertaken.

### Aircraft Stands

5.3.24 Works would be undertaken to reconfigure existing areas of remote aircraft stands to allow for the reconfigured Taxiway Lima while retaining stands suitable for Code C aircraft (stands 150-151). It is proposed that existing stands would be removed/reconfigured to allow for relocation of Taxiway Juliet East. New aircraft stands north of Taxiway Lima would also be constructed.

5.3.25 Works to provide new aircraft stands would commence, including:

- provision of a new area of remote aircraft stands and taxiway in an existing area to the north of Taxiway Juliet (in an area to be known as ‘Oscar’ area); and
- provision of one new Code C stand north east of the existing Hangar 7.

5.3.26 The provision of additional aircraft stands in the Oscar area would require diversion of existing services and placement of a new foundation for an above ground waterproof shelter for control equipment. Existing structures would be demolished and excavation to formation layer and importation of granular fill material carried out. A concrete apron would be installed for additional stands and taxiway.

### Airfield Support Facilities

5.3.27 Construction of the ground maintenance and airfield surface transport facilities would comprise diversion and relocation of existing utilities within the footprint of the new building and breakout of the existing pavement to allow construction of foundations. A new foundation would also be constructed for the vehicle storage areas, together with metal framed shed structures and temporary pre-fabricated office and welfare buildings.

5.3.28 The existing fire training ground would be relocated within an area in the northern part of its existing location. This would require clearance of existing soft landscape, excavation to the formation layer and installation of an underground collection tank, granular material and new drainage. A new concrete pad would also be required. The existing fire training equipment and fuel supply would be relocated by HGV and crane.

5.3.29 The construction of the replacement CARE facility would be undertaken in order to process landside waste (30% of total airport waste) which cannot be processed at the existing site when Taxiway Lima is completed and the facility becomes airside due to security considerations. This would involve diversion and relocation of existing utilities, breakout of the existing pavement, excavation for the proposed biomass boiler (or equivalent) and flue foundations/waste collection skip bay area, and installation of sheet piles for the waste collection skip bay. The building is likely to comprise a steel/portal framed structure, with a biomass boiler installed on concrete plinths, and an above-ground bunded diesel tank. Phase 2 of the works (to provide the remaining capacity) would commence, ahead of works to build the new Oscar area aircraft stands.

5.3.30 Provision of facilities to allow the motor transport operations to continue during construction would include construction of a landside parking area, with a vehicle wash facility and refuelling area within the existing Long Stay Car Park North. Phase 1 would include breaking out of existing pavement for a new ground slab, excavation of underground retention tanks and installation of a splash screen. Phase 2 would require diversion and relocation of existing utilities, breaking out and removal of existing pavement and excavation for underground tanks and

inspection bays. A concrete ground slab would be provided as a base for a steel/aluminium framed vehicle shed structure.

5.3.31 The existing Rendezvous Point North would re-provide suitable emergency rendezvous area for off-airport emergency services, to the north of the central airport area. This would involve diversion and relocation of services, breaking out of the existing pavement for foundations and placement of a new foundation. The replacement Rendezvous Point North would include a prefabricated office and welfare building, together with a new gate in the airside fence. In addition, works undertaken at an early stage of construction would include provision of additional internal vehicular access points to ensure sufficient airfield access. These works would require conversion to existing exits to allow for entrance lanes, including provision of closed-circuit television, steel structures and canopies.

5.3.32 Works to relocate the existing infrastructure (such as electrical, communications and water utilities) from the northern side of Hangar 7 to the southern side are anticipated to be undertaken to ensure continued operation with the extended Taxiway Lima in place.

5.3.33 Works to provide the satellite airport fire service facility would comprise clearance of existing landscaped areas, diversion of utilities and excavation to the formation layer. Granular fill material would be placed and compacted and foundations (pad foundations for single storey building) installed. A concrete ground slab would also be installed, together with a single storey brick building.

### Western noise mitigation bund

5.3.34 Works on the noise bund and wall to the west of the runway would include clearance and removal of existing bund material, placement and compaction of the piling platform, excavation for foundations, installation of pre-cast sections and ground reinstatement. The approach to the construction of the new bund and wall would take into account the need to continue to mitigate noise to noise sensitive receptors to the west by retaining sections of the existing bund during the works and working from east to west.

### Internal Access Routes

5.3.35 A temporary diversion is proposed for Larkins Road including diversions of utilities.

5.3.36 The runway access track between the main and northern runways would be constructed prior to opening of the repositioned northern runway.

5.3.37 During construction a temporary haul route (as shown in blue on **ES Figure 5.2.1f** ~~[AS-135]~~(Doc Ref. 5.2)) is proposed from Museum Field, through the fire training ground and eastwards to cross the River Mole at its narrowest point on the western edge of current Pond A via a temporary bridge. The haul route would be approximately 700 metres in length and 9.3 metres in width. The bridge would be approximately 42 metres in length, 8 metres width and abutment height of 1.3 metres above ground level. The bridge would comprise one lane with a pedestrian crossing and access would be managed via traffic lights or signs.

### Terminal Works

5.3.38 The proposed terminal works and extensions include:

- South Terminal IDL extension;
- North Terminal baggage reclaim extension: 2030;
- North Terminal IDL extensions; and
- North Terminal baggage hall extension: 2030 (to be completed after opening of the realigned northern runway, anticipated during 2030).

5.3.39 The terminal extensions would require site clearance, diversion of existing utilities and mechanised break out of existing paved surfaces. New piled foundations would be required. Internal hoardings would be erected within the existing terminals, with removal of existing façades as required.

5.3.40 The North Terminal baggage reclaim extension would also require internal floor decking to be installed, with baggage handling equipment. The works associated with the additional North Terminal coaching gates and changes to the forecourts at North Terminal and South Terminal would be undertaken.

### Hotels and Offices

5.3.41 The timing of construction for the proposed hotel and offices would be dependent on the commercial need. However, for the purposes of assessment, it is assumed that the following would be completed prior to opening of the repositioned northern runway:

- Hotel on the car rental site;
- Hotel on Car Park H site (Phase 1);
- Hotel north of multi storey car park 3; and
- Conversion of Destinations Place office to a hotel.

5.3.42 Hotel construction would require mechanised break out of existing paved areas, demolition of existing structures and mechanised excavation down to the formation layer and foundation level. Granular sub-base layers would be

imported. Piled foundations would be installed. A concrete foundation would support a steel portal frame structure with concrete deck.

### Car Parks

5.3.43 The works for the following proposed car parking would be undertaken:

- North Terminal Long Stay;
- Multi-storey Car Park J;
- Removal of existing Purple Parking;
- Car Park X decking (reprovision of Purple Parking); and
- Multi-storey Car Park H (Phase 1).

5.3.44 Multi-storey car park construction would require excavation to the formation layer and foundation level. Granular sub-base layers would then be provided, with installation of piled foundations. Steel portal frame structures with concrete slabs would also be required, together with vehicle barrier fences.

### Surface Access Works

5.3.45 Lead-in works for the surface access improvements would be undertaken. Works to the Longbridge Roundabout would commence, including alterations to the existing layout. This would require standard highway construction and alterations to signal equipment.

### Water Management Works and Power Facilities

5.3.46 Pond A would be removed and infilled, the River Mole diversion and extension, and works to clear vegetation and commence excavation/ground lowering for the flood compensation area at Museum Field would be undertaken.

5.3.47 The flood compensation area beneath car park X and the attenuation storage facility beneath car park Y would be constructed.

5.3.48 Works to realign existing surface water drainage infrastructure along Taxiway Yankee, providing a connection to Pond D would be undertaken.

5.3.49 The proposed water treatment works, comprising the constructed wetland (reed bed) system, would be constructed.

5.3.50 Works on the provision of the new pumping stations (with the exception of Pumping Station 7a) would be undertaken and include installation of new buried pipes to form the connection between the new pumping station near South Terminal and the Crawley Sewage Treatment Works.

5.3.51 Substations BP, BR, J BK and A would be relocated. Works to protect Substation L from flooding are also anticipated would be undertaken.

Wastewater Treatment Works

5.3.52 Should the On-airport WWTW form part of the final consented Project, the On-airport WWTW would take approximately two years to construct. The works would involve the removal of part of the existing Self-Park North Car Park and the construction of the On-airport WWTW.

5.3.53 The construction process would involve the use of machinery / equipment including mobile cranes, piling rig, excavators, concrete mixers and pumps and lorries. The works would involve excavation of up to 5m in depth.

5.3.54 A new pipe from the On-airport WWTW to a new outfall into the River Mole would be constructed for the discharge of treated effluent from the On-airport WWTW. The outfall would need to pass through a strip of trees on the existing noise bund. It is therefore proposed that the outfall would be constructed using trenchless techniques to not disturb the existing noise bund and existing trees.

5.3.55 Alongside the On-airport WWTW and its associated outfall, a network of wastewater infrastructure would be constructed outside the On-airport WWTW boundary but within the airport extent. This would include new rising mains and a new Pumping Station located next to the existing Gatwick Airport Police Station.

5.3.56 For the proposed pipeline network, working widths of approximately 5m would be required for construction purposes. The construction of the proposed Pumping Station would require a working area of approximately 22m x 20m during construction with excavation up to 9m in depth.

~~5.3.51~~5.3.57 ~~-~~Appropriate measures would be implemented during the construction of these works to maintain access for users of the footway and highway. During construction of the Pumping Station, users of the footway would be temporarily diverted over a short length of approximately 75m. Part of this footway incorporates the Sussex Border Path (Footpath 346_2Sy) and a temporary diversion of the public right of way would be required.

Environmental Mitigation Works

~~5.3.52~~5.3.58 Works on the area of approximately 17 hectares of land to the west of the River Mole including the area of Museum Field that would be for ecological habitat creation and flood compensation would be undertaken.

~~5.3.53~~5.3.59 Environmental mitigation works associated to the River Mole diversion would be implemented, including opportunities for ecological mitigation within this area.

~~5.3.54~~5.3.60 The import of cohesive arising from excavations associated with the development activities would be used to level / landscape Pentagon Field and improve ecological habitat and biodiversity.

~~5.3.55~~5.3.61 The landscape and ecological planting in the field to the south of Pentagon Field would be established.

~~5.3.56~~5.3.62 The areas of hedgerow to the south and eastern parts of the airfield to provide habitat connectivity.

### Anticipated Construction Activities from 2029 Onwards

~~5.3.57~~5.3.63 This section outlines the construction activities that are anticipated to be undertaken from 2029 onwards.

#### Taxiways

~~5.3.58~~5.3.64 Works to upgrade Taxiways Whiskey, Victor and Zulu would involve reconfiguration and reconstruction of pavements to accommodate Code E aircraft. Works would largely be located within the area occupied by the existing taxiways but would require incorporation of an additional area to the north of Taxiway Zulu.

#### Pier

~~5.3.59~~5.3.65 Works to construct Pier 7 would comprise excavation for foundations, placement of a piling platform, piling for foundations and excavation to formation layer. Granular fill would be installed and compacted with new services provided. A concrete apron would be constructed, together with a steel portal frame superstructure and concrete floor decking. The structure would include passenger areas, screening areas, plant rooms, offices and welfare facilities.

#### Aircraft Stands

~~5.3.60~~5.3.66 A number of works to provide new aircraft stands are anticipated to remain ongoing during this time, including:

- provision of a new area of remote stands in the existing area to the north of Taxiway Juliet (in an area to be known as "Oscar"); and
- provision of one new Code C stand north east of the existing Hangar 7.

~~5.3.61~~5.3.67 In addition, the existing remote stands located to the west of Pier 3 would be converted to Code C fully serviced stands.

~~5.3.62~~5.3.68 Nine de-icer tanks (clearance of the 130s/140s stands) would be relocated.

### Aircraft Holding Area

~~5.3.63~~5.3.69 Clearance works and construction of the proposed holding area ("Charlie Box") would be undertaken. These works would comprise reconfiguration of an existing apron area to provide areas for aircraft stands and aircraft hold points. The Charlie Box would include new taxiways across the existing area of buildings and roadways.

### Airfield Support Facilities

~~5.3.64~~5.3.70 The CARE facility works would be ongoing and comprise diversion and relocation of existing utilities and breaking out and removal of existing pavement. Sheet piles would be installed for the waste collection skip bay.

~~5.3.65~~5.3.71 Phase 2 of the works to provide the replacement motor transport facility would be ongoing.

~~5.3.66~~5.3.72 The construction of the proposed new hangar would comprise excavation for foundations, placement of piling platform, piling for foundations and placement of concrete pile caps. Excavation would be carried out to the formation layer, with installation of granular fill and concrete pavement. The structure would be of steel portal frame construction.

~~5.3.67~~5.3.73 Works on the autonomous vehicle maintenance building would be constructed near to Pier 5.

### Internal Access Route

~~5.3.68~~5.3.74 Work on the autonomous vehicle route would be undertaken together with the construction of the autonomous vehicle stations which would involve excavation for foundations (to formation layer) and placement of concrete pad foundations. Granular fill would be imported and compacted. A concrete ground slab would support a steel portal frame structure with concrete floor decking.

### Terminal Works

~~5.3.69~~5.3.75 The following works to the terminals would be undertaken.

- North Terminal baggage hall extension (ongoing);
- South Terminal baggage reclaim; and
- South Terminal borders.

### Hotels and Offices

~~5.3.70~~5.3.76 As explained in paragraph 5.3.41, the timing of construction for the proposed hotel and offices would be dependent on the commercial need. It is anticipated that the following works would be undertaken during this period:

- Office on existing car park H; and
- Hotel on car park H (Phase 2).

~~5.3.71~~5.3.77 Hotel and office construction would require mechanised break out of existing paved areas, demolition of existing structures and mechanised excavation down to the formation layer and foundation level. Granular sub-base layers would be imported. Piled foundations would be installed. A concrete foundation would support a steel portal frame structure with concrete slab and beams.

### Car Parking

~~5.3.72~~5.3.78 Works for the construction of the following car parks would be undertaken:

- Car park Y multi-storey (Phase 1 and 2); and
- Car park H multi-storey (Phase 2).

### Surface Access Works

~~5.3.73~~5.3.79 Works to improve the South Terminal roundabout and North Terminal Roundabout would be undertaken during this period. Compounds associated with the surface access works would be set up ahead of these works.

~~5.3.74~~5.3.80 Works to the South Terminal roundabout would require standard highways construction for at-grade highways and grade separation elements. The flyover is anticipated to consist of a steel beam superstructure with a concrete slab deck on concrete abutments and piers, and piled foundations. Retaining walls would be required close to existing buildings and Pond F and to separate adjacent links at different levels or gradients. The M23 Spur over the B2036 Balcombe Road would be raised by up to approximately 2.2 metres. Balcombe Road overbridge would require strengthening and widening, noting the assumption is for full replacement, as well as widening to accommodate slip roads. The noise barrier at the South Terminal junction would be constructed.

~~5.3.75~~5.3.81 Works to the North Terminal roundabout would require standard highways construction for at-grade highways and grade separation elements. The flyover is anticipated to consist of a steel beam superstructure with a concrete slab deck on concrete abutments and piers, and piled foundations. Retaining walls would

be required to separate adjacent links at different levels or gradients. The noise barrier at the North Terminal junction would be constructed.

~~5.3.76~~5.3.82 Works to the Longbridge roundabout would be ongoing.

### Water Management Works and Power Facilities

~~5.3.77~~5.3.83 Construction of the new end of runway pumping station would be undertaken. This would decouple the existing sewerage network east of the railway and remove its load from the South Terminal sewerage system. This would include a new pipeline connection between the new pumping station and the Crawley Sewage Treatment Works.

~~5.3.78~~5.3.84 The new substation proposed north of Pier 7 would be constructed.

### Environmental Mitigation Works

~~5.3.79~~5.3.85 Replacement open space in areas of Car Park B to the north and south of the A23, would be established, including the provision of a new pedestrian route to link the current area of Riverside Garden Park to the northern area of Car Park B.

~~5.3.80~~5.3.86 A replacement area of open space to the north east of Longbridge Roundabout including a pedestrian footbridge across the River Mole, located west of Church Meadows would be established.

### Demolition Activities

~~5.3.81~~5.3.87 In order to allow for the construction of the proposed facilities and reconfiguration of existing facilities, a number of existing facilities would be subject to demolition. These would include the demolition of the following:

- Airside Operations Building;
- CIP building and circulation building at the North Terminal;
- CARE facility, motor transport facilities, airfield surface transport facility and ground maintenance facilities;
- Former TCR Snowbase building;
- Substations A, BK, J, BP, BR, BJ and BM;
- Pumping stations 2, 3, 4, 5, 17 and 45;
- Purple Parking decked structure and surface parking;
- Pond A (removal and infill); and
- Parts of the existing fire training ground.

~~5.3.82~~5.3.88 In addition to the above, redundant areas of hardstanding would be removed.

### Construction Management

~~5.3.83~~5.3.89 It is GAL's intention that the site would be registered under the Considerate Constructors Scheme or a locally recognised certification scheme.

~~5.3.84~~5.3.90 Construction would be undertaken in accordance with a Code of Construction Practice (CoCP) (see **ES Appendix 5.3.2: Code of Construction Practice** ~~(Doc Ref. 5.3)~~ [REP4-007] and its Annexes [APP-084,~~3 to~~ APP-086~~7~~, REP2-015, REP3-020, REP3-022, REP3-024, REP3-026, REP4-009, REP4-011, REP5-020 and REP5-022]. This legally secures the implementation of environmental mitigation measures for the construction of the Project. The mitigation measures identified in the CoCP have been identified through the EIA process and are reported in the ES. They describe how GAL will manage and minimise disturbance and other environmental impacts from demolition and construction activities (as identified in the ES). It also ensures that best practice standards will be applied and that there is a system in place for managing complaints.

~~5.3.85~~5.3.91 GAL and its contractors will be required to implement the environmental management measures set out in the version of the CoCP as approved by the Secretary of State, for all construction activities authorised by the DCO to deliver the Project.

### Construction Working Areas

~~5.3.86~~5.3.92 The precise configurations of compounds would be determined post consent although they would be within the areas identified for the following main/satellite compounds (proposed locations are shown in **ES Figure 5.2.1f** ~~[AS-135]~~(Doc Ref. 5.2)):

- main contractor compound (known as MA1);
- airfield satellite compound (for most of the airfield works to the north west of the airfield);
- car park Z compound (for staging and laydown area for the airside works);
- car park Y compound (for material re-processing from the airside works and surface access works);
- South Terminal Roundabout contractor compound (main compound for surface access works);
- Longbridge Roundabout contractor compound (for surface access works to the Longbridge Roundabout);
- Car park B compound (for surface access works at Airport Way Bridge over the London to Brighton railway line); and
- ~~Reed bed compound.~~

5.3.93 In addition to the above, temporary compounds will be erected to support specific construction activities. This includes a temporary compound associated to the constructed wetland (reed bed) system and two temporary compounds to facilitate the construction of the On-airport WWTW , if the facility forms part of the final consented Project.

~~5.3.87~~5.3.94 All construction compounds would be temporary and all, except car park B, would be reinstated to their previous use following completion of construction works. Car park B would become replacement open space.

~~5.3.88~~5.3.95 In addition, an area to the south east of the airfield, car park Z, would be used to support MA1 and the Airside satellite compound for HGV staging, parking and material laydown.

~~5.3.89~~5.3.96 Further details about each construction compound are provided below.

### Main Contractor Compound (MA1)

~~5.3.90~~5.3.97 The main contractor compound (MA1) would be located in the south eastern part of the airport, to the west of the perimeter road. The compound would be securely fenced and is anticipated to accommodate the following:

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

~~5.3.91~~5.3.98 The main compound is anticipated to occupy an area of approximately 4 hectares. The tallest elements within the main compound are expected to be components of the batching plants at a maximum of 25 metres above ground level. The location is anticipated to serve the majority of the daily construction workforce and the project management team.

~~5.3.92~~5.3.99 The main compound would support approximately 700 construction workers.

~~5.3.93~~5.3.100 It is likely that a new temporary access from the existing Perimeter Road East would be required to enable separation of construction traffic from the existing operational traffic.

### Airfield Satellite Contractor Compound

~~5.3.94~~5.3.101 The airfield satellite compound would be to the west of Taxiway Uniform and south of the Boeing hangar. This compound would be securely fenced and is anticipated to accommodate the following:

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

~~5.3.95~~5.3.102 The airfield satellite compound is anticipated to occupy an area of approximately 3.5 hectares. The tallest elements within the compound are expected to be components of the batching plant at a maximum of 25 metres above ground level. The location is anticipated to serve airfield works, including the provision of a stockpile location and crusher operation.

~~5.3.96~~5.3.103 The satellite compound would support approximately 370 construction workers.

~~5.3.97~~5.3.104 The access road to the airfield satellite compound would be via part of Larkins Road. Approximately 750 metres would be strengthened and widened from the current single lane (5 metres wide) to a two way carriageway (7.5 metres wide) up to 10 metres in width to allow for wagon overhang, plus an additional 2 metres for construction.

### Car Park Z Compound

~~5.3.98~~5.3.105 The car park Z compound would be located to the southeast of the airfield. It would be fenced and is anticipated to accommodate the following:

- a staging and laydown area;
- site offices and welfare facilities;
- parking (approximately 20 car, 2 van and 4 HGV spaces);

- mobile crusher;
- security screening area; and
- warehouse.

~~5.3.99~~5.3.106 It would occupy an area of approximately 1.8 hectares. The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level.

### Car Park Y Compound

~~5.3.100~~5.3.107 The car park Y compound would be located off the Northgate Roundabout to the north of the airport.

~~5.3.101~~5.3.108 It would occupy an area of approximately 1.8 hectares. The tallest elements within the compound are expected to be two storey containers at a maximum of 8~~6~~ metres above ground level.

~~5.3.102~~5.3.109 For the compound's initial use as the airside materials processing area, the area would be fenced and is anticipated to comprise:

- material processing plant area;
- material storage and laydown areas;
- wheel wash areas for HGVs;
- site offices and welfare facilities;
- mobile crusher and loader;
- warehouse;
- parking (approximately 10 car, 2 van and 5 HGV spaces); and
- security screening area.

~~5.3.103~~5.3.110 For the compound's later use for the surface access works (North Terminal Roundabout) the area would be fenced and is anticipated to comprise:

- site offices and welfare facilities;
- security screening area;
- stockpiling;
- wheel wash area; and
- parking (approximately 50 car, 10 van, 5 bus, 15 HGV and 10 articulated vehicle spaces).

### South Terminal Roundabout Contractor Compound

~~5.3.104~~5.3.111 The south terminal roundabout contractor compound would be located to the north of the South Terminal Roundabout. It would be fenced and is anticipated to accommodate the following:

- access controlled access from the South Terminal Roundabout;
- office and welfare facilities (including meeting room, canteen, locker rooms);
- material laydown area;
- security screening area;
- batching plant;
- two warehouses and a workshop;
- stock piling;
- traffic break down recovery centre;
- wheel wash area; and
- parking for contractor, project manager and supply chain vehicles (approximately 169 car, 10 van, 5 bus spaces).

~~5.3.105~~5.3.112 It would occupy an area of approximately 3 hectares. The tallest elements within the compound are expected to be components of the batching plant at a maximum of 25 metres above ground level. There would be a bund for noise and visual screening. Materials storage would be located to the west of the compound to distance it from residential properties on Balcombe Road and there would be potential to locate other facilities in this area.

~~5.3.106~~5.3.113 The compound would support approximately 250 construction workers.

### Longbridge Roundabout Contractor Compound

~~5.3.107~~5.3.114 The Longbridge Roundabout contractor compound to serve the works to the Longbridge roundabout would be securely fenced and is anticipated to accommodate the following:

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

~~5.3.108~~5.3.115 The Longbridge roundabout satellite compound is anticipated to occupy an area of approximately 0.3 hectares. The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level.

~~5.3.109~~5.3.116 The welfare containers would be either two storey or on steel legs due to the flood risk at the site.

~~5.3.110~~5.3.117 The compound would accommodate approximately 40 construction workers.

Car P~~p~~ark B compound

~~5.3.111~~5.3.118 The car park B compound would be used for the works to widen the Airport Way bridge over the railway line. Part (approximately 0.3 hectares) would be to the north of the bridge and part (approximately 0.17 hectares) to the south of the bridge. The tallest elements within the compound are expected to be two storey containers at a maximum of 6 metres above ground level. The two areas of this compound would be securely fenced and is anticipated to accommodate the following:

- office and welfare facility (including welfare waste area);
- material lay down;
- wheel wash area; and
- parking (approximately 30 car, 4 van spaces)

~~5.3.112~~5.3.119 The compound would accommodate approximately 40 construction workers.

Reed Bed compound

~~5.3.113~~5.3.120 The reed bed compound would be used for works associated with the constructed wetland (reed bed) system. It would be located to the north-east of the proposed reed beds.

~~5.3.114~~5.3.121 It would be securely fencing and comprise an area of approximately 0.5 hectares (5,000m$^2$).

On-airport WWTW compounds

5.3.122 Two temporary construction compounds would be required to facilitate the construction of the On-airport WWTW, if the facility forms part of the final consented Project.

5.3.123 The compounds would include site cabins, storage areas and areas to accommodate equipment and materials delivery. The tallest element within the compounds would be up to 12m in height above ground level.

5.3.124 The compounds would be located in the existing Self-Park North Car Park (shown on **Figure 4.2.1b**) and collectively comprise an area of approximately 0.7 hectares (7,000m$^2$).

### Restoration of Temporary Compounds

~~5.3.115~~5.3.125 All temporary compounds would be restored to their previous land use following completion of the works except for the car park B compound that would become replacement open space.

### Construction Working Hours

~~5.3.116~~5.3.126 In order to maintain safety and minimise disruption to the operation of the airport, any work in close proximity to existing runways and taxiways would require the closure of facilities as operationally necessary and hence are likely to be scheduled to take place overnight.

~~5.3.117~~5.3.127 During construction, the airport would continue to operate on a 24 hour, seven days per week basis. This would include use of the construction compounds and construction working areas on a daily 24-hour basis. Best Practicable Means (BPM) as defined by the Control of Pollution Act 1974 (CoPA) and Environmental Protection Act 1990 (EPA), would be applied during construction activities to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors (including local businesses and quiet areas designated by the local authority). Consent will be sought from the relevant local authority under the CoPA setting out the measures to minimise noise and vibration including the control of working hours.

~~5.3.118~~5.3.128 Most of the construction for the surface access works would be within the normal working hours of 07:00 to 19:00 hours Monday to Friday and Saturday from 07:00 to 13:00.

~~5.3.119~~5.3.129 Some works would need to be undertaken outside these hours including night working such as to minimise disruption to road users. Night closures of the London to Brighton railway line would be required to enable the construction works associated with the widening of Airport Way bridge. Such closures would be subject to prior discussion with and approval from Network Rail. Any working outside normal working hours would be agreed with the relevant local authorities/National Highways/Gatwick Airport operations and local residents would be informed in advance. Working adjacent to the railway line for the works associated with the railway bridge at Airport Way would be managed by possession planning, whereby sections of the railway track would be closed to allow construction activities to be undertaken safely whilst minimising disruption to the railway network, which would need approval from Network Rail.

~~5.3.120~~5.3.130 Further detail about extended working hours, 24/7 working hours and night time working are provided in Section 5.1 of **ES Appendix 5.3.2 Code of Construction Practice** ~~(Doc Ref. 5.3)~~[REP4-007].

### Construction Workforce

~~5.3.121~~5.3.131 It is anticipated that construction would require a workforce of up to approximately 1,350 personnel during peak periods.

### Construction Access

~~5.3.122~~5.3.132 Construction access routes would be agreed with the relevant highway authorities taking into account the following:

- prioritisation of routes to the strategic road network including major routes and A-roads;
- for local roads, construction access is not planned except where necessary to enable transport or delivery of locally sourced materials, which would be carefully managed;
- site access points would be constructed in accordance with relevant national and local highway authority standards;
- GAL would consult with the relevant Local Authorities and Emergency Services on the positioning of site access and egress points; and
- GAL would monitor site accesses and public roads adjacent to access points to enable measures to keep accesses and roads clean and free of obstacles.

~~5.3.123~~5.3.133 The **Outline Construction Traffic Management Plan (oCTMP)** (see Annex 3 of **ES Appendix 5.3.2: Code of Construction Practice** ~~[APP-085]~~[REP5-020]) has been developed in accordance with the principles set out in **ES Chapter 12: Traffic and Transport** ~~[AS-076]~~[REP3-016] and is described in the CoCP (see Section 6.6 of **ES Appendix 5.3.2: Code of Construction Practice** ~~[APP-082]~~[REP4-007]). It sets out GAL's approach to managing the potential traffic impacts from construction traffic associated with the Project. The detailed CTMP will be developed post consent and will adhere to the principles and objectives of the **oCTMP**. The **Construction Traffic Management Plan** would be secured by DCO requirements in Schedule 2.

~~5.3.124~~5.3.134 In addition to the CTMP, a **Construction Workforce Travel Plan** will be implemented with measures to encourage construction workers to use more sustainable travel patterns. The **Construction Workforce Travel Plan** will be based on the principles set out in the **Outline Construction Workforce Travel Plan** that is provided in **Annex 2 of ES Appendix 5.3.2: Code of Construction Practice** [APP-084].

### Construction Activities

~~5.3.125~~5.3.135 Key construction activities would include the following:

- demolition;
- concrete breaking;
- earthworks;
- stockpiling of excavated and demolished material for re-use;
- asphalt and concrete crushing/screening;
- concrete/asphalt batching;
- cutting;
- excavation;
- dewatering;
- installation of utilities, including water, power, drainage and lighting;
- piling;
- placement of concrete foundations;
- installation of precast concrete panels;
- erection of buildings including portal frames, cladding and roofing;
- building fit out;
- internal road construction;
- paving; and
- road planing.

### Construction Vehicles

~~5.3.126~~5.3.136 Construction works would require the use of the following vehicles and equipment within the working areas:

- asphalt grooving and asphalt paving machines;
- bulldozers;
- combination loader backhoe excavators;
- concrete mixer trucks;
- concrete pump;
- concrete slip form paving machines;
- concrete saw cutters;
- cranes (including mobile cranes);
- elevated working platforms (mobile);
- flatbed trucks (with/without lifting arms);
- front end loaders;
- graders;
- hydraulic arm excavators;
- piling rig;

- roller compactor;
- road milling machines;
- road sweepers;
- steel and rubber wheel roller compactors;
- tipper trucks and insulated delivery trucks; and
- water tanker trucks.

### Spoil Strategy

~~5.3.127~~5.3.137 The Project would produce approximately 1.5 million $m^3$ of excavated materials. Where possible this would be recycled and reused within the Project site. It is estimated that up to 670,000 $m^3$ of excavated materials would need to be removed from the Project site. A further 235,000 $m^3$ of potentially contaminated material would also require removal to appropriately licensed facilities offsite.

~~5.3.128~~5.3.138 Pentagon Field has been identified as a spoil receptor site. This area would accommodate approximately 100,000 $m^3$ of spoil.

~~5.3.129~~5.3.139 The volume of concrete and asphalt would be approximately 620,000 $m^3$. Approximately 555,000 $m^3$ of this would be crushed at the reprocessing area at Car Park Y. Whilst approximately 65,000 $m^3$ is estimated to be contaminated.

~~5.3.130~~5.3.140 Further detail is provided in the Construction Resources and Waste Management Plan (see **Annex 5** of **ES Appendix 5.3.2: Code of Construction Practice** ~~[APP-087]~~[REP4-009]).

### Drainage during Construction

~~5.3.131~~5.3.141 Temporary drainage would be required during the construction phase to prevent a temporary increase in flood risk as a result of the works. As far as practicable, these would consist of Sustainable Drainage Systems (SuDS) features, such as swales and attenuation ponds, although some piped drainage and pumps may be required. Temporary drainage would be installed in all construction areas not currently provided with drainage systems, and in areas where the construction works have potential to increase surface water runoff, either due to ground compaction or reduction in surface permeability. The drainage would be designed to attenuate runoff rates in rainfall events up to the 1% (1 in 100) annual exceedance probability event to rates no higher than existing and to ensure any discharge to local watercourses or the existing drainage network is similarly attenuated. Suitable treatment would also be provided to manage the water quality of discharges to watercourses.

### Construction Lighting

~~5.3.132~~5.3.142 Lighting of the construction sites would be required to ensure that construction work is able to continue safely and effectively during the night-time works and other periods of insufficient natural light. This would include lighting to the construction working areas, storage and circulation areas and access points. Measures will be adopted to enhance the public sense of safety and security within and around the construction sites.

~~5.3.133~~5.3.143 Task-based lighting will be provided for specific high-risk tasks and will be switched off after use and at the end of the working hours.

~~5.3.134~~5.3.144 Lighting for construction compounds and workforce areas would incorporate restricted upwards light spillage and energy efficient fittings. Checks would be carried out on a regular basis to ensure that lighting has not been repositioned. Construction lighting will be designed, positioned and directed so as to avoid intrusion on adjacent buildings, sensitive receptors, ecological receptors (including bats) and structures used by other protected species, and additional land uses to prevent unnecessary disturbance.

~~5.3.135~~5.3.145 Further detail about construction lighting is provided in Section 5.5 of **ES Appendix 5.3.2: Code of Construction Practice** ~~(Doc Ref. 5.3)~~[REP4-007].

### Sustainability during Construction

~~5.3.136~~5.3.146 A **Sustainability Statement** has been prepared for the Project (see **Planning Statement Appendix D – Sustainability Statement** ~~[APP-249]~~[REP3-054]). This demonstrates that the principles of sustainability have been considered during the design of the Project and how these would be further embedded throughout its lifecycle, in accordance with relevant national, regional and local policy, guidance and standards.

~~5.3.137~~5.3.147 The core objectives of the Airports National Policy Statement (Department of Transport, 2018) and National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021), as well as other relevant policy, have formed the main structure of the Sustainability Statement. Additionally, Gatwick's six sustainability policy goals and ten sustainability objectives form core principles of the sustainability framework.

~~5.3.138~~5.3.148 Gatwick Airport's ongoing sustainability goals (as set out in their Second Decade of Change document (GAL, 2021)) are as follows:

## People and Communities

- Local economy: be a partner and advocate for a thriving resilient economy and contribute to local and regional workforce skills partnerships and initiatives.
- Opportunity and accessibility: increase workforce diversity through recruitment, training and retention practices and partnerships; and ensure accessibility and opportunity for colleagues and passengers with disabilities.
- Workplace safety: be a leading airport for the safety, health and wellbeing of our workforce and passengers, striving to learn and continually improve.
- Local communities: invest resources in programmes and partnerships for those communities most affected by Gatwick's operations.
- Noise: limit and where possible reduce the airport's impact on local communities by working with partners and stakeholders to create the most noise efficient operation possible.

## Net Zero – continue Gatwick's net zero transition and further improve local air quality by:

- Airport emissions
    - Reducing GAL Scope 1 and 2 emissions by a further 25% by 2030 (ie reach 80% under 1990 baseline) as part of a science-based goal of reaching net zero before 2040.
    - Sourcing 50% of airport network electricity and 50% of heat network from UK renewable sources via onsite generation and direct purchase agreements (PPAs) by 2030.
    - Requiring all GAL and airport duty vehicles, ground support equipment and mobile construction equipment to meet zero or ultra-low emission standards by 2030.
- Aircraft and surface access emissions:
    - Playing our part in UK aviation and ground transport transition to net zero carbon.
    - Working with airlines and fuel providers to implement the Sustainable Aviation. decarbonisation roadmap and interim goals; and setting a science-based target for Gatwick.
    - Working with transport partners to increase airport passenger and staff usage of public transport and zero and ultra-low emission journey modes to 60% by 2030.

### Local Environment

- Water: reduce the airport's potable water consumption by 50% on a per passenger basis by 2030 compared to 2019, continue to improve the quality of water leaving the airport and work with partners to promote local water stewardship.
- Zero waste: ensure that by 2030 all materials used at Gatwick in operations, commercial activity and construction, are repurposed for beneficial use ie repaired, reused, donated, recycled, composted or converted to fuel for heating or transport.
- Biodiversity: have a sector-leading 'net gain' approach to protecting and enhancing biodiversity and habitats on the airport estate, including zero use of pesticides by 2030 and support biodiversity partnerships in our region.

~~5.3.139~~5.3.149 These objectives have informed the construction elements of the **Sustainability Statement** for the Project which would be implemented through the CoCP (see **ES Appendix 5.3.2: Code of Construction Practice** ~~(Doc Ref. 5.3)~~[REP4-007]), where relevant.

### Construction Waste

~~5.3.140~~5.3.150 A Construction Resources and Waste Management Plan has been prepared and is provided at **Annex 5** of **ES Appendix 5.3.2: Code of Construction Practice** ~~[APP-087]~~[REP4-009]. This sets out measures for managing waste during construction to meet legislative and policy requirements. It considers the waste arisings during the construction phase and the approach for managing wastes in accordance with the waste hierarchy principle. This also includes waste from the demolition/relocation of buildings and structures. The Construction Resources and Waste Management Plan also makes commitments relating to the sourcing of materials during construction.

### Vulnerability to Accidents and Disasters (Construction)

~~5.3.141~~5.3.151 The EIA Regulations require consideration of the effects on the environment deriving from the vulnerability of the Project to risks from major accidents and/or disasters, where these are relevant to the project concerned.

~~5.3.142~~5.3.152 **ES Appendix 5.3.4: Major Accidents and Disasters** [APP-089] considers the potential accidents and disasters that could affect the Project or the environment. However, it is stressed that such events are not considered likely. The Project would not introduce hazards during the construction phase which could not be effectively managed through the CoCP (see **ES Appendix 5.3.2:**

**Code of Construction Practice** ~~(Doc Ref. 5.3)~~[REP4-007]) and existing plans and procedures currently in place at the airport.

## 5.4. Operation and Maintenance

### Overview

5.4.1 GAL is the legal owner and operator of Gatwick Airport. This would remain the case throughout the construction phase and during operation of the airport, with the Project in place. GAL therefore has overall responsibility for the management of Gatwick Airport, excluding aircraft maintenance.

5.4.2 A number of specific maintenance areas exist within the airport, including the Hangar 6 and Hangar 7 maintenance areas and the Boeing Hangar. These areas are the responsibility of the airlines (BA, Atlantic, Boeing and easyJet) and it is anticipated that the same would apply to the proposed new hangar, once operational.

5.4.3 This section provides information about operating hours and workforce. This is followed by a description of GAL's Surface Access Commitments (see **ES Appendix 5.4.1: Surface Access Commitments** ~~[APP-090]~~ [REP3-028]) and Carbon Action Plan (see **ES Appendix 5.4.2: Carbon Action Plan** [APP-091]) that form commitments as part of this Project. This is followed by a section addressing vulnerability to accidents and disasters during operation.

### Operating Hours

5.4.4 As is currently the case, Gatwick Airport would remain operational on a 24-hour, seven days per week basis throughout the construction and operation of the Project. All terminal and hotel buildings and airport car parks are available on this basis.

5.4.5 Flights are subject to night time restrictions between 23:00 to 07:00 local time in accordance with the London Heathrow, London Gatwick and London Stanstead Airports Noise Restrictions Notice published on behalf of the Department for Transport. Within the core hours of 23:30 to 06:00 a limited number of flights are permitted in accordance with noise and movements quotas. This is expected to remain the case with the Project in place with no increase in the quota count within core night hours of 23:30 to 06:00.

### Operational Workforce

5.4.6 Around 24,000 employees worked on site in 2019, of which approximately 3,300 were employed directly by GAL. In 2020 and 2021, the pandemic led to a

reduction in airport employees to an estimated 19,400 (this includes 11,700 furloughed employees) and GAL staff fell to 1,829. Airport employment has since started to return to previous levels with an estimated 20,450 workers in 2022 (based on Gatwick Airport Identification Card passholder data from 3 January 2023), of which 2,192 were GAL employees. On airport employment is expected to return to previous levels in the coming years, and the total number of employees on site is forecast to increase to over 27,000 by 2029 and then grow to approaching 30,000 for the future baseline scenario without the Project and 32,800 with the Project.

### Surface Access Commitments

5.4.7 GAL has developed Surface Access Commitments (SACs) which represent the outcomes which GAL commits to achieving in relation to surface access at Gatwick. These SACs assume certain surface access interventions by GAL as form part of the Project and sets out the commitments GAL is making to a comprehensive monitoring exercise. Full detail on these commitments and the way in which they interact with Gatwick's existing Surface Access Strategy and its future versions are provided in **ES Appendix 5.4.1 Surface Access Commitments** ~~[APP-090]~~[REP3-028].

### Sustainability

5.4.8 As set out in Section 5.3.146~~5.3.146~~~~5.3.136~~, a Sustainability Statement has been produced for the Project, based on GAL's sustainability objectives (see **Planning Statement Appendix D – Sustainability Statement** ~~[APP-249]~~[REP3-054]). These objectives will continue to inform the operation of the airport.

### Carbon Action Plan

5.4.9 A Carbon Action Plan (CAP) has been prepared by GAL and is provided in **ES Appendix 5.4.2: Carbon Action Plan** [APP-091]. It builds on GAL's Second Decade of Change (GAL, 2021) and is aligned with UK Government's Jet Zero Strategy (Department for Transport, 2022) and other UK aviation and transport policy.

5.4.10 The CAP provides the outcomes that GAL will commit to in three focus areas:

- Airport Buildings and Ground Operations: The emissions arising from energy use for buildings, infrastructure and operations to provide heating, cooling, lighting and power needs; fuels for airside and landside vehicles; electricity transmission and distribution emissions; refrigerant losses; fuels for fire

training; water consumption and treatment; and operational waste disposal and treatment.

- Aviation: The emissions arising from aircraft at the airport, including the Landing and Take Off and Climb Cruise Descent phases of flight.
- Construction: The emissions arising from the extraction, processing and manufacture of construction materials; transportation of these materials; the energy and water used during construction processes; transport and disposal of waste; and transport of construction workers.

5.4.11 To achieve those outcomes, GAL will draw from a range of measures which reflect current best practice and technologies available, as well as facilitating emerging technologies as carbon reduction techniques continue to evolve.

### Vulnerability to Accidents and Disasters

5.4.12 The EIA Regulations require consideration of the effects on the environment deriving from the vulnerability of the Project to risks from major accidents and/or disasters, where these are relevant to the project concerned.

5.4.13 **ES Appendix 5.3.4: Major Accidents and Disasters** [APP-089] considers the potential accidents and disasters that could affect the Project or the environment. However, it is stressed that such events are not considered likely. Operation of the Project would not result in any significant increase in risk levels.

## 5.5. Decommissioning Phase

5.5.1 The Project is proposed to form a long-term part of Gatwick Airport, providing an integral part of the improved airport in order to allow an increase in flight and passenger numbers through making best use of Gatwick's existing runways. Although some elements of the Project would have a defined design life, it is proposed that all elements would be subject to continued maintenance/replacement in line with the management of the airport as a whole. Therefore, the Project, once operational, would form part of a permanent airport and no activities are proposed that would require decommissioning or associated decommissioning plans.

## 5.6. References

Department for Transport (2018) Airports National Policy Statement

Department for Transport (2022) Jet Zero Strategy

GAL (2021) Second Decade of Change to 2030

Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework

## 5.7. Glossary

**Table 5.7.1: Glossary of Terms**

| Term | Description |
|---|---|
| AEP | Annual Exceedance Probability |
| AOD | Above Ordnance Datum |
| ATM | Air Traffic Movements |
| CAA | Civil Aviation Authority |
| CARE | Central Area Recycling Enclosure |
| CTMP | Construction Traffic Management Plan |
| EASA | European Aviation Safety Agency |
| ES | Environmental Statement |
| GAL | Gatwick Airport Limited |
| HGV | Heavy Goods Vehicle |
| ICAO | International Civil Aviation Organization |
| IDL | International Departure Lounge |
| ITTS | Inter-Terminal Transit System |
| MBBR | Moving Bed Biofilm Reactor |
| mppa | million passengers per annum |
| MRF | Materials Recovery Facility |
| PRoW | Public Right of Way |
| SACs | Surface Access Commitments |
| SuDS | Sustainable Drainage Systems |
| UXO | Unexploded Ordnance |