

An aerial photograph of Gatwick Airport showing a long, straight runway under construction. The runway is flanked by green grass and concrete taxiways. Several aircraft are visible on the tarmac, including a large white Airbus A380 in the foreground and several smaller jets. In the background, airport buildings and a control tower are visible. The text 'YOUR LONDON AIRPORT' is written in a simple font, and 'Gatwick' is written in a cursive font below it.

YOUR LONDON AIRPORT  
*Gatwick*

*Our northern runway: making best use of Gatwick*

Preliminary Environmental Information Report  
Appendix 14.9.1: Construction Noise  
September 2021

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## 1 Introduction

### 1.1 General

1.1.1 This document forms Appendix 14.9.1 of the Preliminary Environmental Information Report (PEIR) prepared on behalf of Gatwick Airport Limited (GAL). The PEIR presents the preliminary findings of the Environmental Impact Assessment (EIA) process for the proposal to make best use of Gatwick Airport's existing runways (referred to within this report as 'the Project'). The Project proposes alterations to the existing northern runway which, together with the lifting of the current restrictions on its use, would enable dual runway operations. The Project includes the development of a range of infrastructure and facilities which, with the alterations to the northern runway, would enable the airport passenger and aircraft operations to increase. Further details regarding the components of the Project can be found in the Chapter 5: Project Description.

1.1.2 This document describes the construction works which were included in the noise modelling for the Project, and the initial worst case results of the modelling.

## 2 Construction Works in Noise Model

### 2.1 Construction Works

2.1.1 The following table shows the main construction works included in the initial construction noise model, and the assumed hours over which they could be undertaken, based on preliminary construction design information as discussed in the main report.

**Table 2.1.1: Construction Works**

Group	Name	Description	Working Times
1	Alterations to the existing northern runway	The existing northern runway would be adjusted to reposition the centerline 12 metres further north to ensure a separation distance of 210 metres between it and the main runway.	Day, evening, and night
2	Taxiway Juliet	The western part of Taxiway Juliet (Taxiway Juliet West) would be realigned approximately 27 metres to the north to allow for the movement of large (Code F) aircraft.	Day and evening
3		The eastern part of Taxiway Juliet (Taxiway Juliet East Code E) would be realigned approximately 19.5 metres to the north between Taxiways Uniform and Sierra.	Day, evening and night
4		The eastern part of Taxiway Juliet between Taxiways Sierra and Papa (Taxiway Juliet East Code C) would be realigned by approximately 5 metres northwards.	Night
5		In addition, a new spur (known as the Taxiway Juliet West Spur) would be provided to the north of the taxiway.	Day, evening, and night
6	Aircraft Holding Area	Clearance for Charlie Taxiway.	Day, evening, and night
7		Reconfiguration of an existing apron area to the north of Taxiway Juliet is proposed.	Day, evening, and night
8	Taxiways Lima and Tango	Taxiway Lima would require an extension 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.	Day, evening, and night
9		An extension to Taxiway Tango would provide a cut-through northwards to meet the extended Taxiway Lima, creating a taxiway for Code E aircraft. The cut-through would be 23 metres in width and approximately 85 metres in length.	Day, evening, and night
10	Taxiways Whiskey, Victor and Zulu	This 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.	Night
11	Exit Taxiways	Four additional new runway exits would be provided between the northern runway and Taxiway Juliet.	Day, evening, and night
12		A further eight new exit taxiways from the main runway would be required as part of the Project in order to allow arriving aircraft to hold before crossing the northern runway.	Day, evening, and night
13	End Around Taxiways	End around taxiway west: a new end around taxiway linking into the existing Taxiway Juliet.	Day, evening and night
14		End around taxiway east (Yankee): a new exit taxiway would link into the existing Taxiway Yankee to form the end around taxiway east (Yankee).	Day, evening, and night

Group	Name	Description	Working Times
15	Pier and Stand Amendments	As part of the Project, a new Pier 7 is proposed to the north west of Pier 6, adjacent to the existing cargo facility.	Day, evening, and night
16		Provision of a new area of remote stands to the south of Hangar 7 (easyJet hangar) and south of Pier 7, in the area to the north of Taxiway Juliet.	Day, evening, and night
17		Reconfiguration of existing areas of remote stands to allow for the reconfigured Taxiway Lima while retaining stands suitable for Code C aircraft.	Day, evening, and night
18	Central Airfield Maintenance and Recycling (CARE) Facilities	The CARE facility is proposed to be relocated in the north western part of the airport.	Day
19	Motor Transport Facilities	The existing motor transport maintenance facilities are also located to the north of Taxiway Juliet and are proposed to be relocated to the north western part of the airport.	Day
20	Grounds Maintenance Facilities	The existing grounds maintenance facilities would also be relocated to an area of hardstanding in the south eastern part of the airport.	Day
21	Surface Transport Facilities	The existing surface transport facility would be relocated to an area of hardstanding in the south eastern part of the airport.	Day
22	Emergency Air Traffic Control Tower and Rendezvous Point North	The former/emergency air traffic control tower is currently located south of the existing Virgin hangar and to the west of the surface transport and grounds maintenance facility. This tower is proposed for demolition.	Day
23		The existing Rendezvous Point North would require relocation in order to re-provide a suitable emergency rendezvous area, to the north of the central airport area, for off-airport emergency services.	Day
24	Fire Training Ground	It is proposed that the fire training ground be re-provided to the north of its existing location, occupying a consolidated area of approximately 12,000 m <sup>2</sup> .	Day
25	Satellite Airport Fire Service Provision	Dependent on safety case requirements, the Project may require a satellite Airport Fire Service (AFS) facility to the south of the main runway.	Day, evening and night
26	Hangars	It is anticipated that 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.	Day and evening
27		Existing pavement on the northern side of the Virgin hangar would need to be re-provided on the southern side.	Day and evening
28	Perimeter Boundary Treatments to Mitigate Noise	The Project would remove an existing noise bund in the western end of the airfield.	Day
29		The functionality of the bund would be re-provided in the proposed design, potentially in the form of a new bund or barrier in this area.	Day
30	Internal Access Routes	The existing Larkins Road within the airport boundary would require realignment to accommodate the extension to Taxiway Lima.	Day
31		A new east-west access track is proposed between the main runway and the altered northern runway.	Day, evening and night
32	North Terminal	Extensions to the existing North Terminal.	Day, evening, and night
33	South Terminal	Extensions to the existing South Terminal.	Day, evening, and night
34	Forecourts	The forecourts and approaches to both existing terminals would be enhanced, with routes providing access to the terminal frontage, multi-story and long stay car parks, hotels and pick-up and drop-off areas for different transport modes.	Day, evening, and night
35	Hotel and Commercial Facilities	One new South Terminal hotel (up to 400 bedrooms) in the location of existing car park H.	Day and evening
36		One new North Terminal hotel (up to 400 bedrooms) in the location of existing car park Y.	Day and evening
37		One new hotel at the building compound at car rental location (200 bedrooms).	Day, evening, and night
38		Up to three new office blocks to serve internal airport uses. These would be up to approximately 27 metres high. Each office building would have a footprint of approximately 1,024 m <sup>2</sup> . This is likely to be provided within the existing car park H.	Day and evening
39	Car Parking	Pentagon Field	Day
40		Car park J multi-story.	Day, evening, and night
41		Car park H multi-storey.	Day, evening, and night
42		Car park Y multi-storey.	Day and evening
43		North Terminal Long Stay (decked parking).	Day and evening
44		In addition to the above, an area in the western part of Crawter's Field may be required to replace the existing 'Purple Parking' (operated by a third party).	Day
45	Surface Access Improvements	South Terminal roundabout: new junction, providing full grade separation.	Day, evening, and night
46		North Terminal roundabout: new grade-separated junction, removing A23 westbound traffic from the North Terminal roundabout.	Day, evening, and night
47	Shuttle Service	This would require short extensions to the platform decks at each of the two stations, and a corresponding extension to the canopy at South Terminal.	Day, evening, and night

Group	Name	Description	Working Times
48	Museum Field	The Museum Field would be lowered to a depth of up to approximately 3.5 metres below ground level.	Day, evening, and night
49	River Mole diversion and east of Museum Field flood compensation area	The works to Taxiway Juliet require the relocation of Pond A to a location north of its existing position, through which the River Mole currently flows. It is proposed to provide a diversion of the River Mole to the north of its current course.	Day, evening, and night
50		In addition, a new east of Museum Field flood compensation area is proposed. This would require lowering of ground levels by up to approximately 1.8 metres.	Day
51	Car park X flood compensation area	The existing car park X would be lowered by a depth of up to 2.5 metres.	Day
52	Gatwick East flood compensation area	This would require lowering of existing ground levels up to a maximum of approximately 5 metres.	Day
53	Foul Water	A new pumping station (Pumping Station 7a) would be provided near the existing Pumping Station 7, to accommodate flows from the extended North Terminal.	Night
54	Foul Water	A second new pumping station would be provided to decouple the existing sewerage network east of the railway.	Day
55	Foul Water	A third new pumping station (Pumping Station 2a) is proposed to allow for flows from the existing Pumping Station 3 (affected by Taxiway Juliet) and flows from Pier 6.	Day, evening and night
56	Power Strategy	Substation J: a priority substation, forming part of the airfield ring.	Day, evening, and night
57		Substation BK.	Day and evening
58		Substations BP, BR.	Day
59		Substation A.	Day and evening
60		A new substation to be located to the east of the railway in an area known as the Pentagon Field.	Day
61		Flood mitigation for substation L.	Day, evening, and night
62	Main contractor compound (MA1)	Compound operation.	Day
63	Satellite airfield contractor compound	Compound operation.	Day, evening and night
64	Reigate Compound and South Terminal roundabout contractor compound 1	Compound operation.	Day, evening and night
65	North Terminal compound (Car Park Y)		Day, evening and night
66	Balcombe Road	Sheet piling.	Day
67	Surface access	Works to ITTS (to be included in ES).	To be confirmed
68	Water Management, Foul Water and Substations	Dog Kennel Pond.	Day
69	Internal access	North Terminal autonomous vehicle station.	Day, evening and night
70	Internal access	South Terminal autonomous vehicle station.	Day, evening and night
71	Internal access	Autonomous vehicle connection to pier 7.	Day, evening and night
72	Terminal extension	North Terminal baggage hall extension (to be included in ES).	Day, evening and night
73	Surface Access	Works to Longbridge roundabout.	Day, evening and night

### 3 Initial Construction Noise Model Results

#### 3.1 Model Results

3.1.1 Construction noise has been modelled based on a series of worst case simplifying assumptions as reported in Section 14.5 of Chapter 14 of the main PEIR report (Volume 1). The 73 main works modelled are listed above with their currently expected hours of working: day; evening; or night. At this stage the programme of works has allowed the main construction works areas to be grouped into 13 periods: the 12 individual years between 2024 and 2035 and the period 2036 to 2038. In order to not under-estimate the possible cumulative effect of concurrent works, all works likely to occur within any of these periods have been modelled concurrently, resulting in thirteen noise models. Table 3.1.1 below gives estimates of the approximate number of households within each community that could experience significant adverse effects above the SOAEL during any part of the construction programme, and Table 3.1.2 gives the equivalent number of households which could be above LOAEL, but which would not exceed SOAEL, where significant impacts may occur depending on the factors which are explained in the PEIR in Section 14.4. These factors include consideration of the affected population size, the amount by which the predicted noise levels exceed the assessment criteria and the duration of the noise.

**Table 3.1.1: Potential Adverse Construction Noise Effects (above SOAEL) – no Additional Mitigation**

Community	Approximate Number of Dwellings		
	Daytime	Evening	Night
Charlwood	0	4	82
Hookwood	3	9	29
Horley	12	90	347
Ifield	0	0	20
Lowfield Heath	1	3	26

**Table 3.1.2: Potential Adverse Construction Noise Effects (Between LOAEL and SOAEL) – no Additional Mitigation**

Community	Approximate Number of Dwellings		
	Daytime	Evening	Night <sup>(1)</sup>
Charlwood	13	15	-
Hookwood	8	9	-
Horley	105	146	-
Ifield	0	1	-
Lowfield Heath	6	9	-

1) It is noted that the existing noise levels are sufficiently high at night to make baseline noise levels at most receptors fall into BS5228 Noise Exposure Category C. In these cases the SOAEL and the LOAEL are identical and therefore no households are exposed to noise between LOAEL and SOAEL.

3.1.2 This initial modelling adopts a series of worst case assumptions and takes no account of additional noise mitigation (eg noise barriers) beyond that will reduce noise impacts. These will be studied and reported in the ES in more detail, but noise mitigation is typically able to reduce noise levels by at least 5 dB, and the analysis above has been repeated in the tables below to give an indication of the likely number of households that could be significantly affected by construction noise with mitigation. Table 3.1.3 and Table 3.1.4 below show the results.

**Table 3.1.3: Potential Adverse Construction Noise Effects (above SOAEL) – with Additional Mitigation**

Community	Approximate Number of Dwellings		
	Daytime	Evening	Night
Charlwood	0	0	14
Hookwood	2	5	13
Horley	1	28	149
Ifield	0	0	1
Lowfield Heath	0	0	10

**Table 3.1.4: Potential Adverse Construction Noise Effects (Between LOAEL and SOAEL) – with Additional Mitigation**

Community	Approximate Number of Dwellings		
	Daytime	Evening	Night <sup>(1)</sup>
Charlwood	0	4	-
Hookwood	4	4	-
Horley	37	63	-
Ifield	0	0	-
Lowfield Heath	2	3	-

1) It is noted that the existing noise levels are sufficiently high at night to make baseline noise levels at most receptors fall into BS5228 Noise Exposure Category C. In these cases the SOAEL and the LOAEL are identical and therefore no households are exposed to noise between LOAEL and SOAEL.