

CITY AIRPORT DEVELOPMENT PROGRAMME  
(CADP1) S73 APPLICATION

# ENVIRONMENTAL STATEMENT

VOLUME 1: MAIN ES  
DECEMBER 2022



# Pell Frischmann

City Airport Development  
Programme (CADP1) S73  
Application

Volume 1: Environmental Statement  
Chapter 6: Construction Programme  
and Management

December 2022



## 6 Construction Programme and Management

### 6.1 Introduction

6.1.1 This chapter describes the likely programme and sequence of construction of the remaining components of the CADP1 development, together with the key activities and plant that are likely to be employed during the works, as well as the main environmental management controls that will be implemented.

6.1.2 It focusses on the future build out of CADP1 and the likely programme of works between 2025 and 2031 in the Development Case (DC) Scenario. As described in Chapter 2, due to the Covid-19 pandemic and the severe consequence this had on the airport's business and finances, no significant construction works have taken place since 2020 and the recommencement of the CADP1 works is directly dependent upon a recovery in passenger numbers and revenue.

6.1.3 Given the pause of construction during the Covid-19 pandemic, it is now anticipated that the remaining CADP1 works, including the new terminal buildings, will be built out in an incremental manner over a six-year period (potentially spanning 7 calendar years), commensurate with growth in annual passenger numbers to 9 million by 2031. In the DC Slower Growth Scenario (described in Chapters 1 and 3) the works may commence up to two years later (i.e., 2027) but would likely have the same sequence of construction and overall duration as for the core DC Scenario.

6.1.4 The consequences of the existing passenger cap being retained at 6.5mppa if the S73 application is refused (i.e., the Do Minimum (DM) scenario) is also considered. Under these circumstances, it is anticipated that the full CADP1 infrastructure would also eventually be built out at some point in order to maintain service standards and passenger processing capacity, as well as providing an enhanced retail and catering offer for passengers. In this case, it is difficult to prescribe when those improvements may be required. However, for the purposes of assessment, it is assumed that the works may start some 6 to 8 years later (2031 or 2033) and finish later too (2038). This scenario, together with a 'sensitivity test' whereby the remaining CADP1 is not built in the foreseeable future, is discussed at the end of this chapter.

### 6.2 Works completed to-date

6.2.1 The major civil engineering works associated with CADP1; namely, the construction of a taxiway parallel to the runway, the runway hold and the creation of a concrete deck over King George V (KGV) Dock to provide eight new aircraft stands, were completed between 2018 and 2020. These works, much of which took place at night, were successfully completed without any significant environmental incidents and with only a very limited number of complaints. This demonstrated the effectiveness of the construction environmental management procedures and controls which were implemented by the contractors, in accordance with the approved Construction Environmental Management Plan (CEMP) and other conditions of the CADP1 planning permission. In addition, construction noise was effectively controlled in accordance with a Section 61 agreement with the London Borough of Newham (LBN). These mitigation measures will be carried forward to the next phases of the CADP1 construction which, in comparison to the piling and deck works, have a much lower potential of causing nuisance to the local community or other environmental effects, especially in respect of noise which will be both less frequent and of a lower magnitude (See ES Chapter 8: Noise). Moreover, the vast majority of these future construction works will occur during day-time hours and in areas which can be effectively shielded from members of the public, local residents and passengers.

6.2.2 As identified on Figure 2.2 within Chapter 2, the following elements of CADP1 and interim temporary facilities have now been completed:

- Extension to the deck over the KGV Dock to create the parallel taxilane, runway hold and eight new stands (four of which have been brought into operation);
- Erection of a temporary noise barrier to the east of the existing East Pier where the four new stands have become operational;
- Construction of the foundations and deck for the East Terminal Extension (ETE) and New East Pier (NEP);

- Construction of shell and core of the East Energy Centre (EEC) building;
- Construction of temporary facilities at the airport, including the Temporary Immigration Facility (TIF), Temporary Outbound Baggage Building (TOBB), Temporary Goods-in Facility (GIF), temporary Deck Carpark and temporary car rental building;
- Full installation of upgraded airside drainage system and partial installation of landside drainage attenuation; and
- Installation of fish refugia (an ecological enhancement feature) in the KGV Dock.

**6.2.3** A number of other specific structures and airfield enhancements have been built out or have commenced since 2016. These do not form part of the CADP1 permission and scheme, and have instead been implemented under the airport's permitted development rights in accordance with the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended). These changes are identified on Figure 2.2 in Chapter 2 of this ES, and include:

- The Digital Air Traffic Control Tower (DATCT);
- A new taxiway connection to the runway (known as "Taxiway Delta") and extended taxiway fillets;
- Runway rehabilitation/ resurfacing; and
- Replacement of sections of the airfield grassland with artificial grass (with lower maintenance requirements and attraction to birds).

**6.2.4** In addition to the above, an Engineered Material Arrestor System (EMAS) is being installed at either end of the runway. This is an aerodrome safety enhancement feature which would stop aircraft in the, very rare, event of them overshooting the normal landing thresholds. The construction of the EMAS commenced in Autumn 2022 and will be completed in June 2023. It will therefore be in place well before the construction of CADP1 recommences.

**6.2.5** At the same time that permission was granted for CADP1, outline planning permission was also obtained for a 260-room hotel on the southern dockside (CADP2, planning ref. 13/01373/OUT). This separate permission has not been implemented to-date and it remains uncertain if and when this hotel will be built. However, as the 'reserved matters' for the final design of the hotel are due to be discharged in 2024, it has been assumed for the purpose of the EIA, that construction of the hotel may commence around 2028. Accordingly, cumulative construction effects have been considered where necessary, albeit such effects are unlikely to be materially different from those identified in the 2015 UES.

## 6.3 Updated Construction Programme

### Development Case Construction Programme

#### Overview

**6.3.1** There are certain logistical, financial and operational factors that dictate the order in which the infrastructure, buildings, car parking and associated structures of the proposed CADP1 are delivered. These considerations have already resulted in the CADP1 Construction Phasing Plan (CPP) being revised on several occasions between 2017 and 2019 to match changing circumstances, as is typical of large and complex airport infrastructure projects, particularly when operations are ongoing during the building works.

**6.3.2** The most recently approved version of the CPP (approved in 2019 under Condition 4 of the CADP1 planning permission, ref 19/02619/AOD), is now out of date because of the unforeseen cessation of construction activity due to the severe impacts of the Covid-19 pandemic on the airport's operations and passenger numbers.

**6.3.3** Construction continued through the initial wave of the pandemic but was put on hold in December 2020 following the completion of the new airfield deck. It is now expected that construction of the remaining elements could commence at some point during 2025 in the core DC (or later under the DC Slower Growth scenario, as set out below) when it is predicted that passenger throughput at the airport will have recovered to,

and somewhat exceeded, 2019 levels (i.e., at around 5.4 mppa). However, in the DM Scenario the growth in passengers will be slower, reaching 5.4 mppa in 2027 and with less flights, meaning that the start of construction could be more significantly delayed, as described below and in the Need Case (Volume 3).

**6.3.4** In the core DC Scenario, it is anticipated that the remaining elements of CADP1 will be built out progressively over 6 or so years, potentially commencing in 2025 and being completed in late 2030/ early 2031 when the entire CADP1 infrastructure would be fully built out and operational, as illustrated in Figure 6.1 below. In the DC Slower Growth scenario this programme would have the same sequence and overall duration but the start might be delayed by up to two years, such that works would commence in 2027 and be complete by around 2033.

**6.3.5** In the DM Scenario, the overall programme would be broadly of the same duration and sequence as the core DC (with a possible additional 1-2 years) but, due to the delayed start (likely to be in 2031), would finish in around 2038. This is because, in combination with the much slower rate of growth in passengers, the number of aircraft movements would considerably less in 2030/ 2031 in the DM scenario, meaning some of the infrastructure changes (e.g., new gates) and associated CAPEX investment could be postponed for several years, with interim terminal interventions adopted to ensure adequate passenger processing facilities and customer experience. This potential outcome is discussed in more detail at the end of this chapter.

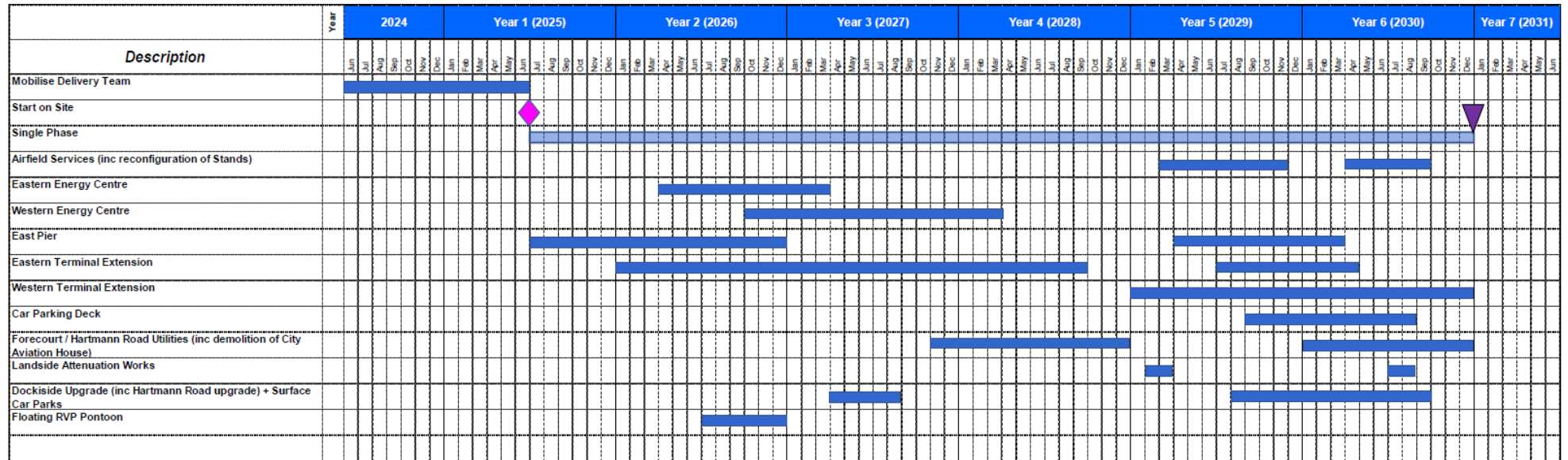
**6.3.6** In all scenarios, the construction programme is envisaged to comprise a single phase of works, but with the terminal extensions and other structures built out incrementally, and potentially coming forward at different times and with overlapping periods. It should be noted that the exact timing of each construction phase and activity cannot be finalised at this point because certain elements of the proposed CADP1 will only be triggered as passenger numbers and scheduled aircraft movements increase, and once airlines operating out of the airport confirm the timing of their fleet upgrades. In addition, a significant lead-in time will be required to procure contractors to deliver the works, and for them to mobilise onto the site.

**6.3.7** The anticipated programme, based on the DC forecasts, is illustrated by Figure 6.1 below and described in the following section. It is important to note that this indicative Construction Phasing Plan (CPP) is not being put forward for formal approval at this juncture (in accordance with Condition 4 of the CADP1 planning permission) as this can only occur once the S73 amendments have been approved.

**6.3.8** Other than some minor adjustments to the approved forecourt, aircraft parking arrangements and changes to certain temporary facilitating works, none of the infrastructure described in this chapter is physically different from that approved under the CADP1 planning permission, as varied by subsequent Non-Material Amendment (NMA) applications.

**6.3.9** Indicative plans, showing the likely layout and configuration of the airport at the end of each year of the construction programme (Years 1 – 7) are provided in Appendix 6.1.

### Figure 6.1: Sequence of Construction Works





## Likely Sequence of Works

6.3.10 In the first half of **Year 1**, the appointed Principal Contractor will mobilise to the site and establish a main construction compound at the eastern end of the dockside, for the delivery and storage of materials and plant. As shown on Figure 6.1, the site works will likely commence with construction activities to facilitate delivery of the New East Pier (NEP) structural frame. This will be installed in close proximity to the new aircraft stands which will influence the chosen methodology. It is envisaged that, to ensure maximum construction efficiency, the works will be undertaken within a 'landside' environment with materials being delivered from the existing dockside via barges. The frame and envelope works will be closely co-ordinated with the airfield operations to ensure minimal disruption. It is envisaged that the existing temporary noise barrier will remain in place until it is superseded by the envelope of the new pier.

6.3.11 In **Year 2**, construction of the Eastern Terminal Extension (ETE) will begin, facilitated first by the demolition and clearance of the old Out Bound Baggage (OBB) tent and reinforcement of the slab adjacent to the new deck over KGV Dock (which will form part of the ETE base). These works have the potential to be relatively noisy activities and would be carried out during normal day time hours to minimise any associated noise impacts.

6.3.12 Once the new slab and services diversions have been completed it will release the area for the installation of the frame and envelope works for the ETE. The structural elements will be connected to the NEP frame and the existing Main Terminal Building (MTB) beam and columns. As such, construction of the ETE is closely interlinked with the NEP works.

6.3.13 Once the shell and core works for the NEP have been completed, the works will switch to internal fit out. Again, this will be predominately in a land-side area to simplify the management of resources and deliveries. The first section of the NEP would be complete by Year 3, with the second section being completed in harmony with the final ETE delivery. Final fit out may not occur until Year 5.

6.3.14 The new Floating RVP pontoon for emergency vehicle access to the airfield will be installed in Year 2.

6.3.15 Works to complete and fit out the Eastern Energy Centre (ECC) will take place from Year 2 through to Year 3, as shown in Figure 6.1 above.

6.3.16 The construction of the Western Energy Centre (WEC) is also likely to be progressed at the same time as the main ETE, commencing in the latter part of Year 2 and continuing into Year 4.

6.3.17 In **Year 3** the ETE will progress through completion of the envelope and roofing before moving into the internal fit out works which would occur in stages commensurate with demand over time. As this occurs, there will be a requirement to adapt the forecourt area to various interim layouts as the passenger routes into and out of the new building transition to a more easterly approach.

6.3.18 In addition, as the works progress there will be a requirement to increase on-site surface level parking as well as upgrades to Hartmann Road, which are likely to be completed in Year 3. This will be combined with the reconfiguration of the forecourt area and the demolition and removal of the existing City Aviation House (CAH) which will commence in this year and potentially continue through to Year 4. The clearance and demolition of CAH will be triggered by the decant of staff and functions into the new terminal expansion areas.

6.3.19 In **Year 5** (or late Year 4) works will commence on substructure of the Western Terminal Extension (WTE) as passenger numbers grow towards 9 mppa. These works will be undertaken within the Western Service Yard (WSY) which is an area that is heavily constrained by operational space and the existing Docklands Light Railway (DLR). As such, close co-ordination with operations and existing stakeholders will be undertaken to ensure segregation between occupied spaces and construction activities. Substructural works in this area will be carried out during normal construction hours. As the shell and core works of the WTE progress, the space will be integrated into the existing MTB area via a detailed phasing plan, to be agreed with the Principal Contractor upon their appointment.



6.3.20 Other activities in Year 5 include the demolition and clearance of the existing East Pier, the final completion of the northern face of the ETE and commencement of construction of the new decked car park. The existing stands will also be re-configured during this year to allow for nose-in aircraft parking on all stands.

6.3.21 In **Year 6** the works to construct the WTE will be ongoing. There will be a requirement to undertake some activities during out-of-operational hours (OOOH) periods to ensure passenger safety, including during the installation of the structural frame of the WTE.

6.3.22 The final dockside elements will include the completion of the decked car park and reconfiguration of Hartmann Road and opening of the eastern access. It should be noted that this eastern access will be opened by the end of 2030 in all scenarios because it will be required to alleviate traffic as passenger throughput increases.

6.3.23 All of the remaining CADP1 works (ETE, WTE and NEP) are planned to be completed by the end of Year 6 with a period of Operational Readiness and Acceptance Training (ORAT) ahead of the 2031 flight schedule. The Temporary Outbound Baggage (TOBB) and other temporary structures are expected to be removed from the site by Year 6/7.

6.3.24 Whilst the durations of each of the above construction activities are not fixed at this stage, Table 6.1 below provide an indicative timeline for these works.

**Table 6.1: Anticipated Construction Programme and Durations in the DC Scenario**

| Item                                                       | Indicative Start Date | Indicative End Date | Indicative Duration              |
|------------------------------------------------------------|-----------------------|---------------------|----------------------------------|
| East Pier                                                  | Q3 2025               | Q2 2030             | 18 months + 12 months (2 phases) |
| Eastern Terminal Extension                                 | Q1 2026               | Q2 2030             | 33 months + 10 months (2 phases) |
| Eastern Energy Centre                                      | Q2 2026               | Q1 2027             | 12 months                        |
| Floating RVP Pontoon                                       | Q2 2026               | Q4 2026             | 6 months                         |
| Western Energy Centre                                      | Q4 2026               | Q2 2028             | 20 months                        |
| Dockside Upgrade and Surface Car Parking                   | Q2 2027               | Q3 2030             | 6 months + 14 months (2 phases)  |
| Forecourt/Hartmann Road Utilities (inc. demolition of CAH) | Q4 2027               | Q4 2030             | 14 months + 12 months (2 phases) |
| Western Terminal Extension                                 | Q1 2029               | Q4 2030             | 24 months                        |
| Car Park Deck                                              | Q3 2029               | Q3 2030             | 10 months                        |
| Landside Attenuation Works                                 | Q1 2029               | Q2 2030             | 2 months + 2 months (2 phases)   |

### Retention of Permitted Temporary Facilities

6.3.25 As highlighted by the above description of the 'likely sequence of works', the final CADP1 scheme involves the complete reconfiguration of terminal operations at the airport. The strategy involves the upgrade and reconfiguration of all aspects of passenger processing, from the departing passenger security screening to immigration, customs, baggage handling and car parking. One of the fundamental strategic requirements of CADP1 scheme is to relocate key operational functions outside of the 'development zones' to segregate construction from the airport's key facilities and thereby to maintain a fully operational airport during the transition.

6.3.26 As referred to in earlier in this Chapter, prior to pausing construction works and ahead of building out the new terminal buildings and surface access upgrades, a number of temporary facilities were erected to support construction. These temporary facilities were put into place to accommodate the continued operation of the airport during the construction programme and will be required to maintain levels of service and safe operations until the CADP1 works have been fully built out. The temporary facilities do not form part of the approved CADP1 works but were erected using Permitted Development rights following consultation with LBN. They include:

- Temporary Good-in Facility (GIF);
- Temporary Immigration Facility (TIF);
- Temporary Outbound Baggage Facility (TOBB);
- Temporary Car Rental Building; and
- Temporary Decked Carpark.

6.3.27 A separate application has been submitted alongside the S73 application to retain the temporary Permitted Development Facilities and to erect a further Temporary Eastern Gateroom Facility (TEGF) and to keep these in-situ until such time as the CADP1 works are complete. The temporary facilities, which are required with or without the proposed amendments, will be removed once the CADP1 works are complete.

6.3.28 This separate application is described as:

*“Retention and erection of Permitted Development Facilities at London City Airport for a period of up to 10 years. Works to include the retention of the Temporary Goods-in Facility (GIF), Temporary Immigration Facility (TIF), Temporary Outbound Baggage Facility (TOBB), temporary decked car park, temporary car rental building, and the erection of a Temporary Gate Room Facility and related works.”*

6.3.29 Accordingly, the environmental effects of the construction and operation of these Temporary Permitted Development Facilities are duly considered in this ES and assessed as an aspect of “intra-project” cumulative effects.

## Alternative Construction Programmes

### Do Minimum Scenario

6.3.30 Under the Do Minimum (DM) Scenario, in which the airport would be capped at 6.5 mppa as detailed in Chapters 2 and 4 of the ES, the rate at which CADP1 is built out would be slower; likely commencing in 2031 and completing by 2038. In this situation, there will be a need to retain the existing temporary facilities for a longer period, provide additional temporary gate rooms and adopt a number of interim operational measures to ensure that demand can be accommodated pending delivery of the approved CADP1 terminal infrastructure.

6.3.31 In this scenario, work would commence with the first section of the NEP and other essential facilities constructed between 2031 and 2033, as revenue grows and in order to enhance passenger experience, provide additional retail and catering facilities and relieve pressure on the existing gate rooms, bus gates and departure lounge. Thereafter, the airport would be expected to build out the remainder of CADP1 (i.e., the remainder of the NEP, ETE, WTE, forecourt and other facilities) incrementally up to 2038 in order to ensure that the levels of service to passengers are maintained. The total duration of construction is anticipated to be similar to in the DC Scenario (6 - 7 years). However, the sequence and duration of certain elements would differ, meaning that construction activities would be spread more evenly across the construction phase and the peaks in construction activity would be less pronounced than observed in the DC Scenario.

6.3.32 As described in Chapter 3 of the ES, the potential environmental effects associated with the proposed development in the DC Scenario are generally assessed in comparison to the effects in the DM Scenario. However, the direct comparison/ quantification of construction effects between the core DC and DM cases, in any one year, is not possible because there would be no overlap in these construction programmes. Notwithstanding, the construction effects associated with the DM Scenario, as well as the combined operational and construction effects (e.g., cumulative traffic, noise and air quality) would generally be of a lower magnitude

in future years than with the DC programme scenario. This is on account of several factors, including: the fact that there would be no separate or additional peaks in construction activity; there would be fewer flights and passenger-borne traffic movements; and the strong likelihood that the prevailing ambient environmental conditions for air quality and noise will have further improved by the mid to late 2030's due to the introduction of more electric-powered vehicles and plant. As such, the assessment of construction effects in the peak year(s) of the DC programme (2028/29) is considered reasonable proxy of the worst-case effects under any scenario and so, for most topics, it is only necessary to qualitatively assess and comment on the likely difference in effects.

## **Sensitivity Tests**

### ***Do Minimum 'No Build' Scenario***

6.3.33 A DM construction sensitivity test has also been considered - the DM 'No Build' Scenario, whereby no further construction takes place within the foreseeable future (late 2030's and beyond) on the basis that the airport might lack the funds to continue to build out the CADP1 and interim measures prove sufficient to enable it to process 6.5 mppa, albeit under 'sub-optimal' conditions. In this largely theoretical situation, the airport would continue to operate with its existing terminal and temporary facilities, with selective internal modifications/operational interventions (e.g., bussing passengers from stands) to enable it to process peak hour passenger numbers, and 6.5 mppa overall.

6.3.34 A direct comparison of the construction effects arising in the DC Scenario and the No Build Scenario is not feasible given the uncertainty over when construction would recommence. However, it can reasonably be assumed that the environmental effects in the No Build Scenario would be no worse than in the DC Scenario, for the same reasons set out above. Conversely, the socio-economic effects of this outcome would be negative, as there would be no related construction employment.

6.3.35 In all cases the construction works would need to comply with an approved Construction Environmental Management Plan (CEMP) and capable of being reduced to non-significant levels.

### ***Development Case 'Slower Growth' and 'Faster Growth'***

6.3.36 As detailed in Chapter 3 of the ES, two sensitivity tests have been considered when preparing the aviation and passenger forecasts: a 'Faster Growth' DC Scenario; and a 'Slower Growth' DC Scenario.

6.3.37 Under the Slower Growth Scenario, it is anticipated that the construction programme would be delayed by up to two years and CADP1 would be built out in line with growth, commencing in 2027 and completing by 2033 when the 9.0 mppa threshold will have been met. This minor delay in the construction works is not considered to cause any materially different environmental effects in comparison to the core DC construction programme, as the overall construction sequence and duration of works would be the same. However, this would entail the retention of the temporary permitted facilities for longer. Therefore, where appropriate, this additional sensitivity test is assessed in the technical chapters of the ES.

6.3.38 In the Faster Growth Scenario, whilst 9.0 mppa would be reached sooner (2029), it is considered unlikely that the construction works would commence any earlier than 2025 given the lead in times to procure contractors and remobilise, and would still take 6 years to complete because of the logistical challenges of the maintaining uninterrupted airport operations whilst the construction took place. As such, only the operational (rather than construction) effects of a faster increase in aircraft movements and passenger numbers (e.g. noise) are assessed in the ES.

### ***Out of Operational Hours***

6.3.39 Due to the nature of airport operations, construction of certain elements of CADP1 must be undertaken Out-of-Operational Hours (OOOH), i.e., during airport closure at night and at the weekend. Regular OOOH working was a key feature of the piling and deck works contract (2018 – 2020) because of the need to employ piling rigs, cranes and other construction plant in proximity to the runway and active airfield. However, as these

works are now complete, the requirement for similar OOOH working for the remaining CADP1 construction programme is much reduced.

**6.3.40** As was the case previously, most construction activities in the landside areas south of KGV Dock will take place during normal daytime hours (as set out in the approved CEMP), including the car park and forecourt works. This avoids potentially noisy construction activities having to take place during the night-time, especially in the areas closest to the residential communities to the south of the airport, including North Woolwich.

**6.3.41** Nevertheless, OOOH working will sometimes be necessary for the following reasons and activities:

- Any construction activities and plant (e.g., mobile cranes) which will need to temporarily breach the airport's Obstacle Limitation Surfaces (OLS), including the Transitional Surfaces (TS) – these are a complex arrangement of protected areas surrounding the airport to ensure the safety of aircraft landing, taking off or taxiing on the airfield;
- Access for concrete delivery through the live airfield including for the in-situ topping of the ETE deck, if necessary;
- Installation of the structural frame of the WTE;
- Re-marking of aircraft stands at the western end of the airfield and relocation of associated lighting columns etc.;
- Works in / over the live OBB Facility which is in continuous operation during airport operational hours;
- Partial delivery of the ETE structural frame;
- Demolition and clearance of existing East Pier; and
- Demolition and clearance of CAH facility

**6.3.42** A summary programme illustrating the potential timing and duration of these OOOH works is provided in Appendix 6.2, and this is taken account of in the corresponding technical assessments, particularly in Chapter 8: Noise.

## 6.4 Worst Case Construction Assessment Year

**6.4.1** As described in Chapter 3 of the ES, 2029 (Year 5) has been identified as the likely busiest year for construction activity and construction vehicles movements in the DC scenario (with this being 2036 in the DM Scenario). Therefore, this has been selected 'worst case' year for construction derived environmental effects (i.e., noise, dust and emissions, traffic etc.) on sensitive receptors within and around the airport, including local residents, passengers and members of the public. As such, these effects have been assessed accordingly in the relevant technical chapters of the ES.

**6.4.2** As shown in Figure 6.1 (above) and Figure 6.6 (see ES Appendix 6.1), Year 5 will see a degree of overlapping works occurring both airside and landside with the WTE, ETE, NEP and dockside upgrades being constructed simultaneously. It has been estimated that construction vehicle traffic could reach a peak of around 46 vehicles a day during this period, as discussed further in Section 6.7.

**6.4.3** To ensure that the ES remains proportionate and consistent with the 2015 UES, other years during the construction programme have not been explicitly assessed unless otherwise identified in the corresponding technical chapters. However, it should be noted that the noise assessment, detailed in Chapter 8: Noise, considers OOOH/ night-time working where this occurs throughout the entire construction programme based on three monthly timeslices.

## 6.5 Construction Activities and Plant

**6.5.1** The construction works and plant associated with the remaining elements of CADP1 are as described in the 2015 UES. In particular, there are no changes to the construction activities or proposed methods as a result of this S73 application or the passage of time.

**6.5.2** The indicative plant and equipment associated with the construction works for the remaining elements of CADP1 are likely to be as follows:

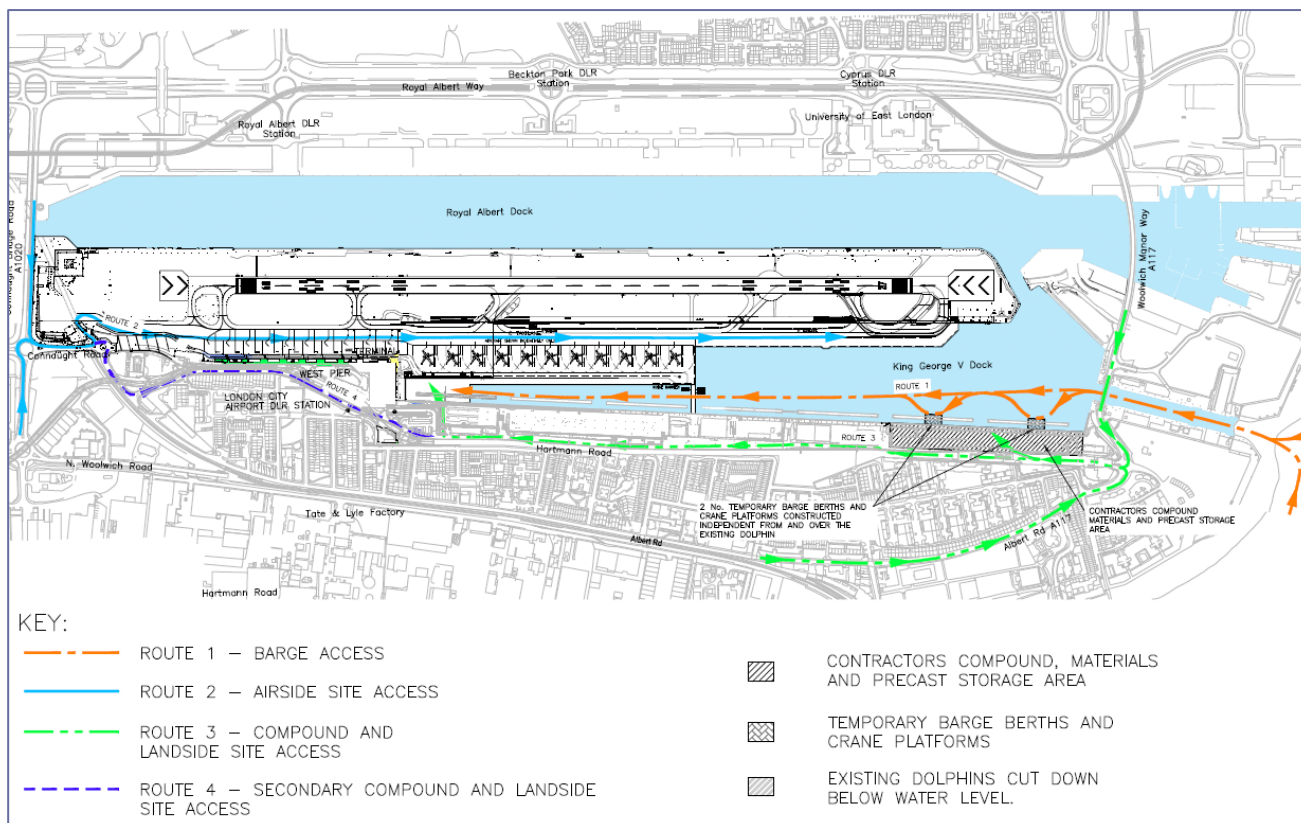
- Piling rigs
- Tracked excavators (with/without pulverisers)
- Wheeled Back hoe loaders (with/without breakers)
- Dump trucks
- Vibratory rollers
- Steel frame crane
- Cherry Picker Access Platforms
- Concrete pump
- Concrete delivery trucks
- Mobile Elevated Working Platforms (MEWP)
- Cladding crane and MEWP
- Tracked crane to load materials -site based
- Tracked crane (to load steel at stock yard)
- Barge mounted crane(s)
- Stud Welding machine
- Mobile generators
- 7.5 tonne Flat Bed Truck (for local deliveries)
- Skip Waggon

## **6.6 Access and Logistics**

**6.6.1** All phases of work completed for CADP1 to-date, as well as those projects implemented under the airport's permitted development rights (see ES Chapter 1: Introduction) have been subject to a Construction Logistics Plan (CLP) submitted to and approved by LBN.

**6.6.2** Access routes during construction and proposed construction traffic management measures are as described in the 2015 UES and approved CLP and shown in Figure 6.2 below. In addition, a Strategy for the Use of the River Thames During Construction was submitted to and approved by LBN in 2017 in accordance with Condition 60 of CADP1 consent (Ref.17/00534/AOD). These measures are unlikely to change for the remaining CADP1 works and LCY will seek to utilise the River Thames for the delivery and removal of materials where feasible. It should be noted however that once the new RVP is established, this will limit options for the delivery of building materials and components by barge.

**Figure 6.2: Construction Traffic Routes**



6.6.3 In light of the revised construction phasing plan for the core DC Scenario, indicative maximum daily vehicle flows have been estimated for the remaining construction works. The flows stated are return trips of all types of construction vehicles (including HGV's and LGV's) as follows:

- Year 1: 8 daily vehicle trips;
- Year 2: 29 daily vehicle trips;
- Year 3: 24 daily vehicle trips;
- Year 4: 24 daily vehicle trips;
- Year 5: 46 daily vehicle trips; and
- Year 6: 46 daily vehicle trips.

6.6.4 The numbers are based on likely 'worst case' daily HGV/ LGV construction traffic flows onto and off the public road network in the immediate vicinity of the airport.

## 6.7 Resources

6.7.1 It is anticipated that employment levels will fluctuate during the course of the construction programme. During the peak month of construction, a total of approximately 840 site operatives are anticipated to be required on site. Estimated construction employment during the key phases of the proposed CADP1 works are set out in Table 6.2. These figures are indicative based on the density of work forecast at a point in time and do not allow for improvements in construction techniques creating future efficiencies.

**Table 6.2: Estimate monthly construction employment**

| Year of Construction | Monthly Peak | Monthly Average |
|----------------------|--------------|-----------------|
| Year 1               | 140          | 100             |
| Year 2               | 250          | 200             |
| Year 3               | 220          | 170             |
| Year 4               | 100          | 50              |
| Year 5               | 840          | 450             |



|        |     |     |
|--------|-----|-----|
| Year 6 | 480 | 170 |
|--------|-----|-----|

6.7.2 It should be noted that these construction employment numbers differ from those presented in ES Chapter 7: Socio-economics, Community and Recreation, because the above estimates the likely actual number of construction workers expected on the site during these years (as provided by the project QS/ project manager), whereas the UES calculated these jobs using an economic impact ratio which measures the Full Time Equivalent (FTE) employment.

6.7.3 Where practical, the workforce will be sourced from the local area although, where specialist skills are required, these may be from outside of the local area.

## 6.8 Construction Environmental Management

6.8.1 A CEMP was submitted to and approved by LBN in 2019 in accordance with Condition 88 of the CADP1 planning consent (planning ref: 19/02619/AOD).

6.8.2 The CEMP sets out the management, monitoring, auditing and training procedures that will be put in place to ensure compliance with the relevant legislation and environmental 'best practice' and identifies specific environmental mitigation and management controls to be implemented throughout the construction works. The CEMP is accompanied by a Construction Noise and Vibration Management and Mitigation Strategy (CNVMMS).

6.8.3 The construction works carried out thus far have been undertaken in accordance with the approved CEMP and all relevant mitigation has been implemented and proven to be successful in minimising disturbance to the local community and other construction impacts. The approved CEMP will be carried forward to any new planning permission granted and will continue to apply to all future construction works.