Introduction

5.1 This Chapter of the Environmental Statement (ES) describes the proposed phasing and key activities for enabling works, deconstruction and demolition across the Earls Court Site and the subsequent construction works of the Earls Court Development Proposals (Development Option (Site Wide)).

5.2 As discussed within Chapter 1: Introduction to the ES of this ES, there are different Development Options that arise out of the two outline Planning Applications submitted in relation to the Earls Court Site (Applications 1 and 2). It is the Earls Court Development Proposals (Development Option (Site Wide)) which is discussed and assessed within this Chapter. The Earls Court Development Proposals are a result of the implementation of both Planning Applications 1 and 2, which is consequently the redevelopment of the entire Earls Court Site (as shown in Figure 5-1). The Earls Court Site lies within the Royal London Borough of Kensington and Chelsea (RBKC) and the London Borough of Hammersmith and Fulham (LBHF).

5.3 To facilitate the presentation of a realistic sequence of deconstruction / demolition and construction activities and to allow a reasonable assessment of potential impacts, reference has been made, throughout this Chapter, to the Illustrative Masterplan (as described within Chapter 4: The Earls Court Development Proposals of this ES). The information presented is therefore indicative. The Illustrative Masterplan, which is representative of the end development, coupled with the phasing strategy, allows for a comprehensive analysis of the sequence of deconstruction / demolition and construction activities and the impacts likely to arise at each phase of the deconstruction, demolition and construction programme. Where necessary, throughout this Chapter appropriate mitigation and management measures are also described and assessed.

5.4 Details of the interfaces with Network Rail and London Underground Limited (LUL) assets, particularly in relation to the West London Line (WLL), the District Line, the Piccadilly Line, the Lillie Bridge Depot, and Ashfield House are summarised. Further information on these interfaces can be found within the following two documents:
- Arup on behalf of Capital & Counties Properties Plc, 2011; ‘Description of the scope and nature of the proposed works in relation to LUL assets’ (Ref. 5-1); and
- Arup on behalf of Capital & Counties Properties Plc, 2011; ‘Network Rail Design Brief for No Objection to Planning’ (Ref. 5-2).

5.5 The relocation strategy for the Gibbs Green and West Kensington Housing Estates has been summarised within this Chapter, however, further information on the relocation strategy can be found within the planning application document ‘Housing Statement’ (Ref. 5-3).

5.6 Due to the scale of redevelopment, the development proposals have been divided into a number of phases. Each phase has been subdivided into yearly ‘timeslices’. To account for the overlap in phases, the timeslices have been grouped to form three Deconstruction / Demolition and Construction Sequences. Deconstruction, demolition and construction information that is applicable to all phases and sequences has been described in this Chapter under a combined heading of ‘Site Wide’. 

5.7 Planning for enabling works, deconstruction, demolition and construction is broad at this stage and maybe subject to modification during the detailed planning of these works. The assessment presented within this Chapter is based on reasonable assumptions made by professionals suited to the stage of planning. It is anticipated that further information and details would be submitted pursuant to planning conditions and associated with future reserved matters applications.

5.8 Schemes located within 1 kilometre (km) of the Earls Court Site are acknowledged (refer to Chapter 2: EIA Methodology for a description and list of the schemes considered). When considering the potential for cumulative demolition and construction impacts from these schemes in conjunction with impacts from the Earls Court Development Proposals, all necessary measures will be taken to ensure the close liaison and coordination between all parties involved to reduce, as far reasonably practicable, potentially adverse impacts.

5.9 This Chapter has been produced in association with Mace Ltd, Sir Robert McAlpine Ltd, Keltbray Ltd, and URS Corporation Ltd, who collectively have vast experience of working on large complex projects such as Heathrow Terminal 5 and the 2012 Olympic Village. These projects have involved consideration and management of complex issues such as working near to railways and close to residential property; and handling and management of significant volumes of demolition and construction waste.

Figure 5-1 The Earls Court Development Proposals
5 Deconstruction, Demolition and Construction: Planning Application 2 - LBHF

Terminology

5.10 The terms 'demolition' and 'deconstruction' are used throughout this Chapter.

5.11 'Demolition' is the pulling down of buildings and other structures, whilst 'deconstruction' is the dismantlement of building components. Dismantlement focuses on the careful preservation of valuable elements of the building for re-use, recycling of materials where possible; and can aid the reduction of noisy on-site activities.

5.12 Every effort has been made throughout this Chapter to make clear the distinction between demolition and deconstruction activities. Broadly speaking, the Earls Court exhibition buildings, Ashfield House and the loco shed within the Lillie Road Depot are likely to be deconstructed, whilst the West Kensington and Gibbs Green Housing Estates are likely to be demolished on a phased basis.

Chapter Structure

5.13 This Chapter is divided in the following key sections:

- Phasing of the Earls Court Development Proposals;
- Construction Interface with Network Rail and London Underground Limited;
- Site Establishment;
- Deconstruction / Demolition and Construction Sequence 1 (Phases 1, 2 and 3);
- Deconstruction / Demolition and Construction Sequence 2 (Phases 1, 2, 3, 4 and 5);
- Deconstruction / Demolition and Construction Sequence 3 (Phases 5 and 6);
- Site Wide;
- Construction Sustainability;
- Demolition of the Earls Court Development Proposals - End of Life; and
- Cumulative Impact Assessment.

Phasing of the Earls Court Development Proposals

EC1 and EC2 Deconstruction

5.14 The existing Earls Court 1 and 2 buildings (EC1 and EC2) identified in Figure 5-2 will both be deconstructed. Both these buildings sit on a slab which covers the Network Rail operational tracks of the West London line (WLL) and LUL District Lines. It is the intention to maintain this existing slab over the operational tracks.

5.15 The deconstruction of EC1 is likely to be split into two key stages as follows:

- Stage 1 - Deconstruction from the top of the existing roof level to the top of the existing ground floor slab (Figure 5-8) followed by;
- Stage 2 - Demolition from the top of the ground floor slab to the top of basement slab.

5.16 The existing EC1 link building, also identified in Figure 5-2, will also be deconstructed. Currently it is the intention to deconstruct this as part of the EC1 deconstruction operations.

5.17 It is likely that the existing link bridge (Figure 5-2) between EC1 and EC2 will also be removed as part of the EC1 deconstruction operations.

5.18 The deconstruction of EC2 could also be split into 2 key stages, as follows:

- Stage 3 - Deconstruction from the top of the existing roof level to the top of the existing ground floor slab followed by;
- Stage 4 - Part demolition of the west section from the top of the ground floor slab to grade level (Figure 5-9).

5.19 The deconstruction of EC1 and EC2 will overlap with new construction works related to the Earls Court Proposals. For the purposes of this assessment, it is assumed that EC1 and EC2 will be demolished concurrently; however, the demolition of EC2 may be delayed if EC2 can be utilised for construction logistics / storage. The assessment undertaken in this ES represents a worse case in terms of magnitude of potential impact, as the deconstruction works associated with EC1 and EC2 are assumed to be undertaken concurrently.

Construction Phasing, Sequences and Assumptions

5.20 The proposals for the deconstruction / demolition of existing buildings and infrastructure and construction of Earls Court Development Proposals is presented in terms of 6 phases (Figure 5-4, overleaf). Overall, a 19 year deconstruction / demolition and construction programme is anticipated (including deconstruction of EC1 and EC2 as described above). Deconstruction of the existing EC1 building will not commence until sometime after the 2012 London Olympic Games.

5.21 The anticipated timing of each of the 6 phases are shown below:

- Phase 1 – Year 1 to Year 8 inclusive;
- Phase 2 – Year 3 to Year 10 inclusive;
- Phase 3 – Year 3 to Year 10 inclusive;
- Phase 4 – Year 7 to Year 11 inclusive;
- Phase 5 – Year 9 to Year 15 inclusive; and
- Phase 6 – Year 13 to Year 19 inclusive.

5.22 Whilst the phases presented in Figure 5-4 are useful, in that it enables the Earls Court Development Proposals to be broken down into smaller development plots, there is, however, potentially a large time overlap across the phases. There is likely to be deconstruction, demolition and construction activities occurring across several of the phases at any point in time as a result of the programming.

5.23 Therefore, to assist with the assessment of deconstruction / demolition and construction impacts, the 6 phases of development have been sub divided into 'timelines'. These timelines have then been grouped into logical 'Deconstruction / Demolition & Construction Sequences' as follows:

- Sequence 1 - Phases 1, 2 and 3, which equates to a 6 year time period;
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- **Sequence 2** – The remainder of Phases 1, 2 and 3 plus Phases 4 and 5, which, equates to a 6 year time period; and
- **Sequence 3** – The remainder Phase 5 and Phase 6, which equates to a 7 year time period.

**Use of the Illustrative Masterplan**

5.24 Figure 5-4 presents the 6 development phases in terms of the development plots and maximum scale parameters, which are sought for outline approval. To facilitate the presentation of a realistic, worst-case sequence of deconstruction / demolition and construction activities and to allow a reasonable assessment of potential demolition and construction impacts, reference has been made, throughout this ES to a series of yearly construction timeslices. The yearly construction timeslices have been developed based on the anticipated programme of works of the Earls Court Development Proposals and the development plots sought for approval.

5.25 In addition, and in order to help visualise a scheme to allow the identification of potentially sensitive receptors, (both existing and those introduced as part of the Earls Court Development Proposals), details from the Illustrative Masterplan have also been used.

5.26 The details from the Illustrative Masterplan (refer to Chapter 4: The Earls Court Development Proposals) presented within the yearly construction timeslices (specifically in terms of the location of actual buildings within the development plots) are therefore indicative, and is a reasonable snapshot of a period of time within that year. The yearly construction timeslices allow for a comprehensive analysis of the sequence of deconstruction / demolition and construction activities and the impacts likely to arise at each phase of the deconstruction / demolition and construction programme.

5.27 The timeslices illustrate construction works for multiple buildings within a defined development plot occurring in proximity to a sensitive receptor (both on and off-site), with various construction works for each building overlapping (e.g. ground works for a building occurring at the same time as superstructure works for another building). The yearly construction timeslices are however representative of a programme considered to be reasonable and achievable.

5.28 Figure 5-3, below, identifies the relationship between the yearly timeslices, the 6 phases, and the subsequent three Deconstruction / Demolition and Construction Sequences. The remainder of this Chapter is largely structured around the 3 Sequences.

5.29 Prior to a detailed discussion on the works and programme for the three Sequences and associated yearly timeslices, it is important to understand how demolition and construction interfaces with the existing Network Rail and LUL lines, and site establishment. These items are discussed overleaf.
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Construction Interface with Network Rail and LUL

**Rail and LUL Context**

5.30 To the north and east, the Earls Court Site is criss-crossed by a number of railway lines (Figure 5-5).

5.31 Network Rail’s WLL runs approximately north-south along the eastern boundary of the LBHF. The line is generally in the open, except in the area covered by the existing deck to the EC2 Exhibition Centre. This line is used for both passenger (London Overground) and freight traffic, including freight to and from the Channel Tunnel.

5.32 London Underground Limited’s (LUL) District Line (DL) has three branches. The main branch from Ealing traverses from West Kensington station in the north-west corner of the Earls Court Site south east, to the Earls Court station. Another branch from Earls Court heads northwards towards Olympia. A further branch heads south to West Brompton station and onwards to Wimbledon. LUL also operates a service facility, the Lillie Bridge Depot, which is linked to the branches of the DL by the Depot Access Tracks (DATs). To the north, of all these lines are generally at surface level but drop down into a series of covered ways to pass under each other and the WLL, and to pass under the EC1 and EC2 Exhibition Centres.

5.33 The LUL Piccadilly Line (PL) roughly follows the DL’s West Kensington Branch, to Earls Court station in an underground twin tunnel at about -10.7m OD.

5.34 The Earls Court Proposals retain the subterraneous passages and the escalator shaft of the Earls Court Station, and retain and remodel the ticket hall – the detailed design is currently being developed. It is acknowledged that the subterraneous passage connecting EC1 is rarely open for public use in connection with EC1 events, however, it is still used on occasion for commercial filming, and as such, LUL assets (CCTV, Gateline, PAVA, Help Points, Escalators, lighting, fire systems etc.) remain in use and will be protected prior to, and throughout, any works. The Earls Court Ticket Hall and Pedestrian Tunnel Link are listed – clarification on the scope of listing is currently taking place, and details of the proposed remodelling will be the subject of a separate application for Listed Building Consent.

5.35 Demolition and construction works associated with the Earls Court Development Proposals will interface with the above detailed Network Rail and LUL assets.

**Construction Interface with Network Rail**

5.36 Details of the interfaces with Network Rail assets, specifically in relation to the WLL, are summarised below. Further information on the interfaces with Network Rail can be found within the following document: Arup on behalf of Capital & Counties Properties Plc. 2011; Description of the scope and nature of the proposed works in relation to LUL assets’ (Ref. 5-1).

5.37 The interfaces with Network Rail, WLL are as follows (shown in Figure 5-6):

- **EC2;**
  - Removal of the existing EC2 Link Bridge;
  - Cover to the WLL to form landscaped areas;
  - Pedestrian bridge to span over the WLL and District Line which, will also accommodate up to 10m rigid vehicles; and
  - Road bridge to span over the WLL and District Line which, will also accommodate up to 16.5m articulated lorries.

5.38 The EC2 Exhibition Centre is being treated as a permanent working platform, the existing condition will be checked to ensure suitable load distribution in the temporary condition. The EC2 deck will support proposed landscaped areas as well as the new High Street which crosses the Earls Court Site east to west.

5.39 It is proposed to remove this existing bridge that spans the WLL. The bridge is located at the southern end of the Earls Court Site, and currently provides access to EC2 from EC1.

5.40 Whilst part of the existing EC2 deck will be retained to maintain cover to the WLL, in order to provide structural support for the land running along the line of the WLL, the proposed ‘Lost River Park’, an extension of this deck over the WLL is proposed. This new deckling system will cover the remainder of the on-site WLL.

5.41 A continuous concrete frame comprising precast concrete beams, concrete deck slab and concrete abutments, will be formed alongside of the WLL, with appropriate clearance for rolling stock, access and signalling. Safety fencing will be erected in a possession period(s) for subsequent piling and abutment works which can be undertaken during normal construction hours.

5.42 Approximately 100m to the south of the A4, it is proposed to link the East and West sides of the Earls Court Site by a pedestrian bridge aligned with the existing church on Philbeach Gardens. The architectural concept for this structure is not yet determined but it will almost certainly be of a relatively lightweight steel construction. It may be either launched or slid into position supported by temporary piers or else positioned with a single or tandem crane lift, depending on the design.

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**Figure 5-5 Existing Railway and LUL lines**

**Removal of Earls Court 2 Access Bridge from Earls Court 1**

**Cover to West London Line to form landscaped areas**

**Pedestrian Bridge**
5.43 This bridge spans over the District Line and the WLL, and is likely to be located on the new decking system at the northern end of the Earls Court Site.

Construction Interface with LUL

5.44 Details of the interfaces with LUL assets, particularly in relation to the District Line, the Piccadilly Line, the Lillie Bridge Depot and Ashfield House are summarised below. Further information on these interfaces can be found within the following documents, Arup on behalf of Capital & Counties Properties Plc, 2011; 'Network Rail Design Brief for No Objection to Planning' (Ref. 5-2).

5.45 As well as the interface with the existing EC1 and EC2 buildings, the existing LUL engineering buildings within the Lillie Bridge Depot will be demolished together with Ashfield House.

5.46 A new stabling facility is proposed in place of the existing Depot, at a similar level. It is proposed to construct this new facility in two halves. Following reconfiguration of the throat tracks and the fitting out of the first available half of the new facility, the construction will then be completed on the other side. Barriers will be erected during these phased operations to ensure the stabling facility and the construction activity is separated to maintain a safe environment.

5.47 It is proposed to cover over this stabling facility with new buildings and landscaped areas. Consequently the roof to the Depot will also serve as a transfer structure; it will be designed to support the buildings and areas of landscaping. LUL minimum clearances will be provided and the structure will be either designed for, or protected against, the appropriate impact loadings.

5.48 In the area of EC1, the Earls Court Development Proposals proposes new low to mid rise residential blocks. In general, the buildings are positioned to the side of the District Line tunnel structures and it is anticipated that they will be founded on piles. The exceptions are as follows:

- Buildings will cover the District Line tunnels. This may require the construction of new transfer beams over part of the proposed building structure;
- There is a row of proposed low rise townhouses along the Philbeach Gardens which will sit above the Piccadilly Line. Their foundations will be designed ensuring that they do not put unacceptable loads on the Piccadilly Line tunnels;
- Some structures are proposed around the Warwick Road apron which, will bear onto the apron structure;
- New structures are provided to support the proposed roads that are to be positioned above the District Line tunnels. These new road structures will bridge over the District Line and be supported on their own foundations or, potentially, on some of the retained transfer beams;
- It is anticipated that the entrance to Earls Court Underground station within the Earls Court Development Proposals Site boundary will be retained and remodelled, as discussed in paragraph 5.34;
- Low to mid rise blocks are proposed on the land to the north of EC1 between the WLL and Philbeach Crescent. In general, construction here is remote from the LUL assets with the exception of the southern end of this area which is over the Piccadilly Line tunnels. As above, their foundations will be designed ensuring that they do not unacceptably load the Piccadilly Line tunnels.

5.49 The Earls Court Development Proposals proposes new buildings along the southern edge of the A4. By default, these buildings therefore span over the District Line to Ealing Broadway and over the DATs. The buildings are mid rise and transfer beams are proposed at the lowest level. It is anticipated that the buildings will be piled. Pile arrangements will need to accommodate the District Line, Piccadilly Line and associated structures.

5.50 Between these building plots it is proposed to build up the landscaping levels to match the level of the A4. This will most likely be with concrete retaining walls backfilled. Where it is required to span over the District Line or minimise loading on the PL, then a new elevated structure will be designed to span between piled or pad foundations.
A new road called 'The Broadway' is planned to connect to the A4 to the east of West Kensington Station. This will require local widening of the A4 to form slip roads; it is envisaged that this will involve a new structure founded between the District Line and the A4. This new structure reaches over the DATs.

The proposals to build a new deck over the WLL will also enclose the District Line. The District Line will become covered from its existing portal immediately to the west of the WLL until it passes under the A4 (Olympia branch) or until it enters West Kensington Station (Ealing Broadway branch).

Possession Periods

Network Rail

A possession is defined as any restriction of the network for Train Operators. This includes engineering work governed by Network Rail, including but not limited to:

- Track work;
- Electrical supply isolations;
- Signalling disconnections;
- Temporary speed restrictions; and
- Operational telecommunications disconnections.

The above work can require either the complete closure of a section of route, or the closure of only one or more running lines.

Possessions of the track to undertake engineering work are initially determined by Network Rail through informal consultation with Train Operators and Network Rail Delivery Planners, with the aim of achieving the optimal balance between access to the network for train operations and access for maintenance, renewal and enhancement work.

The present understanding of available Possessions is as follows:

- White Periods (periods when no trains are running): limited to 6 hours per week between 01:00 and 07:15 on a Sunday morning; and
- Engineering Hours: possessions for regular maintenance work; 4 - 24 hour periods per year; and
- Agreed blockade periods (e.g. week or months).

London Underground Limited

Engineering hours are general times when LUL trains not running (typically 3-4 hours) and possessions are agreed times outside engineering hours.

Site Access and Egress

Access Gates

Site access gates will be established around the perimeter of the Earls Court Site as indicated in Figure 5-7. These gates will be used for construction access and egress to the Earls Court Site over the anticipated 19 year demolition and construction period. Different gate positions will be used to suit the location of the demolition and construction works as the works progress across the Earls Court Site.

G1 is accessed via the existing Tesco basement; G2 is located off Old Brompton Road; G3 is located off Warwick Road; Gate G4 and G6 are located on North End Road; G5 and G8 are both located on Little Road; G7 is located at the new proposed permanent junction off the A4; G9 is located on Beaumont Avenue off North End Road; and G10 is located in Cluny Mews, off Warwick Road.

It is intended that Gates G1, G2, G3 and G5 will be used to serve demolition and construction works within the RBKC land.

Access to the southern and central areas of the LBHF land will be shared between Gates G4, G5, G6 and G8. Some access may also be required from these locations to the north area of the LBHF land until the new A4 junction, and hence G7, is available for use.
Main Access Routes

5.64 The main access/egress route to the Earls Court Site is along the A4.

5.65 Construction vehicles will access G1 via a left hand turn off the Eastbound A4 onto Warwick Road and a left hand turn into Fenelon Place leading into Tesco’s basement. Vehicles egressing G1 will do so via Fenelon Place with a left hand turn into Warwick Road across the junction leading onto Holland Road (A3320) with a left hand turn at Holland Park Avenue onto the A40. This egress route is shown in Figure 5-8.

5.66 The approach to the other Earls Court Site access gates, (except G7, which would have direct access to the Earls Court Site from the new A4 junction) will be via a right hand turn off the Eastbound A4 onto North End Road. Demolition and Construction traffic can then enter the Earls Court Site at any of the gates around the perimeter of the site using Lillie Road, Old Brompton Road, and Warwick Road. Vehicles leaving the Earls Court Site will do so via the same route with a left hand turn off Warwick Road onto the Westbound A4 junction away from the site. These routes are shown in Figure 5-9, overleaf.

5.67 Detailed logistics plans will be developed as part of the Construction Environmental Management Plan (CEMP).

5.68 Secure access points with wheel cleaning facilities will be established at the site entrance locations. Pedestrian access points will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided.

5.69 To minimise the likelihood of congestion during the demolition and construction period, strict monitoring and control of vehicles entering and egressing and travelling across the Earls Court Site will be implemented through the Construction Logistics Plan. Construction deliveries will be carefully planned with delivery times agreed with each contractor using a booking system. Delivery schedules will also be produced in order to look at the profiles of up and coming deliveries and to regulate deliveries and eliminate bottle necks. A holding area close to the M4/Heathrow corridor may be used to control the number of construction deliveries coming into the area. Contractors will be issued with a project route map to pass on to their delivery drivers. A delivery vehicle could be held in the offsite holding area until the site is ready to receive the delivery. Radio contact links will be provided and maintained between the site and the holding area to call vehicles into the site area on a controlled basis. Specific time slots will be allocated to contractors for the use of cranes and hoists, to ensure that the main plant will be utilized efficiently.
5.70 The first stage of the demolition and construction programme will be to establish the area as a demolition / construction site. The working areas will be secure and the general public will be separated from the works. Demolition and construction compound boundaries will be made safe and secure prior to works commencing with use of solid well maintained hoardings and screening where required. Temporary hoardings will be provided on short term boundaries and for highway works. Secure access points with wheel cleaning facilities will be established at all Site entrance locations. Pedestrian access points will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided.

5.71 It is the intention to provide a main site welfare office and as necessary, supporting satellite offices on Site. The location of these facilities is yet to be determined, however they will be identified and agreed with the boroughs as part of the detailed demolition and construction logistics programming. It is anticipated that further information and details on this will be submitted, pursuant to planning conditions in relation to demolition and construction management.
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Relocation Strategy

5.72 As part of the programme of works for the Earls Court Site, the West Kensington and Gibbs Green Housing Estates will be demolished. Prior to demolition of the Housing Estates, the relocation of residents currently residing within properties across these two Housing Estates to new properties will take place. The new properties will be provided in the new Seagrave Road and Earls Court developments (refer to Chapter 1: Introduction to the ES). The strategy assumes all homes are re-provided within these two new developments.

5.73 As shown in Figure 5-10, the relocation strategy will be phased, commencing in year 3 of the Earls Court demolition/construction programme and continuing throughout years 4, 5, 9, and 11/12. Each phase of demolition will be undertaken following the relocation of the affected properties.

5.74 Within the yearly timeslice figures presented in this Chapter, environmental protection (including construction screens, maintenance of utilities and drainage etc) is shown, which reflect the areas of relocation and the following demolition of these areas of the Housing Estates. The environmental protection will maintain acceptable conditions for existing residents which are have not yet been relocated. In the corresponding narrative (bullet points) for each yearly timeslice figure, relocation of the residents from the Housing Estates will be referred to.

5.75 Further information on the relocation strategy is presented within Chapter 6: Socio-Economics of this ES, and the full relocation strategy is presented within the Planning Application document ‘Housing Statement’ (Ref. 5-26). The Housing Estates Social Impact Assessment, located within ES Volume III: Appendix B, Annex 4, presents supporting information on the impacts and mitigation measures associated with the existing Site’s residential areas across the two Housing Estates during the Relocation Strategy.
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Deconstruction, Demolition and Construction Sequence 1

5.76 As discussed previously, the programme has been divided into three ‘Deconstruction / Demolition and Construction Sequences’, hereafter referred to as Sequence 1, Sequence 2 and Sequence 3. This section discusses Sequence 1, which incorporates phases 1 to 3 over a 6 year period.

EC1 and EC2 Deconstruction

Surveys

5.77 As part of the deconstruction pre-commencement activities a number of non rail related and rail related surveys are likely to be required to supplement the desktop surveys undertaken to date. The required surveys are likely to be as follows:

Non Rail Related Surveys

- Asbestos surveys;
- Further environmental baseline surveys (including noise, vibration, ecology and air quality);
- Party wall and boundary wall surveys;
- Structural surveys of existing construction (including investigation works);
- Surveys of existing mechanical, electrical, and public health services;
- Surveys of existing utility services;
- Geotechnical surveys; and
- Unexploded ordnance surveys.

Rail Related Surveys

- Surveys and investigations of LUL tunnels/assets; and
- Surveys and investigations of Network Rail assets.

Proposed Works

5.78 Various utilities and services run throughout the EC1 and EC2 buildings and surrounding grounds, and over the years these have been repeatedly modified. To eliminate the risk associated with the current live services, existing services will be terminated prior to deconstruction commencing. Temporary services will be installed in advance of these terminations as necessary. All new cables and services will be clearly marked, located and identified.

EC1 Exhibition Centre

5.79 Any known Asbestos Containing Materials (ACMs) within the existing EC1 building will be removed in advance of the commencement of the main deconstruction works in accordance with the Control of Asbestos at Work Regulations 2006 (Ref. 5-3) and Hazardous Waste Regulations 2009 (Ref. 5-4).

5.80 The closeness of the site boundaries and the proximity of the residential housing on Philbeach Gardens and Eardley Crescent will require a fully encapsulated perimeter scaffold to EC1 to provide a visual shield, and also to provide human and environmental protection during deconstruction operations. During deconstruction the scaffold will be supplemented with acoustic quilts as necessary, which will assist in attenuating the noise levels emanating from the deconstruction compound.

5.81 The general deconstruction sequence is likely to begin with the removal the main EC1 auditorium roof followed by the remaining roof structures (as shown in Figure 5-11). The building will be soft stripped and external perimeter scaffolding and sheeting erected. It is likely that the concrete structure will be deconstructed working from inside towards the external perimeter walls thus providing a barrier between the works and the neighbours. The centre of the deconstruction site will be used to process the deconstruction material with concrete crushed on site for re-use. Initially on EC1, metal roof sheeting will be removed followed by the asbestos roof sheeting. EC1 comprises of 4 main roofs. These areas will likely be accessed via birdcage scaffolds (or similar) for removal using conventional techniques and will use burning gear to reduce the steels for manageable sizes for lowering to ground level by crane. Alternative methods could be considered for the main hall roof. The superstructure will most likely be removed using large tracked machines operating off the ground floor level using a combination of pulverisers and breakers, where necessary. The ground floor slabs and vertical members are likely to be removed in the same way with the perimeter walls propped in advance. Figure 5-12 below shows a section through the existing EC1 roof and building structures which will be deconstructed to ground floor slab (Exhibition Hall Level 1).

5.82 The existing EC1 link building and link bridge, as identified in Figure 5-2, will also be deconstructed. Currently it is the intention to deconstruct these as part of the EC1 deconstruction operations.

Figure 5-11 Section Identifying EC1 Deconstruction to Exhibition Hall Level 1

EC2 Exhibition Centre

5.83 The EC2 structure sits on a ground floor podium slab which spans over the WLL and the existing LUL Lillie Bridge Depot. The intention is that the ground floor slab over the WLL will be retained to provide continuous protection to the WLL to minimise the impact on its operations. The remainder of the existing ground floor slab...
will be removed to basement level. Prior to this commencing, it is anticipated that the existing LUL operational
assets will have been vacated from under EC2. It is anticipated these deconstruction works will have to be
carried out during agreed engineering or possession periods with Network Rail and LUL.

5.86 The link bridge south of EC2 may also be deconstructed at this stage of the works.

5.87 The Principal Contractor will liaise closely with LUL and Network Rail on all railway related interface matters
including protocols, processes, possessions, construction method statements, safety matters and engineering
related issues.

Figure 5-12 Section Identifying EC2 Deconstruction (Including Basement Demolition)

Arch structure deconstructed to ground floor (shaded yellow)

This area of ground floor slab demolished above LUL depot & car park

This area of ground floor slab left in place above the WLL.

Other Deconstruction, Demolition and Construction within Sequence 1

Description of works

5.88 This section outlines other deconstruction / demolition and construction works proposed as part of phases 1, 2
and 3 (Figure 5-4). Phase 1 covers the area of the existing EC1 Exhibition Centre and is in the location of the
proposed new Earls Court Village (Chapter 4: The Earls Court Development Proposals). Phase 2 lies to the
west of Phase 1 in the location of the existing West Kensington Housing Estate and the proposed new North
End Village (Chapter 4: The Earls Court Development Proposals). Phase 3 includes the existing Blue Car
Park and surrounding areas to Empress State building including part of the existing West Kensington Housing
Estate.

Phase 1

5.89 The existing service road and EC1 basement are very close to the existing boundary wall on both Philbeach
Gardens and Eardley Crescent. The proposed new building line is also very close to these existing boundaries.
Therefore notices may need to be given and awards agreed under the Party Wall Act 1996 prior to

commencing with basement demolition and construction activities adjacent to the Philbeach Gardens and
Eardley Crescent boundaries.

5.90 The Phase 1 area will primarily be new residential construction. The existing EC1 building is basemented and
the intention is to remove the existing basement and extend it for car parking, landlord’s plant and servicing
use. A working platform to the existing EC1 road bridge will be provided to allow the bridge to be broken down
and removed in sections by craneage or light plant.

5.91 New transfer beams will be constructed over the tunnels (where required) to found the new residential
construction above. Temporary propping maybe required to the basement construction. It is likely that a variety
of foundation solutions will be used including piling, foundations and rafts. It is anticipated that the basement
and structures will primarily be of a reinforced concrete construction, built using tower cranes and mobile
cranage. The frame will be constructed in a conventional manner on a floor by floor basis. The cores may be
built ahead of the frames on the higher buildings. Façade cladding and roofing will follow behind the frame
ready for internal finishes and services to proceed.

5.92 It is proposed that an energy centre be located within the basement of the Phase 1 area.

5.93 Construction of the proposed new ‘High Street’ and road infrastructure, together with the partial covering of the
WLL and associated external works will be carried out in conjunction with the building works.

Phase 2

5.94 Prior to Phase 2 construction works commencing in the area of the existing West Kensington Housing Estate,
phased relocation of existing residential tenants will take place. It is currently proposed to relocate a proportion
of residents off site to provide space for the start of the regeneration works. Construction in other areas
occupied by housing estate tenants will take place on a staged basis as tenants are relocated off site or into
new accommodation on site as it becomes available. Prior to demolition commencing, enabling works will be
carried out to existing areas to permit them to operate on a standalone basis. Advance surveys will be carried
out as part of the preconstruction process. Hoarding will be established to the site perimeter with services
disconnections made in advance of demolition starting. The existing residential buildings are mainly low rise
and are assumed to be of traditional construction. Encapsulated scaffolds will be erected to buildings close to
highway boundaries and adjoining sensitive boundaries to help control noise and dust in conjunction with
damping down using recycled water where possible to do so. Large reach machines, or similar, will be used in
conjunction with pulverising and shear attachments to carry out the demolition. Breakers will be used where
necessary to do so. It is anticipated that new construction will be similar to that described previously for Phase
1.

5.95 Phase 2 includes the construction of a new tall building in the vicinity of the existing (and retained) Empress
State Building. The tall building may be built in steel using composite floors.

5.96 Construction of the proposed new ‘High Street’ and ‘The Broadway’ and associated infrastructure and other
external works will again be carried out in conjunction with the main building works. The permanent roads may
be partially built ahead of the main plots where beneficial to do so.

Phase 3

5.97 Generally the construction proposed in Phase 3 will be as above, using reinforced concrete substructures and
frames to the lower rise structures.

5.98 Phase 3 also includes the construction of a new tall building in the vicinity of the existing (and retained)
Empress State Building. The tall building may be built in steel using composite floors.

5.99 Again, the ‘High Street’ and ‘The Broadway’ constructions and the infrastructure and external works will be built
in conjunction with the main building works. The permanent roads may be partially built ahead of the main plots
where beneficial to do so.

5.100 As part of Phase 3, demolition of the existing LUL loco shed will take place and construction of the new LUL
stabling box will take place.
5 Deconstruction, Demolition and Construction: Planning Application 2 - LBHF

Traffic Management

EC1 and EC2 Deconstruction Access and Egress

5.101 In order to access and egress the EC1 and EC2 deconstruction sites, it is the assumption that a new access road together with a ramp from the existing podium level, will be constructed within the strip of land adjacent to the WLL and the Philbeach Gardens boundary as shown in Figure 5-13, using access gate (G1). An acoustic screen will be provided on the Philbeach Gardens boundary to act as a noise buffer.

5.102 Access gates with entrances off Brompton Road (G2), Warwick Road (G3) and Lillie Road (G5) will also be established as shown on Figure 5-14. G1, G2 and G5 will be used as primary access and egress positions with G3 used as a secondary access and egress. It is anticipated that the existing bus layovers can be maintained whilst Gate 5 is used for construction access.

5.103 The location of the existing Blue car park is also identified on Figure 5-13. This space could be used for the storage of reusable deconstruction and demolition materials and also potentially for a soil hospital to treat contaminated material on site. Concrete Materials from EC1 and EC2 would be transported to the Blue Car Park storage area via the existing road link across the EC2 podium slab from EC1 (indicated on timeslices 2 and 3). A temporary ramp will link the elevated link road to the lower level car park area.

Figure 5-13 Deconstruction Site Access & Egress Gates and Location of New Access Road

Figure 5-14 Sequence 1 - Site Access & Egress Gates

Construction Access and Egress

5.104 Gate locations G1, G2, G3, G4, G5, G6 and G7 will be used throughout the 6 year period of Sequence 1, as shown in Figure 5-14. Not all these gates will be available or be used all at the same time, they are dependant on the works being undertaken at particular locations. The timeslopes later on in this section indicate the timing of when these gates will be in use.

5.105 It is expected that G7 will be a primary gate position. The current intention is to establish the new proposed A4 junction within Sequence 1 to minimise the potential congestion on surrounding roads caused by construction traffic.

5.106 It should be noted that Site approaches, access and egress will remain as described earlier on in this Chapter, and as shown in Figure 5-8 and 5-9.
5.107 As discussed previously, Sequence 1 comprises 6 yearly timeslices. These 6 yearly timeslices (years 1 – 6) are presented visually in the following section of this Chapter, and essentially show the anticipated progress position at the end of each of the 6 years. For each timeslice there is an accompanying narrative, which summarises the key deconstruction / demolition and construction activities taking place; the related logistics; the key interfaces; and the existing and new occupancies.

5.108 The timeslice figures do not illustrate the relocation and subsequent demolition of the Gibbs Green and West Kensington Housing Estates, however, construction screens are shown which do reflect the areas of relocation and the following demolition of these areas of the Housing Estates. In the corresponding narrative (bullet points) for each yearly timeslice figure, relocation of the Housing Estates will be referred to (refer to paragraphs 5.72 – 5.75 for more detailed information).

5.109 The timeslices are as follows:
- Timeslice 1 - Year 1;
- Timeslice 2 - Year 2;
- Timeslice 3 - Year 3;
- Timeslice 4 - Year 4;
- Timeslice 5 - Year 5; and
- Timeslice 6 - Year 6.
Key Demolition & Construction Activities
- Commencement of deconstruction of EC1 to ground floor/exhibition hall level 1 and EC2 down to grade level; and
- Generally deconstruction and demolition works proceed across the site in a south to north direction.

Demolition & Construction Logistics
- Access and egress via G1 and Tesco’s underground coach park and via G2 and G5 off Old Brompton Road/Lillie Road;
- Some deconstruction access via G3 Warwick Road but this will be secondary; and
- Main office and site facilities established.

Key Interfaces
- Demolition adjacent to Eardley Crescent and Philbeach Gardens;
- Demolition of slab and structures over existing LUL tunnels and WLL.

Existing & New Occupancies
- Existing occupancies in West Kensington and Gibbs Green Housing Estates remain; and
- Existing LUL Lillie Bridge Depot facilities, north of the EC2 deck, remain partially operational.
Key Demolition & Construction Activities
- Deconstruction of EC1 and EC2 continues including ground floor and basement to grade;
- Removal of existing Earls Court link bridge over the WLL;
- Removal of existing transfer beams over LUL tunnels;
- Following behind and overlapping with deconstruction, construction of new substructures and basement construction adjacent to the Earley Crescent and Warwick Road boundaries commence;
- Road construction to new residential areas commences off Old West Brompton Road;
- Shell and core construction commences to Illustrative Masterplan Plots WV05 and WV06; and
- Generally works proceed in a south to east and south to north direction.

Demolition & Construction Logistics
- Deconstruction and construction access and egress via G1 and G5 maintained;
- New construction access via G2 off Old Brompton Road;
- Secondary construction access and egress via G3 Warwick Road;
- Main office and site facilities maintained;
- Existing Blue Car Park used for storage of reusable demolition material and as possible contaminated soil hospital; and
- Lorry access route established from EC1 area over the WLL to the Blue Car Park area.

Key Interfaces
- Substructure and basement construction adjacent to Earley Crescent and Philbeach Gardens;
- Demolition of slab and structures over existing LUL tunnels;
- Construction of foundations alongside the LUL tunnels;
- Demolition of existing EC1 and EC2 link bridge over the WLL; and
- Construction of Illustrative Masterplan Plot WV06 adjacent to the WLL;
- Track enabling works in advance of new stabling works.

Existing & New Occupancies
- Existing occupancies in West Kensington and Gibbs Green Housing Estates remain;
- LUL vacate facility below EC2 podium deck and redundant engineering buildings. A temporary access route is provided to the Depot from Beaumont Avenue; and
- Existing LUL loco shed remains in use.
Key Demolition & Construction Activities

- Complete deconstruction / demolition of ground floor slab and base areas to EC1 and EC2;
- Complete demolition of EC2 to grade;
- Relocation of existing LBHF residents to new properties, with subsequent demolition works to the LBHF Housing Estates;
- Basement / substructure construction to Illustrative Masterplan Plots WV06, WV04, BW07, NE03, NE06 commences;
- Shell and core construction continues to Illustrative Masterplan Plots WV03, WV05, NE04;
- Building finishes and services to Illustrative Masterplan Plots WV05, WV06 underway;
- Possible enabling works to West Kensington Housing Estate (e.g. temporary roads and pedestrian routes, drainage infrastructure and utilities);
- Commence construction of south cover over the WLL to form Lost River Park;
- Commencement of LUL stabling box in EC2 area;
- Commence High Street road construction;
- Construction of the new Broadway / A4 junction commences.

Demolition & Construction Logistics

- Construction access and egress via G1 and G2 maintained;
- Some secondary Construction access via G3 Warwick Road;
- Main office and site facilities maintained;
- Existing Blue Car Park used for storage of reusable demolition material and as possible contaminated soil hospital;
- Satellite site facilities established;
- Lorry access route maintained from EC1 area over the WLL to the Blue Car Park area;
- Access and egress via G4 off North End Road for NE03 construction;
- Access and egress via G5 off Lilie Road for BW07 construction; and
- Mortar batching set up in EC1 close to new access road.

Key Interfaces

- Construction adjacent to Eardley Crescent and Philbeach Gardens;
- Demolition of slab and structures over existing LUL tunnels;
- Construction of foundations alongside the LUL tunnels;
- Construction of cover slab over WLL;
- West Kensington Housing Estate demolition and enabling works.

Existing & New Occupancies

- Relocation of some tenants from the West Kensington Housing Estate;
- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- A temporary access route from Beaumont Avenue to LUL loco shed is maintained; and
- Existing LUL loco shed remains operational.
Sequence 1 - Timeslice 4

Figure 5-18 Timeslice 4 [Year 4]

Key Demolition & Construction Activities

- Continue basement / substructure construction to Illustrative Masterplan Plot WV04;
- Building finishes and services to Illustrative Masterplan Plots WV03 and WV05 adjacent to Warwick Road underway, and WV07 continue;
- Relocation of existing LBHF residents to new properties, with subsequent demolition works to the LBHF Housing Estates;
- Construction of Illustrative Masterplan Plot NE03 and BW07 shell and core;
- Commence of part of Illustrative Masterplan Plot BW07 substructures;
- Continue construction of south cover over to the WLL to form the Lost River Park;
- Demolition of existing loco shed and construction of new stabling box;
- Continue with road construction including new the High Street and The Broadway;
- Demolition of Ashfield House;
- Commence A4 link bridge; and
- Commence construction of the Energy Centre within the RBKC land.

Demolition & Construction Logistics

- Construction access and egress via G1 and G3;
- Main office and site facilities maintained;
- Existing Blue Car Park used for possible storage of reusable demolition material and contaminated soil hospital;
- Access and egress via G4 off North End Road for NE03 construction;
- Access and egress via G5 off Lillie Road for Illustrative Masterplan Plots WB01 and BW08 construction; and
- Mortar batching set up maintained in EC1 adjacent to new access road.

Key Interfaces

- Demolition of existing LUL loco shed whilst maintaining tracks for stabling facility;
- Construction of New LUL stabling box whilst maintaining LUL operations;
- Construction of WB01;
- Construction adjacent to Philbeach Gardens; and
- Construction of the A4 junction.

Existing/ New Occupancies

- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- A temporary access route from Beaumont Avenue to the LUL shed is maintained;
- New occupancies in Illustrative Masterplan Plots WV05, WV06, NE04, NE06;
- Pedestrian and vehicle access from Lillie Road and Old Brompton Road; and
- Possible screening between new occupied areas and construction areas.
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Sequence 1 - Timeslice 5

Figure 5-19 Timeslice 5 [Year 5]

Key Demolition & Construction Activities
- Continue basement / substructure construction to Illustrative Masterplan Plots WV04, WV02, and commence part of NE05 and BW05;
- Building finishes and services to Illustrative Masterplan Plots WV06, WV04, part of WV02 and BW07 underway;
- Relocation of existing LBHF residents to new properties, with subsequent demolition works to the LBHF Housing Estates;
- Part of Illustrative Masterplan Plots BW07 and NE05 shell and core construction underway;
- Continue construction of south cover to the WLL to form the Lost River Park;
- Construction of new LUL stabling box;
- Continuation of Energy Centre 1 (RBKC) construction;
- Continue with Road construction including the new High Street and Brompton Way; and
- Continue A4 link bridge construction.

Demolition & Construction Logistics
- Construction access and egress via G1 maintained;
- Main office and site facilities maintained;
- Existing Blue Car Park use maintained;
- Satellite facilities maintained;
- Access and egress via G4 off North End Road for NE03 and NE05 construction;
- Access and egress via G5 off North End Road for BW07 construction; and
- Mortar batching relocated to the western area of the Earls Court Site.

Key Interfaces
- Demolition of existing LUL loco shed whilst maintaining tracks for stabling facility and construction of new LUL stabling box;
- Construction of Illustrative Masterplan Plot BW07 surrounding Empress State building;
- Working alongside LUL and WLL;
- Construction of Illustrative Masterplan Plot BW07 with LUL;
- Construction adjacent to Philbeach Gardens (WV02); and
- Construction of the A4 link.

Existing & New Occupancies
- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- A temporary access route from Beaumont Avenue to the LUL loco shed is maintained;
- New occupancies in Illustrative Masterplan Plots WV03, and part of WV02 and NE05, and NE03;
- Pedestrian and vehicle access from Lillie Road, Old Brompton Road, Warwick Road and North End Road; and
- Possible screening extended between occupied and construction areas.
**Key Demolition & Construction Activities**

- Shell and core construction to Illustrative Masterplan Plot WV02 underway;
- Part of Illustrative Masterplan Plot NE05 finishes and services underway;
- Illustrative Masterplan Plot BW07 finishes and services underway;
- Illustrative Masterplan Plot NE05 shell and core construction complete and commence finishes and services;
- Illustrative Masterplan Plot BW07 finishes and services underway;
- Commence Illustrative Masterplan Plot BW05 shell and core construction;
- Possible enabling works to West Kensington Housing Estate;
- Continue construction of cover over WLL to form the Lost River Park;
- Complete construction of LUL new stabling box;
- Continue with road construction including new High Street and Broadway;
- A4 link bridge completed;
- Energy Centre 1 complete and operational; and
- Energy Centre 2 under construction.

**Demolition & Construction Logistics**

- Construction access and egress via G1 maintained;
- Main office and site facilities maintained;
- Existing Blue Car Park used for storage of reusable demolition material and as possible contaminated soil hospital;
- Satellite site facilities maintained;
- Access and egress via G6 off North End Road for Illustrative Masterplan Plots NE05 construction;
- Access and egress via G5 off North End Road for Illustrative Masterplan Plots BW07 and BW05 construction;
- Access G7 established off new A4 junction; and
- Mortar batching set up maintained.

**Key Interfaces**

- Construction adjacent to Philbeach gardens;
- Working alongside LUL;
- Working alongside WLL; and
- Construction of the A4 link.

**Existing & New Occupancies**

- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- The temporary access route to the LUL stabling altered to the A4 junction;
- New occupancies in Illustrative Masterplan Plots WV06, WV04, part of NE05, NE03;
- Pedestrian and vehicle access from Lillie Road, Old Brompton Road, Warwick Road and North End Road; and
- Possible screening extended between occupied and construction areas.
5 Deconstruction, Demolition and Construction: Planning Application 2 - LBHF

Materials and Resource Use

Demolition

Table 5-1 provides an estimate of likely quantities of deconstruction / demolition material likely to be generated throughout Sequence 1. Demolition quantities throughout this Chapter have been calculated using the existing on Site built drawings and available information (e.g. trade articles on both Earls Court 1 and Earls Court 2) and based on professional judgement from experience on comparable projects.

<table>
<thead>
<tr>
<th>EC1 and EC2 Deconstruction Quantities</th>
<th>Other Demolition Quantities</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>142,000 tonnes</td>
<td>46,000 tonnes</td>
</tr>
<tr>
<td>Steel</td>
<td>12,000 tonnes</td>
<td>500 tonnes</td>
</tr>
<tr>
<td>General</td>
<td>190 tonnes</td>
<td>300 tonnes</td>
</tr>
<tr>
<td>Asbestos Containing Materials</td>
<td>200 tonnes</td>
<td>10 tonnes</td>
</tr>
</tbody>
</table>

5.111 It is anticipated that circa 28% of the 186,000 tonnes of concrete material could be reused on site with storage located on site in the Blue Car Park area and the ground floor area under the demolished EC2 slab. (Anticipated reuse on the estimated overall demolition total of 200,210 tonne will equate to circa 26% reuse). On site storage will be very limited during the early years of the project when this material is available. The remaining concrete and other demolition materials will be removed from site. Where possible materials will be recycled and reused. Estimations for the on site reuse of existing demolition materials have been based on the use of crushed concrete as a piling mat and where possible using fill material to the building plot areas. For this sequence (1), the amount of reuse has been restricted by the amount of on site storage available during the period of demolition i.e Blue Car Park and area under EC2 ground slab.

Construction

5.112 Estimates of bulk material quantities for key construction components are provided in Table 5-2. This table also includes earthwork cut and fill quantities. Within the mitigation section of this Chapter, measures have been outlined to minimise the quantity of materials used and maximise recycling.

5.113 Throughout this Chapter the quantities of construction materials have been estimated from approximate quantity measurements of the drawings used in compiling the cost model. The quantities of construction materials for the buildings have been estimated by taking the principle quantities from other known building measured cost plans pro-rated to the gross internal floor areas of the Earls Court Development proposed building plots – this method was utilised as at this stage there are no approximate quantity measures of the proposed building plots. The assumption has been made that excavated material will be suitable for reuse as a fill material.

5.114 Based on excavated material being suitable for reuse as fill, it is estimated that circa 125,000m³ will be removed from site, including pile arisings and circa 100,000m³ reused. This equates to circa 55% reuse of excavated material. Some of this material may be contaminated and require remediation, hence, an on site area has been identified on the timeslices for a potential soil hospital. This area is shared with crushed concrete storage arising as a result of deconstruction / demolition which, is intended to be re-used. The designation and ratio of waste types will be determined through site specific chemical test data, including Waste Acceptance Criteria (WAC) tests (Ref. 5-27), and it will be disposed of in accordance with relevant legislation.

Road Vehicle Movements

5.115 Figure 5-22 identifies the anticipated two-way vehicle movements per hour for HGVs throughout Sequence 1.

5.116 The total two-way vehicle movements per hour can be defined as: the total vehicles entering the site per hour + the total vehicles leaving the site per hour, at the designated gates. For example, if there were 30 two-way vehicles movements per hour, this could be broken down into 15 entering the site plus 15 leaving the site.

5.117 It is anticipated that vehicle movements will peak at 22 to 28 vehicle movements per hour (i.e. a delivery every 4 to 6 minutes) in Years 5 and 6. It is anticipated that there will be 3 to 4 vehicular access gates in operation at this time, as previously identified on the Year 5 and 6 timeslice plans. On this basis, the frequency will reduce to a delivery every 12 to 18 minutes per access gate.

Table 5-2 Sequence 1 - Estimates of Key Construction Quantities

<table>
<thead>
<tr>
<th>Estimates of Bulk Quantities</th>
<th>Bulk Excavation</th>
<th>Earth Filling to make-up levels</th>
<th>Concrete in Piles and Arisings</th>
<th>Concrete to foundations and substructures</th>
<th>Concrete to infrastructures</th>
<th>Concrete in Roads and pavings</th>
<th>Concrete in Superstructures</th>
<th>Substructure Infrastructure Backer</th>
<th>Superstructure Rebar</th>
<th>Reinforcement Frame</th>
<th>Tapered Cladding and Glazing</th>
<th>Roof finishes</th>
<th>Internal walls</th>
<th>Ceilings</th>
<th>Wall and Floor Finishes</th>
<th>Hard and Soft Landscaping</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200,000m³</td>
<td>100,000m³</td>
<td>25,000m³</td>
<td>30,000m³</td>
<td>30,000m³</td>
<td>18,000m³</td>
<td>90,000m³</td>
<td>11,000m³</td>
<td>20,000 tonnes</td>
<td>9,000 tonnes</td>
<td>110,000m²</td>
<td>90,000m²</td>
<td>500,000m²</td>
<td>300,000m²</td>
<td>1,200,000m²</td>
<td>90,000m³</td>
</tr>
</tbody>
</table>

Figure 5-21 Sequence 1 HGV Movements (per hour)
Deconstruction / Demolition and Construction Sequence 2 (Phases 1, 2, 3, 4 and 5)

Description of works

5.119 This section outlines the deconstruction / demolition and construction works proposed for Sequence 2, which includes parts of phases 1, 2 and 3, 4 and 5 (Figure 5-4) over a 6 year period.

5.120 Phase 1, 2 and 3 works will be as previously described in Sequence 1. Phase 4 is centrally located in the existing TL area, including existing LUL and WLL tracks. Phase 5 is located in the north west corner of the existing West Kensington and Gibbs Green Housing Estates and includes West Kensington Station.

Phase 4 Demolition and Construction

5.121 Phase 4 includes new basement construction to the west of the new LUL stabling box and superstructure construction over the box and basement. The WLL is partially covered to the east of the stabling box. It is anticipated that the basement and structures will primarily be reinforced concrete construction built using tower cranes and mobile craneage. The frame will be constructed in a conventional manner on a floor by floor basis. The cores may be built ahead of the frames on the higher buildings. Facade cladding and roofing will follow behind the frame ready for finishes and services. It is proposed that an energy centre will be located within the basement of the Phase 4 area. Fitting out of the new buildings has been included as part of the overall construction analysis. Construction of The Broadway and associated infrastructure, together with the partial covering of the WLL and external works will be carried out in conjunction with the building works.

Phase 5 Demolition and Construction

5.122 Continuing on from Phase 2 in Sequence 1, there will be a continuous programme of construction of new residential units and relocation from the existing residential uses on site into the new units, as they become available. Advance surveys will be carried out to determine any enabling works required to the existing residential units to permit them to operate on a standalone basis (e.g. temporary roads and pedestrian routes, drainage infrastructure and utilities). Prior to demolition commencing, hoarding will be established to the site perimeter. Services disconnections will be made in advance of hard demolition starting.

5.123 The existing residential buildings are mainly low rise and are assumed to be of traditional construction. Encapsulated scaffolds will be erected to buildings close to highway boundaries and adjoining sensitive boundaries to help control noise and dust in conjunction with damping down using recycled water, where possible. Large reach machines, or similar, will be used in conjunction with pulverising and shear attachments to carry out demolition works. Breakers will be used where necessary to do so. It is anticipated that new construction will be similar to that described previously in Phase 4, above.

Traffic Management, Access and Egress

5.124 During Sequence 2, existing site access and egress gates (G1, G5, G6 and G7) as presented in Sequence 1 will be maintained for site access and egress (Figure 5-22). The new access road is also expected to be maintained. Approaches to the Earl's Court Site will be as identified previously in Figures 5-9 and 5-9.
Deconstruction / Demolition and Construction Sequence 2 - Timeslices

5.125 As discussed previously, Sequence 2 comprises 6 years or timeslices. These 6, yearly timeslices (years 7 – 12), are presented visually in the following section of this Chapter, showing the anticipated progress position at the end of each year. For each timeslice there is accompanying narrative, which summarises the key demolition and construction activities taking place; the related logistics; the key interfaces; and the existing / new occupancies.

5.126 The timeslices are as follows:

- Timeslice 7 - Year 7;
- Timeslice 8 - Year 8;
- Timeslice 9 - Year 9;
- Timeslice 10 - Year 10;
- Timeslice 11 - Year 11; and
- Timeslice 12 - Year 12.
Key Demolition & Construction Activities

- Building finishes and services to the remainder of Illustrative Masterplan Plot WV04 underway;
- Illustrative Masterplan Plot NE05 finishes and services underway;
- Commence part of Illustrative Masterplan Plot BW05 finishes and services;
- Commence the remainder of Plot BW05 substructures;
- Possible enabling works to West Kensington Estate;
- Commence Illustrative Masterplan Plots NE06 and part of BW04 shell and core;
- Commence Illustrative Masterplan Plots BW06 and the remainder of BW04 substructures;
- Continue construction of cover to WLL to form the Lost River Park;
- Continue with road construction including The Broadway;
- Construction of substation north of Illustrative Masterplan Plot BW04 underway;
- Construction commencing of Energy Centre 2 (within the LBHF); and
- Construction commencing of the substation.

Demolition & Construction Logistics

- Construction access and egress via G1 maintained;
- Main office and site facilities maintained;
- Possible storage of reusable demolition material, soil hospital relocated north adjacent to the new Broadway;
- Satellite site and welfare facilities maintained;
- Access and egress via G6 off North End Road for Illustrative Masterplan Plots NE06 and NE04 demolition and construction;
- Access and egress via G5 off North End Road for Illustrative Masterplan Plots BW05 (part of) and BW06;
- Access and Egress G7 off A4 junction, for Illustrative Masterplan Plots BW05 (part of) and BW04; and
- Mortar batching maintained in the western area of the Earls Court Site.

Key Interfaces

- Construction adjacent to Philbeach Gardens;
- Working alongside LUL;
- Working alongside WLL; and
- Working adjacent to Empress State building.

Existing/ New Occupancies

- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- A temporary access route to LUL loco shed maintained from A4 junction;
- New occupancies in Illustrative Masterplan Plots WV02, WV04, BW07, NE03, and part of BW05;
- Pedestrian and vehicle access from Lillie Road, Old Brompton Road, Warwick Road and North End; and
- Possible screening extended between occupied and construction areas.
5 Deconstruction, Demolition and Construction: Planning Application 2 - LBHF

Sequence 2 - Timeslice 8

Figure 5-24 Timeslice 8 [Year 8]

Key Demolition & Construction Activities
- Illustrative Masterplan Plot NE06 and BW05 finishes and services underway;
- Possible enabling works to West Kensington Housing Estate;
- Commence Illustrative Masterplan Plots BW06 and BW04 shell and core;
- Illustrative Masterplan Plot BW04 substructures and commencement of shell and core;
- Commence Illustrative Masterplan Plot BW03 substructures;
- Continue construction of cover to WLL to form the Lost River Park;
- Continue with road construction including The Broadway and branch roads; and
- Energy Centre 2 is complete and operational.

Demolition & Construction Logistics
- G1 access maintained for servicing vehicles;
- Main office and site facilities maintained;
- Possible storage of reusable demolition material and contamination soil hospital maintained adjacent to new Broadway Road to the north;
- Satellite site and welfare facilities maintained;
- Access and egress via G8 off Little Road for Illustrative Masterplan Plots NE06 and NE04 demolition and construction;
- Access and egress G7, off A4 junction, for other Illustrative Masterplan Plots; and
- Mortar batching maintained in the western area of the Earls Court Site.

Key Interfaces
- Working alongside LUL;
- Working alongside WLL; and
- Working alongside Empress State building.

Existing/ New Occupancies
- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- A temporary access route to LUL stabling is provided from the A4 junction;
- New occupancies in the remainder of the Illustrative Masterplan Plot NE05, WV02, and within WV04;
- Pedestrian and vehicle access from Little Road, Old Brompton Road, Warwick Road and North End; and
- Possible screening extended between occupied and construction areas.
Key Demolition & Construction Activities

- Illustrative Masterplan Plot BW05 finishes and services completed;
- Relocation of existing LBHF residents to new properties, with subsequent demolition works to the LBHF Housing Estates;
- Possible enabling works to West Kensington Housing Estate;
- Illustrative Masterplan Plot BW04 finishes and services underway;
- Illustrative Masterplan Plot BW06, BW03, Plot BW05 and Plot BW03 shell and core underway / continues;
- Illustrative Masterplan Plot NE01 substructure construction and commencement of shell and core;
- Illustrative Masterplan Plot WK01 substructures commences;
- Continue construction of cover to WLL to form the Lost River Park; and
- Continue with The Broadway construction and branch roads.

Demolition & Construction Logistics

- G1 access maintained for servicing vehicles;
- Main office and site facilities maintained;
- Possible storage of reusable demolition material and contaminated soil hospital maintained adjacent to new Broadway road to the north;
- Satellite facilities maintained;
- Access and Egress via G7 and G9; and
- Mortar batching maintained in the western area of the Earls Court Site.

Key Interfaces

- Working alongside LUL;
- Working alongside WLL;
- Working alongside Empress State building; and
- Working adjacent to West Kensington Station (maintain service access) and The Famous Three Kings Public House.

Existing & New Occupancies

- Existing remaining occupancies across the West Kensington and Gibbs Green Housing Estates;
- A temporary access route to LUL stabling maintained from the A4 junction;
- New occupancies in Illustrative Masterplan Plot BW03 and NE01;
- Pedestrian and vehicle access from Lillie Road, Old Brompton Road Warwick Road and North End; and
- Possible screening maintained between occupied and construction areas.
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Key Demolition & Construction Activities
- Possible enabling works to West Kensington and Gibbs Green Housing Estates ongoing;
- Finishes and services to Illustrative Masterplan Plots BW04 underway and BW06 shell and core underway;
- Remainder of Illustrative Masterplan Plot BW04 shell and core underway;
- Remainder of Illustrative Masterplan Plot BW03 shell and core continues;
- Illustrative Masterplan Plot NE01 finishes and services underway;
- Illustrative Masterplan Plot WK01 shell and core underway;
- Illustrative Masterplan Plot BW02 shell and core underway;
- Construction of cover over WLL to form the Lost River Park; and
- Continue with road construction including The Broadway and branch roads.

Demolition & Construction Logistics
- G1 access maintained for servicing vehicles;
- Main office and site facilities maintained;
- Possible storage of reusable demolition material and contaminated soil hospital maintained adjacent to new Broadway Road to the north;
- Satellite facilities maintained;
- Primary access and egress G7 and G9 maintained; and
- Mortar batching relocated within Illustrative Masterplan Plot BW01.

Key Interfaces
- Working alongside LUL;
- Working alongside WLL; and
- Working adjacent to West Kensington station (maintain service access).

Existing & New Occupancies
- Existing remaining occupancies across the Gibbs Green Housing Estate;
- A temporary access route to LUL, stabilised maintained from the A4 junction;
- New occupancies in Illustrative Masterplan Plot BW06;
- Pedestrian and vehicle access from Little Road, Old Brompton Road, Warwick Road and North End Road; and
- Possible screening extended between occupied and construction areas.