

Hospital; offices; and residential uses); and educational facilities (including the City of Westminster College Paddington Green campus) to the north-west.

The Edgware Road London Underground Station (which is served by the Bakerloo Line) is located approximately 50 m to the east of the site. Paddington Mainline Station is located approximately 400 m to the south-west.



Figure 4.2: Surrounding Context

The site is surrounded by a number of tall buildings located in the Hall Place Estate (Hall Tower and Braithwaite Tower, Parsons House) and West End Gate to the north; and the Hilton London Metropole Hotel, Burne House, Capital House and Merchant Square development to the south. There are further tall buildings with planning permission in the Paddington basin which are partially or yet to be implemented.

#### 4.2 Site Description

As shown in Figure 4.3, the site redline boundary is approximately triangular in shape and occupies much of the street frontage of the street block on which it sits, covering a total site area of approximately 0.83 ha.

The site is currently occupied by the Paddington Green Police Station, which has been in this location since the 1970's. The building was acquired by the Applicant in 2020 following the relocation of the police station to Church Street in 2018.

The ground surface of the site is generally level, at approximately 32.000 m AOD.

The building is underlain by a one level of basement used for on-site parking.

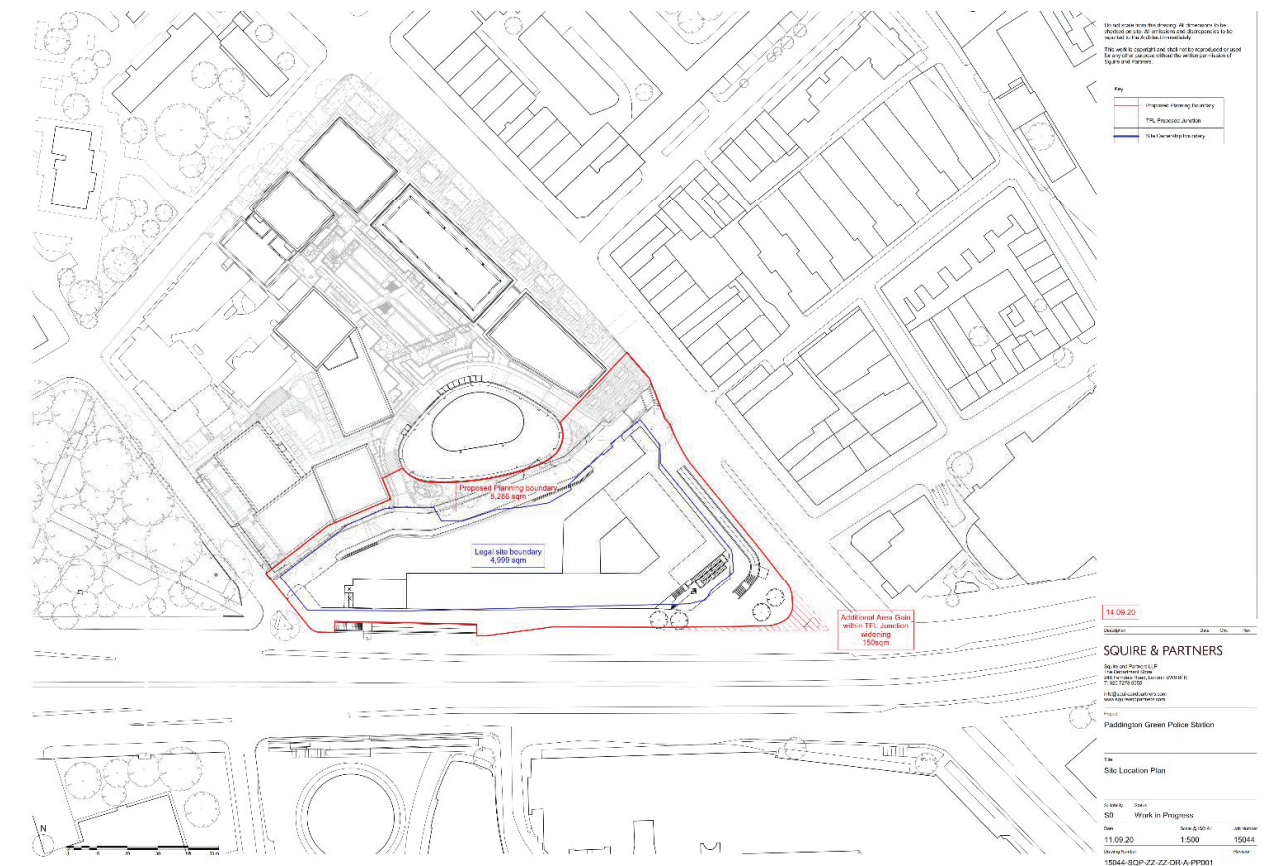


Figure 4.3: Site Redline Boundary

#### 4.3 On-site and Surrounding Environment and Environmental Considerations

Geological maps for the area indicate that the geology beneath the site is underlain by Langley Silt Member (Clay and Silt), Lynch Hill Gravels and London Clay Formation.

Historic<sup>43</sup> and recent<sup>44</sup> ground investigations undertaken at the site indicates the following ground stratigraphy at the site:

- Rubbly Made Ground (typically 1-2 m thickness);
- Langley Silt Member (clays, silts and sands, typically 2-3 m thickness);
- Lynch Hill Gravels (gravelly sands and flint gravel with uppermost 1-2 m thick layer of laminated clay, typically 6 m thickness in total); and
- London Clay (silty clay typically from 12 m below ground level (mbgl) to depth (anticipated approximately 50 mbgl).

The superficial Langley Silt Member and London Clay at depth are classified by the EA as Unproductive Strata. The intermediate Lynch Hill Gravel is classified as a 'Secondary A' aquifer, described as 'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers'. The site is not located within a groundwater Source Protection Zone.

There are no surface water features on the site and no main rivers located within a 1 km radius. The closest surface water features are the Grand Union Canal, located approximately 150 m to the

<sup>43</sup> Soil Mechanics 1995

<sup>44</sup> LEAP Environmental 2015

south and the Boating Lake at Regent's Park approximately 1 km to the north-east. No additional surface water features have been identified within 1 km of the site.

A review of EA data indicates that the site is located in Flood Zone 1 (low probability) where the annual probability of flooding from rivers or the sea is less than 1 in 1,000 (0.1%). The site is also shown by the EA to be at Very Low or Low risk of surface water (pluvial) flooding, associated with potential surcharging of the drainage network during extreme rainfall events.

The site is not shown to be within a Critical Drainage Area (CDA) as shown in the WCC 2010 Strategic Flood Risk Assessment (SFRA).

A Phase 1 Habitat Survey of the site undertaken on 4 September categorised the existing habitats on-site as negligible to site level importance for wildlife. Limited vegetation is present, with street trees of site level importance and scattered ephemeral vegetation of negligible importance. The street trees are suitable for use by common bird species. No potential roost features were recorded on the buildings or trees, and the site is considered to be of negligible potential for use by bats.

The nearest Local Nature reserve (LNR) is the St John's Wood Church Grounds LNR approximately 1 km north-east of the site.

The site is located within Little Venice ward.

The site is located within the Paddington and Lillistone Village Area of Special Archaeological Priority (ASAP). This designation exists on the basis of the possibility for Saxon, Anglo-Saxon and Medieval remains.

The northern half of Newcastle Place, which is within the redline boundary, is located within Paddington Green Conservation Area, but otherwise the site is not within a CA.

The Paddington Green Children's Hospital (a three storey, red terracotta Grade II listed building dating back to approximately 1895) and 17 and 18 Paddington Green (residential terrace houses Grade II listed dating back to approximately 1800) are located to the north-west.

There are also several Grade II listed structures within the adjacent Paddington Green public open space, including telephone kiosks (corner of Harrow Road and Paddington Green) and a statue, in addition to the Grade II\* Church of St Mary's, which is located further west within Paddington Green.

The site is not located within one of the designated views under the London View Management Framework, nor in a locally designated view.

The prevailing townscape character comprises the following:

- To the north-west of the site, the area is dominated by the Hall Place Estate which features a mixture of medium scale residential blocks and tower blocks;
- To the north, north-east and east of the site beyond Edgware Road, the area is densely built up, generally characterised by three to five storey terraces and small post-war blocks with ground floor retail lining Edgware Road;
- To the south of the site, beyond the A40, the area is dominated by Paddington Basin, mainly comprising large scale commercial buildings, generally of recent construction, arranged in relatively coherent groupings; and
- To the west of the site, the area features a mix of smaller scale historic buildings, open space, low rise post-war housing, stuccoed villas, mansion blocks and educational uses (The City of Westminster College). Parts of this area lies within the Paddington Green and Maida Vale CAs.

The site is situated in a highly accessible location with a public transport accessibility level (PTAL) rating of 6b. Edgware Road Underground Station is approximately 50 m to the east of the site and Paddington Station approximately 400 m to the south-west of the site. There are also good bus,

pedestrian and cycle routes in the vicinity of the site, with the following three London Cycle Network (LCN) routes in the locality of the site:

- Route 50 which provides a link between Marylebone and Hendon;
- Route 5 links Edgware and Battersea; and
- Route 36 provides links to Twickenham and Hammersmith.

Due to the site's urban location it is affected by road traffic noise.

The site is located within an Air Quality Management Area (AQMA) declared under the Environment Act 1995, which incorporates the whole City of Westminster (CoW). The AQMA has been designated due to the high traffic flows within the CoW which give rise to concentrations of pollutants nitrogen dioxide (NO<sub>2</sub>) and fine particulates (PM<sub>10</sub>) that exceed the current National Air Quality Standard objectives.

The site falls outside the designated London Congestion Charging Zone.

The prevailing wind direction is south-westerly with a secondary north-easterly wind.

With respect to telecommunications users and sensitive receptors (primarily terrestrial and satellite television users) it is expected that due to the nature of building use around the site, there will be a high number of different radio networks and services in use for communications and remote monitoring needs. A number of different wireless and radio technologies will be in use for both public and private requirements.

Figure 4.4 presents the publicly available environmental sensitivity data sets for the site and surrounding study area.

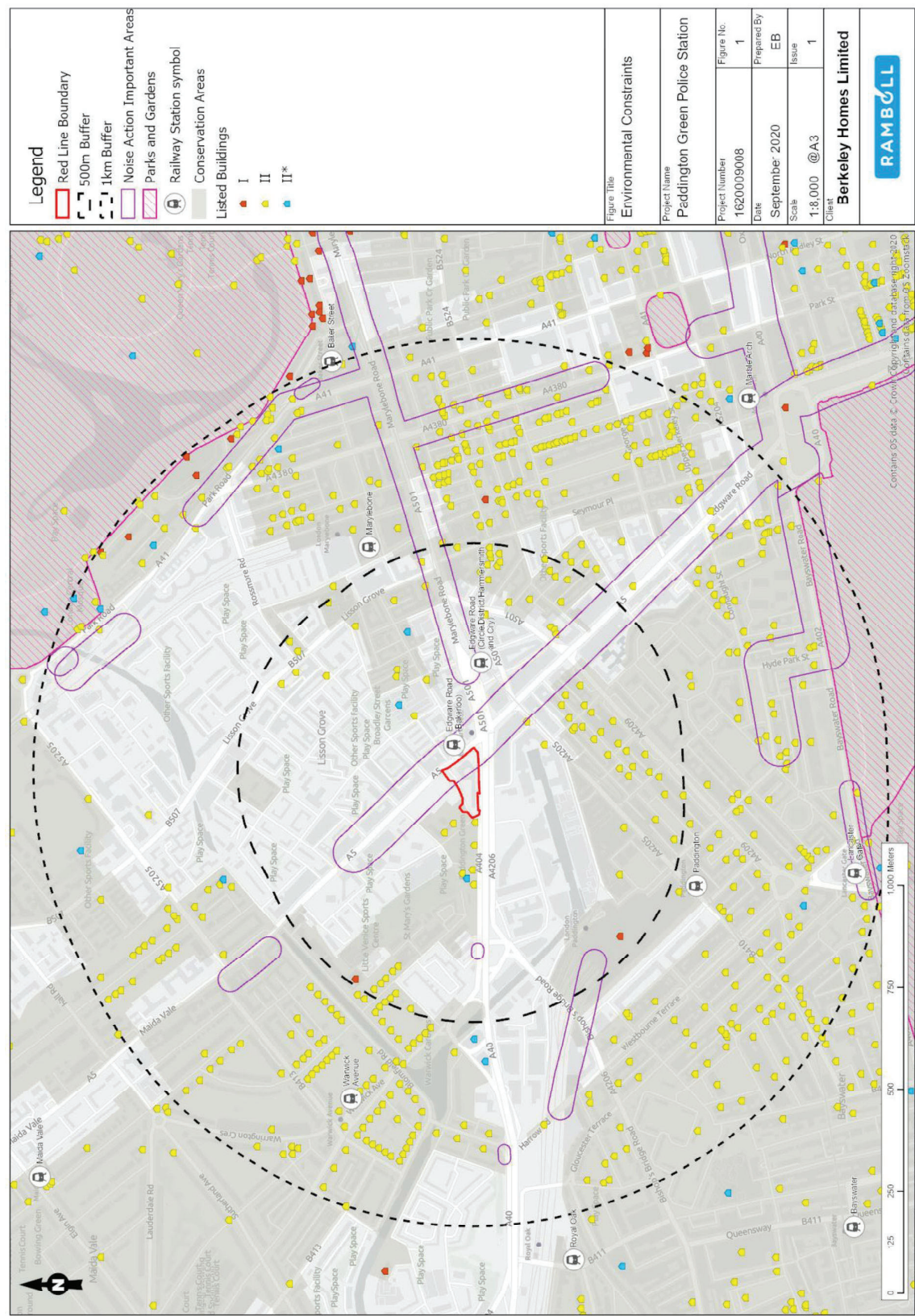


Figure 4.4: Environmental Sensitivities

## 5. PROPOSED DEVELOPMENT

The development proposals, which are currently being refined through the on-going pre-application design and planning process, are envisaged to comprise the:

- demolition of the Paddington Green Police Station;
- excavation of a basement connection to the West End Gate development basement;
- erection of three blocks along, set back from, Harrow Road and Edgware Road;
- delivery of ground floor commercial uses and residential at upper floors, with associated landscaped residential gardens; and
- stopping up of Newcastle Place with associated landscaping and cycle parking.

The proposed land uses are likely to comprise:

- approximately 650 homes, including 260 affordable housing units (Class C3);
- approximately 8,250 m<sup>2</sup> gross external area (GEA) flexible commercial space (Class E);
- servicing and disabled parking at basement level; and
- connection to the West End Gate (WEG) basement and energy centre with combined heat and power (CHP) plant.

Building heights would range from approximately Ground plus 13 to Ground plus 24 storeys with the taller element up to Ground plus 38 storeys.

The proposed development would be car free with the exception of minimal disabled parking provision.

An indicative layout plan is shown at Figure 5.1.

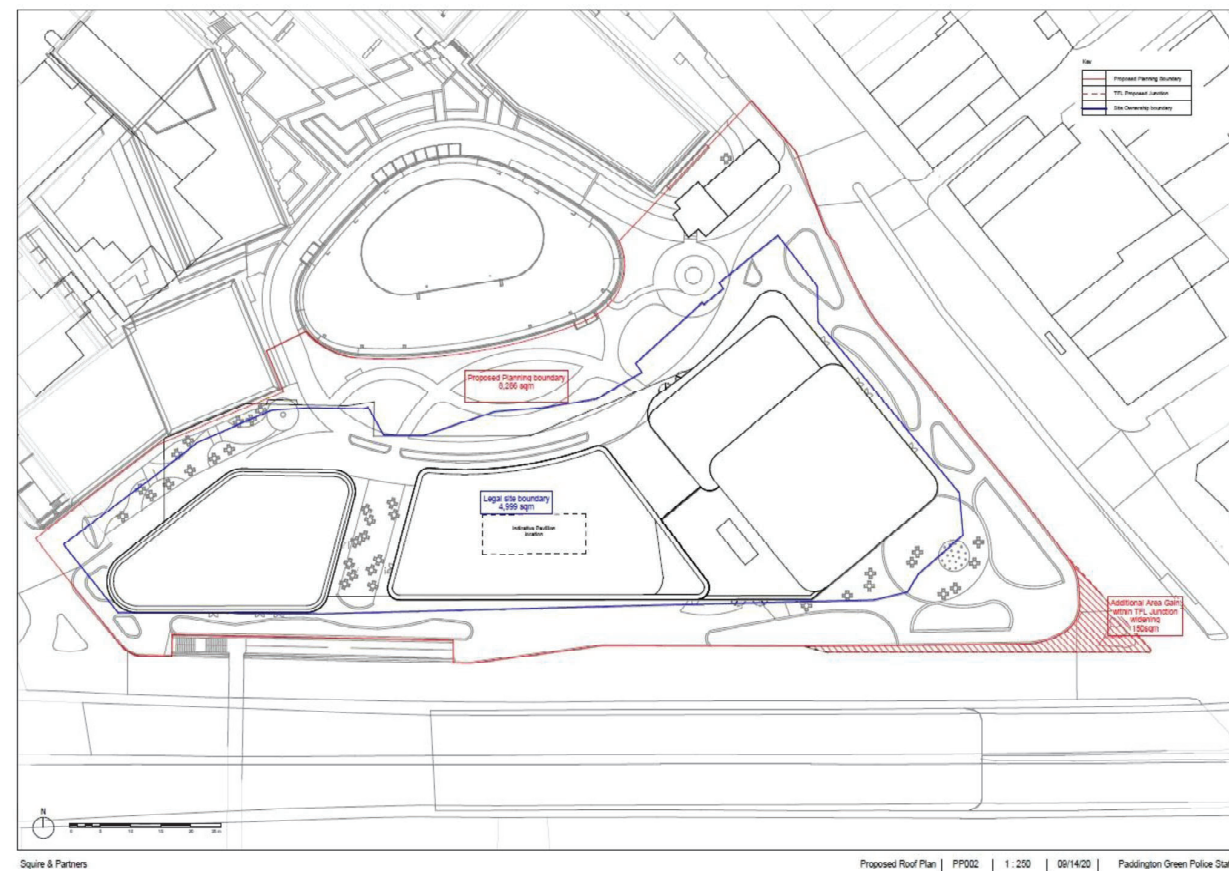


Figure 5.1: Indicative Proposed Block Layout

The three blocks would be arranged on the southern frontage of the site enclosing a proposed landscaped area to the north along Newcastle Place.

Commercial uses would be located at the ground floor level, along the main frontages of Edgware Road and Harrow Road, and at the first floor and part second floor, with residential uses above.

Ancillary residential amenities are currently envisaged to comprise residents' gardens at roof and terrace levels with additional resident facilities provided at ground floor. Residents would also have access to a residents' lounge and use of the facilities at the WEG development.

Children's and young person's play space would be provided as appropriate.

The emerging landscape proposals would aim to deliver considerable public realm, biodiversity and amenity enhancement especially along Harrow Road and Edgware Road.

The Applicant would seek to achieve a number of sustainable design initiatives. It is envisaged that these will be in line with Government and, in particular, the Mayor of London's 'Energy Hierarchy' and sustainability targets, as well as requirements set out by WCC. The proposed development would therefore aim to:

- minimise overall energy demand and consumption through practicable energy efficient design;
- minimise carbon dioxide emissions arising from the operation of the proposed development as far as practicably possible through the use of efficient plant, fittings and fixtures; and
- reduce carbon dioxide emissions arising from the operation of the proposed development as a result of on-site low carbon technology

## 6. POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS AND LIKELY EFFECTS SCOPED IN

This section summarises the potential significant environmental impacts and likely effects that are at this stage anticipated to arise in connection with all stages of the proposed development and will therefore be addressed in the EIA. It sets out the approach to be adopted in each instance, the scope of technical assessments to be undertaken and the assessment methods proposed.

### 6.1 Socio-Economics

A socio-economics technical assessment will be presented in ES Volume 1. The assessment will be undertaken by CBRE and will consider the potential socio-economic impacts of the proposed development; particularly the impact on employment, spending in the local economy, housing demand, population and community infrastructure. The assessment will be undertaken in the context of the existing site conditions, prevailing socio-economic baseline conditions and the relevant policy framework.

#### 6.1.1 Potential Impacts and Likely Effects

The assessment will consider the following potential impacts and likely effects:

- Creation of demolition and construction employment and the anticipated direct and indirect effects within the local economy;
- Creation of operational employment, considering the gross employment as well as net additional above any existing employment levels on-site;
- Spending arising from on-site occupants (employees and residential population);
- Provision of new housing (residential units);
- Introduction of a new population accommodated within the residential units and resulting demand for community facilities (primary healthcare, schools, open space and playspace); and
- Change in the site conditions with regard to surveillance, activity and lighting.

#### 6.1.2 Approach and Methodology

There is no published specific assessment guidance or technical significance criteria to assess socio-economic effects. Accordingly, the assessment will be undertaken based on professional experience and judgement. For transparency, the approach adopted in applying professional judgement will be confirmed by providing the sensitivity of receptor criteria, magnitude of impact criteria and scale of effect matrix.

#### **Consultation**

No specific consultation over and above this scoping exercise is considered necessary.

#### **Study Area**

This assessment will be considered at the neighbourhood level (Little Venice ward); the local authority level (CoW); and the regional level (Greater London), or where applicable within a certain distance of the site boundary, as summarised in Table 6.1.

| <b>Table 6.1: Socio-Economic Study Area</b> |   |
|---|---|
| <b>Assessment</b>                           | <b>Study Area</b>   |
| Demolition and Construction Employment      | Local Authority   |
| Completed Development Employment            | Local Authority   |
| Additional Spending                         | Local Authority   |
| Housing Delivery                            | Neighbourhood and Local Authority   |
| Primary Education Demand                    | Neighbourhood (1.6 km from site boundary) <sup>45</sup>                         |
| Secondary Education Demand                  | Local Authority (3.2 km from site boundary) <sup>46</sup>                       |
| Primary Healthcare (GP practices) Demand    | Neighbourhood (1.6 km from site boundary) <sup>47</sup>                         |
| Open Space                                  | Neighbourhood and Local Authority (800 m from site boundary) <sup>48</sup>      |
| Playspace Demand                            | Neighbourhood (Under 5s: 100 m, 5-11 years: 400 m and 12+: 800 m) <sup>48</sup> |
| Crime                                       | Neighbourhood   |

**Baseline Characterisation**

A desktop study will be undertaken, which will include a review of available information to determine the existing baseline conditions at neighbourhood, local authority and regional levels. This will focus on demographic, economic and employment data and location/capacity (where possible) of community facilities (including education, healthcare and open space/playspace). The existing baseline will be established using a combination of data sources including nationally published statistics from the Office for National Statistics (ONS)<sup>49</sup>, Ministry of Housing, Communities and Local Government (MHCLG)<sup>50</sup> and GLA<sup>51</sup> where relevant. This includes the Business Register and Employment Survey<sup>52</sup>, Annual Business Survey<sup>53</sup> and Census 2011<sup>54</sup>. The baseline and capacity of the social infrastructure will be established based on data from NHS Choices and NHS Digital<sup>55</sup> and the Annual School Census<sup>56</sup>. Relevant policy and supplementary planning guidance produced by the GLA and the WCC will also be considered.

**Demolition and Construction**

- Demolition and construction-related employment effects will be assessed using the latest published results in the Annual Business Survey<sup>53</sup>.

**Completed Development**

- Completed development direct operational employment will be calculated by using land use specific employment densities from the Homes and Communities Agency (HCA) Employment Density Guide (2015)<sup>57</sup>, which will be applied to the non-residential floorspace schedule.

<sup>45</sup> Department for Education, 2014. New Home to School Travel and Transport Guidance.

<sup>46</sup> Secondary School Planning occurs at borough level given secondary school aged children tend to travel further to school.

<sup>47</sup> 1.6 km is a 1520 minute walking distance (TfL, 2016) which is considered to be a reasonable walking distance to access GP services based on professional judgement.

<sup>48</sup> Based on Greater London Authority (GLA) Supplementary Planning Guidance (2012) on Play and Informal Recreation.

<sup>49</sup> Office for National Statistics (ONS), various data sets and years.

<sup>50</sup> Ministry of Housing, Communities and Local Government (MHCLG), various data sets and years.

<sup>51</sup> Greater London Authority (GLA), various data sets and years.

<sup>52</sup> Business Register and Employment Survey, various years.

<sup>53</sup> Annual Business Survey, various years.

<sup>54</sup> Office for National Statistics (ONS), 2011. Census.

<sup>55</sup> National Health Service, NHS Choices and NHS Digital data, 2020.

<sup>56</sup> Department for Education, 2020. Annual Schools Census data.

<sup>57</sup> Homes and Communities Agency (HCA), 2015. Employment Density Guide (3rd edition).

- An estimate of spending generated as a result of the completed proposed development will be calculated using average household spending figures and an average figure for daily worker spending<sup>58,59</sup>.
- Delivery of housing will be evaluated by using the quantum of proposed residential units against the identified housing targets set out in WCC policy and the London Plan.
- Residential population and child yield will be modelled by entering the residential accommodation schedule into the GLA's Population Yield Calculator<sup>60</sup>.
- Current capacity in primary schools and secondary schools will be established using the Annual School Census<sup>56</sup>. This information will be compared to the expected demand for school places from the new population of the proposed development.
- The Healthy Urban Development Unit (HUDU) benchmark of 1,800 registered patients per NHS General Practitioner (GP) will be used to assess existing GP capacity against demand arising from the proposed development. This will be assessed against the currently capacity of GP surgeries within 1.6 km of the site.
- Open Space and playspace will be assessed in line with local policy requirements.

The evaluation of proposed development's effects will be based on an assessment of the magnitude of the impact and the sensitivity of the identified receptor. The scale of effects will be identified on a matrix basis.

Mitigation measures integral to the development proposals (i.e. embedded mitigation) will be considered, whilst any additional mitigation measures will be identified, where necessary, to reduce likely adverse effects.

**Cumulative Effects**

Consideration will be given to cumulative effects where quantitative information is available within the public domain.

**6.2 Air Quality**

An air quality technical assessment will be presented in ES Volume 1. The air quality assessment will be undertaken by Ramboll and will consider the implications of current and future ambient air quality at the site for the proposed residential use, as well as the implications of emissions from the proposed development on local air quality.

Potential new sources of air pollution arising from the proposed development during its demolition and construction stage, and once completed (i.e. any heating plant) will be considered.

The proposed development will be car-free, with the exception of minimal disabled parking provision and subject to scoping with WCC. Together with servicing trips, the total vehicle trip generation for the site would be minimal and therefore the effects of the proposed development traffic emissions would be not significant and have been scoped out of the assessment.

**6.2.1 Potential Impacts and Likely Effects**

The assessment will consider the following potential impacts and likely effects:

- Demolition and construction dust and the associated effects on off-site human health and amenity, as well as early occupied units on-site;
- Demolition and construction HGV/Heavy Duty Vehicles (HDV) traffic and the associated emission effects on on-site and off-site human health receptors; and

<sup>58</sup> Office for National Statistics (ONS), Family Spending in the UK Statistical Bulletin.

<sup>59</sup> Visa Europe, 2015. UK Working Day Spend Report.

<sup>60</sup> Greater London Authority (GLA), 2019. Population Yield Calculator. London: GLA.

- Predicted air quality with the proposed development completed and operational to determine the suitability of the site for residential development and to identify the need for mitigation.

Effects on local air quality and sensitive receptors from a centralised energy plant emissions (NO<sub>x</sub>) have been scoped out on the basis that the proposed development would not introduce significant gas fired energy plant (e.g. combined heat and power (CHP) and boilers). However, consideration will be given to the CHP emissions arising from the adjacent WEG development as the proposed development will connect to the existing energy centre located in the basement.

The proposed development would not give rise to any odour impacts and associated effects; accordingly, odour effects have been scoped out of the EIA.

#### 6.2.2 Approach and Methodology

The suite of air quality assessments will be undertaken in accordance with the Mayor of London's 'Control of Dust and Emissions during Construction and Demolition SPG'<sup>61</sup> and the most recent Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) air quality planning guidance<sup>62</sup>.

##### **Consultation**

Consultation with WCC Environmental Health Officer (EHO) will be undertaken during the EIA process to agree the scope of the assessment.

##### **Study Area**

The following sensitive receptors have been identified:

- Nearby existing and proposed areas where the public might reasonably be expected to spend extended periods of time, for example residential properties, hotels, public amenity areas / open spaces;
- Residential units introduced by the proposed development, as well as short term outdoor amenity areas if applicable; and
- Outdoor restaurant/bar seating where included in the proposed development.

No statutory designated ecological sensitive receptors have been identified that are likely to be impacted by changes in air quality as a result of the proposed development.

In respect of off-site impacts, the demolition and construction study area will be limited to within 350 m of the boundary of the site/50 m of the route(s) used by demolition and construction vehicles on the public highway, up to 500 m from the site entrance(s).

##### **Baseline Characterisation**

Existing baseline will be established by means of desk base review of WCC monitoring location data. Future baseline will be established by the use of air dispersion modelling and the Defra tools for predicting future air quality.

##### **Demolition and Construction**

A qualitative assessment of the potential impact on local air quality from demolition and construction activities will be undertaken. The latest guidance on the assessment of demolition and construction impacts on air quality published by the IAQM and the Mayor of London will be used to

<sup>61</sup> Greater London Authority, 2014. The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance. London. GLA. Available: <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/control-dust-and>

<sup>62</sup> EPUK & IAQM, May 2015. Land-Use Planning & Development Control: Planning for Air Quality. Guidance from Environmental Protection UK and the Institute of Air Quality Management for the consideration of air quality within the land-use planning and development control processes.

assess the magnitude and significance of these impacts during the demolition and construction stage.

The risk of dust arising in sufficient quantities to cause annoyance and/or health impacts will be determined using four risk categories: negligible, low, medium and high risk. A development is allocated to a risk category based on the following two factors:

- The scale and nature of the works, which determines the potential dust emission magnitude as small, medium or large; and
- The sensitivity of the area to dust impacts, which is defined as low, medium or high sensitivity.

These two factors will be combined to determine the risk of dust impacts. The risk category assigned to the proposed development can be different for each of the four potential activities (demolition, earthworks, construction and track out). Consideration will be given to off-site receptors as well as on-site receptors (occupied early phases of the proposed development).

Potential impacts from exhaust emissions from construction vehicles using the local road network will be assessed following the methodology set out for operational vehicles given below for the completed proposed development.

##### **Completed Development**

To assess potential on-site impacts from road traffic emissions, the assessment will utilise the latest version of the ADMS-Roads modelling software<sup>63</sup> and consider the current and future baseline air quality in the area.

The proposed development would connect into the wider WEG masterplan plant. Emissions from this source would be modelled using the ADMS model and included within the future baseline. No other significant point source emissions of pollutants are anticipated.

The following scenarios will be assessed, as appropriate:

- Scenario 1: Existing Baseline (2019);
- Scenario 2: Future Baseline (year of opening accounting for any background growth excluding cumulative schemes);
- Scenario 3: Future Baseline + proposed development; and
- Scenario 4: Future Baseline + proposed development + cumulative development.

Modelled concentrations in the existing baseline year will be compared against local monitoring data in order to verify the model output.

The suitability of the site for residential development and the need for additional mitigation will be determined from the air quality concentrations predicted for the 'future baseline + proposed development + cumulative development' scenario.

There is no official guidance in the UK on how to assess the significance of local air quality emissions from existing sources on a new development. The assessment of the suitability of the site will be limited to predicting air quality at on-site receptors and the significance of this will be based on whether the national air quality objectives for each pollutant, as set out in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland<sup>64</sup>, are exceeded or not.

In addition, an air quality neutral assessment will be carried out following the methodology outlined in the GLA's 'Sustainable Design and Construction SPG' and the 'Air Quality Neutral Planning

<sup>63</sup> Cambridge Environmental Research Consultants, 2019. ADMS-Roads [online]. Available at: <http://www.cerc.co.uk/environmental-software/ADMS-Roads-model.html>

<sup>64</sup> Department of the Environment, Transport and the Regions (DETR, 2007) in Partnership with the Welsh Office, Scottish Office and Department of the Environment for Northern Ireland, 2007. The Air Quality Strategy for England, Scotland, Wales, Northern Ireland. HMSO, London.

Support Update<sup>65</sup>.

The draft New London Plan introduces the concept that developments should now be demonstrating that they are air quality positive. However, at the current time no guidance has been provided as to how this should be carried out and therefore it is not proposed to include this as part of the assessment.

#### **Cumulative Effects**

Consideration will be given to cumulative effects within Scenario 4, where quantitative information is available within the public domain.

### **6.3 Noise and Vibration**

A noise and vibration technical assessment will be presented in ES Volume 1. The assessment will be undertaken by Ramboll and will consider the effects of ambient noise on the proposed development, from local road and rail traffic in addition to other environmental noise and vibration sources, and the site's suitability for new residential dwellings. The assessment will also consider the potential noise impacts from the proposed development upon nearby noise sensitive receptors, including demolition and construction noise and vibration, road traffic noise, and noise from any new plant items.

#### **6.3.1 Potential Impacts and Likely Effects**

The assessment will consider the following potential impacts and likely effects:

- Demolition and construction noise and vibration at noise sensitive receptors (NSRs) in close proximity to the proposed development, as well as early occupied units on-site;
- Demolition and construction HGV traffic noise and the associated potential noise level changes on the local road network at NSRs, as well as early occupied units on-site;
- Public transport operational noise – although not a direct effect on the existing noise sensitivities as a result of the development, the operations of TfL (both bus and rail) and surrounding London airports will be taken into consideration to ensure a suitable acoustic environment prevails for any future residential occupants of the developed site;
- Vibration from public transport, in particular from the London Underground tunnels below the site, and an assessment on the likely effects of vibration and associated re-radiated noise on the proposed development;
- Noise effects on future residents of the proposed development from the operation of non-residential components of the proposed development (e.g. commercial); and
- Building services plant noise effects associated with the operation of the proposed development upon existing and future residents and amenity areas introduced by the proposed development.

#### **6.3.2 Approach and Methodology**

The noise and vibration assessments will be undertaken in accordance with relevant British Standards as set out below, as well as the Calculation of Road Traffic Noise (CRTN)<sup>66</sup> method and World Health Organisation's (WHO) 'Guidance for Community Noise' (1999)<sup>67</sup>.

<sup>65</sup> Air Quality Consultants and ENVIRON (now Ramboll), 2014. Air Quality Neutral Planning Support Update: GLA 80371. Available at: <http://www.aqconsultants.co.uk/getattachment/Resources/Download-Reports/GLA-AQ-Neutral-Policy-Final-Report-April-2014.pdf.aspx>

<sup>66</sup> The Department for Transport, 1988. Calculation of Road Traffic Noise.

<sup>67</sup> World Health Organization, 1999. Guidelines for Community Noise, Stockholm University & Karolinska Institute.

### **Consultation**

Consultation with the WCC's EHO will be undertaken to agree the proposed assessment survey and assessment methodologies.

### **Study Area**

In respect of on-site impacts, the study area covers the:

- site; and
- nearest NSRs to the site boundaries, namely the WEG development immediately north, houses/apartments on the opposite side of Edgware Road and the Merchant Square development to the south.

In respect of off-site impacts, the:

- demolition and construction study area will be limited to within 350 m of the boundary of the site/50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s).
- completed development study area will extend to off-site sensitive receptors identified as at risk of impacts from the proposed development.

The study area has been defined based on professional judgement and experience.

### **Baseline Characterisation**

Environmental noise measurements will be undertaken at a selected number of positions around the site (some of which will be identical to those employed on site previously) to establish the existing baseline noise levels. A combination of attended and unattended monitoring of the prevailing noise levels over weekday periods will be required in order to ensure that the noise climate at sensitive times is fully quantified.

Attended vibration measurements will be undertaken on the podium slab and at other relevant positions to allow subsequent assessment of any vibration impact on proposed new dwellings.

Measurements of all relevant noise indices ( $L_{Aeq}$ ,  $L_{Amax}$ ,  $L_{A10}$ , and  $L_{A90}$ ) will be made at each position during each hour of the survey and octave band spectra will be recorded as necessary in order to fully quantify the existing noise climate. A noise and vibration survey report will be prepared and included as a Technical Appendix in Volume 3 of the ES.

The future baseline will be predicted by means of traffic data and estimates of development related traffic.

### **Demolition and Construction**

The assessment of demolition and construction noise and vibration on surrounding existing and on-site future NSRs will be considered in accordance with the following standards, guidance and methodologies:

- BS5228-1: 2009 for demolition and construction plant noise and traffic noise + A01:2014 for code of practice for noise and vibration control on construction and open sites<sup>68</sup>;
- BS7385 for vibration in buildings<sup>69</sup>; and
- BS6472-1 for vibration effects on humans<sup>70</sup>.

<sup>68</sup> British Standards Institution, 2014. BS 5228-1: 2009 + A01:2014 Code of practice for noise and vibration control on construction and open sites, BSI.

<sup>69</sup> British Standards Institution, 1993. BS 7385 Evaluation and measurement for vibration in buildings, BSI.

<sup>70</sup> British Standards Institution, 2008. BS 6472-1 Guide to evaluation of human exposure to vibration in buildings, BSI.

### **Completed Development**

The results of the noise measurements will be used not only to establish an existing baseline for the local noise climate but also to enable the design of suitable building fabric for proposed dwellings to achieve suitable internal noise levels in line with guidance in BS8233:2014<sup>71</sup> and any planning requirements of WCC.

Using the results of surveys conducted on-site, a full quantitative assessment of the potential noise and vibration effects will be undertaken, and their potential significance rated in accordance with the established standards. The significance of any effects will be determined from the interaction of the impact magnitude, the duration of exposure and the sensitivity of the NSRs. Pre-mitigation effects, as well as post-mitigation (residual) effects will be evaluated.

An assessment of the change in road traffic noise from roads around the proposed development will be conducted by comparing the number of vehicle movements with and without the proposed development. The results of this assessment will be used to establish the acoustic effects of the development on existing dwellings in the area. The assessment would be undertaken for road links subjected to at least a 20 % change in traffic flow.

The assessment of noise on and from the proposed development will be undertaken in accordance with prevailing best practice standards, guidance and methodologies, in particular:

- Noise Policy Statement for England (NPS), March 2010;
- ProPG – Planning and Noise, 2017;
- WHO Environmental Noise Guidelines, 2018;
- Design Manual for Roads and Bridges Volume 11 Section 7 Part 3<sup>72</sup>;
- BS8233:2014 and WHO 'Guidance for Community Noise': 1999 for noise break-in, external amenity space (balconies and communal open space) noise; and
- BS4142: 2014 for industrial and commercial noise<sup>73</sup>.

The assessment will consider the following four scenarios:

- Scenario 1: Existing Baseline (2020);
- Scenario 2: Future Baseline (year of opening accounting for any background growth excluding cumulative schemes);
- Scenario 3: Future Baseline + proposed development; and
- Scenario 4: Future Baseline + proposed development + cumulative development.

Where the identified impacts indicate a notable change in noise and vibration levels compared to the baseline an assessment, appropriate additional mitigation measures will be recommended.

In order to determine the significance of likely effects, the magnitude of the impact and sensitivity of the NSR will be considered together. On that basis, the scale of identified effects will be determined.

### **Cumulative Effects**

Consideration will be given to cumulative effects within Scenario 4, where quantitative information is available within the public domain.

<sup>71</sup> British Standards Institution, 2014. BS 8233:2014 Guidance on sound insulation and noise reduction for buildings, BSI.

<sup>72</sup> Highways Agency, 2011. Design Manual for Roads and Bridges Volume 11 Section 3 Part 7, HA.

<sup>73</sup> British Standards Institution, 2014. BS 4142: 2014 Methods for rating and assessing industrial and commercial sound, BSI.

## **6.4 Wind and Microclimate**

A wind microclimate technical assessment will be presented in ES Volume 1. The assessment will be undertaken by RWDI and will consider the potential wind impacts of the proposed development; particularly with regard to the suitability of the proposed development for the intended pedestrian and occupier use, as well as unsafe wind conditions as defined by the Lawson Comfort Criteria<sup>74</sup>.

### **6.4.1 Potential Impacts and Likely Effects**

Given the proposed scale and geometry of the proposed development, it is important to avoid undesirable wind speeds being generated at ground level and at any other level where pedestrian activity is proposed. The wind microclimate assessment will quantify the potential changes to the local wind environment (both on-site and within the immediate study area) in terms of sensitive pedestrian areas, such as existing and proposed entrances, thoroughfares, amenity and open space, and quantify these in relation to their 'usability' for a range of pedestrian activities defined by the Lawson Comfort Criteria.

The assessment will consider the change in wind conditions as a result of the introduction of new built form and the associated effects on pedestrian comfort and safety with the completed proposed development.

### **6.4.2 Approach and Methodology**

The wind microclimate assessment will be undertaken, by reference to the Lawson Comfort Criteria. For the completed development a fully quantitative wind tunnel modelling exercise will be undertaken.

### **Consultation**

No specific consultation over and above this scoping exercise is considered necessary.

### **Study Area**

The wind tunnel model will comprise a scale representation of the proposed development and its surroundings, to a minimum radius of 360 m from the centre of the site. Accessible areas at ground levels will be considered in and immediately around the proposed development itself, with a focus on off-site areas which pedestrians are able to access such as thoroughfares, entrances, ground level amenity spaces and bus stops. The range relative to the site to which these uses are considered will be established throughout the assessment and based upon experience/professional judgement and the layouts of surrounding buildings, roads, thoroughfares etc.

### **Baseline Characterisation**

The existing baseline will be characterised by means of wind tunnel testing. Due to the advanced construction stage of the WEG development, it will be considered as part of the existing baseline.

### **Demolition and Construction**

As the proposed development is constructed, the wind conditions on-site will alter on a regular basis with the environment expected to gradually transition between that of the existing baseline and completed development scenarios with a period of restricted access throughout the demolition and construction works. The worst-case scenario in terms of wind conditions would be when the proposed development is completed. Therefore, the demolition and construction stage will not be assessed quantitatively with the wind tunnel, with wind conditions commented on using professional judgement.

<sup>74</sup> Lawson TV, 2001. Building Aerodynamics. London. Imperial College Press.