

## 21. Cumulative Impacts

### 21.1 Introduction

- 21.1.1 This Chapter, which has been prepared by Waterman, provides a statement of conformity with regard to the potential cumulative impacts arising from the Scheme with Phase 1B (North) in place (and having regard also to the detailed design previously approved in relation to Phase 1A (North)). This statement of conformity is provided pursuant to the s73 ES and other EIA Documentation (as defined in **Chapter 4: Approach to the ES Further Information Report**) in light of the further detailed design information now available in respect of Phase 1B (North), and confirms whether the findings of the s73 ES and other EIA Documentation with respect to the likely significant cumulative effects, mitigation and residual impacts remain valid.
- 21.1.2 As detailed in **Chapter 2: Description of Phase 1B (North) RMA**, since the preparation of the s73 ES and other EIA Documentation, the Indicative Construction Programme (ICP) has been updated to take account of changes to the construction programme for Phase 1 (North) and minor amendments to Phase 1 sub-phases (refer to **Appendix 2.1**). These changes in the construction programme have been considered in the cumulative assessment.
- 21.1.3 A total of 14 cumulative schemes have been identified and agreed with London Borough of Barnet (LBB) which have the potential to give rise to cumulative impacts in combination with the construction and operation of the Scheme.
- 21.1.4 The detailed design of the Phase 1B (North) RMA components are now available which were previously assessed in outline. Consideration is therefore given within this Chapter to the potential implications of the Scheme with the detailed design for Phases 1A (North) and 1B (North) in place - hereafter referred to as the 'Development'. Any changes to or new cumulative schemes since the preparation of the s73 ES and other EIA Documentation, together with the detailed design of the Phase 1B (North) RMA, are therefore considered in this Chapter, to identify whether additional or different cumulative impacts not identified in the s73 ES and other EIA Documentation could arise.

### 21.2 Scope of the Assessment

- 21.2.1 Cumulative impacts may be broadly defined as impacts that may result from the accumulation of a number of individual impacts.
- 21.2.2 The cumulative schemes considered in the s73 ES and the other EIA Documentation have been reviewed and updated to identify changes in their status (for example those which have now been built out) and those schemes which have received planning permission since the original cumulative impact assessment was undertaken. Two additional schemes have been included, namely Imperial House, The Hyde and 112 – 132 Cricklewood Lane, whilst two schemes have been excluded as they are now complete (or will be complete before construction of the Development commences) including: Hendon Road Football Club; and Finchley Lane / Platt's Lane / Kiddepore Avenue.
- 21.2.3 The list of cumulative schemes considered in this Phase 1B (North) FIR was set out in the EIA Scoping Report and subsequently agreed through correspondence with LBB on 6 February 2017. Further details of the cumulative schemes considered are provided in **Table 21.1** and their

locations are provided in **Figure 4.1**. Those schemes considered previously in the s73 ES and other EIA Documentation are presented in bold italics in **Table 21.1**.

- 21.2.4 A detailed review has also been carried out of the further detailed design information for the Phase 1B (North) RMA which could influence the outcome of the cumulative impact assessment presented in the s73 ES and other EIA Documentation.
- 21.2.5 The updated list of ‘cumulative schemes’ and the further details relating to the Development, as defined by the Phase 1B (North) RMA, were considered by each technical specialist to identify whether there were likely to be any significant cumulative impacts not already identified in the s73 ES and other EIA Documentation. This assessment takes account of the outcome of revised modelling and updated assessment work where presented in this Chapter and seeks to identify:
- Likely significant cumulative impacts of the Development in combination with those cumulative schemes which were not identified in the s73 ES or other EIA Documentation; and
  - Likely significant cumulative impacts which were not identified in the s73 ES or other EIA Documentation as a result of the detailed design of Phase 1B (North) RMA.

### Interactions between Impacts

- 21.2.6 The potential for interaction between impacts has been considered in each of the technical chapters, where appropriate, both within this Phase 1B (North) FIR and in the preceding EIA Documentation.

### Interactions between Projects

- 21.2.7 As indicated above, the cumulative schemes considered previously in the s73 ES and other EIA Documentation have been reviewed to identify their current status. Additional cumulative schemes which have received planning permission since the most recent cumulative assessment was prepared, i.e. for the Phase 1A (North) FIR, have also been identified through a review of local authority planning portals and through consultation with LBB.
- 21.2.8 The revised list of cumulative schemes, as considered within this Chapter, is shown in **Table 21.1**.

Table 21.1: Cumulative Schemes

Scheme	Description	Application Ref	Status	Distance from Site
Imperial House, The Hyde	Redevelopment of Imperial House comprising the demolition of existing buildings and erection of buildings ranging from 3 to 14 storeys to provide 76 residential units and 815sqm of replacement office accommodation (Use Class B1) along with landscaped courtyard and provision of 87 basement car parking spaces, 5 motorcycle spaces and 166 cycle parking spaces, with provisions for refuse and amenity space.	16/1713/FUL	Planning Permission Granted	2.7km North West.

Scheme	Description	Application Ref	Status	Distance from Site
112-132 Cricklewood Lane	The erection of a part 3, part 6, part 8 storey building comprising 122 no. residential units and 279 sqm (GIA) of commercial floorspace, including the provision of private and communal amenity space, landscaping, car parking, cycle parking, refuse storage areas and other associated development.	16/0601/FUL	Planning Permission Granted	0.2km South East
<b>West Hendon Regeneration</b>	Demolition and redevelopment of the West Hendon Estate to provide up to 2,000 residential units, a new 2 form entry primary school, community building and commercial uses, associated open space and infrastructure. Building heights ranging from 2 to 29 storeys.	Ref: H/01054/13	Under Construction	0.75 km North West
<b>Plot 61, Edgware Road, Former Parcel Force Depot</b>	Redevelopment of the site to provide 230 residential units (Use Class C3) and 888 sqm of commercial accommodation (Use Classes B1, D1 and D2) in buildings up to 7 storeys in height.	Ref: F/01932/11	Planning Permission Granted	0.25 km South West
<b>Beaufort Park, Former RAF East Camp, Aerodrome Road</b>	Redevelopment of the former Hendon Aerodrome which includes 2,800 residential units; 4,645 m <sup>2</sup> of shopping (to include a food store of not more than 1,393 m <sup>2</sup> ); 470 m <sup>2</sup> food & drink; 465 m <sup>2</sup> of business; 2462 m <sup>2</sup> of community and leisure spaces; a 279 m <sup>2</sup> driving test centre (sui generis), landscaped open space, car parking and vehicular and pedestrian access. Outline Planning Permission together with various reserved matters approvals.	Ref: W00198AA/04	Under construction	1.9 km North
<b>Grahame Park Estate Regeneration, Grahame Park Way</b>	Outline planning permission for residential scheme comprising 3,400 residential units (1,700 net increase) and 10,000 m <sup>2</sup> of commercial / community uses.	Ref: W01731JS/04-H/0448/10	Under construction	2.5 km North
<b>Former Colindale</b>	Full planning permission for the erection of two buildings ranging from five to nine storeys in height comprising	Ref: H/00093/13	Planning permission granted	2.6 km North

Scheme	Description	Application Ref	Status	Distance from Site
<b>Hospital in Colindale</b>	242sqm of commercial floorspace (Use Classes A1, A2, A3, B1 and/or D1) on part ground floor and 157 residential flats (Use Class C3) on part ground and upper floors, together with associated access, car parking and landscaping.			
<b>British Library Newspapers, 130 Colindale Avenue</b>	Demolition of all existing buildings and redevelopment to provide 395 flats, 772sqm of floorspace for retail/financial/professional/restaurant/café uses (Use Classes A1/A2/A3) or community use (Use Class D1) in six blocks ranging from 4 to 11 storeys; associated highways and public realm works including formation of piazza adjacent to Colindale Avenue and Colindale Park and ancillary works.	Ref: H/05856/13	Planning Permission Granted	1.5 km North
<b>Former Wickes, Mercedes Benz site, Colindale, Brent</b>	Demolition of existing units and erection of replacement 4-storey and 6-storey blocks above two-storey podium decks and a frontage block of 17 storeys above the podium, comprising 460 self-contained flats, 5,360m <sup>2</sup> of retail (Use Class A1 bulky goods), a 734m <sup>2</sup> garden centre, 1922m <sup>2</sup> of floorspace for alternative uses falling within Use Classes A uses (A1, A3) or B1 (a-c), and 649m <sup>2</sup> for alternative uses falling within Use Classes A uses (A1, A3) Class B1 or Class D1 (community/health centre), 97m <sup>2</sup> of crèche facilities (Use Class D1), 281 residential car-parking spaces, 500 residential cycle-parking spaces, 172 commercial car-parking and 80 commercial cycle-parking spaces, 527m <sup>2</sup> energy centre, etc., Brent Council.	Ref: 08/2823	Under Construction	2.9 km North West
<b>Homebase / Hydro House</b>	Homebase / Hydro House: Demolition of the existing buildings, and the erection of eight blocks of apartments of 6-8 storeys with a building of 14 storeys adjacent to The Hyde (the A5, Edgware Road) and three terraced blocks comprising housing and duplex apartments, providing 386 residential	Ref: H/05828/14	Planning Permission Granted	1.6 km North West

Scheme	Description	Application Ref	Status	Distance from Site
	units (Class C3), 936sqm of Class B1 (Business Hub), 97sqm of Class A3 use (Cafe), 295sqm of Class D1 use and 96sqm of Class D2 use. Associated car and cycle parking, storage and plant space located at basement level with private and shared residential external amenity space and landscaping			
<b>Granville Road Estate</b>	Demolition of Beech Court, garages and ancillary buildings and the erection of new buildings (including an extension to Nant Court) between two and six storeys in height with additional basement levels to provide 132 new dwellings (Use Class C3).	Ref: F/04474/14	Planning Permission Granted	0.9 km South East
<b>Peel Centre</b>	Phased comprehensive redevelopment of part of the existing Peel Centre site including demolition of existing buildings and the provision of a residential-led mixed use development comprising up to 2,900 new residential units; up to 10,000 sqm of non-residential floorspace (Use Classes A1-A4, D1, D2), the provision of a 3 form entry primary school and a minimum of 4ha of public open space.	Ref: H/04753/14	Planning Permission Granted	1.8 km North
<b>The Crest Boy's Academy, Crest Road</b>	Phased development comprising enabling works including demolition of existing temporary structures, formation of new access road from Dollis Hill Lane and car park (44 spaces), erection of temporary school accommodation (2.5 year permission): Phase 1: erection of new school buildings, comprising four no. four to six storey blocks with four storey linking structures, associated hard and soft landscaping works and car parking to provide 61 spaces, 238 no. cycle spaces. Phase 2: demolition of permanent school buildings, associated hard and soft landscaping works including one no. Multi Use Games Areas and no. all weather pitch with floodlighting.	Ref: 14/0326	Under construction	1.1 km West

Scheme	Description	Application Ref	Status	Distance from Site
<b>Sarena House and Allied Manufacture, Grove Park</b>	Demolition of existing buildings and the erection of 2 to 6-storey buildings providing 227 residential units (10 x 4 bed houses, 58 x 1 bed, 101 x 2 bed, 31 x 3 bed and 27 x studio flats), 256 sqm of affordable workspace for research and development (use class B1(B), proposed vehicular access from grove Park, provision for car/bike parking on the basement and ground level and associated landscaping and amenity space.	Ref: 14/2930	Planning Permission Granted	2.5 km North West

## 21.3 Traffic and Transport

- 21.3.1 As outlined in **Chapter 7: Traffic and Transport**, the transport model, i.e. the BXC-DDM, has been developed in collaboration with Transport for London (TfL) and LBB for the purposes of detailed design and the Technical Approvals process under the s278 process.
- 21.3.2 The BXC-DDM consists of:
- TfL’s strategic North London highway assignment model (NoLHAM); and
  - TfL’s public transport model (Railplan v6).
- 21.3.3 The model has been calibrated and validated in line with TfL-Group Planning’s highway assignment model guidelines.
- 21.3.4 As part of the BXC-DDM, the base year traffic model (‘Do Minimum’) incorporated committed schemes expected to be operational by the forecast years in question. These committed schemes were obtained directly from TfL. The ‘Do Minimum’ networks then had the BXC Scheme (including inherent mitigation measures) added to create the corresponding ‘Do Something’ networks. Therefore, the ‘Do Minimum’ matrices excluded the BXC Scheme (but included committed schemes) while the ‘Do Something’ matrices included it. Further details of the model are provided in **Chapter 7: Traffic and Transport**.
- 21.3.5 For demand changes in the future, TfL’s guidance specifies the use of their LTS (London Transport Studies) model to produce matrices of highway trips and public transport trips (bus, rail and underground) separately, using scheme-specific inputs to modify LTS’s GLA-based ‘Reference Case’<sup>vi</sup> assumptions about future land use and demographic projections.
- 21.3.6 The transport consultants, AECOM have confirmed that the transport modelling undertaken for detailed design (BXC-DDM) therefore accounts for cumulative schemes within the future baseline conditions. It does not include specific adjustments in relation to the individual site details, however it does take them into account implicitly as the modelling includes general background traffic growth.

## Construction

- 21.3.7 There is potential that the construction of the Development will interact with works to construct the nearby West Hendon Regeneration scheme, owing to the proximity and large scale of this cumulative scheme. The proposed start date for construction of the Development is 2018. Phases 1 and 2 of the West Hendon Regeneration scheme are understood to be complete already. Later phases of the West Hendon Regeneration scheme construction could however overlap with that of the Development. Furthermore, given the proximity of the Plot 61, Edgware Road cumulative scheme to Phase 1B (North), should construction occur at the same time, this too has the potential for cumulative impacts. All other schemes are considered too small, too far away, or will not overlap sufficiently to have an impact.
- 21.3.8 If construction works for the above cumulative schemes were to overlap with those of the Development, there would be potential for impacts on road users as a result of additional construction related traffic and / or road closures in the area of each scheme. The construction of both the West Hendon Regeneration scheme and the Development will be controlled through respective Codes of Construction Practice (CoCPs) and associated controls which will be agreed with LBB prior to the commencement of any works. The 2014 Permission requires the preparation and approval of Construction Traffic Management Plans (CTMPs) pre commencement. These controls will make it incumbent on the respective Applicants to provide measures (which are likely to include access routes) to minimise the impacts of construction as a result of both schemes to the satisfaction of LBB. West Hendon Regeneration and the Development are by far the two largest schemes and consequently will have the potential for the greatest impacts. Plot 61 (Edgware Road) is much smaller and as a result, the construction traffic generated is anticipated to be limited from this scheme. However, the CoCPs and CTMPs for the Development will take into account the likely traffic generated and access routes for all relevant nearby schemes.
- 21.3.9 It is anticipated that this control mechanism will be sufficient to ameliorate any exacerbation of impacts arising as a result of the construction of the schemes overlapping. In addition, operation of a Construction Consolidation Centre (CCC) is being considered by the Applicant which may further reduce any cumulative impacts. A feasibility study was approved under Condition 1.9 attached to the 2014 Permission, however there is currently no indication of a preferred option to be taken forwards.
- 21.3.10 There would be some short term adverse impacts arising from construction traffic generated by each scheme in the vicinity, however this will be controlled through the implementation of the CoCPs and CTMPs for the cumulative schemes which will have regard to any notable construction traffic from surrounding construction sites.
- 21.3.11 Having regard to the above, the cumulative traffic and transport construction impacts remain as reported in the s73 ES and other EIA Documentation.

## Operation

- 21.3.12 The BXC-DDM includes the overall growth scenario for London based on London-wide Greater London Authority (GLA) assumptions, as agreed with TfL. Future growth in trips has been added to base year trips. Future growth takes into account trips from nearby developments that are expected to be completed during the assessment period and trips arising from general increases in

the background level of trip making (using standard growth forecasts) at the end of the assessment period. The existing traffic on the road network is combined with the traffic anticipated to be generated from the future traffic growth. This leads to a future baseline against which the traffic generated from the Development can be compared. This provides a basis for prediction of impacts on road users and is also used as a basis for environmental impacts arising from increased traffic (i.e. air quality and noise). Therefore, the cumulative traffic impact of these cumulative schemes is already integrated into the assessments contained within the individual chapters, as explained in the introductory text to this section.

21.3.13 Furthermore, the relevant planning authorities would have taken account of the Brent Cross Regeneration Area (having regard to relevant strategic policy and in the context of its existing planning permissions) when determining applications for the surrounding cumulative schemes.

21.3.14 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for traffic and transport, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative traffic and transport operation impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.4 Socio-Economics

### Construction

21.4.1 The demolition and construction phase of Phase 1B (North) and the cumulative schemes are expected to generate employment. In the absence of commercially sensitive information relating to the construction costs of each cumulative scheme, it is only possible to make a qualitative assessment of the levels of employment likely to be generated. Due to the location of the schemes, the nature of the construction industry, and in particular the nature of construction employment which is relatively mobile, it is not considered appropriate to assess the potential impact of construction employment at the local level. However, it is expected that the cumulative schemes, taken together with the construction associated with the Development, would generate a **beneficial** effect at the borough level.

21.4.2 Having regard to the above, the cumulative socio-economics construction impacts remain as reported in the s73 ES and other EIA Documentation.

### Operation

21.4.3 The cumulative assessment presented in the s73 ES and other EIA Documentation identified that the cumulative schemes considered at that time would deliver residential units as well as commercial and community space. It should be noted that those assessments considered the socio-economic impacts of the cumulative schemes in isolation of the Development. This assessment also takes into account the impacts arising from the Development in combination with these cumulative schemes, with the resultant impacts also reported in the sections below.

21.4.4 As two schemes have been added to the list of cumulatives (Imperial House, The Hyde and 112-132 Cricklewood Lane) and two schemes have been removed (Hendon Football Club and Finchley

Road/Platt's Lane) since the preparation of the s73 ES and other EIA Documentation, these changes to the cumulative schemes have been taken into account in this updated assessment.

- 21.4.5 The cumulative schemes (together with the Development) are still expected to deliver new additional homes as well as new commercial, leisure and community floorspace. The assessment of likely effects has been undertaken in the absence of detailed scheme information for the cumulatives. In the main, effects are considered at a Borough-wide level as a standard local area cannot be defined.

#### Employment Generation

- 21.4.6 The majority of the cumulative schemes are residential-led with commercial uses forming an ancillary and place-making role. The removal of two previous schemes and the addition of two new schemes results in an increase in the number of jobs resulting from the cumulatives (excluding the Development) by approximately 70 jobs. On this basis, the significance of employment impact of the cumulative schemes, when considered in isolation, is consistent with that reported in the s73 ES and other EIA Documentation - of **minor to moderate beneficial** impact at the borough level.
- 21.4.7 The Development itself includes by far the largest areas of employment floorspace and, therefore, generates an employment impact of major significance. The number of jobs expected to be created by the cumulative schemes and the Development (approximately 27,000 net additional full time equivalent jobs - an increase of approximately 200 from the previous assessment, taking into account the increase from the change in the cumulative schemes and the increase arising from the amendment to the Phase 1B (North) retail floorspace of the Development) are assessed to be a **major beneficial** impact at the borough level.

#### Retail Impacts

- 21.4.8 Collectively, the cumulative schemes (excluding the Development) are expected to deliver in the region of 25,550m<sup>2</sup> of new retail floorspace. The Development itself will deliver an additional 115,199m<sup>2</sup> (of which 82,325m<sup>2</sup> will be delivered north of the A406 as part of Phase 1B (North), with 4,192m<sup>2</sup> of this figure comprising an increase resulting from the Phase 1B (North) RMA). No additional retail floorspace is expected to be delivered through the two new cumulative schemes included in this cumulative assessment: Imperial House, the Hyde; and 112-132 Cricklewood Lane.
- 21.4.9 When the cumulative schemes are considered in isolation, the the majority of the retail floorspace is expected to be delivered as part of the proposals for the redevelopment of the Peel Centre, which is also proposing to bring forward over 2,500 new homes, and the redevelopment of the Former Wickes, Mercedes Benz Site in Brent. The retail proposals for the Peel Centre envisage the creation of a food-store anchored neighbourhood centre to meet the needs of the growing localised catchment. The Retail Impact Assessment carried out as part of the planning application for the Peel Centre concluded there would be no unacceptable impacts on existing town centres but that it would serve to meet the needs of the growing local population. The majority of the retail expected to be delivered as part of the Former Wickes, Mercedes Benz site is restricted by condition to the sale of bulky comparison goods, which was considered to conform to local policy requirements for retail warehouses.

21.4.10 Overall, the retail impact of the additional retail floorspace from both the cumulative schemes and the Development remains **negligible** in terms of the impact on existing centres, which is consistent with the assessment reported in the s73 ES and other EIA Documentation. The development of BXE will deliver substantial floorspace in line with the spatial strategy for the area and is consistent with the aspiration to evolve the existing Brent Cross Shopping Centre from a regional shopping centre to part of a new Metropolitan town centre, while the retail provision at the other cumulative schemes is relatively small-scale, intended to serve the day-to-day needs of residents.

#### Wider Economic Impacts

21.4.11 By generating new jobs (including retail-related employment which tend to be taken by a more local labour force) and by bringing net additional resident populations to their respective sites, the cumulative schemes and the Development are expected to increase the level of household and worker spending, some of which would be captured locally - and in turn generating further employment opportunities. Overall, this is assessed to be a **major beneficial** effect at the borough level, which is consistent with the assessment reported in the s73 ES and other EIA Documentation.

#### Demographic and Housing Impacts

21.4.12 When considered in isolation, the cumulative schemes (excluding the Development) could deliver approximately 12,250 new homes. This is a c.65 unit reduction on the previous assessment as the schemes that have been removed from the assessment contained more units than the schemes that have been added to the assessment. Despite the reduction in new homes arising from the cumulative schemes, the impact remains a **major beneficial** effect at the borough level, which is consistent with the assessment reported in the s73 ES and other EIA Documentation.

21.4.13 The number of new homes expected to be delivered by the cumulative schemes and the Development collectively is in the region of 19,350 homes. This is a decrease of approximately 290 units from the previous assessment. This is due to the reduction of units accounted for by the cumulative schemes in isolation and also the reduction of homes expected to be delivered as a result of the changes to Phase 1B (North). However, overall, the contribution towards housing targets of the new homes brought forward by the cumulative schemes and the Development is assessed to be a **major beneficial** impact at the borough level.

#### Health, Educational and Other Facilities Impacts

21.4.14 The residents of the new homes delivered by the cumulative schemes and the Development can be expected to generate additional demand on social infrastructure such as schools and healthcare facilities. Without mitigation, this additional demand could have a major adverse impact on the capacity of facilities in the surrounding area. However, this effect should be considered in the context that a number of the schemes are expected to bring forward community facilities as part of their proposals. For example, the Development itself includes provision for a new health centre, new and expanded education facilities, a library facility, safer neighbourhood unit and flexible community floorspace. In addition, West Hendon Regeneration and the Peel Centre include floorspace for the provision of a new primary school. Other cumulative schemes such as Plot 61 and Grahame Park Estate Regeneration also include flexible community floorspace. The Crest

Boys Academy scheme will see the re-provision and expansion (by one form of entry) of an existing secondary school. The Former Wickes, Mercedes Benz site makes provision for a crèche and has flexibility for community / health centre floorspace to be delivered if required. The Homebase / Hydro House scheme also includes 295m<sup>2</sup> for community uses. These facilities will help to meet additional demand for local social infrastructure.

- 21.4.15 Where schemes do not make physical on-site provision for community facilities, it has been assumed that any mitigation required to meet the additional demand for facilities would have been negotiated by the relevant planning authority with the applicants if and to the extent considered necessary by the authority to mitigate any significant effects, prior to planning permission being granted. Mitigation, where required, would then be expected to be provided either through off-site provision or financial contributions secured via Section 106 agreement or Community Infrastructure Levy (CIL) (where a charging schedule is in place).
- 21.4.16 The s73 ES and other EIA Documentation concluded that the most significant impacts of the cumulative schemes and Development would be through demand for community facilities generated by an increase in the local population. The Development has been designed to mitigate the demands expected to arise from it. Based on the reasonable assumption that Applicants for each cumulative scheme (not including the Development) have worked through a programme of consultation and mitigation with the local authority, local community and service providers, the residual cumulative impact can be considered **negligible to minor beneficial**.

#### Social Impacts

- 21.4.17 The cumulative schemes and the Development, in addition to the housing, employment generating and community floorspace they will deliver, are also expected to provide new areas of open space and play space which will enhance the attractiveness of the developments and provide opportunities for healthy behaviour and active living. Overall, the cumulative schemes and the Development will be seeking to create an attractive and sustainable urban environment which minimises opportunities for crime through careful design. Collectively, these aspects are assessed to be a **major beneficial** effect, which is consistent with the assessment reported in the s73 ES and other EIA Documentation. In considering each of the planning applications forming this cumulative assessment, the local planning authority (LBB) would have been required to have regard to the Development and its impacts (2010 consent and subsequently the 2014 Permission) particularly where consent was granted after the BXC Scheme 2010 (which is the case for all of the cumulative schemes). On that basis, it is reasonable to assume that the authority would have secured mitigation measures from cumulative schemes where necessary and appropriate.

#### Summary

- 21.4.18 Overall, the detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for socio-economics. The socio-economic operation impacts associated with the cumulative schemes and Development remain as reported in the s73 ES and other EIA Documentation, with the exception of employment generation, where the inclusion of the Development's own employment yield into the calculations results in an assessment of a **major beneficial** impact. The assessment of employment yield for the cumulative schemes alone remains **minor to moderate beneficial**, as reported previously.

## 21.5 Noise and Vibration

21.5.1 Cumulative noise and vibration impacts can theoretically arise when adjacent parts of the Development and a cumulative scheme produce noise and vibration that combines cumulatively at a given sensitive receptor. This could theoretically arise during construction or operation or, because of the long development timescale, through the overlapping effect of construction and operation of different elements of the Development. These are discussed below in the context of the additional cumulative schemes and the detailed design for Phase 1B (North).

### Construction

- 21.5.2 It is theoretically possible for noise and vibration emissions from two construction projects to combine to create a greater impact than they would individually. In practice, this rarely occurs, except that the duration of exposure can be increased. There are a number of reasons why noise and vibration from separate large scale construction works tend not to combine cumulatively including; such works are rarely both sufficiently close to a given receptor; noise will tend to arrive from different directions and so be incident of different facades; and the timing of the noisiest activities on the two sites are unlikely to coincide. Hence, the noise or vibration level from one or the other site usually dominates, and in practice cumulative construction impacts usually arise in terms of extending the duration of impact rather than the magnitude at a given time. The duration of noise and vibration impacts are discussed in this assessment. This remains unchanged despite the change in the ICP, as although peak construction traffic is forecast to increase when compared to the previous assessment, the associated noise increase is insignificant when compared to current flows on the surrounding road network.
- 21.5.3 The cumulative schemes identified in **Table 21.1** are unlikely to give rise to significant cumulative construction noise in combination with the Development (including the Phase 1B (North) RMA components) due to their distance from the Site, with the exception of Plot 61 Edgware Road, 112-132 Cricklewood Lane and West Hendon Regeneration.
- 21.5.4 The West Hendon Regeneration scheme is already under construction. As a worst-case, if construction work at the West Hendon Regeneration site overlaps with works associated with the Development, cumulative noise impacts may arise which could adversely affect the surrounding residential properties.
- 21.5.5 With regard to the mixed-use residential developments on Plot 61, Edgware Road and 112-132 Cricklewood Lane, again, should construction work overlap with the adjacent approved phases of the Development, cumulative noise impacts may arise.
- 21.5.6 If the aforementioned projects were to overlap with the Development, it is unlikely that construction would be undertaken at the same time adjacent to the same Sensitive Receptors, rather works at cumulative schemes will likely occur at varying times throughout the Development's delivery programme. The significance of the predicted construction noise impacts presented in the s73 ES and other EIA Documentation are therefore unlikely to change but rather there would be an increase in the duration of the impact.

- 21.5.7 In theory, noise from operation of one part of the Development could add cumulatively to noise impacts from construction of another part nearby. In practice, because significant construction site noise impacts only arise above  $L_{Aeq\ period}$  75dB and noise levels during operation will be substantially lower, such additive effects do not arise. One possible exception is the combined effect of additional road traffic arising from construction and operation on a given road. Construction traffic noise impacts assessed within the s73 ES and other EIA Documentation do not change significantly and are therefore still valid. While the forecast peak construction traffic is approximately 23% greater than previously assessed within the s73 ES and other EIA Documentation, in acoustic terms an increase in traffic movements of 23% equates to an increase in noise level of just under 1dB(A). This increase would not significantly change noise levels on the major roads due to the existing high traffic volumes on the main surrounding road network. On this basis, qualitatively, this would not result in a change in the significance of the cumulative effects as detailed within the s73 ES which stated that *“construction traffic is not expected to significantly raise traffic noise levels on the majority of the access routes to the Site because those routes are already heavily trafficked”*. The cumulative effects on Brent Terrace as reported within the s73 ES would also remain unchanged being *“significantly elevated during construction of Phase 1, but after this it will be closed to through traffic, avoiding cumulative impacts”*. Construction traffic on highways serving adjacent cumulative schemes can theoretically combine to increase the overall impact. Provided the CEMPs and CTMPs for the various phases of the Development take account of the identified cumulative schemes as illustrated in **Figure 4.1** (as deemed appropriate), this should mitigate potential cumulative impacts as far as practicable. For major roads with current high flow volumes it is considered the effect of combined construction vehicle flows from the various cumulative schemes is unlikely to have a significant cumulative impact. On the smaller roads used to gain access to the various development sites, cumulative impacts could be minimised through implementation of the CTMPs and additionally through future use of the CCC, if implemented.
- 21.5.8 Having regard to the above, the cumulative noise construction impacts remain as reported in the s73 ES and other EIA Documentation.

## Operation

- 21.5.9 The additional road traffic generated by the other known cumulative schemes in the area has been included in the ‘Do-minimum’ traffic noise modelling (future baseline), as defined above under ‘Traffic and Transport’. The data for cumulative schemes was agreed with TfL in discussions regarding the BXC-DDM. By assessing the additive effect of the Development on top of this ‘Do-minimum’ scenario, the effect of the Development has been isolated, and the total traffic noise levels (with likely future developments identified by TfL) - i.e. the cumulative scenario - has been considered in the noise assessment presented in **Chapter 9: Noise and Vibration**.
- 21.5.10 Similarly, the assessment of railway noise and vibration in the s73 ES and other EIA Documentation has been based on an understanding of future cumulative schemes and in particular intensification of rail services, so that the total railway noise and vibration levels with likely developments have been considered when identifying the necessary mitigation measures. These assumptions have not been revisited as part of this assessment since the detailed design of Phase 1B (North) within the Development does not include uses which would significantly affect

the railway. The assessment of railway noise and vibration in the s73 ES and other EIA Documentation therefore remains valid.

- 21.5.11 In approving details of each planning application in the surrounding area, the local planning authority (LBB) would have been required to have regard to the Development (2010 consent and subsequently the 2014 Permission) if it was considered to be a cumulative scheme and the respective application in the surrounding area was granted after the BXC Scheme 2010 consent, and therefore it is reasonable to assume the authority would have secured specified mitigation measures where necessary and appropriate, in the form of building design, glazing and ventilation in order to comply with relevant standards and planning policy. The impact of the cumulative schemes on future uses is therefore considered to be **negligible**.
- 21.5.12 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for noise and vibration, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative noise operation impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.6 Townscape and Visual Impact Assessment

### Construction

- 21.6.1 Of the cumulative schemes considered in the s73 ES and other EIA Documentation, potential townscape and visual cumulative impacts were identified in relation to Plot 61, Edgware Road due to its proximity to the Site. Due to proximity to Site, cumulative townscape and visual impacts could also arise during the construction of the West Hendon Regeneration, Homebase / Hydro House and the 112-132 Cricklewood Lane schemes and the construction of Phase 1B (North), should works be undertaken concurrently. Construction works are already underway at the West Hendon Regeneration site, and are likely to continue beyond the commencement date of construction of the Development, meaning there is the potential for cumulative impacts. However, given the temporary and transient nature of the demolition and construction activities, the likely cumulative impacts from the three cumulative schemes are not deemed to be significant. As such, the likely cumulative impacts of the demolition and construction works of the Development, together with the West Hendon Regeneration, Homebase / Hydro House and 112-132 Cricklewood Lane developments would range from **negligible to minor adverse**. The significance of the cumulative impact in terms of construction therefore remains as identified in the s73 ES and other EIA Documentation. It is also considered that best practice mitigation would be in place for the cumulative schemes assessed such as the use of hoardings.
- 21.6.2 The remaining cumulative schemes identified in **Table 4.1** are unlikely to give rise to significant cumulative construction townscape and visual impacts in combination with the Development (including Phase 1B (North) RMA components) due to their distance from Phase 1B (North).

### Operation

- 21.6.3 West Hendon Regeneration and Homebase / Hydro House are the only cumulative schemes identified that have the potential to give rise to cumulative operational townscape or visual impacts

in combination with the Development, due to the close proximity of these cumulative schemes to the Site.

- 21.6.4 The Homebase / Hydro House cumulative scheme would include a residential building of 14 storeys in height. However, it is considered that the Homebase / Hydro House scheme would not give rise to significant cumulative impacts in combination with the Development as although this scheme may be visible from some areas to the north of the Site, the scheme would be largely screened by intervening residential properties and proposed trees and vegetation to the north of Phase 1B (North) within the Site, including within Sturgess Park which is being improved as part of Phase 1B (North).
- 21.6.5 The West Hendon Regeneration scheme would include residential buildings up to 29 storeys. Although its lower storeys would be screened by intervening built form and vegetation, the upper storeys would be visible in the views of Phase 1B (North) from Viewpoint 14 (refer to **Appendix 10.1**). As such, the likely cumulative impacts of the operational works of the Development together with the West Hendon Regeneration scheme would be **minor adverse** at worst. Although the West Hendon Regeneration scheme would therefore give rise to cumulative operational townscape and visual impacts in combination with the Development (including Phase 1B (North) RMA components) not previously identified in the s73 ES and other EIA Documentation, the impacts would not be overly significant.
- 21.6.6 The other cumulative schemes identified in **Table 21.1** would not give rise to any townscape or visual effects in combination with the Development.

## 21.7 Ecology and Nature Conservation

### Construction

#### Designated Sites

- 21.7.1 Of the cumulative schemes identified in **Figure 4.1 / Table 21.1**, the West Hendon Regeneration scheme is the closest to Brent Reservoir / Welsh Harp Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR) with the Homebase / Hydro House scheme next. As previously assessed within the Phase 1A North FIR and other EIA Documentation, the combined construction works within the BXC Site and the West Hendon Regeneration and Homebase / Hydro House may cause an increase in construction pollution risk upon Brent Reservoir / Welsh Harp Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR). The implementation of a CEMP for the West Hendon Regeneration scheme, the other cumulative schemes and each phase of the BXC Site should control for an increase in dust and run-off during construction.
- 21.7.2 The other cumulative schemes are not considered to give rise to a significant cumulative impacts on the SSSI / LNR. In approving details of each planning application in the surrounding area, the local planning authority (LBB) (in consultation with Natural England) would have had regard to the Development (2014 Permission) and specified mitigation measures if appropriate for each scheme.

#### Direct Mortality and Injury to Protected Species

- 21.7.3 The cumulative schemes all have the potential to give rise to direct mortality and injury to protected species particularly during construction. However, the local planning authority would require protected species surveys and where appropriate, mitigation and monitoring, and / or Natural England licence. It is therefore reasonable to conclude that there are unlikely to be significant cumulative impacts upon protected species from the cumulative schemes and the Development.

#### Disturbance

- 21.7.4 The West Hendon Regeneration scheme is in close proximity to Brent Reservoir / Welsh Harp SSSI and LNR, with Homebase / Hydro House also close by. A CEMP has been produced for the West Hendon Regeneration to control risks of pollution incidents including dust during construction. Homebase / Hydro House is considered to be too far away for this to be an impact, however it is also expected that a CEMP will be provided here.

#### Habitat Damage, Loss and Creation

- 21.7.5 The majority of the cumulative schemes located within 2.5km of the BXC Site involve the demolition of buildings and felling of trees, therefore, if present, bat roosting and protective bird species habitat could be lost. However, the local planning authority would normally require comprehensive protected species surveys and where appropriate, mitigation and also monitoring under a Natural England licence if bats were considered to be using these buildings and trees. Based on this assumption, it is reasonable to conclude that there are unlikely to be significant cumulative impacts upon bats and protected bird species from the cumulative schemes and the Development.

#### Pollution and Other Indirect Impacts

- 21.7.6 West Hendon Regeneration is in close proximity to Brent Reservoir / Welsh Harp SSSI and LNR; the West Hendon Regeneration scheme and the Development together may result in an increased risk in construction pollution impacts. Cumulative pollution risks would be controlled through implementation of respective CEMPs for each cumulative scheme (or other appropriate measures) if considered necessary by the local planning authority, and therefore would be minimised as far as practicable.
- 21.7.7 Having regard to the above, the cumulative ecology and nature conservation construction impacts remain as reported in the s73 ES and other EIA Documentation.

### Operation

#### Designated Sites

- 21.7.8 The West Hendon Regeneration scheme is in close proximity to Brent Reservoir / Welsh Harp SSSI and LNR. The Homebase / Hydro House scheme is also located nearby. Both of these cumulative schemes will include new residential properties and thus could result in additional recreational pressure. However, the nature of the Brent Reservoir / Welsh Harp SSSI / LNR and its interest (waterbirds) is unlikely to be adversely affected by a small increase in visitor numbers

during operation as the main bird interest is in refuge areas screened by trees and with facilities (bird hides) which cope well with land based visitors. In addition, the phasing of the Development (which itself also includes residential) to include significant improvements to existing areas of open recreational space (e.g. Brent Riverside Parks) would ensure that green infrastructure is available on the BXC Site to mitigate potential remaining recreational pressure impacts on the SSSI / LNR.

#### Direct Mortality and Injury to Protected Species

- 21.7.9 In consideration of the proposed operations of the cumulative schemes it is unlikely that they would give rise to direct mortality and injury to projected species during operation, therefore it is reasonable to conclude that there are unlikely to be significant cumulative impacts upon protected species from the cumulative schemes and the Development.

#### Disturbance

- 21.7.10 As indicated above, the West Hendon Regeneration scheme is in close proximity to Brent Reservoir / Welsh Harp SSSI and LNR. The increase in residential properties may result in an increased risk of pollution during operation and, in conjunction with the Homebase / Hydro House scheme, recreational pressure. The phasing of the Development to include green infrastructure in each area would ensure that suitable green space was available on the BXC Site to mitigate additional recreational pressure impacts on the SSSI / LNR as far as practicable. Also, the nature of the Brent Reservoir / Welsh Harp SSSI / LNR and its interest (waterbirds) is unlikely to be adversely affected by a small increase in visitor numbers during operation for the reasons set out above.
- 21.7.11 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for ecology and nature conservation, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative ecology and nature conservation operation impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.8 Water Resources and Flood Risk

### Construction

- 21.8.1 Cumulative effects to water resources during demolition, together with construction processes and their operation, can give rise to the generation of sediments, discharge into the sewer drainage network, spillage and leakage of oils and fuels, leakage of wet concrete, cement and disturbance of contaminated land, foul drainage and a temporary increase in water demand.
- 21.8.2 Mitigation measures for the Development will be put in place to manage and control these effects and reduce the magnitude and significance of effects to a minimum. These measures should also be adopted at other local construction sites as a matter of standard practice if considered necessary by the local planning authority. Therefore, as a result of these control measures (where necessary), and the fact that not all development sites in the area will discharge into receiving surface waters or groundwater at exactly the same time, the cumulative effect is considered to remain **negligible to minor adverse**.

21.8.3 Having regard to the above, the cumulative water resources and flood risk construction impacts remain as reported in the s73 ES and other EIA Documentation.

### Operation

21.8.4 As with the Development, the cumulative schemes would themselves be required to apply appropriate mitigation to ensure that significant impacts to surface water, groundwater and flooding regimes do not occur. The effects on environmental quality associated with positive improvements to water quality and the encouragement of restoration in other reaches of the River Brent remain **minor to major** beneficial, as identified in the s73 ES and other EIA Documentation.

21.8.5 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for water resources and flood risk, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative water resources and flood risk impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.9 Archaeology and Cultural Heritage

### Construction

21.9.1 A review of the cumulative schemes as presented in **Table 21.1** has determined that three of the fourteen cumulative schemes could potentially give rise to cumulative impacts, namely:

- West Hendon Regeneration (which has similar potential for prehistoric settlement along the River Brent valley, potential for remains of Watling Road, and potential for Saxon, Medieval and Post-Medieval settlement);
- Plot 61, Edgware Road, Former Parcel Force Depot (where a watching brief was recommended despite low potential and high levels of truncation associated with the creation and operation of the rail line); and
- Imperial House, The Hyde (which is the subject of an archaeological planning condition).

21.9.2 Based on the findings of **Chapter 13: Archaeology and Cultural Heritage** and a review of the cumulative schemes, although some of the cumulative schemes impact on the same archaeological resources (such as the Child's Hill ASAS and Roman Road) the magnitude of these impacts would not be greater than those of the Development. The cumulative impacts are therefore not considered to be significant.

21.9.3 The detailed design for Phase 1B (North) in itself does not result in any significant cumulative construction impacts not previously identified in the s73 ES and other EIA Documentation on archaeology or cultural heritage, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative archaeology and cultural heritage impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## Operation

- 21.9.4 All effects to below ground archaeological remains would occur in relation to intrusive ground works associated with the demolition and construction works of the Development and the cumulative schemes, as reported above. Consequently, there would be no likely significant cumulative residual archaeological effects on completion and operation of the Development and all cumulative schemes, i.e. effects would be **insignificant**.
- 21.9.5 The cumulative archaeology and cultural heritage operation impacts remain as reported in the s73 ES and other EIA Documentation.

## 21.10 Air Quality and Dust

### Construction

- 21.10.1 Air pollutant emissions from construction activities associated with the Development and other cumulative schemes may have a significant cumulative impact if:
- Fugitive dust from on-site demolition or construction activities are likely to impact the same sensitive receptors during the same period; and
  - Construction vehicles are likely to use the same haulage routes to bring construction materials / remove waste materials from / to the construction sites during the same period of time, therefore increasing air pollutant emissions along these roads.

### Construction Dust

- 21.10.2 As discussed in **Chapter 14: Air Quality**, dust emissions from on-site demolition or construction activities generally do not have any significant impact beyond 350m of the construction site boundary, as a worst-case scenario (without mitigation measures in place). Based on the above, the following nearby cumulative schemes have been considered, due to their proximity to Phase 1B (North):
- West Hendon Regeneration; and
  - Plot 61, Edgware Road, Former Parcel Force Depot.
- 21.10.3 The West Hendon Regeneration scheme was under construction at the time of writing, but given its size, it is unlikely that it will be completed before the construction starts on the Development, and the potential for cumulative impacts cannot be ruled out. Given the location of this scheme in relation to the Development, in particular Phase 1B (North), sensitive receptors that could be affected by cumulative impacts include residential properties located on both sides of the M1 between the Station Road and Park Road bridges (A5 West Hendon Broadway, Brent View Road, and Mount Road).
- 21.10.4 The development at Plot 61, Edgware Road has been approved, but construction has not started. Cumulative impacts are therefore possible during construction of this cumulative scheme and the Development. Given the location of this cumulative scheme (directly adjacent to the southwest boundary of the Site along the A5 Edgware Road) and its relative small size, sensitive receptors that could be affected by cumulative impacts are considered to be residential properties across the A5 on Oxgate Gardens, Dollis Hill Lane, Dollis Hill Avenue and Gladstone Park Gardens.

21.10.5 Emissions of dust from construction activities would be minimised following the implementation of best practice mitigation measures detailed in the schemes' CEMPs/CoCPs (or other appropriate measures) if considered necessary by the local planning authority. Whilst the IAQM Guidance<sup>ii</sup> states that, with appropriate mitigation in place, it is possible for all dust emissions to be controlled, as a worst-case the cumulative impact is likely to be **slight adverse** for those properties identified above. Any adverse impact would be **temporary** and **short-term**. The details of the Phase 1B (North) RMA do not generate any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation.

#### Construction Vehicles

21.10.6 Heavy Goods Vehicles (HGV) traffic generated by demolition and construction works on nearby development sites may lead to cumulative adverse impacts at sensitive receptors along the main haulage routes identified for the Development, if this traffic is likely to use the same routes.

21.10.7 The main potential risk of adverse cumulative impacts is likely to be due to construction traffic generated by the West Hendon Regeneration scheme, due to its size. Construction traffic from the West Hendon Regeneration scheme will be controlled by the approved CEMP as it would be for the Development. It is therefore likely that, provided that mitigation measures detailed in the CTMP are implemented effectively, the cumulative impact of construction traffic on air quality in combination with the Development is likely to be **negligible** even if these schemes overlap. Impacts from construction vehicles arising from the Development would be further minimised through implementation of a CCC (the location(s) of which is still to be determined).

21.10.8 Having regard to the above, the cumulative air quality and dust construction impacts remain as reported in the s73 ES and other EIA Documentation.

#### Operation

21.10.9 The additional road traffic generated by the other cumulative schemes in the area has been included in the 'Do-minimum' traffic noise modelling (future baseline), as defined above under 'Traffic and Transport'. The data for cumulative schemes was agreed with TfL in discussions regarding the BXC-DDM. By assessing the additive effect of the Development on top of this Do-minimum scenario, the effect of the Development has been isolated, and the predicted air quality (with likely developments in place, as identified by TfL) - i.e. the cumulative scenario - has been considered in the assessment presented in **Chapter 14: Air Quality and Dust**. The modelling does not include specific adjustments in relation to the new planning permissions that have been identified as part of the s73 ES and other EIA Documentation or the two additional schemes included within this assessment. However, it does take them into account implicitly as the modelling includes general background traffic growth. The cumulative operational air quality impacts therefore remains as reported in **Chapter 14: Air Quality and Dust**.

21.10.10 In approving details of each planning application in the surrounding area, the local planning authority would have had regard to the 2014 Permission and specified mitigation measures where appropriate in accordance with accordance with policy DM04 of the Adopted Barnet Development Management Policies DPD (2012).

21.10.11 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for air quality and dust, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative air quality and dust impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.11 Ground Contamination

### Construction

21.11.1 The enabling / preparation works for Phase 1B (North) include remediation of land contamination risks identified within that area during site investigations, through implementation of Site Specific Remediation Strategies (SSRSs). SSRSs will be employed (where necessary) for all phases or sub-phases within the Development. The standard of remediation will be appropriate to achieve “suitable for use” status, as agreed with the regulatory authorities and as demonstrated through the provision of verification reporting on completion of remediation. Remediation of these contamination sources represents a moderate beneficial reduction in risk for the Development. Similar measures should also be adopted at other local construction sites as a matter of standard practice if considered necessary by the local planning authority.

21.11.2 It is considered that the residual impact of the Development and surrounding cumulative schemes on ground conditions will be **negligible** taking into consideration the adoption of mitigation measures such as Codes of Construction Practice (CoCPs) and other controls which will be agreed with LBB prior to the commencement of any works on each site.

21.11.3 The details of the remediation and construction for Phase 1B (North) in itself does not result in any significant cumulative construction impacts not previously identified in the s73 ES and other EIA Documentation in respect of ground conditions, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative ground contamination construction impacts remain as reported in the s73 ES and other EIA Documentation.

### Operation

21.11.4 No cumulative impacts are identified for the operation of the Development in conjunction with the cumulative schemes listed in **Table 21.1** in relation to land quality or hydrogeology. All the cumulative schemes however have the potential to give rise to an improvement in land quality through remediation of on-site / near site contamination sources which would be **moderate to major beneficial**.

21.11.5 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative ground conditions operation impacts remain as reported in the s73 ES and other EIA Documentation.

## 21.12 Waste

### Construction

- 21.12.1 In consideration of the size and location of the cumulative schemes, it is anticipated that there would be significant construction waste impacts generated by the Development and surrounding schemes. The proposed use of a CCC and Demolition and Site Waste Management Plan (DSWMP) (condition 9.1 of the 2014 Permission) in relation to the Development would, however, reduce the pressure on local waste services during the construction period of the Development to reduce the potential for cumulative impacts.
- 21.12.2 The cumulative waste construction impacts remain as reported in the s73 ES and other EIA Documentation.

### Operation

- 21.12.3 In consideration of the updated cumulative schemes list, it is not anticipated that there would be significant operational cumulative impacts for waste with the surrounding schemes. Those schemes which lie within LBB's boundary are expected to also plan to use LBB's residential waste collection services and to ensure that commercial waste is collected by a registered waste carrier. This would increase the existing demand significantly in combination with the Development. It is, however, noted that the larger scale schemes such as the Development normally have provision for on-site waste management systems which will support and enhance the existing LBB services.
- 21.12.4 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation for waste, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative operational waste impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.13 Wind Microclimate

### Construction

- 21.13.1 Potential construction cumulative impacts are not considered significant as no significant residual impacts have been identified for wind during the construction phase of the Development.
- 21.13.2 Based upon professional and expert judgement, it is considered that, should demolition and construction works associated the Development overlap with the demolition or construction works required to implement the relevant cumulative schemes, the likely cumulative residual wind microclimate effects would be insignificant. This is predominantly due to the fact that all redevelopment sites (including the BXC Site) currently contain relatively low to medium rise structures which would not be anticipated to significantly alter the wind microclimate conditions once demolished. As construction of the Development and cumulative schemes progress, the likely wind microclimate would gradually adjust to that of the completed Development.

21.13.3 The detailed design of Phase 1B (North) does not result in any significant construction cumulative impacts not previously identified in the s73 ES and other EIA Documentation. The cumulative wind microclimate construction impacts remain as reported in the s73 ES and other EIA Documentation.

### Operation

21.13.4 The following cumulative schemes are considered to be relevance to the wind microclimate assessment due to their proximity to Phase 1B (North) and have been tested as part of the wind tunnel testing:

- Plot 61, Edgware Road, Former Parcel Force Depot.

21.13.5 Other cumulative schemes were not considered to have the potential to give rise to cumulative impacts due to their distance from Phase 1B (North).

21.13.6 Wind tunnel testing, as reported in **Appendix 17A.1**, confirms that when tested with the maximum height parameters of the 2014 Permission, the above cumulative schemes would have a **negligible** cumulative impact.

21.13.7 The detailed design of Phase 1B (North) does not result in any significant operational cumulative impacts not previously identified in the s73 ES and other EIA Documentation, and there are no likely significant cumulative impacts of the Development in combination with the cumulative schemes which were not identified in the s73 ES or other EIA Documentation. The cumulative wind microclimate operation impacts therefore remain as reported in the s73 ES and other EIA Documentation.

## 21.14 Daylight, Sunlight and Overshadowing

21.14.1 Based on the outcomes of the assessment and consideration of the updated cumulative schemes, it is not considered any of the surrounding cumulative schemes are in close enough proximity to Phase 1B (North) elements to result in significant cumulative impacts on daylight, sunlight or overshadowing.

21.14.2 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation. The cumulative daylight, sunlight and overshadowing impacts remain as reported in the s73 ES and other EIA Documentation.

## 21.15 TV, Radio and Mobile Reception

21.15.1 It is considered unlikely that any significant impacts would result from the cumulative schemes in combination with the Development due to the lack of tall buildings within these schemes. This is primarily due to the scale of the cumulative schemes and their distance from the Site.

21.15.2 The detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation. The cumulative TV, Radio and Mobile Reception impacts remain as reported in the s73 ES and other EIA Documentation.

## **21.16 Carbon Dioxide Emissions**

- 21.16.1 In consideration of the impact assessment for CO<sub>2</sub> emissions and in particular the study area for the assessment in Chapter 19, it is not deemed possible to quantify both the construction and operational cumulative impacts of the surrounding schemes in combination with the Development as the scale of assessment is too large and complex. It is however considered that the CO<sub>2</sub> emissions assessment in the s73 ES and other EIA Documentation provides a conservative estimate of emissions from the Development which is of a large magnitude considering the study area covers six boroughs of north London.
- 21.16.2 The cumulative schemes would have a CO<sub>2</sub> contribution on top of the Development's estimated emissions, however each scheme should have its own energy strategy and sustainable transport measures (or other appropriate measures) if considered necessary by the local planning authority, to ensure emissions are controlled and mitigated where possible. It is therefore considered that the impact from the Development in combination with the surrounding schemes would be 'negative', as assessed for the Development in isolation.
- 21.16.3 Therefore, the detailed design of Phase 1B (North) does not result in any significant cumulative impacts not previously identified in the s73 ES and other EIA Documentation. The cumulative CO<sub>2</sub> impacts remain as reported in the s73 ES and other EIA Documentation.

## Reference

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<sup>i</sup> Institute of Air Quality Management (2014) Guidance on the Assessment of Dust from Demolition and Construction, London