

## 20. Intermediate Years Assessment

### 20.1 Introduction

- 20.1.1 This Chapter, which has been prepared by Waterman, provides a statement of conformity with regard to the intermediate years assessment presented in the s.73 ES (Chapter 20: Intermediate Years Assessment) to confirm that the findings remain valid.
- 20.1.2 A review has been undertaken of the detailed design of Phase 1A (North) elements, as defined in **Chapter 2**, to identify any potential changes to the construction delivery programme or temporal impacts as reported within the s.73 ES which could change the basis of the assessment. In addition, the potential effects of the operation of the temporary bus station and bus stops (plots 114 and 113 respectively) operations are now considered within the 2020 (the first intermediate year or 'snapshot' considered in the s.73 ES) when it would be operational. At this time, the permanent bus station would be under construction. A description of the temporary bus station location, layout and operation is provided in **Chapter 2** and full impact assessment provided in each technical chapter (**Chapters 7 to 19**).

### 20.2 Assessment Methodology

- 20.2.1 The intermediate years assessment presented in the s.73 ES is based largely upon the Construction Impact Assessment Addendum (BXC21) (**Appendix 2.2**) and the Indicative Construction Programme (ICP) (**Appendix 4.3**). These documents set out the likely indicative delivery programme of the Development and remain valid as per the s.73 Application. The timing and approach to construction and delivery of the Development therefore remains consistent with that reported in the s.73 ES. Commencement of construction is proposed for mid-2016 and completion of the Development is proposed for 2031.
- 20.2.2 The s.73 ES considered three snapshot years (2020, 2023 and 2029) within the intermediate years assessment, as described below. These snapshot years are still considered to remain valid since there have been no changes to the ICP or CIA Addendum. It is acknowledged that there have been minor sub-phasing changes accounted for within the RMAs, i.e. Plots 53 and 54 moving from Phase 1C to 1A (North) which has been submitted separately under Condition 4.2 for approval.
- 20.2.3 The detailed design now available of the Phase 1A (North) RMAs has been considered by the EIA specialist in their review of the s.73 ES Chapter 20 to determine whether the assessment remains valid or whether new or different significant environmental effects are likely which were not identified in the s.73 ES. Where appropriate, further commentary on the assessment for Phase 1A (North) elements has been provided in the relevant snapshot years to indicate the potential impacts at that specific time in the delivery programme. A description of each snapshot is provided below and the ICP illustrates the level of construction and completed development at each year (see **Appendix 4.3**).

#### Snapshot One: Quarter 3 (Q3) 2020

- 20.2.4 This snapshot is half way through the delivery of Phase 1 when all highway infrastructure is planned to be completed, all open spaces within Phase 1A (North) and 1B (North) will be complete whilst plot development, open spaces and community facilities for these development phases will be completed. This includes completion of all Phase 1A (North) elements and occupation of Plots 53 and 54 prior to this date. Phase 1 works is split in two halves with the first being highways infrastructure and the second being development of the area immediately south of the Shopping Centre including the new Bus Station in Phase 1B (North) which should be ready for trading in

Christmas 2020. The construction of the Living Bridge would also be complete by this date to enable pedestrian and cycle connections for existing residents and new open space in the south to the new plot developments north of the A406.

- 20.2.5 The temporary bus station located in the south west car park and bus stops in Plot 113 will be constructed and operational by 2020. The new permanent bus station will be under construction, however the permanent roads at the western roundabout and linking to Templehof Bridge will be operational by this time. As such, the operational impacts of the temporary bus station have been considered under this snapshot year and is reported in full within the 'construction impacts' section of each technical chapter.

### Snapshot Two: Quarter 2 2023

- 20.2.6 The second stage of Phase 1 works (predominantly phases south of the A406) includes demolition and re-development of the vacated site of the existing John Lewis Partnership store for completion in 2023, along with all of the residential plots to the north and south of the A406. The permanent bus station will be fully operational by 2023 and therefore the temporary bus station and bus stops (plots 114 and 113 respectively) will no longer be in use.

### Snapshot Three: Quarter 4 2029

- 20.2.7 By the end of 2029 works associated with Phases 4 to 7 will be under construction with the majority of works completed for Phase 4 to 5 and Phases 6 to 7 approximately half way through their construction.

### Summary of the Outcomes of the s.73 ES Intermediate Years Assessment

- 20.2.8 The intermediate years assessment was updated for the s.73 ES from the RES 2009 to accommodate changes in the ICP and phasing of works (as captured by the s.73 Application). The chapter provided a high level assessment of the likely significant impacts of the Development at different stages when parts of the Development are built out and in operation (residents or visitors occupying the Site) alongside ongoing construction in areas of the Development. It was concluded that there would be some temporary construction-related impacts on residents and site visitors using the Site during the construction programme which would require mitigation through the Construction Environmental Management Plan (CEMP). These impacts would not remain following completion of the construction for the whole Development.
- 20.2.9 This Chapter confirms that the the impacts reported for intermediate years within the s.73 ES remain valid. Some minor amendments and additional information is provided within this Chapter where further information has become available through the detailed design which has altered the potential impacts reported in the technical Chapters of this Report .
- 20.2.10 The following sections of this Chapter provide a statement of conformity or further information on the intermediate years impacts for each technical discipline as provided in the s.73 ES.

## 20.3 Traffic and Transport

- 20.3.1 The s.73 ES reported minor adverse impacts on road and rail transport throughout all of the three intermediate years, however it was noted that all impacts could be 'accommodated' within the proposed network. It was therefore not considered that any specific stages of construction would lead to more traffic and transport disruption or impacts than another.

20.3.2 As set out in Chapter 7: Traffic and Transport the impacts as presented in Consolidated Transport Assessment and s.73 ES with reference to the BXC-TM model are considered to remain valid. The development of the new BXC-DDM model has provided updated traffic forecasts for the purposes of detailed highway design, however the BXC-DDM only provides forecast traffic flows for the years 2021 and 2031 at present. It is therefore not possible at this time to fully update the intermediate years assessment for each of the three snapshot years in this Report for traffic and transport, however it is considered that the outcomes will not change in terms of significance of impacts from those reported within the s.73 ES as there have been no significant changes to the ICP or the impacts reported within the traffic and transport assessment in light of the Phase 1A (North) RMAs proposals.

## 20.4 Socio-Economic

20.4.1 The s.73 ES reports a gradual increase in employment throughout the construction period with a large increase from baseline employment within the Site of approximately 5,400 to a completed Development employment total of approximately 30,000. Housing and population impacts were also assessed and the intermediate years assessment reported the following trends:

- Housing numbers decrease by approximately 50% in 2020 (to 80) but then increase significantly in 2023 and more than double again by 2029;
- Population and child volumes also decrease by 2020 (to 145) but then rise sharply by 2023 and again more than double by 2029 to a predicted total of 13,415 once all 7,500 are complete.

20.4.2 The numbers above indicate the substantial beneficial impact of the provision of new housing in the Borough. The s.73 chapter considered the community impact and determined that the Development has sufficient capacity and provision to service the future residents. The S106 agreement and planning conditions of the 2014 Permission will ensure that the social and community infrastructure proposed as part of the Development will be delivered to meet demand. Overall, it was therefore concluded that the Development would have a major beneficial impact throughout each of the intermediate years due to net employment and community provision.

20.4.3 Phase 1A (North) demolition results in a loss of 60 units (associated with the Whitefield Housing Estate) and provides a total of 47 new replacement units at Plots 53 and 54. This phase of the Development also leads to the demolition of the Rosa Freedman centre. On account of the infrastructure and open space nature of the proposals, which include a limited number of housing units, together with the ICP remaining unchanged from the s.73 Application, the intermediate years assessment carried out as part of the s.73 ES for socio-economics remains valid as major positive/beneficial.

## 20.5 Noise and Vibration

20.5.1 It was acknowledged in the s.73 ES that noise disturbance will be experienced by existing sensitive receptors bordering or within the Site, and future residents of the Development throughout all phases of the Development construction increasing towards the third snapshot year as more parts of the Site become occupied. The majority of the adverse noise impacts will be experienced in the first intermediate snapshot year of 2020 when Phases 1 and 2 will have commenced construction, as these phases contain a large proportion of the critical infrastructure required for the delivery of the Development including heavy earthworks in relation to highways, the River Brent realignment, open space improvements and building demolition and construction activities around the Brent Cross Shopping Centre and immediately south of the A406 North Circular.

20.5.2 The temporary bus station and bus stops (plots 114 and 113 respectively) will be operational in 2020 and the potential impacts arising during the four year operation of this facility are assessed in detail

in **Chapter 9: Noise and Vibration**. The temporary bus station operations were modelled using traffic data and background noise levels for 2021 (due to traffic data being modelled for this year as end of Phase 1 delivery). The noise modelling also accounted for the increased proximity of the bus station (Plot 114) operations and bus stops (Plot 113) to nearby residents to the north and west. The assessment concluded that daytime and night time noise levels would be acceptable with the incorporation of an acoustic screen 2.5m in height along the western boundary of Plot 113. No screening is required at Plot 114 but hoarding would be in place along the northern boundary and afford additional noise control for nearby residents. Minor adverse impacts may result in the daytime from a 1-2 dB increase in noise levels. Construction of the temporary bus station and bus stops will incur similar construction impacts to those already accounted for within the s.73 ES due to construction occurring within the vicinity of these plots at a similar time in the delivery programme, as such it is not considered that the noise construction impacts have changed from the s.73. This facility was not considered in the s.73 ES.

- 20.5.3 Noise emitting development such as the CHP(s), waste handling facility and rail freight facility will undergo detailed noise modelling during the detailed design phase for their relevant development phase RMA. These features do not form part of the Phase 1A (North) RMA. Detailed design will incorporate measures to reduce and manage noise emissions during operation so that the noise contribution from these operations is limited alongside the ongoing construction activities of later phases.
- 20.5.4 Moderate adverse noise impacts were identified for each intermediate snapshot year in the s.73 ES, however with the application of the Code of Construction Practice (CoCP), CEMP and the Construction Transport Management Plan (CTMP), the noise from construction activities will be controlled and impacts minimised where possible.
- 20.5.5 The noise and vibration assessment for the intermediate years as presented in the s.73 ES is therefore considered to remain valid as the timing of construction and operation of each main Development phase has not altered from that previously presented in **Table 20.5**.

## 20.6 Townscape and Visual Impact Assessment

### Introduction

- 20.6.1 The Intermediate Years Assessment for Landscape and Visual Impacts is qualitative and relies on the information presented in Chapter 10 of the s.73 ES and Chapter 10: Townscape and Visual of this Report. The impacts described in s.73 ES are considered to remain valid whilst additional information specific to Phase 1A (North) townscape and visual impacts is provided below.

### First Intermediate Snapshot Assessment: 2020

- 20.6.2 The main townscape and visual impacts arising from Phase 1A (North) include the loss of existing trees and vegetation, the temporary closure of some public open space areas and the visual intrusion of construction activity (equipment, hoarding etc). These impacts are of greatest relevance to a relatively small number of existing residents within or adjacent to the Site and to users of the existing Claremont Way Open Space and Clitterhouse Playing Fields.
- 20.6.3 By 2020, construction works for all of the Phase 1A (North) elements would have been completed. Plots 53 and 54, having the greatest impacts on those residents living adjacent to the west within Brent Terrace and those to the east within Clitterhouse Crescent. Adjoining residents, users of the open spaces, as well as users of local footpaths and cycleways will receive benefits from the completion of Clitterhouse Playing Fields Improvements Part 1, Claremont Park, Central Brent Riverside Park and the new footbridge connections and crossings (Living Bridge and Templehof

Bridge) within the North Circular corridor, all of which would provide significant amenity benefits to the area.

- 20.6.4 The completion of the Phase 1A (North) construction will provide early visual benefits with new tree planting and green infrastructure within open space areas beginning to establish and will help to screen/filter views from existing residential areas during the later stages of construction.
- 20.6.5 The temporary bus station and bus stops (plots 114 and 113 respectively) will be constructed and operational by 2020. Three viewpoints have been provided in Chapter 10 to assess the potential townscape and visual impacts from nearby residents at Layfield Close and Brent Park Road. As reported in **Chapter 10**, the temporary bus station structure will not be noticeably visible from public footpaths and highways to the north and west of the car parks. Screening will be provided along the edges of plot 113 and the south west car park to limit the visual impacts of residents nearby. As such impacts are reported to be negligible.
- 20.6.6 In addition to the Phase 1A (North) elements, some of the wider Masterplan Development ‘early stages’ of construction will also bring a positive sense of renewal to parts of the Site. Some of the areas that are completed by 2020 are highly relevant to the local community, for example the lower end of Claremont Road will see the completion of building plots 11 and 12 providing retail and residential facilities as well as the replacement of Claremont Primary School.
- 20.6.7 It is likely that the most significant adverse impact at 2020 will arise from the new residential development within Plots 53 and 54, as the replacement hedge sections (planted along the eastern side of Brent Terrace) would require at least 5 years to properly establish and to start to filter views from adjoining properties.
- 20.6.8 Overall, it is considered that in light of the detailed design of Phase 1A (North) which would be largely constructed or under construction in this snapshot year, the s.73 ES outcomes remain valid for townscape and visual impact with the addition of the visual assessment for Plots 53 and 54 and the Temporary Bus Station and Bus Stops.

#### Second Intermediate Snapshot Assessment: 2023

- 20.6.9 By 2023, new planting associated with Brent Terrace, Claremont Park, Clitterhouse Playing Fields and Central Brent Riverside Park would have established and gained additional growth (depending on planting season most should now be at least 5 years old). However the planting will need many more years to mature and to reach a size where it compensates for the losses to existing tree stock or in the case of the new hedge sections on Brent Terrace, reaches its full height and density so that it provides visual mitigation by heavily screening the development within Plots 53 and 54.
- 20.6.10 Development associated with the wider Masterplan area would also be underway including: the construction of building plots 69, 70 to 72 and 77 which will be shielded from the residential area to the south by those building plots completed earlier in construction. There will therefore be limited negative impacts occurring to those residents in Prayle Grove.
- 20.6.11 By this Intermediate Year, construction of the A5/A407 junction improvements will be complete. However, the Cricklewood Transport Interchange will be ongoing during this Intermediate Year which is likely to have an adverse visual impact on those residents living adjacent to the junction.
- 20.6.12 Of substantial benefit to local residents will be the completion and operation of Clitterhouse Playing Fields, in its entirety (upon completion of Part 2 improvements).
- 20.6.13 In 2023 it is likely that one of the most significant adverse impacts will arise from the presence of the CHP / energy centre and it’s associated stack. Based on the s. 73 Energy Strategy submitted as part of the s.73 Application the proposed CHP will be located in Phase 1B (South), south of the



A406 and would include an emissions stack. There are no adjoining buildings to the CHP of a similar height to shield it from view. In this situation, the stack will cause a significant adverse visual impact which was identified in the s.73 ES. It is however noted that based on the Revised Energy Strategy (pre-RMA condition recently submitted to LBB), the proposed energy generation and supply will potentially change and may be split between two or more on-Site energy centres with one likely to be located north and one south of the A406. Once detailed design of the energy centres is available for the relevant development phase, the stack height and location will be assessed for the corresponding RMA.

20.6.14 As such, it is concluded that the outcomes of the s.73 ES for this snapshot year remain valid as there would be little impact from Phase 1A (North) elements.

#### Third Intermediate Snapshot Assessment: 2029

20.6.15 New planting associated with the RMA development would now be over 10 years old and if properly maintained and cared for, will be maturing. The principal adverse impact on residents surrounding the Site is likely to occur at Brent Terrace, where residents will be adversely affected by the removal of vegetation and intrusion of construction activity to the west along the railway corridor, in this third intermediate year.

20.6.16 In the rest of the Site, particularly in relation to residential areas surrounding the Site, construction will have been completed and buildings operational, providing new townscape on most public frontages.

20.6.17 However, there is a possibility of impacts from the construction of the Development on buildings already constructed in earlier phases, i.e. on future residents. During 2029, the principal area of construction will be in Station Quarter. Those residents living within the recently constructed buildings at plots 23 and 24 will have views of construction occurring in Station Quarter. The closest building will be plot 85 which will be constructed adjacent to building plot 24. Impacts from construction will be minimised through implementation of the CoCP. However, owing to the heights of each building, it will not be possible to completely remove from view the construction of building plot 85 and as such it is likely that adverse impacts will remain. The same scenario is likely to occur from the construction of building plot 20 on those residents of plot 16.

20.6.18 The visual impact arising from the CHP stack will have been reduced to a degree by 2029 as the buildings surrounding it within Station Quarter will be under construction. However, some impact will remain until those buildings in Station Quarter are complete. The impact of this is therefore still assessed as a minor adverse impact, as per the s.73 ES for this snapshot year.

#### Conclusions

20.6.19 Construction impacts of the Phase 1A (North) elements would be highly localised and of a short term duration, with all works being completed and operational by 2020. Each phase of construction will bring some localised areas of vegetation loss and intrusion from construction activity. These are assessed as moderate adverse impacts. However, as more of the Development is completed and the 'early phases' of new landscape become established, the impact of construction on the more sensitive receptors (generally existing residents) will progressively reduce to negligible impacts.

20.6.20 The phased approach to the construction programme will ensure some established open spaces are retained on the Site (i.e. some spaces will remain open in their current condition for some years whilst others will be created in the early years of construction and mature over time to become more established during the later years of construction). This will steadily reduce adverse impacts and start to deliver beneficial impacts over time.

- 20.6.21 The new landscape proposed for the extensive area of Clitterhouse Playing Fields and other public open space are proposed as an early commitment by the Applicants and will be delivered as part of Phase 1A (North). At the same time, the emergence of an extensive area of new townscape with higher quality public open space and public realm will also bring positive improvements to the overall townscape. This will change constantly over time starting as no change or slight beneficial impacts leading to an eventual substantial beneficial impact.
- 20.6.22 The significant visual impacts as reported in Chapter 20 of the s.73 ES remain valid with the addition of detailed design of Phase 1A (North). Snapshot year one has been updated to include the visual impact of Plots 53 and 54 which will now be constructed and operational earlier in the delivery programme than originally planned and the Temporary Bus Station and Bus Stops which were previously not reported in the s.73 ES.

## 20.7 Ecology and Nature Conservation

- 20.7.1 The s.73 ES reports on the main activities that will have an impact on the ecological resources on the Site which are primarily as a result of construction work within, and in close proximity to areas where sensitive habitats and species are known to occur. A summary of the s.73 outcomes is provided below along with some additional new information on elements related to Phase 1A (North).

### First Intermediate Snapshot Assessment: 2020

- 20.7.2 As noted earlier in this Chapter the majority of open spaces fall within Phase 1 and therefore are completed or under construction by 2020. As such a substantial amount of ecological enhancement work will have been completed, however these will not have fully established by this time to provide exact replacement habitats to those lost. The River Brent realignment works including the creation of the Central Brent Riverside Park and Nature Park 5, Clitterhouse Playing Fields Improvements Part 1 and Claremont Park will be completed by this time, therefore the ecological impacts will be in connection with the establishment time for the new habitats. The habitats to be created are of a far higher quality than the existing and a landscape and ecological management plan (LEMP) will be in place for each open space area to ensure that habitats and the species that depend on them, are maintained on the Site. It was reported in the s.73 ES that there would be temporary loss of tree lines along the River Brent impacting on foraging and commuting bats and the removal of the Clarefield Park SLINC for the residential and retail development, would both have a **minor adverse** impact during the first snapshot year. This is considered to remain valid.
- 20.7.3 Clitterhouse Farm Buildings which lie within Phase 1A (North) will have been refurbished by 2020 under a Natural England protected species licence to ensure the bat roost present is replaced like-for-like once works are complete. As the roost will not be lost and a licence will ensure no harm comes to roosting bats using the Site, bats should return to colonise the roost, provided the mitigation and monitoring measures detailed in the licence are adhered to, which would include controlled lighting on flightlines to and from the roost. Therefore the impact at this stage on roosting bats will be **negligible**. This impact alters from the s.73 ES findings of the intermediate years assessment within which the farm buildings were proposed for demolition and any bat roost potential would have been lost with an adverse ecological impact.
- 20.7.4 The loss of habitat suitable for breeding birds across the Site will have a negative impact on breeding birds in the short term. The phased approach to the construction programme will ensure that, as far as possible, areas of semi-mature / established and open habitats are retained on the Site, thereby reducing the level of impacts on breeding birds, and other species, such as invertebrates. The loss of breeding bird habitat was determined as a minor adverse impact in the s.73 ES and this is considered to remain valid.

#### Second Intermediate Snapshot Assessment: 2023

- 20.7.5 The s.73 ES reports in this snapshot on the additional completion of the Brent Cross East Landscape Buffer, Part 2 of the Clitterhouse Playing Fields Improvements and the construction works within the former Clarefield Park SLINC.
- 20.7.6 The new park areas and the creation of a pond in Clitterhouse Playing Fields SLINC in compensation for the loss of Clarefield Park SLINC, will be in the process of becoming established. However, the associated species, including invertebrates, birds and amphibians are not likely to have fully established, therefore the level of impact will remain at **minor adverse** significance at a local level. Other habitats however, such as Claremont Park, will have been in situ for at least three years (given that this area is due for completion 2020 as detailed above) so will be establishing and will contain a greater diversity of predominantly native species planting than was previously on the Site.
- 20.7.7 The impacts on roosting bats in Clitterhouse Playing Fields SLINC, at this stage in the development, will become **negligible**, assuming, that bats continue to colonise the new bat roost, which is likely given the mitigation measures and monitoring that Natural England licenses require.
- 20.7.8 The loss of potential bat foraging and commuting habitat along the River Brent at this stage in the development will be of **negligible** impact significance at a local level since the trees will have established although still be immature (approx. 3 years old), the habitats will be more diverse and native in species mix and bat boxes will have been in place for at least 3 years (given that River Brent realignment works will have been completed by 2020, as detailed above).
- 20.7.9 The impacts reported in the s.73 for this snapshot assessment are considered to remain valid.

#### Third Intermediate Snapshot Assessment: 2029

- 20.7.10 For the final snapshot year all open space areas will be completed including the Clitterhouse and Railway Lands Nature Parks, Millenium Green Park and the Eastern Land Green Corridor.
- 20.7.11 The loss of Clarefield Park SLINC will have become a **negligible** impact at this stage in the Development, the LEMP will be in place to ensure the establishment of the more diverse, predominantly native species landscaping, including the ponds within Clitterhouse Nature Park.
- 20.7.12 The new bat roost in Clitterhouse Playing Fields SLINC will have been in place at least 9 years, as will the native planting scheme, which will be established under a LEMP. The monitoring required by the NE licence will also ensure the bat roost is modified if bats are not recorded to be using it, to ensure as far as possible that it is colonised. In addition there will be bat boxes in the retained mature trees within the Clitterhouse Playing Fields SLINC in the areas of controlled lighting, therefore it is probably that there will be a **minor beneficial** impact at a local level.
- 20.7.13 The loss of potential bat foraging and commuting habitat along the River Brent at this stage in the development will be of **negligible** impact significance at a local level since although the trees will still be immature (max. 9 years old), the habitats will be more diverse and with native species only. The loss of potential bat roosting habitat will be negligible as replacement bat boxes will have been in place for at least 9 years.
- 20.7.14 Very limited foraging and commuting habitat for bats along Brent Sidings will be lost as a result of development. This will be compensated for and enhanced by new green corridors being provided throughout the Site for foraging and commuting bats. As a result of the loss of this habitat, there will be a residual **negligible** significant impact of local level on bats species.
- 20.7.15 Railway Land Nature Parks will be created to include a diverse range of habitats suitable for invertebrates, in addition to the other Nature Parks and predominantly native species already



included on Site as part of the landscaping proposals. Therefore the loss of this red data book invertebrate habitat adjacent the railway will result in a residual impact of **negligible** significance for Red Data Book invertebrate species.

20.7.16 The impacts reported in the s.73 for this and other snapshots are considered to remain valid, as summarised in Table 20.7 of the s.73 ES.

## 20.8 Water Resources and Flood Risk

20.8.1 The intermediate years assessment presented in the s.73 ES has been reviewed by URS in light of the detailed drainage and river realignment design proposals for Phase 1A (North).

### River Diversion & Restoration Works

20.8.2 The information contained within the s.73 ES in relation to the River Brent realignment taking place within Phase 1A (North) and completion of the Eastern Section (2016-2017), Central Section (2016-2017) and the Western Section (2017) remains valid in regards to this being complete within the first intermediate year of this assessment (2020). It is noted that the River Brent and its surrounding corridor will be particularly sensitive during their early stages of settlement and therefore more vulnerable to sediment or other pollution mobilisation. Appropriate monitoring would be in place to mitigate this however minor adverse impacts were reported in the s.73 ES as they would be expected immediately following the works. The impacts would however reduce over time and become positive as the naturalised channel and vegetation established and aids in the improvement of water quality and flow regime towards 2023 and 2029.

### Surface Water Drainage

20.8.3 The s.73 ES states that the drainage strategy and SUDS for the Development would be suitable for the ground quality and sensitivities of the Site. It was reported that *“the drainage systems and SUDS designed will lead to an overall reduction in site runoff of approximately 50% once the s. 73 Scheme is completed in 2031”*. This was reported to have a minor to moderate beneficial impact upon drainage and flows entering the surface water network and flooding. In regards to the intermediate years it was reported in the s.73 ES that the impacts would be negligible to minor positive in 2020 and 2023, increasing to minor to moderate beneficial in 2029.

20.8.4 It should however be noted that the statement included in the BXC15 Drainage Strategy of the s.73 Application was incorrect and as per Planning Condition 44.5 should state, *“any Sustainable Urban Drainage System to be submitted for approval in accordance with Condition 1.27 in relation to each Phase or Sub-Phase shall be integral to the site and ensures a commitment to 25% reduction in surface runoff of current 1 in 100 year flow plus 30% for climate change through incorporation of SUDS features, such as Green and Brown Roofs, detention basins, gravelled areas, swales, permeable paving and pipe storage. It must be demonstrated that SuDS have been maximised across the site, with justification provided if targets set in the London Plan cannot be met. The system must treat water pollution in line with Section C of Defra’s National Standards for Sustainable Drainage Systems with regard to specific hazards and receptor.”*

20.8.5 In consideration of this amendment, it does not alter the overall conclusions of the s.73 ES chapter for intermediate years assessment.

20.8.6 It is considered that for water resources the intermediate years impacts will be minor adverse in 2020 due to the heavy ground and water works involved in the River Brent realignment and risk of surface water pollution and sedimentation. However, following this the establishment of the newly

naturalised river channel and corridor in conjunction with the proposed drainage strategy and SUDS on Site will result in minor beneficial impacts.

- 20.8.7 The impacts reported in the s.73 for this and other snapshots are considered to remain valid, as summarised in Table 20.8 of the s.73 ES.

## 20.9 Archaeology and Cultural Heritage

- 20.9.1 The information in the s.73 ES was qualitative and based on the information in Chapter 13 of the s.73 ES which concluded that while there are few archaeological remains known to be present in the Site, the potential does exist for further remains to be found particularly in consideration of the designations that exist. The assessment in chapter 13 of the s.73 ES concluded that no significant adverse impacts will occur to conservation areas or listed buildings. This assessment is not considered to remain valid with consideration of the details of the Phase 1A (North) RMAs in place, as reported in **Chapter 13** of this Report.
- 20.9.2 There is a possibility of impacts on buried resources through the entire construction programme, however the highest potential impacts are associated with the first intermediate phase 2020 when Phase 1A (North) works will be completed at Clitterhouse Playing Fields and the River Brent realignment both of which lie within heritage designations (Area of Special Archaeological Significance (ASAS) and Paleo-Environmental Priority area, respectively). The only reasonable assumption to make, at this stage, is that any impacts that occur will be proportionate to the area of land disturbed up to each intermediate year, allowing that the impacts on archaeology are a one-off impact and do not persist after any remains have been disturbed and recorded.
- 20.9.3 Construction of the temporary bus station and bus stops would involve minimal ground work such as connection of new services, however Plots 113 and 114 both lie within the paleo-environmental priority area around the River Brent and therefore have the potential to give rise to moderate adverse impacts, as reported for all those proposed works within the Clitterhouse Playing Fields and surrounding the River Brent.
- 20.9.4 It is therefore considered that the negligible impacts reported in the s.73 ES remain valid for intermediate years 2023 and 2029, however in regard to the outcomes of **Chapter 13** in this Report, it is considered that the impacts in 2020 should now be altered to moderate adverse.

## 20.10 Air Quality and Dust

- 20.10.1 It was concluded in the s.73 ES that potential adverse impacts on air quality for the three snapshot years would arise from dust emissions generated by construction activities, exhaust emissions from construction vehicles accessing the Site. This assessment also includes exhaust emissions from additional road traffic generated by elements of the Development that will be completed by these years, as well as emissions from the CHP and Waste Handling Facility.
- 20.10.2 The majority of potential adverse dust impacts will be experienced in the first intermediate snapshot year of 2020 when Phases 1 and 2 will have commenced construction, as these phases contain a large proportion of the critical infrastructure required for the delivery of the Development including heavy earthworks in relation to highways, the River Brent realignment, open space improvements and building demolition and construction around the Brent Cross Shopping Centre and immediately south of the A406 North Circular.
- 20.10.3 The temporary bus station and bus stops will be operational in 2020 and therefore the potential impacts are assessed in detail in **Chapter 14**. The temporary bus station operations were modelled using traffic data and background air pollution concentrations for 2021 (due to traffic data being

modelled for this year as end of Phase 1 delivery). The modelling also accounted for the increased proximity of the bus station operations and bus stops to nearby residents to the north and west. The assessment concluded that air quality impacts would be of minor adverse significance with suggested mitigation provided in **Chapter 14** of this Report.

20.10.4 Potential air pollutant emissions from the CHP and waste facility will undergo detailed air quality modelling during the detailed design phase for their relevant phase RMA. Detailed design will incorporate measures to minimise these emissions during operation so that their residual impact on nearby sensitive receptors can be considered negligible.

20.10.5 The s.73 ES concluded that impacts during the 1st and 3rd snapshot years would be minor adverse, but that impacts would be considered moderate adverse during the second snapshot year (2023). However, with the implementation of the CoCP, CEMP and the CTMP to minimise fugitive dust and exhaust emissions from construction traffic, as well as adequate mitigation for the CHP and WHF emissions, any adverse impacts should be reduced to a minimum. Therefore, it is considered that any impacts should be minor adverse at worst-case for all snapshot years. It is therefore considered that these results remain valid from the s.73 ES as per Table 20.10.

## 20.11 Ground Contamination

20.11.1 The s.73 ES reported on the implementation of the Global Remediation Strategy and the Site Specific Remediation Strategies which are now available as found in **Appendix 15.2** since these have been prepared in line with pre-RMA conditions. These strategies recommend measures which will mitigate potential adverse impacts from the ground works associated with the Development, however it is noted that the residual impacts cannot be reduced below minor adverse due to the potential risk of contamination that exists with a Development of this scale where there is existing contamination on Site.

20.11.2 The first two intermediate years are likely to have a higher level of ground works due to the River Brent realignment, infrastructure and open space works, whilst the majority of the ground works including foundations for Development plots will be complete by 2029. It is deemed that overall throughout the construction period the likely impacts of ground contamination will be minor adverse as reported in the s.73 ES.

## 20.12 Waste

20.12.1 Following a review of the s.73 ES for waste and consideration that previous waste assessment outcomes of the s.73 remain valid as per Chapter 16 of this Report, it can be confirmed that no further changes have been identified. The site-wide waste management strategy will continue to be delivered progressively, achieving the overall targets for recycling and reuse at completion of the Development as previously stated in the s.73 ES.

20.12.2 The reported minor adverse impacts during demolition and initial construction would relate most appropriately to the first intermediate year 2020, whilst the remaining years 2023 (completion of Phase 1) and 2029 were reported to have negligible impacts. This is considered to remain valid.

## 20.13 Wind Microclimate

20.13.1 The s.73 ES reported that plots constructed earlier in the programme would experience varying levels of exposure to prevailing winds from the south-west and west. This would result in the potential for downdraughts from exposed façades and subsequent channelling of winds between development blocks which could significantly impact on pedestrian level wind conditions. Therefore it was recommended that the taller buildings are constructed in the later phases of the Development.

It is noted that at each phase and sub-phase of the Development detailed design will be undertaken for the plots which will then be added to the wind tunnel model and updates to the microclimate assessment will be provided to inform the final design and to determine likely significant impacts and mitigation, where required.

- 20.13.2 The s.73 concluded that minor adverse impacts may result in 2020 due to the initial building and structure construction within the existing environment, whilst moderate adverse impacts may result in 2023 when a further tall buildings are completed, however this would reduce further to minor adverse once the majority of tall buildings proposed are completed in 2029 and reduce the potential channelling and draught impacts.
- 20.13.3 For the purpose of the RMAs for Phase 1A (North) a new wind tunnel test was undertaken to include the detailed design of the Phase 1A (North) elements in the context of the s.73 Scheme. The technical report for this study can be found in **Appendix 17A.1**. This study includes an assessment of 'Interim Surrounding Conditions' which provides a prediction of wind speeds and impacts following the completion of Phase 1A (North) elements within the existing surrounds and prior to further plot development in subsequent phases. Section 6.3 of the Wind Microclimate study (**Appendix 17A.1**) reports that the bridges in the northern part of the Site and the open spaces in the south of the Development are most exposed to the south-westerly winds.
- 20.13.4 Overall no safety concerns were raised in the interim scenario and no comfort concerns for the thoroughfares and building entrances. It is however reported that wind conditions on the Living Bridge in the interim scenario are acceptable for short periods of sitting/standing throughout the year and therefore short term waiting areas but would be considered slightly too windy to be deemed comfortable for longer term sitting, e.g. café seating outdoors. This can be mitigated through building design of future plots to the north of the Living Bridge or through the application of additional landscaping buffers. Additionally, the temporary bus station (Plot 114) in the south west car park was found to experience windy conditions which would not be suitable for short term standing at bus stops. As such, bus shelters at all of the bus stops has been included as inherent mitigation in the final design drawings.
- 20.13.5 The intermediate years assessment presented in the s.73 ES Microclimate Chapter has been reviewed in light of the latest wind modelling outcomes and its validity is confirmed as there have been no significant variations in the proposed Development or timing of construction since the s.73 ES Microclimate Chapter was written.

## 20.14 Daylight, Sunlight and Overshadowing

- 20.14.1 The s.73 ES demonstrated that the principal potential impacts within the completed Scheme would affect sunlight availability around the bases of the high-rise developments in Tower Square, Station Square and the Office District. With mitigation measures introduced, facades can enjoy satisfactory sunlight and daylight availability.
- 20.14.2 Guideline sunlight and daylight standards can be met for the completed Development and must be achieved during intermediate years also. It is noted that there is potential for impacts to arise from the proximity of new buildings to existing residential buildings due for later demolition, however this will be avoided where possible through the construction programme to ensure early construction of the replacement housing for the Whitefield Estate.
- 20.14.3 The intermediate years assessment of the s.73 is therefore deemed to remain valid.

## 20.15 TV, Radio and Mobile Reception

20.15.1 The s.73 ES reported that there would be negligible impacts from TV, radio and mobile reception throughout each stage of construction and that any potential for impacts to arise would diminish over the programme as new communication infrastructure is provided to service the Site.

20.15.2 Given the nature of the proposals for Phase 1A (North) and as phasing has not altered, the intermediate years assessment for TV, radio and mobile phone impacts presented within the s.73 ES is considered to remain valid.

## 20.16 Carbon Dioxide Emissions

20.16.1 The s.73 ES considered the changes in CO<sub>2</sub> emissions arising at each intermediate year taking into account:

- Emissions from the Site energy consumption during construction;
- Emissions from the transport of construction materials and workers;
- Changes to emissions from building energy consumption from existing buildings vacated and demolished, and from newly completed buildings once occupied; and
- Changes to emissions from vehicles within the Site and surrounds resulting from the transport of residents and freight to and from the Site.

20.16.2 The CO<sub>2</sub> assessment in the s.73 considered the change in CO<sub>2</sub> emissions in each intermediate year between the 'Do Minimum' and 'Do Something' scenarios, i.e. without and with the Scheme. The total cumulative CO<sub>2</sub> emissions as a consequence of the Scheme is fairly consistent (approximately 22 kilo-Tonnes ±20%) until 2025, after which emissions increase due to the number of new buildings occupied and ongoing construction. The peak in CO<sub>2</sub> emissions occurs in 2029 which corresponds with the peak in transport construction. This peak year differs from those reported for air quality and noise as they relate to local impacts whereas the CO<sub>2</sub> assessment deals with global impacts. Following 2029, the CO<sub>2</sub> emissions reduce as construction activities begin to finalise.

20.16.3 The overall impacts reported in the s.73 were moderate adverse in 2020 near the start of construction and demolition when works will be intense and trip rates would be high for construction workers and energy consumption on Site is likely to be high due to older units servicing the existing residents. Minor adverse impacts were reported for 2023 as more buildings are converted to improved energy supply and efficiency whilst construction would remain high. In 2029, the impacts are reported as moderate adverse due to the high level of new residents and site visitors increasing building energy consumption and transport volumes.

20.16.4 It is considered in light of the construction programme remaining consistent with that presented in the s.73 and the impacts presented in Chapter 19 remaining consistent with the outcomes reported in the s.73, the outcomes of this assessment are deemed to remain valid.

## 20.17 Conclusion

20.17.1 Overall, the impacts assessed within the s.73 for the intermediate years assessment remain valid and it is still considered that certain impacts will arise from construction activity or through the partial completion of the Development. Impacts during the construction period will be mitigated through the maturing of landscaping and the delivery of the programme through other mechanisms set out in the planning conditions and s106 agreement of the 2014 Permission (e.g. CoCP, CEMP, CTMP and LEMP).