

## 4. Approach to the Phase 1B (North) Further Information Report

### 4.1 Introduction

4.1.1 This Chapter sets out the general approach to the EIA process of the Phase 1B (North) RMA. The aims of the Report are set out, together with an explanation of how the scope of the Environmental Statement Further Information Report for the Phase 1B (North) RMA (hereafter referred to as the 'Phase 1B (North) FIR') was developed and agreed in consultation with London Borough of Barnet (LBB) and their advisors Capita. The basis of the assessments and the key assumptions made with regard to the phasing, construction and operation of the Development, as well as technical matters, are also described.

### 4.2 Aims of the Phase 1B (North) FIR

4.2.1 The main aims of this Phase 1B (North) FIR are to:

- a) Review the s73 ES and other EIA Documentation (as defined in **Section 1.3** of this Report) in light of the detailed design of the Phase 1B (North) RMA and the current baseline conditions;
- b) Confirm that the s73 ES and other EIA Documentation remains valid for the purposes of decision making, and / or provide 'further environmental information' where considered necessary, pursuant to the s73 ES, to ensure that decision making takes into account the likely significant environmental effects of the Development (i.e. the overall Scheme, with Phase 1A (North) and Phase 1B (North) in place); and
- c) Summarise changes to the likely significant effects reported in the s73 ES and other EIA Documentation as a result of the detailed Phase 1B (North) RMA design or the availability of other relevant new information.

### 4.3 Defining the Scope of the Phase 1B (North) FIR

4.3.1 A draft EIA Scoping Report was submitted in November 2016 to LBB, which was informed by the scope of the s73 ES and other EIA Documentation and details of the emerging Phase 1B (North) RMA, and which set out the proposed approach and content of the Phase 1B (North) FIR. The EIA Scoping Report was subsequently submitted to LBB together with a formal request for a Scoping Opinion in January 2017. A copy of the EIA Scoping Report is included at **Appendix 4.1**.

4.3.2 A copy of the EIA Scoping Opinion is provided at **Appendix 4.2** and a summary is provided in **Section 4.4**.

4.3.3 Where appropriate, consultation responses are considered within the Consultation section of each technical chapter (**Chapters 7 to 21**).

4.3.4 The Scoping Report was issued to a range of bodies with a potential interest in the Phase 1B (North) RMA including:

- LBB (and Capita as independent EIA consultants);
- Environment Agency;
- Highways England;
- Natural England;

- Historic England; and
- Transport for London (TfL).

4.3.5 As part of the consultation process with LBB, Waterman agreed the following key elements:

- **Viewpoint Locations:** The locations of viewpoints for the purposes of the updated townscape and visual impact assessment (included at **Chapter 10**) were provided to LBB for comment and subsequently agreed;
- **Daylight, Sunlight and Overshadowing Assessment Locations:** The locations (including receptors within the Phase 1B (North) development area) to be assessed in terms of daylight, sunlight and overshadowing were discussed and agreed with LBB; and
- **Cumulative Schemes:** The cumulative schemes which needed to be considered in the Phase 1B (North) FIR were agreed with LBB (see **Section 4.6** for further details).

4.3.6 The technical scope of the Phase 1B (North) FIR is set out in **Table 4.1** and summarises where either a statement of conformity in respect of the s73 ES and other EIA Documentation are provided, or where further information / further assessment is provided, for each technical topic.

4.3.7 The Site boundary for the Scheme remains as consented in the 2014 Permission. The geographical, or spatial scope of the EIA therefore replicates that of the s73 ES technical studies which were agreed by LBB and the statutory bodies.

## 4.4 EIA Scoping Opinion

4.4.1 A formal scoping opinion was received from LBB (Ref: 17/0356/ESC) (see **Appendix 4.2**). **Table 4.1** summarises the scoping responses from LBB and statutory consultees. Alongside each comment, it is indicated where in the Phase 1B (North) FIR details have been provided to respond to the comment, or a written response is provided within the table itself.

Table 4.1: March 2017 EIA Scoping Opinion (170356/ESC) and Responses

Chapter Topic	Consultee	Scoping Opinion Comment	Response
General	LBB and TfL	The FIR should identify and address any changes to phasing and construction sequencing since the s73 ES and other EIA Documentation.	The relevant sections of the Indicative Construction Programme (ICP) have been updated to address phasing and construction sequencing changes for Phase 1 North. These changes have been addressed within the FIR.
		Request for the baseline monitoring to be redone - a thorough baseline noise assessment should be undertaken.	Although it is recognised that the baseline noise surveys were undertaken in 2013 and 2014, the assessment of residential amenity outwith Phase 1B (North) was based on future predicted noise level of 2031. Given there are no changes to the forecast traffic data as a result of the proposed Phase 1B (North) RMA, the results will remain unchanged. With regard to residential Plot 113, regard has been given to the results of the Hilson Moran (acoustic design consultants') report, which itself is based on short-term noise monitoring conducted in 2016. In light of this, it is not considered necessary to conduct further noise monitoring for Phase 1B (North) RMA.
Noise and Vibration	LBB	Concerns that the noise modelling requires adequate monitoring in order to be verified and to reduce error in the modelling.	When a baseline noise model is calibrated, it is based on current conditions. The calibrated baseline noise model is then updated to reflect future conditions, which may include changes to topography and transportation noise sources, which can't be measured as they don't currently exist. The validity of the baseline noise model, on which future noise assessments are based, is robust. Should there be changes to the future scenario, then this may lead to changes in the 'with' and 'without development' results. There are currently no changes to the end state 2031 transport noise model scenario, therefore the results remain unchanged.
		Further monitoring should establish an adequate number of sites for baseline around the proposed Energy Centre and in the vicinity of the waste transfer site and rail freight centre and railway. In particular, further noise monitoring is required within areas that may be affected by transport routes.	The proposed waste transfer site and rail freight centre and railway do not form part of the Phase 1B (North) RMA, these are part of the Thameslink section of the Site. These areas will be addressed separately when they are brought forward in their respective RMAs. In light of this, Waterman does not intend to conduct further baseline surveys within these areas, as they would serve no purpose with regard to the Phase 1B (North) RMA FIR. With regard to the Energy Centre located at Plot 101, the nearest sensitive receptors are the Holiday Inn and residential properties on Brent Park Road. It is considered that the existing baseline survey data supplemented by that undertaken by Hilson Moran in 2016 will be adequate for the Phase 1B (North) RMA FIR.

Chapter Topic	Consultee	Scoping Opinion Comment	Response
	TfL	Clarify how the noise and vibration assessment has compared the BXC Transport Model and Detail Design Model (DDM) and the use of traffic data.	The assessment was updated with the DDM model traffic data for the purpose of the Phase 1A (North) RMAs, which included the vast majority of the infrastructure works for Phase 1. The Phase 1B (North) application has therefore updated the assessment carried out for Phase 1A (North), taking into account any changes since the Phase 1A (North) RMAs and the detailed design for Phase 1B (North).
		Confirmation that an assessment has been made of the difference between strategic traffic models at the appropriate scale for the environmental receptors the EIA has already identified.	As above, the DDM has been used for the environmental assessments. Updated information to provide information on any recent changes has also been provided by AECOM to inform the Phase 1B (North) FIR.
	Capita	Enquiries should be made into whether any significant developments have been approved in the immediate vicinity which could alter the prevailing noise environment.	Chapter 21: Cumulative Impacts takes account of any significant developments which have been approved in the immediate vicinity which could alter the prevailing noise environment (amongst other technical topics).
Noise monitoring carried out by Hilson Moran in 2016 (Plot 113) and their subsequent acoustic design recommendations should be referenced in the FIR.		The noise monitoring carried out by Hilson Moran in 2016 (Plot 113) and their subsequent acoustic design recommendation have been referenced in the acoustic monitoring report which has been provided as a separate appendix to Chapter 9.	
Ecology and Nature Conservation	Natural England	The impact upon features of nature conservation interest and opportunities for habitat creation / enhancement should be included within the assessment in accordance with appropriate guidance.	Any impacts upon features of nature conservation interest and opportunities for habitat creation / enhancement have been considered in the Phase 1B (North) FIR.
Air Quality	LBB	The baseline assessment should include particulate monitoring in the vicinity of the waste transfer centres and the Energy Centre.	Particulate monitoring is to be undertaken 6 months prior to construction and throughout the construction period in accordance with Planning Condition 30.5 and 30.6 of the 2014 Permission. The locations of these monitors have been agreed with Anna Cane (Air Quality Environmental Health Officer at LBB) and are to be positioned to take account of all phases of construction activities (including the construction phase of the waste transfer centre and Energy Centre). With regards to operational monitoring, particulate

Chapter Topic	Consultee	Scoping Opinion Comment	Response
			<p>monitoring is not proposed as the planning application for Phase 1B (North) does not include the waste transfer centre, which will be submitted as a separate planning application in the future, and the Energy Centre is gas-fired and therefore does not emit any significant level of particulates.</p>
	TfL	<p>Clarify how the air quality assessment has compared the BXC Transport Model and Detail Design Model and the use of traffic data. Confirmation that an assessment has been made of the strategic traffic models.</p>	<p>The BXC DDM includes the most recent baseline traffic survey counts and represents the detailed design highways network as per the s73 ES and other EIA Documentation. This traffic data was used in the FIR for Phase 1A (North) RMA and will be utilised in the air quality assessment.</p>
		<p>Reference should be made to the Mayor's 'A City for All Londoners' and the Mayor's policy on air quality and 'Healthy Streets' and how that has informed the latest proposals.</p>	<p>The Mayor's 'A City for All Londoners' has been referenced in Chapter 6: Land Use Planning and considered within the air quality assessment.</p>
	Capita	<p>Detailed dispersion modelling of tailpipe and Energy Centre emissions should use the most recent three years of meteorological data measures at Heathrow Airport. The predictions of pollutant concentrations should be an average of the predictions made for each year;</p>	<p>The air quality assessment has been undertaken in accordance with relevant guidance. Consequently, as per paragraph 7.486 of LAQM.TG (16) this includes the use of 1 year meteorological data. The methodology undertaken for the air quality assessment is consistent with that undertaken and approved for the FIR for the Phase 1A (North) RMA. This included an assessment using the year 2012 of meteorological data from London Heathrow (to be consistent with the baseline traffic model). The same approach has been proposed as the predicted traffic emissions used in the FIR for the Phase 1A (North) RMAs has been utilised in the air quality assessment rather than remodelled and only the contribution from the Energy Centre, bus station and bus station ventilation ducts have been predicted.</p>
		<p>Meteorological data should be consistent throughout all dispersion models used so traffic emission models should be re-run with most recent meteorological data.</p>	<p>As above, the air quality assessment has been undertaken using 1 year of meteorological data as per the FIR for Phase 1A (North) RMA (as 2012).</p>
		<p>In light of the site being located within an Air Quality Management Area (AQMA), the assessment of emissions from the Energy Centre should include an assessment of stack</p>	<p>An Interim Air Quality Stack Height Modelling Assessment was undertaken in order to determine the appropriate stack height for the Energy Centre. Details have been presented in the air quality assessment and a model plot of the emissions from the proposed Energy Centre included in the air quality assessment.</p>

Chapter Topic	Consultee	Scoping Opinion Comment	Response
		height. A plot of maximum impact to ground level NO <sub>x</sub> /NO <sub>2</sub> against stack height should give an exponential decay with the recommended stack height around the turning point of the plot. The assessment should also take into account surrounding building effects and the stack itself as well as locations of any air vents located on existing or proposed buildings.	
		The effect of the Scheme during construction should be conducted in accordance with IAQM guidance: IAQM 2014, 'Assessment of dust from demolition and construction'.	The s73 ES and other EIA Documentation considers the construction of the entire Scheme (including Phase 1B (North)). Construction air quality impacts have been considered in the Phase 1B (North) FIR.
		Consideration should be taken of the phasing of construction activities where new residential properties associated with the Scheme are occupied before the Scheme has been fully constructed.	As above, the construction air quality impacts have been updated where relevant. In addition, it is noted that Conditions 30.1, 30.2, 30.5 and 30.6 ensures that the amenity of residential properties (including those occupied before the Scheme has been fully constructed) are protected.
		The assessment should consider odour emissions from the Thameslink Waste Handling site and RDF storage.	The planning application for Phase 1B (North) does not include the Thameslink Waste Handling site or the RDF Storage, which will be submitted as a separate planning applications in the future. Detailed design for these is not yet available, and the assessment therefore remains as per the s73 ES.
		A diurnal distribution for traffic emissions should be applied in the modelling rather than traffic emissions as an hourly average over a day to allow for better assessment against the 1-hour NAQO for NO <sub>2</sub> .	The methodology undertaken for the air quality assessment is consistent with that undertaken and approved for the FIR for Phase 1A (North) RMA. This includes the use of a diurnal profile based on the average traffic distribution data from the Transport Model. The same approach has been proposed, as the predicted traffic emissions used in the FIR for Phase 1A (North) RMA have been utilised in the air quality assessment rather than remodelled. Only the contribution from the Energy Centre, bus station and bus station ventilation ducts have been predicted.
		Dispersion modelling of emissions associated with the bus station should be within accordance to LAQM. TG16.	Dispersion modelling of emissions associated with the bus station have been undertaken in accordance with LAQM. TG16.

Chapter Topic	Consultee	Scoping Opinion Comment	Response
Landscape and Visual	Capita	Clarify which of the original viewpoints to be checked for changes to baseline conditions are agreed with LBB prior to surveys taking place. Justification should also be provided for any viewpoints that are not to be reviewed. Additional viewpoints for Phase 1B (North) should be agreed with LBB and also if any new AVRs should be provided for the new viewpoints.	The viewpoints assessed within the LVIA were agreed with LBB prior to the assessment being undertaken and justification provided for their inclusion. Agreement was also reached with LBB on the AVRs that are provided for the new viewpoints.

## 4.5 Planning Conditions and EIA

### Pre-RMA Planning Conditions

- 4.5.1 As part of the EIA Scoping Study, Waterman undertook an appraisal of the relevant Pre-RMA conditions of the 2014 Permission to establish whether any were likely to give rise to likely significant effects which were not identified in the s73 ES (and therefore whether further environmental information was required) or whether the existing EIA Documentation remained valid for decision making. The following pre-RMA conditions were reviewed in advance of the Phase 1B (North) RMA:

Table 4.2: Pre-RMA Conditions reviewed in advance of the Phase 1B (North) RMA

Condition	Title
1.12 / 1.13	Affordable Housing Viability Testing Report (and Affordable Housing Scheme under Condition 1.12 as necessary)
1.17	Illustrative Reconciliation Plan
1.22	Phase-Specific Service and Delivery Strategy
2.8	Pedestrian and Cycle Strategy
7.1	Estate Management Framework
10.1	Skills and Development Statement
11.2	Phase Parking Standards and Strategy
27.1	Existing Landscape and Mitigation Measures
27.2	Tree Method Statement
27.8	Invasive Plants
29.1	Acoustic Design Report
31.1	Proposed Remediation Zones
33.3	Telecommunications Statement
37.1/37.3	Phase Transport Report Scope

- 4.5.2 The full review of Pre-RMA Conditions is provided in Appendix A of **Appendix 4.1: EIA Scoping Report**. The Pre-RMA Condition review presented in Appendix A of the Scoping Report concluded that there were only two conditions which were identified as having the potential need for further environmental information. These were Planning Condition 1.22: Servicing and Delivery Strategy and Planning Condition 2.8: Pedestrian and Cycle Strategy relating to Phase 1B (North). Further information has been provided where necessary in this Report.
- 4.5.3 The remainder of the conditions are not considered to give rise to significant environmental effects which were not already identified in the existing EIA Documentation, and therefore no further environmental information is required.

## Pre-Commencement Planning Conditions

- 4.5.4 There are a number of planning conditions attached to the 2014 Permission which require details to be submitted and approved in advance of works commencing. Some pre-commencement conditions have been the subject of early preparation and submission from 2014 onwards, and in such cases the relevant reports have been reviewed and outcomes considered within this Phase 1B (North) FIR where applicable.
- 4.5.5 Due to their environmental focus, reports in response to the following planning conditions were prepared in conjunction with the relevant assessment work, and have been appended to this Report:
- **Condition 34.1: Wind Assessment of Amenity Levels for Pedestrian Routes – Chapter 17A: Microclimate (Wind)** included as part of **Appendix 17A.1**; and
  - **Condition 43.1: Written Scheme of Archaeological Investigation - Chapter 13: Archaeology and Cultural Heritage** and **Appendix 13.1**.

## Deviations from the 2014 Permission

- 4.5.6 For the most part, the detailed design of the development plots, infrastructure (bus station) and open space and public realm (including threshold spaces) within Phase 1B (North) are in accordance with the parameter plans approved under the 2014 Permission, subject to the agreed Limits of Deviation (“LOD”) as set out in the Revised Development Specification and Framework (RDSF).
- 4.5.7 However, as the design process has progressed, it has been necessary in some instances to make minor deviations from the approved parameter plans for Phase 1B (North). A schedule of the massing deviations from the 2014 Permission is provided below in **Table 4.3**. These deviations have been captured in the final detailed design for Phase 1B (North), as described and assessed within the Phase 1B (North) FIR.

Table 4.3: Deviations from the 2014 Permission – Massing

Building/Plot	Deviation
Plot 113	Block 3 - building height is 0.5m above the approximate maximum AOD building height (with LOD)
	Block 4 - building height is 1.1m above the approximate maximum AOD building height (with LOD)
	Block 4 - Phase 1B (North) frontage height is 0.1m above the approximate maximum AOD frontage height (with LOD)
	Blocks 1-4 - Phase 1B (North) 2.04m in exceedance of width parameter due to the presence of balconies and 0.8m exceedance of height parameter
New Town Centre – Plot 106	The frontage height is 9.865m above the approximate maximum AOD frontage height (with LOD)
	The maximum building height is 9.865m above the approximate maximum AOD building height (12% of the cinema roof area) (with LOD)
	The scale parameter is 12m in exceedance of height threshold based on primary use of retail

Building/Plot	Deviation
West MSCP (Plot 110 & 111)	<p>The building height is 0.25m above the approximate maximum AOD building height (with LOD) (due to lift over-run)</p> <hr/> <p>The scale parameter is 2.65m in exceedance of height threshold for any primary use (due to lift over-run)</p>
East MSCP (Plot 105)	<p>The building height is 0.03m above the approximate maximum AOD (south AOD spot) building height (with LOD) (due to lift over-run)</p> <hr/> <p>The scale parameter is 2.665m in exceedance of height threshold for any primary use (due to lift over-run)</p>

- 4.5.8 As outlined in **Chapter 2: Description of Phase 1B (North) RMA**, approval has since been sought for an increase to the overall provision of retail and related uses (Classes A1, A2, A3, A4, and A5) North of the A406, with an increase of 4,192m<sup>2</sup> of additional Class A1 to A5 floorspace now proposed, resulting in a total of 82,325m<sup>2</sup> rather than the 78,133m<sup>2</sup> set out in the 2014 Permission (refer to **Table 2.2**). These amendments are the subject of a s96A application and applications under Conditions 2.4 and 2.5 of the 2014 Permission.
- 4.5.9 In addition, there are changes to the allocation of Development floorspace (reflected in a minor amendment to Table 6 relating to Parameter Plan 014 of Appendix 2 of the RDSF). This amendment, under Condition 2.4 / 2.5 of the 2014 Permission, seeks to increase the floorspace within BXE 4 from 4,035m<sup>2</sup> (residential) to 5,012m<sup>2</sup> and a reduction in the floorspace in BXE 1 from 33,459m<sup>2</sup> (any permitted use) to 32,482m<sup>2</sup>. However, there is no change to the overall quantum of floorspace.
- 4.5.10 These massing deviations and floorspace changes all form part of the detailed design for Phase 1B (North). In addition, minor changes to the approved Phase 1A (North) Reserved Matters (Ref. No.s 15/03312/RMA and 15/06571/RMA) approved the layout of sections of the perimeter road around the existing Brent Cross Shopping Centre and amendments to Tempelhof Avenue. The detailed design of Phase 1B (North), and technical design discussions with the highway authorities not related to Phase 1B (North), have resulted in the need for minor amendments to these Phase 1A (North) RMAs approved layouts.
- 4.5.11 As such, they form part of the Development that has been subject to review by Waterman and the EIA technical specialists, and considered in terms of whether they are likely to result in significant effects not identified in the s73 ES and other EIA Documentation, as part of the preparation of this Phase 1B (North) FIR (refer to **Appendix 4.3**).
- 4.5.12 The increases in massing have been considered and assessed in relation to the wind microclimate, daylight, sun light and overshadowing microclimate and the townscape and visual impacts assessments since they are now inherent in the Development's detailed design for Phase 1B (North). The increase in floorspace has been considered and assessed in relation to the socio-economics, traffic and transport, noise and vibration, air quality and dust, waste, carbon dioxide emissions, ground contamination, archaeology and cumulative impacts assessments.

## 4.6 General Approach

4.6.1 In order to assess the need for 'further environmental information' a full review has been undertaken by the EIA technical specialists of the detailed design proposals for the Phase 1B (North) RMA to determine the outcome of the following questions (as outlined in the Scoping Report):

- a) Are the baseline conditions likely to have changed significantly since the information provided in the s73 ES or other EIA Documentation, such that the changes could materially affect the findings of the previous assessment?
- b) Does the detailed design lead to likely significant environmental effects which differ from those reported in the s73 ES or other EIA Documentation, or effects which were not identified (or identifiable) in the s73 ES or other EIA Documentation?
- c) If the answer to a) or b) above is Yes, then is further environmental information considered necessary to inform decision making, over and above that provided in the s73 ES or other EIA Documentation?

If the answer to c) is No, a 'statement of conformity' is provided, setting out why the previous assessment remains valid for decision making.

If the answer to c) is Yes, further environmental information is presented in this Phase 1B (North) FIR and any necessary updates to the impact assessment from the s73 ES and other EIA Documentation are provided.

4.6.2 It should be noted that where further information is presented within this Report to inform decision making, it does not necessarily follow that the significant effects reported in the s73 ES and other EIA Documentation change, as in some instances the further information relates to updated information such as baseline being presented.

4.6.3 The structure of each technical chapter of the Report is as follows and some further explanation of the approach to certain sections is provided below:

- **Introduction:** description of the approach to the topic, i.e. statement of conformity or further assessment, author and relevant supporting information (e.g. Appendices);
- **Policy, Legislation and Guidance:** brief description of key changes of relevance to the assessment from that previously reported in the s73 ES and other EIA Documentation;
- **Relevant Phase 1B (North) RMA Details:** brief description of the detailed design elements of Phase 1B (North) RMA of relevance to the technical assessment;
- **Assessment Methodology:** description of significant changes in the methodology and / or significance criteria since the preparation of the s73 ES and other EIA Documentation. The approach to the statement of conformity / further assessment work is also set out;
- **Consultation:** summary of consultee responses relevant to the technical assessment and details of consultation relevant to the assessment topic;
- **Baseline Conditions:** description of significant changes in baseline conditions since the s73 ES and other EIA Documentation was prepared, and/ or explanation of why the baseline remains valid;
- **Assessment and Mitigation (Construction and Operation):** statement of why the s73 ES and other EIA Documentation assessment and mitigation measures remain valid, or presentation of any further assessment undertaken. Any significant new or different environmental impacts from those identified previously are presented and comment is made on the mitigation measures to confirm if they remain valid, and further mitigation measures proposed if necessary; and

- **Summary:** confirmation as to whether the detailed design of the Phase 1B (North) RMA results in a material change to the findings of the s73 ES and other EIA Documentation, or whether the existing EIA Documentation remains valid for decision making.

## Legislation, Policy and Guidance

- 4.6.4 Since the s73 ES and other EIA Documentation was submitted, there have been revisions and updates to some policy and guidance documents of relevance to the technical topics considered in the EIA.. It should be noted that the content of these documents does not materially affect the findings and conclusions of the EIA technical assessments. However, where new or updated policy and guidance has been published since the preparation of the existing EIA Documentation, a commentary is provided in each technical chapter on the relevant changes.

## Assessment Methodology

- 4.6.5 Overall, the definition of the likely significant environmental impacts is, as far as possible, as per the approach used in s73 ES, however where necessary updates have been made and are reflected in this Report for specific technical assessments taking into account current guidance / standards, and any updates to methodologies previously presented in the other EIA Documentation. All technical chapters' state potential impacts and residual impacts in bold text for ease of reference.
- 4.6.6 The significance of impacts used in each technical chapter presenting further assessment is evaluated with reference to definitive standards, accepted criteria and legislation where available. Where it has not been possible to quantify impacts, qualitative assessments have been carried out, based on expert knowledge and professional judgment. Where uncertainty exists, this has been noted in the relevant chapter.
- 4.6.7 Where criteria were not contained within the s73 ES chapters, or these criteria required updating, the approach below has been followed for each potential impact, in accordance with the approach adopted within the Phase 1A (North) FIR, giving due regard to the following:
- Extent and magnitude of the impact;
  - Impact duration (whether short, medium or long-term);
  - Impact nature (whether direct or indirect, reversible or irreversible);
  - Whether the impact occurs in isolation, is cumulative or interactive;
  - Performance against environmental quality standards;
  - Sensitivity of the receptor; and
  - Compatibility with environmental policies.
- 4.6.8 In order to provide a consistent approach to the treatment of different technical issues, the following terminology has been used in this Report to define impacts:
- Adverse - Detrimental or negative impacts to an environmental / socio-economic resource or receptor;
  - Negligible - Imperceptible impacts to an environmental / socio-economic resource or receptor; and
  - Beneficial - Advantageous or positive impact to an environmental / socio-economic resource or receptor.

- 4.6.9 Where adverse or beneficial impacts have been identified, these have been assessed against the following scale;
- Minor - slight, very short or highly localised effect;
  - Moderate - limited effect (by extent, duration or magnitude) which may be considered significant; and
  - Major - considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.
- 4.6.10 Broadly, short to medium-term impacts are considered to be those associated with the site preparation and construction phase and long-term impacts are those associated with the completed Development. Local impacts are those affecting the Site and neighbouring receptors, while impacts upon receptors in the LBB and neighbouring Boroughs are considered to be at a local / district level. Impacts affecting Greater London are considered to be at a regional level, whilst impacts which affect different parts of the country, or England as a whole, are considered to be at a national level.
- 4.6.11 Each technical chapter of the Report provides further explanation and definition on the scale of impact significance i.e. minor through to major, relevant to their topic.

### Baseline Conditions

- 4.6.12 The environmental effects for each technical topic are considered by comparing baseline environmental conditions (i.e. the existing condition without the Development in place) with the conditions that would prevail were the Development (as a whole) to be constructed and occupied. If significant changes to the baseline conditions of the Site or surroundings have taken place since those reported in the s73 ES and other EIA Documentation, it may mean that the assessments previously reported are no longer valid. Consideration is therefore given to whether baseline conditions have changed from those reported previously for each technical topic.
- 4.6.13 The review of baseline conditions, for the majority of technical assessments, has taken the form of a desk based review initially to check the scope (spatial and temporal) of the baseline data within the s73 ES and other EIA Documentation, and where information is deemed to no longer remain valid, for example due to the age of the data, further assessment such as surveys or monitoring have been undertaken. In instances where the baseline has been identified as requiring updates, the need and method of updating the baseline has been agreed as necessary with the relevant parties, and the baseline data has been updated accordingly.

### Potential Impacts

- 4.6.14 Potential impacts are defined as those identified impacts which could result from the Development within the existing environmental setting and in the absence of mitigation measures.
- 4.6.15 Potential impacts are only presented in chapters where environmental impacts have been identified which differ from those presented in the s73 ES and other EIA Documentation, for example if the baseline has been updated or if the detailed design would result in new or different impacts from those identified previously. In all other circumstances, confirmation is provided that the impacts would remain as previously reported in the s73 ES and other EIA Documentation.

## Mitigation Measures

- 4.6.16 New or different mitigation measures from those presented in the s73 ES and other EIA Documentation are included in this section. This may be in relation to a new or different potential impact identified because of updated baseline, detailed design information, or further assessment.
- 4.6.17 Inherent mitigation which has been incorporated into the detailed design of the Development (and which is therefore taken into account in the preceding impact assessment) is not considered within this section. However, in some cases it is reiterated for clarity.

## Residual Impacts

- 4.6.18 Residual impacts are those following the application of the mitigation measures. Chapters only include those residual impacts which are different or new from those presented in the s73 ES and other EIA Documentation. In all other circumstances, confirmation that the impacts would remain as previously reported in the s73 ES and other EIA Documentation is provided.

## 4.7 Basis of the Assessments

- 4.7.1 This section sets out the key assumptions which form the basis of the assessments herein. This section includes general assumptions which apply throughout the Report.

### Construction Phase

- 4.7.2 The construction phase of the Scheme is defined by the Indicative Construction Programme (ICP). As outlined in Chapter 2 of this Phase 1B (North) FIR, the ICP formed part of the s73 ES and for the purpose of the s73 ES, spanned from commencement of construction in 2016 to completion of the Scheme in 2031.
- 4.7.3 A Construction Impact Assessment (CIA) Addendum (2013) also formed part of the s73 Application ('BXC 21') and was referenced as appropriate within the s73 ES. As noted in Chapter 2, the CIA Addendum is largely qualitative and focuses on the distance of sensitive receptors to construction works and the duration of the works. Topic chapters of the s73 ES such as noise and vibration contain more detailed assessment in consideration of the types of construction equipment and vehicles and their respective sound power levels. Reference to the s73 Code of Construction Practice (CoCP) (which forms an appendix to the Revised Development Specification and Framework ('BXC01'), also part of the s73 Application) and to future phase-specific Construction Environmental Management Plans (CEMPs) is made where appropriate in this Report. The CoCP will be updated and CEMP(s) prepared and submitted to LBB prior to construction, to discharge Planning Conditions 8.1, 8.3 and 28.1 of the 2014 Permission.
- 4.7.4 The ICP is an appendix within the 2013 CIA Addendum. The ICP sets out the long-term delivery programme for the Scheme with a breakdown of highway specific, open space and development plot works within each Development Phase (1-7). The ICP was updated for the s73 Application in response to changes in the programme delivery, including the moving forward of the majority of critical infrastructure to Phase 1.
- 4.7.5 Since the preparation of the s73 ES and subsequent EIA Documentation, the ICP has been further updated to take account of a number of changes to the construction programme for Phase 1 (North). The updates to the ICP are presented in an Interim ICP Update appended to the CIA Addendum Technical Note provided in **Appendix 2.1** (see below) and relate mainly to the following:

- Timing of the Scheme commencement and delivery of individual items for Phase 1B (North);
  - Re-phasing of certain elements between sub-phases within Phase 1;
  - Sequence of the construction activities; and
  - Timing of peak occurrences of construction activities.
- 4.7.6 The commencement of works is now programmed for Q2 2018 rather than Q2 2016 as originally envisaged (however the completion date (2031) has not changed). This has consequential implications for the completion of the Phase 1 North works and there have also been some changes to the precise timings of specific elements within Phase 1 North as a result of detailed design considerations.
- 4.7.7 The CIA Addendum Technical Note contained in **Appendix 2.1** also provides updates to selected and relevant information presented in the 2013 CIA Addendum in respect of Phase 1 North of the BXC Scheme, insofar as it is necessary to inform assessments presented in this Phase 1B (North) FIR. It also confirms where other existing information remains valid for assessment purposes. Updates primarily relate to estimated construction traffic movements and labour trends, which have been revised to take account of the changes to the Phase 1 delivery programme. The overall construction methodology and approach remains unchanged; except for changes to the ICP as described above.
- 4.7.8 Demolition works also form part of the Phase 1B (North) RMA, and have been taken into consideration in this Report. However, these demolition works are limited mainly to the existing shopping centre to facilitate the construction of the new buildings, and remain consistent with the works assumed in the s73 Application. **Figure 2.3** shows the areas of demolition within Phase 1B (North) associated with the existing shopping centre.

## Operational Phase

- 4.7.9 Key assumptions with regard to the operational or completed stage of the Development are set out below. For all topics, EIA technical specialists have undertaken a review of the detailed design information now available as part of the Phase 1B (North) RMA as defined by the Explanatory Report which accompanies the submission. A summary of this detailed design information is provided in **Chapter 2**.

## Traffic Data

- 4.7.10 The strategic transport model which has been used for all planning related documents to date is termed the Brent Cross Cricklewood Transport Model (BXC TM). The BXC TM remains a robust tool to estimate the future transport impacts of the Brent Cross Cricklewood Development on both the highway network and the public transport network. This model has been used for the implementation of the Matrix as an input to the Phase Transport Report for Phase 1 and other submissions under the 2014 Permission planning conditions as it is considered to be the most appropriate tool that was or will be available for the preparation of such documents. The purpose of the Matrix and Phase Transport Reports are to ensure that the impacts of the Development remain within the overall envelope identified in the Transport Assessment (TA) accompanying the 2014 Permission, and to propose Supplementary Transport Measures if necessary for this purpose.
- 4.7.11 A further transport model termed the Brent Cross Cricklewood Detailed Design Model (BXC-DDM) has been developed for detailed design purposes, principally for obtaining the formal Technical Approvals for the highways designs. The BXC DDM has a significantly increased level of detail of both existing and forecast traffic movements on the local roads within the study area by means of a greater level of zonal disaggregation. This greater level of detail on local roads has been made possible by the use of TfL's

North London Highway Assignment Model (NoLHAM) when preparing the BXC DDM. There has been a good level of agreement in the detailed design assessed by the BXC DDM and the previous preliminary assessments of the BXC TM strategic model.

- 4.7.12 The traffic data from the detailed design model (BXC DDM) was used for the purpose of assessing the air quality and noise impacts for the Phase 1A (North) RMAs and these assessments have been updated to account of the detailed design of Phase 1B (North) and the outcomes presented in this Phase 1B (North) FIR.

#### Planning Drawings and Parameter Plans

- 4.7.13 As the detailed design of the Phase 1B (North) RMA elements has been finalised, the EIA team has reviewed the parameter plans and the detailed design drawings, which form the basis of this Report. The phasing plan showing the Phase 1B (North) elements, included as **Figure 2.1**, provides an overview of Phase 1B (North). The detailed design drawings which form the basis of this Report are listed in **Chapter 2**.

#### Maximum Parameters

- 4.7.14 For certain technical topics influenced by building height and layout, the s73 ES assessed the Illustrative Scheme as per Parameter Plan 015 with account taken of all reasonable variations through qualitative assessment, and presented the likely significant effects as appropriate.
- 4.7.15 The detailed design elements of the Phase 1B (North) RMA are assessed in this Report within the context of the approved development parameters relating to massing and dimensions for the remaining outline components, except for the Phase 1A (North) RMAs, where the detailed design elements have been included. In consideration of topics such as townscape and visual impacts, wind, daylight and sunlight, the maximum consented height parameters of the Development Plots have been applied to the 3D model to provide a worst-case scenario of the potential impacts. Any exceedance of the maximum consented height parameters in the Phase 1B (North) design is also assessed in this Report and has been applied to the 3D Model.
- 4.7.16 This may have the potential to result in different or new impacts being identified from those of the s73 ES particularly where assessments rely on building height information, such as wind, overshadowing and townscape and visual impacts. The wind and townscape and visual impact assessments have assessed both the illustrative and maximum parameter schemes to provide further information on the differences in impacts and to provide further design recommendations for future phases of the Scheme.

#### 3D Model

- 4.7.17 In order to accurately identify and assess the impacts of the detailed design of the Phase 1B (North) RMA in relation to the Scheme as a whole and the existing surrounds, it has been necessary to aggregate a series of complex design models to gain a comprehensive overview of the Development. 3D models have been obtained from each design party on the project and integrated using GB ordnance survey (OS) grid referencing, ensuring all components are to a common scale.
- 4.7.18 The resulting comprehensive 3D model has been used for the noise, air quality, wind, daylight / sunlight / overshadowing, and townscape and visual impact assessments.

4.7.19 The 3D model also enables the Site to be accurately assessed with regard to the topography (existing and proposed levels) and accounting for the existing and future development which has several height variations.

#### Energy Centre

4.7.20 An Energy Strategy Compliance report has been produced (**Appendix 19.1**) by Hilson Moran to meet Conditions 2.1 and 35.7 attached to the 2014 Permission, setting out how Phase 1B (North) complies with the Revised Energy Strategy for the Scheme, as a whole. The revised Energy Strategy for BXC (Ref No 14/08106/CON) was approved by LBB in July 2015. The s73 ES assumed a single CHP located in plot 59 with the preferred option of refuse derived fuel (RDF). It has since been confirmed that an Energy Centre (located on Plot 101), fuelled by natural gas, will be taken forward for the Development. Details of the Energy Centre have been provided as part of the Phase 1B (North) RMA and assessed for potential impacts within this Report.

4.7.21 The Energy Strategy Compliance report does not provide an update on areas of the Scheme outside BXN.

#### 'End State'

4.7.22 End state for the purposes of this Report is taken as 2031, as assumed in the s73 ES and other EIA Documentation and this has not changed as a result of the Interim ICP Update.

#### Intermediate Years Assessment

4.7.23 An intermediate years assessment was provided in the s73 ES in response to requests from LBB for further information on the likely significant impacts of the Scheme during the long construction period from commencement in 2016 (as indicated in the previous version of the ICP) to completion in 2031. The intermediate years assessment is included as Chapter 20 in the s73 ES. The Chapter provides a qualitative assessment of the Scheme at three snapshots in time:

- Quarter three of 2020 (at peak of Phase 1 works);
- Quarter two of 2023 (end of Phase 1 works and ongoing construction of subsequent phases);
- Quarter four of 2029 (nearing completion of the Scheme, prior to new railway station opening).

4.7.24 This Chapter has been reviewed and updated where necessary to reflect the outcome of the technical studies and detailed design of Phase 1B (North) RMA, and taking into account the Interim ICP Update contained within **Appendix 2.1** to this Phase 1B (North) FIR.

#### Cumulative Assessment

4.7.25 The cumulative schemes considered in the s73 ES and other EIA Documentation have been reviewed to reflect development schemes which have received planning permission or which have been built out since the cumulative assessments presented in the existing EIA Documentation were undertaken. The updated list was agreed with LBB. The cumulative schemes considered within this Report are assessed within **Chapter 21**. **Figure 4.1** shows the location of the cumulative schemes assessed within **Chapter 21**.

## 4.8 Need for Further Assessment and Assumptions

- 4.8.1 It is acknowledged that there are certain areas of the proposals where details are not yet available to allow consideration of the associated environmental effects. Those areas are set out below:

### Waste Handling Facility

- 4.8.2 In relation to waste, the Waste Handling Facility is proposed to be the subject of a separate 'drop-in' application submitted by Brent Cross Thameslink, at which time the detailed design for this would come forward. This will then enable an update to the waste assessment and any related technical assessments.
- 4.8.3 A Vacuum Waste Collection Feasibility Study was carried out in 2014 to discharge Pre-RMA Condition 1.24 of the 2014 Permission. The study concluded that vacuum waste collection is not currently a viable option for the delivery of the Northern Development; however, it is still a potential option for the Southern Development ('BXS') to progress. As such, an allowance for vacuum waste collection infrastructure has been included within the proposed highways infrastructure for Phase 1A (North) and subsequent Phase 1 proposals. The s73 ES included reference to a vacuum waste collection service for the Scheme as an option however it was not assessed as the only option for waste collection, therefore it is not considered that the outcome of this study will alter the outcomes of the s73 ES and other EIA Documentation at this stage. When a decision has been made on the energy and waste strategy for BXS, this will be captured within the relevant sub-phase report. As such, the Phase 1B (North) waste collection is based upon traditional refuse collection service by private contractors or the local authority, LBB. More detail is provided in **Chapter 16: Waste** of this Report.

### Construction Consolidation Centre

- 4.8.4 Pre-RMA Condition 1.9 of the 2014 Permission requires a feasibility study for a Construction Consolidation Centre (CCC) for the Development phase by phase. A CCC is a distribution facility through which material deliveries are channeled to construction sites. Specialist material handling, storage and consolidated delivery combine to improve the overall resource efficiency of a construction project. A feasibility study for all of Phase 1 was prepared by Mace and approved by LBB in February 2015. It considers several potential sites and scores them with regard to their suitability for use during the construction of the Development.
- 4.8.5 Prior to the construction works beginning, the Construction Transport Management Plan (CTMP) must be submitted under Condition 12.1 to LBB for approval. The CTMP forms a next step following the CCC Feasibility Study (in addition to the Code of Construction Practice (Condition 8.1) and other strategies identified in the Study as next steps) and will include the logistics strategy, on-site and off-site logistics facilities including updated vehicle numbers, and a management plan for the control of construction vehicles. The CCC Feasibility Study provides a traffic distribution model for Phase 1 which will be updated and reflect vehicle numbers which will inform the CTMP. The CTMP will be drafted in consultation with LBB and key consultees.
- 4.8.6 It should be noted that whilst the CCC feasibility study sets out potential options, compliance with Condition 12.1 attached to the 2014 Permission is required to consider the specific requirement of the CCC as part of the Construction Transport Management Plan.

- 4.8.7 Once a decision is reached by the Applicant on which the option to take forward for Phase 1 and details are available, it will be possible to consider the need for and scope of any further environmental information at this stage.