

Kenavon Drive

EIA Scoping Report

A report by Temple for London and Quadrant Housing Trust



TEMPLE

LEADERS IN ENVIRONMENT,
PLANNING & SUSTAINABILITY.

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LIST OF ABBREVIATIONS

AEP	Association of Environmental Professionals
AQMAs	Air Quality Management Areas
AVR	Accurate Visual Representations
BPM	Best Practicable Measure
BREEAM	Building Research Establishment Environmental Assessment Method
CHP	Combined Heat & Power
CIEEM	Chartered Institute of Ecology and Environmental Management
CoCP	Code of Construction Practice
DBA	Desk Based Assessment
EA	Environment Agency
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EPS	European Protected Species
EPUK	Environmental Protection UK
ES	Environmental Statement
EU	European Union
FRA	Flood Risk Assessment
GLVIA	Guideline for Landscape and Visual Impact Assessment (3 rd Edition)
ha	Hectares
HE	Historic England
HGVs	Heavy Goods Vehicle
IAQM	Institute of Air Quality Management
IEMA	Institute of Environmental Management & Assessment
CifA	Chartered Institute for Archaeologist
km	Kilometre
LDF	London Development Framework
LPA	Local Planning Authority
m	metre
NE	Natural England
NG	National Grid
NPPF	National Planning Policy Framework
NTS	Non Technical Summary
PAH	Polycyclic Aromatic Hydrocarbon
PPE	Personal Protective Equipment
PPG	Planning Practice Guidance
RBC	Reading Borough Council
SAC	Special Areas of Conservation
SFRA	Strategic Flood Risk Assessment
SSSI	Site of Specific Scientific Interest
SuDS	Sustainable Drainage System
TPH	Total Petroleum Hydrocarbon
TVERC	Thames Valley Environment Records Centre



TVIA	Townscape Visual Impact Assessment
TWUL	Thames Water Utilities Limited
TA	Transport Assessment
UK	United Kingdom
UKPN	UK Power Networks
VVM	Verified Visual Montages
WCA	The Wildlife Countryside Act
WFD	Water Framework Directive
ZVI	Zone of Visual Influence

1. INTRODUCTION

- 1.1.1 This Scoping Report provides the information required by the local authority (Reading Borough Council (RBC)) to issue an Environmental Impact Assessment (EIA) Scoping Opinion under the Town and Country Planning (Environmental Impact Assessment) 2011 regulations (as amended¹), for the Kenavon Drive project, the 'Proposed Development'.
- 1.1.2 The Proposed Development is promoted by the client, London and Quadrant Housing Trust.
- 1.1.3 Further details are provided within this report on the Kenavon Drive Site, the 'Application Site', and the Proposed Development along with information on the need for EIA, the role of scoping in the EIA process and the structure of the EIA.
- 1.1.4 On 8 April 2016, A Screening Report and letter, **Appendix 1**, (prepared by Temple Group) was sent to Jonathan Markwell, Principal Planning Officer, of RBC. A Screening Opinion and letter was received from RBC on 11 May 2016, **Appendix 2**. This EIA Scoping Report is in response to RBC's ruling that an EIA should take place for the Proposed Development and seeks to address issues raised.

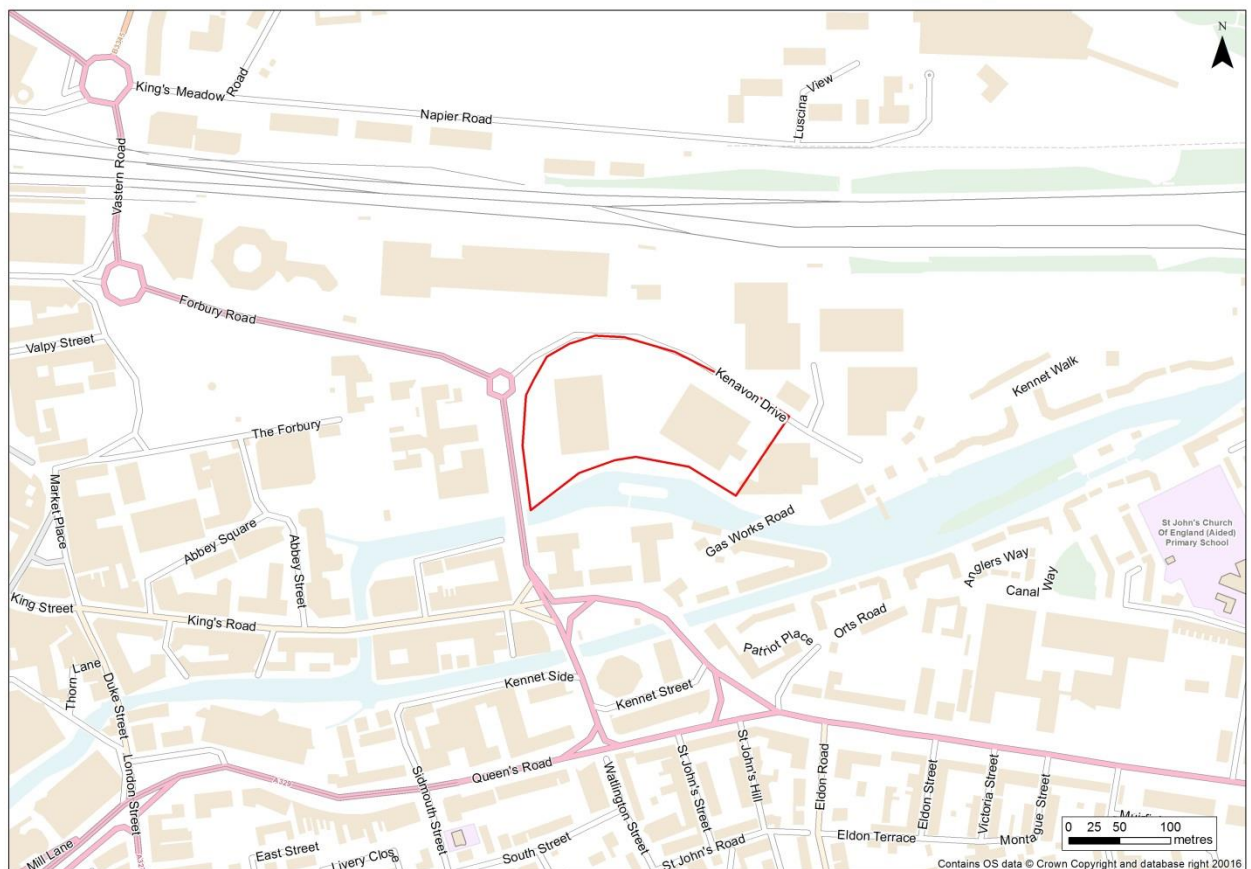
1.2 Application Site Location and Description

- 1.2.1 Kenavon Drive comprises some 2.8 hectares (ha) of predominantly brownfield (hard standing land) bounded by the A329 to the west, Kenavon Drive to the north, River Kennet and Gas Works Road to the south and residential development (Berkshire Rooms Meridian House) to the east. **Figure 1.1** shows the location of the Application Site.
- 1.2.2 The topography of the Application Site is flat, being adjacent to the River Kennet. The Proposed Development is located to the south of Kenavon Drive, Reading. The Application Site is irregular in shape and is approximately 600 m east of Reading railway station, at grid reference SU722735 (Easting: 472251, Northing: 173592).
- 1.2.3 The character of the both the Application Site and the surrounding area are of a developed and dense urban nature. The Application Site is currently accessed from the north and the far north-eastern corner, via Kenavon Drive. The Application Site holds few features of interest, being almost entirely comprised of hard standing (designated for car parking, and two large warehouse-type outlet retail units, namely Toys R us and Homebase). Surrounding the commercial units and car parking on north, west and south is a thin line of mature trees. The western half of the Application Site is within the Reading Air Quality Management Area (AQMA), declared for nitrogen dioxide and the southern section of the site sits within flood zone 2 (medium probability).
- 1.2.4 There are a number of features within the local area that are of interest including:
- Reading Abbey Ruins Grade I Listed Building to the west of the Application Site;
 - Reading Goal (main building) former Her Majesty's Prison Grade II Listed Building to the west of the Application Site;
 - Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork (Scheduled Ancient Monument) to the west of the Application Site;
 - The Forbury Garden Grade II listed registered park and garden to the west of the Application Site;
 - River Kennet to the south, a tributary of the River Thames with confluence approximately 750 m northeast of the Application Site;
 - River Kennet and Chestnut Walk (public footpath and Oscar Wilde memorial);
 - Market Place/London Road conservation area to the west and Eldon Square conservation area to the east of the Application Site.

¹ As amended by the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015, which came into force on 6th April 2015.

- 1.2.5 The wider area to the southwest and northwest is densely developed. To the northwest and south, it is predominately residential development and some commercial usage. In addition, to the south, is Reading College. Reading Town centre is to the west and south west containing mixed use properties containing mainly residential and commercial as well as Reading railway station which has direct trains to London Paddington.
- 1.2.6 There are railway lines to the north of the Application Site and to the wider area north contains the undeveloped Christchurch and King's Meadows with residential properties beyond the River Thames. To the northwest is Caversham Lakes including the Redgrave Pinsent Rowing Lake.

Figure 1.1: Location of the Proposed Development Site



- 1.2.7 The Application Site has a number of development constraints associated with its location, former use and current use. A summary of these constraints, together with potential environment sensitivities is provided in **Table 1.1**.

Table 1.1- Existing Environment and Sensitivities

Issue	Specific constraint and sensitivity
Existing Land Uses	Two large warehouse-type outlet retail units (Homebase and Toys R Us stores), car park; and surrounding commercial units and car parking on north, west and south is a thin line of mature trees.
Site History and Ground Conditions	Historically the Application Site was occupied by a biscuit factory prior to its current use, and before that was mainly in agricultural use. The ground conditions generally comprise asphalt over Made Ground of gravelly sandy clay to a maximum depth of 4.0 m bgl, over chalk. However Alluvium was absent in some locations and Made Ground directly overlays the chalk. No significant contamination exists on the Application Site. The ground gas regime at the Application Site is a Characteristic Situation 1, however, this may be increased to a Characteristic Situation 2- low risk due to slightly elevated concentrations of carbon dioxide.
Transport and Access	The current traffic generation on the Application Site is related to the two operating large commercial units and is currently accessed from the Forbury road roundabout. The Application Site is approximately 600 m walk to the east of Reading railway station and is within a 50 m walk to Huntley and Palmers (stop 1) bus stop with routes to both Reading City Centre and Tilehurst at least every 10 minutes.
Water Resources/Flood	The Application Site is currently almost entirely covered by hard standing and the existing surface run- off drains to the River Kennett and Thames Water surface water sewer in Kenavon Drive with little or no stream attenuation. The Application Site is partially within Flood Zone 2 (medium risk) and partially within Flood Zone 1 (low risk) but the site has been deemed appropriate for development that is largely residential in nature, providing that a site level Flood Risk Assessment (FRA) is prepared as part of any application². The nearest surface watercourse to the Application Site is the River Kennet which flows within a sheet piled channel along the southern boundary of the Application Site. The flow is towards the east.

² Strategic Flood Risk Assessment, Reading Borough Council

Issue	Specific constraint and sensitivity
Ecology	There aren't any Ramsar, Special Areas of Conservation, Special Protection Areas, National Nature Reserves, Sites of Special Scientific Interest or Biosphere Reserves within 2 km of the Application Site. The Application Site lies within a breeding area suitable for Lapwing, however the Application Site is not considered to be of value to these species due to the Application Site being mainly made of hard standing, car park and building; The River Kennet is in close proximity to the Application Site. There are a number of trees and areas of dense scrub currently providing a border to the Application Site.
Archaeology and Built Heritage within 250 m of the Application Site	There are no designated archaeological assets on the Application Site but there are the following sites of heritage interest: • Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork (Scheduled Ancient Monument) to the west; • Reading Goal (main building) former Her Majesty's Prison Grade II Listed Building to the west; • the Forbury Garden Grade II listed registered park and garden to the west; • River Kennet to the south, a tributary of the River Thames with confluence approximately 750 m north east of the Application Site; • River Kennet and Chestnut Walk (public footpath and Oscar Wilde memorial); and • Market Place/London Road conservation area to the west and Eldon Square conservation area to the east.
Adjacent Land Uses	The Application Site is surrounded by commercial units (Homesense, Stables, Hobbycraft, Argos and Decathlon) to the north and is bounded on the south by the River Kennet and to the west by Forbury Road (A329). To the far north of the Application Site is the railway and further beyond is King Meadow and the River Thames.

1.3 The Need for an Environmental Impact Assessment (EIA)

- 1.3.1 The Screening Opinion and letter received from RBC on 11 May 2016, **Appendix 2** confirms that an EIA should take place for the Proposed Development.

- 1.3.2 The Town and Country Planning (Environmental Impact Assessment) 2011 (as amended³), referred to as the 'EIA Regulations', implement European Directive 2011/92/EU. They apply to the assessment of environmental impacts that are likely to arise from certain types of public and private projects.
- 1.3.3 The EIA is a systematic process during which potential significant environmental effects from a proposed development project are identified and assessed, and the scope for minimising these is presented to the relevant decision maker (the 'competent authority') with an Environmental Statement (ES) accompanying a planning application.
- 1.3.4 The aim of the EIA is to provide the competent authority with the information necessary to consider potential significant environmental effects (both negative and positive), to ascertain whether these are acceptable, and, where appropriate, to secure mitigation measures to minimise negative impacts prior to granting relevant consents.
- 1.3.5 The requirement for an EIA is either mandatory or conditional, depending on the classification of the development project. This is based, in turn, on the likelihood of significant impacts arising. Under the EIA Regulations, EIA applications are divided into:
- Schedule 1 Development; and
 - Schedule 2 Development.
- 1.3.6 As confirmed by RBC in their Screening Response and letter dated 11 May 2016, **Appendix 2**, the Proposed Development is not considered to constitute a Schedule 1 Development. The Proposed Development does however fall within the description at 10 (b) of Schedule 2.
- 1.3.7 For all other developments, which fall under Schedule 2, it is not always mandatory for them to be subject to an EIA. The need for an EIA is determined on the basis of set criteria as follows:
- 1.3.8 The development falls within one of the classes of development stated in Schedule 2; and
- EITHER it exceeds the size threshold for that class of development in Schedule 2;
 - OR it is in a sensitive area; AND
 - It is likely to have significant effects on the environment.
- 1.3.9 Schedule 3 of the EIA Regulations describes the criteria that must be taken into account in determining whether a development, which falls within the size threshold applicable to Schedule 2 Development, is likely to have significant impacts and hence should be subject to EIA. These include:
- The characteristics of the development;
 - The environmental sensitivity of the location; and
 - The characteristics of the potential impact.
- 1.3.10 Where it is determined that a proposed development requires an EIA or where an ES is submitted, the application is known as an 'EIA Development'.
- 1.3.11 RBC has confirmed that the Proposed Development could be considered likely to have significant effects on the environment by virtue of its nature, size and location. More specifically, owing to the nature of the location and the potential effects on, in particular, the nearby nationally important Reading Abbey Cluniac and Benedictine monastery and Civil War earthwork scheduled ancient monument, various nearby listed buildings/ structures and the River Kennet.
- 1.3.12 Thus, the Applicant recognises that the Proposed Development will constitute 'EIA Development' under the EIA Regulations and has committed to undertaking an EIA for the Proposed Development. As such, an EIA is required and an ES will be prepared to report the findings of the EIA.

³ As amended by the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015, which came into force on 6th April 2015.

1.4 The Environmental Statement

- 1.4.1 The EIA Regulations require that an EIA be undertaken, and an ES identifying impacts and associated mitigation measures be provided for EIA developments to accompany any planning application.
- 1.4.2 For the purposes of the EIA Regulations, the ES means:
- ‘.....a statement:
- (a) that includes such of the information referred to in Part I of Schedule 4 as is reasonably required to assess the environmental effects of the development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile, but*
- (b) that includes at least the information referred to in Part II of Schedule 4 (of the EIA Regulations).’*
- 1.4.3 The EIA procedure set out in the EIA Regulations aims to ensure that the Council and the public properly understand the likely significant environmental effects, and the scope for reducing them, before a decision on the application is made.
- 1.4.4 Temple Group Limited (Temple) has been commissioned by the Applicant to prepare the EIA in line with the EIA Regulations and the other relevant EIA guidance and to produce the ES which will be submitted with the application.
- 1.4.5 It is the responsibility of the Applicant to provide all the necessary information and to compile the ES for the EIA. The ES will ensure that sufficient information is provided to enable the Council (the ‘competent authority’) to make a decision about the planning application with due regard and in the knowledge of any likely significant environmental effects.
- 1.4.6 Once submitted, the competent authority responsible for authorising the relevant development should publicise the availability of the ES (and any related additional information) to potentially interested parties, such as statutory and non- statutory consultees and the public, so as to enable their opinions on the project and ES to be represented to the planning process.

1.5 Scoping in the EIA Process and the Purpose of this Scoping Report

- 1.5.1 Scoping forms an early stage of the EIA process. It refers to the activity of reviewing any environmental studies undertaken to date and identifying those environmental aspects that may be significantly affected / impacted by a proposed development. In doing so, the potential significance of effects associated with each environmental aspect is defined and set out in the ES.
- 1.5.2 This EIA Scoping Report describes the scope of the technical studies to be undertaken in order to provide a comprehensive assessment of significant effects likely to arise and to determine suitable mitigation measures for the construction and operation phases of the Proposed Development.

1.6 Structure of the Scoping Report

- 1.6.1 The remainder of this Scoping Report is structured as follows:
- Section 2 describes the Proposed Development;
 - Section 3 summarises the key applicable legislative and planning policy;
 - Section 4 summarises the consultation strategy;
 - Section 5 outlines the overall assessment methodology and approach to the EIA;
 - Section 6 presents the key environmental topics to be addressed by the EIA;
 - Section 7 summarises the non-significant issues;

- Section 8 provides proposed structure of the Environmental Statement; and
- Section 9 provides an overall summary and conclusions to the report.

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

- 2.1.1 The Application Site is identified within the Reading Borough Local Development Framework (LDF) and Central Area Action Plan 2009 which state the area will be used for medium density residential use, preserving the eastwest links through the Application Site. Development principles of the Application Site are also presented within the Kenavon Drive Urban Design Concept Statement (2004). The Application Site responds to this local policy context, with the main characteristics of the Proposed Development comprising:
- demolition of the existing buildings on the Application Site (Toys R Us and Homebase Units);
 - erection of between 700-800 residential units (to a maximum of 19 storeys);
 - 1300 sqm of commercial/ community/retail floorspace; and
 - revitalisation of the riverside public realm, including two new squares (one on the riverside and one at the entrance to the Application Site).
- 2.1.2 Construction of the Proposed Development is due to start autumn/ winter 2017 and is expected to last for three to four years. The detailed construction programme will be finalised once the design of the Proposed Development has been completed.
- 2.1.3 The principal aim of the landscape strategy for the Proposed Development is to create biodiverse routes and spaces which enhance the Application Site, maximise amenity and provide a new riverside public realm for Reading. The proposed Riverside Square will create a destination space for the wider neighbourhood, and is likely to include a café/ restaurant and an active large central paved space which could be used for performances or market stalls.

3. PLANNING POLICY CONTEXT

- 3.1.1 The statutory development plan for the Application Site comprises Reading Borough Local Development Framework, Core Strategy, January 2008 (Further Alterations 27th January 2015) and the Reading Central Area Action Plan, January 2009.
- 3.1.2 Material considerations to the determination of this proposal also include the Government's overarching National Planning Policy Framework (NPPF) (March 2012). RBC are currently working on producing a new local plan which will incorporate the NPPF and replace their current development plans with a new plan setting out how Reading will develop up to 2036. This draft local plan is expected to be available in 2017.

3.2 National Planning Policy

- 3.2.1 The ES will have regard to the NPPF, which replaces the previous suite of national Planning Policy Statements and Planning Policy Guidance documents and should be read alongside the Government's Planning Practice Guidance.
- 3.2.2 The policies contained within the NPPF articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

3.3 Local Planning Policy

- 3.3.1 In the absence of the emerging Local Plan, consideration should be given to the Reading Borough Local Development Framework, Core Strategy, January 2008 (Further Alterations 27th January 2015) and the Reading Central Area Action Plan, January 2009 for guidance on local planning issues. A number of the policies within the Reading Central Area Action Plan will be considered through the application, which include the following:-
- Policy RC3: Development in the East Side Major Opportunity Area;
 - Policy RC5: Design in the Centre;
 - Policy RC6: Definition of the Centre;
 - Policy RC9: Living in the Centre;
 - Policy RC13: Tall Buildings; and
 - Policy RC14: Public Realm.
- 3.3.2 A number of the policies within the Reading Borough Local Development Framework, Core Strategy will be considered as part of the relevant technical chapters of the ES, which include the following:-
- Policy CS1: Sustainable Construction and Design;
 - Policy CS2: Waste Minimisation;
 - Policy CS7: Design and the Public Realm;
 - Policy CS8: Water spaces;
 - Policy CS9: Infrastructure, Services, Resources and Amenities;
 - Policy CS11: Use of Employment Land for Alternative Uses;
 - Policy CS14: Provision of Housing;
 - Policy CS23: Sustainable Travel and Travel Plans;
 - Policy CS29: Provision of Open Space;
 - Policy CS33: Protection and Enhancement of the Historic Environment;
 - Policy CS34: Pollution and Water Resources;
 - Policy CS35: Flooding; and
 - Policy CS38: Trees, Hedges and Woodlands.

- 3.3.3 Other relevant documents include:

- Sustainable Design and Construction Supplementary Planning Document, adopted July 2011;
- City Centre Framework, published March 2008;
- Site Specific Analysis 2009;
- Reading Transport Strategy and Reading Borough Council Local Transport Plan 2006-2011;
- Strategic Flood Risk Assessment, published 2009;
- Kenavon Drive Urban Design Concept Statement (2004); and
- Tall Buildings Strategy, published January 2008.

3.4 Other Policy and Guidance Considerations

- 3.4.1 There are a number of supporting policy documents and guidance that are topic specific and will be considered on a topic by topic basis within the ES.

4. CONSULTATION STRATEGY

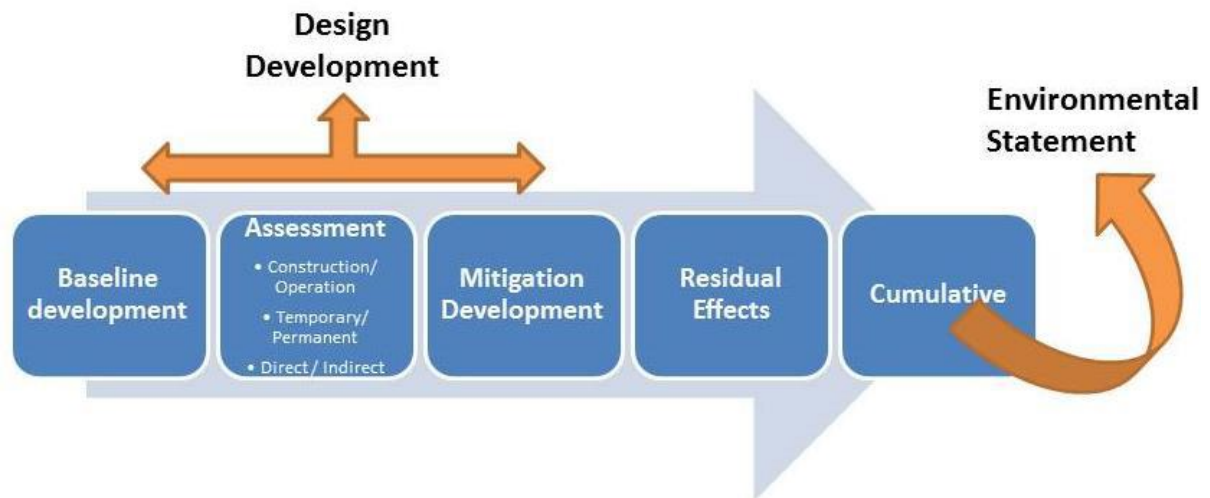
- 4.1.1 Consultation is an on-going process as part of the design development. The process of consultation is also critical to the preparation of a comprehensive and balanced ES. It is essential to determine those aspects that require detailed assessment, and to consider comments and positions of affected stakeholders.
- 4.1.2 To focus the environmental studies and to identify specific issues that require further investigation, information and views will be sought and received from a range of statutory and non- statutory bodies.
- 4.1.3 The intention is for consultees to be involved in the evolution of the design and assessment of environmental impacts. Key consultees are considered to include (but are not limited to):
- Environment Agency (EA);
 - Historic England (HE);
 - Natural England (NE);
 - Statutory Utility providers (including Thames Water Utilities Limited (TUWL), National Grid (NG), UK Power Networks (UKPN),
 - Berkshire Archaeology;
 - Local residents and local community groups (to be agreed with the Planning Authority);
 - Local education authority and clinical commissioning group; and
 - Important neighbouring occupiers comprised of local business and industry.

5. APPROACH TO THE EIA AND METHODOLOGY

5.1.1 The general approach to assessment will establish a baseline for each topic. Receptors and resources will be identified, and their sensitivity classified. The potential impacts of the Proposed Development on these receptors and resources will be assessed, for the construction and operation of the Proposed Development. Subsequent mitigation of impacts will be considered, along with the identification of likely cumulative and residual effects.

5.1.2 The process that the EIA will take is shown in **Figure 5.1** below:

Figure 5.1: EIA assessment process



5.2 Baseline Development

5.2.1 The EIA will primarily describe environmental impacts in terms of the extent of likely change to the baseline environment. The baseline represents the environmental conditions of a site at the time of the assessment.

Spatial Scope

5.2.2 The redline boundary of the Proposed Development is shown in **Figure 1.1**. Assessment study areas will vary by topic areas, according to the baseline information and the nature of likely impacts. These will be determined during the EIA.

Temporal Scope

5.2.3 The ES will assess the environmental impacts of the Proposed Development during both construction and operation. The assessment will compare current and future baseline conditions (as appropriate) to those conditions expected with the construction and operation of the Proposed Development. The assessment will assume that the construction will start in the winter of 2016/2017.

5.2.4 The assessment will consider the totality of the Proposed Development from construction through to operation.

5.3 Assessment of Effects and Defining Significance

Prediction of impacts

- 5.3.1 Once impacts have been identified, prediction methods will be used to identify the magnitude and nature of changes to the environment resulting from the project, compared to the situation without the project, compared to the situation without the project (i.e. the baseline conditions). The relative significance of these changes will then be defined using thresholds and criteria, as appropriate.
- 5.3.2 There are a number of methods available for predicting the effects of the Proposed Development, some of which are qualitative and quantitative. Quantitative methods predict measurable changes resulting from a development, and hence rely on the ability to measure and or model baseline conditions accurately, for example the concentration of air pollutants. In comparison, qualitative techniques rely on expert judgement. In these circumstances, a clear distinction will be made between matters of fact and professional judgement.

Evaluation and assessment of significance of impacts

- 5.3.3 The definition of significance thresholds and criteria will take account of the:
- value/ sensitivity of the resource (international, national, regional and local level importance);
 - magnitude of the impact (for example the number of receptors);
 - duration of the impact; and
 - reversibility of the effect.
- 5.3.4 Typically, the criteria will be developed from a matrix approach comprising the value/ sensitivity of the resource on one axis and the magnitude of the predicted effects on the other. The classification of effects is shown in **Table 5.1**.

Table 5.1: Classification of effects

	Magnitude of Impact				
Value/ Sensitivity	No Change	Negligible	Minor	Moderate	Major
Very High	Negligible	Minor	Moderate	Major	Major
High	Negligible	Minor	Minor	Moderate	Major
Medium	Negligible	Negligible	Minor	Minor	Moderate
Low	Negligible	Negligible	Negligible	Minor	Minor
Negligible	Negligible	Negligible	Negligible	Negligible	Minor

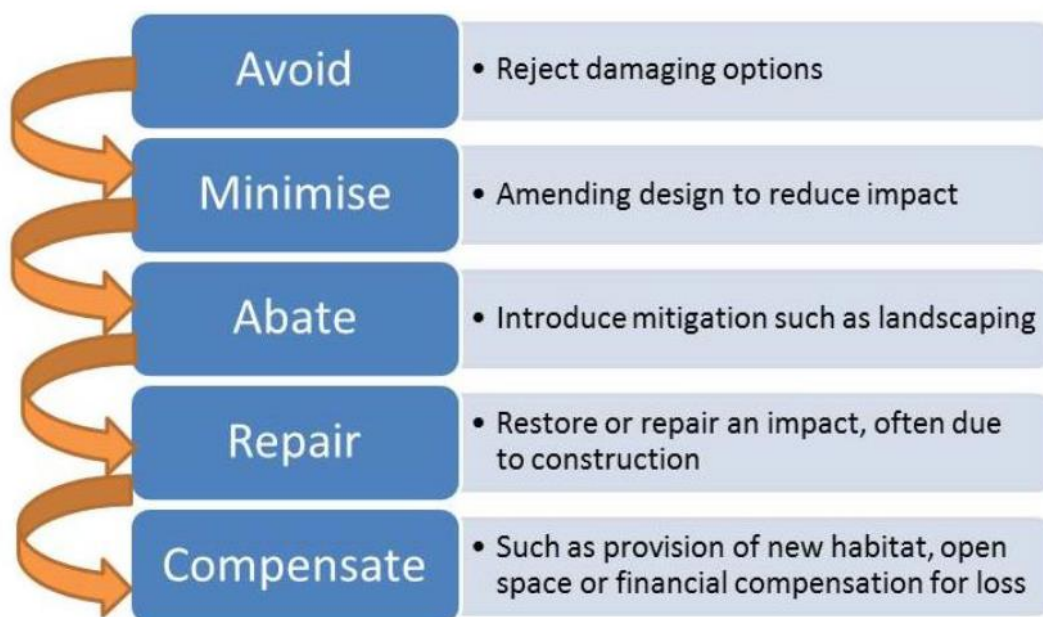
- 5.3.5 The classification of the effect will be assessed to be either temporary or permanent where:
- Adverse, neutral or beneficial;
 - Permanent or temporary;
 - Duration/ frequency or likelihood or
 - Direct or indirect.
- 5.3.6 The duration of the effect will be assessed to be either temporary or permanent where:
- Temporary (e.g. demolition and construction phase):
 - Short term (<5 years)
 - Medium term (5-10 years); or
 - Long term (>10 years).

- Permanent (e.g. once the Proposed Development is completed and operational).

5.4 Mitigation Development

- 5.4.1 During the EIA, there will be an on-going design process, looking at ways to best mitigate effects. This will constitute embedded design mitigation and where this has occurred it will be identified within the relevant topic chapters within the ES.
- 5.4.2 Further assessment mitigation measures may be introduced, where adverse environmental impacts remain following the culmination of the design process and in these instances, further mitigation will be proposed where feasible within the relevant technical chapters. A practical example of this (for illustrative purposes only) could be that all dwellings are designed to fulfil certain requirements in terms of noise insulation (embedded design mitigation), however, the noise assessment may identify, post outputs from modelling, that a specific dwelling requires additional noise attenuation as its façade (additional assessment mitigation).
- 5.4.3 Proposals for mitigation will follow the following hierarchy. Where beneficial effects and or opportunities for enhancement and betterment are identified, measures to maximise these will also be proposed:

Figure 5.2: Mitigation Hierarchy



- 5.4.4 Design mitigation will include compliance with legislation, industry good practice, Best Practicable Measure (BPM) and construction environmental management procedures identified in the draft Code of Construction of Practice (CoCP). Design features that have been adapted to reduce or prevent impacts will be described.

5.5 Residual Effects

- 5.5.1 The residual effect will be assessed using the same system as described above taking account of any assessment mitigation proposals. Generally, based on the described classification and professional judgement, effects considered to be more moderate or major will be deemed significant, and those considered minor, or negligible, will be deemed not significant.

5.6 Cumulative Effects

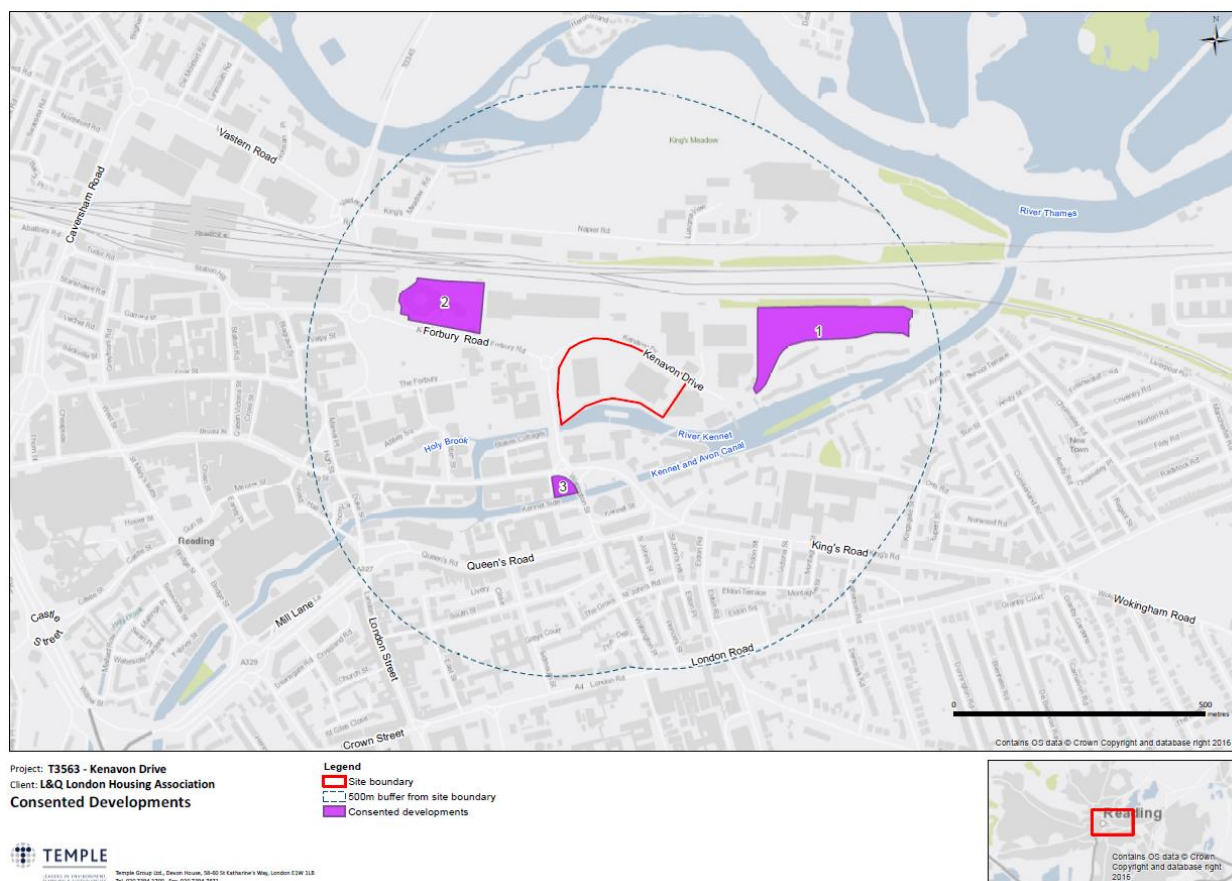
- 5.6.1 The EIA Regulations specify that an ES should include... *“a description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative...effects”*. Cumulative effects are the combined effects of several development schemes (in conjunction with the Proposed Development) which may, on an individual basis be significant but, cumulatively, have a significant effect.
- 5.6.2 Cumulative effects will be addressed in a discrete section in the ES, and where appropriate in individual topic chapters. Cumulative effects during both the construction and operational phases of the Proposed Development will be assessed.
- 5.6.3 Two types of cumulative effects will be considered in the assessment. These include Type 1, intra-project effects which are the combined effects of individual topic impacts on a particular sensitive receptor, and Type 2, inter- project effects which are the combined effects of different development projects, alongside the Proposed Development.
- 5.6.4 The EIA has given consideration to cumulative effects from schemes located within 0.5 km from the boundary of the Application Site (as of June 2016) These include:
- approved but incomplete projects (i.e. unimplemented or under construction);
 - certain projects which are reasonably foreseeable and reasonable likely to come forward/ approved, and for which sufficient information is available to assess the likelihood of cumulative effects; and
 - for certain topics (e.g. visual impact) it may be appropriate to include developments outside of this area of search, should those projects individual characteristics warrant it (e.g. a particularly tall building). Additional schemes for each topic will be identified within the individual topic chapters.
- 5.6.5 From an initial planning search, the developments as set out in **Table 5.2**, have been identified as ‘major development’ likely to generate significant inter project effects. **Figure 5.3** shows the location of these schemes as well as the 0.5 km search boundary applied.

Table 5.2: Consented and Committed Schemes

Number	Development	Planning Application Reference	Description
1	Energis House, Forbury Road, Reading	121826	Demolition of existing buildings and construction of two new office buildings (Use Class B1) with associated access, car parking, servicing, landscaping and engineering works. Permission granted in 2012. Now partially built.
2	42 Kenavon Drive, Reading, RG1 3DH	131280	Erection of 192 dwellings with associated access, parking, landscaping and open space. Application permitted 2013.
3	Kings Point, 120 Kings Road, Reading	150019	Demolition of existing building and the erection of a part seven, part nine, part eleven, part twelve and part seventeen storey building comprising 103 residential units and 351.5 sqm GIA of commercial (A1/A3) floorspace at ground and mezzanine floor level together with parking and associated landscaping (amended description).

Permission granted in 2015.

Figure 5.3: Consented and Committed Schemes Location Map



- 5.6.6 RBC are invited to identify any additional committed or consented major developments they believe are likely to require consideration within the ES as a result of likely significant inter-project environmental effects.

5.7 Consideration of Alternatives

- 5.7.1 The ES will include consideration of the main alternatives considered during the design process, including alternative development (e.g. development footprint, massing and housing mixes).
- 5.7.2 Alternative locations for different land use proposals within Reading have been tested through the development of the Application Site allocations component of Reading Borough Local Development Framework (2008), and particularly the Reading Central Area Action Plan (2009). The Application Site lies within the East Side Major Opportunity Area and is covered by Policy RC3c (Forbury Retail Park), which allocates the Application Site as a focus of a new residential community. The proposed use of the Application Site for the development of a residential community, some retail and new open public spaces, is therefore appropriate.
- 5.7.3 Alternatives in terms of layout, massing, types and tenure of the development are actively being considered as part of the design evolution of the scheme. Site survey information (e.g. ground conditions, ecology) has been made available to the design team from the outset, and the final design will be arrived at through careful consideration of these constraints and also opportunities provided by



the location of the Application Site.

6. KEY EIA ENVIRONMENTAL TOPICS

6.1 Topic Sections

- 6.1.1 The following sections of this EIA Scoping Report describe the topics where the potential for significant environmental effects may arise from impacts associated with the Proposed Development.
- 6.1.2 The following topics have been identified for consideration within the EIA:
- Air Quality;
 - Townscape, Visual Effects and Built Heritage;
 - Archaeology; and
 - Ecology.

6.2 Air Quality

Introduction

- 6.2.1 The assessment will consider the implication of current and future ambient air quality in the vicinity of the Proposed Development. The assessment will identify potential new sources of air pollution arising from the Proposed Development and consider the air quality impact of any additional/ varied traffic flows during construction and operational phases of the Proposed Development.

Planning and Policy

- 6.2.2 The NPPF sets out that planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas (AQMA) and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in AQMAs is consistent with the local air quality action plan.
- 6.2.3 The role of the Local Development Framework⁴ is to ensure that new development is carried out in a sustainable manner. Policy CS34, Pollution and Water Resources, states that development will only be permitted where it is not damaging to the environment through air, land, noise or light pollution.

Baseline Information and Key Issues

- 6.2.4 The western half of the Application Site is within the Reading Air Quality Management Area (AQMA), designated due to elevated levels of nitrogen dioxide.
- 6.2.5 The existing retail use of the Application Site generates vehicle trips throughout out the day, with peaks during evening hours and at the weekends.
- 6.2.6 The Application Site, although having a small element of commercial land use, will be predominantly residential, including approximately 350 allotted parking spaces. It will therefore change the character of traffic flows generated by the site. Morning peak flows are likely to increase, whilst flows throughout the rest of the day and at weekends may be reduced.
- 6.2.7 The Proposed Development has been identified as suitable to include an energy centre onsite to provide space heating and domestic hot water from a combined heat and power unit with gas fired boiler back up. The Proposed Development will implement a fabric first approach with an enhanced building envelope. The u value designed will exceed the minimum requirement of the Building

⁴ Reading Borough Council Local Development Framework

Regulation Part L 2013. Additionally the Proposed Development will be designed to a high performance with good air tightness. It is proposed that the scheme does not exceed an air permeability level of 5m³/hr/m² at 50Pascal during testing. Finally sufficient roof space has been identified to include photovoltaic system to ensure that the carbon reduction generated by low and zero carbon technologies are met.

6.2.8 Local air quality could potentially be affected by the following:

- dust emissions arising from any dust-raising activities, including earthworks, construction and track-out from construction vehicles;
- emissions from construction plant and equipment;
- emissions from construction vehicles travelling to and from the Application Site during construction, and from any traffic management measures on the surrounding roads;
- emissions from traffic generated by the Proposed Development during operation; and
- atmospheric emissions derived from the chosen energy strategy (e.g. CHP / boilers).

6.2.9 Despite there being limited potential for significant impacts related to air quality from the Proposed Development, it is considered that Air Quality should be scoped in for consideration within the EIA due to the wholesale change in character to the Application Site proposed, and its location within central Reading and Reading AQMA.

Further Work and Impact Assessment

6.2.10 The air quality assessment within the ES chapter will review baseline information from relevant sources, including local authority review and assessment work, local monitoring data and Defra background maps. National and local policy relating to air quality will also be assessed in relation to the Proposed Development.

6.2.11 The air quality assessment for the Proposed Development will consist of:

- discussion of existing baseline conditions;
- assessment of likely changes in air quality as a result of construction dust, construction plant and construction traffic emissions;
- assessment of likely changes in air quality as a result of traffic emissions during operation; and
- consideration of cumulative impacts upon air quality.

6.2.12 The assessment methodology will be confirmed following consultation with the RBC Environmental Health Officer (EHO).

6.2.13 Potential impacts during the construction of the Proposed Development from dust and site plant exhaust emissions will be assessed using the IAQM construction impact assessment guidance. Mitigation measures will be recommended, if necessary, for the control of dust and site plant emissions during the construction phase of the Proposed Development.

6.2.14 A screening of traffic changes for assessment in line with EPUK/ IAQM guidance will also take place.

6.2.15 Construction and operational impacts of road traffic associated with the Proposed Development will be assessed, at relevant existing and new receptors. ADMS-Roads Extra next-generation Gaussian dispersion model will be used for this purpose. Emissions from any proposed CHP or boilers will also be modelled with this package and the combined effects (with changing traffic flows) assessed.

6.2.16 It is proposed that the significance of air quality effects will be assessed in line with the methodology and criteria outlined in the Environmental Protection UK/IAQM 2015 guidance document, 'Land-Use Planning and Development Control: Planning for Air Quality'.

6.3 Townscape, Visual Effects and Built Heritage

Introduction

- 6.3.1 This chapter of the ES will address the potential impact of the Proposed Development on the existing townscape character surrounding and within the Application Site, likely impacts of the Proposed Development on built heritage within and surrounding the Application Site, as well as the Proposed Development's effects on sensitive views.
- 6.3.2 A Heritage Assessment will be undertaken and will be presented in combination with the Townscape and Visual Impact Assessment, resulting in a combined Heritage, Townscape and Visual Impact Assessment which will be an appendix to the ES Chapter. The Heritage Assessment section of this report will:
- Identify the designated and non-designated heritage assets within the Application Site boundary and its surrounding area, the significance or setting of which may be affected by the Proposed Development, through desk-based analysis and field study;
 - Describe the significance of the identified heritage assets, and the contribution of their setting to their significance;
 - Provide an assessment of the potential effects of the Proposed Development upon the significance and setting of the heritage assets.

Planning and Policy

- 6.3.3 The NPPF, in paragraph 109, requires the planning system to contribute to and enhance the natural and local environment by protecting and enhancing the valued landscapes. The assessment will provide an appropriate level of information, so as to enable RBC to understand the potential impact upon local townscape and sensitive views. The NPPF also requires developers to record and advance understanding of the significance of any heritage assets affected by the Proposed Development.
- 6.3.4 Specifically, paragraph 128 requires local planning authorities to ensure that applicants provide a level of detail which is '*proportionate to the assets*' importance and no more than is sufficient to understand the potential impact on the proposal on their significance.
- 6.3.5 Paragraph 129 goes on to require the local planning authority to assess the significance of any heritage assets potentially affected by a proposal and take this into account, '*when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and an aspect of the proposal*'.
- 6.3.6 The assessment will provide an appropriate level of information, so as to enable the local authority to understand the potential impact upon any heritage asset and in doing so, comply with the requirements as laid out in the NPPF.
- 6.3.7 The local planning policy also requires assessment to take place in relation to the significance of any heritage assets affected by the Proposed Development. Policy CS33: Protection and Enhancement of the Historic Environment⁵ states that historic features and areas of historic importance and other elements of the historic environment, including their settings, will be protected and where appropriate enhanced. All proposals will be expected to protect and where appropriate enhance the character and appearance of the area in which they are located.

⁵ Reading Borough Local Development Framework, Core Strategy

- 6.3.8 In terms of local planning policy, policy CS7: Design and the Public Realm⁶ states that all development must be of high density quality that maintains and enhances the character and appearance of the area of Reading in which it is located. Consideration should be given to the Proposed Development's layout landscape, density and mix, scale and architectural detail.
- 6.3.9 Policy RC5: Design in the Centre⁷ states that developments should respect the existing grid layout structure of the central area and provide continuity through existing buildings and spaces.

Baseline Information and Key Issues

- 6.3.10 The Application Site does not fall within any designated views, however, RBC's screening opinion highlighted that the topography of the Application Site and nature of surrounding area, means that the Proposed Development may be highly visible from multiple directions. The Application Site itself lies within the Forbury Retail Park character area (as defined within RBC's Tall Building Strategy, 2008), comprising retail warehouses and car parks. The retail units are late 20th century corrugated iron and plastic clad retail units, and the site currently has a low townscape value.
- 6.3.11 Eldon Square Conservation Area lies 170 m to the south, and the Market Place / London Street Conservation Area lies 360 m to the west, with both conservation areas separated from the Application Site by areas of dense urban development of varying townscape quality and height.
- 6.3.12 Although no designated built heritage features are found within the Application Site, a number of features lie within 250 m (see **Figure 2a, Archaeological Desk Based Assessment, Appendix 5**):
- Reading Abbey Ruins Grade I Listed Building;
 - Archway Connecting Forbury Gardens To Abbey Ruins. Including Retaining Walls Flanking Path To Abbey Ruins and 173-183, Kings Road Grade II* Listed Building;
 - River Kennet and Chestnut Walk (public footpath and Oscar Wilde memorial);
 - The Forbury Garden Grade II listed registered park and garden;
 - Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork Scheduled Monument;
 - The following Grade II Listed Buildings:
 - 11 And 12, Abbot's Walk
 - Tracery Fragments To South Of No 10
 - Anglian Cross
 - Church Of St James'
 - St James's Roman Catholic School
 - The Plummery Wall
 - 86,86a And 88, Kings Road
 - The Screens House
 - The Engine House
 - 47-48, Kenavon Drive
 - 163, King Road
 - Wall Between Forbury Road And Abbott's Walk To West Of St James' Church
 - Shelter At North East Corner Of Forbury Gardens
 - 10, Abbot's Walk
 - The Pump And Turbine House
 - 196-200, Kings Road
 - St James's Presbytery
 - Reading Gaol (Main Building) Former Her Majesty's Prison

⁶ Reading Borough Local Development Framework, Core Strategy

⁷ Reading Central Area Action Plan, January 2009

6.3.13 The assessment will be undertaken with reference to the following legislation, policy and guidance:

- Planning (Listed Buildings and Conservation Areas) Act 1990;
- National Planning Policy Framework (NPPF), 2012;
- Planning Practice Guidance, (PPG), (2014);
- Historic Environment Good Practice Advice in Planning: Note 1 (GPA1): The Historic Environment in Local Plans;
- Historic Environment Good Practice Advice in Planning: Note 2 (GPA2): Managing Significance in Decision-Taking in the Historic Environment;
- Historic Environment Good Practice Advice in Planning: Note 3 (GPA3): The Setting of Heritage Assets;
- Historic England Advice Note 1 (HEA1): Conservation Areas (February 2016);
- Historic England, Seeing History in the View (2011);
- Historic England, Conservation Principles, Policies and Guidance (2008);
- Reading Borough Local Development Framework, Core Strategy;
- Reading Central Area Action Plan (2009); and
- Conservation Area appraisals.

6.3.14 Likely effects, relevant to townscape, views and built heritage, associated with the Proposed Development include:

- The Proposed Development will have an impact upon the physical characteristics both of the Application Site itself and its surroundings. These changes are likely to have a significant effect on the character of the existing townscape, (most likely beneficial).
- Although the Application Site does not lie within any designated views, the Application Site is likely to have an effect on locally important views (again, most likely beneficial).
- Direct effects on built heritage receptors as a result of ground borne vibration from construction activities associated with Proposed Development.
- Indirect effects upon built heritage receptors, derived from visual, noise and air quality impacts upon their setting.
- As the Application Site is already developed and located within a well lit urban environment, the Proposed Development will not introduce a land-use that requires focussed lighting effects and therefore it is proposed that night views will not be considered with the assessment.

Further Work and Impact Assessment

6.3.15 The Townscape and Visual Impact Assessment (TVIA) will be broadly based on the principles set out in the third (2013) edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA), produced by the Landscape Institute and Institute of Environmental Management and Assessment. These principles are better suited to assessing landscape than townscape and as such they can form only a general guide to the method to be used. As such, the TVIA will also take into consideration other guidance including that set out in Historic England's Seeing History in the View (2011), the section on 'Design' within the Planning Practice Guidance which sets out the objectives of good design against which townscape can be assessed, and Design review (CABE, 2013) which provides guidance on assessing architectural quality. A desk-based review of relevant planning documents such as National Planning Policy Framework, Local Development Frameworks and Supplementary Planning Guidance will also be undertaken.

6.3.16 The assessment of the impact of the proposals on the townscape will evaluate the environmental consequences of the project in terms of its effects on the character and quality of the townscape including conservation areas, key public views and visual amenity.

6.3.17 A distinction between effects on townscape resources and those on visual receptors will be assessed

separately through a closely linked procedure. However, a clear distinction will be made between the two. Townscape effects relate to the effects of the Proposed Development on the physical and other characteristics of the townscape and its resulting character, quality and value. Visual effects relate to the effects on views experienced by visual receptors (for example people engaged in recreational activities, footpath users etc.).

- 6.3.18 The Townscape Character and Visual Impact assessment will involve consultation with the relevant RBC officer. Consultation will look at the proposed assessment viewpoints and discuss mitigation measures, if required.
- 6.3.19 The assessment will define the character of the Application Site and surrounding area. Townscape and landscape effects will then be assessed in terms of the Proposed Development's interaction with the form and character of the existing surrounds.
- 6.3.20 A Zone of Visual Influence (ZVI) has been established to confirm the baseline assessment viewpoints. Visual effects will then be assessed by reference to Verified Visual Montages (VVMs) and Accurate Visual Representations (AVRs) generated for a number of views. Views and the level of AVRs are currently being discussed with Jonathan Markwell, Principal Planning Officer at RBC, and once agreed, will be submitted as an addendum to this Scoping Report once agreed. Views of the Proposed Development from more sensitive viewpoints will be afforded greater consideration than less sensitive locations.
- 6.3.21 A Built Heritage Assessment will also be carried out which will consider the potential for the Proposed Development to affect sensitive built heritage receptors in the surrounding area. It will identify any heritage assets within the Zone of Visual Influence (ZVI), as well as any conservation areas.
- 6.3.22 The assessment would evaluate their significance in the context of the NPPF and local planning policy requirements. A summary of the historical development of the Application Site and surrounding area will be provided and a historical map regression will also be carried out, with a site visit to confirm any newly identified sensitive receptors.
- 6.3.23 Schemes which have received planning permission will be considered as part of an assessment of potential cumulative effects, as listed in **Table 5.6**.

6.4 Archaeology

Introduction

- 6.4.1 This assessment will consider the likely impacts of the Proposed Development on potential archaeological remains within the Application Site.

Planning and Policy

- 6.4.2 The NPPF requires developers to record and advance understanding of the significance of any heritage assets affected by the Proposed Development.
- 6.4.3 Specifically, paragraph 128 requires local planning authorities to ensure that applicants provide a level of detail which is '*proportionate to the assets*' importance and no more than is sufficient to understand the potential impact on the proposal on their significance.
- 6.4.4 Paragraph 129 goes on to require the local planning authority to assess the significance of any heritage assets potentially affected by a proposal and take this into account, '*when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and an aspect of the proposal*'.
- 6.4.5 The assessment will provide an appropriate level of information, so as to enable the local authority to understand the potential impact upon any heritage asset and in doing so comply with the requirements as laid out in the NPPF.

- 6.4.6 The local planning policy also requires assessment to take place in relation to the significance of any heritage assets affected by the Proposed Development. Policy CS33: Protection and Enhancement of the Historic Environment⁸ states that historic features and areas of historic importance and other elements of the historic environment, including their settings, will be protected and where appropriate enhanced. All proposals will be expected to protect and where appropriate enhance the character and appearance of the area in which they are located.

Baseline Information and Key Issues

- 6.4.7 An Archaeological Desk Based Assessment (DBA), supported by a site inspection, has been carried out for Application Site in December 2015 (see **Archaeological Desk Based Assessment, Appendix 5**).
- 6.4.8 The Application Site does not contain any nationally designated archaeological assets and the local authority 'Areas of Archaeological Potential' designation that did previously cover the Application Site was associated with Local Plan Policy CUD12 which was superseded and the designation not replaced. The Scheduled Monument of Reading Abbey (Clunio and Benedictine Monastery and Civil War earthwork) is located on the opposite side of Forbury Way (A329).
- 6.4.9 The Archaeological DBA concluded that the potential for undiscovered archaeological evidence is modest. Any evidence present is likely to consist of Later Prehistoric geoarchaeological deposits at depth within the Application Site, features associated with peripheral Medieval activity, and those related to 19th century building remains (e.g. the foundations of the Huntley and Palmer Biscuit Factory), where not truncated by later activity. This evidence is of local interest.
- 6.4.10 The assessment confirms that the construction, and subsequent demolition, of the 19th/20th century Huntley and Palmer Biscuit Factory is likely to have had a severe widespread destructive impact on any earlier sub-surface horizons. Additionally, the development of the current commercial units will have further reduced the archaeological potential of the Application Site.
- 6.4.11 Assessment of potential impacts to the setting to the Reading Abbey: a Clunio and Benedictine monastery and Civil War earthwork Scheduled Monument will be conducted within the Townscape, Visual Impact and Built Heritage chapter.
- 6.4.12 The key activities and resultant potential impacts on archaeological resources, associated with the Application Site include:
- Direct effects on archaeological deposits, if present, from pile probing and piling.
 - Direct effects on archaeological deposits, if present, from any other earth works proposed (e.g. around proposed public square by river, any site levelling, excavation of basements).
- 6.4.13 In response to RBC's Screening Opinion, it is proposed that Archaeology should be scoped in to the EIA. It has also been agreed with Berkshire Archaeology that a staged programmed of pre-determination archaeological evaluation should be undertaken. These pre-determination investigations should be focused to establishing the geo-archaeological potential of the Application Site. Any further archaeological evaluation required to establish the presence of later archaeological remains (i.e. Post-Medieval) can be undertaken as a condition of planning consent.
- 6.4.14 A meeting was held with Berkshire Archaeology on-site on 13th July 2016 to agree the methodology. The minutes from this meeting can be found at **Appendix 6**.

Further work and Impact Assessment

- 6.4.15 An Archaeological Evaluation will be carried out in accordance with the standards specified by the Chartered Institute for Archaeologists (CIfA, 2014), Historic England and the Association of Local Government Archaeological Officers.

⁸ Reading Borough Local Development Framework, Core Strategy

- 6.4.16 A desk based assessment has already been carried out. This has enabled the Application Site to be placed within its full archaeological and historical context and has provided an assessment of the sensitivity of the Application Site in archaeology terms.
- 6.4.17 Further to this, it has been agreed with Berkshire Archaeology that a staged programme of pre-determination archaeological evaluation should be undertaken. These pre-determination investigations should be focused to establishing the geo-archaeological potential of the Application Site.
- 6.4.18 The first step of the staged evaluation will be the preparation of a geo-archaeological deposit model report, once the geotechnical site investigation logs are available. This would be a desk-based exercise that would use the site investigation logs and other geo-archaeological data from the local area to model the potential for geo-archaeological deposits within the Application Site, which could then be compared to potential impacts from the foundations of the Proposed Development. If this exercise demonstrates that potential impacts will be limited, consultation with Berkshire Archaeology will be undertaken, as to whether further intrusive evaluation works could be deferred to post-approval and required on condition of consent.
- 6.4.19 If the deposit model indicates there could be significant impacts, then the next step would be to commission an on-site programme of geo-archaeological boreholes to test the deposits directly. The content of the report should then be sufficient to inform the archaeological ES chapter.
- 6.4.20 It was agreed with Berkshire Archaeology, that any further archaeological evaluation required at this point to establish the presence of later archaeological remains (i.e. Post-Medieval) can be undertaken as a condition of planning consent.
- 6.4.21 Historic England and Berkshire Archaeology will need to be consulted as part of the scoping of the EIA and regarding mitigation proposals.
- 6.4.22 The Townscape Character, Visual Effects and Built Heritage will address potential study impacts upon any built heritage features and conservation areas. As such, it will draw upon and cross reference the Archaeology chapter as needed.

6.5 Ecology

Introduction

- 6.5.1 This assessment will consider the likely impacts of the Proposed Development on potential ecology within the Application Site.

Planning and Policy

- 6.5.2 The Conservation of Habitats and Species Regulations 2010 (as amended)⁹ implements the Bern Convention¹⁰, the Birds Directive¹¹ and the Habitats Directive¹². These Directives provide protection for various fauna and flora termed European Protected Species (EPS). In the UK all EPS receive full protection under the Habitats Regulations through their inclusion on Schedule 2. (The directives also specify the designation and protection of Special Areas of Conservation (SACs) and Special

⁹ HMSO (2010) The Conservation of Habitats and Species Regulation (as amended)

¹⁰ EUR-Lex (1982) The Council of Europe's Convention on the Conservation of European Wildlife and Natural Habitats, also known as the Bern Convention

¹¹ EUR-Lex (2009) Directive 2009/147/EC (Birds Directive)

¹² EUR-Lex (1992) Directive 02/43 EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive).

Protection Areas (SPAs) which are together known as Natura 2000 sites; though this is not relevant to the present project).

- 6.5.3 The Wildlife and Countryside Act (WCA), 1981 (as amended) provides legal protection for Sites of Special Scientific Interest (SSSI) in England and Wales. It also provides varying levels of protection for all wild birds, including those listed in Schedule 1, which receive greater protection whilst breeding, along with animals listed in Schedule 5 of the Act.
- 6.5.4 The Natural Environment and Rural Communities Act 2006 and NPPF set out that the local planning authorities should aim to conserve and enhance biodiversity by applying a set of principles. Key amongst these is promoting the conservation interests of Priority Habitats (56 No.) and Species (943 No.) listed on Section 41 of the Act, all of which are material considerations in planning. The act also sets a strong framework for conserving existing designated sites and ensuring development does not result in significant harm to the natural environment.
- 6.5.5 RBC is currently working on producing a new Local Plan, which will replace the current development plans with a new plan setting out how Reading will develop up to 2036. This new plan is expected to be available for consultation in 2017 so, until then, the Core Strategy, Reading Central Area Action Plan and the Sites and Detailed Policies Document remain the relevant local policy.
- 6.5.6 A further material consideration in planning is the Reading Biodiversity Plan , 2005. Priority Species of potential relevance to the present assessment include all bat species.
- 6.5.7 A more detailed analysis of the relevant legislation, planning and policy can be found at section 3.2 of the **Preliminary Ecological Appraisal, Appendix 3**.

Baseline Information and Key Issues

- 6.5.8 There are no Ramsar, Special Areas of Conservation, Special Protection Areas, National Nature Reserves, Sites of Special Scientific Interest or Biosphere Reserves within 2 km of the Application Site.
- 6.5.9 The closest designated ecological site is a parcel of Priority Habitat Inventory classified as deciduous woodland approximately 280 m to the north, however this is separated from the Application Site by the railway line.
- 6.5.10 Within 2 km of the Application Site that are 10 non-statutory locally designated sites, referring to Reading Borough as Local Wildlife Sites. These are as follows:
- Cow Lane Depot
 - Fobney & Kennet Valley Meadows
 - Henley Road Gravel Pit
 - Holy Brook
 - Reading Cemetery
 - River Kennet/ Kennet and Avon Canal
 - The Coal, Kennetmouth and Kings Meadow East
 - The Warren Woodlands Complex
 - Whiteknights Park
 - Whitely Park Farm/ St Patrick's Hall
- 6.5.11 The following ecological surveys have already been carried out;

- an ecological desk study to review the existing ecological information relating to the Application Site and its ecologically relevant context;
- an Extended Phase 1 Habitat Survey was completed on 9 May 2015 in line with standard survey methods (JNCC, 2010) which was extended to consider the potential for the presence of protected and/or notable species and also any incidental field observations (CIEEM, 2016); and
- a Ground Level Assessment of trees and buildings for bat roosting potential.

- 6.5.12 In order to carry out the ecological desk study, ecological records were obtained from the Thames Valley Environmental Records Centre (TVERC) from within 2 km of the Application Site, extended to 10 km for Annex II bats, based around the OS grid reference SU722735. Section 2.1 of the Preliminary Ecological Appraisal, **Appendix 3**, lists the datasets reviewed (considering data collected since 2006) and the organisations where information was requested from. The River Kennet proved to be the most interesting aspect in close proximity to the Application Site and is one of England's most important chalk streams (although by the time it arrives in Reading it is more neutral and relatively ecologically impoverished in condition).
- 6.5.13 As part of this ecological desk study, multiple records of bats were provided by TVERC with 2 km of the Application Site (most of which are for Common Pipistrelle and Soprano Pipistrelle, with smaller number of Brown Long-eared bats). There were also significant bird records in the wider area but not for the Application Site area itself or for the adjoining section of the River Kennet. In terms of the fish population, the ecological desk study found that the lower reaches of the Kennet River catchment offer a very high standard of Barbel fishing and attract specimen anglers from throughout the UK. Large Pike have also been landed by anglers in the vicinity of Forbury Loop.
- 6.5.14 The Phase 1 Habitat Survey site walkover found that the buildings and trees within the Application Site have very limited potential for roosting bats. There were no protected species recorded or evidence of potential presence. The Application Site does include a non-native invasive Schedule 9 listed plant (small-leaved Cotonaster). It is an offence to carry out any operations which cause the spread of this species and so guidance within the CoCP on how to carefully remove and dispose of the plant will be included.
- 6.5.15 The Application Site is primarily hardstanding with some limited ornamental planting which in itself is of very limited ecological importance. The Application Site's potential value is notable in terms of biodiversity and opportunities for passive recreation due to its position adjacent to the River Kennet.
- 6.5.16 The Application Site lies within a breeding area suitable for Lapwing, however, given the existing condition of the Application Site (majority hard standing, car park and building) it is not considered likely to be of value to this species. Given their common sightings across the region and ability to easily relocate, any impacts to the species are expected to be negligible.
- 6.5.17 Although the River Kennet is in close proximity to the Application Site, no works are currently within the river. Appropriate construction management techniques will be enforced through the CoCP to prevent any impact on the river such as dust deposition or surface runoff.
- 6.5.18 There are a number of trees and areas of dense scrub currently providing a border to the Application Site (particularly to the southeast of the Application Site).
- 6.5.19 Despite the lack of ecological features on the Application Site, the Phase 1 Habitat Survey did confirm features of ecological interest on the island located in close proximity to the south (Chocolate Island). Bats could potentially be roosting within the trees and foraging and commuting bats are likely to be using the river as a flyway and so their movement could be disrupted by any development of the island. The river wall also has the potential for breeding birds and there was also a sighting of Otters in the waters around Chocolate Island as well as anecdotal records of weekly sightings of Otters in the area.
- 6.5.20 No development of the island is intended and although no features of ecological interest have been found on the Application Site, it is proposed that ecology be scoped in to the EIA to consider the disturbance/ indirect impacts of potential species on the island from Proposed Development. It is proposed however that the scope of the ecological assessment be restricted to primarily focus on

assessing the likely effects on breeding birds, bats and otters.

Further Work and Impact Assessment

- 6.5.21 Further ecological survey work is currently underway in relation to use of Chocolate Island and the relevant sections of the river by bats and Otters in keeping with good practice and in discussion with the Local Authority Ecologist to permit assessment of any net changes in disturbance from human activity.
- 6.5.22 The assessment will be carried out in accordance with the CIEEM 2006 Ecological Impact Assessment guidelines¹³.
- 6.5.23 The value of the ecological receptors (on site trees/ shrubs and ornamental planting and off site River Kennet, Bats, Breeding birds and Otters) will be determined within a defined geographical context. The following categories will be used in this assessment:
- International;
 - UK;
 - National;
 - Regional;
 - County;
 - District (or Unitary Authority);
 - Local or Parish; and
 - Within the Proposed Development's zone of influence.
- 6.5.24 Following the CIEEM guidelines a range of criteria will be considered in assigning ecological value, including:
- Presence of sites or features designated for their nature conservation interest;
 - Biodiversity value; addressing the specific habitats and species;
 - Potential value;
 - Secondary and supporting value;
 - Social value;
 - Economic value; and
 - Presence of legally protected sites and species.
- 6.5.25 In line with CIEEM guidelines, the prediction of impacts will be characterised as either significant or insignificant, primarily on the basis of effects on the integrity of a defined site or ecosystem and/ or the conservation status of habitats or species within a given geographical area.
- 6.5.26 A Stage 1 Arboricultural Report will also be prepared and any trees to be lost as part of the Proposed Development will be re-provided such that at maturity they will replace or improve upon the existing ecological and landscape functionalities of the existing trees, with native species being favoured where appropriate. Details of both landscape and ecological mitigation and enhancement measures will be provided within a Landscape and Ecological Management Plan (LEMP) to be prepared in consultation with RBC, and to be submitted with the planning application.

¹³ Chartered Institute of Ecology and Environmental Management (2006). Guidelines for Ecological Impact Assessment in the United Kingdom.

7. NON-SIGNIFICANT ISSUES

7.1 Topic Sections

- 7.1.1 The following sections of this EIA Scoping Report describe the topics where it is believed there is not the potential for significant environmental effects to arise from impacts associated with the Proposed Development.
- 7.1.2 The following topics are proposed to be scoped out of the EIA:
- Socio-Economic;
 - Waste;
 - Energy;
 - Traffic and Transport;
 - Noise and Vibration;
 - Ground Conditions;
 - Water Resources and Flood Risk; and
 - Microclimate (Wind, Daylight and Sunlight).

7.2 Socio-Economic

- 7.2.1 The aim of the Proposed Development is to create a new residential hub including open space by the riverside of the River Kennet. The Application Site is part on an ongoing wider policy consideration that is looking to refresh the Kenavon Drive area. Development of the Application Site would unlock great potential in the surrounding areas creating the possibility for the clear, legible network of spaces and streets that reconnects King's Meadow and the Kennet walk to the town. The development of Kenavon Drive would increase the provision of public open space, improve pedestrian and cycle routes along the north bank of the River Kennet and improve access to the river from the wider area.
- 7.2.2 A number of jobs at both Homebase and Toys R Us would be lost as a result of their closure and subsequent demolition. The majority of these jobs are likely to be retail related and therefore involve skills that are highly transferable to other locations, and whilst this effect is adverse, it is considered not likely to be significant.
- 7.2.3 The Proposed Development will also create jobs during both the construction and operational phase. Appointed contractors will be required to make best use of local labour during the construction phase, creating a beneficial but temporary effect on the local job market and once the Proposed Development is operational, a number of jobs will be created through the retail, leisure and community uses proposed.
- 7.2.4 An increased residential population, resulting from the operation of the Proposed Development is likely to lead to an increase in local spending and the operation of the Proposed Development will give rise to the need for services that may most efficiently be provided by local businesses. However, the same increase in population may also lead to an increased pressure on both local educational and healthcare facilities. It is intended that the educational and healthcare requirements resulting from the Proposed Development will be addressed through appropriate financial contributions to be agreed with RBC as part of the Community Infrastructure Levy and S106 process.
- 7.2.5 RBC's Screening Opinion confirmed that RBC do not foresee the Proposed Development resulting in significant social changes given the existing/ future facilities within the borough to mitigate the impact on an increased population to the town. It is therefore proposed that socio- economic will be scoped out of the EIA for both operation and construction.

7.3 Waste

- 7.3.1 The Proposed Development is likely to generate a number of waste streams through demolition, construction and operation. These include:
- demolition waste related to existing built elements of the Application Site;
 - construction waste related to any remediation strategy and site earthworks required. This may include contaminated materials (i.e. hazardous waste);
 - excess materials and packaging related to the build out process; and
 - domestic waste and a limited element of commercial waste related to the operation of the completed development.
- 7.3.2 Impacts resulting from the storage, handling and management of these waste streams can include:
- traffic related impacts related to the vehicles trips generated by the need to transport construction and demolition waste;
 - local air quality and noise impacts related to these vehicle trips;
 - risk of contamination pathways resulting from the storage of waste onsite (e.g. wind blown construction dust, contaminated run-off to surface waterbodies and contaminated leachate to groundwater);
 - traffic, local air quality and noise impacts related to the transport of waste generated by the Proposed Development's operations; and
 - impacts upon the capacity of local waste management facilities.
- 7.3.3 During construction and demolition, the effects of waste are, however, likely to be limited, with the wastage of construction materials to be minimised through good onsite management practices, managed through effective implementation of a Code of Construction Practice (CoCP). The CoCP will form part of the planning application as a document for approval.
- 7.3.4 In operational terms, the generation of commercial waste is likely to be reduced relative to the existing commercial operations on the Application Site. A residential domestic waste stream will be introduced to the site, however, the provision and use of appropriate waste recycling and composting facilities will reduce the effect of the Proposed Development on the capacity of local waste management facilities. A Sustainability Statement is to be submitted alongside the planning application which will include a consideration of the potential impacts in relation to waste management and a strategy for ensuring any impacts are managed effectively.
- 7.3.5 RBC's Environmental Protection team has commented that the Proposed Development is likely to have only local impact rather than a wider one. A full EIA is therefore not considered to be necessary by Environmental Protection Staff. Any effects should be managed through an Air Quality Assessment; a Noise Assessment and a Contaminated Land Assessment waste management plan.
- 7.3.6 Impacts related to the storage, transport and management of waste, therefore, will be considered within a number of technical reports, listed in section 9.1.2, to be submitted as part of the planning application. These technical assessments will ensure that any impacts are avoided or minimised, and therefore, the Proposed Development is not considered likely to lead to any significant effects related to the storage, handling and management of waste.
- 7.3.7 In addition, the Environmental Assessment, Forbury Retail Park, Kenavon Drive report (Delta-Simons, 2013) (**Appendix 4**), has identified that no significant contamination exists on site, and the risk of contaminated run-off or ground leachate from stockpiled waste on site, is therefore negligible.
- 7.3.8 It is therefore proposed that Waste be scoped out of the EIA for both construction and operation. An Air Quality Assessment, a Noise Assessment, a Transport Assessment and a Contaminated Land Assessment waste management plan will be prepared to be submitted with the planning application to manage any effects.

7.4 Energy

- 7.4.1 An Energy Strategy is to be prepared for approval as part of the planning application which will set out how the Proposed Development is to achieve the requirements of current building regulations and conform with local policy for both the residential and commercial elements of the Proposed Development. In addition, the Proposed Development will meet the BREEAM rating of at least 'very good' for all retail elements. The Proposed Development will also achieve at least 20 % CO² emissions reduction through the use of low and zero carbon technologies.
- 7.4.2 During both construction and operation, every effort will be made to keep energy use to a minimum and adhere to RBC's objectives regarding the issues.
- 7.4.3 RBC confirmed in their Screening Opinion that no significant effects are anticipated but that the Applicant should be encouraged to recycle materials and/or source from local suppliers.
- 7.4.4 It is proposed that Energy be scoped out of the EIA for both construction and operation. The Energy Strategy will instead set out how energy use will be minimised and how the Proposed Development will conform with current building regulation use and with national and RBC's local policy and objectives.

7.5 Traffic and Transport

- 7.5.1 Current traffic generation on the Application Site is related to the two large commercial units operating on the Application Site.
- 7.5.2 The Proposed Development will change the character of traffic flows generated by the Application Site. Morning peak flows are likely to increase, whilst flows throughout the rest of the day are likely to be reduced. Annualised net flows are unlikely to increase significantly from existing flows given the existing large scale retail land use and the significant levels of existing free car parking on the Application Site.
- 7.5.3 Traffic and transport impacts related to new development proposals, during both construction and operation, can include:
- Safety, amenity, severance and delay of pedestrians and cyclists.
 - Road network delay and safety of road users.
 - Public transport patronage and capacity and parking capacity changes.
- 7.5.4 Construction traffic (including HGVs) routing to and from the Proposed Development would be, as far as possible, directed along the strategic road network and use a designated road for access to the construction site. A CoCP will be produced, which will seek to minimise the environmental effects, including any transport effects, of the construction of the Proposed Development. The measures in the CoCP will include the requirement for the production of a Traffic Management Plan in consultation with the highway and traffic authorities and the emergency services.
- 7.5.5 The Traffic Management Plan will include safety measures for the public and construction staff during traffic management and temporary traffic control measures, as well as the agreement of routes for HGVs with RBC prior to commencing works at any worksite.
- 7.5.6 A Transport Assessment is to be carried out and will accompany the planning application. This assessment will consider changes to flow on the surrounding road network, and will inform the development of the Proposed Development's S.278, parking and servicing requirements as well as the level of any appropriate financial contributions for transport improvements on the wider road network.
- 7.5.7 RBC's Screening Opinion highlighted that although the Application Site is adjacent to the Inner Distribution Road which is susceptible to congestion, an EIA is not deemed to be required and a

stand-alone Transport Assessment should assess the likely impacts of the Proposed Development.

- 7.5.8 Significant effects related to traffic and transport are not anticipated as a result of the construction or operation of the Proposed Development and it will not result in a significant increase in trips, when compared to those generated by the existing use of retail units. Requirements identified with the CoCP and the Transport Assessment (both to be prepared as part of the application) will ensure that any effects are mitigated to acceptable levels. It is therefore proposed that Traffic and Transport should be scoped out of the EIA for both construction and operation. A Transport Assessment will assess the likely impacts and the CoCP and Transport Management Plan will adequately incorporate measures to minimise any effects. Any residual effects are not anticipated to be significant.

7.6 Noise and Vibration

- 7.6.1 Environmental noise conditions at the Application Site are predominantly formed by road traffic noise from the road network around the Application Site, in particular the A329 to the west and Kenavon Drive to the north. There are few residential receptors nearby and surrounding the Application Site with the exception of the Berkshire Rooms Meridian House residential development to the immediate east of the Application Site.
- 7.6.2 Existing operational noise sources on the site include noise generated by mechanical plant used by the two large retail outlets, as well as vehicles entering and exiting the Application Site (including servicing/delivery vehicles).
- 7.6.3 During construction, noise and vibration will also be generated by construction plant, piling, general construction noise and additional construction traffic.
- 7.6.4 It is likely residents of the Berkshire Rooms Meridian House residential development will experience some disruption during construction. However, this will be temporary, and managed and mitigated through the CoCP to be submitted as part of this application.
- 7.6.5 Operational noise generated by the Proposed Development (predominantly residential), is likely to be similar in character to the existing, i.e. mechanical building plant and traffic generated noise, albeit that the temporal characteristics of the operational traffic flows may be different. Overall, it is considered not likely that the Proposed Development will generate significant operational noise or vibration impacts upon surrounding receptors.
- 7.6.6 The following sensitive environmental and heritage designations are within close proximity of the proposed development:
- Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork (Scheduled Ancient Monument);
 - Reading Gaol (main building) former Her Majesty's Prison Grade II Listed Building;
 - the Forbury Garden Grade II listed registered park and garden;
 - River Kennet to the south, a tributary of the River Thames with confluence approximately 750m north east of the Proposed Development;
 - River Kennet and Chestnut Walk (public footpath and Oscar Wilde memorial); and
 - Market Place/London Road conservation area to the west and Eldon Square Conservation Area to the east.
- 7.6.7 Reading Abbey, Reading Gaol, Reading Abbey and Forbury Garden are some way to the west of the Proposed Development, and separated from the Application Site by the slightly elevated Forbury Road (A329). The River Kennet and Chestnut walk is situated between the River Kennet and Reading Gaol's high wall. This walk starts to the west of the Application Site on Forbury Road (A329). Both conservation areas are some distance from the Application Site and separated by London Road. The existing noise environment for these receptors is dominated by the road noise from the intervening roads and therefore it is not considered likely that there will be any significant increase in

noise affecting the settings of these receptors resulting from either the construction of the Proposed Development, or its operation.

- 7.6.8 Vibration from construction activities (e.g. piling), will be managed to acceptable levels through the provisions of the CoCP and the effects of the Proposed Development on these built heritage features (both direct and setting effects) are to be assessed as part of EIA heritage section (**see section 6.3**). Consultation with Historic England, RBC and Berkshire Archaeology will be undertaken as part of the EIA scoping process. It is, however, not considered likely that construction vibration will have an effect on the heritage receptors to the west of the Application Site given the relative distances between the sites. A number of more contemporary office buildings (e.g. Abbots House and Abbey Gardens) lie in closer proximity to the Reading Abbey Ruins and set a useful precedent in this regard.
- 7.6.9 A noise assessment report and Site Suitability assessment will however be carried out for the new proposed uses on Application Site which will consider the existing baseline noise levels, particularly from Forbury Road (A329) and the railway line to the north, along with any embedded design mitigation that might be appropriate.
- 7.6.10 An outline methodology for the proposed noise and vibration assessment includes:
- Consultation with RBC's Environmental Health Officer to confirm the proposed noise and vibration assessment methodology.
 - A noise environmental survey to establish the existing ambient noise climate at the Application Site.
 - Four days of unattended noise monitoring at up to two locations on the Application Site to establish typical noise levels during the day time and night time period for a typical week and a full weekend.
 - Additional attended measurements will be undertaken to assess any variation in noise levels throughout the Application Site from specific nearby noise sources.
 - Attended vibration measurements will be undertaken to determine the exposure of the Proposed Development to vibration from the railway.
 - All measurements will be completed in terms of A-weighted broad band and un-weighted octave band L_{eq} , L_{max} and L_{10} and L_{90} as a minimum. Meteorological conditions would also be observed to establish the validity of the data.
- 7.6.11 An outline methodology for the proposed site suitability assessment will include:
- Construction of a noise model based upon the baseline noise survey correcting for the new building layout and future anticipated changes to the road or rail traffic.
 - Assessment of noise exposure on the proposed noise sensitive development will be completed based on the results of the noise model.
 - The noise sensitive properties will be categorised with regard to noise exposure and the suitability of the site will be assessed for the noise sensitive use e.g. residential, etc. in accordance with established guidance e.g., BS 8223 and WHO guidelines and local authority requirements.
- 7.6.12 It is anticipated that the Proposed Development is likely to result in noise and vibration during the construction and end use stage but that this is likely to be managed through design development and the provisions of the COCP to be submitted at the time of the planning application.
- 7.6.13 It is therefore proposed that Noise and Vibration be scoped out of the EIA for both construction and operation. A stand-alone noise and vibration assessment will assess any likely impacts and the site suitability assessment results will be incorporated into the design and construction management processes going forward.

7.7 Ground Conditions

- 7.7.1 The British Geological Survey on-line mapping data indicates that the site is underlain by superficial deposits of the Taplow Gravel Formation deposits comprising sand and gravels. The Taplow Gravel

overlies bedrock of the Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated) at depth beneath the Application Site.

- 7.7.2 Historically the Application Site was occupied by a biscuit factory prior to its current use, and before that was mainly in agricultural use. Potentially contaminative land uses in the surrounding area include a railway located approximately 120 m north of the Application Site from 1883 to the present day; a gas Works and gas holder located approximately 80 m south of the Application Site (on the opposite side of the River Kennet) from 1900 to 1948; and a Sewage Pumping Station located approximately 75 m southeast of the Application Site from 1883 to 1939.
- 7.7.3 Ground conditions generally comprise asphalt over Made Ground of gravelly sandy clay to a maximum depth of 4.0 m bgl. Made Ground is generally underlain by Alluvium Deposits, comprising gravelly sand and clay, to a maximum depth of 5.5 m bgl, over chalk. However, Alluvium is absent in some locations and Made Ground directly overlays the chalk.
- 7.7.4 The Environmental Assessment, Forbury Retail Park, Kenavon Drive report (Delta-Simons, 2013) (**Appendix 4**), has identified that no significant contamination exists on the Application Site, with only slightly elevated concentrations of Total Petroleum Hydrocarbons (TPHs), Polycyclic Aromatic Hydrocarbons (PAHs) (both associated with high ash and cinder content) and lead present at two boreholes (out of 17 sampled). Marginally elevated levels of chromium and copper were found in one out of five groundwater samples, although levels were still below UK drinking water requirements.
- 7.7.5 The calculated ground gas regime at the Application Site is a Characteristic Situation 1, however, this may be increased to a Characteristic Situation 2 - low risk due to slightly elevated concentrations of carbon dioxide.
- 7.7.6 Potential sensitive receptors include groundwater and surface waterbodies, construction workers and future site users. The Environmental Assessment report (2013), formulated a conceptual site model with the main findings being:
- Low risk of vertical or lateral migration of contaminants into surface waterbodies or groundwater, although given a Principal Aquifer underlies the Application Site, a Piling Risk Assessment would be required.
 - Low to medium risk of direct contact, ingestion or inhalation of contaminants by construction workers. This risk would be minimised through appropriate toolbox talks which would remind workers of requirements regarding personal protective equipment (PPE) and site health and safety documentation, and also the requirements of the CoCP regarding the suppression of construction dust.
 - Low risk to future site users from contaminants in the soil would be obviated by removing the potential exposure pathways through use of a suitable cover system in all soft landscaped areas. It is anticipated that that would comprise a marker geotextile and capillary break layer and a layer of imported certified suitable for use topsoil and subsoil.
 - Low risk to future site users from ground-gas. This risk will be removed by the use of basic ground gas protection measures in the construction of new buildings at the Application Site, comprising as a minimum a damp proof membrane and sub-floor void/ventilation.
- 7.7.7 Given the low risks identified within the site conceptual model and the mitigation measures proposed, it is not considered likely that the Proposed Development will lead to significant contamination effects. This position is supported by RBC's EIA Screening Opinion, although RBC's Environmental Protection Officer has detailed a stand-alone contaminated land report should be submitted with the planning application.
- 7.7.8 Given the ground survey work that has previously taken place on the Application Site, Ground Conditions will be scoped out of the EIA for both construction and operation. A Contaminated Land Report will however be provided.

7.8 Water Resources and Flood Risk

Flood Risk

- 7.8.1 The Environment Agency (EA) Flood Zone mapping identifies the Application Site as being partially within Flood Zone 2 (medium risk) and partially within Flood Zone 1 (low risk), however a Strategic Flood Risk Assessment (SFRA)¹⁴ prepared for RBC to accompany the Reading Central Area Action Plan to 2026 indicates that the Application Site would be appropriate for development that was largely residential in nature, providing that a site level Flood Risk Assessment (FRA) is prepared as part of any application.
- 7.8.2 Further to this, a Preliminary Flood Risk Assessment was produced for RBC in June 2011. This helped inform the preparation of Reading's Local Development Framework (LDF). This document includes information on historic floods in the area and indicates no recorded flooding on the Application Site.
- 7.8.3 A site specific Flood Risk Assessment, taking into account the recent NPPF updates regarding climate change prediction on the flow and flood storage on the Application Site, will also be undertaken and submitted as part of the planning application. However, the new climate change allowances do not change the existing EA Flood Zones for planning purposes and therefore as the site is located within Flood Zone 2 residential development is considered appropriate by NPPF, without requiring an Exception Test.
- 7.8.4 Recommended climate change allowances within the NPPF were updated in February 2016. Peter Brett Associates (PBA) has obtained and reviewed the existing EA models of the River Kennet and River Thames near the site. The allowances of 35% and 70%, recommended for residential uses within Flood Zone 3 in the Thames basin, have been simulated as a conservative assessment. The model results confirm that the Application Site is unaffected. In all 1:100yr simulations including new climate change allowances, the flood level at the site is less than 37.50 m AOD. The levels on the Application Site are all entirely above this level, with minimum ground levels being above 38.0 m AOD. This puts the Application Site outside of Flood Zone 3 with a minimum freeboard of 0.5 m above the 1% AEP flood level including climate change. The updated modelling has been submitted to the EA for review.
- 7.8.5 The Application Site can therefore be considered to be safe from flooding throughout its lifetime (50-100 years) and dry access can be maintained during an extreme fluvial flood event, up to the 1% AEP flood level including climate change with a minimum freeboard of 0.50 m. This is consistent with EA guidance which requires a minimum finished floor level 300mm above the 1% AEP flood level, including climate change and therefore no further flood mitigation is considered necessary.

Surface Water Drainage

- 7.8.6 The Application Site is currently almost entirely covered by hard standing and the existing surface water run-off drains to the River Kennet and Thames Water's surface water sewer in Kenavon Drive with little or no upstream attenuation.
- 7.8.7 The Proposed Development will employ a Sustainable urban Drainage System (SuDS) to substantially reduce run-off from the current brownfield rate. These measures are likely to include permeable paving, podium attenuation, cellular storage, bio-retention and green – brown roofs. This will provide a significant improvement over both the existing rate and water quality of run-off from the Application Site.
- 7.8.8 It is therefore concluded that the Application Site is not at significant risk of flooding and that the proposed drainage system will result in a reduction to the risk of flooding off-site. As a result, no

¹⁴ Strategic Flood Risk Assessment (SFRA), Level 1, Reading Borough Council, March 2009 (Final Report)

significant impact on flood risk and drainage is anticipated as a result of the Proposed Development.

Water Quality

- 7.8.9 The Environment Agency aquifer designation maps indicate that the superficial deposits (Taplow Gravel Deposits) are classified as a *Secondary A Aquifer*. The Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) underlying the Site at depth is understood to be classified as a *Principal Aquifer*.
- 7.8.10 The Application Site is located within a Total Catchment Source Protection Zone (SPZ3) of a water abstraction well located approximately 1 km to the south of the Application Site. The abstraction is from the chalk aquifer at depth. Groundwater is found at depths of between 2.5 m to 3 m below ground level (bgl) across the Application Site.
- 7.8.11 The nearest surface watercourse to the Application Site is the River Kennet which flows within a sheet piled channel along the southern boundary of the Application Site. The flow is towards the east.
- 7.8.12 As explained in section 4.8, the Environmental Assessment, Forbury Retail Park, Kenavon Drive report (Delta-Simons, 2013) (**Appendix 4**), has identified that no significant contamination exists on site including in the groundwater.
- 7.8.13 The SuDS system will use lined (tanked) systems to prevent infiltration into the ground and the potential to mobilise contaminants. Water quality will also be improved through the filtration action and biological cleaning processes on attenuated run-off. Oil interceptors, catchpits and gullies will also be utilised where appropriate to provide additional pollution control. The SuDS system will be designed using the principles specified by the CIRIA SUDs manual, Sewers for adoption and Building Regulations H.
- 7.8.14 No significant potential source of soil or groundwater contamination has been identified at the Application Site. The marginally elevated concentrations of chromium and copper in the groundwater at a single location are not considered to be indicative of wider groundwater contamination or present a risk to controlled waters through migration or the creation of preferential pathways through piling. However, given the underlying Principal Aquifer it is considered likely that a Piling Risk Assessment will be required.
- 7.8.15 During construction, there is some potential for wind-blown dust to temporarily affect nearby receptors. However, through the use of best practice measures during construction, such as dampening down of exposed soil heaps and access roads, it is not considered likely that this would result in a significant reduction in amenity. These are industry standard measures that will form part of the CoCP and can be controlled through a standard condition attached to the planning permission.
- 7.8.16 Effective implementation of the provisions of the CoCP will minimise the potential for accidental pollution events, and polluted runoff to surface waterbodies or groundwater. The CoCP will form part of the planning application as a document for approval.
- 7.8.17 Given that significant effects on flood risk or water quality, as a result of the Proposed Development are not considered likely, it is proposed that water resources and flood risk are scoped out of the EIA. This is consistent with the advice provided in RBC's Screening Opinion. Also, in line with a request from the Councils EPO (within RBC's Screening Opinion) a separate stand-alone contaminated land report will be prepared, which will consider surface water and ground water quality, to further ensure any potential significant effects are mitigated.
- 7.8.18 In line with the National Planning Policy Framework, a Flood Risk Assessment (FRA) and Drainage Strategy, will be conducted and submitted in support of the planning application. The results of the FRA will be incorporated into the design and construction management processes going forward and all necessary flood resilience and resistance measures will be implemented and maintained.
- 7.8.19 As such no significant effect impact on water quality is anticipated as a result of the Proposed Development. It is necessary, however, to consider how the Proposed Development might impact on achieving the objectives of the Water Framework Directive. No 'in stream' works are proposed with

the nearest works being to the landside of the tow path. Additionally the Proposed Development has limited effects on drainage and water quality and is subject to only a low-medium flood risk. A WFD screening exercise will however be undertaken, using the EA's guidance and forms, 'Water Framework Directive Assessment for Physical Works on Rivers,' and regulatory position on compliance statement produced if necessary.

7.9 Microclimate (Wind, Daylight and Sunlight)

- 7.9.1 There are few receptors (e.g. residential dwellings, areas of public realm and open space) within sufficient proximity to the Application Site as to be likely to be affected by potential changes to local microclimate as a result of the Proposed Development. Exceptions to this include the riverside walk along the River Kennet and the area of residential development to the east of the Proposed Development.
- 7.9.2 The built form of south of the Proposed Development bordering the eastern end of the Application Site (adjacent to the existing residential development) is to be of relatively modest massing and height (approximately 3 storeys). The existing residential units also lie slightly to the south of the proposals and therefore daylight, sunlight and overshadowing effects are expected to be negligible.
- 7.9.3 The Application Site includes for an enhanced waterfront area alongside the River Kennet (as the main area of public realm). Given their southerly orientation, the riverside walk and new public realm area are expected to experience excellent levels of daylight and sunlight, unaffected by the Proposed Development. Recreational activities within these amenity spaces, would however be more sensitive to wind conditions.
- 7.9.4 Areas to the north of the Application Site, across Kenavon Drive, are predominantly car parking, with any retail units at sufficient distance to be unaffected by the Proposed Development. Reading Gaol, Reading Abbey Ruins and public open space to the west are separated from the site by the Forbury Road (A329), and again at sufficient distance so as to be unlikely to suffer any significant microclimate impacts (daylight, sunlight or wind effects) as a result of the Proposed Development.
- 7.9.5 An 19 storey building is proposed in the northeast of the Proposed Development and the introduction of a taller building has the potential to deflect high-level winds down to pedestrian level before channelling along the building fronts and accelerating around the corners. The potential impacts of the Proposed Development upon itself (i.e. the population to be introduced), is not strictly an EIA consideration and therefore any effect will be assessed and addressed within a stand-alone wind microclimate report to be submitted with the planning application.
- 7.9.6 Given the limited height of the Proposed Development (in general), and the low number of sensitive receptors within sufficient proximity of the Proposed Development, so as to be potentially affected by daylight, sunlight and wind microclimate impacts, it is proposed to scope this topic out of consideration for the EIA. A stand-alone daylight and sunlight desk study will be undertaken to support the planning application, and a stand-alone qualitative wind microclimate report will also be prepared.

8. PROPOSED STRUCTURE OF THE ENVIRONMENTAL STATEMENT

8.1.1 The ES will comprise the following set of documents:

- ES Volume I: Non- Technical Summary NTS: this document will provide a concise summary of the Proposed Development, alternative designs that were considered, environmental impacts and mitigation measures.
- ES: Volume II: Main Text: this will contain the main body of the EIA with the proposed chapter headings as set out below.
- ES Volume III: Technical Appendices: these will provide supplementary details of the environmental studies conducted during the EIA including relevant data tables, figures and photographs.

8.1.2 It is currently envisage that the ES Volume II: Main Text will be structured with the following chapter headings:

- Chapter 1: Introduction
- Chapter 2: EIA Methodology
- Chapter 3: Alternatives and Design Evolution
- Chapter 4: The Proposed Development
- Chapter 5: Construction
- Chapter 6: Air Quality
- Chapter 7: Archaeology
- Chapter 8: Townscape, Visual Effects and Built Heritage
- Chapter 9: Ecology
- Chapter 10: Summary of Cumulative Effects, Residual Effects and Conclusions

9. SUMMARY OF PROPOSED EIA/ ES SCOPE

9.1.1 As set out in this Scoping Report, the following environmental topics are proposed for consideration within the ES:

- Air Quality;
- Archaeology;
- Townscape, Visual Effects and Built Heritage; and
- Ecology.

9.1.2 There will also be the following related stand-alone documents submitted as part of the planning application:

- Affordable Housing Statement
- Transport Assessments
- Travel Plan
- Flood Risk Assessment
- Sustainable Drainage System Proposals
- Utilities Statement
- Tree Surveys
- Vent/ Flue and Ventilation Details
- Contaminated Land Surveys and Report
- Daylight/ Sunlight Assessment
- Sustainability Statement
- Energy Efficiency Statements
- Landscape and Ecology Management Plan
- Noise and Vibration Impact Assessment
- CoCP
- Wind Microclimate Report
- Open Space Assessment

9.1.3 This Report requests a Scoping Opinion from RBC pursuant to Regulation 13 of the Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2011 (as amended).

9.1.4 The EIA Scoping Report suggests a proportionate and robust scope of work based on the previous experience of the assembled team of specialists and existing knowledge of the Application Site.

9.1.5 RBC and consultees are invited to consider the contents of this Report and comment accordingly within the five week period prescribed by the EIA Regulations.

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