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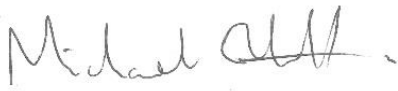
READING STATION PARK ENVIRONMENTAL STATEMENT NON- TECHNICAL SUMMARY

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Project No. **1700003910**
Issue No. **2**
Date **17/02/2020**
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1. INTRODUCTION

1.1 Purpose of Non-Technical Summary

This report is the Non-Technical Summary (NTS) of the Environmental Statement (ES) which has been prepared by Ramboll UK Limited ('Ramboll') and a team of technical specialists in accordance with the statutory procedures set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017¹ (hereafter referred to as the 'EIA Regulations').

This NTS has been prepared to accompany an outline planning application (hereafter referred to as the 'application') made to Reading Borough Council (RBC) by Aviva Life & Pensions UK Limited (hereafter referred to as 'the Applicant') for the intended redevelopment (hereafter referred to as the 'proposed development') of the Reading Station Park site at national grid reference SU 71399 74085, Reading (hereafter referred to as 'the application site').

The proposed development would comprise the demolition of all existing buildings at the application site and the construction of four new buildings of up to 112.9 metres above ordnance datum (mAOD) in height. Given the outline nature of the application, and the flexibility being sought in respect of the minimum and maximum use classes that could be delivered for the different land-use types, the proposed development could comprise a residential, office or mixed-use development, with associated landscaping, car parking and public realm.

This NTS presents a summary of the main findings of the EIA that has been undertaken of the proposed development and that has been reported in the ES. The NTS provides:

- a description of the application site and surrounding context;
- an outline of the reasonable development alternatives considered by the Applicant and an indication of the main reasons for their choice, taking into account the likely significant effects on the environment;
- a description of the proposed development; and
- a summary of the likely significant environmental effects of the proposed development and key mitigation measures (as relevant).

The aim of the NTS is to summarise the main findings of the ES in a clear and concise manner to assist the public in understanding what the significant environmental effects of the proposed development are likely to be.

1.2 Viewing of ES and Application

The full ES comprises:

- Volume 1: Environmental Statement Main Report;
- Volume 2: Townscape and Visual Impact Assessment and Built Heritage Assessment;
- Volume 3: Technical Appendices; and
- Non-Technical Summary (this document).

¹ Her Majesty's Stationery Office (HMSO), 2017. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. HMSO.

This NTS and full ES, together with the planning application and other supporting documents are available for viewing on the RBC's website. CD versions of the ES are available for purchase at:

Ramboll
240 Blackfriars Road
London, SE1 8NW
Tel: 0207 808 1420

1.3 Commenting on Application

Comments on the application should be forwarded to RBC at:

Reading Borough Council
Civil Offices
Bridge Street
Reading, RG1 2LU

2. EXISTING SITE AND SURROUNDING CONTEXT

2.1 Application Site Location

The application site is located off Vastern and Caversham Road, at national grid reference SU 71399 74085, within Reading city centre, as shown in Figure 2.1.

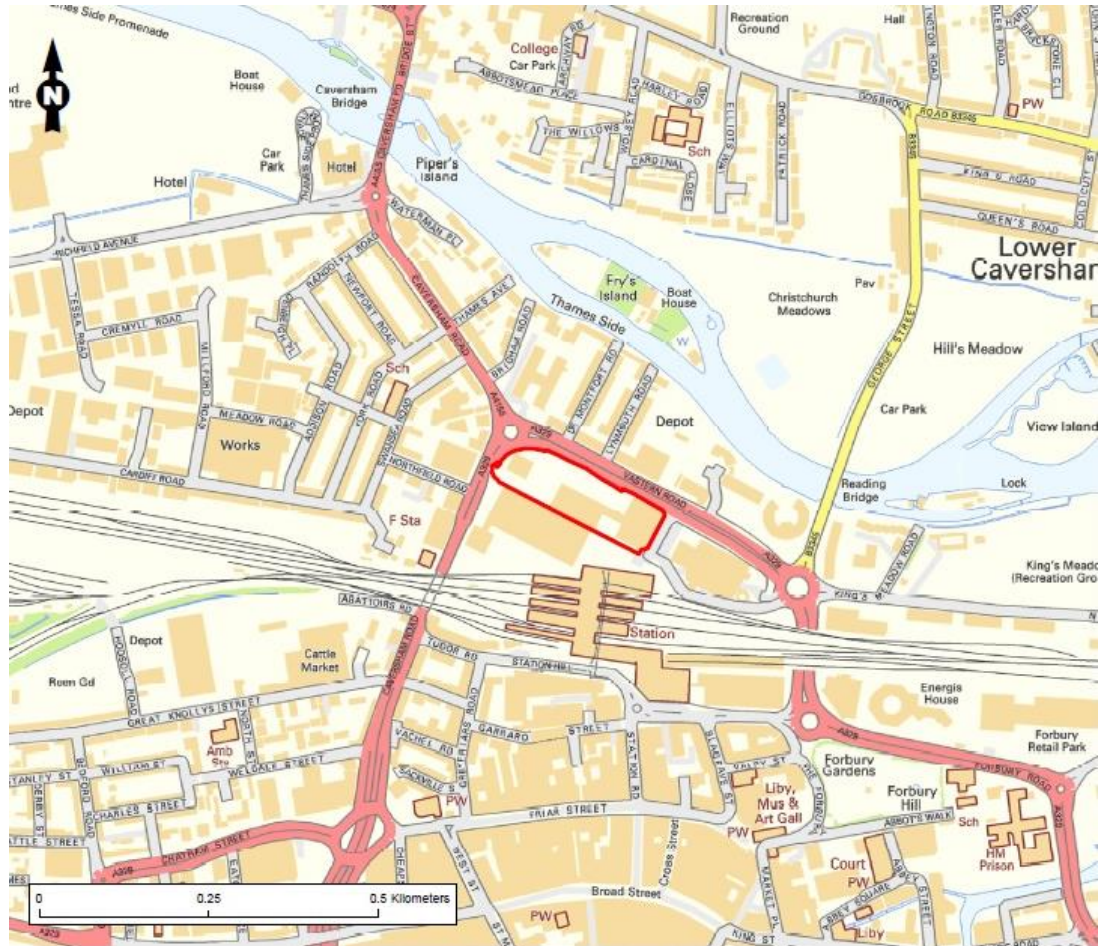


Figure 2.1: Application Site Location

Geographically, the application site is located approximately:

- 150 m south-west of the River Thames; and
- 50 m north of Reading Railway Station.

The application site is located in an urban setting in central Reading, comprising a mix of commercial, industrial and residential uses. Vastern Road (A329) forms the norther boundary of the application site, beyond which are residential properties and a Scottish and Southern Energy (SSE) office unit. Trooper Potts Way is located to the east, beyond which is Reading Railway Station car park. Network Rail Thames Valley Area site office is located to the south, beyond which is Reading Railway Station railway lines. Caversham Road is located immediately to the west, beyond which are a range of commercial, residential and industrial units.

2.2 Application Site Description

The application site is rectangular in shape and covers an area of approximately 1.77 hectares (ha). The application site is occupied by two retail warehouse buildings with associated surface car parking, and delivery yard. The larger building in the south-east is in retail use (including an Aldi, The Range, Mothercare and Majestic Wine). The smaller building in the north-west is in restaurant

use (TGI Fridays). The buildings are low rise, approximately 2-3 storeys high. There is currently provision for approximately 280 surface car parking spaces.

An electrical sub-station is located in the shared service yard within the southern extent of the application site adjacent to the application site boundary, which is owned and operated by SSE Power Distribution. On-site ecological habitats comprise buildings, hardstanding, amenity grassland, introduced shrub, scattered trees, and slate chippings.

The application site benefits from good transport infrastructure in proximity and encourages travel by non-car modes such as walking, cycling and public transport. The application site is located approximately 50 m north of Reading Railway Station, which can be accessed by pedestrians via Caversham Road. There are six bus stops accessible within 400 m of the application site on Trooper Potts Way to the east of the application site and on Caversham Road to the west and north-west.

Representative photographs of the application site are presented in Figure 2.2.



South-east facing view of Aldi and the Range from Vastern Road



South-west facing view of TGI Fridays from Vastern Road



North-west facing view from behind commercial units in the south of the application site



South facing view of Reading Railway Station from Trooper Potts Way

Figure 2.2: Application Site Photographs

2.3 Environmental Sensitivities and Considerations

A selection of surrounding environmental sensitivities is shown visually in Figure 2.3.

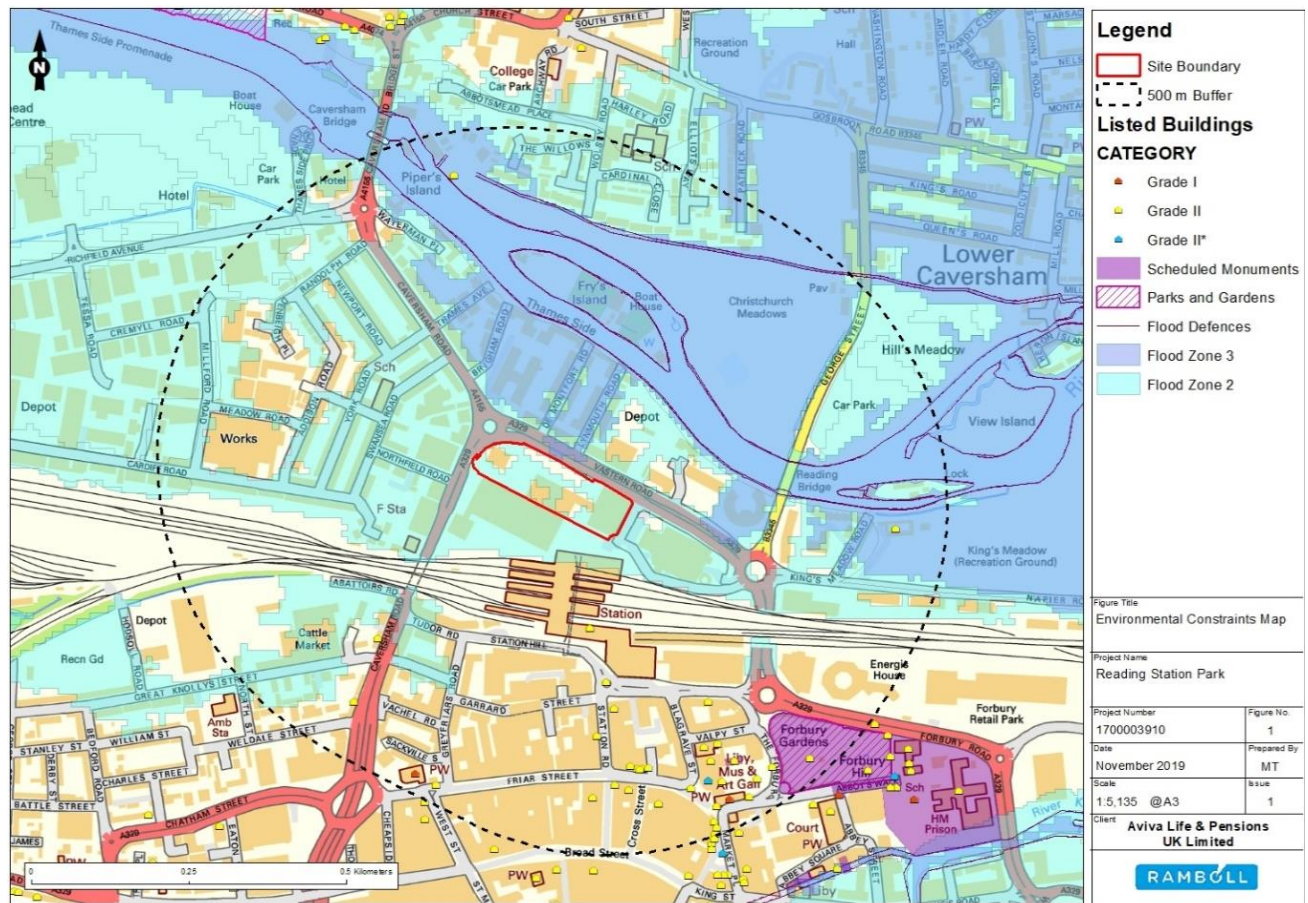


Figure 2.3: Environmental Constraints Map

The following paragraphs summarise the key environmental sensitivities and considerations of relevance to the application site:

- **Socio-Economics:** The application site is currently occupied by four retail units and one restaurant, providing employment for 225 people. There are two open play spaces within 0.4 km of the application site, and seven within 0.8 km of the application site.
- **Air Quality:** The application site is located within the Reading Air Quality Management Area (AQMA) which covers the town centre and areas along the major arterial roads leading into Reading. The AQMA was declared for exceedances of the annual mean nitrogen dioxide (NO₂) objective.
- **Noise:** Due to the application site's urban location, the main existing noise sources comprise road traffic noise from the A329 and noise from passing trains from Reading Railway Station railway lines. The application site is surrounded by residential dwellings to the north and west.
- **Daylight, Sunlight, Overshadowing and Solar Glare –** Due to the low scale of the existing buildings on-site, the residential properties located along the north and west of the application site enjoy high levels of daylight and sunlight. Road and rail users could be affected by solar glare from the proposed development.
- **Townscape and Views:** The application site and its immediate setting fall within Reading Tall Building Strategy (RTBS) (2018) Character Area 22 (CA22): Vastern Road. The northern edge of the application site immediately abuts Character Area 12 - Caversham Road. Character Area 1 - Station Hill abuts the boundary of CA22 to the south and Character Area 23 - King's Meadow abuts the northern and eastern boundaries of CA 22. CA22 is described as being predominated by warehousing and retail park use, including blocks of large footprint, albeit not high rise; and extensive car parking, combining to create a medium-scale townscape of unexceptional quality

which does not respond well to adjacent residential land use. The application site is not located within any designated views.

- **Built Heritage:** The application site does not contain any nationally protected heritage assets, such as scheduled monuments or registered parks and gardens. There are also no statutory listed buildings on the application site, or in its immediate vicinity. The closest listed buildings are the Grade II listed Main Building of Reading Station approximately 230 m south-east of the application site, the Grade II listed Great Western building 365 m south-east and a locally listed building at 55 Vastern Road 35 m to the north. Figure 2.3 shows these and other listed buildings in the surrounding study area, including Forbury Garden Registered Grade II which is a registered park and garden located 430 m from the application site centre. The application site is not located within or adjacent to a Conservation Area (CA). The closest CA is Market Place/London Street Conservation Area located approximately 390 m south-east of the application site.
- **Ground Conditions:** The application site is underlain by Made Ground, Clay and Silt, which is further underlain by Chalk, a Principal Aquifer. There are 10 groundwater abstractions recorded within 2 km, none of which are for public potable water supply. The abstractions are considered likely to be from the Chalk. The clay and silt deposits can be expected to provide some protection to downward migration of contamination (if present on-site) within groundwater. The application site is not located within a groundwater Source Protection Zone.
- **Ecology:** No Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Site of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) are located within 1 km of the application site. Three Local Wildlife Sites (LWS's) are located within 1 km of the application site. This includes Cow Lane Depot designated for habitats including mature trees, scrub, open water with swamp and tall herb grassland; The Warren Woodlands Complex designated as it is a woodland complex of six sites; and The Coal Kennetmouth and Kings Meadow East designated for habitats including mature trees, banks of Rivers with wetland species and areas of grassland.
- **Water Resources:** The nearest surface water feature is the River Thames located 150 m north-east of the application site. There are three surface water abstractions within 2 km of the application site; however, none of the abstractions are for sensitive uses such as for public potable water supply. As shown in Figure 2.3, the majority of the application site (approximately 95 %) is located in Flood Zone 2 (Medium Probability). Small areas (<5 %) in the west and centre of the application site are located in Flood Zone 1 (Low Probability), and a small portion (< 5 %) of the north-eastern site boundary is located in Flood Zone 3 (High Probability) where the annual probability of flooding from rivers is 1 in 100 (1 %) or greater, and from the sea is 1 in 200 (0.5%) or greater.
- **Archaeology:** The application site is not located within an archaeological notification area. There have been no archaeological investigations within the application site but 29 have been carried out within 550 m of the application site. None of the investigations recorded buried heritage assets earlier than the late post medieval, i.e. 1800s and onwards.

3. PLANNING CONSIDERATIONS

3.1 Policy Context

It is necessary to consider the proposed development against relevant policies and guidance at national, regional and local levels. At the national level, planning policy is contained within the National Planning Policy Framework (NPPF)² and the Planning Practice Guidance (PPG)³.

The EIA has been informed by the Reading Borough Local Plan (2019)⁴ which is the relevant statutory development plan for the application site, as well as the Reading Station Area Framework (2010)⁵.

The Reading Local Plan was formally adopted following a committee meeting on 5 December 2019, superseding the Reading Borough Local Development Framework Core Strategy (2015)⁶. The Local Plan will decide how the town is developed over the next 17 years, dictating how residential dwellings can be built in the future and provide a blueprint for important developments.

The Reading Station Area Framework (RSAF) sets out principles and guidelines for how development around the station should take shape. The application site falls within the Northside area.

A range of local supplementary guidance documents are also relevant to the determination of the application and have been considered in undertaking the EIA.

3.2 Planning History

Since the late-1980's, planning permission has been granted for various retail warehouse type buildings, some with ancillary offices around the application site. Table 3.1 summarises the key planning history of most relevance to the application site and provides background to the existing and consented land uses at the application site.

Table 3.1: Application Site Planning History			
Application Number	Development	Decision	Date of Decision
87/TP/1105	Development of site to provide three retail warehouses, one restaurant, together with car parking, internal site roads, service area and landscaping on land at junction of Caversham Road and Vastern Road, Reading.	Approved	18/03/1988
070767	Minor external alterations to shopfront, erection of canopy to front of building, minor external alterations to south-east elevation and siting of secure compound in rear service yard.	Approved	30/10/2007
071279	Change of use of 2,322 m ² of ground floor from retail (A1) to leisure (D2) or retail (A1).	Approved	11/04/2008

² Ministry for Housing, Communities and Local Government, 2019. The National Planning Policy Framework. HMSO.

³ Ministry of Housing, Communities and Local Government, 2019. Planning practice guidance available from: <https://www.gov.uk/government/collections/planning-practice-guidance>

⁴ Reading Borough Council, 2019. Reading Borough Local Plan. RBC.

⁵ Reading Borough Council. 2010. Reading Station Area Framework. RBC.

⁶ Reading Borough Council, 2015. Reading Borough Local Development Framework. Core Strategy.

4. DESIGN EVOLUTION AND ALTERNATIVES

The EIA Regulations require the ES to report on the reasonable alternatives (for example, in terms of design, size and scale) studied by the Applicant, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison (in summary) of the likely significant environmental effects.

The EIA considered the following alternatives:

- The 'Do-Nothing' alternative where the proposed development is not progressed;
- Alternative sites; and
- Alternative design and layouts for the proposed development.

4.1 Do-Nothing Alternative

The 'Do-Nothing' alternative is a hypothetical alternative considered in EIA as the basis for comparing the development proposals under consideration.

The application site could be left in its current state as a retail park. This would result in the following environmental effects:

- **Socio-economics** – The application site currently comprises retail warehouse buildings. In the Do-Nothing scenario there would be no opportunity to maximise the productive and sustainable use of brownfield land, in particular the delivery of housing in accordance with planning policy objectives and a mix of new employment opportunities which would be generated through both the demolition and construction and completed development stage;
- **Transport** – In the Do-Nothing scenario, there would be no improvement in neighbourhood connectivity and permeability and no reduction in the number of vehicle movements on the surrounding road network; and
- **Health and Wellbeing** – In the Do-Nothing scenario, there would be no improvement in public realm or creation of open space which would provide amenity areas for on and off-site users.

Consequently, the Applicant ruled out the 'Do-Nothing' alternative.

4.2 Alternative Sites

No alternative application sites have been considered by the Applicant for the following reasons:

- The application site is owned by the Applicant and therefore application sites belonging to third parties were not given consideration;
- The application site is suitable for this type of development, as demonstrated by site allocation within adopted local policy; and
- The proposed development presents an opportunity to optimise the use of land.

4.3 Alternative Designs and Design Evolution

The proposed development is the result of a thorough analysis of the RSAF guidance, environmental constraints and opportunities, access issues, and market demand. Consultation with RBC, the statutory consultees, the local community and other local stakeholders has been a key influence in design evolution. The following principles and parameters have been carried forward for the proposed development:

- The layout design continues the south to north pedestrian connections, which links the south of Reading to the north and onwards, enhancing permeability across the site and thereby facilitating pedestrian connection from the Reading Railway Station to Caversham in the west and the River Thames in the north;

- The development plots respond to vehicular and pedestrian routes to ensure continuity and additional connections within the local movement network; and
- The location and heights of the development plots within the application site have been refined to respond to provision of daylight and sunlight amenity to surrounding receptors, whilst delivering on the aspirations of the RSAF for a landmark development.

The physical constraints and opportunities of the application site have been key in developing the parameter plans that define the outline planning application. An iterative analysis of physical and environmental constraints and potential positive and negative effects has informed the proposed development.

Wide ranging site layout alternatives were not explored by the Applicant due to the guidance already set within the RSAF and the prevailing urban pattern.

The following key concepts were essential to the evolution of the proposed development:

- **Height and Massing and Building Design** – Design buildings to minimise impact on surrounding sensitive receptors, particularly in respect of daylight and sunlight, and tie in with the existing townscape;
- **Noise and Vibration** – Design the parameter plans to allow a set-back distance between the proposed buildings and surrounding noise sensitive receptors, such as residential dwellings;
- **Accessibility** – Place emphasis on public transport accessibility and pedestrian footpath enhancement.

Throughout the design evolution, alternative height and massing options were explored to ensure there would be no significant impacts to surrounding sensitive receptors with regard to daylight and sunlight amenity. Following extensive daylight and sunlight assessments, the height of the proposed development along Vastern Road was lowered to ensure no unacceptable impact on neighbouring properties. The Development Parameters restrict the width of tall elements. In addition, use related height parameter plans were developed following additional daylight and sunlight assessments to ensure that different scenarios are individually covered for schemes coming forward at reserved matters stage.

In order to maintain the RSAF's recommendation for the allocated location of a Local Landmark and following consultation with RBC and local stakeholders, the tallest building was reduced by 14 m, as shown in Figure 4.1.

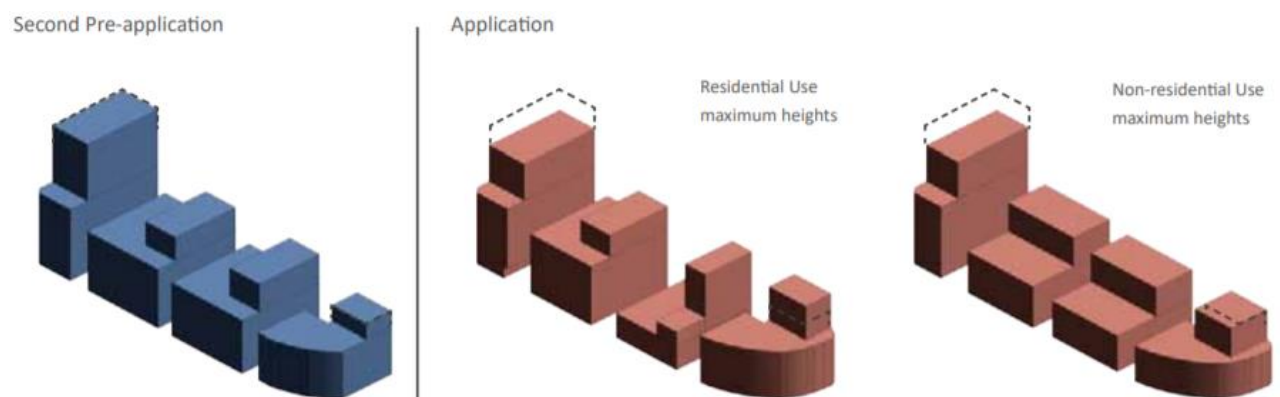


Figure 4.1: Alternative Heights of Tallest Building

4.4 Public Consultation

During the design process and in preparing the application, the Applicant carried out a programme of statutory and community consultation.

The Applicant's approach to consultation comprised the following:

- Meetings with officers from the RBC and relevant statutory consultees; and
- Two public exhibition events undertaken on the 25 and 26 September 2019 and 30 and 31 October 2019.

The verbal and written feedback provided by local stakeholders as part of the consultation process has directly fed into the evolution of the proposed development.

A detailed report of the consultation process can be found in the Statement of Community Involvement submitted with the application.

5. PROPOSED DEVELOPMENT DESCRIPTION

The proposed development would deliver the comprehensive redevelopment of the application site not to exceed a gross external area (GEA) of 150,000 m². The description of the proposed development as stated on the application form is:

"Outline planning permission with the details of access, appearance, landscaping, layout and scale reserved for later determination. Demolition and redevelopment to comprise: up to 115,000 sqm GEA in one or more land uses comprising: Residential (Class C3 and including PRS); Offices (Use Class B1(a); development in Use Classes A1, A2, A3 (retail), A4 (public house), A5 (take away), C1 (hotel), D1 and D2 (community and leisure); car parking; provision of new plant and renewable energy equipment; creation of servicing areas and provision of associated services, including waste, refuse, cycle storage, and lighting; and for the laying out of the buildings; routes and open spaces within the development; and all associated works and operations including but not limited to: demolition; earthworks; provision of attenuation infrastructure; engineering operations. All development, works and operations to be in accordance with the approved Development Parameters Schedule and Plans."

5.1 Schedule of Parameter Plans

The proposed development is divided into four Plots (A-D), as shown in Figure 5.1. Given the outline nature of the planning application, the detailed layout, scale, appearance and landscaping of the proposed development would be subject to detailed design as part of future Reserved Matters Applications (RMAs). Development parameters have been developed to define the overall quantum and nature of the proposed development and provide a controlling set of design guidelines in relation to each plot, residential unit numbers and mix, within which the RMAs would be brought forward. RMAs will therefore have to accord with the parameters. That is how the assessment methodology used in the EIA will be validated.

The development parameters are presented in parameter plans that accompany the application. The parameter plans are outlined in Table 5.1.

Table 5.1: Schedule of Parameter Plans		
Dwg No.	Name	Description
PP-100 – Development Footprint	Development Footprint	Definition of the developable area within which the proposed development would be delivered, inclusive of buildings, landscaping and open space.
PP-101 – Site Access & Egress	Site Access and Egress	Definition of areas which site access and egress would be provided
PP-102 – Building Plots	Building Plots	Areas in which each plot would be delivered on the application site
PP-103 – Plot Heights Non-residential Use	Plot Heights Non-Residential Use	Maximum heights of plots if non-residential uses were to be brought forward
PP-104 – Plot Heights Residential Use	Plot Heights Residential Use	Maximum heights of plots if residential uses were to be brought forward
PP-105 – Plot Heights Mixed Use	Plot Heights Mixed Use	Maximum heights of plots if a mix of uses were to be brought forward
PP-106 – Basement Footprint	Basement Footprint	Zones which could provide excavation for below ground flood attenuation

5.2 Proposed Development Site Arrangement

The arrangement of the proposed development across the application site is illustrated on Figure 5.1 (Parameter Plan 102). The proposed development would comprise four Plots (A-D). The Plots would comprise a maximum combined floorspace of 115,000 m².

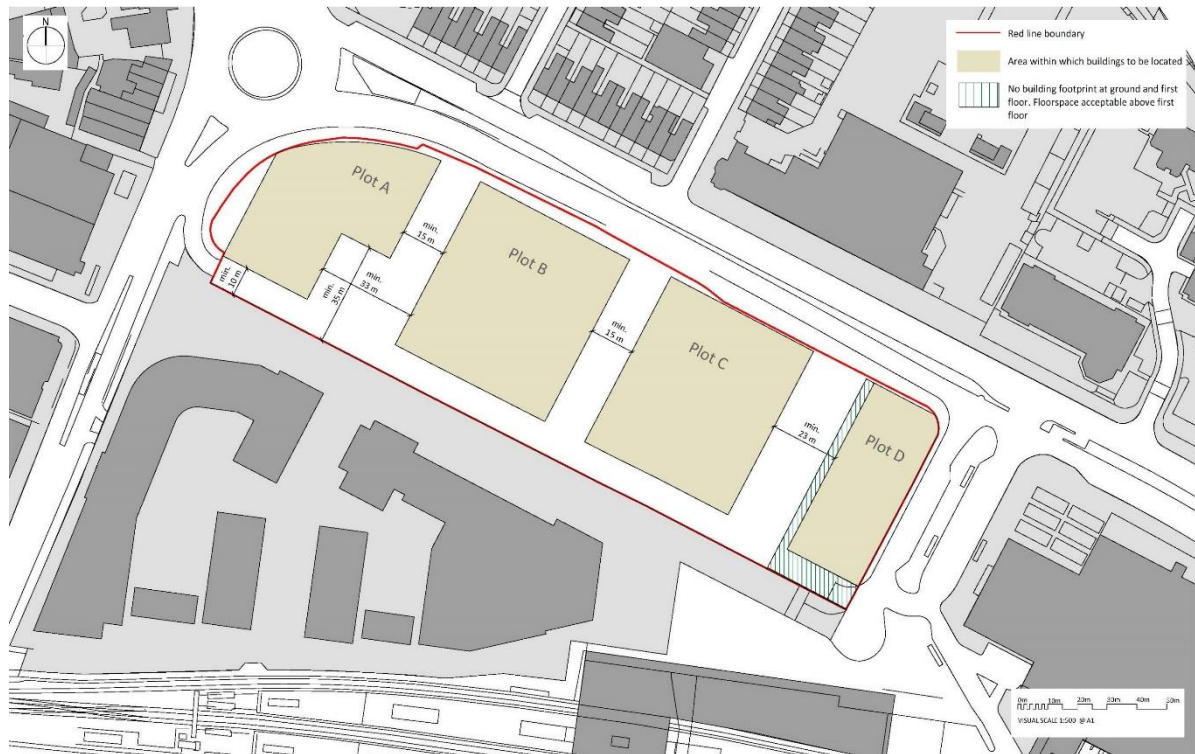


Figure 5.1: Proposed Development Plot Development Zones and Separation Distances

5.3 Proposed Development Land Use and Floorspace

The land use and floorspace areas of the proposed development are summarised in Table 5.2.

Table 5.2: Minimum and Maximum Floorspace (m²) by Land Use						
Use Class		Plot A	Plot B	Plot C	Plot D	Total GEA
C3 Residential Units	Minimum	0	0	0	0	0
	Maximum	18,500	23,500	27,800	30,200	100,000
B1a Offices	Minimum	0	0	0	0	0
	Maximum	20,000	31,000	35,000	29,000	115,000
C1 Hotel	Minimum	0	0	0	0	0
	Maximum	8,000	8,000	8,000	8,000	8,000
A1-A5, D1-D2	Minimum	2,000				2,000
	Maximum	7,000	7,000	7,000	7,000	7,000

Given the degree of flexibility being sought at this outline stage in respect of the minimum and maximum use class types, the proposed development could come forward as one of the following scenarios at the RMA stage:

- A non-residential scheme delivering up to 115,000 m² GEA in one or more land uses comprising office, hotel, retail, and commercial (B1a, C1, A1-A5, D1-D2); or

- A residential scheme delivering up to 115,000 m² GEA including up to 100,000 m² GEA of residential (C3) land use with the remainder comprising one or more of office, hotel, retail and commercial (B1a, C1, A1-A5, D1-D2); or
- A mixed-use scheme delivering up to 115,000 m² GEA including a mix of land uses comprising residential, office, hotel, retail and commercial (C3, B1a, C1, A1-A5, D1-D2).

5.4 Proposed Development Height

As part of the development parameters, the height of the proposed development would be controlled. The maximum height of the proposed buildings with Plots A-D would depend on whether the buildings are developed for 'residential use', or 'non-residential use', or a combination of the two, a 'mixed use'. All roof plant and structures would be included within the maximum height. It is considered the 'mixed use' scenario is the worst case assumption in terms of maximum height and massing due to its greater height as shown in Figure 5.2. In this scenario the buildings would range from 92.8 to 112.9 mAOD tall.

5.5 Proposed Development Materials and Façade Detailing

For the proposed development, different options have been selected in respect of materiality, architectural style and detailing, to be implemented through design codes.

The design codes state that the design of the buildings would be coherent and familial throughout the proposed development. All Plots would share key elements such as materials, colour, or proportion that provide a uniform appearance.

The main materials for facades would be brick, concrete, wood, glass and metal.

The design codes provide commitments for the delivery of a high quality design in respect of the proposed buildings, public realm, open space and landscaping on-site to deliver a landmark development with well defined character.

5.6 Proposed Development Open Space and Public Realm

The proposed development would provide 10 % of the application site area (0.177 ha) for Open Space provision. Within that area, no built development would be permitted other than:

- Hard landscaping;
- Soft landscaping;
- Public realm;
- Amenity spaces (inclusive of playspace provision);
- Structural planting;
- Footpaths and cycleways and their associated apparatus;
- Roads and footpaths in order to provide connections for the built development; and
- Ecological habitats (including landscape planting with known biodiversity value, trees, hedges and shrubs).

At the RMA stage, a Landscape Strategy would be developed to ensure a high quality public realm is delivered as part of the proposed development. It is envisaged that this would incorporate a number of outdoor spaces, linear parks, green streets, pocket gardens and avenues.

Proposed tree planting would strengthen and enhance the characteristics of the existing tree stock, and appropriate species would be chosen to complement the application site.

5.7 Proposed Development Heating

Residential

Each of the residential buildings would have their own centralised heating and cooling system located at roof level. The proposed system would use air to water based heat pumps to serve an energy loop passing throughout the building to serve each residential apartment. Within each apartment, an individual heat pump system would provide heating/cooling along with domestic hot water utilising the energy loop as the prime energy source. Final delivery of heating and cooling within each apartment would be by radiators and fan convectors.

Non-residential

A similar system would be adopted for the non-residential buildings, with the exception of using a fan coil unit as the emitter for the commercial areas to provide heating and cooling instead of a radiator.

5.8 Proposed Development Cooling and Ventilation

Residential

Each of the residential apartments would be fitted with openable windows; the specification of which would be determined during detailed design and informed by the noise assessment within the ES. In addition, residential units would be designed to be dual aspect in nature and to allow through ventilation. The openable windows would enable the circulation of clean-air through apartments.

Non-residential

In the event of a non-residential development, mechanical ventilation would be provided to the offices. A number of air handling units would be provided to serve each building independently. Each air handling unit would provide heat recovery and benefit from the free heat generated by the proposed development. The air handling units would be located at roof level and each building would have stand-alone units. The intake and exhaust ductwork would be suitably located to ensure there is no re-circulation or near external pollutants.

5.9 Proposed Development Drainage

A Flood Risk Assessment (FRA) has been undertaken for the proposed development which includes an assessment of surface water runoff. The results of the FRA were used to inform and ensure measures for reduced surface water runoff would be integrated into the design of the proposed development. The total maximum surface water discharge rate for the proposed development as a whole would be 3.5 litres per second (l/s), providing a significant reduction in comparison to the pre-development rates from the application site.

All proposed buildings would be connected to a traditional network of below ground gravity drained pipework for the discharge of foul water. The existing foul sewer, where affected within the application site, would be diverted under agreement with Thames Water, whilst the existing outfall from the site along Trooper Potts Way would be retained.

In total, the proposed development would have a maximum peak foul water flow of approximately 42.0 l/s however would be subject to final development uses.

Thames Water has advised modelling and potential off-site reinforcement works could be required to ensure the foul flows from the development could be accommodated within the foul sewer network. As is standard practice, ongoing consultations would be undertaken to agree the necessary scope of works.

5.10 Proposed Development Waste Management

At the detailed design stage, the proposed development will be designed to be compliant with all relevant waste management policy and to encourage a high level of reuse and recycling.

It is envisaged that each individual residential unit and non-residential unit would sort their waste internally into the following categories:

- Dry Mixed Recycling;
- Organic Waste (Food and Garden); and
- Mixed non-recycling waste.

All waste will be managed in accordance with best practice and RBC waste management guidance.

5.11 Proposed Development Climate Change Measures?

Climate change considerations have been addressed in a number of the reports, including the FRA and Energy Strategy, which accompany the application. Increased flood risk associated with climate change has been addressed in the FRA, as well as best-practice mitigation measures that have been embedded as part of the proposed development.

Other climatic predictions, such as increased temperatures, and their likely environmental effects, such as overheating within residential units, have been addressed as part of the outline energy strategy, and will be further developed as part of the reserved matters stage.

5.12 Proposed Development Health Measures

Health and wellbeing have been key considerations in the design evolution process. In this regard, the proposed development has sought to promote and encourage healthier lifestyles through the following measures:

- Providing access to open space;
- Providing access to employment opportunities; and
- Avoiding exposure to excessive noise, or poor air quality.

5.13 Proposed Development Disaster Management

At the RMA stage, disaster management measures would be developed and designed to respond to fire and flood risks and failure of buried surface water attenuation tanks.

5.14 Proposed Development Operational Management Controls

Open space and public amenity areas would be managed and maintained by the landowner(s).

As is standard practice, aspects of operational management would be incorporated into the residential and non-residential uses including technological and integrated electronic security systems, such as closed-circuit television (CCTV) cameras.

6. DEMOLITION AND CONSTRUCTION WORKS

6.1 Overview

Demolition and construction works would commence in Quarter 2 (Q2) 2021 and are anticipated to be undertaken over a 51-month period, with completion targeted for Q2 2025.

6.2 Construction Environment Management Plan

Prior to work starting on-site, a Construction Environment Management Plan (CEMP) would be produced in consultation with RBC. The requirement for a CEMP would be secured by a suitably worded planning condition. The CEMP would set out mitigation measures to avoid or reduce likely significant environmental impacts during the demolition and construction stage. It would include the following:

- A commitment to environmental protection;
- Documentation of measures to comply with environmental aspects of any planning conditions;
- Detailed control measures and activities to be undertaken to minimise likely significant environmental effects, as well as associated roles and responsibilities;
- Target criteria for environmental issues, where practical, such as water and energy consumption;
- Any requirements for monitoring and record keeping;
- A dedicated point of contact during normal working hours and in emergencies with responsibility to deal with environmental issues if they arise; and
- A review and monitoring regime of on-site performance against the CEMP provisions by the project team and regular environmental audits of its implementation.

6.3 Community Liaison

The Applicant would engage with and inform the local community and local stakeholders of particular construction tasks and indicative timelines across the development programme.

6.4 Working Hours

Working hours would be agreed with the RBC but are expected to be:

- 08:00 to 18:00 hours Monday to Friday;
- 08:00 to 13:00 hours Saturday; and
- No working on Sundays or Bank Holidays.

The principal contractor may require, at certain times, a period of up to one hour before and after normal working hours, to undertake start and 'close down' activities. It is possible that some deliveries may take place at night, and that certain works may have to be done during this period for safety or other considerations. If required, such works would be subject to reasonable notice and either securing the required licenses or obtaining prior agreement with RBC, who may impose certain restrictions.

6.5 Potential Demolition and Construction Effects

Demolition and construction works have the potential to cause adverse environmental effects from subsurface works, noise, dust, wastes, surface water run-off, emissions to air and accidental spills.

Potential impacts have been identified and standard practice mitigation measures to be secured through appropriately worded planning conditions or obligations have been incorporated into the development proposals to reduce the likelihood for significant effects on the environment.

7. ENVIRONMENTAL IMPACT ASSESSMENT

7.1 EIA Process and Methodology

EIA is a process that identifies the likely significant effects on the environment (both beneficial and adverse) of a proposed development and proposes mitigation to avoid or reduce any likely significant adverse environmental effects. It is an iterative process which proactively seeks to integrate mitigation within the development proposals so as to avoid significant effects from arising.

The EIA process adopted for the proposed development has followed best practice guidelines, as set out by the Institute of Environmental Management and Assessment (IEMA) Quality Mark scheme. The process involved the following key steps:

- Consultation was undertaken with RBC and key stakeholders;
- Collection, use and assessment of the most up-to-date information on the baseline scenario and likely evolution of that baseline without the development or in the future;
- Interpretation of the development parameters (plans and schedule) and commitments presented in the design code, as well as the formulation of assumptions in the absence of information, as the basis for the individual technical assessments;
- Use of relevant guidance and good practice methods to predict the potential nature, scale and significance of any environmental change; and
- Reporting of the results of the EIA process in the ES in a transparent way, to provide the information required to inform the decision-making process.

7.2 EIA Scoping

The EIA Scoping Report was formally submitted to the RBC on 05 December 2019 and accompanied a request for a formal EIA Scoping Opinion pursuant to Regulation 15(1) of the EIA Regulations. The EIA Scoping Report set out a description of the emerging proposed development; the potential key environmental impacts and likely effects to be considered as part of the EIA; as well as the proposed approach that would be adopted for the EIA including the proposed scopes and assessment methodologies to predict the scale of effects and to assess the significance in each case.

A formal EIA Scoping Opinion has not been received at the time of submitting this application. Therefore, the EIA has been undertaken in accordance with the proposed scope and methodologies as set out in the EIA Scoping Report.

7.3 Topics Included in EIA

As identified in the EIA Scoping Report, the following issues were assessed within the EIA:

- socio-economics;
- noise and vibration;
- air quality;
- wind microclimate;
- daylight, sunlight, overshadowing and solar glare;
- townscape and visual; and
- built heritage.'

7.4 Topics Excluded from EIA

As identified in the EIA Scoping Report, the following issues were scoped out of the EIA:

- ecology;
- ground conditions and contamination;
- archaeology;
- major accidents and disasters;
- telecommunication interference;
- human health;
- light spillage; and
- waste.

Whilst it was not expected that ecology, water resources and flood risk, ground conditions and contamination, and archaeology would give rise to significant environmental effects, the following environmental technical reports were prepared to inform the design process and to integrate mitigation measures within the development proposals, and form part of the ES:

- Ground Conditions Preliminary Risk Assessment (PRA);
- Ecological Impact Assessment (EcIA);
- Flood Risk Assessment (FRA); and
- Historic Environment Assessment (HEA).

7.5 Assessment Approach

The ES provides assessments of the likely significant environmental effects during demolition and construction and once the proposed development is complete. Each technical assessment has considered different types of effects including direct effects and any indirect, secondary, cumulative; short, medium and long-term; permanent and temporary; beneficial and adverse effects. Where there is flexibility built in within the development parameters in terms of the final floorspace areas, use classes or building heights, the relevant topic areas within the EIA have assessed a scenario which reflects a reasonable worst-case scenario so as not to overinflate or underestimate the likely significant effects.

Each of the above issues are addressed in separate technical assessment chapters and reports in ES Volumes 1, 2 and 3. In each chapter, a description of the assessment methodology is given together with the existing application site conditions. This is followed by an assessment of the likely effects of the proposed development taking into account mitigation measures that are embedded in the development proposals; the consideration of the need for additional mitigation or any recommendations for enhancement measures to reduce or offset any significant adverse effects identified during the assessment; and a concluding assessment on the residual effects that would remain after these measures have been implemented, as well as the cumulative effects of the proposed development. The likely significant environmental effects attributed to the proposed development are then confirmed.

Mitigation is the term used to refer to the process of avoiding where possible and, if not, minimising and/or controlling the likely significant adverse effects of a development on the environment. Mitigation measures are integrated (embedded) into the design stage; the demolition and construction stage; or the activities associated with the operation of the completed proposed development. Additional mitigation measures are also identified, as appropriate.

7.6 Cumulative Effects

In terms of cumulative effects, the IEMA Guidance⁷ identifies two types:

- **'Inter-project'** effects – incremental changes caused by other development schemes occurring together with the proposed development and the cumulative effects combining to worsen the effect of a particular impact; and
- **'Intra-Project'** effects of different types of impacts from the proposed development that could interact to jointly affect a particular receptor/s at the application site. Potential impact interactions could include the combined effects of noise and dust during construction activities on a particular sensitive receptor.

Inter-project effects are combined effects generated from the proposed development with other committed or planned developments ('cumulative developments'). These 'other developments' may generate their own individually insignificant effects but when considered together could amount to a significant cumulative effect, for example, combined townscape and visual impacts from two or more (proposed) developments.

The cumulative schemes for the purpose of the inter-project cumulative impact assessment are discussed in Section 9.

⁷ Institute of Environmental Management and Assessment. The State of Environmental Impact Assessment Practice in the UK. 2011.

8. PROPOSED DEVELOPMENT LIKELY SIGNIFICANT ENVIRONMENTAL EFFECTS

8.1 Socio-Economics

The socio-economic assessment was undertaken by means of standard assessment methods and application of professional judgement. The application site is characterised by low density retail uses which provide 225 existing jobs.

8.1.1 Demolition and Construction

A total of 39 jobs would be created on-site during the demolition phase and a further 531 jobs would be created on-site during the construction phase. A further 515 indirect jobs could be created off-site during the construction phase. As a result, the proposed development would have a beneficial effect on employment which is considered to be significant.

The total employment generation during the construction phase would result of an economic output of £213.8 million. For this reason, the proposed development would have a beneficial effect on the borough level economy which is considered to be significant.

8.1.2 Completed Development

Due to the flexibility being sought in respect of the land use schedule of the proposed development, it is possible that the proposed development could come forward as a predominately residential scheme, or a predominately non-residential scheme, or a mixed-use scheme. Therefore, a worst-case assessment approach was adopted in respect of the various socio-economic effects, such as the provision of housing, the demand on social infrastructure (healthcare services and school places), and job creation. The basis for each of these assessments differs according to the particular assessment methodology.

The worst-case scenario in respect of the provision of housing was to assess the non-residential scheme and on this basis, the proposed development would have a negligible effect on housing.

The worst case scenario in respect of job creation was to assess a residential scheme with the lowest employment generating non-residential land uses. On this basis, the number of direct jobs generated by the proposed development (76 jobs) would be lower than the number of direct jobs from the existing on-site operations (225 jobs). Accordingly, the proposed development would have an adverse effect which is not considered to be significant.

The 76 jobs would give rise to additional local expenditure, estimated to be in the region of £23.6 million per year, compared with the current local expenditure of 10.2 million per year. Therefore, this increase would have a beneficial effect which is considered to be significant.

The worst-case scenario in respect of social infrastructure demand, was to assess a residential scheme. The new residential population would need access to education (primary and secondary schools) and healthcare services such as GP and dental practices. There is no capacity at the existing GP surgeries to accommodate the additional population, as such there would be an adverse effect which would be significant. This would be mitigated, either through on-site provision (subject to market take up at the detailed design stage) of a GP surgery, or through financial contributions towards the extension of, or new provision of a GP service in the local area. Capacity within the existing dental provision is available for private and NHS treatment, but it is uncertain if they would have the capacity to accommodate the additional residential population from the proposed development (because there is no central patient register). There would be an adverse effect; however, based on experience, the effect is not considered to be significant.

Child yield modelling of the residential scheme confirmed the demand for 72 early years education places, 103 primary school places, and 30 secondary school places. There is currently surplus

capacity at both primary and secondary schools and as such the proposed development would have a negligible effect on education.

The proposed development would introduce 1,770 m² of publicly accessible open space including hard and soft landscaping, public realm and the provision of amenity spaces, including play space, to a site where none exists currently. In addition, there is a range of public open space and play space within the required catchment area of the application site which is considered sufficient to meet the needs arising from the potential, new residential population. Accordingly, the proposed development would have a negligible effect on open space provisioning.

The effect of the proposed development in respect of deprivation and crime, would be negligible.

8.2 Air Quality

The air quality assessment was undertaken by means of dispersion modelling and the application of published assessment methods. The application site lies within the Reading City Centre Air Quality Management Area.

8.2.1 Demolition and Construction

During the demolition and construction works, there is the potential that emissions of dust arising from the application site could result in a loss of amenity at nearby existing residential and commercial properties. The effects would be temporary adverse. With the implementation of suitable mitigation measures, which would be set out within the proposed development's CEMP to be agreed with the RBC, it is anticipated that dust effects would be mitigated at existing receptors, such that significant effects would be avoided.

The maximum annual average number of vehicle movements would be associated with the demolition, piling and earthworks, with an average of 140 weekly Heavy-Duty Vehicle (HDV) movements. Emissions from this number of vehicles falls well below the relevant thresholds and would not result in significant effects on local air quality.

8.2.2 Completed Development

Air quality monitoring data was obtained from the RB's monitoring stations to establish the status of existing air quality. The data was used as the basis for air quality modelling and predictions.

The proposed development would result in a net reduction in traffic generation and therefore in a slight improvement in air quality at residential receptors along Caversham Road.

However, a localised canyoning effect would be created by the increased massing of the proposed development which could lead to a localised increase in pollutants along Vastern Road. The effect on residential receptors would be adverse, but not significantly so.

Modelling confirmed that the application site would be suitable for residential use.

Overall, there would be no air quality constraints to the proposed development.

8.3 Noise and Vibration

Environmental noise surveys were undertaken at the application site in order to establish the existing noise climate. Data obtained during the surveys was used as the basis for the noise modelling and predictions undertaken in accordance with published assessment methods. The survey identified that the application site is dominated by noise and vibration from the surrounding road network.

8.3.1 Demolition and Construction

Using industry available noise data for typical demolition and construction activities, predictions were undertaken to provide an estimate of the potential noise emissions from the application site

during the demolition and construction works at the residential receptors in Caversham Road and Vastern Road.

Taking into account the proposed mitigation measures that would be delivered as part of the CEMP, it is anticipated that temporary, adverse demolition and construction noise effects would arise at 31-51 Vastern Road and would be significant. At all other receptors, demolition and construction noise would not be significant.

Demolition and construction traffic noise would not give rise to significant affects at residential receptors along Caversham road and Vastern Road.

The effect of demolition and construction vibration is not anticipated to be significant.

8.3.2 Completed Development

Internal noise levels within the proposed development's residential elements would be compliant with relevant noise standards.

The proposed development would result in a net reduction in traffic generation. However, the scale of reduction would not be sufficient to result in a material change in noise levels at existing residential receptors in Caversham Road and Vastern Road..

All fixed plant installations would be fitted with standard attenuation and acoustic screening, as required to meet the noise emissions limits specified by RBC. Providing that the rating noise levels from such development components do not exceed the stated noise criteria, whether through the application of noise control techniques or otherwise, no significant effects are predicted on existing and future sensitive receptors within or around the proposed development.

Idling vehicles associated with the operational servicing of the proposed development would have the potential to result in significant effects on existing and new sensitive receptors. To avoid this, signage would be erected to inform service vehicles that idling is not permitted at any time.

As a result of these proposals, the completed development would not result in significant effects in respect of operational noise and vibration.

An outline scheme for the glazing and ventilation design of the proposed development was developed on the basis of the modelling results. Subject to the implementation of this scheme, the application site would be suitable for residential use.

As the location of and exact nature of gym uses have not yet been determined, these will be assessed during the detailed design stage

8.4 Wind Microclimate

The assessment of wind microclimate was undertaken by means of computer modelling and by application of published pedestrian wind comfort and safety criteria.

The assessment considered the likely effects of the worst-case scenario mixed-use scheme on existing and proposed pedestrian uses such as dining, sitting, standing, strolling and business walking. In addition, consideration was given to strong winds. The modelling exercise accounted for 16 wind directions and considered the annual average wind conditions at ground and roof level measurement locations, which represents a worst case.

8.4.1 Demolition and Construction

The demolition of the existing low-rise structures on the application site is not anticipated to give rise to any significant change to the existing (relatively calm) wind microclimate both on and off-site. Conditions would remain appropriate for their intended pedestrian use and on this basis, there would be no significant effects. As construction of the proposed development proceeds, the wind

conditions at an around the application site would gradually adjust from those at the existing site to those described below for the completed development. The effects would not be significant.

8.4.2 Completed Development

The modelling results indicate that the completed development would result in increased wind speeds, compared with the existing baseline conditions, as a result of the newly introduced height and massing of the proposed development. Assessment against the industry established Lawson safety criteria shows that several locations would achieve wind conditions that exceed the target wind speeds for their intended pedestrian use and would require mitigation at the detailed design stage to address this and to ensure a safe environment for pedestrians.

Pedestrian Comfort

The wind conditions for the completed development would range from being suitable for sitting to being uncomfortable.

Thoroughfares

Existing and proposed thoroughfares would experience wind conditions that would range from being suitable for their intended strolling, standing and sitting use to the being one to two categories windier.

Entrances

Building entrances for the proposed development have not been defined at this outline planning stage, though there would be locations around the completed development where wind conditions would be suitable for the intended standing use. Other locations for potential building entrances have been identified as exceeding the required conditions and therefore mitigation would have to be considered at the detailed design stage. The majority of existing building entrances surrounding the application site would achieve their required wind conditions and remain suitable for their intended standing use.

Ground Level Amenity Space

Wind conditions at the proposed development amenity space and at existing off-site amenity spaces would range from being suitable for their intended sitting and standing use to being two categories windier.

Roof Tops

The roof level amenity spaces would need to be carefully considered at the detailed design stage as they would be exposed to high winds and would be uncomfortable for users.

Strong Winds

There would be locations across the proposed development and in the immediate surroundings where strong winds would be expected. These include the proposed on-site thoroughfares, north of Plot A and south of Plot D. The occurrence of these winds would pose a safety risk to more vulnerable road users and pedestrians and therefore represents significant adverse effects.

All locations where modelled wind speeds exceed the target wind conditions for a particular use, represent significant adverse effects.

The significant adverse effects would require mitigation as part of the detailed design stage. The mitigation measures would be developed using wind tunnel testing which would be secured by means of an appropriately worded planning condition.

8.5 Daylight, Sunlight, Overshadowing and Solar Glare

The assessment was undertaken by means of computer modelling and the application of the published guidelines. The guidelines are not mandatory and should be applied flexibly taking into account the particular context of the proposed development, especially as it is widely acknowledged that the guidelines are more suited to a suburban context.

The assessment considered the existing level of daylight and sunlight within the habitable rooms of neighbouring residential properties overlooking the application site (17-49 Vastern Road, 87-89 Caversham Road, 91 Caversham Road and 93-99 Caversham Road) compared to the daylight and sunlight levels following implementation of the worst-case scenario mixed-use scheme.

Due to the low density of the application site, with only two low-rise structures, very good levels of daylight and sunlight are enjoyed by the neighbouring residential properties. All of the 75 windows assessed achieve the recommended daylight levels, with 48 of the 62 (77%) rooms having the recommended daylight distribution. The second-floor bedrooms within the Vastern Road properties do not achieve the recommended levels due to the existing small windows serving these rooms. All 62 rooms achieve the recommended sunlight levels, including during the winter months.

No existing amenity space within close proximity of the proposed development have been identified and therefore the overshadowing analysis has only considered the access to direct sunlight for the potential amenity space within the proposed development.

The potential for solar glare was assessed at eight locations around the application site to establish the likelihood for significant solar glare from the facades of the proposed development, which would be affect drivers of road vehicles. In this regard, a worst-case fully reflective façade was assumed as no material palette or façade design is available at the outline planning stage.

8.5.1 Demolition and Construction

Following demolition, there would be a temporary increase in daylight and sunlight at the existing residential receptors. However, the potential daylight, sunlight and overshadowing effects would gradually increase in magnitude as the massing of the proposed development is erected. Although the effects would be noticeable, such effects would be less than that of the completed development and accordingly the adverse effects would not be significant.

Potential solar glare effects would not occur until the proposed development's cladding is applied. The adverse effects associated with solar glare would therefore be negligible until the proposed development is completed.

8.5.2 Completed Development

Daylight

Following the introduction of the proposed development, the assessment concludes that in relation to:

- 87-89, 91 and 93-99 Caversham Road, all 17 windows would achieve the recommended criteria within the guidelines and therefore these properties would continue to enjoy good access to daylight;
- 17-49 Vastern Road, none of the windows would achieve the recommended criteria within the guidelines. However, in relation to daylight distribution, 14 (28 %) would achieve the recommended criteria of the guidelines. The retained levels of daylight would be acceptable for the urban location, based on the application of professional judgement.

Sunlight

The sunlight assessment concludes that all of the 75 windows tested would achieve the recommended criteria within the guidelines and therefore the proposed development would not have a significant adverse effect on the residential receptors.

Overshadowing

The direct sunlight that would be received by the amenity area within the proposed development would achieve the recommended level within the guidelines.

Solar Glare

Whilst the solar glare assessment identified that there would be a potential for some solar dazzle over short periods of time throughout the year, the adverse effects would not be significant and the selection of non-reflective façade materials at the detailed design stage would help to reduce the potential effects further.

8.6 Townscape and Visual

The assessment was based upon methodology derived from published guidance and considered the worst-case scenario presented by the mixed-use scheme. Verified views were prepared to inform the assessment.

The existing townscape that the application site is located within exhibits a declining character with built form of low architectural quality and large areas of car parking that is at grade with the vehicle dominated Vastern Road. The relationship of the existing townscape to the northern entrance of the Reading Railway Station limits the potential for non-vehicular movement through the area and offers little towards the visual amenity of townscape and built form.

The assessment considered the impacts of the proposed development on 10 of the townscape character areas defined in the Reading Tall Building Strategy and 26 views of the application site.

8.6.1 Demolition and Construction

The demolition and construction stage of the proposed development would cause temporary changes to the townscape character of the application site and within the locally defined character areas, as well as the visual amenity of the assessment views in the immediate vicinity of the application site and study area.

The demolition and construction works would alter the character of the application site and study area for the duration of the works with elevated plant and activities causing temporary significant adverse effects upon the townscape character of the application site and Character Area 22: Vastern Road.

The effects on all other character areas would also be adverse, but not significantly so.

The demolition and construction stage of the proposed development would appear in close range views where a large amount of the visual envelope would be occupied by the demolition and construction activities while in longer distance views, a much small proportion of views would be occupied by the works.

Temporary significant adverse effects would arise for visual receptors of the following views:

- south from Vastern Road/Lynmouth Road;
- north from Station Square North;
- south-east from Caversham Road; and
- south from Thames Path/De Montfort Road.

The effects on all other views would be adverse, but not significantly so.

8.6.2 Completed Development

The public realm and block layout would improve the non-vehicular access to the northern entrance of the Reading Railway Station due to the defined sightlines towards the station from Vastern Road,

where the proposed development would represent a strong building frontage, as well as improvements to the legibility and articulation of the public realm.

The proposed development would introduce substantial built form to the local area that would improve the overall functionality of the townscape resource, providing a progression in scale that positively contributes to the sense of place and arrangement of spaces.

Permanent significant beneficial effects would arise in respect of the townscape character of the application site and Character Area 22: Vastern Road.

The effects on all other character areas would also be beneficial, but not significantly so.

The proposed development would alter both the visibility of the application site and visual amenity in the vicinity due to the blocks of built form of the proposed development. As committed to in the Design Code, the improvements to the quality of built form and public realm on the application site would enhance the experience that visual receptors receive in the vicinity of the proposed development, as well as in views from further afield. The effects on views would be beneficial, but not significantly so..

8.7 Built Heritage

The assessment was undertaken in accordance with published built heritage guidance and application of professional judgement. Consideration was given to the worst-case scenario presented by the mixed-use scheme. Verified views informed the assessment.

The built heritage assessment considered the potential impacts and likely effects of the proposed development with respect to built heritage assets (listed buildings, conservation areas, registered parks and gardens of special historic interest and locally listed buildings) within the study area of the application site.

There are no heritage assets (for example, listed buildings) on the application site and the application site has no heritage significance in itself. However, there are a number of heritage assets (listed buildings, registered park and garden and locally listed building) within the study area. The assessment considered the indirect impacts from the proposed development on the setting of these assets.

8.7.1 Demolition and Construction

Demolition and construction can have an effect on the setting of heritage assets. This is, however, a necessary effect of urban redevelopment and is temporary in nature. Taking into account the embedded mitigation measures that would be adopted as part of the CEMP, and due to the intervening built and landscape form, these temporary adverse effects would not be significant.

8.7.2 Completed Development

The completed development would deliver wider public benefits including a more active street frontage on Vastern Road and new access routes to Reading Railway Station.

The height and massing of the proposed development would have an adverse effect on the setting of both the Grade II listed Main Building of Reading General Station and the Grade II listed Great Western Building, due to their proximity. The views north from Station Road towards Reading General Station and its glazed tower would now include tall buildings in the background and thus detract from the architectural importance of this building. The resulting effect on this heritage asset would be adverse and significant.

All other heritage assets would not experience significant adverse effects.

9. CUMULATIVE EFFECTS

9.1 Intra-Project Cumulative Effects

Intra-project cumulative effects are interactions, or combined individual environmental effects on identified sensitive receptors (for example, people's homes).

The EIA considered effects from the proposed development itself on surrounding sensitive receptors, as well as on-site receptors during the demolition and construction works and also once the proposed development is completed.

There is no potential for effect interactions at demolition and construction stage or completed development stage.

9.2 Inter-Project Effects

Inter-project cumulative effects are potentially significant cumulative effects of a proposed development, in combination with, other 'third-party' development projects.

The following nine cumulative schemes were identified for the purpose of the inter-project cumulative impact assessment:

1. Former BMW Site – Thames Quarter;
2. Station Hill;
3. Kenavon Drive;
4. Land between Weldale Street and Chatham Street;
5. 29 Station Road;
6. 52 to 55 Friar Street and 12 Greyfriars Road;
7. Network Rail Thames Valley Area site office / Former Royal Mail Site; and
8. Broad Street Mall.

Of these schemes, 1-4, 6 and 7 are approved projects and 5, 8 and 9 are still to be determined (reasonably foreseen). The location of the cumulative schemes are shown in Figure 9.1.

All of the technical assessments considered the in combination effects, with the exception of the townscape and visual assessment which considered the proposed development's additional effects over and above the cumulative schemes as provided for in published guidance.



Overlapping projects within the borough would generate beneficial cumulative effects due to the creation of demolition and construction jobs (minimum of 2,496 jobs inclusive of the proposed development) and the resulting increase in local spending.

Temporary cumulative effects would be experienced in respect of daylight, sunlight, overshadowing and solar glare; wind; and built heritage. As with the proposed development effects in isolation, as the construction of the cumulative schemes progressed, the magnitude of impact and the resultant effect would gradually increase as the massing increases. Due to the temporary nature, the effects would not be significant.

Temporary significant adverse cumulative effects would be evident within the following views when the proposed development is considered in addition to cumulative schemes:

- R1700003910_2_NonTechnicalSummary

9.2.2 Completed Development

The new residential population that would be introduced by the proposed development and cumulative schemes would create additional demand for primary healthcare and education provisioning in the surrounding area, which would have a significant adverse effect. However, there would also be a significant beneficial effect resulting from the increased local expenditure.

There would be no significant inter-project cumulative effects for air quality and noise.

There would be an overall improvement in wind conditions with the introduction of cumulative schemes, because of the sheltering effect from these schemes. However, despite improvement, unsafe conditions would remain and would require mitigation to ensure the comfort and safety of pedestrians.

With regard to daylight, two isolated windows to 17-49 Vastern Road, five to 87-89 Caversham Road, two to 91 Caversham Road and one to 93-99 Caversham Road would see a small change in the cumulative scenario, but none of the rooms they serve would see a change in daylight distribution. The effects on daylight to 17-49 Vastern Road would remain significant adverse.

With the addition of the proposed development to the surrounding cumulative schemes, the townscape would benefit from beneficial effects on the application site character, as well as all character areas. The effect on townscape character of CA 22: Vastern Road would be significant beneficial.

With the exception of the view North from Station Square, all the viewpoints would see beneficial effects in the cumulative scenario. Significant adverse cumulative effects would be evident within the view north from Station Square due to the substantial change to the setting of this heritage asset.

With regard to Built Heritage, the cumulative effects of the proposed development and surrounding cumulative schemes would have significant adverse effects on the setting of a number of surrounding heritage assets. Those affected would be the main building of Reading General Station; Great Western House; and 13 and 15 Station road, which are all Grade II listed buildings.

10. SUMMARY

The iterative nature of the design and EIA processes has enabled the establishment of parameters and commitments for the proposed development, taking into account the existing and evolving character of the application site and surrounding area.

The proposed development would comprise four plots that would create a permeable built form and that would activate the Caversham and Vastern Road frontage. Land uses could comprise residential, commercial and/or retail floorspace.

The building height and massing have responded to the lower scale on Vastern Road whilst delivering on the landmark aspirations of the RSAF. Commitments for the delivery of high quality building design, public realm and landscaping have been made within the accompanying design code.

The EIA process has identified the following mitigation measures that have been embedded into the proposals:

- The production of a Construction Environmental Management Plan (CEMP) to be secured by means of an appropriately worded planning condition.
- **Socio-economics**
 - A commitment to make Community Infrastructure payments which can be used towards the extension of, or new provision of a GP service in the local area.
- **Noise and Vibration**
 - A commitment to undertake further detailed design to avoid potential for noise effects from plant and entertainment uses.
 - A commitment to adopt the modelled noise insulation scheme for residential use to be secured by means of an appropriately worded planning condition.
 - A commitment for the installation of signage to prohibit idling of vehicles to be secured by means of an appropriately worded planning condition.
- **Ecology**
 - A commitment for the delivery of an appropriate planting strategy at the detailed design stage to be secured by means of an appropriately worded planning condition.

With the incorporation of the above mitigation measures, the EIA process has concluded that during the demolition and construction stage:

- **significant adverse effects** would be likely in respect of:
 - Demolition and construction noise at the residential properties at 31-51 Vastern Road;
 - Townscape character change of the application site and CA22: Vastern Road; and
 - Visual amenity change to views south from Vastern Road/Lynmouth Road; north from Station Square North; south-east from Caversham Road; and south from Thames Path/De Montfort Road.
- **significant beneficial effects** would be likely in respect of:
 - Construction employment generation and wider benefits relating to economic output.

With the incorporation of the above mitigation measures, the EIA process has concluded that for the completed development stage:

- **significant adverse effects** would be likely in respect of:
 - wind comfort where wind conditions exceed targets for the intended pedestrian use and all instances of strong winds;

- daylight effects to 17-49 Vastern Road; and
- setting change to the Main Building of Reading General Station.
- Significant beneficial effects:
 - Local expenditure and economic output; and
 - Townscape character change of the application site and CA22: Vastern Road

Commitments have been made to deliver the following additional mitigation during the course of the detailed design stage and as part of the RMAs:

- **Wind Microclimate** – Refinement of building height, massing and articulation, as well as detailed landscaping design to be confirmed through wind tunnel testing.
- **Daylight, Sunlight, Overshadowing and Solar Glare** - Design of facades that are not fully reflective to mitigate against solar glare effects from road and rail users. Selection of fins and louvres which act to reduce or obscure solar rays.
- **Townscape and Visual** - Implementation of Design Code commitments in regard to high quality design, the delivery of a landmark development, locally distinctive built form, variety in massing and height, articulation of the facade, quality materiality, creation of a distinct sense of place, permeability and high quality public realm and landscape interventions.