St James Group

Former Royal Mail Sorting Office, Twickenham

Environmental Statement

Non-Technical Summary

Post Application Revision

Project Ref: 26503

~~November 2012~~June 2013

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Contents

1 Introduction 6
1.1 Project Background 6
1.2 Terms and Definitions 6
1.3 The EIA, ES and Related Documents ..... 7~~6~~

2 Site and Surrounding Area 8
2.1 Site & Surrounding Area Description 8
2.2 History of the Site 11

3 The Proposed Development 12
3.1 Description of Proposed Development 12
3.2 Construction Programme & Management 16
3.3 Consideration of Alternatives 17

4 Planning & Policy Context 19

5 Assessment of Effects 20
5.1 Introduction 20
5.2 Socio-Economics 21
5.3 Hydrology & Flood Risk 22
5.4 Land & Water Quality 23
5.5 Transport & Access 24
5.6 Noise & Vibration 25
5.7 Air Quality 25
5.8 Ecology & Nature Conservation 26
5.9 Daylight & Sunlight 27
5.10 Built Heritage 28
5.11 Archaeology 29
5.12 Townscape & Visual 29
5.13 Waste 30
5.14 Assessment of Cumulative Effects of MOL Footpath Proposals 31
5.15 Summary & Impact Interactions 31

1 Introduction

1.1 Project Background

1.1.1 In November 2012 St. James Group Ltd submitted a planning application for the redevelopment of the Former Royal Mail Sorting Office, Twickenham (reference 12/3650/FUL). The proposed development comprises the comprehensive redevelopment of the vacant former sorting office to provide residential accommodation (within houses and flats), a community building and two restaurants.

1.1.2 The planning application was submitted with an Environmental Statement ((ES); Peter Brett Associates LLP, 2012) prepared in accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2011, (EIA Regulations). The ES included a Non-Technical Summary (NTS).

1.1.3 Since the submission of the planning application there have been some amendments to the proposed development, while further information has been submitted in response to queries. This document is the NTS submitted with the November 2012 with updated in accordance with the amendments to the scheme and the further information. For clarity the updates to the NTS are identified as 'track changes'

~~**1.1.2** This document is the Non-Technical Summary (NTS) of an Environmental Statement (ES) prepared in respect of a full planning application by St James Group (St James) for the redevelopment of the Former Royal Mail Sorting Office, London Road, Twickenham, south west London. St James is part of Berkeley Homes, a leading housing developer based in London and the South East.~~

~~1.1.3~~**1.1.4** ~~The proposed development comprises the comprehensive redevelopment of the vacant former sorting office to provide residential accommodation (within houses and flats), a community building and two restaurants.~~

1.2 Terms and Definitions

1.2.1 For ease of reference the following terms have been used in the ES:

- Former Royal Mail Sorting Office – the name of the development, for which planning consent is sought.
- The site – the area within the planning application boundary.
- The wider MOL – the wider area of Metropolitan Open Land to the west of the site, not including the small area of MOL at the western end of the site that is currently occupied by a car park associated with the former sorting office.
- Proposed development – the development for which planning permission is sought comprising demolition of existing buildings and redevelopment to provide a mixed use

development comprising a 3 to 5-storey building accommodating 82 residential units, 2 restaurant units; a 2 to 4-storey community building; 28 houses; and associated car parking, plant, utility works, public open space, gardens and landscaping.

1.3 The EIA, ES and Related Documents

1.3.1 This Environmental Statement presents the findings of an Environmental Impact Assessment (EIA) undertaken in accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2011, referred to as the 'EIA Regulations'.

1.3.2 Running concurrently with the design process, the EIA has sought to identify appropriate design and construction measures and good practice to mitigate potential adverse environmental effects and maximise environmental opportunities which might arise as a consequence of the construction and operation of the proposed development as well as determining the residual environmental effects remaining after mitigation has been incorporated.

1.3.3 The ES comprises the following separate volumes:

- **Volume 1: Main Report**;
- **Volume 2: Appendices**; and
- **Non-Technical Summary** (this document).

1.3.4 The other principal documents to be submitted as part of the planning application are:

- Design and Access Statement;
- Planning Statement;
- Transport Statement;
- Statement of Community Involvement;
- Sustainability Statement (including Energy Strategy); and
- Employment & Economic Case.

2 Site and Surrounding Area

2.1 Site & Surrounding Area Description

2.1.1 **Figure 1** below identifies the planning application boundary along with key environmental features on and surrounding the site. **Figure 2** provides photographs taken across and close to the site.

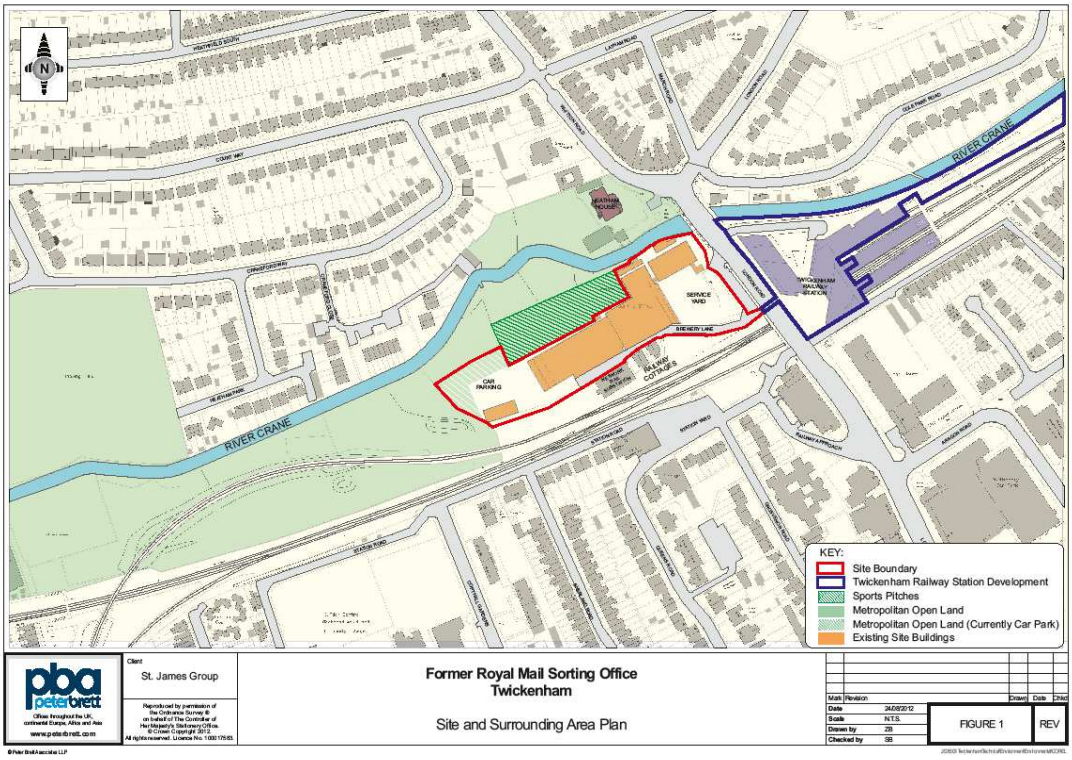

Figure 1: Site and Surrounding Area Plan

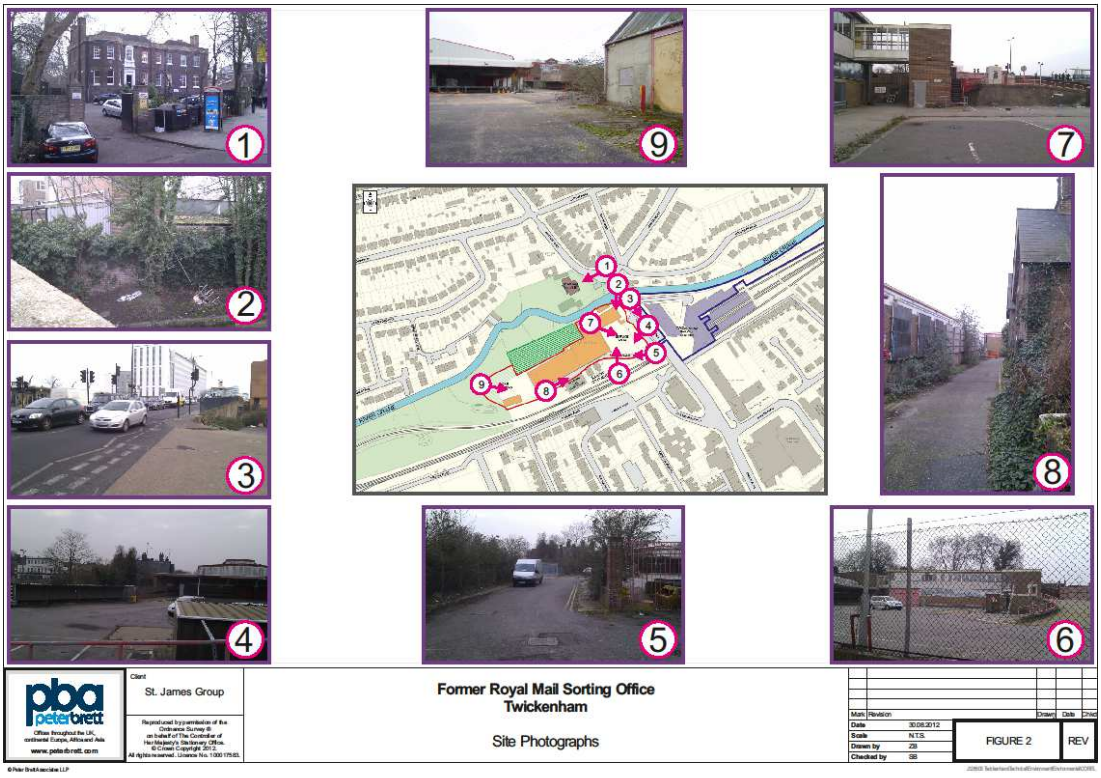

Figure 2: Site Photographs

2.1.2 The site consists of the former Royal Mail Sorting Office, and is approximately 1.15 hectares, and is located approximately on National Grid Reference 515958,173623.

2.1.3 Much of the site comprises the derelict former sorting office buildings. These are relatively dilapidated structures of one to two storeys, of a variety of construction forms with flat and pitched roofs. The remainder of the site comprises hardstanding, principally a former car park at the western end of the site and service yard towards to the eastern end.

2.1.4 A topographical survey identified that ground levels at the site are typically 8-8.5m above ordnance datum (AOD). The site slopes down towards the River Crane to the north of the site and along the northern border to the east of the site, following the natural gradient of the River Crane corridor. This results in the lowest levels being measured in the north east corner of the site, where the site is beneath the level of London Road which at that location is on a bridge of the River Crane.

2.1.5 Part of the western end of the site is designated as MOL, although this land has previously been developed and is currently occupied by a car park associated with the previous sorting office. The wider MOL extends to the west, between the railway line and the River Crane, and comprises overgrown bushes and trees, to which there is no public access.

2.1.6 The site is accessed from London Road (A310) immediately to the east of the site and which is elevated at this point due to the road continuing south on a bridge over the railway. From a single junction with London Road, there are two ramps that provide vehicular access into

the site. One provides access to the service yard at the eastern end of the site. The second ramp is immediately adjacent to London Road Bridge and provides access to the Brewery Lane which provides the southern boundary of the site.

2.1.7 London Road provides the site's eastern boundary, with Brewery Lane the southern boundary. To the south of Brewery Lane are four railway cottages (nos.1 – 4 Brewery Lane), a Network Rail substation and the London Waterloo to Windsor and Reading railway line. To the north of the site is the River Crane, which is confined to a concrete channel and, in a meander of the River Crane, an Astro Turf sports pitch, basketball pitch, skate/BMX park and outward bound facilities. The western end of the site is delimited by the extent of the former Sorting Office car park.

2.1.8 Beyond London Road and the wider MOL the site is surrounded by predominantly residential areas. Dwellings are located immediately to the north of the River Crane and to the south of the railway. The area is mainly characterised by semi-detached and terraced housing, dating from the late nineteenth century to the south of the site and early twentieth century to the north. The Richmond Adult Community College (Twickenham campus) is located approximately 300m to the south west of the site and Richmond upon Thames College is located approximately 500m to the west of the site.

2.1.9 Twickenham Railway Station is located to the east of London Road, adjacent to the site. London Road provides access to Twickenham town centre, which is approximately 500m to the south of the site.

2.1.10 The habitats within the site are dominated by buildings and hardstanding, with scattered trees around the boundary of the site and scattered scrub and tall ruderal growing through cracks in the hardstanding. The River Crane at St Margarets (Richmond side) a Site of Borough Grade II Importance for Nature Conservation (SINC) is adjacent to the north eastern boundary of the site. The Twickenham Junction Rough Site of Local Importance for Nature Conservation (SLINC) is located directly adjacent to the site, along the entire western boundary.

2.1.11 There is one statutorily Listed Building, Heatham House, located to the north of the site in Whitton Road. It is Grade II listed and was first listed on 2nd September 1952. Whilst being a designated heritage asset, the house, walls, entrance gates and piers do not form part of an Asset Grouping, as defined by English Heritage.

2.2 History of the Site

2.2.1 A review of historical maps has identified that the site was occupied by a brewery, owned by the Cole family, from the early 17th century until the last 19th century. The brewery ceased operating by 1927, shortly before the council bought the site and built a Council Depot. The site continued to be operated as a depot until the early 1960s.

2.2.2 From the 1960s until the present day, the site has been occupied by the existing, albeit dilapidated, sorting office facilities.

2.2.3 In addition to the uses noted above a railway station building was also located on the site during the second half of the 19th century. The railway provides a long term southern boundary of the site, and the wider MOL has previously been used as railway sidings.

3 The Proposed Development

3.1 Description of Proposed Development

Introduction

3.1.1 The proposed development entails a full planning for the comprehensive redevelopment of the sorting office site for a residential-led mixed use development.

3.1.2 The quantum of development proposed is set out below:

- 110 residential units (28 houses and 82 apartments);
- Two restaurants each of approximately 300m^2 each; and
- Community building of approximately 1,265m^2.

3.1.3 The layout of the proposed development is provided below along with a visualisation of the proposed development when viewed from London Road outside the railway station.

Amendments to the Proposed Development since the NTS was prepared

3.1.4 The amendments to the proposed development comprise:

- agreement on the quantity of affordable housing (an increase from 10% to 15% of all units), to provide 16 affordable units as part of proposed apartment building;
- more detailed plans for the Community Buildings internal layout;~~;~~
- a 3 metre high acoustic fence as part of the boundary treatment between the site and the Multi Use Games Area (MUGA) immediately to the north;
- a green roof to the apartment building;
- a widened ramp to allow access for maintenance vehicles to the River Crane flood defences;
- the route and height of the flue serving the CHP plant in the Mixed Use building;
- a new Service Bay parking for the Community Building; and
- alterations to cycle provision for the apartment building.

Figure 3: Site Layout

Figure 4: View of Proposed Development from Outside Twickenham Railway Station

Apartment Block

~~3.1.4~~3.1.5 The apartment block comprises a horseshoe-shaped building of three to five stories around a central landscaped courtyard. The ground floor will provide two restaurants, including one overlooking the River Crane, along with residential apartments. The upper floors are entirely residential. The block will accommodate 22 one bedroom apartments and 60 two bedroom apartments (to include 16 affordable units). A basement will be provided beneath the block providing 68 car parking spaces, cycle parking, refuse areas and plant space.

~~3.1.5~~3.1.6 The apartment block has been designed such that London Road frontage is lower than the proposed railway station redevelopment and Regal House and Bridge House, further to the south on London Road. Heights are also lower towards Heatham House and the River Crane to minimise overshadowing, with taller elements being towards the south.

~~3.1.6~~3.1.7 All apartments will have private balconies/terraces.

~~3.1.7~~3.1.8 The landscaped courtyard connects to a public piazza in the north east corner of the site, overlooking the River Crane. The piazza is to be used for informal recreation as well as outdoor dining associated with the two restaurants. The piazza connects to a river walkway between the apartment building and the River Crane.

~~3.1.8~~3.1.9 An Energy Centre will be located within the basement. This will comprise a 70 kilowatt electric gas-fired combined heat and power (CHP) unit, providing space heating to the proposed apartments, along with boilers to 'top up' where required. The CHP flue rises through the building with a 1m high flue at roof level. The CHP unit will also be connected to the community building to provide heating and power.

~~3.1.9~~3.1.10 The basement will be accessed from a ramp on the southern façade, which then connects to the existing junction on London Road.

Community Building

~~3.1.10~~3.1.11 The community building will be five storeys fronting onto London Road, albeit that the building will sit lower than London Road. To the rear will be a single storey community hall, under part of which there will be a small basement. The design and use of the building has been subject to extensive discussion with LBRuT as it is intended that the community building will be an LBRuT facility. It is proposed that the community building will provide the following:

- ~~350-400~~circa 360 seat community hall area, café and reception area on the ground floor;
- Flexible floor space on the first, second, third and fourth floors;
- Small basement providing dressing rooms and storage space; and
- A first floor roof terrace above the community hall.

~~3.1.11~~3.1.12 The final uses of the community building will depend on the requirements of the LBRuT and the local community, but are anticipated to entail live music performances, theatre, rehearsals, music studios and sporting activities.

Houses

~~3.1.12~~3.1.13 The central and western part of the site will provide 28 houses; 6 three bedroom houses and 22 four bedroom houses.

~~3.1.13~~3.1.14 These will be located in five short terraces orientated north to south. The houses will be three storeys, with rooms also provided in roof space. Each house will have a private garden and two car parking spaces.

~~3.1.14~~3.1.15 The proposed houses will have individual boilers, along with photovoltaic panels located on the roof.

~~3.1.15~~3.1.16 It is proposed to provide a boundary fence along the northern boundary of the site to screen the houses from noise associated with the sports pitches to the north.

~~3.1.16~~3.1.17 The houses will be accessed from Brewery Lane, which then connects to the existing junction with London Road.

Landscaping

~~3.1.17~~3.1.18 The landscape strategy for the development is based around the following six character areas:

- The Piazza: At the front of the site, adjacent to the London Road and opposite the station, it is proposed to create a new contemporary public piazza space. This area will be set at the same level as London Road and will feature a curved seating amphitheatre overlooking the river.
- The riverside promenade: Adjacent to the river it is proposed to provide a ramped pedestrian link from the sports pitches area up to the piazza level. A level linear terrace overlooking the river is proposed, along with a tiered landscaped terrace.
- The landscape curtilage to the community building: Along the curved ramped access road it is proposed to plant a line of semi-mature street trees in front of the new community building. Two further breakout landscape spaces are provided to cater for outdoor seating and general relaxation.
- The communal courtyard garden to the apartment block: At the centre to the apartment block it is proposed to provide a high quality landscaped communal garden. This space will include raised planters and a central water feature will provide a quiet focal seating space.

- The mews style entrance courts to the townhouses: A series of three mews styled courtyard spaces will be created to provide feature entrances to the town houses. The mews will also cater for private car parking and the ends adjacent to the sports pitches will be finished with 3m high masonry walls.

- Brewery Lane: It is proposed to plant an evergreen hedge and line of trees along the boundary adjacent to the railway line. This will provide visual screening and provide attractive trees to line the road. Access will also be provided on major match days for the underpass under London Road to be used by pedestrians to enhance access to the station.

3.2 Construction Programme & Management

3.2.1 It is anticipated, subject to receipt of planning permission, that construction is expected to start in 2013 and be completed by 2015. The key construction phases are anticipated to be:

- Demolition & Enabling Works~~: July to May 2013~~;
- Groundworks~~: May 2013 to February 2014~~;
- Construction of the houses~~: August 2013 to November 2014~~;
- Construction of the community building~~: October 2013 to June 2015~~; and
- Construction of the apartment building~~: February 2014 to June 2015~~.

3.2.2 For the purposes of this assessment it has been assumed that first occupation of the scheme could be in 2014.

3.2.3 The key construction activities are likely to include:

- Demolition and site clearance, including the crushing of demolition materials for re-use on site where appropriate;
- Earthworks and soil preparation to prepare the development area;
- Installation of foundations including use of piling (which is anticipated to be continuous flight auger piling and vibro piling);
- Construction of building structure, cladding and glazing and internal walls and partitions;
- Installation of fixtures, fitting and building services;
- Utility diversions, upgrades and connections; and
- External landscaping, highway and drainage works.

3.2.4 All of the construction operations carry with them a range of issues to be dealt with in their design, preparation and execution. Due to the urban location of the site, best practice in

construction management will be required to minimise the environmental effects and disruption that could be caused by the construction works. This will minimise disruption to affected communities, businesses and services.

3.2.5 It is proposed to utilise a Construction Management Plan (CMP) to manage the impacts of construction. The CMP will be a comprehensive document for the management of the construction works, including environmental and transport related aspects. It is proposed that the requirement for such a CMP be secured through an appropriate planning condition.

3.3 Consideration of Alternatives

3.3.1 The EIA Regulations require an ES to describe include an outline of the main alternatives considered by the applicant, indicating the main reasons for the choice made, taking into account the environmental effects. The full description of alternatives considered is provided in **Volume 1** of the ES, which is summarised below.

3.3.2 The site was vacated by the Royal Mail Group in October 2011. Since the site was acquired by St James in December 2011 the site has been used by a small scale local distribution company. However, the full potential of the site will remain unfulfilled in its present state as it fails to contribute to the local economy, provides no opportunity to deliver community facilities and due to its condition it detracts from the local townscape and the River Crane environment.

3.3.3 LBRuT's adopted Core Strategy (2009) identifies the site within the Key Diagram as a "site with potential for change" and is promoted for redevelopment by LBRuT in the emerging Twickenham Area Action Plan (again see **Chapter 6** in **Volume 1** of the ES).

3.3.4 Therefore, St James has not considered no development of the site, or the development of an alternative site rather than this site, as one of the main alternatives to the proposed development, for the reasons stated above (i.e. planning policy) and because no development would only lead to the further deterioration of buildings on the site and a worsening of the local townscape (i.e. adverse environmental effects),

3.3.5 Consideration has been given to including the wider MOL to the west of the site within the site for the purposes of the planning application. This option entailed providing a public footpath, running east to west, through the wider MOL to provide public access to this area into which there is currently no public access.

3.3.6 It was decided that the MOL should be excluded from the site for the purposes of the planning application. The land will instead be transferred to the LBRuT. It is understood that LBRuT is to shortly submit a planning application for the footpath. As a result the EIA has considered the potential cumulative effect of the proposed development and the proposed footpath, based on information on LBRuT's available at the time of preparing the ES.

3.3.7 A key consideration in the initial stages of the design process was the potential for the local youth facility to be relocated from Heatham House to a new building within the site. This was the subject of public consultation held by LBRuT in the first half of 2012 regarding the future provision of youth facilities in the area. Following LBRuT's decision to retain the youth

facility at Heatham House, LBRuT and St James considered alternative opportunities for the provision of local community/leisure uses and it was agreed that a community building and two restaurants should be included within the scheme.

3.3.8 It was decided through the design process that the community building should be located in the south western corner of the site as this provides good access from London Road and makes the centre more prominent from London Road and the railway station, which should increase its use by the public. The proposed uses within the community building are based around the requirements of LBRuT and the public consultation, while providing flexibility in future use.

3.3.9 The proposed quantum and mix of residential accommodation has been identified by St James to reflect market demand and in accordance with relevant planning policy. This ensures that the proposed development remains viable and allows for the redevelopment of this previously developed site.

3.3.10 The proposed development layout is the result of a process of community consultation and pre-application discussions with LBRuT and to reflect relevant design policies from the Development Plan. Through this design process a number of potential layouts and ideas for the redevelopment of the site have been investigated. It was quickly established that a north-south layout of finger blocks was the best option for the western part of the site which allows light and views through the site with courtyards to the front of properties and gardens to the rear, and which also provides an animated frontage facing the railway line to the south.

3.3.11 Alternative options therefore generally focused on the eastern part of the site facing London Road, in particular the massing and layout of these buildings. Key issues to be addressed included the change in ground levels between the site and the London Road, enhancement of the River Crane environment, delivery of appropriate town centre uses, relationship between public and private realm and the scale and massing of proposed buildings. The proposed development is considered to appropriately address all of the above and to positively contribute to the townscape of this part of Twickenham.

3.3.12 As set out above, alternatives have been considered as part of the design of the proposed development. Some options were discounted at a relatively early stage because they are not feasible, realistic and genuine. The remaining options formed the "main alternatives" which St James considered. These options performed less well than the proposed development when considered in accordance with St James' selection criteria, including environmental effects. These alternatives have been considered in the context of local planning policy and the opportunities and constraints of the site and surrounding area. It is considered however that the proposed development best achieves the requirements of local planning policy, bringing the site back into beneficial use while also provides new facilities and amenities for the local community.

~~3.3.12~~**3.3.13** Further alternatives have been considered during the determination period in response to representations received on the planning application. These are identified in section 3.1 of this NTS.

4 Planning & Policy Context

4.1.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that where the development plan contains relevant policies, applications for development which are in accordance with the plans should be allowed unless material considerations indicate otherwise.

4.1.2 The current Development Plan material to the proposed redevelopment of the Sorting Office comprises:

- London Plan 2011;
- LB Richmond upon Thames Unitary Development Plan (adopted March 2005) – Saved Policies (March 2008);
- LB Richmond upon Thames Core Strategy (adopted April 2009); and
- LB Richmond Development Management Plan (adopted November 2011).

4.1.3 In addition to the above, the National Planning Policy Framework (NPPF) (published March 2012), the Twickenham Rail Station and Surroundings Design Supplementary Planning Document (adopted October 2010), Crane Valley Planning Guidelines (adopted April 2005) and the emerging Twickenham Area Action Plan (Publication Version July 2012) represent material considerations in the determination of the planning application.

4.1.4 A full description of these policies relevant to the proposed development is provided in **Volume 1** of the ES.

5 Assessment of Effects

5.1 Introduction

5.1.1 This chapter summarises the findings of the EIA.

5.1.2 The scope of the EIA was agreed with LBRuT based on an EIA Scoping Report prepared by Peter Brett Associated LLP. As a result the following provides a summary of each of the potentially significant environmental effects of the proposed development. Effects have been considered during the construction and operation of the proposed development.

5.1.3 A summary of the assessment methodology is now presented. The detailed methodology is provided in **Chapter 5** of the ES.

Establishing Baseline Condition

5.1.4 A range of site surveys and data collection exercises have been used to identify environmental conditions at the site. Surveys have been undertaken over several years as the planning of the proposed development and where surveys are considered to have become dated these have superseded or corroborated by up-to-date surveys. The surveys undertaken are reported in each of the topic chapters of the ES.

Assessing Construction Effects

5.1.5 The EIA has assessed the potentially significant environmental effects that could occur during the construction phase. These effects will vary substantially during the construction process therefore judgements have been made to ensure that reasonable worst case effects are tested through consideration of the processes most likely to lead to significant effects.

5.1.6 Construction effects should be temporary, although due to the extent of the construction works required could occur over two years. Construction effects could also be intermittent, i.e. they will not occur at one place throughout the duration of the construction works. The potential duration and intermittency of effects is identified as appropriate in the relevant topic chapters.

5.1.7 In judging the significance of construction effects it has been assumed that the construction mitigation measures identified and the proposed CMP are fully implemented (as it is expected would be required by a suitable planning condition).

Assessing Operational Effects

5.1.8 To provide a robust assessment and one that is generally consistent between topic chapters, the EIA has focused on assessing the environmental effects of the full, completed development. Therefore, the EIA has generally assessed the likely effects in 2015, the year the development is proposed to be completed and fully occupied/operational. This approach ensures that maximum exposure is considered as well the full environmental effects of development itself. Where worst case effects could occur during an earlier year (e.g. air quality effects need to be considered during the year of first occupation as background air

quality can be improving) then such an assessment has been undertaken and this is reported in the relevant topic chapter. Consideration has also been given to early occupants of the development being affected by the final stages of construction works.

Cumulative Effects

5.1.9 Planning permission was granted in March 2012 for the redevelopment of Twickenham Railway Station. This will entail a new ticket office and concourse, 115 residential units, 734m^2 of commercial space, car and cycle parking and a pedestrian route along the River Crane. The development will be in three blocks of two to seven storeys. Consideration has therefore been given to the potential for cumulative effects resulting from the proposed development of the sorting office site and the railway station.

5.1.10 It is understood that LBRuT is shortly to submit a planning application to provide a footpath through the wider MOL and to open up the area as public park. The EIA has therefore undertaken an assessment of the likely significant cumulative effects of the proposed development and LBRuT's proposals for a footpath. A summary of this assessment is included as section 5.14 of this NTS.

Assigning Significance

5.1.11 Effects have been assessed against the significance criteria provided in **Table 5.1**. The significance of effects has been identified following the implementation of mitigation and enhancement measures.

Table 5.1: Generic Significance Criteria

Significance Level	Criteria
Severe	Only adverse effects are assigned this level of importance as they represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of international, national or regional importance. A change at a regional or borough scale site or feature may also enter this category.
Major	These effects are likely to be important considerations at a local or borough scale but, if adverse, are potential concerns to the project and may become key factors in the decision-making process.
Moderate	These effects, if adverse, while important at a local scale, are not likely to be key decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process.
Not Significant	No effect or effect which is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error.

5.2 Socio-Economics

5.2.1 An assessment has been made of the social and economic effects of the proposed development. This has considered the extent to which the proposed development is expected to deliver local economic development policy and its potential impacts on employment, population, the local community and social and community infrastructure.

Consideration has been given the effects of the proposed development in isolation and in combination with the redevelopment of the railway station.

5.2.2 Key policies considered include the London Plan, the Core Strategy and the emerging Twickenham Area Action Plan. These documents show that there is a need to improve the overall economic performance of Twickenham. As part of this, and to meet the social objectives of the plans new housing is proposed to meet identified needs and also provide additional people in the local area.

5.2.3 The economy of the Borough remains relatively strong, although as with everywhere will have been dampened by the recession. There is however no need or demand for new high density employment space in the area.

5.2.4 The proposed development will make a significant contribution towards the aspirations of LBRuT to improve Twickenham. It will deliver benefits in terms of jobs, linked both to the construction and operation phases of the development. Alongside this, new development will result in increased population, which will in turn lead to more expenditure becoming available to local businesses, both on the site and in the town centre generally. These economic effects of the proposed development are generally considered to be a minor beneficial effect.

5.2.5 The increased population however will place more demand on existing local service provision. LBRuT will need to plan future social and community infrastructure provision, particularly education facilities, to allow for this growth which will also need to be considered in the context of other developments proposed in the local area. Primary education and to a more limited extent healthcare (GP surgery capacity) are key issues to be addressed. The increased demand on local services is generally considered to be a minor adverse effect of the proposed development.

5.2.6 The provision of new services and amenities, along with the regeneration of the area and opening of the waterside, are considered to provide a moderate beneficial effect for the local community and future residents of the development.

5.3 Hydrology & Flood Risk

5.3.1 An assessment has been undertaken of the hydrology and flood risk effects of the proposed development, drawing upon a Flood Risk Assessment prepared in accordance with relevant guidance.

5.3.2 Data has been collected for the site and the local area in order to determine the existing flood risk to the site and to identify and assess the existing surface water drainage strategy on the site. This has included analysis of flood maps, model data, records and consultation with key stakeholders.

5.3.3 Modelling of the surface water drainage strategy has been undertaken which has defined the existing condition, determined the impact of the proposed development without mitigation measures and the expected residual impact of the proposed development if all mitigation measures are implemented.

5.3.4 The site lies with Flood Zone 1, the lowest possible risk of flooding, which is supported by the absence of any records of flooding at the site.

5.3.5 During the construction phase the drainage strategy for the site may be interrupted which may result in temporary pooling of the water on the site. However, this can be effectively controlled through consideration within the Construction Management Plan and the resultant effect is therefore considered to be not significant.

5.3.6 Since the existing drainage strategy does not include attenuation and the site comprises predominantly hard standing, the development of the site is not likely to increase the risk of flooding either on or in the vicinity of the site in the operational phase of the development.

5.3.7 The proposed mitigation measures for the site have been designed to reduce the surface water discharge rates into the River Crane to ~~50~~52% of the existing rates of runoff, resulting in a moderate beneficial effect.

5.3.8 The measures proposed as part of the surface water drainage strategy have additional benefits, in that they are expected to have a permanent minor beneficial impact on both the water and environmental quality of the site through preventing sediments entering the drainage network.

5.4 Land & Water Quality

5.4.1 The existing baseline conditions have been identified from a Contamination Assessment Report produced by RSK in April 2012. The report included a Preliminary Risk Assessment and makes reference to the results of a preceding investigation.

5.4.2 Ground conditions beneath the site comprise a mantle of made ground of varying thickness and composition underlain by organic-rich alluvial deposits with the Kempton Park Gravels beneath. These strata are in turn underlain by the London Clay Formation. Groundwater is present beneath the site at a depth of between 2.52m and 3.85m and is designated as a Principal Aquifer.

5.4.3 Localised hydrocarbon contamination has been identified beneath the eastern area of the site, associated with the presence of underground fuel tanks, whilst diffuse low-level contamination has been identified within the shallow made ground.

5.4.4 Potential effects have been identified during the site's demolition, construction and operational phases relating to a number of potentially sensitive receptors. These include groundwater within the underlying Principal Aquifer, the adjacent River Crane, neighbouring properties and residents and end users of the site.

5.4.5 In order to mitigate the identified potential effects, a number of measures have been outlined, including requirement for supplementary intrusive investigation works prior to the commencement of construction, preparation of a detailed remediation method statement and completion of an asbestos survey. Additional measures will also be required during the demolition and construction phases, including the supervision of specific remedial works,

provision of dedicated areas for the refuelling of plant on-site and a CEMP to outline working methods and quality control procedures.

5.4.6 With the implementation of these mitigation measures, the excavation of below ground storage tanks and any associated hydrocarbon impacted soils will result in a minor beneficial effect in relation to groundwater quality. All other effects in relation to land and water quality, including cumulative effects with the redevelopment of the station, should be not significant.

5.5 Transport & Access

5.5.1 A Transport Statement has been prepared to assess the transport related effects of the proposed development. This has been used to inform the assessment of transport effects within the Environmental Statement drawing upon relevant guidelines including the Guidelines for the Environmental Assessment of Road Traffic' (1993).

5.5.2 The site is accessed from London Road which provides connections to the local highway network. The site is adjacent to Twickenham Rail Station that provides frequent services to London Waterloo and areas to the west. There are also frequent and wide ranging bus services available from stops close to the site on London Road.

5.5.3 The proposed development will generate similar levels of traffic to the previous Royal Mail Sorting Office use on the site. In comparison with the previous use, peak period (i.e. rush hour) weekday flows are expected to be slightly less during the morning peak period and about the same during the evening peak period. Average weekday flows are expected to increase by around 266 vehicle movements to and from the site. This reflects a 1.5% increase to traffic currently on London Road, therefore any impacts will not be significant.

5.5.4 A full residential Travel plan has been drafted and will be implemented prior to the occupation of the development. The Travel Plan will help to reduce private car trips associated with the proposed development, encouraging walking, cycling and the use of public transport.

5.5.5 There is likely to be increased demands for public transport as a result of the proposed development. Due to the high level of public transport provision in the vicinity of the site this is considered to be a minor adverse effect and no changes to the current public transport provision are considered to be necessary.

5.5.6 The proposed development will allow everyday access through the ~~subway~~ ~~under~~ London Road underpass and this will also relieve pressure when major rugby matches are occurring in Twickenham. The proposed development ~~and~~ will also provide access to a riverside walk adjacent to the River Crane. These provisions are considered to be a minor beneficial effect of the proposed development.

5.5.7 An assessment has also been of trips that will be generated during construction. This has identified that construction traffic be less than during operational use, with lower numbers of HGVs than those generated from the site's previous use. A Construction Logistics Plan will be prepared to help reduce local impacts from construction traffic. The effect of construction traffic is considered to be not significant.

5.6 Noise & Vibration

5.6.1 A noise and vibration assessment has been undertaken to determine the likely impacts from and upon the proposed development.

5.6.2 Consultation was undertaken on 16th August 2012 with the London Borough of Richmond upon Thames (LBRuT) to agree assessment methodologies. The assessment has been undertaken following the principles set in the National Planning Policy Framework (NPFF). A further assessment was undertaken in May 2013 to take into account the effects of a 3 metre noise fence that is now to be provided between the Heatham House sports grounds and the proposed development.

5.6.3 A baseline noise survey was undertaken between 7th and 8th October 2010 to establish the existing noise climate on site.

5.6.4 A qualitative assessment has been undertaken of the likely noise and vibration impact associated with the construction phase of the proposed development. Noise limits for the construction activities have been proposed at the nearest existing receptors in accordance with British Standard 5288: 2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites. Mitigation measures have been outlined based on best practice measures presented in BS5288. It is considered that, with mitigation in place, the residual effects (i.e. construction noise affecting local receptors) are likely to be moderate and adverse.

5.6.5 A computer noise model has been prepared to assess the likely noise impact arising from the operational phase of the development. The residual effect upon nearby existing dwellings close to the site due to the additional road traffic associated with the proposed development is considered to be not significant as the increase in noise level should not be perceptible to the human ear.

5.6.6 The potential noise impact upon the proposed residential development has been assessed, from road, rail and aircraft noise, as well as the noise from the sports pitches.. Mitigations measures have been outlined to meet the good internal noise level criteria agreed with LBRuT, to include a 3 metre noise fence between Heatham House sports grounds and the proposed development.

5.6.7 Noise limits at the nearest existing and proposed receptors for the fixed plant as part of the restaurants and community building have been proposed. These are in accordance with LBRuT's noise policy and BS4142: 1997 Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Sites.

5.7 Air Quality

5.7.1 An air quality assessment has been undertaken to identify the effects of the scheme during construction and operation. The site lies within a Borough wide Air Quality Management Area for exceedences of the nitrogen dioxide and fine particulate matter (PM_{10}) objectives.

5.7.2 The development will not lead to a significant increase in traffic on the local roads; however residents will be subject to the impact of road traffic emissions from the adjacent road network, and the impact of these emissions on air quality for future residents has been assessed.

5.7.3 Concentrations of nitrogen dioxide and PM_{10} have been predicted for ten dwellings representing worst case residential receptors within the site. Predicted concentrations of both pollutants are below the air quality objectives. Overall, air quality impacts of the proposed development are considered to be not significant.

5.7.4 The relative impact of energy centre and domestic emissions from the proposed development will be smaller than emissions from existing residential properties in the surrounding area due to energy efficiency measures proposed for the properties. As domestic properties contribute a very small proportion to concentrations in the area, the impact is judged to be not significant.

5.7.5 The cumulative construction and operational impacts of the adjacent Twickenham Station redevelopment have been considered, and cumulative impacts are considered to be not significant.

5.8 Ecology & Nature Conservation

5.8.1 The site consist largely of buildings and hardstanding with scattered trees around the boundary of the site and scattered scrub and tall ruderal growing through cracks in the hardstanding, mainly around the boundary of the site. These habitats are of limited extent and value and as such none of the habitats at the site were of nature conservation significance beyond the extent of the development footprint. The adjacent MOL is a SLINC designated for supporting four fern species within a wall, of which three are scarce to London, and secondary woodland which is also scarce within London.

5.8.2 There are records for protected and notable species with 1 km of the site, including bats and several species of bird of conservation concern. The site has limited potential to support these species. The scattered vegetation will support a restricted diversity and numbers of common breeding birds. Some common Biodiversity Action Plan species, such as dunnock and house sparrow, may breed in very low numbers, which would be of no more than local significance. Buildings were assessed as having negligible to low potential to support roosting bats, and the low numbers of bats recorded indicate that the River Crane is used as a commuting route by a small number of common bat species. The lack of activity within the site, lack of obvious foraging resource and low building suitability for roosts indicates that the site is of only very local value for bats.

5.8.3 The on-site construction effects are the removal of habitats, the potential for killing and injuring birds during site clearance, the removal of nesting and roosting opportunities, and disturbance to birds and bats due to increased noise. The removal of a proportion of vegetation at the site would have an adverse effect, although one of little significance. The commitment to replace that which is removed with vegetation of equal or greater extent and wildlife value will mean that the effect of temporary habitat loss will be reduced to negligible.

The replacement of vegetation will ensure that there is no long term loss of bird nesting and foraging opportunities at the site and further compensation would be achieved through the installation of bird boxes. While there is the potential to kill or injure birds during site clearance, this will be avoided though appropriate timing of site clearance and pre-construction surveys and mitigation in order to achieve a negligible effect. It is not considered that site works will have a significantly disturbing effect on birds as any birds present nearby will be habituated to relatively high noise levels in the surrounding, highly urbanised environment. Further, bird populations likely to be present in the immediate vicinity of the site will be of limited conservation significance due to the nature of available habitat.

5.8.4 The potential operational effects on ecology are disturbance to habitats birds and bats from an increase in disturbance from people and vehicles, and from lighting. However, it is not considered that adverse effects will arise. In the case of birds, as noted above, the species present will be tolerant of disturbance and habituated to noise, and effects will be negligible. It is anticipated that the lighting strategy for the development will result in a decrease in light spillage and effects on bats, therefore, would be minor beneficial.

5.8.5 Overall, the effects on ecology from the development are judged to be not significant, additional benefits would be achieved through the use of species of wildlife value in landscaping and provision of bird boxes. Given the limited severity of temporary effects, these additional measures could result in the overall effect being minor beneficial.

5.9 Daylight & Sunlight

5.9.1 The site is principally occupied by low level buildings. Consequently, the existing adjacent residential properties at 1 to 4 Railway Cottages, Brewery Lane, generally receive good levels of daylight in the baseline condition. The existing adjacent amenity spaces (sports grounds associated with Heatham House and the River Crane) receive either minor or, in the case of the Heatham House sports grounds, no overshadowing from the existing buildings at the site in the baseline condition. The main sources of overshadowing on the River Crane are its banks and the surrounding boundary walls.

5.9.2 In virtually all cases the relevant Building Research Establishment (BRE) guidelines, *Site layout planning for daylight and sunlight: A guide to good practice (2011),* for effect on daylight to existing adjacent properties will be satisfied and there will be a number of gains in light. A sunlight assessment has not been necessary because the windows, which face the site, are not within 90º of due south. Overall the proposed development will not have a significant effect on daylight and sunlight to existing adjacent residential buildings.

5.9.3 The effect on overshadowing of the existing adjacent amenity spaces will not be significant as the areas assessed will all satisfy the relevant BRE guidelines.

5.9.4 The provision of the piazza amenity space within the proposed development will be well sunlit and therefore provide a minor beneficial effect.

5.9.5 The daylight levels within the proposed residential accommodation will meet the recommended levels in the BRE guidelines for the vast majority of the representative sample

of rooms tested. This daylight analysis takes into account the proposed 3 metre high noise barrier between sports grounds and the proposed development. This offers good levels of daylight for an urban scheme that incorporates important private amenity spaces (i.e. balconies).

5.9.6 Mitigation measures cannot be employed to reduce or compensate for the effects on daylight, sunlight and overshadowing, so the residual effects remain the same as the pre-mitigation effects identified above. However, where possible, mitigation has been integrated into the scheme design to minimise the effects, for example, through careful positioning and spacing of the proposed buildings.

5.10 Built Heritage

5.10.1 From a cultural heritage perspective, the principle of new development on this site raises very few issues:

- There is only one statutorily listed building (Grade II) nearby, Heatham House in Whitton Road. Only the side elevation of this building, which has no windows, faces the site and in any case views are almost entirely blocked by mature trees and outbuildings in the grounds. Residential development on the site will have a not significant impact provided the existing Heatham House tree cover and the outbuildings remain.

- A terrace of houses and shops in Whitton Road and London Road (in part a non-designated heritage asset) have distant oblique views of the London Road frontage of the site, upon which the proposed development will have a not significant impact.

- No. 2 Cole Park Road, an 'Arts and Crafts' cottage and non- designated heritage asset, has similar oblique views of the front of the site from rear- facing impact.

- Nos. 1- 4 Railway Cottages, Brewery Lane, have an English Heritage 'Archaeological Priority' designation. Their present outlook is severely affected by existing development on the site and any new development is likely to have a minor adverse impact on nos. 3 and 4 based on landscaping being proposed along Brewery Lane.

- 'Albany' Public House and nos. 1-8 Station Road are designated heritage assets, being located within the Queens Road Heritage Area. Their present outlook from a distance northwards over the site is unattractive; residential development with landscaping will be at least neutral in residual impact, and probably an improvement.

5.10.2 Overall, it is considered that from the built heritage aspect, redevelopment of this site for residential purposes provides the opportunity for some significant environmental improvements to the townscape on and around the site.

5.11 Archaeology

5.11.1 The site has been reviewed for its below ground archaeological potential.

5.11.2 In line with national, regional and local development plan policy, a review of available geological and archaeological data, together with historic records, including a map regression from the eighteenth century onwards, has been carried out at the site.

5.11.3 This exercise has identified a potential for the prehistoric, Iron Age/Roman and Post Medieval/Modern periods. Overall the remains are deemed to be of probable local significance.

5.11.4 Archaeological deposits occurring within the site will be impacted by the construction phase of the development only, and a suite of appropriate mitigation measures have been proposed to secure preservation by record.

5.11.5 Due to the perceived significance of the likely archaeological remains, together with on-site constraints, it is proposed that relevant mitigation measures (archaeological evaluation or monitoring) are carried out following the granting of planning permission, in order to deal appropriately with the sites archaeological potential.

5.11.6 Following the implementation of appropriate mitigation measures it is anticipated that the impact of development upon archaeology will be not significant.

5.12 Townscape & Visual

5.12.1 A Townscape and Visual Impact Assessment (TVIA), provided as **Appendix L** of the ES **Volume 2**, has been undertaken to identify the effects of the proposed development on the local townscape and on views of the site. Consideration has been given to effects during both construction and operation of the development.

5.12.2 The TVIA identifies the existing townscape and visual baseline conditions at the site and surrounding area and assesses the potential effects of the proposed development on the townscape and visual amenity. Mitigation measures have been identified as appropriate. The assessment has been undertaken in accordance with the requirements of The Guidelines for Landscape and Visual Impact Assessment and to fulfil the requirements of the EIA Scoping Opinion.

5.12.3 Viewpoints have been agreed with LBRuT to represent the visual impact of the proposed development. Verified views have been prepared to illustrate how the proposed development will be viewed from each of these locations. In addition further visualisations have been prepared for key viewpoints to illustrate the effect of the proposed development and the consented redevelopment of Twickenham Railway Station.

5.12.4 The site is currently occupied by hardstanding and a number of disused commercial buildings associated with the former use of the site as a sorting office. The buildings are generally in a dilapidated condition and the site is considered to generally detract from the local townscape.

5.12.5 The construction of the proposed development is considered to have a generally minor adverse effect on the local townscape and on the selected viewpoints. This is a result of construction activities, including cranes, which are likely to more a noticeable townscape and visual feature than the current, albeit dilapidated, conditions prevailing at the site. However such adverse effects are only temporary and will be partially mitigated through good construction practices.

5.12.6 The permanent effect of the proposed development on the local townscape is generally beneficial. This is a result of the high quality development proposed, the creation of new public realm on London Road and enhancing access to the River Crane, improving the character of this important town centre site adjacent to the railway station.

5.12.7 The effect of the proposed development once completed typically varies between minor beneficial, not significant and minor adverse depending upon the view and receptor under consideration. The nature of the effect depends on the extent to which the development is visible and how the development is viewed in relation to surrounding buildings, trees and the sky. The effect of the development is however typically not significant or minor as a result of the careful and high quality design of the development and the massing responding to adjacent buildings.

5.12.8 The cumulative assessment of the proposed development along with the redevelopment of the railway station has identified that the railway station development is typically more prominent, due to the greater height and massing of the railway station development. As a result the proposed development of the sorting office site is typically obscured when viewed from the east and seen against the taller railway station redevelopment buildings when viewed from west.

5.13 Waste

5.13.1 Peter Brett Associates LLP has prepared a waste strategy for the proposed development, which is provided in **Appendix A.4** of **Volume 2** of the ES.

5.13.2 The Waste Strategy is based on The Berkeley Group's commitment to a 10 year sustainability strategy, 'Vision 2020'. This Vision 2020 aims to raise the standard of sustainable development in relation to new homes. To do so they have specific commitments which apply to waste issues and which have informed the waste strategy:

- Providing recycling bins for every home;
- Design all homes to achieve at least level 3 of the Code for Sustainable Homes; and
- Reuse over 80% of construction, demolition and excavation waste.

5.13.3 There are three main elements to the Waste Strategy covering demolition, construction and operational waste. The Waste Strategy gives details of each stage and the expected waste arisings and how they will be managed.

5.13.4 It is estimated that demolition will result in 7,710 tonnes of waste of which 90% will be concrete and tarmac. Recycling of such arisings could take place on site with processing of concrete and tarmac to produce a coarse aggregate that can be used in construction. The waste strategy should exceed the Berkeley Group 80% target for demolition wastes.

5.13.5 Construction waste is estimated at 2,150m^3, with a further 4,000m^3 created from excavation of the basement. As with demolition wastes construction waste will be re-used on site where practicable. A Site Waste Management Plan will be prepared detailing how construction and demolition wastes will be managed on-site.

5.13.6 Operational waste volumes are estimated to be approximately 100 tonnes per annum for the residential units with 43 tonnes of that being recycled and the remainder sent for disposal. For the commercial units (the restaurants and the community building) it is estimated there will be 240 tonnes of waste per annum.

5.13.7 The residential waste will be managed through LBRuT's existing waste management contracts. Development has been designed to allow space for waste and recyclable storage in and out of homes. Implementation of Borough-wide schemes to reduce waste sent to landfill, including improving community awareness, will improve recycling rates. The commercial waste management arrangements will require specific consultation by the future operators with appropriate waste management companies, depending upon the waste to be generated.

5.14 Assessment of Cumulative Effects of MOL Footpath Proposals

5.14.1 The proposed footpath through the wider MOL, and opening up the MOL as a park, will improve connectivity in the local area for the existing local community and future occupiers of the proposed development. The local community and future occupiers will also benefit from a new recreational facility. Both of these effects are considered to be minor beneficial effects.

5.14.2 There is the potential for minor adverse effects in relation to the ecological value of the MOL due to vegetation clearance to accommodate the footpath, increased recreational pressure and, should the footpath be lit, from lighting affecting bats. These effects are considered to be minor adverse. However, recommendation measures for LBRuT to consider in the design and implementation of the footpath have been identified to mitigate these effects.

5.14.3 It is therefore considered that the cumulative effect of the proposed development and LBRuT's footpath proposals should be minor and beneficial.

5.15 Summary & Impact Interactions

Construction Effects

5.15.1 The majority of the environmental effects identified during construction are not significant.

5.15.2 There is expected to be a moderate adverse effect on local communities in relation to noise and vibration, however this will be intermittent during the construction period. Effects on

views of the site and on the local townscape are also generally adverse during construction. Local communities may experience a minor beneficial effect as a result of employment opportunities during construction. Other issues that could affect local people, such as air quality and effects associated with construction traffic, should not be significant.

5.15.3 Overall therefore there is considered to be a minor adverse effect on local communities as a result of the construction of the proposed development.

Operation Effects

5.15.4 The most significant effects during the operation of the proposed development relate to socio-economics. The provision of a new community building will provide a range of flexible new facilities for the local community and new residents that is considered to be a moderate beneficial effect. Employment opportunities during the operation of the development are considered to be a minor beneficial effect, while increased demand for local services (health, education, etc.) are generally a minor adverse effect.

5.15.5 The proposed drainage strategy will reduce the risk of flooding at the site and in the surrounding area, which is a moderate beneficial effect to local communities.

5.15.6 Effects in relation to the townscape of the local area are generally beneficial, while the effects on key views are either beneficial or adverse depending on how the development affects the view in question.

5.15.7 There should be a minor beneficial effect on pedestrians and cyclists through the creation of a riverside walk, and a minor adverse effect in relation to increased pressure on public transport (albeit that the site benefits from a high standard of local public transport). Other transport related effects should not be significant.

5.15.8 Other effects on local communities are not significant.

5.15.9 As a result therefore the proposed development is considered to have a moderate beneficial effect on local communities.