

**Plutus Estates (WGC) Limited and Metropolitan
Housing Trust**

Former Shredded Wheat Factory, Welwyn Garden City

**Environmental Statement: Volume 3,
Non-Technical Summary**



**Plutus Estates (WGC) Limited and Metropolitan
Housing Trust**

Former Shredded Wheat Factory, Welwyn Garden City

**Environmental Statement: Volume 3,
Non-Technical Summary**

Revision	Date	Notes	Author	Checked	Approved
1.0	12-02-18	E2222	Various	AB	Dr N Davey

**Entran Limited
7 Greenway Farm
Bath Road
Wick
Bristol
BS30 5RL**

**T: 0117 937 4077
www.entranltd.co.uk**



CONTENTS**PAGE**

1	Introduction	1
2	Site Description	2
3	Development Description	5
4	Alternatives and Design Evolution	11
5	Development Programme and Construction	12
6	Transport and Access	13
7	Air Quality	18
8	Wind Analysis and Pedestrian Comfort	20
9	Noise and Vibration	22
10	Townscape and Visual Amenity	24
11	Ecology and Nature Conservation	27
12	Water Quality, Hydrology and Flood Risk	29
13	Soils, Geology and Contaminated Land	31
14	Cultural Heritage	33
15	Socio-Economics	35



1 INTRODUCTION

1.1 This document provides a non-technical summary of the findings of the Environmental Statement (ES), which has been prepared on behalf of Plutus Estates (WGC) Limited and Metropolitan Housing Trust to accompany an application for full planning permission for Former Shredded Wheat Factory, Welwyn Garden City (the 'Site').

1.2 The ES identifies and records the results of assessments of the construction and operational phases of the Proposed Development and considers the potentially significant environmental effects the Proposed Development will create. The ES suggests a range of measures to mitigate the identified effects and, where opportunities exist, to introduce improvement measures.

1.3 This report provides a Non-Technical Summary of the ES findings.



2 SITE DESCRIPTION

2.1 The Site is located to the East of Welwyn Garden City town centre in Hertfordshire and occupies an area of approximately 8.7 ha. The Site, which is centred approximately on National Grid Reference (NGR) TL241 128, is bound by Bridge Road (B195) to the North, Broadwater Road (A1000) to the East, the East Coast Mainline railway to the West, and Salvisberg Court (a new residential development) to the South. Hyde Way bisects the Site in an East-West direction and extends to a footbridge over the railway tracks.

2.2 The planning application boundary is shown in Figure 2.1.

2.3 The Site is redundant and the vast majority has been vacant since 2008. The Site is currently accessed from Bridge Road and Broadwater Road (A1000). The Site currently comprises:

- buildings associated with the former Shredded Wheat cereal production factory (to the North of Hyde Way);
- buildings associated with former Polycell factory and associated industrial uses (to the South of Hyde Way);
- cleared areas (where former buildings have been demolished); and
- the roadway of Hyde Way and its associated pedestrian route.

2.4 The Site is not located within a Conservation Area, however, it is within close proximity to the Welwyn Garden City Conservation Area, separated by the East Coast Mainline railway. The Welwyn Garden City Conservation Area is located approximately 40m West of the Site (at its nearest point).

2.5 The Site is not located within an Area of Archaeological Significance. However, the Site does include the Grade II Listed Nabisco Shredded Wheat Factory and a number of associated factory buildings within its curtilage. The Grade II Listed Office Block of the Roche Products Factory is located immediately adjacent to the Southern boundary of the Site. The Grade I listed Hatfield House and Garden, a Registered Park and Garden is located approximately 4km to the South of the Site.

2.6 The Site is not covered by any statutory or non-statutory designated ecological sites. The Sherradspark Wood Local Nature Reserve is located approximately 875m North-West of the Site (at its nearest point).



2.7 The Site lies within an area defined by the Environment Agency as Flood Zone 1 (<0.1% risk of flooding in any one year).

2.8 The Site is not located within a designated Air Quality Management Area.

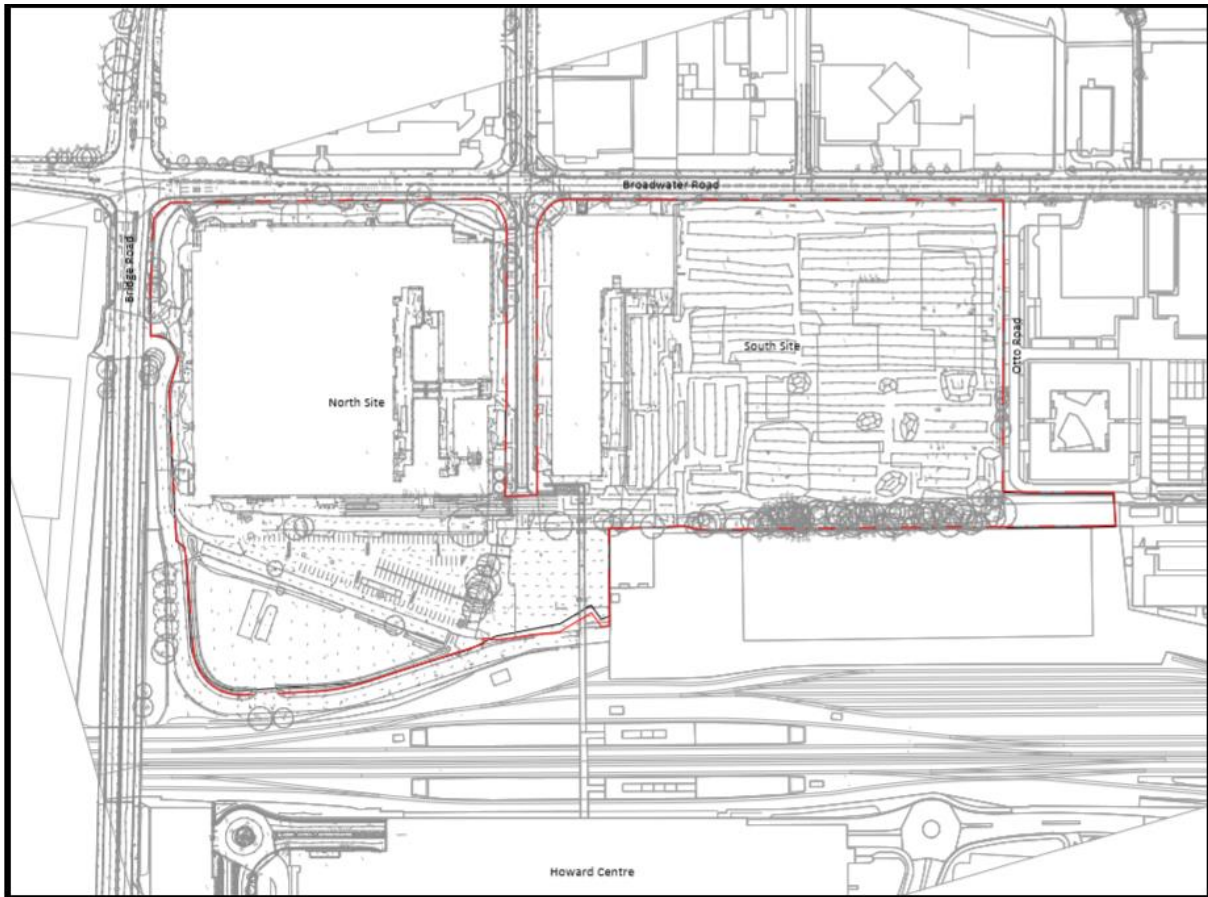
2.9 The Site has good access to public transport. Facilities within the vicinity of the Site include the following:

- East Coast Mainline rail services from Welwyn Garden City Station, located to the West, and accessed from the Site via the pedestrian footbridge. Destinations include Stevenage (10 minutes), London Kings Cross (23 minutes), Moorgate (47 minutes), Peterborough (1 hour 4 minutes) and Cambridge (57 minutes); and
- numerous bus services, the nearest bus stop is located on Broadwater Road.

2.10 Surrounding land uses in the immediate vicinity of the Site include industrial and office uses to the East and North. Residential development is located immediately adjacent to the Southern boundary of the Site with a Biopark office and laboratory located to the South-West of the Site.

2.11 The East Coast Mainline railway and railway sidings Pall Mall warehouse and distribution centre are located immediately adjacent to the Western Site boundary, with the Howard Centre mall and Welwyn Garden City town centre beyond.

Figure 2.1: Site Location



Topography

2.12 The Site is generally flat with levels across the Site in the range of approximately 85m above ordnance datum (AOD).

Demolition of Existing Buildings

2.13 The demolition of the existing buildings on-site is currently taking place on site. The application does not include the demolition of existing buildings, however depending on whether the baseline environmental surveys took place prior to or following demolition, the impact of the demolition of the buildings is included in some of the technical chapters of this ES.



3 DEVELOPMENT DESCRIPTION

3.1 The Proposed Development comprises a site with an area of approximately 8.7 hectares (ha) and comprises two parcels of land to the north and south of Hydeway.

3.2 The planning application is made in full.

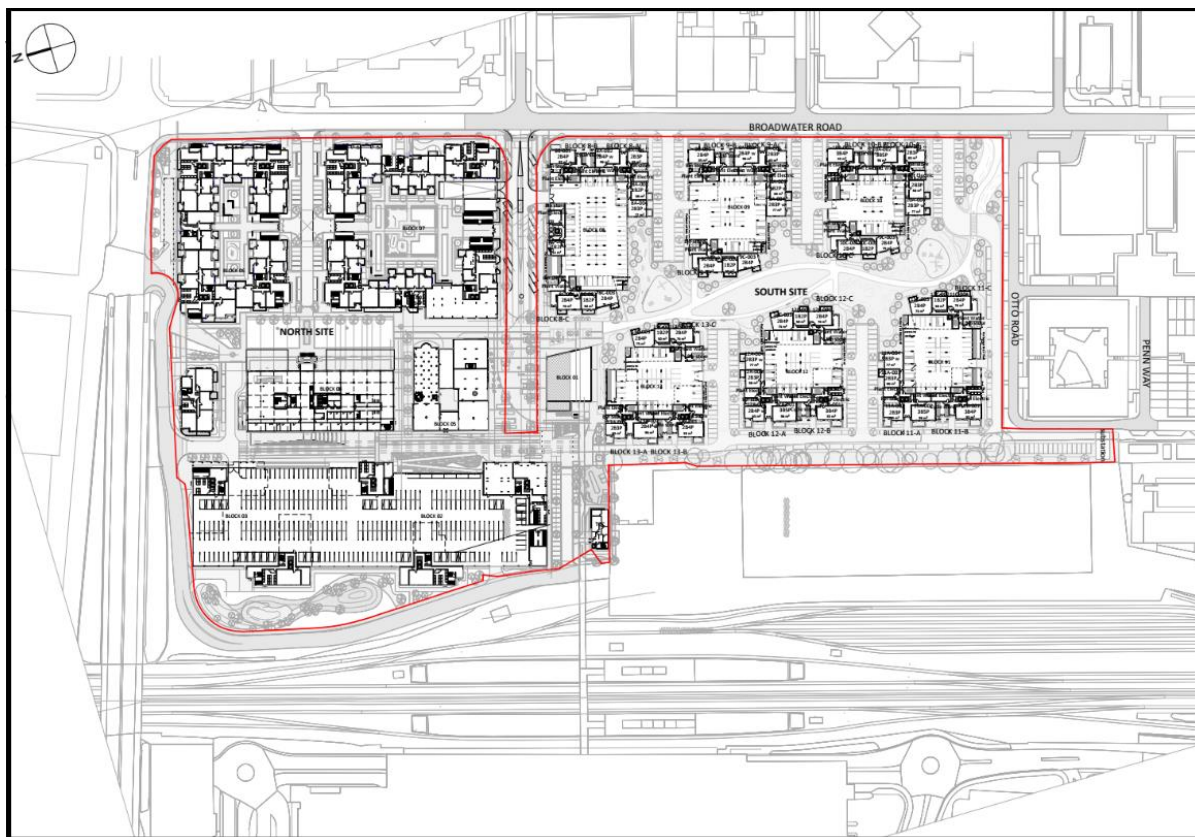
3.3 A masterplan has been prepared in order to demonstrate that the parameter plans allow for a scheme that would be entirely appropriate to the surrounding context. The design principles of this masterplan have been informed by the relevant provisions of planning policy and guidance at both the national and local level and consideration of any environmental constraints.

3.4 The Proposed Development comprises the following:

‘Creation of a mixed-use quarter comprising the erection of up to 1,340 residential dwellings including 414 (31%) affordable dwellings (Use Class C3); 114 extra care homes (Use Class C2); the erection of a civic building comprising 494 m² of health (Use Class D1), 494 m² of community use (Use Class D1), 1,232 m² of office (Use Class B1) and 646 m² of retail (Class A1/A2/A3/A4/A5); alterations, additions and change of use of Grade II Listed Building and retained Silos to provide 5,096 m² of flexible business floorspace (Use Class B1), 265 m² Combined Heat and Power (Sui Generis), 2,494 m² International Art Centre (Use Class D1), 1,226 m² Gymnasium (Use Class D2), 1,576 m² of restaurant / coffee shop / bar (Use Class A1/A3/A4/A5), Creche / Day Nursery of 644 m² as well as a Network Rail TOC Building of 364 m²; plus associated car parking, access, landscaping, public art and other supporting infrastructure.

3.5 The proposed site layout is presented in Figure 3.1.

Figure 3.1: Proposed Site Layout

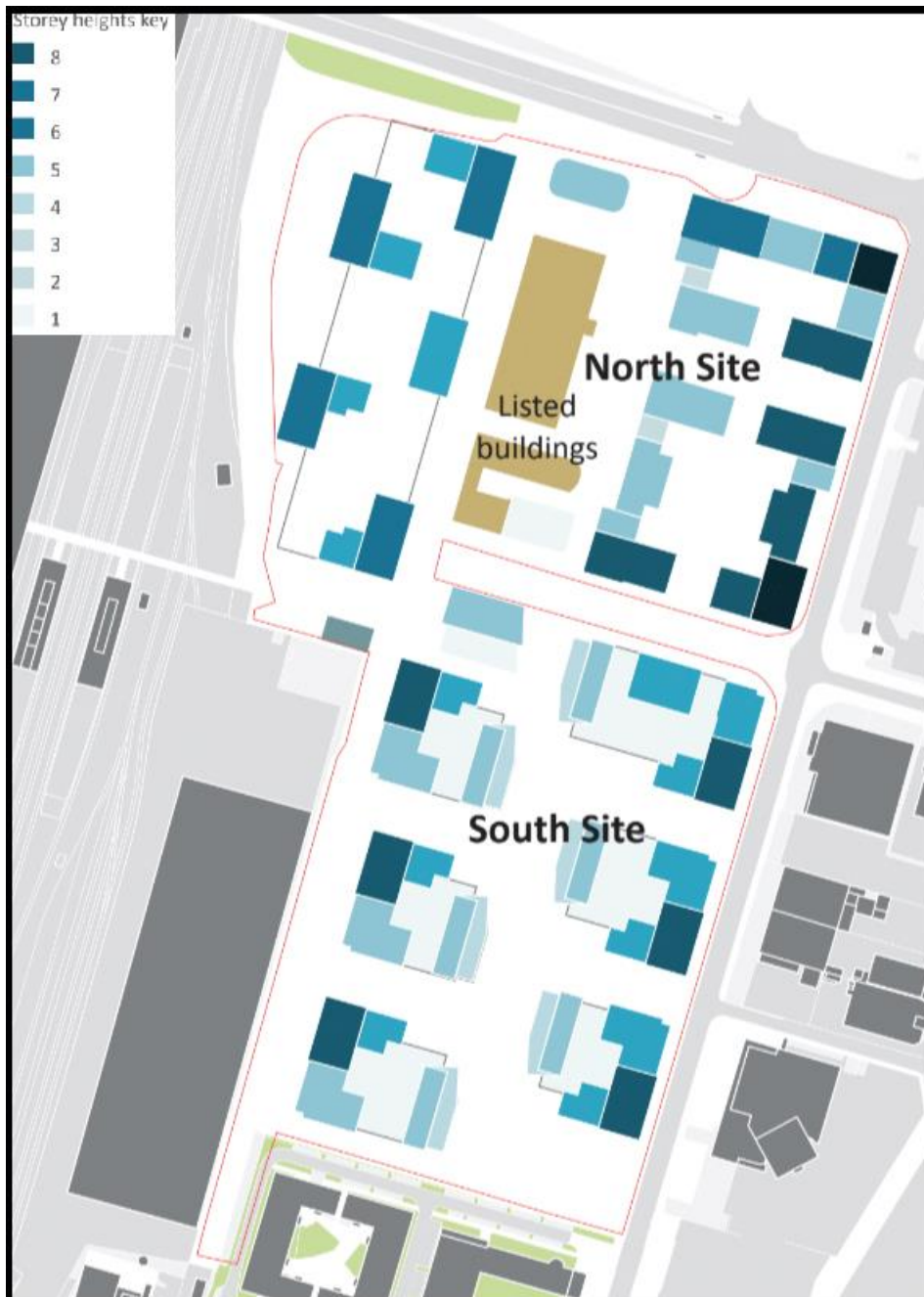


Scale and Massing

3.6 The height of buildings across the Site will range from one to eight storeys, the taller buildings will be located around the boundary of the Site, with the lower buildings located internally

3.7 Figures 3.2 illustrates the proposed building heights within the Site.

Figure 3.2: Building Heights





Quantum of Development

3.8 Table 3.1 identifies the quantity of the land proposed for the mixed uses to be provided by the Proposed Development.

Table 3.1: Land Budget Summary

Land Budget Summary	
Site Area	8.7 hectares
CHP plant (Sui Generis Use Class)	265 m ²
Residential Element	
Total no of dwellings (Use Class C3)	1340 (including 313 affordable homes)
Total no of dwellings (Use Class C2)	114 (extra care homes)
Commercial Element	
Retail (Use Class A1 to A5)	2222 m ²
Employment (Use Class B1)	6692 m ²
Public Services (Use Class D1)	4126 m ²
Entertainment and Leisure (Use Class D2)	1226 m ²

Commercial Area

3.9 The Proposed Development will provide up to 6692 m² of B1 (Business) floorspace.

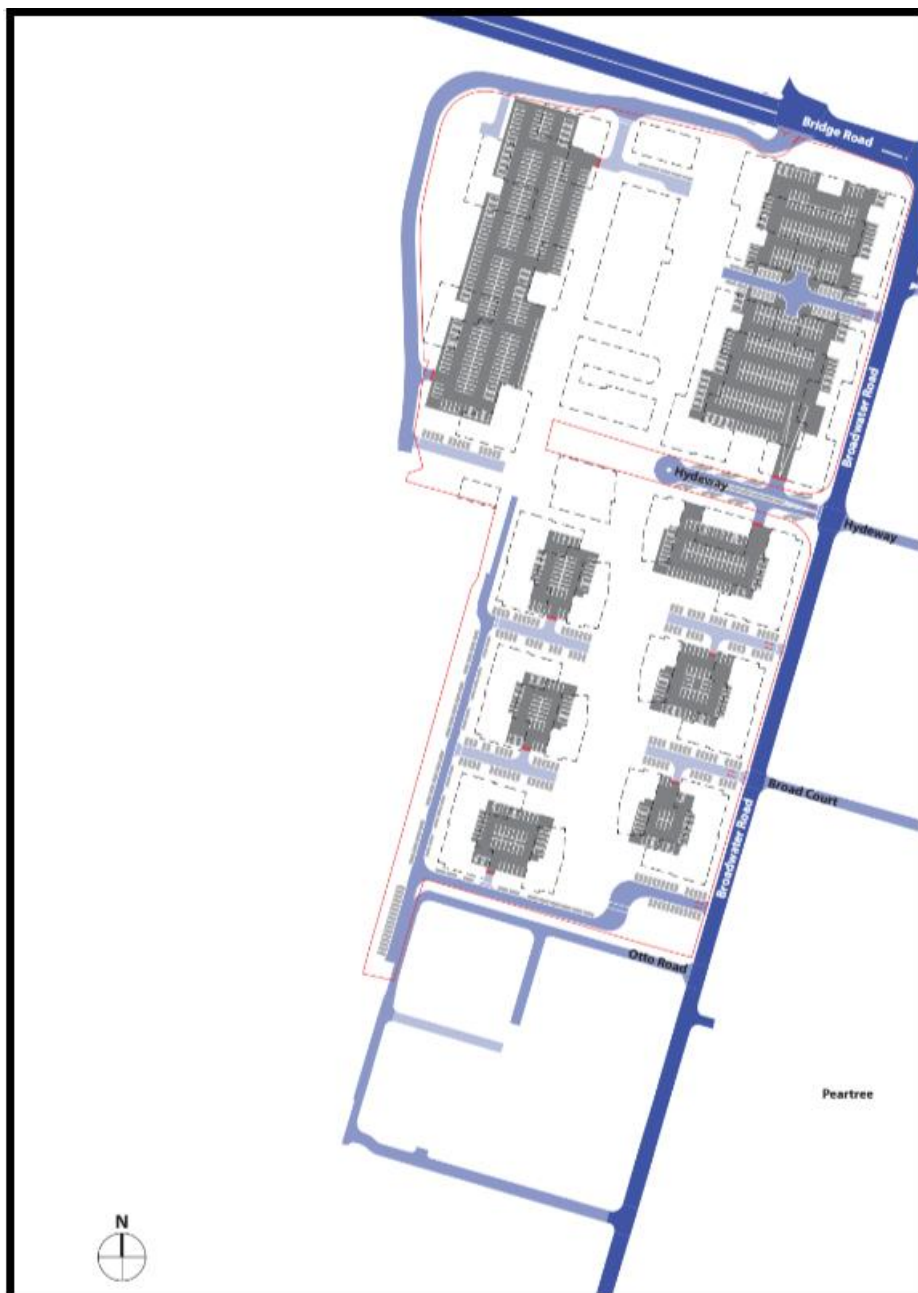
Residential Uses

3.10 The residential component of the masterplan forms a significant part of the development proposals and will provide up to 1340 new homes comprising apartments of different sizes and tenures and 114 extra care homes.

Access and Parking

3.11 Access to the Site for road vehicles will be via multiple access points off Broadwater Road and Bridge Road as illustrated in Figure 3.3. Car movements have been limited to the periphery of the Site to ensure that as much as possible of the areas used by pedestrians are free from car traffic. A designated taxi pick up and drop off point and queuing facility for 5 taxis has been located on Hydeway.

Figure 3.3: Vehicular Access



3.12 Car parking will be largely located within undercroft or basement areas supplemented by a small amount of on-street car parking spaces.

3.13 The masterplan provides a network of streets and publicly accessible spaces designed to allow easy access. New connections have been created and the accessibility of existing routes have been improved. Pedestrian crossing points along new roads and streets will either provide level access or dropped kerbs.



3.14 On-street cycle parking will be provided in the main public spaces around Goodman Square and the railway footbridge. Safe and secure private cycle storage will be provided within each residential block.



4 ALTERNATIVES AND DESIGN EVOLUTION

Introduction

4.1 The following sections describe the main alternatives considered by the Applicant in addition to the Proposed Development. Consideration has also been given to and commentary is provided on any alternatives or options considered by the Applicant as follows::

- The 'No Development' alternative;
- Alternative Sites; and
- Alternative Designs and Layouts.

'No Development' alternative

4.2 The 'No-Development' option refers to leaving the Site in its current state, which comprises an area of undeveloped land. This alternative would not contribute positively to housing delivery in the district, which falls below the rate required to meet objectively-assessed housing need.

As the Proposed Development can contribute up to 1340 dwellings to future housing supply and the Site is under the Applicant's control, the 'No Development' scenario has been dismissed.

Alternative Sites

4.3 The Applicant has control of the Site and it is available for development. The Proposed Development is specific to the Site and as the Applicant has control of the land other sites in the immediate vicinity have not been considered.

Alternative Designs & Layouts

4.4 The current Proposed Development has evolved over a number of design iterations, responding to local authority planning and development aspirations, public engagement and taking account of the Applicant's development objectives, design aspirations and prevailing environmental constraints. The evolution of the Development has therefore responded to a variety of design and environmental issues and the resultant proposals are considered to offer the most advantageous design solution.

4.5 Further details of the design evolution are contained in the Design and Access Statement which supports this Application.

4.6 The final layout of the Proposed Development is identified in Chapter 3 of this report.



5 DEVELOPMENT PROGRAMME AND CONSTRUCTION

5.1 The construction period is anticipated to be approximately four years to complete the Proposed Development in its entirety.

5.2 The construction effects of the Proposed Development would be managed through the development of a project and site-specific Construction Environmental Management Plan (CEMP).

5.3 The CEMP would outline methods for the contractor and general public liaison, hours of work, methods to deal with complaints and outline management practices to control dust, traffic and access, waste, water resources, ecological and archaeological effects, ensuring a high level of control throughout the construction works.

5.4 The procedures within the CEMP would ensure the delivery of a high level of environmental control throughout the construction phase, thereby minimising the potential for adverse effects.



6 TRANSPORT AND ACCESS

Introduction

6.1 This Chapter documents the assessment of the likely significant effects of the Proposed Development with respect to transport.

Predicted Impacts

6.2 The scope of the assessment is based on that carried out in support of the consented scheme and has been agreed with Highway Authority officers and includes an assessment of both construction and operational phases.

Effect during construction phase: short to medium term

6.3 It is anticipated that that the number of vehicular movements to and from the Site as a result of each phase of the construction will not be more than the number of trips generated by the completed development.

6.4 The Proposed Development will be constructed in three phases as illustrated in Figure 6.1 below:

6.5 Each construction phase will utilise different means of access from the public highway. Phase 1 will use the existing vehicle accesses from Bridge Road and Hydeway as well as the existing vehicle cross-over from Broadwater Road at the southern end of the Site. Phase 2 will also use the existing access from Bridge Road but will use a newly constructed access onto Broadwater Road. This access will form one of the final accesses for the operational phase. Phase 3 of the construction will use two newly constructed accesses onto Broadwater Road. Again, these area accesses that will form vehicular access for the operational phase.

Figure 6.1 – Development construction phases



6.6 The HGV trips will be spread throughout the day, as they will be made up of materials deliveries, off-site disposal and other trips related to the management of the construction process.

6.7 The daily traffic flow associated with the site construction traffic is considered to be relatively low and the change in magnitude for severance is considered to be negligible adverse for all links assessed. In general, the construction vehicles would use existing or newly constructed vehicle accesses from Bridge Road and Broadwater Road. Both these are main arterial routes with standard footways available either on one or both sides of the carriageway. On this basis, the change in magnitude for fear and intimidation is considered to be negligible adverse for all links assessed.

6.8 The development will be supported by a Construction Logistics Plan (CLP) which will include a route management strategy as well as dictate any limitations on construction vehicle



delivery hours. It is anticipated that there would be minimal flows associated with construction during the peak hours and the change in magnitude of the site access junctions for driver delay, pedestrian delay and pedestrian amenity are considered to have a magnitude of negligible adverse.

6.9 The daily traffic flow associated with the construction traffic is likely to be minimal when compared to the operational phase and as with all major construction sites it is anticipated that in addition to the CLP, a CEMP will be secured through a suitable planning condition. It is considered that the change in magnitude for accidents and safety is negligible adverse for all links assessed.

6.10 The Proposed Development will deliver significant highway improvement works to Bridge Road and Broadwater Road as well as off-site highway improvements to increase operational capacity at a number of roundabouts remote from the Site. All highway works will be delivered by means of a Section 278 Agreement with the local highway authority. The S278 technical approval will include a requirement for a traffic management plan to ensure safe working practices within the highway as well as minimal disruption to pedestrian and cycle movements. On this basis, appropriate management is considered to result in a negligible adverse change in magnitude for fear and intimidation for all links assessed. During the construction of the highway improvement works the effect on driver delay is considered to have be minor adverse but pedestrian/cyclist delay and pedestrian/cyclist amenity are considered to have a magnitude of negligible adverse.

Effect during operational phase: long term

6.11 The significance of the change in traffic magnitude on severance would be moderate adverse on the Broadwater Road and Bridge Road corridors.

6.12 There is no change in fear and intimidation between the baseline and with development scenarios (excluding Broadwater Road and Bridgewater Road improvement works) on the links considered.

6.13 Additional traffic is likely to lead to further delay on the local highway network. The effect on driver delay on the junctions considered would be major / moderate adverse.

6.14 The effect on pedestrian delay is considered as minor / negligible adverse on the Bridge Road and Broadwater Road corridors. The effect on pedestrian delay at the Bridge Road/Broadwater Road junction would be moderate adverse.



6.15 The increase in pedestrian and cycle trips on Bridge Road, Broadwater Road and the footbridge over the railway would result in moderate adverse pedestrian/cyclists delay on the links and junctions considered.

Mitigation

6.16 During the construction phase, details of the routing strategy, hours of operation, along with logistics and mitigation measures would be included in the CLP and CEMP which should be secured through a suitable planning condition. As a result, the likelihood is that construction vehicle movements will predominantly occur outside of peak hours such that operatives can avoid busy periods on the external network, and avoid late nights/early hours to reduce the disturbance of nearby residents.

6.17 The traffic management plan secured as part of the S278 technical approval process will ensure safe working practices within the public highway during the construction of the off-site highway improvement works. This will minimise disruption to pedestrian and cycle movement.

6.18 The Proposed Development will enhance the existing permeability of the local walking and cycling network through implementation of a number of measures including provision of walking and cycling facilities through the Site, the refurbishment of the rail footbridge and the re-modelling of Bridge Road and Broadwater Road to reduce vehicle speeds and enhance pedestrian and cycle routes and crossings.

6.19 Hydeway will be remodelled to allow for 'kiss and ride' facilities for those using the rail station as well as an informal taxi rank. This will encourage the use of public transport for longer journeys and will be a benefit to the wider local community.

6.20 A the refurbished footbridge will improve links to the rail station and upgraded bus station for those travelling to and from the development as well as the wider local community.

6.21 The development will be supported by a Framework Travel Plan to promote the use of sustainable modes of travel and reduce the reliance on the private car.

6.22 As a result of the enhancements, it is anticipated that residents, employees and visitors will consider modes other than the private car.



Summary of Effects

6.23 The residual impact of the Proposed Development is considered to be minor / negligible adverse during both the construction and operational phases. The residual impact of the off-site highway improvement works is considered to be minor adverse during the construction phase and minor / negligible positive during the operational phase.



7 AIR QUALITY

Introduction

7.1 This Chapter reports on the effects of the Proposed Development on air quality.

Predicted Impacts

7.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of both construction and operational phases.

Effect during construction phase: short to medium term

7.3 An assessment of the potential impacts during the construction phase has been carried out. This has shown that during this phase of the Proposed Development releases of dust and PM₁₀ are likely to occur during site activities. Through good site practice and the implementation of suitable mitigation measures, the impact of dust and PM₁₀ releases may be effectively mitigated and the resultant impacts are considered to be negligible.

Effect during operational phase: long term

7.4 Detailed modelling has been undertaken to determine the impacts of the Proposed Development on the air quality in the vicinity of the Site and assess the suitability of the Site for residential use.

7.5 The assessment found that concentrations of these pollutants would be below the relevant objective levels across the Site and within the local area. Emissions from traffic generated by the Proposed Development and from the proposed energy generating plant are predicted to result in a negligible impact on local air quality in the surrounding area.

Mitigation

7.6 During the construction phase, a high risk of dust soiling impacts and a medium risk of human health effects is predicted at adjacent receptors during construction of the Proposed Development. Appropriate mitigation measures for the Site have therefore been identified following the IAQM guidance. It is recommended that the measures identified are incorporated into a Dust Management Plan (DMP) and approved by the Local Authority prior to commencement of any work on Site.



7.7 During the operational phase, the impact is predicted to be negligible, therefore no mitigation measures are considered necessary.

Summary of Effects

7.8 Following the implementation of the recommended mitigation measures, the residual impact of the Proposed Development on local air quality is considered to be negligible during the construction and operational phase.



8 WIND ANALYSIS AND PEDESTRIAN COMFORT

Introduction

8.1 This Chapter reports on the effects of the Proposed Development on the wind environment of the surrounding area. The Proposed Development is located in a suburban neighbourhood. Open amenity spaces are seen in various locations around the immediate site surroundings. The Site is divided into North and South site and has a number of communal spaces for the occupants. Site analysis shows that immediate surrounding building comprise low rise factories and warehouses. Other developments are predominantly 2-3 storey high residential developments.

Predicted Impacts

8.2 The scope of the assessment includes an assessment of the likely significant effects arising from the proposals on the wind microclimate around the Site. It will identify wind effects on pedestrian safety and comfort for various pedestrian activities.

Effect during construction phase: short to medium term

8.3 The wind environment is largely dictated by the building masses which may gradually vary from the construction phase to operational phase. The assessment during the construction phase has not been quantitatively assessed as the resultant effects would be temporary in nature. Therefore, the assessment of wind environment has been limited to the operational phase of the Proposed Development.

Effect during operational phase: long term

8.4 The Proposed Development comprises residential and mixed use buildings spread across the Site. The development varies in height, the tallest being 8 storey high. All the buildings are arranged around a central landscaped podium which is a storey high and accommodates commercial spaces and resident's parking. The landscaped area on the podium level is designed to provide open spaces and amenities to the residents. Since the buildings are spread out and arranged in clusters with central podiums, the towers are likely to act as wind breakers. The towers do not exceed beyond 8 storeys and therefore the wind effects are likely to be only limited in nature.

8.5 The balconies projecting from the facades will obstruct the wind flow thus reducing the occurrence of downwash effect along the facades. There are no narrow streets or passages which might cause wind funnelling.



8.6 Trees, low level planting and landscape features will mitigate any wind effect at the podium level. Canopies will protect building entrances and areas that are sensitive receptors to pedestrian activities.

Mitigation

8.7 Programmed open spaces located at ground and podium levels can be located away from pockets of high wind velocity.

8.8 Trees can be located strategically so as to break high wind velocities and provide sheltered areas. Low level plantation can also substantially mitigate the effects of high wind velocities experienced on site.

Summary of Effects

8.9 The residual impact of the Proposed Development on surrounding wind environment is likely to be of negligible significance during the operational phase. Local measures should be able to mitigate any residual effects.



9 NOISE AND VIBRATION

Introduction

9.1 This Chapter has considered the potential impact of noise and vibration generated during the construction phases; whether the Site is suitable for the Proposed Development when taking into account the existing environmental noise conditions and the potential impact of the Proposed Development, including increased road traffic noise on nearby noise-sensitive locations and noise from any installations of electrical or mechanical plant.

Predicted Impacts

9.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of both construction and operational phases.

Effect during construction phase: short to medium term

9.3 The appraisal of noise and vibration levels associated with the construction phases of the Proposed Development shows that noise impacts associated with ground-works and concreting activities are likely to occur during those times when activities are being undertaken in close proximity to existing residential receptors. However, whilst such impacts will be significant, they will be of a temporary and intermittent nature.

9.4 There will be no other significant noise or vibration impacts associated with the construction works.

Effect during operational phase: long term

9.5 Noise sensitive receptors along the road network serving the Proposed Development will experience a small and barely discernible increase in noise levels as a result of the predicted increase in vehicle movements. However, the magnitude of the effects will not exceed any recognised or statutory objectives and, as such, the effects are predicted to be minor even for the most affected receptors.

9.6 The potential impact of noise from any future installations of fixed or mechanical plant associated with the Proposed Development will be designed to provide noise levels of a



magnitude no greater than the existing background noise level. Consequently, the noise impacts associated with the installations of mechanical and electrical plant at the Site will be negligible..

9.7 The potential cumulative impact of other proposed or committed developments was assessed to be negligible.

Mitigation

9.8 Measures to limit noise emissions will be included within a CEMP which will be agreed with the local authority.

9.9 For the operational phase, proportional and adequate acoustic treatments will be included into the Proposed Development in order to achieve an appropriate acoustic environment.

Summary of Effects

9.10 The residual impact of the Proposed Development on the local acoustic environment will include effects from road traffic movements but will be negligible for all other aspects during both the construction and operational phases.



10 TOWNSCAPE AND VISUAL AMENITY

Introduction

10.1 The Site is located on the eastern edge of Welwyn Garden City town centre, separated by the East Coast Mainline railway. The Site is located within the industrial zone of Welwyn Garden City on the grounds of the former Shredded Wheat factory. It contains Grade II Listed buildings of the former Shredded Wheat factory, of which the silos and production hall form a visual landmark within the surrounding townscape area and provide a sense of place and form some of the oldest industrial development within Welwyn Garden City.

10.2 The Site features an existing pedestrian connection running east / west along Hyde Way, which connects with Welwyn Garden City town centre via a pedestrian footbridge over the railway. Due to the decline in industry and manufacturing over the last century the Site has fallen into disrepair and dereliction, affecting the quality of the Site and immediate townscape setting.

10.3 The design of the Proposed Development in its wider context was assessed using 21 different viewpoints, which were selected in consultation with WHBC and Historic England.

Predicted Impacts

10.4 The majority of views into the Site are from roads, the railway station and pedestrian routes adjacent to or in very close proximity to the Site. Opportunities for views of the Site from a distance of greater than a few hundred metres are limited to the tops of the silos, as for the most part the Site is visually screened by layers of existing intervening built form and vegetation. A long distance view, through intervening vegetation towards the tops of the silos, is currently experienced by receptors visiting Hatfield House and Gardens (a Registered Historic Park and Garden and Grade I listed building).

Effect during construction phase: short to medium term

10.5 During demolition and construction, there would inevitably be a visual intrusion to the local townscape and views from locations close to the Site as a result primarily of large construction plant and machinery, including tower cranes, and the presence of partially completed built form of the Development. There would be also temporary disruption to the public access along Hyde Way. However, this situation is unavoidable for the redevelopment of the Site and would only be temporary in nature.



10.6 A small proportion of existing trees and vegetation would be removed during demolition and construction but this would also be rectified by the significant amount of landscaping to be incorporated into the Proposed Development. Once new planting has established, the landscape proposals would increase the vegetation coverage, diversity and amenity value within the Site.

Effect during operational phase: long term

10.7 The design of the Proposed Development is a culmination of an extensive consultation process with WHBC, Historic England and many other statutory and non-statutory stakeholders as part of an iterative design process. The Development would regenerate a parcel of former industrial, brownfield, derelict land of low townscape quality that contains valued Grade II Listed buildings.

10.8 The Proposed Development would introduce new high quality built form and enhance the sense of place. The Development would ensure the long term prominence and monumentality of the original 1920's elements of the Grade II Listed former Shredded Wheat Factory through their retention and refurbishment. The Proposed Development would introduce a number of community uses, including play provision and would deliver new public realm, green open space and highway improvements. These would result in the sensitive integration of the Proposed Development into the wider setting of Welwyn Garden City.

10.9 For pedestrians in the immediate area of the Site, on Broadwater Road, Bridge Road and on the Network Rail footbridge into the Site, the Proposed Development would positively enhance the visual quality, experience and approach creating a welcoming, safe and visually inviting townscape. People using Welwyn Garden City railway station would also experience an improvement to their views towards the Site.

10.10 For users of the Peartree Heritage Trail, in close proximity to the Site, the Proposed Development would result in the removal of the permanent view of the Listed Buildings constructed in the 1930s and later. However, framed views of the retained 1920s Listed Buildings would be opened up at key points along this sequential route.

10.11 For a small proportion of residential receptors, directly adjacent to the Site's Southern boundary, the Proposed Development would introduce built form that would be an improvement on the existing view of the derelict Site but that would restrict a proportion of the middle ground and distant views.



10.12 The Proposed Development would be introduced to views in the near distance however, there would not be a significant change to these views. Similarly, visitors and tourists to Hatfield House, with long distance views towards the Site, would experience a reduction in the visible extent of the silos following the demolition of those added from the 1930s onward. However, this would not be a significant change to the view of Welwyn Garden City from this location as only glimpsed views of the silos through existing vegetation currently exist.

Mitigation

10.13 Appropriate mitigation measures for the Proposed Development have been identified for both the construction and operational phases. During construction, measures include the retention and protection of trees and other vegetation where possible, control of mobile cranes and lighting, sensitive location of compounds and use of hoarding to control views. For the completed scheme, measures include the sensitive design and layout of the Proposed Development, provision of new planting to the Site boundaries, creation of a diverse range of public squares and open space to contribute positively to townscape character and the provision of new ecological habitats and enhancements, together with the ongoing management of the landscaped open spaces during the operational phase.

Summary of Effects

10.14 There would be effects on the townscape character and visual amenity in areas in close proximity to the Site during the construction period, with views of construction activities, cranes, plant and equipment however, these effects would be temporary. The Proposed Development would not result in any significant long term adverse effects upon townscape character or on visual amenity in the area surrounding the Site.

10.15 The Proposed Development has been designed in consultation with key stakeholders. The scheme delivers a bespoke, sustainable and high quality landscape, designed to characterise the development, provide a long term landscape and ecological resource and contribute to the positive integration of the development into the surrounding context of Welwyn Garden City.



11 ECOLOGY AND NATURE CONSERVATION

Introduction

11.1 This Chapter reports on the effects of the Proposed Development on ecology and nature conservation. The Chapter is informed by ecology surveys of the Site, including a desk study, an extended Phase 1 Habitat survey and a range of Phase 2 faunal surveys.

Predicted Impacts

11.2 The scope of the assessment has been agreed with the Local Authority and includes an assessment of both construction and operational phases.

11.3 No statutory or non-statutory designated sites of nature conservation importance are contained within the Site. All such sites within the surrounding area are removed from the Site and sufficiently separated by existing urban development so as to preclude direct or indirect impacts from the Proposed Development.

11.4 The Site itself is dominated by buildings and hardstanding, which are considered to be of typically negligible ecological value. Habitats which are considered to be of limited elevated value in the context of the Site comprise semi-mature trees and a mosaic of habitats including ephemeral / short perennial, scrub and grassland vegetation. Areas of grassland and a number of trees are to be retained.

11.5 Surveys of protected species have found that the Site is of generally limited ecological value. The Site has previously supported nesting peregrine falcon *Falco peregrinus* and a low population of slow-worm *Anguis fragilis* (which has since been translocated to adjacent habitats). Habitats also offer some potential for roosting bats, nesting birds and other Priority Species including hedgehog.

Mitigation, Compensation and Enhancement

11.6 Mitigation, compensation and enhancement measures are therefore proposed, including construction safeguards, a bespoke peregrine falcon mitigation strategy, new habitat and open space provision and drainage and lighting design. Notably, habitat enhancement measures could provide an overall gain in biodiversity across the Site, including substantial habitat creation and enhancement and provision of new nesting and shelter opportunities for faunal species.



11.7 The Proposed Development and mitigation scheme have also been designed to achieve compliance with relevant legislation and planning policy. Measures are proposed to avoid the killing of or injury to protected species such as bats, birds and reptiles (protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017). Opportunities for enhancements to biodiversity are also proposed, in accordance with the National Planning Policy Framework (NPPF), the NERC Act 2006 and local policy. Proposed enhancements will also deliver significant benefits in terms of green infrastructure, providing an extensive network of green links and corridors through and around the Site.

Summary of Effects

11.8 Following mitigation, compensation and enhancement measures, it is considered that the Proposed Development would result in an overall gain in the existing ecological interest supported by the Site, with particular benefits in respect of habitats, roosting bats, nesting birds, notable mammals, reptiles and invertebrates. Together, these gains are considered to result in an overall beneficial effect of moderate magnitude, which is likely to be significant at the local level.



12 WATER QUALITY, HYDROLOGY AND FLOOD RISK

Introduction

12.1 This Chapter presents an assessment of the likely effects of the Proposed Development on water quality, hydrology and flood risk.

12.2 Predicted Impacts

12.3 The scope of the assessment includes an assessment of both the construction and operational phases.

12.4 From reviewing the baseline conditions within and surrounding the Site, groundwater, foul drainage demand and mains water supply are considered to be the key receptors in terms of the Proposed Development. For groundwater, this is due to the Site being situated on a Principal Aquifer and within an SPZ Zone 3. For foul drainage and mains water supply, the high sensitivity classification is due to the local drainage infrastructure not having the capacity for the Proposed Development without mitigation and consultation with Thames Water is ongoing in this regard. Surface water is considered to be medium sensitivity as the Site is located within the 'Mimram' catchment which has a 'moderate' ecological status. Flood risk and drainage are considered to be low sensitivity receptors as the Site is located in Flood Zone 1 and is not in a critical drainage area.

12.5 The key effect during the construction phase is the potential for the remobilisation of any existing contamination at the Site. However, with suitable mitigation measures, the residual effect is considered to be Negligible. Water demand and foul demand are considered to be the key potential effects during the operational phase of the Proposed Development. However, with suitable mitigation measures put in place, the residual effects are considered to be minor adverse for water demand and foul demand.

Mitigation

12.6 The construction phase environmental effects will be managed using measures outlined in a Construction Environmental Management Plan (CEMP).

12.7 The Proposed Development will include Sustainable Drainage Systems (SuDS), as detailed within the Flood Risk Assessment and Drainage Strategy report. The system seeks to reduce the rate of surface water runoff in accordance with local policy. This runoff rate would be lower than the current natural rate of surface water runoff during extreme events.



12.8 Further consultation is on-going with Thames Water regarding any off-site infrastructure improvements which may be required in relation to the supply of mains water and foul drainage demand of the Proposed Development.

Summary of Effects

12.9 In conclusion, given the location and nature of the receptors, the overall environmental effect of the Proposed Development in relation to water resources and flood risk following the implementation of mitigation measures is considered to be negligible to minor adverse. All residual effects are negligible with the exception of surface water drainage (minor beneficial) and water/foul demand (minor adverse).



13 SOILS, GEOLOGY AND CONTAMINATED LAND

Introduction

13.1 This Chapter reports on the effects of the Proposed Development on the soils and geology, with particular regards to land contamination.

Predicted Impacts

13.2 An assessment of ground conditions and contamination has been undertaken using the findings of a desk based study and various intrusive site investigations undertaken at the Site over many years.

Effect during construction phase: short to medium term

13.3 An assessment of the potential impacts during the construction phase has been carried out. This has shown that during this phase of the Proposed Development land contamination is unlikely to worsen during site activities. Through good site practice and the implementation of suitable mitigation measures such as Personal Protective Equipment (PPE) and implementing techniques as part of the Construction Environmental Management Plan (CEMP), any potential temporary impact may be effectively mitigated, and the resultant impacts are neutral.

Effect during operational phase: long term

13.4 The site investigations identified significant contamination of the groundwater underlying the Site and localised soil contamination around the former Polycell Factory (now demolished). Remediation measures have been used to address this former source of contamination and groundwater testing has established that levels of contamination have significantly decreased within groundwater as a result. Widespread, or significant contamination has not been identified elsewhere within the Site, however site investigation has not been completed across the entire Site. An additional phase of site investigation works commenced in September 2017.

13.5 If required, a Remediation Strategy would be developed and agreed with the relevant statutory authorities, including WHBC and the Environment Agency, and be implemented during the early stages of the demolition and construction programme.



13.6 Due to the geology of the area, the site investigation would be designed to identify dissolution features (which can cause sinkholes) at proposed basement and building foundation locations within the Site. Where potential dissolution features are identified, this would be accounted for through the engineering design of foundations and / or construction methods to ensure that potential risks to structures and the safety of demolition and construction workers and future users of the Site are minimised.

Mitigation

13.7 During the construction phase, good site practice and the implementation of suitable mitigation measures, such as construction workers wearing suitable PPE and implementing techniques as part of the CEMP, will be required.

13.8 A Foundation Works Risk Assessment should be prepared in consultation with the Environment Agency to establish the appropriate piling methodology to minimise further groundwater contamination. In addition, several measures for good site management have been recommended to minimise exposure of workers and the public to potentially harmful substances during demolition and construction.

13.9 In addition to any specific remediation measures, the provision of building footprint and hardstanding across most of the Site and the provision of clean topsoil in areas of soft landscaping would result in a very low risk of harm to human health and the wider environment following completion of the Proposed Development.

13.10 For the operational phase, ground gas protection measures may be required. However, the risk of this may will be refined through additional ground gas monitoring prior to construction. No further mitigation measures are required for the operational phase.

Summary of Effects

13.11 The residual impact of the Proposed Development on land contamination is negligible/neutral during both the construction and operational phases.



14 CULTURAL HERITAGE

Introduction

14.1 This Chapter reports on the effects of the Proposed Development on built heritage receptors. The heritage receptors identified are the Grade II listed former Shredded Wheat factory and its setting, the setting of the Grade II former Roche Products Factory Office Building, to the south of the Site, the setting of Grade I listed Hatfield House and the setting of Welwyn Garden City Conservation Area, to the west of the Site.

Predicted Impacts

14.2 The scope of the assessment includes an assessment of the likely significant effects arising from the proposals during both construction and operational phases of the Development.

Effect during construction phase: short to medium term

14.3 As part of the previously consented scheme, the demolition of the parts of the former Shredded Wheat Factory that were constructed in the 1930s and 1950s has been, or shortly will be, completed. This has exposed elements of the original 1920s factory complex that will be repaired as part of the previous consent and does not form part of the permission being sought for this Development. In terms of the Proposed Development the direct effect of the remaining demolition to create practical uses internally is considered to be minor adverse and of moderate significance.

Effect during operational phase: long term, completed development

14.4 For a number of the heritage receptors identified; The Grade II listed former Shredded Wheat Factory and Grade II listed former Roche Product Factory, the completed Development will have a beneficial effect. With regards the physical works to the former Shredded Wheat Factory and also the Development within its setting, this would be of substantial significance. The impact of the completed Development affecting the setting of the former Roche Factory Office Buildings would be minor beneficial and of moderate significance.

14.5 With regards the setting of Grade I Hatfield House and Welwyn Garden City Conservation Area, the impact will be negligible and therefore insignificant.

14.6 It is concluded that there will not be significant cumulative effects arising from the schemes identified.



Mitigation

14.7 Before any demolition or alteration works are undertaken in the former Shredded Wheat Factory building recording would be undertaken to preserve a record of the elements to be lost or altered. The likely residual effect of the partial demolition of the Grade II listed former Shredded Wheat Factory would be adverse but mitigation would partially reduce the impact on significance.

14.8 With regards to the setting of the former Shredded Wheat Factory and Roche Factory office building, no mitigation is required as the completed Development is regarded as having a beneficial impact. Similarly no mitigation is proposed for the impact on the setting of Hatfield House or the Conservation Area as the impact of the Development would be negligible.

Summary of Effects

14.9 The overall impact of the Proposed Development on nearby built heritage receptors is considered to be either beneficial and of moderate/substantial significance. For the heritage receptors that are further from the Site the impact is considered to be negligible.



15 SOCIO-ECONOMICS

Introduction

15.1 This Chapter documents the assessment of the likely significant effects of the Proposed Development with respect to socio-economics, including employment generation and housing provision. A separate Education and Healthcare Impact Assessment Report has been prepared by EPDS which considers the potential effects of the Proposed Development with regards to education and healthcare.

Predicted Impacts

Effect during construction phase: short to medium term

15.2 605 Full Time Equivalent (FTE) jobs would be generated by the Proposed Development during the four year construction phase; including jobs directly created by the Proposed Development at the Site and those created along the supply chain through the provision of goods and services to the construction process.

15.3 There is potential for cumulative beneficial effects to occur with regards to the construction supply chain resulting from the combination of the Proposed Development and other nearby proposed developments considered. This effect is unlikely to be significant.

Effect during operational phase: long term

15.4 Once completed, the Development is predicted to generate 634 new FTE jobs within the region; 422 of which would be created locally, contributing to reducing unemployment in WHB.

15.5 Delivery of 1,454 new residential dwellings would positively contribute to local housing targets, providing high quality new housing stock designed to generous space standards. The location of the Proposed Development is highly accessible and would address a WHBC objective of reducing the use of private cars and directing growth to areas with good transport networks and which are well served by jobs, services and facilities.

15.6 There is potential for cumulative beneficial effects to occur with regards to the local economy resulting from the combination of the Proposed Development and other nearby proposed developments considered. This effect is unlikely to be significant.



Mitigation

15.7 No mitigation measures are put forward because no potential negative effects have been identified.

Summary of Effects

15.8 The residual impact of the Proposed Development with regards to socio-economics is considered to be insignificant beneficial during the construction phase and minor / moderate beneficial during the operational phase.