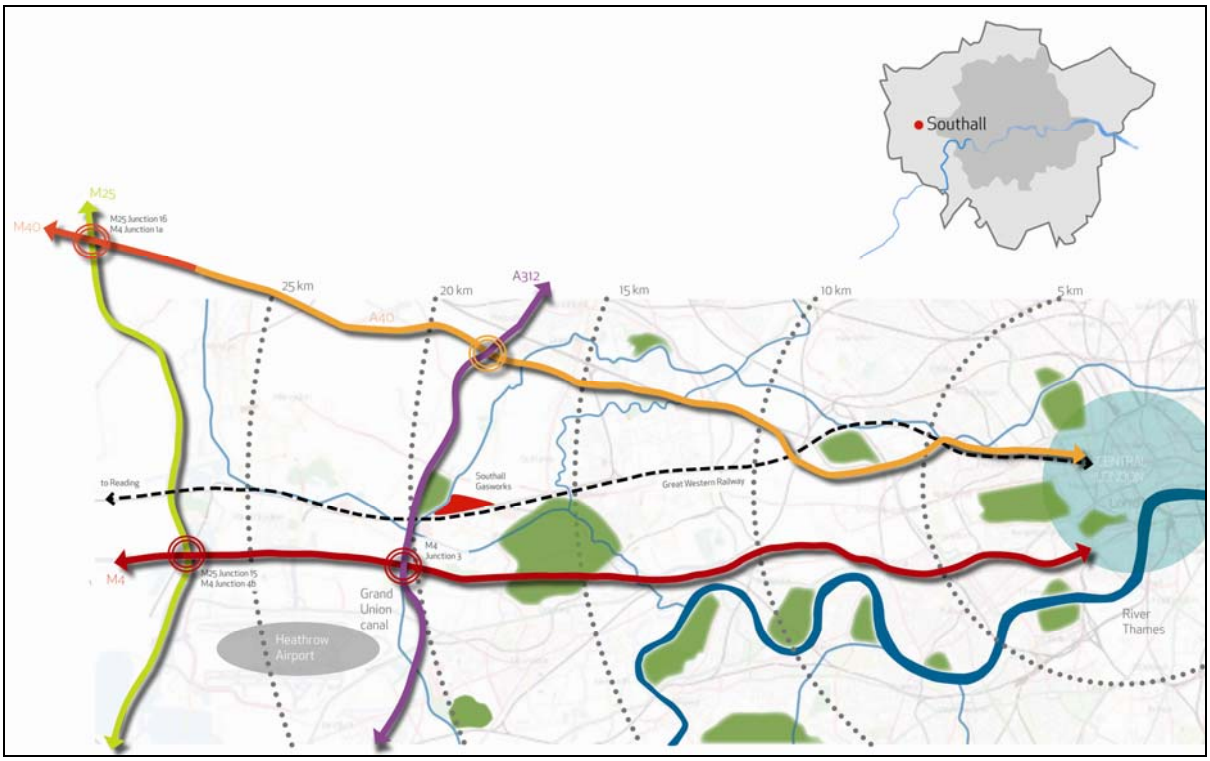
West Southall Masterplan Environmental Statement - Non-Technical Summary October 2008

On behalf of:
National Grid Property Limited

WEST SOUTHALL NON TECHNICAL SUMMARY

1.1 INTRODUCTION

1.1.1 National Grid Property UK Limited (herein referred to as 'the Applicant') is applying for outline planning permission for the comprehensive development of the former Southall gasworks ('the site') within the London Borough of Ealing (LB Ealing), see Figure 1.1. The proposed development known as West Southall comprises a mix of residential, retail, leisure, community and other uses ('the Scheme').



Site Location Plan

1.1.2 This Scheme is to be built out in phases over approximately 15 years, and will comprise between 3,400 and 3,750 residential units (apartments, maisonettes and townhouses); retail development in the full range of Class A1, A2, A3, A4 and A5 uses; a hotel; conference and banqueting facilities; a cinema; education and health facilities; offices and studios; open space including a central public park and other formal and informal recreational areas; parking for the residential, retail and other uses on the site (to be provided on street, in building under-crofts, and in two multi-storey car parks); an energy centre; and, associated infrastructure.

1.1.3 Details of the accesses to the site will be submitted in full detail for determination by the local authorities as part of the outline planning application. These comprise:

- The Eastern Access - a road and pedestrian route connecting the site to South Road, Southall Town Centre and Southall Rail Station;
- The Pump Lane Link Road - a new road bridge and link road from the south-west corner of the site to the A406 Hayes Bypass, situated within the London Borough of Hillingdon (LB Hillingdon); and

- The Minet Park Footbridge and the Springfield Road Footbridge - two pedestrian/cycle bridges connecting the site to Minet Country Park and Springfield Road to the west and north west.

1.1.4 The Environmental Statement (ES) reports the findings of an ongoing Environmental Impact Assessment (EIA) of the Scheme and forms a significant element of the information that will be used by LB Ealing and LB Hillingdon in their determination of the planning application. The ES draws together an assessment of the likely significant environmental effects of the proposed development in a systematic way. This ensures that both adverse (negative) and beneficial (positive) effects, and the measures for avoiding, reducing, off-setting or enhancing such effects, are properly understood by the planning authorities, the public and the consultation bodies when considering the planning application.

1.1.5 This ES has been prepared in accordance with the requirements of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2008 (SI 2093) (The EIA Regulations).

1.1.6 This Non-technical Summary provides a summary of the contents of the ES in non-technical language so that the findings can be more readily understood by laypeople, members of the local community and the general public.

1.2 The Site and Existing Land Uses

1.2.1 The site is located within the LB Ealing in the heart of the West London Sub Region and close to Southall to the north and east, and Hayes Town Centre to the west. The site, encompassing the main gasworks site, proposed access routes and land required for drainage, flood compensation and other ancillary works comprises approximately 44.7ha (circa 111 acres).

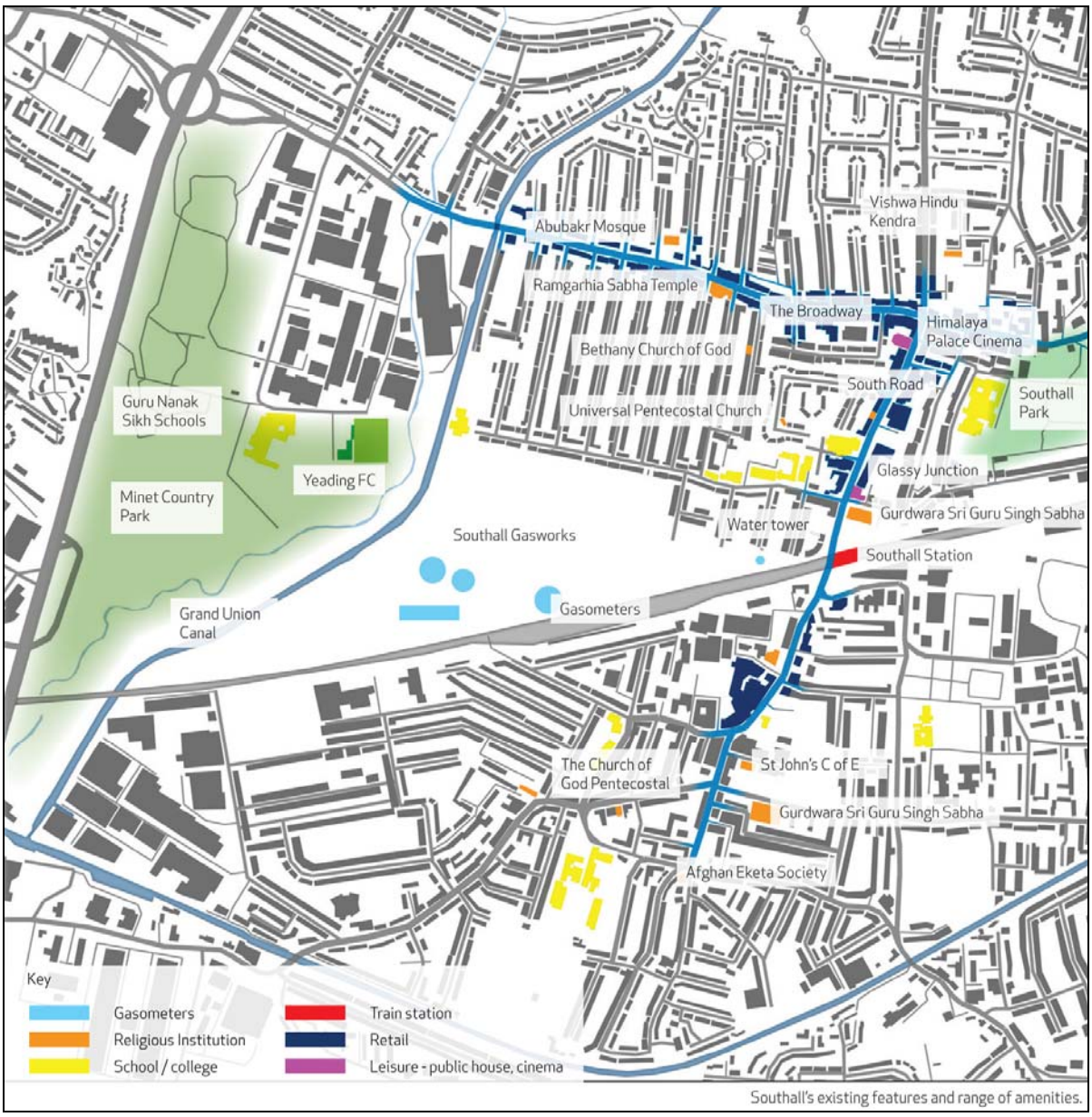
1.2.2 The main site was originally occupied by farmland and later developed into brickfields and an oil works before being purchased by the Brentford Gas Company in 1868. Gas was first produced in 1869 and by 1885 the plant included a sulphate of ammonia plant. During World War I, chemical plants were constructed to produce oil gas tar, coal tar and crude Benzole. The chemical works closed by 1935 and, following World War II, oil gasification (to production of town gas from oil) commenced, increasing the efficiency of the plant. Gas production at the site continued until the early 1970's whereupon the introduction of natural gas supplies rendered this process redundant.

1.2.3 The southern central area of the main site presently accommodates three gas holders which store gas under pressure. However, two of the three gas holders will be decommissioned as these are surplus to requirements by the operator - National Grid Gas. The land released by the removal of these gasholders will then become available for development as part of the overall Scheme. The taller, rigid operational gas holder will be retained in a designated compound outside of the development site, with appropriate safety zones and other security measures respected by the proposed development. Underground gas pipes and associated infrastructure will also be protected by the preservation of easements (zones within which development is prohibited).

1.2.4 The site is generally level at approximately 31m above ordnance datum (AOD) and mainly contains areas of concrete hard-standing, loose chippings and a few pockets of vegetation, trees and scrub. A redundant recreational ground associated with the old gasworks, exists to the east of the site.

1.2.5 The main site is clear of buildings or other structures associated with its former use. Much of the land has for many years been leased to Purple Parking Ltd for vehicle storage and long stay, off-site vehicle parking for Heathrow Airport. Access to the parking areas is via the Brent Road underpass, although there is no public access to this or other parts of the site.

1.2.6 Two warehouse buildings are located along the northern boundary of the site, near the Beaconsfield Road/Trinity Road junction. These are used for storage and vehicle servicing. Access to this area is from Beaconsfield Road and/or The Straight.



Southall's existing features and range of amenities.

Existing Site and Surrounding Land Uses

1.2.7 Tall corrugated steel panels secure much of the main site boundary, including the extensive canal side boundary (approximately 1km long), to the west. Elsewhere, brick walls or chain-link fencing associated with the gas works complete the boundary security.

1.2.8 The site is bounded to the north by two-storey residential terraces extending north beyond Beaconsfield Road via six residential roads. The Blair Peach School lies at the northern end of Beaconsfield Road, immediately to the east of the Grand Union Canal.

1.2.9 The Straight runs along the southern boundary of the site, beyond which is the main Paddington to Cardiff railway line. The railway lies on a low embankment approximately 1-2m above the level of the site. Land uses to the south of the railway include the International Trading Estate and Balfour Business Park to the west and residential properties to the east.

1.2.10 A Grade II Listed former water tower marks the eastern end of The Straight at it's junction with The Crescent has already been converted to residential use.

1.2.11 Land uses to the east of the main site, beyond South Road and the road bridge, include Southall railway station and associated land, the Sikh Gurdwara Temple and miscellaneous commercial and residential uses.

1.2.12 Land to the west of the site falls within the Yeading Brook corridor, an area that is generally open and contains the canal, the Yeading Brook and its vegetated banks, with Minet Country Park beyond.

1.2.13 Land within the Yeading Brook corridor is designated as Green Belt within the LB Hillingdon Unitary Development Plan (UDP). The canal runs south to north through this area, adjacent to the western boundary of the main site. The canal has been designated as a Site of Importance for Nature Conservation (Grade 1) and is part of the Blue Ribbon Network as identified in the London Plan. The eastern part of the land of the Yeading Brook corridor (falling within LB Ealing) is designated as a Conservation Area in the LB Ealing UDP.

1.2.14 The Minet Country Park comprises 36 Ha of open landscape between the Yeading Brook and the Hayes Bypass. Yeading Town Football Club is located to the north west of the site at the eastern end of Beaconsfield Road (Hayes). The Guru Nanak Sikh College lies to the west of the football ground at the corner of Beaconsfield Road and Springfield Road.

1.3 The Proposed Development

1.3.1 The West Southall Scheme is intended to create a new, high quality urban environment that will transform this underused and contaminated site into a sustainable community providing homes, jobs, health, education, leisure, retail and community uses which compliment those already within Southall.

1.3.2 The image below illustrates how the proposed Scheme may look. At this time, the Applicant is seeking approval for the main principles of the design and to establish thresholds for the development (including maximum and minimum heights, scale and mass of individual buildings, and the layout of roads, landscaping and other features across the site). These thresholds and other details of the scheme are 'fixed' by a series of Parameter Plans, as well as a written Development Specification, to which planning permission will be tied. Such parameters have been tested through the EIA and design iteration process and, where necessary, modifications and refinements made. Future applications for the approval of 'reserved matters', to enable the site to be built-out in phases, will conform to these parameters.

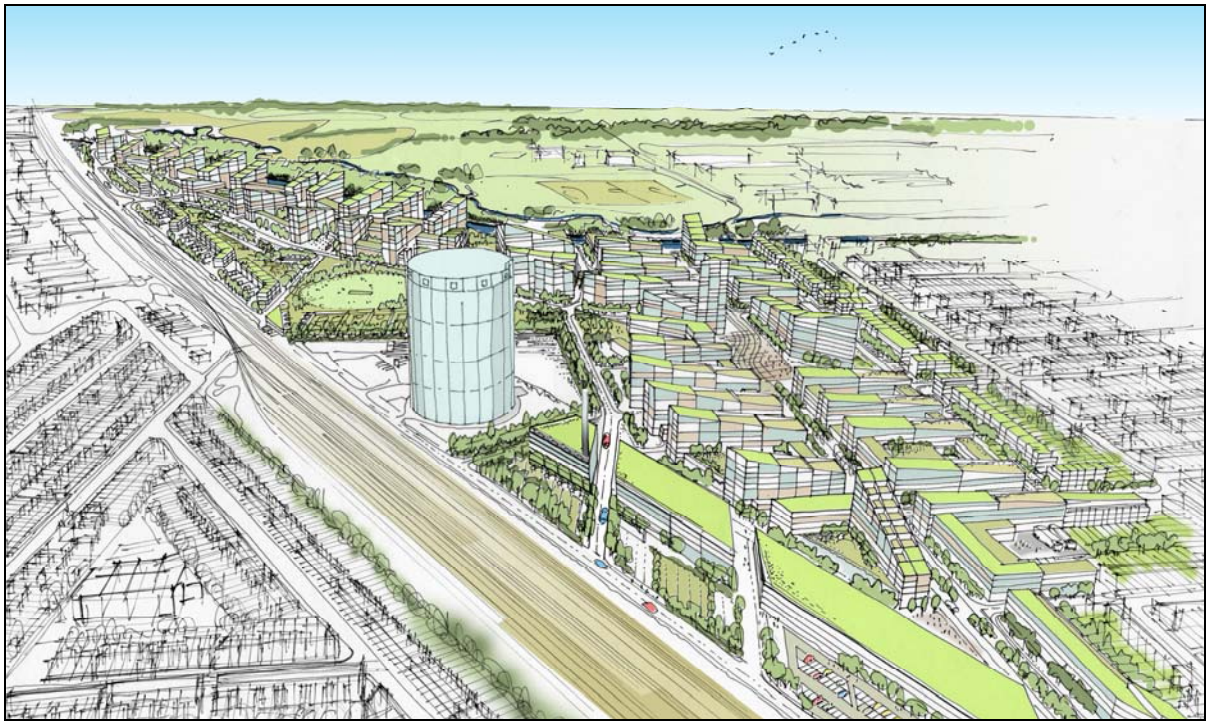
1.3.3 In accordance with planning requirements for outline applications, a comprehensive Design and Access Statement (DAS) has been prepared by the Scheme architects - Make. This document provides additional detail on the Scheme with regard to: amount and use, layout, scale, landscape, appearance, sustainability and details on site accesses, including the proposed road, pedestrian and cycle bridges and links.

1.3.4 The West Southall Scheme has the potential to generate approximately 1,320 jobs through the provision of commercial space, small offices and studios, new retail and hotel developments. Approximately 820 new full time equivalent (FTE) construction jobs will also be provided over a 15 year construction period.

1.3.5 To accommodate the schooling needs of families with young children within West Southall, a new two-form entry (2FE) primary school will be built including a nursery. In addition, a healthcare centre is proposed to accommodate up to 8 General Practitioners (GPs) to meet the primary healthcare needs of the new community.

1.3.6 The proposed development will provide a minimum of 3400 and a maximum of 3750 dwellings. The reason for this range is to allow some flexibility in individual unit sizes to respond to future market conditions. The number of units will be split between private sector and affordable housing (social

rented and intermediate/ shared ownership). A mix of flats, maisonettes, terrace and townhouses will be built, from 1 bedroom flats to large family dwellings.



Illustrative Scheme (Artist's Impression)

1.3.7 The proposals also include a supermarket and various shop units providing comparison goods floorspace, which would be arranged on either side of the new High Street and will be closely integrated with the employment and residential units.

1.3.8 In order to cater for identified leisure and business demand in Southall and the wider area, a large hotel with associated conference and banqueting facilities is proposed, as well as a new cinema.

Open Space

1.3.9 The proposals include a substantial amount of high quality landscaping, including a large Town Square to the north and a Central Park in the southwest containing various sports facilities and a pavilion. Other areas of the site, including green/brown roofs on a proportion of the buildings, will provide opportunities for ecological enhancements and biodiversity and areas will be set aside for allotments.

1.3.10 Doorstep play areas for children under five will be provided in nearly all residential areas. Local Parks will be located within 400m of all residential properties containing Local Equipped Areas of Play (for four to eight year olds) and Neighbourhood Equipped Areas of Play (for children older eight years old). Communal amenity areas will also be provided for the flats. Informal five-a-side play pitches are proposed, as well as two pedestrian links across the Yeading Brook and canal to provide access to sports and other facilities at Minet Country Park.

Access and Circulation

1.3.11 The principal vehicular access to the site will be via a proposed Pump Lane Bridge (5.5ha in area) which will form the route into and out of the site from the west. It would extend from the south-west corner of the main site, bridging over the canal and brook, and joining Pump Lane at its junction east of the A312 Hayes By-pass. In order to cater for this new road link, new drainage arrangements and

a flood alleviation pond will be constructed nearby. Other ecological enhancements and measures to protect wildlife will be implemented as part of these works.

1.3.12 The Eastern Access (1.4ha in area) would form a connection from the site to South Road via The Crescent (which will need to be demolished). The proposals include the creation of a new junction on South Road, approximately 100m south of the current junction with Park Avenue. South Road will be widened to two lanes in each direction between Park Avenue, through the new junction and over the railway line to the junction with The Green.

1.3.13 In addition to the two vehicular accesses, additional pedestrian and cycle routes will be provided. Springfield Road Footbridge (0.61ha) would form the northern most route. This would span the canal and Yeading Brook to link the new residential development, via Springfield Road, with Hayes and Yeading.

1.3.14 A second pedestrian and cycle access, the Minet Country Park Footbridge (0.6ha), would be located to the south, midway along the canal. This would cross the open land between the canal and Yeading Brook to create a pedestrian and cycle link between the Minet Country Park, the canal towpath and the main site.

1.3.15 The transport strategy for West Southall (implemented through a Framework Travel Plan) will discourage car use in favour of public transport and other sustainable means of travel. It is envisaged that the overall residential parking ratio will be in the region of 0.7 spaces per dwelling averaged across the site.

1.3.16 The proposals also include a mixture of on- and off-street parking to facilitate the anticipated demand. This comprises up to 830 spaces for cars, including approximately 30 on-street spaces. The majority of the spaces will be provided for in two multi-storey car parks; the Eastern Multi-Storey Car Park, located to the east of the gasholder, will provide 350 spaces and the Central Multi-Storey Car Park will provide approximately 380 spaces to serve the supermarket and the new high street retail. The hotel will also include 120 spaces for car parking.

Sustainability

1.3.17 A Sustainability Statement is included as a separate supporting document to the planning application. In summary, the scheme will incorporate various features to minimise energy use and carbon emissions, reduce water consumption, use natural lighting where possible, promote waste recycling and encourage biodiversity.

1.3.18 From the first phase of development onwards, the Applicant has committed to achieving Level 4 (or above) of the Government's Code for Sustainable Homes (CSH).

1.3.19 The Building Research Establishment Environmental Assessment Method (BREEAM) is used to measure the environmental performance of new and existing buildings, including commercial buildings, retail units and schools. BREEAM 'Excellence' will be achieved by all non-residential buildings within the West Southall Scheme.

1.3.20 Two alternative options are proposed for the on-site provision of energy to the Scheme. These are as follows:

Turbo Expander

1.3.21 The preferred energy source for the Scheme is a new technology - Combined Cycle Biofuel Electricity Generation (CCBG) (often referred to as a Turbo Expander). This facility is proposed to be incorporated into the building allocated for an 'Energy Centre' to the east of the National Grid Gas operational compound. The CCBG facility is part of a separate planning application being submitted by Blue-NG (a joint venture between National Grid Blue Power Ltd and 20C Ltd).

1.3.22 The CCGB Energy Centre will produce between approximately 15 and 20 Megawatts (MW) of electricity. The fuel source for this facility would be biodiesel and therefore renewable. The system would be connected to the grid to allow for the export of excess power to the National Grid. With this system in place, a highly efficient 'all electric' residential development could be achieved, increasing the overall CSH Level to 4 in the early phases of the Scheme.

CHP Biomass

1.3.23 In order for the proposed development to be independent of the planning permission being sought by Blue-NG, proposals for an alternative Combined Heat and Power (CHP) Energy Centre have been incorporated into the design of the site. This energy centre would comprise a biomass boiler installation with a capacity rating of 2200kW (2.2MW). Such a facility would provide 20% on-site renewable energy in accordance with policies contained in the London Plan.

1.4 Scheme Alternatives

1.4.1 The EIA Regulations require the ES to contain an outline of the main alternatives studied by the Applicant, and to present a justification of the critical design choices resulting in the proposed Scheme.

1.4.2 Under a 'Do Nothing' scenario the site would remain as an off-site car park for Heathrow Airport with little potential for further economic growth, restricted public access and few social or other benefits to the surrounding area. If left undeveloped, the disused recreational area to the north east of the site may become increasingly overgrown. This could result in some benefits to local biodiversity, as the site would be colonised by various wildlife over time. However, such benefits would be offset by the lack of public access, potential risks to health and safety, and ground contamination remaining un-remediated at the site. Also, the significant opportunity to regenerate the site with much needed homes, employment space, shops and community facilities would be forgone.

1.4.3 The London Plan (consolidated with alterations since 2004) includes the site within the 'Heathrow Opportunity Area'. It is also identified as a 'Development Site' and a 'Special Opportunity Area' within the adopted Ealing UDP (2007 Saved Policies). The Special Opportunity Area designation is intended to convey that the Council will use its powers, as the local planning authority, to encourage and negotiate development schemes that fulfil their potential to act as major examples of investment for their wider hinterland, while addressing the individual site's problems.

1.4.4 The proposed Scheme is intended to fulfil the above objectives, thereby playing a significant part in achieving the goals of both the regional and local planning authorities. Consequently, alternative uses for the site other than the 'Do Nothing' scenario have not been considered further.

1.4.5 The design evolution for the West Southall Scheme dates back several years and builds upon an earlier master plan and planning applications (the 2005 Scheme, subsequently withdrawn). This earlier scheme contained more residential (4500 units), several taller buildings, two vehicular bridges to the west, and a number of other differences to the current proposals. The Applicant responded to criticisms of this earlier scheme by appointing a new design team and re-examining the opportunities and constraints presented by the site. This process commenced in early 2007. Since this time, various design iterations have been examined, rejected or refined in order to reach the favoured Scheme, as currently proposed. This process also took account of the results of the EIA and other studies undertaken by the Applicant's consultants, together with the feedback from a three-day public exhibition (May 2007) and ongoing dialogue with the planning authorities, design panels (e.g. CABE), the Environment Agency and other interested parties.

1.5 Environmental Impact Assessment

1.5.1 The process of EIA has the purpose of identifying and 'designing-out' potential adverse effects of a scheme and enhancing the beneficial effects wherever possible through the design process. Where significant effects are identified and cannot be avoided entirely, measures to reduce or offset such effects are specified.

1.5.2 The EIA process for the West Southall Scheme commenced with the preparation of a Scoping Report which was submitted to LB Ealing and LB Hillingdon on 21st November 2007. The purpose of this scoping stage was to identify all potentially significant environmental effects that could result from the proposals. Formal Scoping Opinions, in accordance with Regulation 10 of the EIA Regulations, were provided by LB Hillingdon on 28 December 2007 and by LB Ealing on 12th March 2008. No significant changes to the approach were requested by either Council or the Statutory Authorities.

1.5.3 The approach to the EIA and the range of technical studies necessary to support the assessment process were identified having regard to the requirements in the EIA Regulations and accompanying guidance, together with the results of preliminary desk studies, surveys and previous studies of the site. Further assessment work in order to quantify the potential physical, socio-economic and environmental effects of the Scheme have been undertaken over the past six to nine months, informed by surveys, physical site investigations, data review, modelling and analysis.

1.5.4 The likely significant environmental effects of the Scheme have been predicted for each relevant environmental topic (e.g. ecology, landscape, noise etc.) arising from both the construction and the 'operational' phases of the development. The assessments have been carried out by comparing baseline environmental conditions (i.e. the situation without the development) with the conditions that would prevail once the Scheme has been built-out in its entirety (assumed to be 2025).

1.5.6 Due to the extended duration of the construction programme, a staged approach of five year intervals was adopted for many of the assessments. This is because baseline conditions at the site are likely to change with time, for example, due to the introduction of new receptors (e.g. residents of the first units to be completed) and the progressive redevelopment of the site with new landscaping etc.

1.5.7 This ES includes assessment chapters on the following topic areas:

- Construction and Phasing;
- Socio-economic Effects;
- Transport and Movement;
- Noise and Vibration;
- Air Quality;
- Townscape and Visual Effects;
- Ground Conditions;
- The Water Environment;
- Ecology;

- Archaeology;
- Built Heritage;
- Microclimate (Solar and Wind);
- Operational Waste;
- Cumulative Effects; and
- Mitigation Measures and Residual Effects.

1.5.8 For each of the above topic areas, the ES considers the potential effects on sensitive receptors either on or around the site. The most sensitive receptors in relation to the West Southall Scheme have been identified as flora and fauna (at and within the Grand Union Canal, Yeading Brook and Minet Country Park); local residents of Southall (especially those living on the residential roads off Beaconsfield Road and South Road); pupils and staff of local schools (e.g. Blair Peach Primary School); local cultural and religious centres (e.g. the Gudwara Temple to the east and various churches, temples and mosques to the north and south of the site); construction workers; road users and users of the local transport system.

1.5.9 The concept of significance is central to the EIA process. The classification of significance aids the decision maker (in this case LB Ealing and LB Hillingdon) in identifying the main environmental effects of a scheme and, secondly, what weight should be given to these effects in reaching its decision concerning whether or not to grant planning permission. There is no statutory definition of what constitutes a significant effect and guidance is essentially of a generic nature. However, it is widely recognised that 'significance' reflects the relationship between the magnitude of an effect and the sensitivity or value of the affected resource or receptor.

1.5.10 Specific criteria for the assessment of each potential effect have been developed giving due regard to the following:

- Extent and magnitude of the effect;
- Effect duration (whether short, medium or long term);
- Nature of effect (whether direct or indirect, reversible or irreversible);
- Performance against environmental quality standards;
- Sensitivity of the receptor; and
- Compatibility with environmental policies.

1.5.11 Where significant effects have been predicted they are described in the ES on a scale of 'negligible', 'minor', 'moderate' or 'substantial'.

1.5.12 Where potentially significant environmental effects have been identified during the assessment process, the ES has defined mitigation or enhancement measures consistent with best practice and other available guidance. Any essential mitigation measures have been proposed as an explicit commitment by the Applicant to prevent, reduce and where possible offset potential adverse effects. It is anticipated that such measures will be secured through appropriate planning conditions or obligations.

1.6 Planning Policy Context

1.6.1 The ES provides an outline of the planning and policy context for the site at national, regional and local levels. A further, more detailed assessment of how the proposed Scheme conforms to planning policy is given in the Planning Statement which accompanies the application.

2 ENVIRONMENTAL ASSESSMENT

2.1 Construction and Phasing

2.1.1 The construction of the Scheme is expected to be undertaken in 13 phases (plus two phases of remediation) over an approximate period of 15 years. The construction is expected to commence in 2009/2010 and to be complete in 2025. The ES contains an indicative phasing plan showing the sequence of development and the likely timing of different activities, although final construction details will depend on the appointment of a main contractor for these works and, to some degree, on market conditions in the future.

2.1.2 A Remediation Strategy has been submitted with the planning application, setting out how contamination in the ground will be treated in order to make the site safe for redevelopment. The Applicant has substantial experience of such remediation projects, having successfully redeveloped many former gasworks sites throughout the UK.

Remediation of the main site is programmed in two stages (north and west), each taking place in advance of the construction of new infrastructure and buildings in these areas.

2.1.3 On-site construction will move approximately westwards over the 15 year period, commencing in the northeast and completing in the far west of the site. However, the access routes and bridges will be constructed /upgraded as required, so that construction vehicles can access the site and, where possible, be kept away from the new residents and businesses as the site is progressively built-out.

2.1.4 The limited initial construction access will be from the east (South Road), however within a few months, this will be transferred to the new Pump Lane Bridge as its construction progresses. Access to the main site will be via the Pump Lane Bridge during all subsequent phases of development

2.1.5 It is envisaged that the construction of the Eastern Access will take place in five stages. This work will commence in the first phase of development. The bridge itself will be widened in the third phase by extending new support structures on the line of existing ones.

2.1.6 Construction of the Pump Lane Bridge is anticipated to require between 15 and 18 months and will take place in eight stages.

2.1.7 The Springfield Road Footbridge is to be constructed during approximately the fourth year of the development programme in order to facilitate pedestrian and cycle access to the site. The Minet Country Park Footbridge will be completed during the eighth phase of development.

Construction Environmental Management Plan (CEMP)

2.1.8 The principal means of managing and reducing the environmental effects of the construction processes will be by the implementation of a project-wide Construction Environmental Management Plan (CEMP). A framework of this CEMP is included as an appendix to the ES. This document will

be developed further in consultation with the Councils and statutory authorities such as the Environment Agency.

2.1.9 The CEMP is a tool for documenting environmental procedures at site, for monitoring and recording effects (e.g. noise, vibration, dust, waste etc.) and for implementing remedial measures or corrective actions, where necessary. It will ensure the effective implementation of the various mitigation measures outlined in the ES.

2.1.10 It is assumed that the working hours for remediation and construction will generally be limited to a regime of 0700 to 1900 during weekdays and between 0700 and 1300 on Saturdays. No works are likely to take place on Sundays or during Bank Holidays.

2.1.11 A Site Waste Management Plan (SWMP) will also be produced for the management of all waste generated during the construction phases, including the removal of spoil from the site.

2.1.12 With the above control measures in place, it is not anticipated any substantial adverse environmental effects will arise from the works. However, as with all major construction projects, there is a potential for short-term minor effects such as from the movement of lorries on the local road network and noise from piling activities. Measures will be adopted to minimise such effects as far as is reasonably practical.

2.2 Socio-Economics Effects

2.2.1 The socio-economic assessment contained in the ES considers the potential effects of the Scheme on employment, the local population (including the future occupants of the site) and the effects on local services such as education, healthcare and shops within the local area and wider effects within LB Ealing, LB Hillingdon and LB Hounslow.

2.2.2 The construction of the Scheme will be of a significant scale compared to other smaller developments in the wider area. Approximately 820 FTE jobs are expected to be created during the construction period, with the associated effects on local employment and the economy. These effects, whilst temporary, are considered to be substantially beneficial.

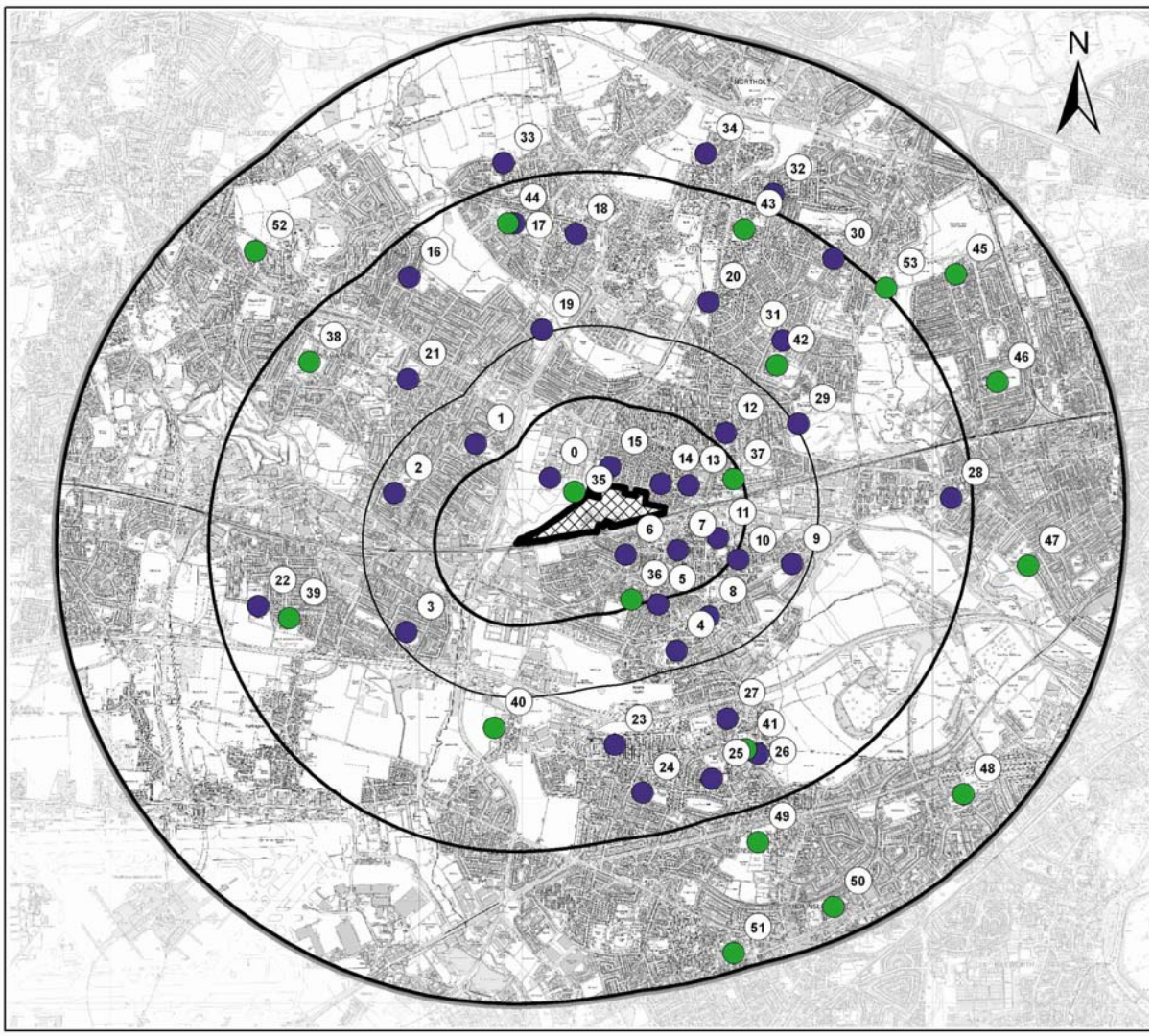
2.2.3 Approximately 1,320 FTE jobs will be provided on-site when the Scheme is built out fully, the majority of which will be in retail. Retail jobs are particularly important for local employment with jobs offered across a broad spectrum of skills including those suitable for people without high level qualifications. Retail also tends to employ people more locally than other sectors. These effects are also considered to be substantially beneficial at the local level.

2.2.4 Between 3,400 and 3,750 new dwellings are proposed to be built as part of the West Southall Scheme. This exceeds LB Ealing's requirement of 1,983 houses over the next 10 years, and therefore results in a moderate beneficial effect on the housing profile of the area and the range of housing choice, including the provision of intermediate and social housing. The population generated from this provision of housing is predicted to be approximately 6500 and this population is expected to generate in the order of £55m a year in household spending, including convenience and comparison shopping. Such long term effects are considered to be substantially beneficial.

2.2.5 The effect of the proposed Scheme on local healthcare facilities would require in the order of four new General Practitioners (GPs). However, the proposed health care centre could accommodate up to eight GPs. Therefore, the Scheme will have a substantial long-term beneficial effect on healthcare provision, taking into consideration the deficit in existing services within LB Ealing and the ability for the Scheme to service additional capacity.

2.2.6 The proposals include a two-form entry (2 FE) primary school which could accommodate up to 420 children. This school will be sufficient to accommodate the demand arising from the new West

Southall population. The resulting effect on existing primary schools is therefore of negligible significance. An existing spare capacity of approximately 330 places within the nearest five secondary schools, and a low net additional demand on these places from the projected population profile of the Scheme, means that this existing capacity will be more than adequate. Consequently, the effect on secondary school provision is likely to be negligible. The proposed development also includes the provision of a nursery which is considered to be sufficient to meet the needs of the projected population.



Primary and Secondary Schools within 5km of the proposed development

2.2.7 The study area is well served in terms of leisure centres and gyms. There are three leisure centres in close proximity to the site, both of which have good provision in terms of facilities. However, in order to create a positive living environment for the future population, the Scheme includes multi-purpose sports pitches and other leisure uses and amenity space on the site. The two pedestrian and cycle bridges to the west will also introduce greater accessibility for the local population to the Minet Country Park and other sport and recreation facilities further afield.

2.2.8 Overall, the socio-economic effects of the West Southall Scheme and its influence on the surrounding area are considered to be substantially beneficial.

2.3 Transport and Movement

2.3.1 The Transport Assessment (TA) considered the potential effects of the proposed Scheme on vehicular traffic, public transport, cycling and pedestrians. Consultation was undertaken with LB Ealing, LB Hillingdon, Transport for London (TfL) and the Highways Agency (HA) to determine the scope for the TA. The findings of the TA are summarised in the ES and the full TA Report has been submitted with the application.

2.3.2 All new access routes were assessed. This assessment took account of highway capacity; base flows; trip attraction; internal trips; modal split; trip distribution; study networks and capacity assessment. The assessment was complicated and required the use of various traffic models to predict patterns of traffic flow.

2.3.3 Severance, driver delay, pedestrian delay, pedestrian amenity, accidents and safety and fear and intimidation were all considered as part of the assessment.

2.3.4 The majority of the junctions in the vicinity of the site currently operate at or near capacity during the peak periods and for long periods throughout the day, particularly along the A312, South Road and the A4020 (Uxbridge Road) corridors through Southall town centre. The proposals include significant highways improvements along South Road to provide access to the site, along with off-site mitigation measures which will be phased as the Scheme is built-out. Improvement works to the M4 Junction 3 and Bulls Bridge Junctions will also increase capacity.

2.3.5 The greatest percentage changes in traffic generated by the Scheme will be associated with development flows on Beaconsfield Road and Pump Lane where increases in the order of 50% and 75% respectively are predicted. The majority of the additional flows along Beaconsfield Road are anticipated to originate from the Southall Broadway area, as residents travel south into the site rather than northbound on the A420 The Broadway. Traffic on Pump Lane will generate commensurate increases on the A312 Hayes By-pass to the west of the site as drivers use the route to access the strategic highway network. However, whilst the flow increases are high, the percentage changes are relatively low (up to 10%) and the proposals include pedestrian facilities under the A312 at Pump Lane.

Traffic flows along the South Road corridor through Southall town centre are anticipated to increase by approximately 33% should the development flows materialise. Therefore, the proposals include additional road capacity through the widening of the South Road bridge at Southall Station, alterations to the junction signal timings and improved pedestrian facilities.

2.3.6 Public transport is anticipated to be key to the success of the Scheme. The increased demand (15,000 two-way additional trips) will be split between rail and bus services. The construction of new roads through the Site will facilitate opportunities for additional routes on the public transport network, accommodating up to 30 buses per hour when the proposed development is built out fully.

2.3.7 The network of proposed cycle-ways and footpaths will significantly reduce journey times along the north-south and east-west corridors. Developing the site will result in the removal of a significant existing barrier to the movement of people. In this context, the Scheme will have substantial beneficial effects on pedestrians and cyclists.

2.3.8 Travel Plans will be implemented for all elements of the Scheme, as appropriate, to encourage the uptake of sustainable modes of transport by residents and commercial employees alike.

2.3.9 Mitigation measures will include off-site highways improvements and public transport capacity as outlined above, together with the implementation of travel plans, car clubs, reduced levels of parking and other management measures to discourage car-borne trips.

2.3.10 During certain periods of the construction programme there will be increased delays to drivers, particularly during off-site highways improvements and this can be considered a substantial adverse temporary effect. The CEMP will be implemented prior to commencement of demolition and construction works and will contain specific construction traffic management procedures with the objective of reducing or moderating the flow of HGV's and other vehicles to and from the site (e.g. shared loads, avoiding empty vehicles etc.)

2.3.11 The overall conclusion is that the development West Southall will have a substantial beneficial effect for non-car users and a moderate adverse effect on car drivers in line with local, regional and national policy guidance. The results of the TA suggest that the impact of the development traffic on the A312 corridor will be fully mitigated but that there will be increased queuing along South Road. As such, further mitigation options will be explored with the Highways Agency, the Councils and TfL.

2.4 Noise and Vibration

2.4.1 The likely effects of noise and vibration from the construction phase and operation of the Scheme were assessed, including potential effects on existing and new residents.

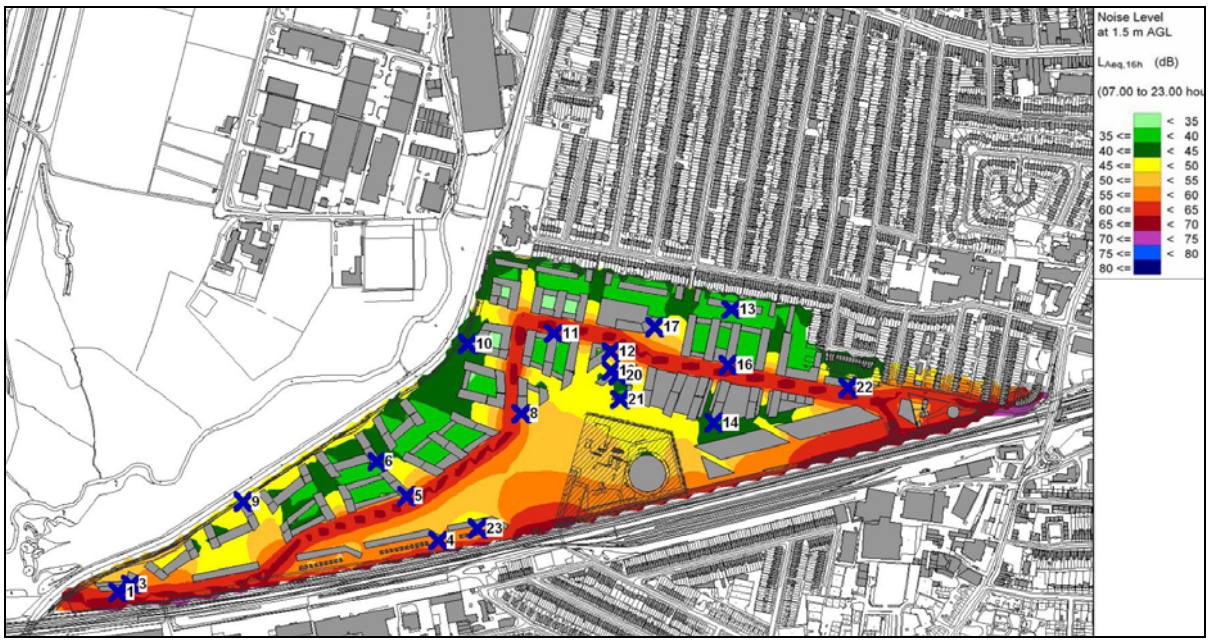
2.4.2 Ambient and background noise levels in the proximity of the site were identified as being principally influenced by rail and road traffic. Aircraft movements associated with the London Heathrow Airport (5-6km north) are also apparent, however, their contribution to the ambient noise environment is below that associated with rail and road traffic.

2.4.3 The construction phasing of the Scheme will introduce temporary noise sources from both mobile and fixed plant, which may have the potential to affect nearby residential areas. Provided that conventional construction methods are used with appropriate noise insulation (such as temporary acoustic barriers) and suitable controls are adopted as part of the CEMP, the noise effects are predicted to be of negligible significance. Construction traffic noise is also expected to be negligible because of the comparatively small contribution such movements will make to local traffic flows (<10%).

2.4.4 Vibration effects from the construction activity on-site are considered to be of negligible significance. However, in order to minimise any effects, piling will be undertaken at a minimum of 10m from any Noise Sensitive Receptors (NSRs), wherever possible.

2.4.5 An early assessment of the Scheme during the scoping stage highlighted that noise levels would be elevated along the southern boundary due to the adjacent railway line, affecting the residences proposed along this boundary. An acoustic barrier has therefore been incorporated into the proposed development along the western half of the southern boundary to reduce these noise effects. The acoustic barrier will ensure that only minor adverse effects result from existing local noise sources on the proposed development.

2.4.6 The new residential blocks within approximately 150 - 350m of the southern boundary fall within Noise Exposure Category (NEC) B during the daytime and NEC C during the night time, in accordance with Planning Policy Guidance note 24 (PPG24). Such levels are typical of many sites in the LB Ealing and London as a whole. These properties will be designed to achieve internal noise levels appropriate to the intended use of the room (e.g. bedrooms) facing the predominant noise source. All external amenity areas such as private or public gardens are expected to achieve appropriate daytime ambient noise levels.



Daytime 'With Development' Noise Effects

2.4.7 Industrial units, service and delivery yards, external air handling units and the Energy Centre will all be designed such that significant noise effects will not occur at noise sensitive receptors outside and within the development.

2.4.8 The only significant noise effect identified for the occupied stage of the proposed Scheme is due to changes in vehicular traffic associated with Pump Lane between the A312 and the Pump Lane Link Road. However, as there are no noise sensitive receptors near to this link, the effect is considered to be of negligible significance.

2.5 Air Quality

2.5.1 The likely effects of the proposed development on local air quality were assessed for the construction and operational/ occupied phases of the Scheme, including traffic generation and emissions from both the CHP biomass Energy Centre and the alternative Blue-NG Turbo Expander facility.

2.5.2 The entire borough of LB Ealing has been designated an Air Quality Management Area (AQMA). The key emissions associated with the local air quality and health impacts are nitrogen dioxide (NO2) and particles (measured as PM2.5 and PM10). Therefore, the air quality modelling was limited to these key traffic-related pollutants associated with the changes in traffic flow characteristics on the local road network. These emissions were assessed using ADMS-Roads, a widely accepted model for such assessments. Receptors were selected at locations where changes in pollutant concentrations are anticipated to be greatest in the surrounding area as a result of the proposed development.

2.5.3 Modelling was undertaken for a number of scenarios for both construction and operation, as follows:

- Scenario 1: Baseline 2009 – Conditions in the year during which construction is likely to commence;
- Scenario 2: Without Development – First fully operational year, 2025, without the proposed Scheme;

- Scenario 3: With Development - First fully operational year, 2025, with the proposed Scheme and a standalone Energy Centre; and

- Scenario 4: With Development - First fully operational year, 2025, with the proposed development and the Blue NG facility.

2.5.4 The air quality assessment found that nuisance caused by the deposition of dust is likely to be the most significant issue in relation to air quality effects from the construction phase of the development. Activities that may cause fugitive dust emissions during construction include site clearance and earthworks; handling and disposal of spoil; wind-blow from stockpiles of particulate material; and, movement of vehicles, both on and off site.

2.5.5 During construction, numerous mitigation measures will be implemented to minimise the air quality effects. The Framework Construction Environmental Management Plan (CEMP) and the ES outline a range of available environmental controls which will be adhered to throughout the construction programme. Therefore, the residual construction effects are considered to be negligible.

2.5.6 The Air Quality Standard (AQS) objective for LB Ealing is 40 µg.m-3 for NO2. Under Scenario 3, with the standalone Energy Centre, the air quality effects are considered to be negligible or minor adverse at all receptors, except The Green where the air quality effects could be slightly worse. The increase is mainly due to the changes in traffic flow characteristics. The main increase in PM10 is due to the operation of the standalone Energy Centre rather than changes in traffic flow characteristics. The greatest increase is 0.8%, predicted at Lewis Road.

2.5.7 The operational effects of the proposed Scheme with the standalone Energy Centre does not lead to a breach of the AQS objectives and effects range from negligible to minor adverse. The increase in pollutant concentrations is mainly due to increased vehicle emissions associated with changes in traffic flow characteristics and low priority mitigation measures are suggested.

2.5.8 With the Blue NG scheme, the increase in pollutant concentrations leads to a slight breach of the AQS objectives at some isolated locations. The increase in pollutant concentrations is attributable to both emissions from the Blue NG scheme, and increased vehicle emissions associated with changes in traffic flow characteristics. These operational effects generally range from slight to moderate adverse for No2 and negligible for PM10.

2.6 Townscape and Visual Effects

2.6.1 The townscape and visual assessment contained in the ES considers the effects of the proposed Scheme on views around the site and the potential impacts on the townscape character of the site and its surroundings. The assessment has been carried out in accordance with best practice guidance published by the Institute Environmental Management and Assessment (IEMA) and the Landscape Institute.

2.6.2 A ‘zone of visual influence’ was defined for the site and a number of ‘key views’ were identified and analysed in the ES, including the two views from South Road designated as key views in LB Ealing’s UDP.

2.6.3 Views of the proposed Scheme during construction have been analysed and are considered to have effects ranging from negligible to substantially adverse. However, the effects are temporary in their nature and easy to mitigate with measures such as temporary screening.

2.6.4 The assessment of the built-out Scheme found that potentially adverse effects from the proposed development on the canal will be offset through the control of maximum building heights and enhancement of the canal-side frontage. Landscaped access routes will also create new beneficial linkages and seek to limit land-take in the Green Belt and Minet Country Park.

2.6.5 The townscape assessment found that the proposed development would bring about localised adverse effects on heritage and views within the 'character area' encompassing Beaconsfield Road and Dudley Road. These effects will however be offset and balanced by the increased connectivity and linkages.

Baseline view

View with development

View from the South Road Bridge looking west toward the Water Tower, Gas holder and West Southall Site (Representative of LBE View 25)

Comparative view 'With' and 'Without' proposed Scheme from LB Ealing Protected View.

2.6.6 Opening-up of areas around the Grade II Listed Water Tower will enhance the localised visual and physical prominence of this building. The new buildings surrounding it will be designed to relate closely to this existing landmark.

Loss of the distinctive façade of The Crescent will be offset in the longer term by enhancement of the Water Tower setting and high quality landscaping proposed within the Scheme.

2.6.7 The proposed Scheme will greatly improve views to the site through the introduction of a high quality built form and the removal of the unattractive built elements that presently stand on the site (such as the two gasholders and warehouses to the north) despite a general reduction in the openness of several views.

2.6.8 Overall, the assessment concludes that permanent beneficial townscape and visual effects would result from the Scheme due to the creation of a high quality, coherent townscape with improved connectivity between the site and its surroundings. This will significantly improve the appearance of the presently underused brownfield site, characterised by a limited relationship to the current streetscape and its context. The proposed Scheme will establish a high quality built form, new public realm and open spaces, creating connections to the wider area including Minet Country Park. Tree loss would be offset over the longer term by co-ordinated and extensive programme of tree planting across the site.

2.7 Ground Conditions

2.7.1 As a result of the industrial heritage of the site, including its use as a gasworks with chemical manufacture, various substances have contaminated the underlying ground and groundwater. The environmental risks from such contamination have been evaluated over a number of years through extensive investigations, testing, modelling, quantitative and qualitative risk assessments. The pathways of contamination (e.g. liquid and gas migration through soils and groundwater) have also been determined and the potential effects from the exposure of 'receptors' (e.g. construction personnel, future site users, and the groundwater aquifer) to such substances have been assessed.

Levels of contamination at the site are typical of many former gasworks and industrial sites throughout the UK and the methods used to successfully remediate such land have been developed over many years.

2.7.2 Excavation activities during construction may disturb contaminants currently immobilised within the soil profile to create new pathways, or extend existing pathways, which has the potential to pose health and safety risks to site workers, including through the ingestion of soil and skin irritation. Such risks should be readily avoided by the adoption of appropriate working practices, including construction workers wearing gloves, masks and other personal protection equipment (PPE).

2.7.3 Without appropriate environmental controls in place, the ground conditions in some areas of the site present a potential adverse risk to the groundwater quality. Also, there is a small risk of contractors polluting nearby surface water bodies in the event of uncontrolled surface water run-off during the remediation works. Fuel storage, material stockpiling and handling activities during construction may also present a risk of pollution due to spills and the generation of dust during excavation.

2.7.4 Land gas (methane and carbon dioxide) has been identified across the site in differing concentrations. Such gases can, under certain conditions, present an explosive or asphyxiation hazard below ground. However, as the source materials of this gas will be removed during remediation under controlled conditions, the significance will be reduced to negligible.

2.7.5 A Remediation Strategy has been developed in order to mitigate all of the above identified risks posed by the presence of contamination at the site. The strategy details the technical logistics, control measures, monitoring, sampling, and stakeholder liaison relating to the remediation phases. The precise scope and extent of the remediation will depend upon the end uses of each area of the site (e.g. residential, open space, landscaping).

2.7.6 In summary, the remediation will involve the controlled excavation from the ground of the contaminated materials, followed by their treatment on-site and subsequent re-use wherever possible. A proportion of the more heavily contaminated material will be taken away from the site for disposal at a suitably licensed waste facility. Backfilling of voids will take place using treated/ stabilised material wherever possible, in order to minimise the importation of fill material from elsewhere. To improve the quality of the groundwater, appropriate treatment will also be undertaken.

2.7.7 Further detailed studies will be completed prior to the commencement of the remediation, in order to assess the best and most appropriate on-site remediation treatment techniques. Due to the organic nature of much of the contamination (e.g. hydrocarbons/ oil, ammonia etc) bioremediation is currently seen as the most suited technique.

2.7.8 Following the full remediation of the site no effects have been identified to be associated with the operational stage of the proposed development.

2.7.9 Overall, the remediation of this significantly contaminated site to render it safe and suitable for reuse will have a permanent substantial beneficial effect on ground and groundwater conditions of the site and the local area.

2.8 The Water Environment

2.8.1 The likely significant effects of the proposed development on water resources (water usage, surface water and groundwater) have been assessed. The risk of flooding to the site has also been assessed taking into consideration the principles of Planning Policy Statement 25 (PPS25) and other relevant national, regional and local policies. These assessments were undertaken in close liaison with the Environment Agency.

2.8.2 The water environment in the vicinity to the site consists of: surface water bodies (the Yeading Brook and the Grand Union Canal); perched groundwater in the made ground; and shallow groundwater in the in the underlying Terrace Gravel deposits. A major aquifer is also located at depth between the Chalk and the London Clay. Important considerations of the water environment are quality, drainage, flooding, flow speed and direction and how the proposed development may influence these characteristics.

2.8.3 Groundwater contamination has been recorded in varying degrees across the main site in the perched waters and underlying minor aquifer. The aquifer is the principal controlled water feature likely to be directly effected by the proposed development.

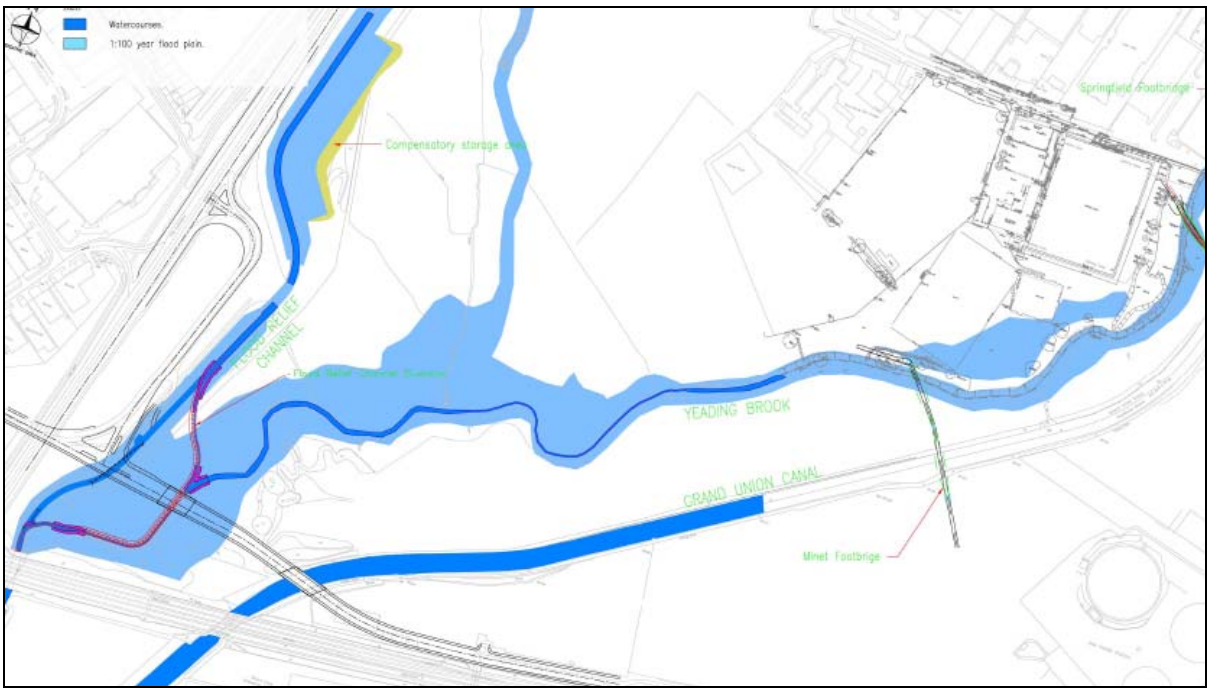
2.8.4 The main site is considered to have negligible potential of flooding as it is elevated approximately 3 - 4 metres above the Yeading Brook 100-year flood plain. However, the Pump Lane Link Road will be pass over the Yeading Brook, canal and the flood relief channel and will therefore be at potential risk of flooding.

2.8.5 Both of the proposed pedestrian and cycle routes will also span the Yeading Brook and canal, and lie within Flood Zones 1 and 3 (having a probability of flooding of between less than 1 in 1000 and 1 in 100 years).

2.8.6 Flood mitigation measures are not considered necessary for the footbridges as the effects on the river flow and overall flood plain storage have been determined as negligible. However, storm water flow considerations will be 'designed in' to minimise potential effects with regard to quality and flow regime in the event of a storm flood event.

2.8.7 An existing man-made flood relief channel to the west will be diverted to enter into a larger channel to the east of its existing position. This will compensate for the loss of floodplain storage area and is considered to fully mitigate the flood risk associated with the new Pump Lane Link Road.

2.8.8 Both ground and surface waters would be largely protected from the effects of reduced quality road surface run-off by in built design features. The western section of the Pump Lane Road Link has an existing drainage system discharging into the Yeading Brook - this will be maintained with some relocation of gullies where required. It is intended that the area from the edge of the carriageway to the Canal will be drained to a low point close to the existing By-pass channel. The discharge flow will need to match 'greenfield' run-off rates for a 1 in 100 year return period, which will require 260m^2 of storage. The storage proposed will be contained within the upper section of the abandoned flood relief channel. Flood risk compensation measures are shown in Figure 1.7.



Compensatory Flood Risk Areas

2.8.9 The degree of contamination recorded in groundwater beneath the site ranges from negligible to substantial. Therefore, differing levels and methodologies of remediation will be used to address each zone where the groundwater is affected. On-site groundwater treatment works would be undertaken in tandem with, and subsequent to, the soil remediation works. This will entail a combination system involving steam injection (to mobilise and extract some of the heavy tars) alongside in-situ sparging (to remove dissolved gases). Water abstracted from the aquifer will be treated to an acceptable level and then discharged to sewers under licence. An impermeable or semi-impermeable vertical barrier will also be installed around the National Grid Gas operational compound to prevent any cross-contamination from this area to the development.

2.8.10 Extensive monitoring will be undertaken to ensure the effectiveness of the remediation scheme until the risks to receptors have been appropriately reduced.

2.8.11 General construction activities have the potential to lead to the mobilisation of suspended solids and oil or fuel entering surface water drains and local watercourses. Consequently, all surface water discharges generated during construction will pass through sediment traps in order to reduce suspended solids prior to discharge. In addition, decontaminating filters and oil separators or similar will be incorporated into the site drainage systems in order to minimise risk of contamination to surface waters, including the canal and Yeading Brook.

2.8.12 The proposed Scheme includes a significant reduction in impermeable surfacing due to the landscaping and open amenity areas. Hard-standing prevents rainwater from infiltrating into the ground which could instead discharge rapidly and directly, via surface flow, to the drainage system and potentially increase the risk of flooding.

2.8.13 Surface water will be disposed from the site through a new drainage system with a comprehensive holding and outflow regulation system. In order to positively minimise discharge of surface waters into public sewers and rivers, the discharge will, as far as is practicable, be restricted to between 2 and 8 litres per second per hectare depending on soil type and topography.

2..8.14 Green/brown roofs are proposed for central areas within Scheme and rainwater harvesting will also be installed on buildings where it is found to be both practical and economically viable.

2.8.15 Overall, the remediation of the site is considered to have a substantially beneficial effect on the proposed development. The effects of the proposed development on water quality (associated with increased traffic) and flood risk are considered to be of a minor adverse significance.

2.9 Ecology

2.9.1 The ecological assessment considered the potential effects of the proposed development on the ecological value of the site, and the potential for protected species to be present. Ecology at the main site and within the proposed access areas has been assessed through an initial desk study and various subsequent detailed surveys completed throughout the last few years. The specialist surveys considered bats, badgers, great crested newts, reptiles, water voles, invertebrates and breeding birds.

2.9.2 The Minet Country Park to the west of the site encompasses the Yeading Brook and the Grand Union Canal. All of these features were assessed as having significant ecological value. The Park itself has been designated as a Site of Borough Importance in terms of nature conservation value and comprises a mosaic of habitats that support grass snakes and different types of birds. The Canal has been designated a Site of Metropolitan Importance and survey work highlighted this watercourse as an important commuting and foraging route for bats. Additionally, the Yeading Brook, a natural watercourse, passes through the park and provides opportunities for water voles, breeding birds as well as serving as bats. This corridor is however, heavily infested with invasive plants including Japanese Knotweed, Giant Hogweed and Himalayan Balsam, detracting from the ecological value of the area.

2.9.3 The baseline assessment found the main site to have very low ecological value, which is due to it being predominantly hard-standing. However, the site also contains some common ephemeral, ruderal plant species and the periphery is lined with mature trees. The Eastern Access area, despite having more established habitats, also offers limited opportunities from an ecological perspective.

2.9.4 There will inevitably be some temporary local adverse ecological effects during the construction phase, owing to losses of feeding or breeding locations, trampling, separation of habitats, and potential disturbance through lighting and noise.

2.9.5 Mitigation is proposed by way of provision of vegetated corridors along the Yeading Brook and canal, together with installation of mammal tunnels and ledges and setting back of abutments from the Yeading Brook. It is also proposed to limit works to daylight hours during the construction of the Pump Lane Link Road and the Footbridges.

2.9.6 The CEMP will also include more general means of avoiding impacts to any nesting birds or retained vegetation on the main site and the Eastern Access.

2.9.7 Certain aspects of mitigation are covered by legal requirements, such as tree and scrub clearance which would avoid the months of March and July in order to minimise disturbance to breeding birds. Destructive works that could potentially lead to the spread of Japanese Knotweed and Giant Hogweed cannot be undertaken until a suitable method of control has been proposed and accepted.

2.9.8 There is significant opportunity for habitat creation when the Scheme is built out, including bat roosting crevices within the Pump Lane Bridge and the provision of suitable bat and bird boxes within the main site.

2.9.9 Green space within the main site will allow enhancement of the existing peripheral vegetation, the introduction of semi-formal vegetation and the creation of a formal wetland area which will attract many bird species. Where possible, the new landscaping will involve planting of locally sourced, native trees and shrubs. Within these green spaces and new habitat areas, landscape management will encourage diversity and varied density. Figure 1.8 shows examples of the typical ecological mitigation to be introduced.

2.9.10 In summary, the residual ecological effects of the development of the site will range from negligible to minor adverse and moderately beneficial assuming the above mitigation measures, enhancement measures and best practice approaches are adopted.

2.10 Archaeology

2.10.1 The site is covered by Made Ground to an approximate thickness of 2.8m and lies within an area underlain be Langley Silt (commonly know as Brickearth), which is considered to have been deposited between 25, 000- 30,000 years ago. Beneath the brick earth deposits are gravels and beneath these Pleistocene deposits of London Clay is recorded.

2.10.2 Twenty one Prehistoric handaxes and six flake axes were recorded to have been found on the gasworks site; these Lower Palaeolithic remains are considered to be of regional to national value. In the north eastern area of the main site handaxes and elephant bones have been recorded, however the exact location of the discovery of these finds is not certain and may, in fact, be outside of the site.

2.10.3 Clear evidence for prehistoric occupation in the study area was found during the 2005-2006 excavations undertaken at Western International Market, c 700m south east if the main site. A late Bronze Age founders' hoard was also discovered to the north of the main site and a probable field system was identified c 600m west of the site from aerial photographs. Therefore the site and Eastern Access have some potential for upper Palaeolithic/Mesolithic and later prehistoric remains which are considered to be of regional value due to the potential for settlement activity and field systems.

2.10.4 The site is considered to have a low potential to support Roman, Early Medieval and Later Medieval artefacts.

2.10.5 With regards to Post-Medieval remains, previous industrial activity on the main site includes brickfields, chemical works, gasworks and associated canal docks. Sub-surface footings of earlier structures are also likely to be present within the main site.

2.10.6 Since the 19th Century the site has undergone considerable building development and quarrying. The foundations of the gasworks in the south west part of the site along with the construction of the three associated canal docks, service runs, and other deep installations may have extended into the gravels, having an impact on the site's archaeological potential. Where constructions are shallower, archaeological remains within the brickearth, alluvium and underlying gravels may survive beneath localised truncation.

2.10.7 The principal impacts to any currently unknown archaeology that might exist here would comprise truncation from building and infrastructure construction and from damage caused by the remediation of contaminated land and landscaping.

2.10.8 The current level of archaeological information suggests that there will be no significant (indirect or direct) impacts from the development upon Scheduled Monuments, or known archaeological sites. The impact and effect upon known archaeology is therefore neutral.

2.10.9 At the present time there are no known archaeological sites, features or finds at the Application Site as recorded Palaeolithic material will have been removed during the construction of the gasworks etc. The site has been subject to extensive previous disturbance via construction and extraction.

2.10.10 There have been no archaeological surveys undertaken at this particular site to determine potential presence/absence of archaeology and therefore this judgement has not been tested.

2.10.11 In the absence of further survey work, an indication of likely effect upon buried archaeology is all that can be advanced. The effect at this site is likely to be no more than minor adverse or neutral. This is on the basis that it is considered unlikely that nationally important remains will be found at the site and any sites or finds of regional or local value would be either preserved in situ within open space (via design) or preserved by record (excavated).

2.11 Built Heritage

2.11.1 The built heritage assessment considered the potential effects of the proposed development on the built heritage resources of the site and the surrounding area. The assessment has been undertaken through the findings of a desk-based study including the examination of a number of historical sources, and a subsequent field visit undertaken in January 2008.

2.11.2 The baseline assessment identified the sensitivity of each resource, based on relevant policy, legislative designations and rarity at the appropriate scale. The site is not within a Conservation Area.

2.11.3 The built heritage resources of interest in the vicinity of the site include the now redundant gas holders of the former gas works; a Grade II listed Water Tower, and The Crescent, a road which comprises 14 two-storey dwellings which date from around 1890 and are designated in LB Ealing's Unitary Development Plan (UDP) as a 'Building of Façade or Group Value'.

2.11.4 Two of the three existing gas holders are proposed for demolition prior to the remediation of the site. The larger of the two gasholders associated with the gasworks (No. 3) was built in 1883 or 1884, when the new gasworks was first built. The smaller gasholder (No. 5) was erected during the rebuilding of the gasworks in 1929–30. These gasholders were included in a survey of gasholders carried out by English Heritage in the late 1980s under the Monuments Protection Programme and English Heritage has confirmed that in their view neither of the gasholders merits efforts for protection.

2.11.5 Mitigation measures proposed for the gasholders recommend that the older, column-guided gasholder (No.3) be recorded in detail prior to demolition, in accordance with English Heritage advice. However, as the gas holders does not form part of the setting of the listed Water Tower, the effects of removing the two decommissioned gasholders are considered to be beneficial and of moderate significance.

2.11.6 The Water Tower, which was built around 1900 and has now been converted into residential accommodation, is located within the site. However, it lies outside of the red line boundary for the proposed development. The Water Tower was added to the Statutory List of Buildings of Special Architectural or Historic Interest, in the Grade II category and is defined as a landmark by LB Ealing in their UDP.

2.11.7 It is considered that the proposed development will improve the spaces to the north and south of the Tower, and the boundary of the scheme with this structure will be more clearly delineated. The listed building will be respected by the Scheme, whilst maintaining its historical distinction. A variety of mitigation measures, including landscaping elements, and the integration of the roadway, crossing points and tree-lined pedestrian footpaths, are proposed for the Eastern Gateway, where The Crescent is presently sited.

2.11.8 The overall effects of the Scheme on the Water Tower are considered to be beneficial and of moderate significance.

2.11.9 The proposals for the Eastern Access that will link the proposed Scheme to South Road comprise a landscaped corridor between Gateway Place, South Road and the station. The acquisition and demolition of The Crescent, the garage at No. 18 and residential properties at Nos. 1-7 Randolph Road, is required to achieve the safest and most attractive layout for the new access road. This will

be achieved through negotiation with the existing owners, or through a Compulsory Purchase Order (CPO).

2.11.10 The Crescent terrace is locally listed, although the façade has been altered to such an extent that its architectural and historical interest is considered negligible.

The Crescent

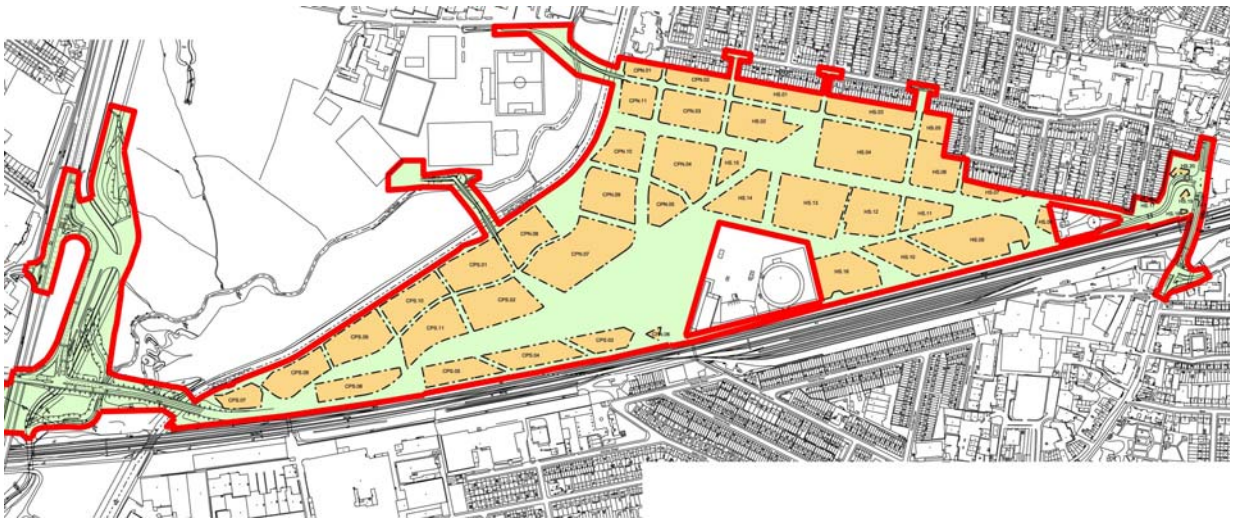
2.11.11 The Crescent is approximately 200m east of the Water Tower, but in its present state, detracts from, rather than enhances the approaching view to the Water Tower. Overall, the effects of the demolition of the above properties will be beneficial and of moderate significance in terms of built heritage.

2.11.12 Secondary vehicular access to the proposed development will be provided through various points on Beaconsfield Road. The removal of Nos. 137–143 Beaconsfield Road will link the West Southall Site to Beaconsfield Road and the streets of terraced housing to the north, between Beaconsfield Road and The Broadway (the A4020). In addition, pedestrian access to the Scheme will be provided at the site of No. 30 Grange Road. These secondary entrances will increase the permeability of the proposed development.

2.11.13 Taking into account the proposed mitigation measures, the overall residual effects of the Scheme on built heritage will be beneficial and of moderate significance.

2.12 Solar Shading

2.12.1 The solar shading assessment has been undertaken through desk studies and computer modelling to identify shade patterns and assess the availability of direct sunlight on March 21st, June 21st (Summer Solstice) and December 21st (Winter Solstice), for those areas proposed for public realm and adjacent sensitive areas, as shown in Figure 1.9.



Plan to showing public realm

2.12.2 Solar shading levels are influenced and controlled by the absence or occurrence of buildings and significant structures that cast shadows over surrounding areas. As much of the proposed public realm within the Scheme would be newly created, no 'existing situation' prevails against which the 'proposed situation' can be compared. In such instances, the solar shading assessment considers the quality of the proposed public realm with regard to user comfort and evaluates its suitability for proposed uses in terms of exposure to direct sunlight or the extent of solar shading.

2.12.3 A 3D computer model of the proposed development has been based on maximum building parameters thus casting the maximum shading in terms of length and duration at any given time of year.

2.12.4 The quality and amenity of open spaces has been considered throughout the design evolution with regard to form, orientation and layout of built developments and by restricting storey heights, bridge width and parapet design associated with the Scheme. Taking into account these design measures, the solar shading effects resulting from the proposed development would be of minor adverse significance.

2.13 Wind

2.13.1 The interaction of wind with the built environment has the potential to generate uncomfortable and strong winds, which could inhibit walking and use of pedestrian areas. An assessment of potential nuisance wind conditions associated with the proposed development was undertaken to quantify the wind microclimate.

2.13.2 The basic methodology for assessing the pedestrian level wind environment includes the consideration of the overall meteorological conditions for the site and the consideration of the way in which a built form will affect these conditions.

2.13.3 The likely effects of the proposed building massing in relation to the prevailing wind directions was assessed, including the effects where building massing might accelerate the wind. The likely wind conditions around the proposed development were then estimated in terms of established comfort criteria (Lawson Comfort Criteria) to grade these conditions.

2.13.4 As the planning application is in outline, details of building entrance locations have not been defined. Therefore, these could not be assessed. The assessment does, however, indicate areas where the conditions are expected to be windier than required for entrance use, i.e. suitable for leisure walking. Entrances should therefore be located away from these windier areas or the detailed design would

need to consider additional screening or recessing of the entrances to provide a sheltered buffer zone for users. These findings will be incorporated into the final designs for the reserved matters applications.

2.13.5 In summary, the effects of the proposed Scheme on the wind environment are considered to range from negligible to minor beneficial with the wind microclimate expected to be suitable for the intended pedestrian use or indeed calmer than necessary.

2.14 Operational Waste

2.14.1 The West Southall Scheme will produce household and commercial waste materials that will require routine off-site disposal. The assessment of operational waste addressed the implications of these waste arisings.

2.14.2 A significant proportion of the waste material generated from the residential dwellings and business premises would be classified as municipal waste. An estimated 4,400 tonnes per annum of municipal waste may arise from the residential element of the proposed Scheme and commercial wastes are estimated to total 28053.9 m^3/year. The options for the disposal of these wastes are collection and disposal of materials by the responsible department of LB Ealing or commercial operators; on or off-site recycling or re-use; and segregation of recyclable materials for collection by LB Ealing or a private contractor. Such waste is likely to be transported to the West London Waste Authority's rail transfer station sites at Brentford, South Ruislip or the household Recycling and Reuse sites at Acton, Southall and Greenford. Remaining commercial waste would be taken to private sector transfer station sites.

2.14.4 Potential minor adverse risks are considered to be posed from waste leachates and uncontrolled waste, stored on-site, being washed into the adjacent watercourses during rainfall events. Excessive resource use and the environmental effects associated with landfilling, incineration, and transportation have also been identified as potential effects.

2.14.5 On-site estate management practises will reduce any risks of pollution from stored occurring. Designated areas for waste will be readily accessible to reduce littering/uncontrolled waste storage. Containers with covers will be provided for putrescible wastes. New technologies may encourage more efficient vehicles (however this is influenced by external sources). If the above mitigation measures are incorporated into the proposed development then the effects on local waste disposal capacity are likely to be negligible to minor overall.

3.1 CONCLUSIONS

3.1.1 Overall, the proposed West Southall Scheme would have a substantial beneficial effect in the locality. The Scheme will deliver residential provision including private and affordable housing consistent with the objectives of the London Plan and will provide a significant proportion of LB Ealing's identified annual housing needs.

3.1.2 The proposals respond positively to the location of the application site, offering the opportunity to deliver a comprehensive and integrated development that makes best use of the location. The benefits likely to be brought about by the proposed development are:

- The Scheme has the potential to create approximately 1,320 jobs;
- The introduction of significanct public amenity space accessible to residents and members of the general public;

- The opportunity of socio-economic benefits of regeneration of a largely derelict and underused site, benefiting both the existing and future population;

- The opportunity to create construction employment over a sustained period of time (15 years);

- The Scheme will include a Health Centre that could accommodate more than 8 GPs;

- The Scheme includes a two forms of entry (2 FE) primary school sufficient to accommodate the demand arising from the future West Southall population;

- The proposed Springfield Road and Minet Country Park Footbridges will provide the new and wider Southall population with easy access to a District Park. It will also provide the population of Southall with enhanced access to open space within the Scheme itself;

- The proposals include formal multi-purpose sports pitches, which will be available to the future population and for people already living in Southall;

- The inclusion of on-site renewable energy;

- Additional provision and variety of retail;

- The introduction of improved public transport facilities and access for pedestrians and cyclists; and

- The opportunity to promote sustainable forms 'of living'.

3.2 Further Information

3.2.1 Copies of the full Environmental Statement (ES) may be viewed and the Council planning office at:

Development Services
Ealing Borough Council
Percival House
14-16 Uxbridge Road
London
W5 2HL

Development Control
Hillingdon Borough Council
3N/04 Civic Centre
High Street
Uxbridge
Middlesex
UB8 1UW

National Grid Property Limited

Beyond Green

Capita Lovejoy

Cyril Sweett

Hakes Associates

Hunt Dobson Stringer

Make

Marks Barfield Architects

PPS Group

RPS

Savell Bird & Axon

Savills

White Young Green