



Environmental Statement: Non-Technical Summary (Volume 3)

**Proposed Development of the Shirley
Motorway Service Area (MSA) On Land
Adjacent to Junction 4 of the M42 Near Solihull**

October 2016



SHIRLEY MOTORWAY SERVICE AREA

PROPOSED DEVELOPMENT OF A NEW MOTORWAY SERVICE AREA, WITH MEANS OF ACCESS, LANDSCAPING AND ASSOCIATED INFRASTRUCTURE ON LAND ADJACENT TO JUNCTION 4 OF THE M42

ENVIRONMENTAL STATEMENT: NON-TECHNICAL SUMMARY (VOLUME 3)

This report is submitted in support of an outline planning application for the Shirley MSA project. The application has been co-ordinated by AXIS with technical inputs from:

- AXIS – Project Management, Planning Policy, Socio Economics;
- AFL Architects – Design and Architecture;
- Aecom – Ecology and Nature Conservation, Noise, Air Quality, Ground Conditions and Contamination, Surface Waters and Flood Risk, Traffic and Transportation and Drainage;
- Fira – Landscape and Visual Effects;
- Pivotal – Lighting & Services;
- AOC Archaeology – Archaeology and Cultural Heritage; and
- Camargue – Communications.

September 2016



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FOREWORD

This Environmental Statement (ES) is submitted in support of an outline planning application (with all matters reserved except for means of access) made by Applegreen PLC for the development of a new Motorway Service Area (MSA), called the Shirley MSA, on land immediately adjacent to junction 4 of the M42. The ES is produced in three volumes as follows:

- Main Report (Volume 1), which contains the detailed project description; an evaluation of the current environment in the area of the proposed development; the predicted environmental impacts of the scheme; and details of the proposed mitigation measures which would alleviate, compensate for, or remove those impacts identified in the assessment. Volume 1 also includes a summary of the overall environmental impacts of the proposed development and all relevant schematics, diagrams and illustrative figures;
- Technical Appendices (Volume 2), which include details of the methodology and information used in the assessment, detailed technical schedules and, where appropriate, raw data; and
- Non-Technical Summary (Volume 3), which contains a brief description of the proposed development and a summary of the main ES findings, expressed in non-technical language.

Copies of the documents, as a three volume set, are available at a cost of £300 from AXIS, Camellia House, 76 Water Lane, Wilmslow, Cheshire, England SK9 5BB. Alternatively, the Non-Technical Summary to the ES or a CD of the entire planning application documentation, including the ES, can also be purchased from the same point of contact for £15 each. In addition, all of the planning application documentation, including the ES, can be downloaded free of charge from the planning portal on Solihull Metropolitan Borough Council's web site.

1.0 INTRODUCTION AND OUTLINE OF THE PROPOSAL

1.1 Introduction

1.1.1 This Environmental Statement (ES) has been prepared on behalf of Applegreen PLC (the Applicant) to accompany an outline planning application, made to Solihull Metropolitan Borough Council, for the development of a new Motorway Service Area (MSA) on land immediately adjacent junction 4 of the M42 motorway. The development is hereafter referred to as the 'Shirley MSA'.

1.1.2 The ES describes the proposed Shirley MSA development and provides an assessment of the likely environmental effects that may arise from its construction and operation.

1.2 The Proposal

1.2.1 Applegreen is proposing to develop a new MSA and associated infrastructure on just under 10 hectares of land lying adjacent to the existing junction 4 of the M42 (refer to Figure 1.1 – Site Location Plan). Owing to its junction location, the MSA would be accessible from both directions of travel on the M42 and does not require its own dedicated junction.

1.2.2 The Shirley MSA would comprise two buildings. The first is the Amenity Building containing cafes and restaurants, plus a shop, lavatories and seating / resting areas. This building would sit immediately adjacent to the main Fuel Filling Station, both of which would be housed under a sweeping green roof. The second building would be a stand-alone Drive through Coffee Shop, also with a green roof.

1.2.3 In addition to these buildings would be a separate stand-alone Fuel Filling Station for HGVs (lorries) and coaches, plus parking areas for cars, HGVs, coaches, caravans and motorbikes. The entire MSA would sit within an extensive landscaping scheme. The scheme is described in more detail within Chapter 2.0 of this document.

1.3 The Application Site and its Surroundings

- 1.3.1 The Application Site comprises 9.9 hectares of land located within the administrative area of Solihull Metropolitan Borough Council (SMBC). The Site is located immediately adjacent (north and east) of junction 4 of the M42 Motorway and lies approximately 300m (at its nearest point) to the east of the settlement of Monkspath (which is situated on the opposite side of the M42 Motorway), 1km to the south west of Dorridge and 300m from the nearest part of Blythe Valley Business Park (which is also accessed from the opposite side of junction 4).
- 1.3.2 The Site is centred on a single agricultural field used as pasture, which is formed by several former smaller fields, between which the boundaries have been mainly, but not completely, removed. It benefits from a substantial level of visual enclosure, which is provided by blocks of woodland to the south, east, and north east and by existing screening planting along the eastern side of junction 4 along the western edge. The M42 in this location is lower in elevation than the majority of the Application Site.
- 1.3.3 There are no water courses on the Site, but it lies relatively close to the River Blythe, which runs in a broadly south west to north east direction to the north of the Site. The River Blythe passes beneath the M42 in a culvert.
- 1.3.4 The Site has highways frontages to the west with the A3400 and to the south with Gate Lane. At present the only access to the site is via a gate off Gate Lane.
- 1.3.5 A single public right of way (Footpath SL56) runs broadly west-east across the central portion of the Site. The Site itself is not covered by any protective environmental designations relating to nature conservation, the landscape, or heritage. However, it does lie wholly within the West Midlands Green Belt.
- 1.3.6 The Site is crossed by overhead electricity lines mounted on wooden poles that run broadly the full length of the Site parallel with the M42 and A3400. A spur from this line runs south east from a point mid-way along the eastern boundary, before crossing Gate Lane. Further overhead lines (electricity and telecoms) run along Gate Lane.

1.4 The Applicant

1.4.1 Established in 1992, Applegreen PLC is a major petrol forecourt retailer in the Republic of Ireland with a growing presence in the UK and a small presence in the USA. The business employs approximately 3,000 people, and operates over 200 forecourt sites across the Republic of Ireland, the UK, and the USA. Applegreen is the number one MSA operator in the Republic of Ireland where it has a motor fuel market share of approximately 14%.

1.5 This Document

1.5.1 This document is the Non-Technical Summary to the ES, which has been prepared to accompany the planning application. It describes the potential environmental effects of the proposed Shirley MSA, both during its construction and operation.

1.5.2 The ES reports the findings of the Environmental Impact Assessment (EIA) process and has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended). These are referred to as the EIA Regulations.

1.5.3 The EIA Regulations allow potential applicants to request a Scoping Opinion from the Local Planning Authority. This is a written confirmation as to the information that would need to be provided in the ES.

1.5.4 Applegreen undertook such a request and Solihull Metropolitan Borough Council provided their advice (i.e. the Scoping Opinion) on 27th July 2016. A copy of both the request and advice are contained in the Appendices to the ES.

1.5.5 The ES covers all of the matters identified by SMBC, as well as all of the mandatory requirements set out in the EIA Regulations. One of these mandatory requirements is that the ES includes a Non-Technical Summary i.e. this document.

1.5.6 The information and knowledge required to produce the ES was acquired from a number of varied sources to ensure that all impacts, whether clear from the outset, or coming to light during the project's development, were assessed. These sources included:

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- Discussions with technical consultees to the planning process;
 - Review of public files and records;
 - Review of historical mapping and aerial photography;
 - Site surveys undertaken by the Applicant;
 - Specialist studies, such as computer modelling of potential noise impacts; and
 - Expert knowledge from the consultancy team.

1.5.7 Finally, the EIA Regulations require that the ES (and Non-Technical Summary) provide a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects. These measures are called 'mitigation measures'.

1.5.8 Mitigation measures take the form of 'features' that have been specifically incorporated into the development proposals in order to reduce environmental effects of the project. An example of this the landscaping scheme that forms an inherent part of the proposal. Such mitigation measures are included in Chapter 3.0 which describes the Shirley MSA proposal.

1.5.9 There are also additional mitigation, enhancement and / or compensation measures which are proposed to prevent, reduce or offset adverse effects unavoidable through design, or to provide benefits to the scheme / local environment. Where such measures are proposed they are summarised in the summary of environmental effects within Chapter 4.0.

2.0 SCHEME DESCRIPTION

2.1 Introduction

2.1.1 The Shirley MSA proposal comprises a new MSA and associated infrastructure on just under 10 hectares of land lying adjacent to the existing junction 4 of the M42. This Chapter of the ES Non-Technical Summary provides a scheme description and an outline of the construction phase.

2.1.2 This Chapter should be read in conjunction with a series of illustrative Figures as follows:

- Figure 2.1 Parameters Plan;
- Figure 2.2 Illustrative Masterplan;
- Figure 2.3 Proposed Off-site Highway Works;
- Figure 2.4 Diversions; and
- Figure 2.5 Off-Site Enhancement Works.

2.2 Description of the Development

2.2.1 Whilst the planning application is made in outline, it is supported by a Parameters Plan and an illustrative Masterplan. The Parameters Plan defines the scope of the development for which planning permission is being sought. The Masterplan is consistent with the Parameters Plan.

2.2.2 The Masterplan illustrates that the overall MSA proposal would comprise of the following main elements:

- An Amenity Building containing hot and cold food offers, a shop, lavatories, pay phones, shower and seating / resting areas. This building would have a footprint of circa 3,300m² and a gross external floor area of circa 4,500m²; and would sit under an innovatively designed, sweeping green roof which would assist with assimilating the scheme into its setting;
- A separate stand-alone Drive through Coffee Shop which would have a single floor and a gross external floor area of circa 196m²;
- A Fuel Filling Station with 10 islands (20 filling points) for cars, vans and small commercial vehicles. This would be located immediately to the south of the Amenity Building, underneath the green roof;

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- A separate stand-alone Fuel Filling Station with 2 islands (4 filling points) for HGVs and coaches;
 - A dedicated means of access into the MSA from the A3400 on junction 4 of the M42;
 - A dedicated means of egress from the MSA via Gate Lane and the A3400 onto junction 4. This would include the development of a new roundabout junction between the MSA site and Gate Lane;
 - The provision of an additional lane on the southbound exit slip road of junction 4;
 - Highway widening and improvement works to both junction 4 of the M42 and to the A3400 / Gate Lane;
 - Construction of a new bridge (pedestrian / cycle only) over the M42 (located between the southbound off-slip road and northbound on-slip road). This would replace the current pedestrian / cycle provision that would be lost through the carriageway widening works on the junction;
 - Parking for up to 662 cars (including 33 spaces for disabled users), 87 HGVs, 17 coaches, 22 caravans (including 2 spaces for disabled users), and 22 motorcycles. The parking provision would include electric vehicle charging stations. All parking would be free of charge for a minimum of 2 hours and the level of provision meets the relevant standards for an MSA in this location;
 - An Abnormal Load / Police Enforcement Area;
 - The permanent diversion of a footpath and of overhead power and telephone lines;
 - Surface water drainage infrastructure, forming part of a site-wide sustainable drainage system;
 - An extensive on-site hard and soft landscape scheme, together with earthworks across the site and the provision of screen mounding. The landscape areas would incorporate:
 - A Children's Play Area;
 - Dog Exercise Area; and
 - Driver Stretch / Exercise Area.
 - An off-site environmental enhancement scheme, to be delivered through a planning obligation, that would include:
 - New areas of structural, native landscape planting;
 - Habitat creation works;

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- Land management techniques to enhance local ecological land value / potential; and
 - A network of footpaths, linking to existing paths that would improve public access to the local countryside.
 - Other associated infrastructure including fencing, lighting and signage etc. The fencing would include sections of close boarded timber fencing between the proposed development and Little Monkspath and Monkspath Woods.
- 2.2.3 The MSA would be open 24 hours a day, for 365 days of the year. On this basis, and in light of the provision outlined above, the scheme meets the relevant requirements for an MSA, necessary to qualify for signage on the motorway network. When operational Shirley MSA would employ 336 staff and represent a circa £40 million investment.
- 2.2.4 The MSA would be accessed via a new junction (road) off the existing roundabout junction which forms junction 4 of the M42. Use of the new junction would be facilitated by the introduction of a new dedicated MSA lane on the southbound off slip road. For northbound traffic, vehicular access would be via a new dedicated MSA lane on the existing roundabout.
- 2.2.5 The introduction of the new dedicated access lane around a section of the junction 4 elevated roundabout, would necessitate the loss of the existing pedestrian footway, along the north side crossing of the M42. As a consequence, a new pedestrian bridge would be provided across the M42, immediately to the north of the existing overbridge.
- 2.2.6 Vehicles would exit the MSA to the south of the Site via a new roundabout onto an improved section of Gate Lane. Vehicles would immediately travel in a westerly direction along Gate Lane, through the signalised junction on to the A3400 which provides onward access to the motorway junction. This arrangement would require a number of modifications to parts of Gate Lane and the A3400 which comprise:
- The introduction of a new roundabout junction between the proposed MSA and Gate Lane;
 - Widening of Gale Lane to allow the introduction of three lanes for westbound traffic;

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- The introduction of an additional ahead lane on the northbound A3400 at and its junction with Gate Lane; and
 - The realignment of kerb lines to allow for the introduction of a third lane on the northbound A3400 between its junction with Gate Lane and the roundabout at J4 of the M42.

2.2.7 As noted previously, a single public right of way (footpath SL56) crosses the central part of the Site in a broadly east – west direction. It is proposed that the existing footpath is diverted in order to accommodate the development. This would firstly require a temporary diversion during the construction phase, whereby the footpath would route south, then run along Gate Lane and returns north up the A3400 Stratford Road. When construction is completed, there would be a permanent diversion along the eastern, southern and western boundaries of the Site. Both the temporary and permanent diversions are illustrated on Figure 2.4.

2.2.8 In addition to the footpath, the pole mounted overhead electricity lines that cross the site and run down Gate Lane, together with the overhead telecoms line on Gate Lane, would all be diverted and placed underground. The existing and diverted routes are also illustrated on Figure 2.4.

2.3 Construction Phase

2.3.1 Construction working hours would be 07.00 hours to 19.00 hours Monday to Friday and 07.00 hours to 13.00 hours on Saturday. There would be no working outside of these hours or on Sundays or Bank Holidays without prior agreement of SMBC, as the local planning authority. The overall construction period is anticipated to last approximately 9 months.

2.3.2 In order to minimise disruption to traffic on the motorway and on junction 4, night time working may be required in respect of: forming the permanent MSA entrance and exit points; works to junction 4; and the works to the M42 junction 4 slip road. Any such activity would be carried out in accordance with planning conditions or any other restrictions imposed by Solihull Metropolitan Borough Council.

2.3.3 At the peak of the construction period the proposed development is anticipated to require circa 200 construction related workers.

2.3.4 A Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) would be developed for the construction phase. The purpose of the CEMP would be to manage and report environmental effects of the Shirley MSA development during construction. The CEMP would set out how environmental issues would be managed in accordance with relevant legislation, regulations and best practice guidance. It would be the responsibility of the main construction contractor to develop and enforce the CEMP. The CTMP would seek to minimise the effects of construction traffic whilst the MSA is being built.

3.0 ALTERNATIVES CONSIDERED

3.1 Introduction

3.1.1 The EIA Regulations require that an ES includes an outline of the main alternatives studied by the applicant and an indication of the main reasons for the choices made, taking into account the environmental effects.

3.1.2 In the case of the Shirley MSA, and specifically the work undertaken leading up to the planning application, a number of alternatives have been considered by Applegreen. These are presented in the ES Main Report (Volume 1) under the following headings:

- Alternative Sites;
- Alternative Provision within the MSA; and
- Alternative Design Solutions.

3.1.3 The subsequent section of this Chapter provides a summary of the consideration of alternatives. Noting that there is no prescribed format as to how main alternatives considered should be described or evaluated in an ES.

3.2 Alternatives Considered

3.2.1 DfT Circular 02/2013: *'The Strategic Road Network and the Delivery of Sustainable Development'* (hereafter referred to as the Circular) sets out the Department for Transport's policy for the provision of MSAs. It states that on-line MSAs (i.e. MSAs with their own dedicated junctions) are considered to be preferable to MSAs at existing junctions, when all other factors are equal. However, in circumstances where an on-line MSA cannot be delivered due to planning, safety, operational or environmental constraints, a site sharing a common boundary with the highway at a junction, such as the Shirley MSA proposal) is to be preferred to the continued absence of MSA facilities.

3.2.2 Applegreen engaged highway engineering consultants to consider the potential for an on-line scheme. They were advised that there are no opportunities to deliver a new junction between M42 junctions 3a and 7 (the area where a new MSA is needed), such as would be necessary to serve a new on-line MSA. In short, any such junction would breach highway standards (i.e. highway design requirements).

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- 3.2.3 On this basis, Applegreen's consideration of alternative sites was limited to those sites sharing a common boundary with the M42, located at existing junctions.
- 3.2.4 In terms of junction sites, three of the five junctions can be readily discounted. Junctions 3a and 7 are both free flowing interchanges linking the M42 to the M40 and M6 respectively. Neither provides access to / from the motorway and thus cannot serve a MSA.
- 3.2.5 Junction 6 is an all-movements, grade separated, signalised roundabout interchange. It provides access to the A45, the National Exhibition Centre, Birmingham International Airport and the National Motorcycle Museum. The junction will be materially affected by a new HS2 Station and SMBC's M42 Economic Gateway Masterplan for 'The Hub'. The HS2 Hybrid Bill proposes alterations to the junction in order to accommodate the additional forecast traffic associated with that development and Highways England's Major Projects team are evaluating options for increasing capacity to enable other future development to come forward. Thus, the junction will materially change in the near future, in a manner not presently known, and the Economic Gateway Masterplan indicates that in any event there would be no available land sharing a common boundary with the motorway. As such, junction 6 can also be dismissed.
- 3.2.6 This leaves junctions 4 and 5. With regard to the later, only the north east quadrant of junction 5 has sufficient land for a potential MSA. This comprises land lying either side of Ravenshaw Way. Approximately 1 hectare of land within this quadrant, lying closest to the motorway junction itself, is occupied by a large sub-station / electricity grid yard. Applegreen dismissed this site for the following reasons:
- i. The site lies wholly within open countryside, within the Green Belt, and comprises agricultural land.
 - ii. It would result in the loss of the undeveloped fields to an MSA within the narrow Solihull / Knowle gap would urbanise an important semi-rural strip of land between settlements.
 - iii. The site does not relate well to the M42 due to the intervening presence of the large sub-station / electricity grid yard. This would

necessitate vehicles visiting an MSA to travel onto the A41, the gateway route into Solihull, before entering the services.

- iv. In determining a previous planning proposal on this site, the Secretary of State found that the need for an MSA in this location would not outweigh the harm to the Green Belt and a vulnerable area of countryside.

3.2.7 Whilst it is recognised that factors in point i above also relate to the junction 4 site, it is evident that the land at junction 5 offers no material planning or environmental benefits over the Applegreen site. In fact, the spatial and perceived relationship of the site to the motorway is materially worse and the local landscape more vulnerable. For these reasons Applegreen dismissed the land at junction 5 as an option.

3.2.8 On this basis, Applegreen established that the only suitable site for an MSA is on their site at junction 4.

3.2.9 In terms of alternative provision within the MSA, consideration was also given to the provision of a hotel at the Shirley MSA. However, hotels are not a mandatory MSA requirement and the Circular states, such development will be a matter for consideration by the relevant local planning authority in line with the National Planning Policy Framework and local planning policies. Furthermore, separate parking must be provided to service a hotel so as to avoid any reduction in the general parking provision available to other road users.

3.2.10 Given this position Applegreen elected not to provide a hotel as such a facility would have the potential to increase the effect of the overall MSA development on the countryside and would constitute inappropriate development in the Green Belt. Applegreen's decision on the hotel was also influenced by the fact that there are three existing hotels located inside of 2kms from junction 4 (Premier Inn Solihull, The Regency and Hogarths).

3.2.11 Finally, in terms of alternative design solutions, the Design and Access Statement submitted in support of the Shirley MSA planning application describes and illustrates the design evolution process and the alternative schemes that were considered and the reasons they were rejected.

4.0 SUMMARY OF ENVIRONMENTAL EFFECTS

4.1 Introduction

4.1.1 The ES Main Report (Volume 1) (hereafter referred to as the ES) describes the potential environmental effects of the construction and operation of the Shirley MSA under a series of topics / headings. Its purpose is to identify the likely significant environmental effects, if any that might occur. This Chapter provides a concise summary of those effects in concise non-technical language. This is carried out under the following headings:

- Landscape and Visual Effects;
- Ecology and Nature Conservation;
- Noise and Vibration;
- Air Quality;
- Ground Conditions and Contamination;
- Surface Waters and Flood Risk Assessment;
- Traffic and Transportation;
- Socio Economic Effects; and
- Archaeology and Cultural Heritage.

4.2 Landscape and Visual Effects

4.2.1 Chapter 6.0 of the ES Main Report (Volume 1) provides a landscape and visual impact assessment. It considers the landscape and visual effects of the Proposed Development and includes both a desktop study and a site survey to understand the baseline conditions of the Site, then uses the current industry guidelines and professional judgement to reach an assessment of the likely effects.

4.2.2 The Site lies within the M42 motorway corridor adjacent to the motorway and junction 4 roundabout. The Solihull Countryside Strategy records the land as within the 'Motorway Corridor' landscape character area. The location and landform of the Site provide opportunities to screen the MSA from view.

4.2.3 The Site lies within the Green Belt and as part of the project to enhance local landscape character and recreational access have been identified. A series of enhancements are proposed which would provide links to the local public footpath network; restore and enhance existing hedgerows and woodland;

and provide additional woodland planting to reinforce the existing woodland blocks between the motorway corridor and the high quality rural landscapes to the east.

- 4.2.4 The proposed design would include earth works, green roofed buildings and extensive tree and hedgerow planting to screen views. During construction there would be significant adverse effects on the views of some road users, walkers, cyclists and workers located close to the Site boundary and within the motorway corridor. However, these would reduce as planting matures. There would also be some significant adverse effects as a result of the removal of vegetation on the Site. Some areas of tree belt and hedgerow would be lost, although the planting proposals are substantial and would, in time mature to provide an increase in the amount of vegetation on the Site.
- 4.2.5 A section of local footpath close to the motorway would be re-routed around the MSA. During construction and again immediately afterwards. There would be an initial significant adverse effect on a section of this path. Although once planting proposals have matured this effect would reduce and no longer be significant.
- 4.2.6 The wider character of the landscape would remain largely unaffected by the proposed MSA, and although during construction there would be some significant adverse effects on local landscape character, these would be limited to the construction period and the area immediately around the Site.
- 4.2.7 There would be an increase in lighting levels on the Site, though it already lies within the well-lit motorway corridor. In the long term, existing and proposed woodland blocks would further screen and protect the darker rural landscapes to the east.
- 4.2.8 The Proposed MSA would cover a very limited area of land within the motorway corridor which is degraded in terms of landscape character, and makes no contribution towards the high quality rural landscapes further east. The design minimises adverse effects and the off-site enhancements would contribute to the aims of the Green Belt, its openness and its permanence, by providing a buffer to the motorway corridor; restoring and enhancing local landscape character and providing increased opportunities for recreational walking.

4.3 Ecology and Nature Conservation

- 4.3.1 Chapter 7.0 of the ES provides an assessment of the potential effects on ecology from construction and operation of the Proposed Development. This has been considered through identifying sensitive ecological receptors and assessing whether the Proposed Development could affect these.
- 4.3.2 The receptors were identified by desk study and field surveys. The desk study requested records from Warwickshire Biological Records Centre and searched on-line databases including Multi Agency Geographic Information for the Countryside. Field surveys included mapping the habitats, bats, birds, badger, otter and water vole.
- 4.3.3 The Application Site is largely of low nature conservation value, comprising species poor grassland with hedgerows. The desk study identified the River Blythe Site of Special Scientific Interest (SSSI) and non-statutory designated Wildlife Sites, which apart from a small area of grassland and swamp are all outside the Proposed Development boundary.
- 4.3.4 Species surveys identified foraging and commuting bats; otter using the river; a small assemblage of farmland birds; and badger.
- 4.3.5 The Proposed Development has the potential to affect receptors directly through habitat loss and indirectly from emissions, surface water run-off, noise and lighting.
- 4.3.6 Based on the conservation value, risk and magnitude of the impact, adverse and beneficial effects were assessed and assigned to Major, Moderate (significant); Minor, Negligible (non-significant).
- 4.3.7 The assessment of effects on each receptor before mitigation was considered and no significant adverse effects were predicted.
- 4.3.8 The overall delivery of the Proposed Development includes proposals for extensive on-site soft landscaping and off-site habitat creation and enhancement. These, including the proposed green roofs, have been used to off-set any losses to the Proposed Development.
- 4.3.9 At the request of SMBC, a Biodiversity Impact Assessment Calculator has been used to determine whether the scheme would deliver no net loss of

biodiversity. This is relatively new and Warwickshire was selected as one of the pilot areas by DEFRA. The calculations seek demonstrate whether there is 'No Net Loss' of biodiversity, a central plank within the National Planning Policy Framework. The calculations indicate an overall biodiversity gain from the Proposed Development.

4.3.10 From the surveys and assessment undertaken and the measures being taken, it is concluded that the Proposed Development would not result in any significant residual ecological effects on biodiversity with the potential for a gain.

4.4 Noise and Vibration

4.4.1 Chapter 8.0 of the ES provides an assessment of the potential effects of the Proposed Development with respect to noise and vibration. The assessment considers:

- Noise and vibration levels from construction works;
- Noise from building services plant and parking associated with the Proposed Development during operation; and
- Any increases to road traffic attributed to the Proposed Development.

4.4.2 A baseline noise survey was undertaken to establish noise levels at selected locations around the Site. It was noted during the baseline survey that the noise environment is dominated by traffic on the surrounding road network.

4.4.3 The assessment indicates that construction activities may result in temporary minor adverse noise effects at nearby receptors after the implementation of mitigation measures. It should be noted that construction noise predictions are based on a worst-case scenario where, over the course of a working day, all plant are operational at all areas of all worksites. In reality, it is likely that the worst-case noise levels predicted will only occur for limited periods of time.

4.4.4 Construction noise mitigation measures include, but are not limited to, the following:

- Use of only modern, quiet and well maintained equipment;
- Use of low impact techniques;
- Use of electrically powered equipment run from the mains supply;

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- Careful planning of the sequence of work in order to minimise the transfer of noise or vibration to neighbours; and
 - Erection of acoustic screens where necessary.

4.4.5 Subject to the implementation of the proposed mitigation measures, the effects of the Proposed Development as a result of construction activities is not considered to be significant.

4.4.6 Increases in noise as a result of construction traffic would result in a negligible effect as construction traffic haul routes will not pass any occupied sensitive receptors.

4.4.7 Changes in road traffic flows due to the Proposed Development have been calculated as increasing noise by a level that is not considered to be any worse than of minor adverse and not significant.

4.4.8 Noise generated by vehicle parking has been predicted and will result in a worst case increase in ambient noise level of 1dB. An increase in noise of this magnitude is only perceivable to the most sensitive human ear so can be considered as having, at worst, a minor adverse effect, which is not significant.

4.4.9 Fixed plant associated with the Proposed Development have been set noise limits at the Site boundary to ensure that nearby receptors are not subject to adverse levels of plant noise. Fixed plant will be designed so these limits are not exceeded so fixed plant noise can be considered to have a negligible effect which is not significant.

4.5 Air Quality

4.5.1 Chapter 9.0 of the ES provides an assessment of air quality during construction and operation of the MSA. Construction impacts are likely to result in dust being generated which can soil surfaces such as cars and window sills. Use of the MSA will result in increased traffic flows on the M42 slip roads, sections of Stratford Road and on the western end of Gate Lane. As such, properties or vegetation in these areas are likely to have higher pollutant concentrations.

4.5.2 There is a low risk of a dust nuisance during construction due to the low number of properties near the Site and the low sensitivity of the vegetation.

Measures to reduce this risk would be implemented during construction to ensure that dust emissions are small.

4.5.3 There are very few properties within 200m of roads that would have higher traffic flows due to the MSA being in use. Pollutant concentrations were predicted at three properties that would have the greatest impacts. Two of these properties were predicted to have very small changes. One property which is next to the Application Site and Gate Lane (which is vacant and is owned by the landowner of the MSA Site) is expected to have moderate increases in nitrogen dioxide concentrations. However, these concentrations would still be within the air quality standards set to protect human health and as only one property would be affected, this is not considered to be a significant effect.

4.5.4 Air quality was also predicted at three Local Wildlife Sites near the Proposed Development. Concentrations of nitrogen oxides are expected to exceed the air quality standard across all of the Local Wildlife Sites both with and without the MSA in use, due to emissions from the M42 and Birmingham. Increases in concentrations were predicted close to the roads that would have increases in traffic. The amount of nitrogen deposited onto the ground was calculated as this affects the amount of nutrients available to the vegetation and some types of plant thrive in low nutrient environments. Increases in deposited nitrogen are expected close to roads that would have increase in traffic. The River Blythe SSSI would not be affected by the MSA as it is not sensitive to air pollution or nitrogen deposition. Based upon this assessment and the outcome of the Ecological Assessment (Chapter 7.0) it can be concluded that the Proposed Development would not have any significant effects on air quality.

4.6 Ground Conditions and Contamination

4.6.1 Chapter 10.0 provides an assessment of the potential impacts from ground conditions, groundwater and contaminated land as a result of the Proposed Development. The assessment has been undertaken using a standard approach, using information from publically available and published sources and from a Site visit. Risks from ground contamination, and the need to manage them, were then assessed using a standard approach that considers

the possibility that people or the environment might be exposed to hazardous substances, if these are present in the soil or groundwater.

4.6.2 The Site currently comprises an undeveloped area of farmland. The land at the Site has been classified as: *“Moderate quality agricultural land capable of producing moderate yields of a narrow range of crops or lower yields of a wider range of crops.”*

4.6.3 Based on the information currently available, substantial, existing ground contamination or ground hazards have not been identified at the Site. The design of the Proposed Development does not incorporate methods to manage existing ground contamination, or ground hazards, as a result of this. However, the ground and groundwater at the Site would need to be protected during the operational phase.

4.6.4 The groundwater and River Blythe north of the Site could be impacted by the Development through the disturbance of groundwater flow or reduction of groundwater quality by input of chemicals during the operational phase. However, based on what is currently known about groundwater in this area the design of the Proposed Development would not impact groundwater flow, and it would incorporate measures to prevent release of hazardous substances to groundwater and the river.

4.6.5 The assessment found a low risk from existing ground contamination. Whilst the risk from ground contamination is thought to be low, the health and safety of construction / maintenance / ground workers would be protected during the construction and operation of the Site. Other possible impacts from construction of the Development would be controlled including the creation of dust from the excavation and movement of soils.

4.7 Surface Waters and Flood Risk Assessment

4.7.1 Chapter 11.0 of the ES presents an impact assessment of the likely effects on the surface water environment from the construction and operation of the Proposed Development. This includes consideration of the potential effects of the Proposed Development on the River Blythe and changes in flood risk.

4.7.2 In terms of the surface water environment, the River Blythe is the only water body that may be affected by the proposed development. The River Blythe is of very high importance due to its scale, nature conservation, water

resources and recreational attributes. In keeping with national and local planning policy, the Proposed Development has taken the importance of the River Blythe carefully into account in determining the mitigation measures that would be implemented during construction and the sustainable drainage measures for the operation of the Managed Service Area. This includes a new ditch course to the River Blyth avoiding the need for a pipe system with new concrete headwall and outfall in the channel. The detailed design of the ditch course will be carried out at a later stage, but options to encourage drainage through the adjacent marshy grassland can be adopted if this would help enhance biodiversity.

- 4.7.3 The impact assessment has also considered the flood risk to the Proposed Development and the effects of the Proposed Development on the flood risk to others nearby. Supported by the Flood Risk Assessment and Surface Water Drainage Strategy presented in Appendix 11.1 (contained within ES Volume 2), all forms of flood risk have been considered, with the most important being the risk of flooding from the River Blythe, from groundwater, and surface water flooding, although for all three the risk was low.
- 4.7.4 The vast majority of the Proposed Development site is outside of the higher risk Environment Agency flood zones, except for a small area along the northern boundary of the site that will only be used for landscaping, the new ditch course to the River Blythe from the treatment pond, and the foul sewer connection, which would be buried. In particular, the ground levels of any new buildings will be above the 1 in 1,000 year indicative flood level with safe access being maintained to the south where ground levels continue to rise.
- 4.7.5 There is also potential for shallow groundwater to be present at the site, although this is most likely to be towards the northern boundary, close to the River Blythe. Groundwater flooding is considered to present a low risk to the site, although further ground investigation will be carried out an appropriate stage to further inform the presence of groundwater.
- 4.7.6 The site is currently greenfield with no impermeable surfaces or drainage systems. The Proposed Development works will see the introduction of large impermeable surfaces to facilitate vehicle movements and parking. A surface water drainage system would be constructed to serve the Proposed Development based on the principles of sustainable drainage systems. This

system would discharge into the River Blythe via a new outfall ditch with discharge restricted to equivalent Greenfield runoff rates that will not increase fluvial flood risk downstream.

4.7.7 Mitigation of residual flood risks is to be incorporated in to the development design and maintenance regime that will be developed further at detailed design.

4.7.8 Providing the measures summarised above and described in greater detail in Chapter 11.0 of the ES are implemented, no significant adverse effects on the River Blythe, the surface water environment, and flood risk are predicted as a consequence of the Proposed Development. The Proposed Development is also considered to be compliant with the objectives of the Water Framework Directive as they apply to the River Blythe.

4.8 Traffic and Transportation

4.8.1 Chapter 12.0 of the ES provides an assessment of traffic and transportation. All the impacts considered in the Traffic and Transportation chapter are connected to changes or increases in traffic flow that would occur if the Proposed Development were constructed. The traffic attraction of the Proposed Development has been assessed in the Transport Assessment and is based on an accepted proportion of the passing motorway traffic leaving the motorway to use the MSA.

4.8.2 The traffic that would arise if the Proposed Development were constructed has been compared with the conditions that would occur at a 2018 year of opening, taking account of traffic growth related to other committed developments.

4.8.3 The assessment has determined that there would be a major benefit to highway safety due to the provision of an additional MSA filling an existing gap in the provision that leads to drivers having to travel further before taking a break, with a resultant increase in fatigue related accidents.

4.8.4 The highway network that would experience a change in traffic flow due to the Proposed Development is limited to the M42 Junction 4 slip roads, the Junction 4 Interchange roundabout, Gate Lane and the A3400. The sensitivity of any receptors close to this network is low. There is only one unoccupied residential property and the pedestrian facilities are lightly used.

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- 4.8.5 The Proposed Development would include highway improvements to mitigate the impact of additional traffic. These would include capacity improvements on the interchange roundabout, the southbound off-slip, Gate Lane and the A3400. These would also include improved facilities for pedestrians including as new bridge over the M42 and a controlled crossing of Gate Lane.
- 4.8.6 The greatest magnitude of impact that would occur if the Proposed Development were constructed would be from the increased delay at the junction. When considered against total journey times, the magnitude of the impact on Driver Delay is considered to be Minor Adverse.

4.9 Socio Economic Effects

- 4.9.1 Chapter 13.0 of the ES provides an assessment of the socio-economic effects of the Proposed Development. The Study Area for the assessment covers 18 neighbourhoods (or Middle-Layer Super Output Areas - MSOAs) within Solihull, selected on the basis of commuting patterns (Travel to Work data, Census 2011). These patterns show that 49% of employees working in the vicinity of the Proposed Development came from these 18 MSOAs.
- 4.9.2 An overview of the socio-economic baseline conditions reveals that the Study Area has a relatively high level of economic activity, with a high to mid value occupational profile and very low levels of deprivation. Unemployment was also below the local authority's average.
- 4.9.3 During the construction phase, the Proposed Development would have negligible direct and indirect employment impacts. It is estimated that the construction phase would support approximately 66 direct jobs (when expressed as permanent jobs) and a further 132 indirect jobs (in the supply chain).
- 4.9.4 Following completion of the development, in its operational phase, the assessment concludes that the Shirley MSA will result in an overall increase of 406 jobs (336 direct and 70 indirect), of which 179 will be net additional to the Study Area. The additional value to the economy could amount to some £4.6 million each year within the Study Area.
- 4.9.5 Overall, the socio-economic effects of the Proposed Development are considered to result in a significant positive effect and no specific mitigation measures are deemed necessary.

4.10 Archaeology and Cultural Heritage

- 4.10.1 Chapter 14.0 of the ES provides an assessment of archaeology and cultural heritage. It assesses the potential effects upon archaeological and cultural heritage assets that would result from the Proposed Development. This includes the direct effects resulting from the construction of the Proposed Development and indirect effects upon the setting of heritage assets once construction is complete.
- 4.10.2 The assessment has identified a total of 150 heritage assets within the 3km study area including two scheduled monuments, 46 listed buildings, four conservation areas, thirteen locally listed buildings, 82 non-designated assets recorded on the Warwickshire Historic Environment Record and three previously unidentified features. The assessment identified a number of medieval / post medieval heritage assets within or close to the Site. This includes a ridge and furrow within the Site itself. The medieval Swansdyche mill pond / fishpond falls just within the northern part of the Site. Hill Farm, a medieval to post medieval farm is situated adjacent to the south-western Site boundary and three medieval moated sites lie in close proximity to the Site.
- 4.10.3 The Proposed Development has the potential to cause a direct Minor level of effect, which is not considered significant, upon identified ridge and furrow within the Site and existing field boundaries. Negligible level direct effect, which are not significant, are predicted upon the millpond in the north of the Site.
- 4.10.4 The assessment has identified potential for previously unrecorded finds and deposits dating from the prehistoric (including paleo-environmental) and medieval periods. As such it is recommended that archaeological evaluation should be undertaken to establish the extent of any surviving archaeological remains that might be damaged during construction of the Proposed Development. Provision should be made to evaluate the geo-archaeological potential of the site also. It is recommended that any such works be secured through a planning condition.
- 4.10.5 No significant indirect or cumulative effects on the settings of designated / undesignated heritage assets have been identified.

4.10.6 Implementation of the recommended mitigation would result in Negligible level of residual direct effects upon known heritage assets within the site and would allow for identification and recording of any hitherto unrecorded buried remains that may be present.

FIGURES
