



A38 Derby Junctions

Preliminary Environmental Information Report Non-Technical Summary

September 2018

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Introduction

Highways England propose improving the 3 junctions along the A38 through Derby to separate local traffic from through traffic; namely the junctions at Kingsway, Markeaton and Little Eaton. These junctions span an approximate distance of 5.5km along the A38 to the west and north of Derby.



The scheme aims to improve Derby's economic competitiveness, the environment and quality of life by reducing congestion in the surrounding urban areas and on the A38. The scheme would increase the capacity of the strategic road network and assist housing and employment growth within Derby. The overarching objective is to deliver a scheme that is affordable and delivers high value for money.

This proposal is a 'Nationally Significant Infrastructure Project' under the Planning Act 2008, which means that an application will need to be made for permission to build and operate the scheme. The permission is called a Development Consent Order (DCO).

Before an application for a DCO is submitted, the local community and other stakeholders must be formally consulted on the proposal. This consultation must include a description of the scheme, the likely significant environmental effects based on the preliminary environmental information available at the time, the measures proposed to avoid or reduce such effects, and the alternatives that have been considered. This is to support consultees in developing an informed view of the likely significant environmental effects of the scheme.

As well as carrying out our consultation, we are continuing to gather environmental information, identifying the potential impacts of the scheme and developing measures to avoid, reduce or mitigate adverse impacts. This process is known as an Environmental Impact Assessment (EIA), which is required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. The findings of the EIA will be reported in an Environmental Statement.

While the EIA is ongoing, the Preliminary Environmental Impact (PEI) Report has been developed for consultation and describes current environmental conditions and anticipated

effects of the scheme on the environment. This document provides a summary of the PEI Report in non-technical language. We are now seeking your comments on the scheme design and the information included within the PEI Report. Details of how you can provide comments, how consultation responses will be dealt with, and the next stages in the DCO application process are provided in the sections called “Consultation” and “Next steps” at the end of this document. The information in the PEI Report is preliminary and the findings will be developed further in the Environmental Statement to show the progression of the scheme design which will be informed by the feedback from consultation and the ongoing EIA. The Environmental Statement will present the full results from the EIA and will be submitted with the application for a DCO.

The proposed scheme

Kingsway and Markeaton junctions are located in a predominantly urban environment, with a mixture of residential housing, commercial, retail, health care and educational establishments. There are a number of public open spaces in the vicinity of the junctions, namely Mackworth Park, open space next to Greenwich Drive South, Markeaton Park and Mill pond. Little Eaton junction is set in a semi-rural environment, with the Ford Farm Mobile Home Park, the property Fourways, commercial and retail facilities located to the north of the existing junction. The Derby Garden Centre occupies the space between the A38 and the B6179 to the north of the junction (accessed off the B6179). The eastern edge of Breadsall village is located approximately 400m to the south-east of the existing junction, whilst the southern edge of Little Eaton village is located approximately 900m to the north of the junction. The A38 to the west of the existing Little Eaton junction crosses over the River Derwent and the railway that connects Derby with Sheffield.

It is proposed to improve these 3 junctions, with the new A38 passing through Kingsway and Markeaton junctions in underpasses, and passing over Little Eaton junction on a fly-over – refer to the scheme plans as presented in Appendix A at the back of this document.

Scheme details

The scheme would entail the following:

- Kingsway junction (refer to indicative junction plan in Appendix A):
 - A38 lowered to pass underneath the existing roundabout in a new underpass (low point of the mainline A38 would be approximately 6.5m below the level of the existing roundabout) with 2 new roundabouts and a new bridge at existing ground level to carry traffic over the lowered A38;
 - A38 widened to 3 lanes in each direction between Kingsway junction and Markeaton junction, with the speed limit increased from 40mph to 50mph;
 - Local access provided by a road link to Kingsway Park Close;
 - Closure of existing accesses from the A38 onto Brackensdale Avenue and Raleigh Street.

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- Markeaton junction (refer to indicative junction plan in Appendix A):
 - A38 lowered to pass underneath the existing roundabout (maximum depth approximately 7.6m below existing ground level), in a new underpass with 2 new bridges to carry the A52 and signalised roundabout traffic across the lowered A38;
 - The A38 widened to 3 lanes in each direction between Markeaton junction and Kedleston Road, with the speed limit increased from 40mph to 50mph;
 - The existing entrance to Markeaton Park from the roundabout would be closed. An improved entrance and exit to the park would be provided from the A52 instead;
 - Access to the Esso petrol station and McDonald's would be modified;
 - The existing pedestrian footbridge over the A38 would be replaced with a new bridge that fully complies with current cyclist and wheelchair user requirements.
 - Little Eaton junction (refer to indicative junction plan in Appendix A):
 - The A38 would be realigned to the south and east of the existing roundabout and built on an embankment. The existing roundabout would be extended to the south with new slip roads providing access onto and off the new A38, whilst the roundabout would enable connections to Ford Lane, the A61 and the B6179. Two new bridges would be built to carry the A38 traffic over the roundabout on a 'fly-over', this would separate the A38 through traffic from local traffic crossing, leaving and joining the A38;
 - The existing bridge over the railway would be widened to carry the southbound A38 carriageway. The existing part of the railway bridge would be kept for the northbound A38 carriageway;
 - Access to and from the A38 at Ford Lane would be closed for safety reasons;
 - The existing national speed limit on the A38 would be kept, although an advisory 50mph limit would be displayed on the bend through the junction;
 - All existing footways and cycleways would be retained and diverted around the roundabout.

If the Development Consent Order (DCO) application is approved, construction is planned to start in 2021, with the scheme being fully open to traffic in 2024.

Alternatives

Proposals for the improvement of the 3 junctions along the A38 through Derby have been the subject of extensive study since 2001. The process of options identification and route selection leading to the proposed scheme is summarised in Chapter 3 of the full Preliminary Environmental Impact (PEI) Report. The process has followed the stages:

- Option identification;
 - Options appraisal and sifting to identify options to take forward for further appraisal;
 - Selection of options which were taken to non-statutory public consultation in February and March 2015; and
 - The selection of the Preferred Route which was announced in January 2018.
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Options that have been assessed and rejected include placing the A38 mainline on fly-overs through Kingsway and Markeaton junctions, whilst at Little Eaton junction options rejected include those that would place the scheme to the north west of the existing junction.

The Preferred Route forms the basis of the scheme as described above and assessed within the PEI Report.

The applicant

Highways England is the Applicant, which is the Strategic Highways Company as defined in the Infrastructure Act 2015. Highways England is charged with modernising and maintaining England's strategic road network, as well as running the network and keeping traffic moving.

Environmental Impact Assessment (EIA)

Under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, the scheme is defined as being the type and scale of development that automatically requires an EIA. Accordingly, an EIA is being undertaken to meet the requirements of the relevant planning policy and legislation, and cover the effects of the scheme on the environment.

The EIA considers impacts during the construction and operation of the scheme. The construction phase assessment addresses both the temporary activities involved in building the scheme and the subsequent permanent presence of the scheme once constructed. The operational assessment considers the situation when the scheme is being used by traffic. The EIA does not consider scheme demolition given that the road would become an integral part of national infrastructure and would not be decommissioned.

During its construction, most of the scheme's potential adverse environmental impacts would be avoided or mitigated through the implementation of industry standard practice and control measures, which would be contained within a Construction Environmental Management Plan (CEMP).

Further work continues to be undertaken as part of the EIA process to confirm the preliminary findings presented below (and summarised in Table 1 within Appendix A). The final assessment of environmental impacts will be presented in the Environmental Statement that will be submitted with the application for a Development Consent Order. The Environmental Statement will also include an outline CEMP.

Air quality

Baseline

Air quality in the area around the scheme (including the section between Kingsway and Markeaton junctions) is currently affected by traffic using the A38 and the local road network. There is an Air Quality Management Area (AQMA) close to the scheme, namely the 'Derby nitrogen dioxide AQMA No.1: Ring Roads' which covers the inner and outer ring-roads in the city, as well as some sections of radial roads and the entire length of Osmaston Road. AQMAs are areas which the local authority has identified as requiring management to

achieve desired air quality objectives.

Construction

Without mitigation, construction of the scheme could temporarily impact air quality as a result of dust from construction activities (such as earth moving and excavations), and emissions from construction traffic, construction equipment and temporary traffic management. Mitigation measures would be included within the Construction Environmental Management Plan (CEMP) to control dust emissions, as well as measures to control the use of equipment, plant and construction traffic. These measures would minimise the temporary air quality impacts during the construction phase.

Operation

During scheme operation there could be impacts on air quality as a result of changes in vehicle flows along the scheme and the surrounding road network. However, no locations within the area assessed are expected to experience nitrogen dioxide concentrations above the annual mean nitrogen dioxide UK Air Quality Strategy (AQS) objective - thus nitrogen dioxide concentrations are predicted to be below levels considered to be of health concern. Therefore, significant air quality effects are not anticipated during scheme operation.

Summary of preliminary assessment

The preliminary air quality assessment indicates that with appropriate best practice construction procedures, no significant adverse effects are considered likely during scheme construction. Scheme operation would have an impact on air quality as a result of changes in vehicle flows, however, significant air quality effects are not anticipated. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Cultural heritage

Baseline

Cultural heritage includes archaeology, historic buildings, structures and historic landscapes including parks and gardens. The scheme would cross an area with records of pre-historic, Roman and medieval features, as well as features associated with more modern times. Of note is that the scheme at Little Eaton junction partly lies within the boundary of the Derwent Valley Mills World Heritage Site (DVMWHS).

Construction and operation

The scheme would impact upon a number of heritage features. The implementation of appropriate mitigation measures and taking into account impact avoidance measures included in the scheme design, the following effects are predicted during construction and operation of the scheme:

- A slight adverse effect on the DVMWHS due to temporary visual and noise intrusions during the construction phase, whilst creation of the fly-over on embankment and the associated land-take would have a long term slight adverse effect on the setting of the World Heritage Site;
- Neutral effects on 10 heritage assets, including materials deposited in the geological past within the River Derwent floodplain, Markeaton Park, the Markeaton Park boundary

wall, Leylands Estate Conservation Area, the dismantled Derbyshire and North Staffordshire Extension Railway, the Derby to Hurdlow turnpike road, Breadsall Manor, Breadsall Conservation Area, Ford Farm, and features that contribute to the historic landscape character at Little Eaton.

Summary of preliminary assessment

The preliminary cultural heritage assessment has indicated that with appropriate scheme design, adoption of an archaeological mitigation strategy, and implementation of mitigation measures included within the Construction Environmental Management Plan (CEMP), no significant effects upon cultural heritage assets are anticipated during scheme construction or operation. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Landscape and visual effects

Baseline

The scheme at Kingsway and Markeaton junctions would be situated within areas with a mixture of existing highways, residential housing, public open space, retail and industrial estates, and educational facilities. At Little Eaton junction the surrounding environment is more rural with a mixture of existing highways, farmland, limited residential housing and commercial and retail premises.

Construction

Construction activities have the potential to temporarily impact on local landscapes and on the views of users on public rights of way and local roads, and views from residential properties close to the scheme. Measures to mitigate potential impacts of construction activities include the sensitive siting of construction compounds, minimisation of construction lighting and minimising the loss of vegetation that screens views of the existing A38.

During scheme construction, the landscape effects at each junction are not anticipated to be significant. However, potentially significant visual effects during the construction phase have been identified from Greenwich Drive South public open space and views from the Derwent Valley Heritage Way.

Operation

The scheme would be provided with an appropriate landscape design which would incorporate tree and shrub planting. Environmental barriers at Little Eaton junction are being considered along the A38 next to the Ford Lane Mobile Home Park, and along the A38 and the slip-road to the A61 to screen the scheme from Breadsall. The requirement for environmental barriers, their type, format and height will be confirmed following further assessments, taking into account comments received during statutory public consultation.

During operation of the scheme, landscape effects at Kingsway, Markeaton and Little Eaton junctions are not predicted to be significant, noting that effects would reduce with time as the scheme landscape planting matures.

During scheme operation, some visual effects at Kingsway junction are predicted to be significant at scheme opening (e.g. views from within Greenwich Drive South public open space). However, such effects would reduce with time as the proposed landscape planting

matures. Visual effects at Markeaton junction are not predicted to be significant during scheme operation. At Little Eaton junction, some visual effects are predicted to be significant at scheme opening (views at the edge of Breadsall and views from the Derwent Valley Heritage Way), although such effects would reduce to non-significant levels with time as the proposed landscape planting matures.

Summary of preliminary assessment

The preliminary landscape and visual assessment indicates that scheme construction and operation is not anticipated to generate significant landscape effects. However, scheme construction and operation has the potential to generate a number of potentially significant visual effects at Kingsway junction and Little Eaton junction. Such effects would reduce with time as the scheme landscape planting matures. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Biodiversity

Baseline

Whilst there are no nationally important designated ecological sites in the vicinity of the scheme, there are a number of locally important sites – this includes 6 non-statutory designated sites (Local Wildlife Sites) located within or directly next to the scheme boundary at Kingsway and Markeaton junctions, and 2 non-statutory designated Local Wildlife Sites located within or directly next to the scheme at Little Eaton junction. In addition, habitats in the vicinity of the scheme are used by a range of protected ecological species – this includes badgers, water voles, otters, bats, birds, terrestrial invertebrates (such as butterflies) and aquatic invertebrates (such as white-clawed crayfish).

Construction

Construction activities would have a direct impact on the following sites:

- A38 Roundabout Local Wildlife Site (which is located within the scheme boundary at Kingsway junction): 100% of the Local Wildlife Site habitat would be permanently lost;
- Markeaton Park Local Wildlife Site (located next to the scheme at Markeaton junction): widening of the A38 and utilities diversion route may result in some habitat being temporarily or permanently lost;
- Alfreton Road Grassland Local Wildlife Site (located within the scheme boundary at Little Eaton junction): approximately 25% of the Local Wildlife Site habitat would be permanently lost.

Construction activities would also result in the loss of some ecological habitats, including trees and woodland, grassland, arable land, hedgerows and some watercourses, as well as potentially impacting upon protected ecological species. A range of mitigation measures would be implemented through the Construction Environmental Management Plan (CEMP) during the construction phase – this includes pollution prevention measures to control surface water run-off during rain events and measures to control construction dust. In addition, opportunities to retain vegetation would be explored, whilst replacement habitats would be included within the proposed landscape design. It is the aim that the scheme would be mitigated within the scheme boundary such that there would be no overall loss of

biodiversity. In order to achieve this, a number of locations have been identified which may be used for additional ecological planting and habitat creation – these areas are located within Mackworth Park, the Kingsway Hospital site, Markeaton Park, Mill Pond, and areas to the east and west of the River Derwent.

Operation

During scheme operation, local ecological habitats could be impacted due to altered surface water run-off patterns, whilst some species may be vulnerable to accidental collisions with traffic and disturbance due to vehicles using the new carriageway. As such, a range of mitigation measures will be included within the scheme design – this includes provision of a suitable highway runoff drainage system and suitable fencing to prevent species such as badgers gaining access onto the road.

Summary of preliminary assessment

The preliminary biodiversity assessment indicates that the scheme has the potential to have significant effects upon the A38 Roundabout Local Wildlife Site at Kingsway junction and the Alfreton Road Grassland Local Wildlife Site at Little Eaton junction. In addition, there are potential significant effects upon some habitats such as woodlands, plus effects upon foraging and commuting bats and birds, although such effects would not be significant in the long term when planting and new habitats have become established. Given the mitigation and enhancement measures proposed, which would improve ecological conditions along the scheme, the scheme is not anticipated to have an overall adverse effect on nature conservation in the medium to long term. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Noise and vibration

Baseline

As would be expected, the noise levels near to the scheme are dominated by road traffic noise from the existing A38.

Construction

During the scheme construction phase, temporary noise and vibration impacts may occur due to construction activities as well as construction traffic. Construction traffic is not anticipated to result in a significant adverse noise effect. However, given the close proximity of some properties to proposed construction works, there is the potential for temporary significant adverse noise effects. The risk of vibration causing building damage is considered to be very low, although there could be a risk that construction works would result in temporary significant vibration annoyance at properties closest to some construction activities. As such, measures would be included within the Construction Environmental Management Plan (CEMP) to reduce noise and vibration impacts. This includes the selection of quiet and low vibration equipment; positioning of construction equipment to minimise noise disturbance; use of acoustic enclosures for noisy equipment; and use of noise screens and perimeter hoarding.

Operation

The operation of the scheme would result in both beneficial and adverse traffic noise impacts given that the scheme would bring the road closer to some properties, and further away from others. In addition, changes in traffic flows on surrounding roads are also anticipated due to the scheme, in particular due to the closure of a number of existing accesses onto and off the A38 which would result in local re-routing of traffic.

At Kingsway junction the main potential adverse noise impact would be on Kingsway Park Close where minor increases in traffic noise levels are anticipated. On the A38 mainline between Kingsway and Markeaton junctions, minor noise increases are anticipated which are potentially significant given that existing traffic noise levels are already high. Specifically at Markeaton junction, increases in traffic noise levels are anticipated to the east of the junction with minor and moderate increases anticipated at residential properties close to the junction, resulting in some potentially significant adverse noise effects. The Royal School for the Deaf is anticipated to experience a minor to major increase in traffic noise levels, representing a potential significant adverse effect. At Little Eaton junction, the majority of residential properties within Little Eaton village are anticipated to experience a negligible increase in noise levels, although a minor noise level increase is anticipated along Duffield Road. A minor increase in traffic noise levels on the A61 is also anticipated. There is an anticipated negligible increase in traffic noise at the majority of residential properties in Breadsall, although a slight increase in traffic flows on Croft Lane and Brookside Road is anticipated to result in a minor increase in traffic noise levels at a small number of properties. Given the potential for noise effects, a number of potential noise barriers are being considered for inclusion in the scheme design, whilst the scheme would be provided with a low noise surface throughout.

Summary of preliminary assessment

The preliminary noise and vibration assessment indicates that there is a risk of significant noise effects at properties closest to construction activities, as well as potentially significant vibration annoyance effects. During scheme operation there are likely adverse noise impacts on Kingsway Park Close, along the A38 mainline between Kingsway and Markeaton junctions, and near Markeaton junction, including upon the Royal School for the Deaf. Significant noise effects are not anticipated at Breadsall or Little Eaton. Further work is ongoing to determine whether noise barriers would be effective in reducing potential adverse noise effects. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Geology and soils

Baseline

The underlying geology across the scheme comprises of mudstone, siltstone and sandstone. Overlying deposits include alluviums, clay, silts, sands and gravels. Limited areas of historic fill material have been identified in areas of previous and existing development and along existing highways. A number of possible sources of contamination have been identified, including a former tip and disused railway at Kingsway junction; the petrol station at Markeaton junction; a licenced waste management facility, former tip and the alignment of the former Derby Canal at Little Eaton junction. Agricultural soils are present in areas surrounding Little Eaton junction.

Construction

Without mitigation and the implementation of adequate control measures, there is the potential for contaminants from identified contamination sources to enter groundwater, should they be disturbed during scheme construction. The Construction Environmental Management Plan (CEMP) would include measures for the identification, treatment, re-use and management of excavated materials generated during the construction works. Measures would also be included to limit the potential for dispersal and accidental releases of potential contaminants, dusts from soil and uncontrolled surface water run-off to occur during construction. The CEMP would also establish procedures for dealing with unexpected soil or groundwater contamination that may be encountered.

Operation

Operation of the scheme would not include any activities that are likely to have a significant effect upon geology and soils.

Summary of preliminary assessment

The preliminary soils and geology assessment indicates that with implementation of best practice management procedures, no significant adverse effects are considered likely during the construction and operation of the scheme. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Road drainage and the water environment

Baseline

The main surface water features close to the scheme are Bramble Brook, Markeaton Brook, Mackworth Brook, Markeaton Lake, Mill Pond, the River Derwent, Dam Brook and Boosemoor Brook. The scheme would require the realignment of sections of Bramble Brook and Dam Brook, and would cross parts of the River Derwent floodplain. The majority of the scheme would be built in areas with no or very low probability of flooding, although flood risks have been identified at Kingsway junction (associated with Bramble Brook) and at Little Eaton junction (associated with the River Derwent and Dam Brook).

Construction

Without mitigation, proposed construction activities could impact upon surface water quality and flows, as well as impact upon groundwater quality and flows. Impacts upon surface water and groundwater could result from accidental spillages or sediment run-off causing pollution and risk of contamination to surface water and groundwater, localised disruption to groundwater levels and worsening flood risk. Thus the Construction Environmental Management Plan (CEMP) would include measures to mitigate potential adverse effects on surface watercourses during construction. This would include measures to tackle emergency spillages, and appropriate procedures for managing storage areas and material stockpiles. Potential effects on groundwater would also be mitigated through adherence to the CEMP, whilst the scheme is being designed to minimise impacts on groundwater flows. Measures would also be put in place to ensure that flood risks at Kingsway junction and Little Eaton junction would be appropriately managed.

Operation

During scheme operation, road run-off during rain events could result in flooding and cause pollution impacts on surface water and groundwater. As such, a road drainage system would be provided which would collect highway runoff, with water being discharged into ponds located at each junction which would treat the run-off before allowing water flow into local watercourses.

In order to ensure that the scheme does not have an adverse effect upon local flooding, flood storage areas would be provided at Kingsway junction, whilst at Little Eaton junction it is proposed to provide a floodplain compensation area to the south of the A38 (to the west of the River Derwent). Such outline flood mitigation provisions are being discussed with Derby City Council and the Environment Agency.

Summary of preliminary assessment

The preliminary road drainage and water environment assessment indicates that with implementation of best practice construction procedures, provision of a surface water drainage management system and with a suitable flood management strategy at Kingsway and Little Eaton junctions, there would be no significant effects on water resources either during scheme construction or operation. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Materials

Construction

The scheme design aims to balance the amount of material excavated (cut) and material placement (fill). However, it is currently estimated that approximately 130,000m³ of material would be excavated during the construction phase, whilst approximately 475,000m³ of material may be required to build the scheme. Whilst material excavated at Kingsway and Markeaton junctions is likely to be reused at Little Eaton junction (subject to quality characteristics), it is apparent that additional materials would need to be transported to the site in order to construct the scheme. There are a wealth of mineral sources within the Derbyshire region, such that materials required for the scheme could be sourced locally in order to minimise material travel distances.

Given the relatively large landfill capacity in the East Midlands and the potential for the reuse of excavated material (either on site or off site), it is considered unlikely that the scheme would result in a significant reduction in the available landfill capacity, and hence significant effects are not anticipated.

The quantities of material needed for construction purposes are anticipated to be very small when compared to the overall UK demand for construction materials. Therefore, scheme construction would not result in a significant reduction in the availability of construction materials.

Operation

Material use and waste generation is expected to be very small during operation of the scheme, with no significant effects expected.

Summary of preliminary assessment

The preliminary materials assessment indicates that significant effects with respect to materials and waste are not anticipated during scheme construction or operation. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

People and communities

Baseline

The 3 junctions are located around the main settlement of Derby which provides the main centre for services and community facilities in the area. There is a comprehensive network of Public Rights of Way, cycleways and footways in the vicinity of the scheme connecting the suburbs and wards of Derby as well as connecting with national routes. There are a number of community facilities close to the scheme, notably including Mackworth Park, Markeaton Park, Mill ponds, plus local education and public health facilities. The existing A38 divides local communities, whilst for drivers, regular traffic delays and related journey uncertainties lead to driver stress.

Construction

A number of mitigation measures would be used during the construction phase to minimise impacts upon local people – this includes use of diversions and signs for temporary footpath and cycleway closures; implementation of traffic management plans to minimise traffic disruption; and communication with local residents to highlight potential periods of disruption. However, even with such measures, potentially significant effects would be as follows:

- Likely significant temporary adverse effect on users of Markeaton Park footbridge (which carries the Bonnie Prince Charlie Walk) due to footbridge demolition (until a replacement footbridge is installed);
- Likely significant permanent adverse effect on residential properties at Markeaton junction as a result of demolition and land-take (15 detached properties on Queensway and 2 semi-detached properties on the A52 Ashbourne Road would need to be demolished);
- Local residents would no longer be able to use the Ford Lane access; and
- Construction of the scheme may result in significant adverse effects upon some agricultural land holdings at Little Eaton junction (due to temporary or permanent land-take).

Operation

The scheme includes a number of measures to minimise potential effects upon local people and communities – this includes: the provision of facilities for walkers and cyclists; provision of exchange land to compensate for the loss of public open space at Kingsway and Markeaton junctions (approximately 0.63 hectares); reconfiguration of access arrangements for the McDonald's Restaurant and the Esso petrol station; alterations to the Markeaton Park access; and allowing occasional vehicles from Talbot Turf to use Ford Lane to access the A38 via the A6 Duffield Road. With these mitigation measures in place, the following potentially significant effects have been identified during scheme operation:

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- Likely significant beneficial effects for walkers and cyclists due to new and improved facilities;
 - Likely significant beneficial effects for motorists due to reductions in stress due to reductions in traffic congestion;
 - Potential significant beneficial effects for users of local buses due to improved journey times and journey reliability; and
 - Likely significant beneficial effects on community divisions, as a result of the scheme reducing traffic congestion.

With regard to public open space losses, it is proposed that replacement public open space is provided primarily using part of the area vacated by the buildings demolished on Queensway.

Summary of preliminary assessment

The preliminary people and communities assessment indicates that scheme construction has to the potential to generate a number of potential significant temporary effects due to demolition of the Markeaton Park footbridge, demolition of residential buildings at Queensway and Ashbourne Road, closure of Ford Lane access, plus temporary and permanent land take from agricultural holdings at Little Eaton junction. During scheme operation, potentially significant beneficial effects have been identified for walkers and cyclists, motorists, users of local buses and for communities that are currently divided due to the A38. Refer to Table 1 in Appendix A for a summary of the preliminary assessment.

Preliminary assessment of other topics

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require the assessment of additional technical topics, which are being addressed in the EIA and which will be reported in full in the Environmental Statement.

A human health assessment will consider potential scheme impacts on noise, air quality and people and communities. No significant human health impacts are anticipated.

The vulnerability of the scheme to major accidents or disasters would be mitigated by the design of the scheme. No significant adverse effects are anticipated.

Climate is being addressed by the assessment of likely impacts of greenhouse gas emissions and the resilience of the scheme to cope with extreme weather events associated with climate change. No significant adverse effects are anticipated.

As part of the ongoing EIA work, we are continuing to consider mitigation measures, and where appropriate, any proposed monitoring arrangements.

Cumulative effects

An assessment is being undertaken of potential cumulative effects arising from the following:

- The combined effects from the scheme on single locations or properties from a number of individual environmental impacts, for example noise, dust and visual impacts;
 - The effects of other developments close to the scheme which are proposed, under
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construction or have been consented, which when combined with the effects of the scheme may have an incremental significant effect.

The cumulative effects assessment will be reported in the Environmental Statement.

Consultation

This non-technical summary of the Preliminary Environmental Impact (PEI) Report has been prepared to help those potentially affected or interested in the scheme to understand the environmental setting and currently anticipated impacts of the scheme on the environment.

Table 1 within Appendix A includes a summary of the likely significant environmental effects associated with the scheme as identified within the PEI Report. These considerations can be taken into account in your responses to the consultation – refer to the section below on how to provide your comments. Your feedback from the consultation will inform our continuing development of the scheme design (see section below).

Next steps

Following the consultation period, a Consultation Report will be produced to summarise the views and comments received, and outline how they have been taken into consideration in refining the scheme design. Highways England will include this report as part of the Development Consent Order (DCO) application which is planned for submission in the 2019. The Planning Inspectorate (PINS) will decide whether the application meets the required standards to proceed to examination.

If the application for a DCO is accepted by PINS, interested parties will then be able to make relevant representations to PINS about the scheme and its potential impacts. Following examination, PINS will make a recommendation to the Secretary of State, who will then decide whether to grant a DCO. If the application is approved, work on the scheme is expected to start in 2021, with the scheme being fully open to traffic in 2024.

If you would like any further information on the DCO application process, you can visit the PINS website:

<https://infrastructure.planninginspectorate.gov.uk/>

All consultation material, including a full summary of the scheme, copies of supporting project documents and an online questionnaire will be provided on a dedicated website consultation page. Links to this page will be provided from the existing Highways England project web page:

www.highwaysengland.co.uk/A38-Derby-Junctions

APPENDIX A: Summary sheet and scheme drawings

Contents:

Table 1: Summary of preliminary assessment of likely significant environmental effects

Indicative scheme design – Kingsway junction

Indicative scheme design – Markeaton junction

Indicative scheme design – Little Eaton junction

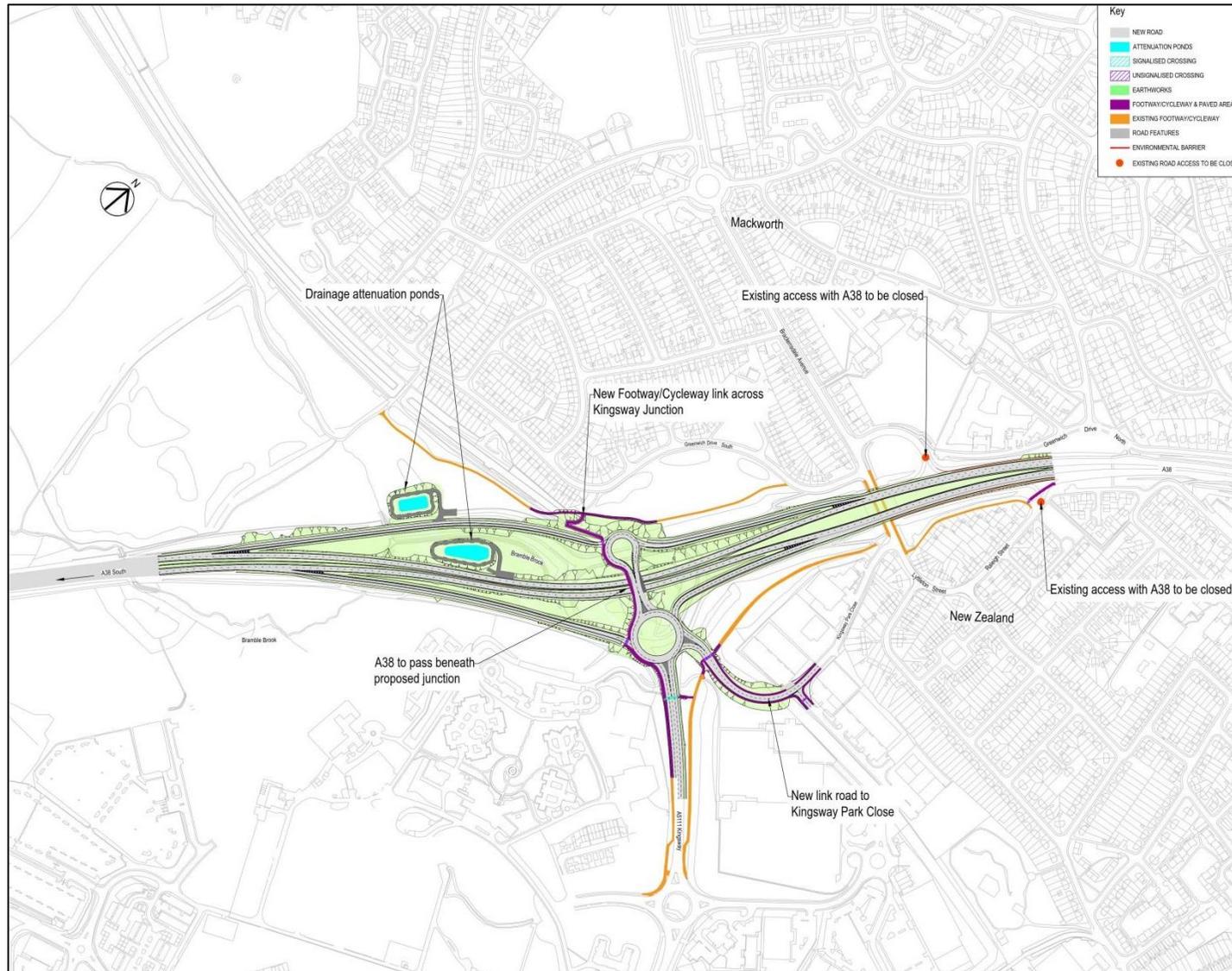
Table 1: Summary of preliminary assessment of likely significant environmental effects*

Topic	Construction stage	Operational stage
Air quality	No likely significant effects anticipated.	No likely significant effects anticipated.
Cultural heritage	No likely significant effects anticipated.	No likely significant effects anticipated.
Landscape and visual impacts	<ul style="list-style-type: none"> Likely temporary adverse visual effects from within Greenwich Drive South public open space at Kingsway junction. Likely temporary adverse visual effects for users of the Derwent Valley Heritage Way at Little Eaton junction. 	<ul style="list-style-type: none"> Likely adverse visual effects from within Greenwich Drive South public open space at Kingsway junction. Likely adverse visual effects from the edge of Breadsall at Little Eaton junction upon scheme opening (effects not likely to be significant in the long term). Likely adverse visual effects for users of the Derwent Valley Heritage Way at Little Eaton junction upon scheme opening (effects not likely to be significant in the long term).
Biodiversity	<ul style="list-style-type: none"> Likely significant adverse effect on the A38 Roundabout Local Wildlife Site and the Alfreton Road Grassland Local Wildlife Site. Short to medium term likely significant adverse effect on habitats, particularly on woodlands, until replacement habitat establishes (thus effects not likely to be significant in the long term). Short to medium term likely significant adverse effect on foraging and commuting bats and birds (particularly on common nesting birds) until habitat establishes (thus effects not likely to be significant in the long term). 	<ul style="list-style-type: none"> Likely significant adverse effect on the A38 Roundabout Local Wildlife Site and the Alfreton Road Grassland Local Wildlife Site. Short to medium term likely significant adverse effect on habitats, particularly on woodlands, until replacement habitat establishes (thus effects not likely to be significant in the long term). Short to medium term likely significant adverse effect on foraging and commuting bats and birds (particularly on common nesting birds) until habitat establishes (thus effects not likely to be significant in the long term).
Noise and vibration	<ul style="list-style-type: none"> Likely risk of significant adverse vibration annoyance effects at receptors closest to construction activities. Likely significant adverse construction noise effects at receptors closest to the works. 	<ul style="list-style-type: none"> Like adverse noise impact on Kingsway Park Close. Likely adverse noise impact on A38 mainline between Kingsway and Markeaton junctions. Likely significant adverse noise effects in the vicinity of Markeaton junction, including upon the Royal School for the Deaf.
Geology and soils	No likely significant effects anticipated.	No likely significant effects anticipated.

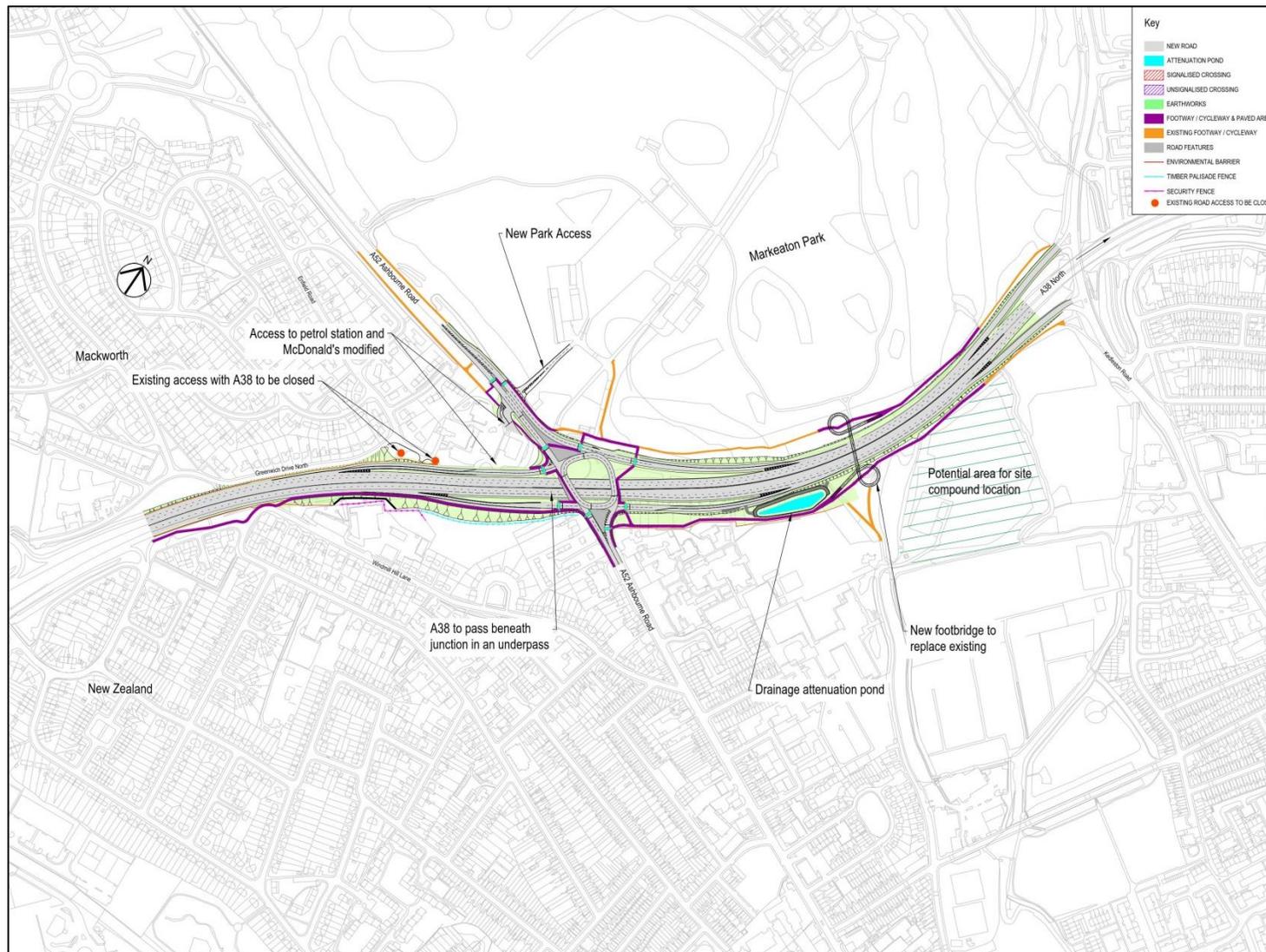
Topic	Construction stage	Operational stage
Road drainage and the water environment	No likely significant effects anticipated.	No likely significant effects anticipated.
Materials	No likely significant effects anticipated.	No likely significant effects anticipated.
People and communities	<ul style="list-style-type: none"> • Likely adverse effect on users of Markeaton Park footbridge (which carries the Bonnie Prince Charlie Walk) until provision of a replacement footbridge. • Likely adverse effect due to demolition of 15 detached properties on Queensway and 2 semi-detached properties on the A52 (Ashbourne Road). • Likely adverse effect due to closure of Ford Lane access. • Likely adverse effects upon some agricultural land holdings at Little Eaton junction due to temporary or permanent land-take. 	<ul style="list-style-type: none"> • Likely beneficial effects for walkers and cyclists due to improved facilities. • Likely beneficial effects for motorists due to reductions in stress due to reductions in traffic congestion. • Likely beneficial effect for users of local buses due to improved journey times and journey reliability. • Likely beneficial effects on community divisions, as a result of the scheme reducing traffic congestion.
Major accidents and disasters	No likely significant effects anticipated.	No likely significant effects anticipated.
Climate	No likely significant effects anticipated.	No likely significant effects anticipated.
Human health	No likely significant effects anticipated.	No likely significant effects anticipated.

*Note - after inclusion of proposed mitigation measures

Indicative scheme design – Kingsway junction



Indicative scheme design – Markeaton junction



Indicative scheme design – Little Eaton junction

