

ENVIRONMENTAL STATEMENT SCOPING REPORT

‘NORTHAMPTON GATEWAY’

STRATEGIC RAIL FREIGHT INTERCHANGE

On behalf of

Roxhill (Junction 15) Ltd

October 2016



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Including issues proposed to be 'scoped out' of the Assessment

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1. *Provisional Order Limits Plan*
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1.0 Introduction

1.1 Introduction

- 1.1.1 This is a request to the Planning Inspectorate for an EIA Scoping Opinion.
- 1.1.2 Roxhill (Junction 15) Ltd. is to apply for a Development Consent Order for a Strategic Rail Freight Interchange together with associated development works on land in the vicinity of J15 of the M1.
- 1.1.3 Plans are attached to this report which show the proposed site boundary and broad approach to the development of the site. A shapefile has already been sent to the Planning Inspectorate.

1.2 The Requirements for Environmental Assessment

- 1.2.1 Applications for certain types of development need to be accompanied by an Environmental Statement in order to comply with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (“2009 Regulations”)¹. An Environmental Statement (ES) is to be prepared as part of the application for development of this site. The ES will contain the findings of the Environmental Impact Assessment (EIA) and will be prepared in accordance with the requirements of the 2009 Regulations.
- 1.2.2 The objective is to identify the likely significant environmental effects arising from the proposed development.
- 1.2.3 The ES will include information as set out in the Schedule 4 of the 2009 Regulations.

1.3 Scoping Opinion

- 1.3.1 The purpose of this request is to seek a “scoping opinion” from the Planning Inspectorate pursuant to Regulation 8 of the 2009 Regulations. This is the formal opinion of the Planning Inspectorate on the information to be supplied in the ES and enables the applicant to be clear about what the Planning Inspectorate and other appropriate consultees consider the significant effects of the development are likely to be and therefore the topics the ES should include.
- 1.3.2 It is required by Regulation 8 (3) that this request for a Scoping Opinion includes:
 - “(a) a plan sufficient to identify the land;
 - (b) a brief description of the nature and purpose of the development and of its possible effects on the environment; and

¹ As amended by the Infrastructure Planning (EIA) (amendment) Regulations 2012 and the consequential amendment regulations 2012. All references to the 2009 Regulations are references to those regulations as amended

(c) *such other information or representations as the person making the request may wish to provide or make”.*

2.0 Project Description

2.1 Site Address

- 2.1.1 The proposed development site is identified on the Provisional Order Limits Plan. It consists of land on both eastern and western sides of the M1 Junction 15 in Northamptonshire, to the south of the town of Northampton. The proposed built development is on land to the south-west of the motorway, contained to the west by the Northampton Loop railway, and to the east by the A508 road.
- 2.1.2 As shown on the Provisional Order Limits Plan, the site also consists of the land necessary to accommodate the proposed infrastructure works including land extending around the western side of Roade to accommodate a new road, as well as land required to deliver improvements to the A508, the M1 junction 15, and the A45.
- 2.1.3 Throughout this Scoping Report reference will be made to the following terms to describe the various land parcels included within the proposed development which are intended to have the following meanings:
- *'Main site'* refers to the site of the RFI – warehousing, and rail freight terminal, and associated landscaping and infrastructure;
 - *'Roade bypass corridor'* refers to land required close to the village of Roade to deliver a proposed new bypass (highways proposal);
 - *'Proposed Development'* refers to the development proposals in full, including the components described above on the 'main site' and 'Roade bypass corridor', including highways works to the north-east of the M1.

2.2 Description of Development

- 2.2.1 The application is for the development of a Strategic Rail Freight Interchange (SRFI) together with landscaping, access and other supporting infrastructure works. It consists of:
- An intermodal freight terminal including container storage and HGV parking, with new rail sidings within the site to serve individual warehouses;
 - Capability to provide a 'rapid rail freight' facility as part of the intermodal freight terminal;
 - Up to 468,000 sq m (approximately 5 million sq ft) (gross internal area) of warehousing and ancillary buildings, with up to 155,000 sq m of additional floorspace provided in the form of mezzanine floorspace;
 - new road infrastructure and works to the existing road network, including provision of a new access and associated works to the A508, a new bypass to the village of Roade, and substantial improvements to Junction 15 of the M1;
 - Strategic landscaping and tree planting, including diverted public rights of way;
 - Earthworks and demolition of existing structures on-site.

2.3 Nationally Significant Infrastructure Projects

- 2.3.1 Whether or not development is a “Nationally Significant Infrastructure Project” (NSIP) depends upon whether or not development comes within the description of NSIPS set out in Sections 14 to 34 of the Planning Act 2008 (“2008 Act”).
- 2.3.2 It is apparent that the proposed development complies with the criteria for a Rail Freight Interchange under Section 26 of the Act and therefore a DCO will be required for that development.
- 2.3.3 The elements of the proposed development which are not an integral part of the RFI are all considered to be ‘*associated development*’.

3.0 Environmental Issues and Scope of Assessment

3.1 Scope of Assessment

3.1.1 The proposed scope of the EIA is informed directly by a scoping exercise and EIA undertaken in relation to a previous development proposal on land within the current application site. The earlier proposals formed the basis of a major planning application for distribution and warehousing development submitted in late 2014 by Roxhill Developments Ltd (reference S/2014/2468/EIA). At that time, a scoping opinion was received from South Northamptonshire District Council. The core of the consultant team engaged in that earlier planning application is now engaged in this NSIP application, and so the proposed scope of the EIA also reflects their earlier experience of the site and surrounding area. Where helpful and relevant to do so the following sections make cross-reference to the '2014' assessments.

3.1.2 The following topic areas are proposed to be covered in the ES:

- Socio-economic aspects
- Landscape and visual effects
- Ecology and nature conservation
- Geology, soil and groundwater
- Water resources and drainage
- Noise
- Air quality
- Cultural heritage
- Lighting
- Transportation
- Agricultural land quality
- Cumulative Impact

3.1.3 An indication of possible environmental effects and methodologies for each of the respective environmental issues is outlined below. A section entitled *Development Proposals (or Description of Development)* will provide a comprehensive description of the development and describe all component parts of the proposal.

3.1.4 Planning policy issues will be addressed in a separate Planning Statement, which will assess the suitability of the proposals having regard to relevant policies, the conclusions of the ES and other material considerations.

Socio-economic aspects

- 3.1.5 The socio-economic effects ES chapter will describe the current context for the application, with a focus on the existing labour market. It will make comparisons with the likely employment requirements of the SRFI as it progresses to the stage when the entire scheme is in operation. Where this has potential implications for resourcing staff or particular skills, mitigation measures that could be implemented alongside the proposed development will be explored. The net additional employment likely to be generated will be estimated and the potential contribution to the economy that would be derived from the SRFI will be predicted.
- 3.1.6 It is proposed to structure the assessment chapter as follows:
- Policy context: an overview of national planning policy and policy statements, South Northampton Council Economic Development Strategy (2016 awaited), economic development plans of the relevant Local Enterprise Partnership;
 - Method of assessment: an overview of the approach adopted;
 - Baseline conditions: an assessment of the prevailing socio-economic and labour market conditions in the Study Area in terms of: demographic profile, economic activity, qualification and skills, unemployment, health, deprivation, commuting, occupational structure and housing;
 - Potential effects: a statement of likely impacts in relation to the proposed development arising during both construction and operation including employment impacts and economic activity;
 - Mitigation/enhancement measures;
 - Residual effects: an outline of the residual effects of the proposed development, including following any additional measures proposed to maximise benefits, or minimise any potential adverse impacts have been implemented;
 - Summary: an overall assessment of the socio-economic effects of the development.

Proposed methodology

Spatial scope of the assessment

- 3.1.7 It is proposed to define the study area for this assessment using the 2011 Census Travel to Work data combined with information prepared to inform the transport assessment such as drive times and commuting patterns. This is consistent with the approach taken to the assessment undertaken in 2014.
- 3.1.8 The study area will identify the local authority areas within which the Area Of Influence (AOI) is set, and represent the principal area within which the majority of potential employees are likely to be resident. It is envisaged that the study area will cover the local authority areas of South Northamptonshire Council, Northampton Borough Council, Daventry District Council, the Borough Council of Wellingborough, Kettering Borough Council, and Milton Keynes Council.

Baseline information

- 3.1.9 The assessment will refer to published Government and local authority statistics, data from existing rail-based distribution developments elsewhere and economic strategy documents relating to the area. Baseline information on the conditions of the area will be collated from a variety of sources that will be referenced in the text, including: National Census (2011) and other ONS-produced information such as official labour market statistics at a Local Authority level (via NOMIS). This will be used to describe the population within the study area, their qualifications and skills; employment activity; occupations, in particular those associated with distribution and warehousing; with an indication of unemployment and particular issues arising as a result of deprivation.
- 3.1.10 The 2014 Assessment showed that while the immediate area closest to the site is fairly rural and largely affluent and well educated with high levels of economic activity, the wider study area includes a number of large urban areas and an associated variation in socio-economic profiles and characteristics. There are high-levels of out-commuting from rural South Northamptonshire, with key flows of workers across the study area being into Northampton, and into Milton Keynes.

Potential effects

- 3.1.11 The potential impacts, and the significance of the effect on socio-economic receptors, will be characterised in the absence of any additional mitigation or design measures for the construction and operational phases of the Proposed Development.
- 3.1.12 Construction employment will be predicted using an estimated total capital expenditure (construction cost) for the built development and associated infrastructure. Information within the Homes and Communities Agency publication Calculating Cost per Job, Best Practice Note (3rd Edition) will be used to appraise the potential number of 'worker years' that would be required to deliver the scheme. This will be used to indicate the approximate number of jobs that would be supported over the construction programme.
- 3.1.13 Economic effects will be assessed primarily in terms of a change in the number of people in employment, as this is considered to be a good indicator to represent the strength of the economy.
- 3.1.14 An indication of the number of jobs that could be accommodated by the proposal will be calculated by using standard employment densities published in the Homes and Communities Agency's Employment Density Guide 2015. Within this number, the 'type' of jobs will be predicted using the 2015 Prologis Technical Note Distribution Warehouses Deliver More Jobs.

Indirect economic effects

- 3.1.15 In addition, indirect economic effects can be estimated for the connections with other businesses that occur with the purchase of goods and services – the secondary effects. Such changes in expenditure patterns can result in changes in the income of businesses and their employment requirements.

- 3.1.16 Additionality is a process of assessing the effect of projects that has been developed by English Partnerships (EP). EP's Additionality Guide 2008 (3rd Edition) sets out a methodology for assessing a variety of potential impacts through a common framework. This compares the impact of the project to the baseline to ascertain the net additional effect that can be attributed to the project having taken into account:
- 3.1.17 Leakage: the proportion of outputs that benefit those outside of the projects target area. For example, the number of jobs that are filled by people outside the Study Area.
- 3.1.18 Displacement: the proportion of the projects outputs/outcomes accounted for by reduced outputs/outcomes elsewhere in the target area. For example, the amount of a new business' income is likely to be generated from competition with similar businesses in the Study Area.
- 3.1.19 Economic Multiplier Effects: further economic activity (jobs, expenditure, income) associated with additional local income and local supplier purchases.

Gross Value Added

- 3.1.20 Gross Value Added (GVA) is a measure of the contribution to the economy of a business or industry. It is used as a headline indicator to monitor economic performance at regional and national level (i.e., GVA per head of population). It can also be estimated at the project level to provide an indication of the workplace income (wages and profits) generated in the process of producing goods and services. The workplace GVA input to the economy will be estimated by applying the annual GVA per FTE employee (Regional GVA NUTS1 Transport and Storage sector in the East Midlands).

Housing availability and commuting patterns

- 3.1.21 The assessment will appraise the potential labour resource to consider the proportion of positions that could be taken by people that are already resident within the Study Area, either people changing jobs or unemployed workers. Taking into account the potential future increase in housing supply, the impact on housing demand within commuting distance of the scheme will be examined. This will be used alongside information in the transport assessment to indicate any potential significant shift in commuting patterns.

Defining significance

- 3.1.22 Quantitative assessment will be used where this is possible, such as the number of jobs likely to be created by the application proposals. However, due to the complexity of socio-economic issues and the numerous interactions that can occur it is not possible to predict the precise nature or scale of all types of impact. Qualitative assessment will therefore be used where necessary. It is proposed to apply the criteria defined below in the assessment.
- 3.1.23 The magnitude of impacts can be assessed as 'major', 'moderate', 'minor' and 'negligible', and based upon this qualitative judgement, the assessment of the effect is defined as a combination of the scale of the receptor and the magnitude of the impact.
- 3.1.24 Effects assessed as moderate or greater will be regarded as 'significant' for the purpose of the EIA.

Scale of receptor	
Level	Example
Study Area	Effects at the scale of 6 Local Authorities (based on proposed scale of Study Area as indicated in 3.1.6 above)
District	Effects principally in the Northampton and South Northamptonshire area
Local	Effects principally at the local ward scale

		Assessment of effect			
		Magnitude of impact			
		Major	Moderate	Minor	Negligible
Receptor scale	Study Area	Major	Moderate/ major	Moderate	Negligible
	District	Moderate/ major	Moderate	Moderate/ minor	Negligible
	Local	Moderate	Moderate/ minor	Minor	Negligible

Landscape and visual effects

3.1.25 A landscape and visual impact assessment of the proposed scheme will be undertaken following the “Guidelines for Landscape & Visual Impact Assessment” (GLVIA) published by the Landscape Institute and the Institute of Environmental Management and Assessment 2013 (3rd Edition).

3.1.26 This document does not provide a prescriptive methodology to assessment but identifies the general principles and good practice approaches. The assessment will enable the likely significant landscape and visual effects to be determined and a landscape design and mitigation strategy to be put forward as part of the overall development proposals .

Baseline Conditions

Landscape Context and Character

3.1.27 The main site is located within the ‘Northamptonshire Vales’ National Character Area (NCA) (No.89), as defined by Natural England. The Northamptonshire Current Landscape Character

Assessment (CLCA) provides a relatively more detailed and county wide scale of assessment. Within this assessment study, the central and southern part of the site lies within Landscape Character Area 6a: “The Tove Catchment” which in turn is part of the “Undulating Claylands” landscape typology as defined by the Northamptonshire CLCA. The proposed Road bypass corridor is also located within this landscape character area and typology. The northern part of the main site includes part of Landscape Character Area 13b: “Bugbrooke and Daventry” which in turn is part of the “Undulating Hills and Valleys” typology.

- 3.1.28 At a more localised scale the site occupies a landscape context that is dominated by a combination of agricultural land, large scale transport infrastructure (M1 motorway, junction 15, A508 and rail corridors) settlement and a rolling landform. The presence of woodland and the undulating nature of the topography provide some visual interruption and screening of this landscape. A registered landscape park at Courteenhall lies to the south of the A508 and M1 Junction 15 and to the south east of the site. The park includes a significant number of predominantly broadleaved woodlands, although some have a mixed composition. This parkland area is well enclosed by the framework of existing woodland and there are relatively few views in and out of this landscape to the north or in the direction of the site.

Site Landscape

- 3.1.29 The main site landscape comprises predominantly arable farmland, with a number of fields largely bounded by hedgerows and hedgerow trees. It also includes some woodland areas and tree belts, with two woodland areas in the south western portion of the site (known as Highgate and Churchill’s) and mature tree belts to the boundary with the M1 motorway.
- 3.1.30 It occupies a relatively lower lying position with broader ridges of higher ground to the south and north. A localised and gentle ridge stretches broadly north south through the western part of the site. The majority of the site gently falls towards the east with the land closest to the western side of the site falling towards the west. The site includes no dramatic landform variations and generally varies from around 102 metres Above Ordnance Datum (AOD) in the central part of the gentle ridge in the west to below 85 metres AOD close to the A508 and Junction 15 of the M1 motorway. Beyond the site to the south and west the land rises to over 125 metres AOD.
- 3.1.31 The main site includes a cluster of derelict farm buildings and Rectory Farm located on the relatively higher ground in the western part of the site, which is currently used as a shooting school. Two communication masts and low voltage overhead electricity lines also exist within or on the edge of the site.
- 3.1.32 Two Public Rights of Way (PROW) (Refs. KX13 and KX17) traverse the site and provide links between Collingtree and the eastern side of the M1 motorway with the wider countryside to the south east and south west.
- 3.1.33 The Road bypass corridor comprises arable fields and grassland, with boundary hedgerows and trees.

Landscape and Other Relevant Designations

3.1.34 The assessment will consider the effects of the development on locally and nationally designated landscapes and the settings to sites with particular cultural, historic or recreational interest. These are set out in further detail in the context of the Cultural Heritage chapter, but include:

- Historic Gardens and Designed Landscapes, specifically Courteenhall House and associated landscape parkland;
- Listed Buildings and nearby Conservation Areas.

Methodology and Scope

Assessment of Landscape Effects

3.1.35 GLVIA3 states that “An assessment of landscape effects deals with the effects of change and development on landscape as a resource”. The baseline landscape is described by reference to existing landscape character assessments and by a description of the site and its context.

3.1.36 A range of landscape effects can arise through development. These can include:

- Change or loss of elements, features, aesthetic or perceptual aspects that contribute to the character and distinctiveness of the landscape
- Addition of new elements that influence character and distinctiveness of the landscape
- Combined effects of these changes

3.1.37 The characteristics of the existing landscape resource are considered in respect of the susceptibility of the landscape resource to the change arising from this development. The value of the existing landscape is also considered.

3.1.38 Each effect on landscape receptors is assessed in terms of size or scale, geographical extent of the area influenced and its duration and reversibility. In terms of size or scale, the judgement takes account of the extent of the existing landscape elements that will be lost or changed, and the degree to which the aesthetic or perceptual aspects or key characteristics of the landscape will be altered by removal or addition of new elements.

3.1.39 The overall landscape effect is determined by considering the sensitivity of the landscape receptors and the magnitude of effect on the landscape. Final conclusions on the overall landscape effects are drawn from the assessment components described.

Assessment of Visual Effects

3.1.40 An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity.

Mapping visibility

3.1.41 The first stage in the assessment is to map approximate visibility. This will be done by a computer Zone of Theoretical Visibility (ZTV), or by manual methods, using map study and field evaluation. A computer modelled ZTV may also be refined by field evaluation to take account of features (eg buildings and woodlands) that may not be included as part of the computer model and may be termed a 'Visual Envelope' plan.

Photo viewpoints and photomontages

3.1.42 A series of viewpoints will be included within the assessment which are representative of views towards the Proposed Development from surrounding visual receptors. Other views may be included where they support the description and understanding of the site's landscape and visual characteristics. The views will also typically represent what can be seen from a variety of distances from the development and different viewing experiences.

3.1.43 In addition to the viewpoints, a number of photomontages will be prepared from locations agreed with relevant consultees. The photomontages will simulate the likely visual changes that will result from the proposed development. They will be prepared in accordance with The Landscape Institute Advice Note 01/11 'Photography and photomontage in landscape and visual impact assessment'.

Visual receptors

3.1.44 Visual receptors were identified for the 2014 Assessment however, given the larger scale of the Proposed Development they will be identified afresh. It is important to remember that visual receptors are all people. For each affected viewpoint the assessment will consider both susceptibility to change in views and the value attached to views. The visual receptors most susceptible to change are generally likely to include:

- residents at home
- people engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focused on the landscape or particular views;
- visitors to heritage assets or other attractions, where views of surroundings are an important contributor to the experience;
- communities where views contribute to the landscape setting enjoyed by residents in the area.

3.1.45 Travellers on road, rail or other transport routes tend to fall into an intermediate category of susceptibility to change. Where travel involves recognised scenic routes awareness of views is likely to be particularly high.

3.1.46 Visual receptors likely to be less sensitive to change include:

- People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape;
- People at their place of work whose attention may be focused on their work or activity, not on their surroundings.

3.1.47 Each of the visual effects will be evaluated in terms of its size or scale, the geographical extent of the area influenced and its duration or reversibility.

3.1.48 In terms of size or scale, the magnitude of visual effects takes account of:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including proportion of the view occupied by the proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line height, colour and texture;
- The nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses.

3.1.49 The geographical extent of the visual effect in each viewpoint is likely to reflect:

- The angle of view in relation to the main activity of the receptor
- The distance of the viewpoint from the proposed development
- The extent of the area over which the changes would be visible.

3.1.50 As with landscape effects, the duration of the effect could be short to long term or permanent and the same definitions apply.

Overall Landscape and Visual Effects

3.1.51 The final conclusions on effects, whether adverse or beneficial, will be drawn from the separate judgements on the sensitivity of the receptors and the magnitude of the effects. This overall judgement involves a reasoned professional overview of the individual judgements against the criteria, to then make the overall judgement.

3.1.52 For this assessment, the following descriptive thresholds have been used with regard to effects:-

- Major: An effect that will fundamentally change and be in direct contrast to the existing landscape or views;
- Moderate: An effect that will markedly change the existing landscape or views but may retain or incorporate some characteristics/ features currently present;
- Minor: An effect that will entail limited or localised change to the existing landscape/ views or will entail more noticeable localised change but including both adverse and beneficial effects and is likely to retain or incorporate some characteristics/ features currently present;

- Negligible: An effect that will be discernible yet of very limited change to the existing landscape or views.
- 3.1.53 Finally, a judgement will be reached based on the assessment as to whether an effect is significant or not. There is not always a direct correlation however between the level of effect described in the assessment, and whether the effect is significant or not. As an example, the change to a private view as a result of the development may be “*major*”, but as a change in view to a private residence this effect may not be deemed to be “*significant*” to the environmental impact assessment.

Consultation

- 3.1.54 It is anticipated that the following bodies (relevant landscape and/ or countryside officers) will be specifically consulted as part of the assessment and design process (in addition to the non-statutory and statutory wider consultation):

South Northamptonshire District Council

Northampton Borough Council

Northamptonshire County Council

Natural England

Plus, any other relevant bodies identified by the scoping process.

Ecology and nature conservation

- 3.1.55 This chapter will consider the effects that could occur on ecology and nature conservation as a result of the proposed development.

Baseline Conditions

- 3.1.56 An unnamed potential Local Wildlife Site (pLWS) [corresponding to ‘Highgate’ (grid reference SP 746 540)] falls within the main site boundary and The Junction 15 Grassland pLWS overlaps the eastern boundary. There are no other designated statutory or non-statutory nature conservation sites within the boundaries of the proposed development site.
- 3.1.57 The Upper Nene Valley Gravel Pits Special Protection Area (SPA) / Ramsar / Site of Special scientific Interest (SSSI) is located approximately 5.5km north-east of the application site. This is a site of international importance that is designated for the populations of wintering and breeding avifauna it supports. Survey in 2013/2014 confirmed that the site forms supporting habitat for the over-wintering population of golden plover that represent a qualifying feature of the SPA.
- 3.1.58 Extended Phase-1 habitat survey has confirmed that the site of the proposed rail freight terminal is dominated by arable fields of low ecological value. There is a network of native hedgerows within and around the site boundary and a number of scattered, mature trees.

There are also two woodland blocks, a small area of grassland, ponds and a number of buildings within the site boundary. A brook bisects the southern end of the site.

- 3.1.59 Faunal activity was recorded during the previous (2014) survey work with specific attention paid to any potential use of the site by protected species, species listed under the Section 41 of the NERC Act as Species of Principle Importance for the purpose of conserving biodiversity, Northamptonshire Biodiversity Action Plan (BAP) species or other notable species.
- 3.1.60 Nocturnal surveys in 2014 have confirmed the presence of separate bat roosts within the on-site buildings. Monthly activity surveys (transects & static monitoring) over 2014 also confirmed that bat foraging and commuting activity is predominantly associated with the hedgerows, trees and woodland edge. Repeat bat roost and activity surveys are being carried out from June 2016 in order to confirm that there are no alterations in bat activity.
- 3.1.61 A number of badger *Meles meles* setts are present and bait-marking in 2014 established the overall extent of the foraging habitat. Repeat badger field surveys will be completed to confirm that the status of setts has not altered.
- 3.1.62 Breeding and over-wintering bird surveys carried out in 2014 confirmed that the site is used by a typical assemblage of farmland bird species. A single building within the site is used as an occasional roost by barn owl *Tyto alba*. As detailed above, winter bird surveys also identified that flocks of golden plover *Pluvialis apricaria* make regular use of a single field compartment within the site. Repeat surveys have been carried out from June 2016 to ensure that there are no significant alterations in breeding bird activity.
- 3.1.63 Great crested newt *Triturus cristatus* (GCN) surveys in 2014 and 2016 have confirmed the presence of this species from within only a single on-site pond.
- 3.1.64 Reptile survey has indicated that the central area of grassland is used by a low population of common lizard *Zootoca vivipara*.
- 3.1.65 Survey of the brook will also be carried out in 2016 to establish the likely presence of otter *Lutra lutra*, water vole *Arvicola amphibious* and white-clawed crayfish *Austropotamobius pallipes*.
- 3.1.66 A scoping survey, including the sampling of representative habitats, will also be carried for the purpose of assessing the importance of the sites habitats for invertebrates.
- 3.1.67 Roade Cutting Site of Special Scientific Interest (SSSI), which has been designated for its geological interest, is located within the Roade bypass corridor.
- 3.1.68 There are no other statutory or non-statutory sites of nature conservation interest along the Roade bypass corridor.
- 3.1.69 Walk-over surveys have confirmed that the bypass corridor comprises arable fields and grassland, with boundary hedgerows and trees. There is also a watercourse and some isolated areas of scrub and grassland/scrub mosaic. A number of ponds are located in close proximity to the proposed route. The nature of habitats will be confirmed with an Extended Phase-1 habitat survey, followed by Phase-2 botanical survey where necessary.
- 3.1.70 Surveys completed over November 2015 – February 2015 have confirmed that the bypass corridor is used by a typical assemblage of over-wintering bird, with no significant flocks recorded. Similarly survey of breeding birds over the period April – June 2015 has confirmed

that the corridor is used by an assemblage of farmland birds that are typical of the habitats present.

3.1.71 The following dedicated faunal surveys are also being completed:

- Badger survey of the route and surrounding area
- Bat activity surveys comprising walked transects and static monitoring
- Survey of any affected trees to establish the likely presence of roosting bats
- eDNA survey of ponds to establish the presence or absence of GCNs
- Reptile surveys of suitable habitat
- Water vole and otter survey of watercourses
- Assessment of habitats suitability for invertebrates

Assessment Methodology

3.1.72 The assessment will follow the methodology provided in the Guidance for Ecological Impact Assessment in the UK and Ireland – Terrestrial, Freshwater & Coastal (2nd Edition) (CIEEM 2016). Existing data held by local biological recorders, including Northamptonshire Biodiversity Records Centre, will be examined. The results of the Phase 1 habitat, species surveys and ecological assessment will further inform the master planning and mitigation strategy.

3.1.73 The overarching philosophy of the adopted approach in these publications and the intended ecological assessment of the proposal is (i) to avoid significant reductions in biodiversity; and (ii) to enhance biodiversity where practicable.

Likely Effects

3.1.74 Without mitigation, development could result in the loss of habitats and / or direct / indirect disturbance to species supported by habitats on- and off-site. Possible beneficial effects include those arising from landscaping, hedgerow management, green spaces and tree planting, which would be considered an improvement on the current situation

Sensitive Receptors

3.1.75 Based upon the existing baseline for the main site and Roade bypass corridor the sensitive ecological receptors are considered to be within 2km of the site, and are:

- Woodland habitat, including the pLWSs
- Native hedgerows
- Mature trees
- Running water habitats
- Badgers
- Bat roosts
- Bat foraging & commuting habitat
- Farmland bird habitat, including occasional barn owl roost

- Golden plover over-wintering habitat
- GCN breeding & terrestrial habitat
- Habitat for reptiles, including common lizard

3.1.76 All receptors potentially affected by the proposed development would be assessed in terms of the resultant impacts and the significance of these effects stated.

3.1.77 As referred to above, the main site is understood to have a relationship with the Upper Nene Valley Gravel Pits SPA and is within 10km of that site. A Habitats Regulation Assessment (HRA) will be undertaken as part of the wider ecological assessment, and will consider the potential for cumulative effects on the SPA in combination with other developments within 10km of the SPA.

Likely Mitigation

3.1.78 A range of 'best practice' measures would be employed during the construction process to protect the sites ecological features. The full detail of these would be set out in appropriate licences from Natural England, including European Protected Species licences, with regard to bats and GCN, and construction method statements.

3.1.79 Discussions were held in the context of the 2014 planning application with Natural England about positive local mitigation of the potential effects upon golden plover and this will again feature as part of the ES process.

3.1.80 There is potential for the proposals to provide ecological enhancements by ensuring that the design considers carefully the provision of green space and the appropriate landscaping of such areas, particularly along the boundary of the hedgerow corridors. This will enable the site to benefit local fauna, such as GCNs and bats, and ensure that the enhanced habitats form a functional part of local and regional ecological networks.

Geology, soil and groundwater

3.1.81 This chapter will consider the likely significant environmental impact of the proposed development on the geology, soils and groundwater beneath the site and the local area. The environmental impact assessment will be undertaken in accordance with the requirements as set out within the National Policy Statement, and with reference to relevant Local Development Plan and mineral safeguarding policies.

3.1.82 The assessment builds on the assessment undertaken in 2014 which covered the vast majority of the main site, and which identified the site was suitable for development, and would have negligible or neutral impacts overall with regard to geology, soils and groundwater.

3.1.83 The existing assessment and technical information will be used again alongside data and information from various sources listed below where available to allow assessment of the proposed project on the site and surrounding area. These sources are expected to include but not be limited to:

- Environment Agency
- Local Authority

- Highways Agency
- Landowners
- British Geological Survey
- Defra

3.1.84 Information pertaining to relevant local and national policy strategies will be reviewed to confirm the expected effects of the proposed development on the geology, soils and groundwater.

3.1.85 Existing available investigations and evidence has already been fed into the early masterplanning work of the main site, and further work will be undertaken using background geology and historical mapping and ground investigation data of the area together with a further walkover assessment. The information obtained will be used to update and inform the ongoing planning of the development, and help to confirm the overall baseline conditions across the Proposed Development. From this more comprehensive ground modelling data it will then be possible to predict the potential impacts and receptors resulting from the construction and operational phases of the proposed scheme. Positive and negative impacts will then be identified and options may then be outlined for mitigating any potential negative impacts from the scheme construction and operation allowing the final impact to be confirmed. Cumulative impacts of the proposed scheme in relation to other known proposed schemes will also be addressed where necessary.

Baseline Conditions

Desk Study

3.1.86 The current baseline conditions will be confirmed by means of undertaking geoenvironmental desk studies for both the main development site and for the proposed Roade bypass corridor.

3.1.87 The studies will be broadly undertaken and reported in general accordance with:

- BS 10175:2011 “Investigation of potentially contaminated sites - Code of practice”;
- relevant parts of BS 5930:1999 “Code of practice for site investigations (+A2:2010)” which is now partly superseded and;
- the Environment Agency “CLR 11 Model Procedures for the Management of Land Contamination” (Conceptual Site Model and Preliminary Risk Assessment).

3.1.88 The assessments and study undertaken will include development of a basic ground model which takes account of past and current land uses, geology, hydrogeology, topography and geomorphology and will aim to confirm the sensitivity of the site and surrounding area and confirm existing hazards risks and constraints that might affect the proposed development of the site.

3.1.89 The results of the desk based assessments will be presented within geoenvironmental desk study reports (Preliminary Risk Assessment Report (**PRA**)).

Receptors

- 3.1.90 The anticipated Ground Model will allow confirmation of all existing environmental receptors.
- 3.1.91 It will also seek to identify all potential construction phase and post development phase environmental receptors.
- 3.1.92 Receptors that will be considered are:
- Human end users (including construction workers, future users of the site, and residents);
 - Controlled waters;
 - Property, buildings and structures;
 - Neighbours and public;
 - Ecology.

Potential Environmental Effects

- 3.1.93 The Baseline Ground Model together with the understanding of the works necessary to construct the proposed scheme and proposed scheme end use will be used to identify and confirm the likely significant environmental impacts that would be reasonably anticipated to occur during the construction and operational phases of the scheme.
- 3.1.94 A qualitative risk assessment will be undertaken using a defined risk matrix system to confirm the magnitude of the assessed impacts to identified potential receptors.
- 3.1.95 Where necessary mitigation measures will be identified and their final impacts assessed in the same manner. It is expected that construction effects will be mitigated by means of the development through a range of potential measures and operational practices. The expectation is that this would be framed within a Construction Environmental Management Plan (CEMP) which would provide a context and framework for a number of issues relating to the potential interactions or impacts of construction and environmental features or receptors. The following issues could feature within the framework provided by the CEMP :
- Construction sequencing and programme;
 - Air, noise, dust, light, and odour issues;
 - Site Waste Management (from any demolition and from construction);
 - Materials management relating to soils reuse and earthworks;
 - A Construction Code of Practice (CCoP) - considerate construction planning and operations.

Proposed Assessment Methodology

- 3.1.96 The methodology for assessing impacts will follow standard procedures and is expected to involve the following tasks:

- Review of local, regional & national planning strategies and development plan policies (including, but not limited to, land contamination, Aquifer Protection, Mineral Resources).
- Review of published documents, current standards, and current best practice guidance.
- The PRA will involve obtaining information from and liaison with all relevant statutory bodies including:
 - the Local Authority (Contaminated Land);
 - the Environment Agency (Aquifer Protection);
 - Defra (Animal Burials);
 - the BGS (Geological Information);
 - the Highways Agency (Geo-environmental Investigations);
 - along with any other bodies identified.
- The site reconnaissance will be conducted to confirm desk based information and identify and confirm the current state and use of the site.
- Available past Ground Investigation information and historic boreholes will provide site specific factual data upon geology, soils and groundwater and where available and relevant will also be used to support the development of the baseline ground model and assessment of baseline conditions.
- Where gaps in information are identified, and it is considered necessary and possible within existing constraints, further investigative works may be recommended. The information from the additional investigations will then be used to supplement and update reports and confirm the ground model. However at this time it is not thought necessary to undertake any further ground investigations.
- Consultations with the Environment Agency groundwater protection team and Local Authority contaminated land and mineral safeguarding officers and other relevant stakeholders will be undertaken throughout the process.
- It is proposed that the assessment of impacts will be undertaken using Qualitative Risk Assessment Matrices developed from the baseline condition ground model and updated to reflect the impact during both construction and operational phases.
- Where necessary suitable mitigation options will be detailed and their residual impact measured in the same manner using updated and extended qualitative risk assessment matrices to demonstrate the impact, mitigation effects.
- Cumulative impacts will also be considered where other schemes are planned that might affect the same receptors.

Water resources and drainage

- 3.1.97 The assessment within the Environmental Statement will enable the potential flood risk, drainage and hydrology impacts to be clearly determined and comprehensive mitigation measures to be put forward as part of the planning application. The chapter will be supported by a Level 3 Flood Risk Assessment (FRA) and a Sustainable Drainage Statement (SDS) which will be appended as a technical appendix.
- 3.1.98 This chapter will assess the likely significant effects of the proposed development on the surface water and foul water resources at the site. It will focus in particular on:
- The likely significant environmental impacts and potential mitigation required;
 - The potential for flood risk at the site and the impact on the wider catchment;
 - The potential for proposed highway infrastructure to impede flood flows and flood storage.
 - The effects of the proposed surface water management on the site drainage in terms of surface water runoff, volumes and flows;
 - Water quality impacts for both surface and ground water receptors;
 - Drainage characteristics;
 - Impacts providing foul sewerage to the development;
 - The capacity, connections and consents required to use the local drainage and sewerage works;
 - An assessment of flow rates and water attenuation, including consideration of methods of sustainable drainage.
- 3.1.99 The scoping study has been informed by the following data sets:
- Environment Agency flood mapping
 - West Northants (Daventry and South Northants) Level 2 Strategic Flood Risk Assessment (June 2009)
 - Northamptonshire County Council Local Flood Risk Management Strategy (October 2013)
 - Northamptonshire County Council Surface Water Guidance for Developers (March 2016)

Baseline Information

- 3.1.100 The proposed development is located wholly within Flood Zone 1 (Low Probability). The main site is within the river basin catchment of the River Nene, which flows through Northampton, whereas the proposed highway bypass to the village of Roade is located in the river basin catchment of the River Great Ouse.
- 3.1.101 The only potential sources of fluvial flood risk comprise an ordinary watercourse tributary of the Wootton Brook flowing from south to north located to the south of the main site and passes in culvert under the A508 Northampton Road and an ordinary watercourse tributary of the River Tove which flows in a southerly direction around the western boundary of the village of Roade. Other localised field drains may exist within the site, railway drainage

along the western boundary and highway drainage to the M1 motorway along the eastern boundary.

- 3.1.102 Surface water flood mapping for the site highlights some localised areas of low/medium/high risk along the ordinary watercourse features and within areas of low lying topography within the main site.
- 3.1.103 Although the main site is not in itself within an area of flood risk, we are aware of issues of flooding further downstream on Wootton Brook and River Nene. Therefore, drainage proposals without mitigation may create an impact. The wider development area is greenfield in nature and existing runoff rates to the receiving water environment are attenuated by the characteristics of the sub-soil.
- 3.1.104 With the watercourses in the vicinity and field drains, there are a number of sensitive receptors with respect to the potential for additional flood risk and potential pollution without appropriate mitigation. Key receptors include the Wootton Brook with regard to water quality changes from run-off from the site, and properties downstream were the proposed development to result in significant changes (increases) to the rate of run-off from the site.

Potential Environmental Effects

- 3.1.105 In terms of the construction and operational phases of the scheme, there is the potential for some encroachment onto the floodplain of ordinary watercourses. In addition, drainage and management of site runoff may have an environmental effect from a siltation and flood risk perspective. These issues will be fully analysed and mitigated as part of the Flood Risk Assessment.
- 3.1.106 Any encroachment of floodplain may reduce flood storage capacity and reduce conveyance capacity, thereby creating a flood risk impact. The Flood Risk Assessment will include baseline modelling of the ordinary watercourses as a quantitative assessment of the extent of any encroachment and will be used to test flood mitigation measures such as volumetric compensation and improvements to channel capacity. The Flood Risk Assessment will look into the feasibility of the scheme contributing to a reduction in Flood Risk to the local area.
- 3.1.107 The development will increase the impermeable area and hence has the potential to increase rates and volumes of runoff. Northamptonshire Surface Water guidance requires surface water attenuation within the Upper Nene catchment (the main development site) to be sized a 1 in 200 year + Climate Change standard, whereas attenuation within the Great Ouse catchment (the location of the bypass to the village of Roade) should be sized to a 1 in 100 year plus climate change standard. A Sustainable Drainage Statement encompassing an outline surface water drainage strategy will be prepared and will demonstrate proposals for limiting surface water runoff from the proposed development to that of the greenfield site up to the required standard for the catchment and will provide attenuation in the form of various SuDS features. Again consideration will be made as to whether the drainage proposals can provide a level of betterment to, if possible, reduce flood risk. SuDS features will be designed sympathetically to further enhance the habitat potential of the area.

- 3.1.108 The development will increase foul flow loads on the local area which has the potential to exacerbate capacity issues in the local sewerage and sewage treatment infrastructure. Consultations will be carried out with Anglian Water to ensure that any impact caused by the development is minimised.

Proposed Assessment Methodology

- 3.1.109 The potential impacts of the development on surface water drainage, water quality and flood risk will be evaluated during the construction phase and operational phase and where necessary, mitigation measures will be proposed to address and identified potential adverse impacts and will be assessed within the ES as part of the EIA process.
- 3.1.110 Appropriate mitigation, including consideration of pollution control technologies, will be promoted where necessary in consultation with the Environment Agency, Northants County Council and other relevant organisations.
- 3.1.111 During construction, where works are to be undertaken in or adjacent to watercourses, there is risk of sediment or accidental spillage of fuels entering watercourse systems. During construction there may be also be temporary alteration to the existing surface water and overland flow runoff regime.
- 3.1.112 In addition an increase in hard surfaces on the site has the potential to reduce infiltration and therefore increase rates of surface water runoff. Impacts of this include reducing ground water recharge affecting the groundwater table and increasing rates and volumes of surface water leaving the site, thus increasing the risk of flooding. However a suitable surface water drainage strategy can attenuate flows and reduce peak runoff rates from the site to actually improve the existing situation in terms of reduced flood risk, improved water quality and increased habitat potential. Local Authority drainage officers will be consulted to ensure the SuDS features proposed are to an acceptable standard for possible future adoption.
- 3.1.113 The ES will consider the effects of the proposed development in comparison to the existing site conditions. These will be preserved where possible and will be considered as possible receptors when assessing the environmental impact of the proposed development.
- 3.1.114 Potential environmental impacts can be reduced by suitable mitigation and management and will be considered within the assessment and presented within the Flood Risk and Drainage ES chapter.

Noise and Vibration

Baseline conditions

- 3.1.115 The main site is bounded by the M1 to the north-east beyond which lies the village of Collingtree. There are also some potentially noise sensitive receptors located along Collingtree Road to the north. To the west of the main site lies the existing railway line with isolated dwellings and the village of Milton Malsor lies to the north west of the proposed

development. The main site is bounded to the south east by the A508 Northampton Road and J15 of the M1.

- 3.1.116 A baseline noise survey was undertaken for the previous planning application (Reference) between 1st and 7th October 2014. The noise survey comprised 5 locations where monitoring equipment was installed for a 7-day period. At two further positions, attended monitoring was conducted for a period of 1 hour during the day and 15 minutes at night.
- 3.1.117 The monitoring locations were selected to allow for the assessment of existing noise levels at the nearest noise sensitive properties to the then proposed warehousing. These will be used to determine the existing baseline sound environments against which any future change can be assessed. The approach proposed is based on that taken in 2014, and is considered appropriate for the main site, but could be amended if required following input from the local authority.
- 3.1.118 The monitoring positions from the previous noise survey are summarised in the Table 1 below and are shown in Figure 1.

Table 1 - Noise Monitoring Positions

Location		Description of Baseline Sound Environment
L1	Collingtree Road	Dominated by road traffic noise from M1 and from intermittent vehicles travelling along Collingtree Road.
L2	77 Collingtree Court	This location is heavily dominated by high levels of road traffic noise from the M1. Intermittent vehicles on Collingtree Court.
L3	27 Church Close	Frequent train pass byes including freight. Distant road traffic noise from the M1. There is also some road noise from Collingtree Road and sound from activity at a playground at the back of this property.
L4	15 Barn Lane	Frequent train pass byes including freight. Distant road traffic noise from Collingtree Road and M1.
L5	West Lodge Farm	Significantly lower noise levels than other locations, contribution from distant road traffic noise from A508 and M1. Train pass byes audible.
S1	Northampton Road	During the day time traffic along Northampton Road generally dominated, with a small contribution from the M1. At night, the dominant source was generally the M1.
S2	Hilton Hotel	Dominated by road traffic noise from the M1.

- 3.1.119 With regard to vibration effects of the proposed SRFI we have identified a receptor on Collingtree Road located in close proximity to the existing railway line where an attended vibration survey will be undertaken. There is also potentially an effect at properties located at Rathvilly Farm although this is further from the existing rail line. It is not anticipated that there would be an effect at Lodge Farm as the traffic associated with the SRFI would divert off the existing track into the site before reaching this point. The monitoring duration and positions will be agreed in advance with the Local Authority.
- 3.1.120 Additional baseline noise monitoring in accordance with the Calculation of Road Traffic Noise 1988 will be undertaken in order to assess the impacts of the proposed Roade by-pass both in terms of the expected beneficial impact of the decrease in traffic travelling through the centre of Roade and the impact of the traffic noise from the new by-pass. The monitoring duration and positions will be agreed in advance with the Local Authority.

Receptors

3.1.121 The nearest noise sensitive receptors to the proposed SRFI are:

- a) Residential properties to the north east of the site on the other side of the M1 and the Hilton Hotel.
- b) Residential properties located to the west of the proposed development on the edge of Milton Malsor.
- c) Other scattered residential properties in close proximity to the site e.g. those located on Collingtree Road and Barn Lane.
- d) The residential dwellings to the south east of the site located off the A508.

3.1.122 The noise sensitive receptors in closest proximity to the proposed Roade by pass corridor are those located on the outskirts of Roade and along Blisworth Road, London Road (A508), Stratford Road (A508) and potentially those on Courteenhall Road.

Potential environmental effects

3.1.123 The following potential effects have been identified;

Construction Noise

3.1.124 The noise from construction of the proposed development units and rail infrastructure may have an impact on the properties located in proximity to the proposed SRFI, particularly those to the west of the M1 where the baseline noise levels are lower. The construction noise effects will be temporary in nature and the vast majority of works will be undertaken during the day time period. It is anticipated that some works, primarily associated with highway improvements, will need to take place outside of the day time period.

3.1.125 The impact of construction traffic is expected to be minimal as it is proposed it will travel along the M1 and then along Northampton Road (A508).

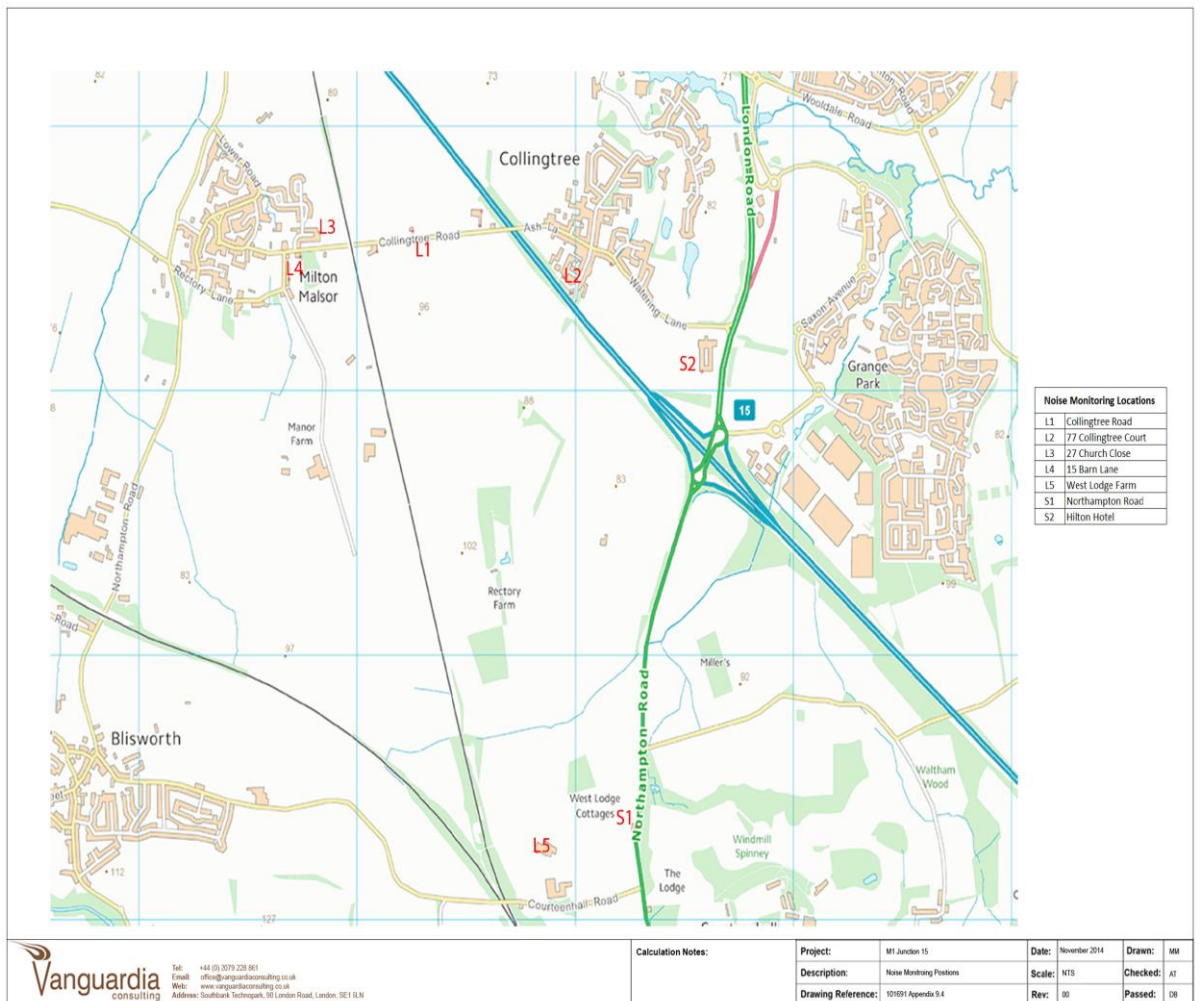
Operational Noise

3.1.126 Operational noise from loading and unloading activities at the proposed warehouse units and the associated freight interchange would have the potential to impact upon the surrounding noise sensitive receivers, especially those to the west where background noise levels are lower. The proposals include significant bunds which will assist in mitigating the impact at these receivers. Where required additional mitigation measures will be specified

3.1.127 The additional rail freight activity on the existing railway line and the rail infrastructure associated with the SRFI may lead to noise and vibration effects at properties to the west and north-west of the proposed development which will be assessed.

3.1.128 Operational noise from the proposed development would be a permanent noise effect.

Figure 1 Noise Monitoring Locations



Traffic noise

- 3.1.129 The noise impact of traffic accessing the site is expected to be minimal as it is anticipated that it will travel along the M1 and then along Northampton Road (A508).
- 3.1.130 The proposed Road By-pass would reduce the flow along the A508 through the village of Roade. However, the creation of the by-pass would be likely to increase the traffic noise experienced at properties on the outskirts of Roade, in the vicinity of the bypass e.g. those located on Blisworth Road.
- 3.1.131 Although it is expected that some Heavy Goods Vehicles (HGVs) would use the access roads to the proposed development it is not anticipated that there will be any significant vibration effects as the access roads would be newly surfaced and smooth. Furthermore, for the same reasons, it is not anticipated that there would be any significant vibration effects associated with the Road By-Pass.

Proposed assessment methodology

3.1.132 The methodology for assessing noise impacts will include:

- a) The application of the relevant noise policy and the baseline noise monitoring locations and duration.
- b) Undertaking any necessary further baseline noise and vibration surveys at the locations to be agreed with the local authority.
- c) Obtaining the relevant traffic, construction and operational information for the warehousing and rail freight interchange to enable prediction and assessment of the noise effects in the daytime and night-time periods at the nearest noise sensitive properties.
- d) Assessing the noise effects of construction activities, traffic movements and operational activities (from railway and warehouse operations) against relevant national and local policy supported, as appropriate, by information in relevant British Standards and guidelines. This will include
 - National Policy Statement for National Networks (2014)
 - Noise Policy Statement for England (2010)
 - National Planning Policy Framework (NPPF, 2012)
 - Planning Practice Guidance Noise
 - Any applicable local policies.
 - BS5228-1:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites. Noise
 - BS4142:2014, Methods for rating and assessing industrial and commercial sound
 - BS8233:2014, Guidance on sound insulation and noise reduction for buildings.
 - Calculation of Road Traffic Noise (1988)
 - Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 Part 7 HD 213/11 – Revision 1 Noise and Vibration (November 2011)
 - Calculation of Railway Noise (1995) and 'Additional railway noise source terms for Calculation of Railway Noise 1995'
- e) Predicting and assessing the vibration effects of additional freight movements using the existing line using BS6472 – 1:2008 Guide to evaluation of human exposure to vibration in buildings. Vibration sources other than blasting.
- f) Considering any noise mitigation measures that may be required to meet the relevant national and local policy objectives.

Air quality

3.1.133 An assessment will be undertaken of the likely significant effects of the proposed development on the environment with respect to local air quality.

3.1.134 The assessment will focus upon the following key air pollutants:

- Nitrogen dioxide (NO₂);
- Fine particulates (PM₁₀); and
- Dust.

3.1.135 The geographic scope of the air quality assessment will include areas where traffic generation and/or point source emissions resulting from the scheme might affect nearby sensitive locations. Temporary construction emission sources will also be assessed, particularly where they have the potential to affect any sensitive adjacent land uses.

3.1.136 The scope of the assessment will also be informed by the local authority's ongoing Local Air Quality Management (LAQM) review and assessment work, as required by obligations under the Environment Act 1995. This includes the Borough Council's Draft Air Quality & Emissions Technical Planning Guidance, issued in May 2016.

Baseline conditions

3.1.137 The site is located on the boundary of Northampton Borough and South Northamptonshire Councils. The former authority has declared an Air Quality Management Area (AQMA) along the M1 where it bounds the Borough and the application site. Any impacts on sensitive receptors within this AQMA will therefore be assessed. South Northamptonshire Council has not declared any AQMAs that are likely to be affected by the proposed development. Their only current AQMA is located in Towcester.

3.1.138 Baseline conditions will be established using existing sources of air quality data, including reports published for the purpose of LAQM review and assessment, the UK Air Information Resource (UK-AIR) and any other relevant sources.

Receptors

3.1.139 The geographical locations to be assessed with regard to operational impacts will include sensitive receptors such as housing and schools/nurseries where the public and/or sensitive groups are likely to be exposed to pollutants over the various averaging periods to which the Air Quality Standards and Objectives apply.

3.1.140 Receptors to be assessed will be discussed and agreed with the Environment Agency, Northampton Borough and South Northamptonshire Councils and will include those areas where changes in traffic flows and/or dispersion of pollutants are likely to result in significant impacts on air quality. Based on the 2014 survey and assessment work, the key receptors are in Collingtree close to the M1 and the existing AQMA, although the earlier assessment (albeit for a different scale of development) showed only small changes to the air quality levels. However, in addition it could be appropriate for the assessment to include any air pollution 'hotspots' in the wider area, including within other local authority boundaries if traffic from the proposed development might be directed towards them. This will be informed by detailed transport modelling from the Transport Assessment.

Potential Environmental Effects

- 3.1.141 The entire construction period will be examined for the potential for air quality impacts. The spatial area affected would be likely to include properties or other sensitive locations within 350m of the construction site boundaries, including haul and access routes on the local highway, within a reasonable distance. Potential effects on locally important ecology will also be assessed. There are two non-statutory 'Potential Local Wildlife Sites' (pLWS) within close proximity of the main site which may require specific consideration, although these were not specifically assessed previously in the context of air quality impacts. As described in the Ecology section of this Scoping Report the Roade Bypass corridor is close to three unnamed pLWSs. There are no statutory Ecological sites within such close proximity of the proposed development requiring specific assessment with regards to air quality.
- 3.1.142 Potential impacts from the construction of the proposed development would predominantly include emissions to air from the raising of dusts. These would arise from construction vehicle movements and specific activities such as earth works and handling of construction materials. Additional impacts could include releases of odorous materials and exhaust fumes from construction vehicles and driven plant. Given the scale of the proposed development, it may also be necessary to consider emissions from vehicles accessing the site, particularly HGVs.
- 3.1.143 The operational assessment of the scheme will focus on the opening year and any subsequent years to which existing, proposed or potential Air Quality Standards and Objectives might apply. If account needs to be taken of proposed development phasing over a number of years, then this will be assessed accordingly.
- 3.1.144 Potential impacts during the operation of the proposed development would arise from exhaust fumes emitted by vehicles accessing the site. There also may be some emissions of gaseous pollutants from boilers and energy production. Impacts from rail freight emissions are considered less significant and will be assessed using a screening approach as outlined in LAQM Technical Guidance.

Proposed Assessment Methodology

- 3.1.145 Due to difficulties in estimating precise emission factors and sources of pollution, construction dust impacts will be assessed using a qualitative approach. This will establish the most sensitive receptors to potential impacts in the area surrounding the site in order to seek to gauge the likelihood and significance of such impacts.
- 3.1.146 The air quality assessment for traffic sources of pollution in both the construction and operation phases will use the Defra-approved ADMS Roads dispersion model. The model will be verified and adjusted using both local authority monitored data and project specific monitoring.
- 3.1.147 Monitoring will be carried out at approximately six locations in the vicinity of the site of the proposed development, at varying distances from the M1 Motorway. NO₂ diffusion tubes will be placed in triplicate at these locations, which will be determined during a site visit.
- 3.1.148 Emissions from power plant and boilers will be assessed using screening methodologies, such as TG (16) nomograms, unless the statutory consultees require more detailed assessment.

- 3.1.149 The significance of air quality impacts will be determined by comparison of results from the model outputs with the Air Quality Standards and Objectives in the UK Air Quality Strategy. Guidance from Defra, the Institute of Air Quality Management (IAQM) and Environmental Protection UK will also be followed, where appropriate. Construction impacts will be considered in line with the methodologies presented and outlined in guidance produced by the IAQM and the Greater London Authority.
- 3.1.150 Appropriate mitigation measures for the reduction of any adverse effects will be discussed, if necessary.
- 3.1.151 It is noted that Northampton Borough Council has drafted a Low Emissions Strategy and as such they require developments to adopt emissions reductions measures if they generate significant traffic movements within AQMAs.

Cultural Heritage

- 3.1.152 The Cultural Heritage Chapter for the ES will assess the significance of heritage assets within and adjacent to the proposed development site and consider any likely significant impact of the proposed development on these assets and, where relevant, their setting.
- 3.1.153 Full separate archaeological and built heritage desk-based assessments will be undertaken in accordance with the Institute for Archaeologists (IfA) Standards and Guidelines for Historic Environment Desk-Based Assessments. These will establish the presence of statutory protected heritage assets (World Heritage Sites, Scheduled Ancient Monuments, Listed Buildings, Conservation Areas, Registered Historic Parks and Gardens and Registered Battlefields) and known non-statutory protected heritage assets, as well as the potential for as yet unknown heritage assets within and adjacent to the proposed development site.
- 3.1.154 The assessment will build on that undertaken in 2014 in the context of the earlier planning application relating to much of the main site.
- 3.1.155 The previous work, and the update proposed to ensure a complete assessment is provided, will comprise a review of the historic environment planning context, an assessment of the archaeological and built heritage background utilising data held on the Northamptonshire Historic Environment Record and other relevant sources, a review of historic land use through a map regression exercise and an assessment of the potential archaeological and built heritage implications of the proposed development. These studies will include a site walk-over survey of those areas not already surveyed to assess ground conditions, alongside views and vistas to contribute to settings assessment. Archaeological assessment will further include the results of a detailed geophysical survey that will be implemented to further inform the study as to the presence/absence of potential below ground archaeological remains. The results from the various assessments undertaken will form technical appendices of the ES.

Baseline Conditions

- 3.1.156 The main site contains some limited former Medieval ridge and furrow cultivation, but no other non-recorded heritage assets have been identified from the work to date. The 2014

assessment included a geophysical survey of much of the main site which recorded a number of potential enclosed settlements and associated activity, the importance of which remains uncertain.

- 3.1.157 The main site is identified to contain a single recorded designated heritage asset, this comprising the grade II listed Roade Aqueduct. Beyond this asset, no other statutory protected heritage assets are noted within the proposed development site. The Collingtree, Malton Malsor, Blisworth, Roade and Stoke Bruerne Conservation Areas are identified to lie in the immediate and wider area of the proposal development, all of which contain a number of listed buildings, these designated grade II to grade II*. The north western and south western limits of the grade II registered historic park and garden of Courteenhall, with grade II* listed buildings within, is also noted to lie immediately adjacent to the main site, and the Scheduled Monuments of a Roman Villa at Stokegap Lodge and the Medieval moated site of Ashton Manor c.400m and c.1.4km to the south-east respectively.

Receptors

- 3.1.158 All statutory and non-statutory protected heritage assets within 1km of the proposed development area identified by the desk-based studies will be considered as part of the impact assessment. This boundary may be widened for the built heritage assessment in respect of noted Conservation Areas where considered necessary.
- 3.1.159 The 2014 assessment concluded that the main site does not form a significant part of the setting of the conservation areas or listed buildings within them, with the potential for impact considered negligible. A new Conservation Area was designated in Roade in 2015, and the updated assessment will consider this receptor.

Potential Environmental Effects

- 3.1.160 Identification of likely potential significant effects (if any) to include both temporary and permanent significant effects.
- Construction Phases – Potential removal of heritage assets
 - Operation Phases – Potential effect on setting of statutory protected heritage assets.

Proposed Assessment Methodology

- 3.1.161 The methodology for assessing impacts will follow standard EIA procedures and will likely involve the following tasks:
- Update and review of baseline conditions at the proposed development site, the surrounding locality and the wider area;
 - Analysis of how the proposed development site is currently used and any past impacts;
 - Specific consultation with the following organisations/ bodies: Northamptonshire County Council Historic Environment Service and Historic England (as appropriate) in addition to wider consultation;

- Review of the following documents and sources: National Policy Statement for National Networks , South Northampton Local Plan 1997 (saved policies), West Northamptonshire Joint Core Strategy (Part 1) adopted 2014, Northamptonshire Historic Environment Record, Historic England Archive, National Heritage List and English Heritage (now Historic England) Schedule and Registers;
- Undertaking initial desk-based assessments including a walkover survey and incorporating the results of a detailed geophysical survey, which will inform the need for, and scope of, any further field surveys that may be required.

Lighting

- 3.1.162 The ES will include an assessment of the potentially significant effects caused by lighting associated with the construction and operation of the Proposed Development including the associated Roade By Pass. The assessment will feed directly into the preparation of a site specific lighting strategy to limit and mitigate any potential negative effects.
- 3.1.163 A lighting impact assessment was carried out for a previous planning application in 2014 on a large part of the same site. This revealed the presence of several sensitive night time receptors as well as potentially light-sensitive bat commuting routes. The Council responded by observing that the proposed development would remove an existing “darker zone” in the landscape. The Council also commented that lighting unit heights should be minimised as far as possible in order to reduce effects. Clearly potential adverse lighting effects are of concern and this section of the Scoping Report sets out how those effects will be assessed and, where necessary, mitigated.

Baseline conditions

- 3.1.164 The area to the north and east of the M1 motorway close to the main site is highly developed and illuminated. The M1 motorway itself is also lit. However, the site is located in a rural unlit area on the other side of the motorway. Consequently, although many views looking across the site from the surrounding area are affected by sky glow and visibility of light sources, these tend to be quite distant, with the darker area of the Site in the middle distance. Similarly, the area around the proposed Bypass is largely devoid of lighting, although views from rural locations towards Roade are likely to see some lighting effects from Roade itself in the middle distance. Views of the night sky are unlikely to be very good for most receptors.

Receptors

- 3.1.165 Lighting effects can be experienced over a considerable distance, especially in the context of the topography of this Site, and therefore they will be assessed for visual receptors further afield as well as close to the Site. Previous work revealed the eastern fringes of Milton Malsor and Blisworth as important receptors. Also potentially affected would be Collingtree, Courteenhall, public rights of way, the Grand Union Canal, nearby railway lines, the adjacent road network and views of the night sky. New lighting associated with the proposed Roade By Pass might affect isolated rural properties in its vicinity.

- 3.1.166 The potential effects on ecology will be assessed in consultation with ecologists and where necessary specific mitigation would be introduced to prevent any adverse effects. This will be set out in the ES Lighting chapter.

Potential Environmental Effects

- 3.1.167 Light pollution, in the form of sky glow and visibility of light sources, would potentially affect residential receptors with views across the Site and in the vicinity of the proposed Roade By Pass. Night time views from public rights of way and the Grand Union Canal might also be affected. Glare can affect safe operation of roads and railways, and views of the night sky might be degraded due to dispersion of upward light from the Site and the By Pass. Effects would be mitigated as far as possible by a rigorous lighting strategy which will be included in the ES Lighting chapter, although any lighting on the By Pass would need to conform with the local highway authority's requirements.
- 3.1.168 Adverse effects on ecology will be assessed and mitigated on a case by case basis. Any mitigation would be incorporated into the lighting strategy.
- 3.1.169 The need or otherwise for further, project specific, mitigation measures will be addressed within the ES chapter.

Proposed Assessment Methodology

- 3.1.170 The methodology will follow the principles set out in Professional Lighting Guide 04: Guidance on Undertaking Environmental Lighting Impact Assessments (Institution of Lighting Professionals, 2013). This guidance will be supplemented for this assessment by Guidance Note: Controlling Light Pollution and Reducing Energy Consumption (Scottish Executive, 2007), which introduces additional assessment parameters that are particularly relevant for rural settings. Reference will also be made to Guidance Notes for the Reduction of Obtrusive Light GN01 (Institution of Lighting Professionals, 2011) as well as national and local planning policies and guidance.
- 3.1.171 The assessment will cover all the potential forms of light pollution including glare, light trespass, light presence, local sky glow and sky luminance. Baseline lighting conditions will involve a desk top study combined with a night time lighting survey.
- 3.1.172 During the assessment process adverse effects will be minimised through embedded and additional mitigation where practicable. This will be reflected in the lighting strategy which will be developed during the assessment process.

Transportation

- 3.1.173 This chapter of the ES will describe the likely significant environmental effects that would be created by the changing transport conditions. This chapter will therefore consider the main modes of travel including the likely development demands on the existing transportation infrastructure for walking, cycling, public transport usage and vehicular traffic.

- 3.1.174 A detailed Transport Assessment and Travel Plan will be appended to the ES. The Transport Assessment and Travel Plan will be undertaken in accordance with the following:
- National Policy Statement for National Networks (NPSNN)
 - Department for Transport (DfT) Circular 02/2013 'Strategic road network and the delivery of sustainable development'
 - Planning Policy Guidance on 'Travel Plans, Transport Assessments and Statements in decision-taking'
 - DfT document 'Guidance on Transport Assessment'.
- 3.1.175 A Transport Working Group (TWG) has been established comprising representatives from Highways England, Aecom (Highways England's term consultant), Northamptonshire County Council, ADC Infrastructure Ltd, BWB Consulting Ltd. The objective of the TWG is:
- to provide a forum for consultation with the regulatory stakeholders
 - allow agreement, in a phased and methodical process, of the key components of the transport work that are required to support the DCO submission.
- 3.1.176 The TWG has been meeting regularly to discuss and agree key elements of the Transport Assessment methodology.
- 3.1.177 The Transport Assessment will examine the trip generation, distribution and assignment of trips associated with the proposed development. The impact of the development trips on the existing transport infrastructure will be assessed at a strategic level using the Northamptonshire Strategic Transport Model (NSTM) subject to availability in accordance with the project programme. A study area will be agreed and, at a local level, detailed junction modelling using industry standard assessment techniques and software will be undertaken. A package of transport infrastructure improvements will be developed to mitigate adverse transport impacts associated with the development.
- 3.1.178 Based on the dialogue to date with the key local bodies, including Northamptonshire County Council, the Applicant has a good understanding of the progress being made with the ongoing NSTM update. However, in a scenario where completion and availability of the model update were significantly delayed the intention would be for the NSIP application to be supported by a Transport Assessment which would draw on the traffic counts and other survey information gathered by the Applicant, and by other transport data and forecasts provided by the Local Highways Authority outside of the model itself. The Applicant's Transport Assessment would essentially be based around a 'traditional' modelling exercise, with fixed background traffic and development traffic assignments. The NSTM would not be used and hence traffic reassignment effects would be limited to assumptions regarding the Roade Bypass. Potential traffic reassignment effects due to existing and forecast congestion on the road network would not be modelled. In such a scenario the approach would be discussed in advance via the TWG described above.
- 3.1.179 The Transport Assessment and accompanying Travel Plan will examine the accessibility of the site by public transport, cycling and walking, and identify the likely modal split of person trips associated with the development. The Transport Assessment will evaluate the impact of the development trips on the surrounding transport facilities, including an appraisal of heavy goods vehicle movements. Where required, the Transport Assessment will identify

improvements, which, in combination with the Travel Plan, will cater for the increased travel demand.

- 3.1.180 This chapter of the ES will draw upon the findings and conclusions of the Transport Assessment and Travel Plan.

Baseline Conditions

- 3.1.181 The baseline conditions for the existing transport infrastructure will be established for all the main modes of transport as part of the Transport Assessment.

Receptors

- 3.1.182 The development and associated package of highway infrastructure will alter the conditions and could change the pattern of movements on the transport infrastructure surrounding the site for existing users, whatever their chosen mode of transport.
- 3.1.183 The effects of the development will impact on the highway network of Highways England and Northamptonshire County Council, including specifically the M1, M1 Junction 15, the A45, the A508, and the local access routes at Roade.
- 3.1.184 The development will also impact directly upon two public rights of way that cross the site, routes KX17 and KX13.

Potential Environmental Effects

- 3.1.185 The site would be developed as a strategic rail freight interchange (SRFI), including an intermodal freight terminal and container storage, with HGV parking, and new rail sidings within the site to serve individual buildings. There will also be capability to provide a 'rapid rail freight' facility as part of the intermodal freight terminal.
- 3.1.186 The following package of highway works, which will be assessed and finalised in the Transport Assessment, is also proposed as part of the scheme:
- new roundabout on the A508 to provide access to the development
 - dualling of the section of the A508 between the new site access roundabout and M1 Junction 15
 - substantial improvements to Junction 15 of the M1
 - a bypass for Roade village.
- 3.1.187 The public rights of way that cross the site would be diverted and extended.
- 3.1.188 The assessment will determine the impacts of the proposed development trips and associated highway infrastructure package on the baseline transport infrastructure contained within the study area. This will include assessment of both construction and operational effects.
- 3.1.189 In accordance with DfT 'Circular 02/2013' an opening year of 2021 has been agreed with the Transport Working Group for the assessment of the transport impacts on the strategic road network. An assessment year of 2031, to coincide with the end of the current Local Plan

period, has been agreed for the assessment of the transport impacts on the County road network. The 2031 assessment year will also meet the forward planning year requirement for Highways England.

- 3.1.190 The cumulative environmental effects of the development in combination with committed or planned development and infrastructure projects will be accounted for in the NSTM modelling. For each assessment year (2021 and 2031), the baseline conditions will be agreed with the TWG and will include committed and allocated development and transport infrastructure schemes. This will include Highways England's all lane running Smart Motorway scheme for the M1 between Junctions 13 to 16.
- 3.1.191 The assessment will consider, via the Transport Assessment, issues such as access arrangements, parking strategy and potential to achieve modal shift to more sustainable modes of transport. The latter of which will be assessed within the Travel Plan.
- 3.1.192 An evaluation of the above in the context of National and Local Planning Policy will be included.
- 3.1.193 Where necessary, mitigation measures will be proposed to reduce the identifiable adverse environmental effects of the proposed development to ensure they remain within acceptable parameters. The assessment will include identification of any residual impacts.

Proposed Assessment Methodology

- 3.1.194 The assessment of transport effects within the ES will be based on recognised guidelines contained within the Design Manual for Roads and Bridges, Volume 11, Environmental Assessment (DMRB) and Guidelines for the Environmental Assessment of Road Traffic, Institute of Environment Assessment (IEA). It will include:
- Assessment of disruption due to construction.
 - Assessment of impacts on pedestrian, cyclists, equestrians and the community, which will examine effects on journey lengths and local travel patterns, amenity and severance.
 - Assessment of impacts on vehicle travellers, which will examine effects on the view from the road and driver stress.

Agricultural Land Quality

- 3.1.195 A review of current local development plan policies will be undertaken alongside an assessment of the potential impacts of the scheme on the site and wider area where they relate to soils and agriculture.
- 3.1.196 The receptors which are likely to be affected are:
- The agricultural land resource
 - The soil resource

- Agricultural users operating on the site

3.1.197 The scoping study has been informed by:

- Previous investigations undertaken on much of the main (SRFI) site
- Published soils and agricultural land quality mapping information

Baseline

3.1.198 The land for the proposed development is predominantly agricultural. Previous survey of large areas of the main site (in the context of the 2014 planning application) has shown that the vast majority of the land is of lower agricultural quality, although some areas of best and most versatile quality (grade 2 and subgrade 3a) were identified. Provisional published Agricultural Land Classification suggests the additional areas now proposed for development are grade 3. Detailed survey of the additional areas of the proposed development site will be undertaken to determine the quality of the total agricultural land resource and to inform an assessment of the potential effects of the scheme as a whole.

3.1.199 The previous survey of large areas of the main site has identified mainly heavy clays with slowly permeable subsoil, with smaller areas of lighter textured permeable soils. The additional areas (western areas adjoining the present railway line and the proposed land for Roade bypass) are recorded by the national soil map to be mainly clay soils with impeded drainage, in common with the previously surveyed areas. However, the survey work undertaken to date has shown that these small scale maps are not accurate at the site scale and that some lighter soils may be anticipated. The quality of these soils types for future landscaping and the management needed to protect them from damage varies considerably. The additional land therefore will be surveyed to determine the nature of the soil resource, identify potential impacts and propose suitable mitigation.

3.1.200 While the majority of the main site area (of the proposed SRFI) is under the control of a single landowner, land included in the potential route of the proposed Roade bypass is under different ownerships/tenancies, and the loss of land and severance of land areas may have impacts on several farm businesses. This will be considered in the assessment.

Proposed assessment methodology

3.1.201 The additional land areas will be surveyed by experienced soil surveyors using soil augers and spades to investigate soil profiles at a density of one observation per 2 ha and one observation per hectare in areas of soil variability to accurately determine boundaries. Agricultural Land Classification will be undertaken in accordance with revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988).

3.1.202 Details on farm businesses will be obtained via interview with land owners, tenants and land agents as appropriate.

3.1.203 The Soils and Agriculture ES chapter will consider the effects of the scheme on the existing baseline, and propose suitable management to mitigate these effects where appropriate.

3.2 Issues proposed to be ‘Scoped Out’ of the Assessment

3.2.1 Several issues are not proposed for inclusion within the ES. As described in Section 4 of this report, this includes a number of generic issues identified in the NPSNN which do not apply due to the site’s location – for example, Coastal Change, and impacts on Aviation interests.

Waste

3.2.2 The applicant is aware of the recent EIA Scoping exercise undertaken for an SRFI site nearby where waste was not included initially in the proposed Scope of the EIA, but added later in response to advice from PINS following comments from the Local Planning Authority. This is consistent with the approach taken in 2014 when the EIA Scope was agreed for the planning application (reference S/2014/2468/EIA), and waste was included as a Chapter of the ES at the request of the Local Planning Authority.

3.2.3 The subsequent waste assessment compared the likely waste impacts of construction and operation against a baseline where there was no development brought forward. Construction waste volumes and types were estimated using established benchmark data and data on typical compositions. On a greenfield site with limited demolition, and with an earthworks balance, the exercise confirmed that waste was not one of the likely significant environmental impacts of the scheme.

3.2.4 The waste generation and storage requirements for the operational stage of the proposed development were estimated using British Standards, with occupier specific data also used to inform assessments of the composition of waste. The assessment undertaken as part of that ES concluded that there were no significant environmental impacts relating to waste as a result of that proposed development, with minor adverse impacts identified compared to the baseline.

3.2.5 In the absence of any confirmed operators or occupiers it would be difficult to undertake a meaningful or site specific assessment of the likely operational waste issues. This is in contrast to the planning application referred to above where the site was being proposed for occupation by a specific occupier who could predict with some certainty their likely waste types and volumes based on their existing operations.

3.2.6 The conclusions and recommendations from the previous ES Chapter on Waste were that targets for managing the reuse and recycling of demolition and construction waste will be set out in a future Site Waste Management Plan. The environmental effects of collecting, storing and transporting waste were to be managed through the implementation of a Construction Environmental Management Plan.

3.2.7 With regard to operational waste, the conclusions were that targets for recycling/reuse and diverting waste from landfill would be established as part of operational management of the buildings. This included commonly applied measures, such as including waste storage areas in the new buildings to facilitate the collection and treatment of a greater number of waste streams. The conclusion was that with a successful programme in place, operational waste disposal rates would be minimised and the impact significance of the operational phase will be ‘Minor Adverse’.

- 3.2.8 The intended approach to waste in the context of this new proposed development is for waste to be scoped out of the ES. It remains a greenfield site with limited demolition, with an earthworks balance on-site. The management and minimisation of waste is proposed to be addressed through a Construction Environmental Management Plan which will be required in any event for the construction period.
- 3.2.9 A Site Waste Management Plan can also be prepared to set out a strategy for managing and minimising operational waste, and would provide a framework for future occupiers' activity and measures, including specific targets, centred around recycling and re-use.

4.0 National Policy Statement and EIA Scope

- 4.0.1 This section of the Scoping Report refers to the ‘National Policy Statement for National Networks’ (NPSNN) which contains guidance and requirements regarding the assessment of proposed NSIP projects.
- 4.0.2 The NPSNN reaffirms the need for an EIA where projects are likely to have significant effects on the environment, with cross reference to the 2009 Regulations, and sets out guidance in respect of the issues many NSIP applications will need to consider.

4.1 Comparison with National Policy Statement requirements regarding Scope of Assessment

- 4.1.1 The content of the NPSNN with regards to the scope of the assessment needed has directly informed this Scoping Report, and as set out below, the proposed ES would cover those issues identified as being of relevance.
- 4.1.2 In addition to the regulations regarding EIA, the NPSNN also refers to the Habitats Regulations Assessment and the need to consider whether proposed NSIP projects could have a significant effect on the objectives of a European site of importance.
- 4.1.3 As well as the assessment of ‘generic impacts’ as set out in Table 1 below, the NPS also refers to a number of other issues and considerations which need to be included within an application for an NSIP. These are generally cross-cutting and multi-faceted issues which will feature in a range of component parts of the application, including but not limited to, the EIA. For example, Section 4 of the NPSNN refers to the importance of considering the following as part of NSIP applications:
- ‘Good design’, relating to appearance – where possible for infrastructure related schemes – but also materials and other visual elements of the project;
 - Climate change adaptation – this will run throughout the ES, but is of particular relevance to the assessment of flood-risk and drainage issues, and transport, as well as design with regard to energy efficiency;
 - Pollution control and other environmental protection regimes – this has direct relevance to assessments of air quality, water quality, ground conditions, as well as noise and vibration;
 - Common law nuisance and statutory nuisance;
 - Safety and Security – relevant to the design of road and rail schemes with regard to transport safety, but also of relevance with reference to wider national security and reducing the risks of crime and terrorism;
 - Health – this relates to a range of other ‘environmental’ issues, including the interactions of health with issues such as traffic, noise, air quality and emissions, dust, and light pollution.
- 4.1.4 Section 5 of the NPSNN refers to a range of ‘*generic impacts*’ which are considered of relevance to all types of national infrastructure project, and which should feature in the early consideration of the required scope of an EIA. Table 1 below shows how the requirements of the NPS have been taken into account in the proposed scope of the Environmental Statement for this project.

Table 1 – How the proposed ES Scope will address the issues suggested by the National Policy Statement on National Networks

<i>NPSNN suggested impacts to be considered</i>	<i>How incorporated within scope of proposed EIA?</i>	<i>Comments or points to note (including any SRFI specific points)</i>
<i>Air Quality (NPSNN paragraph 5.3 – 5.15)</i>	Air Quality chapter	AQMA adjacent to the site (on the M1), and north of the site on the A45.
<i>Carbon Emissions (NPSNN paragraph 5.15 – 5.19)</i>	Considered indirectly as part of the Transport Assessment relating to traffic impacts, and with regard to the benefits of enabling a shift from road to rail.	The proposed project is not a highway NSIP to which the NPSNN most directly refers for carbon emissions. A direct assessment of carbon emissions is understood not to be required for non-highway NSIPs. The application will include a separate 'Energy/ Sustainability Strategy' which will include details re: energy minimisation and efficiency
<i>Biodiversity & Ecological Conservation (NPSNN paragraph 5.20 – 5.38)</i>	Ecology and Nature Conservation Chapter	
<i>Waste Management (NPSNN paragraph 5.39 – 5.45)</i>	Not proposed as part of the ES (Scoped Out) – the site will not be an unusually significant generator of waste once operational, and waste from the construction process will be managed within the mechanisms identified within a Construction Environmental Management Plan (CEMP).	If potential operators or occupiers come forward in due course which involve hazardous waste, this would be dealt with under the existing hazardous waste regimes.
<i>Civil & Military Aviation and Defence interests (NPSNN paragraph 5.46 – 5.66)</i>	Not included (proposed to be scoped out) – the site does not have a relationship with any aviation facilities/operations.	
<i>Coastal Change (NPSNN paragraph 5.67 – 5.80)</i>	Not included (proposed to be scoped out) – the site is not located close to the coast or in a low lying area which might be relevant to coastal change issues.	
<i>Dust, odour, light, smoke and steam (NPSNN paragraph 5.81 – 5.89)</i>	Relates to chapters regarding Air quality, and Lighting; will consider effects during construction and operation. Socio-Economic chapter will also consider some aspects of 'health' agenda.	
<i>Flood Risk (NPSNN paragraph 5.90 – 5.115)</i>	Water Resources and Drainage Chapter.	

<i>Land instability (NPSNN paragraph 5.116 – 5.119)</i>	Geology, Soils and Groundwater Chapter.	
<i>Historic Environment (NPSNN paragraph 5.120 – 5.142)</i>	Cultural Heritage Chapter.	
<i>Landscape and Visual impacts (NPSNN paragraph 5.143 – 5.161)</i>	Landscape and Visual Effects Chapter.	
<i>Land use, including open space, green infrastructure and Green Belt (NPSNN paragraph 5.162 – 5.185)</i>	Landscape and Visual Effects Chapter, which includes consideration of trees – also the Ecology and Nature Conservation chapter. Agricultural Land Quality chapter also of relevance to land-use.	The site is not within the Green Belt.
<i>Noise and Vibration (NPSNN paragraph 5.186 – 5.200)</i>	Noise and Vibration Chapter.	
<i>Impacts on Transport Networks (NPSNN paragraph 5.201 – 5.218)</i>	Transport chapter (and supporting Transport Assessment).	
<i>Water quality and resources (NPSNN paragraph 5.219 – 5.231)</i>	Water resources and drainage Chapter.	

4.1.5 As shown in the table above, the Scope proposed for the ES includes all of the relevant topics identified or suggested for inclusion by the NPSNN.

5.0 Cumulative Effects Assessment

- 5.0.1 This section of the Scoping Report sets out how the Applicant intends to approach a cumulative effects assessment (CEA) in general accordance with the Planning Inspectorate ('PINS') guidance and proposed methodology.
- 5.0.2 The CEA is essentially a process to identify and assess the potential for any significant environmental effects as a result of the proposed development when considered in the context of other developments already committed or planned, where those other developments and the proposed development might have an impact on the same 'receptors' (natural/environmental, or human/communities).
- 5.0.3 Assessing cumulative effects is a standard component of EIA for major planning applications as defined by the regulations, but in the context of NSIP applications PINS has set out a specific methodological approach which they encourage applicants to follow, where appropriate to do so. In bringing forward the EIA the applicant has considered the guidance and advice of PINS, and applied the CEA approach as appropriate.

5.1 National Regulations and PINS Guidance

- 5.1.1 The 2009 Regulations require an assessment of potentially significant cumulative effects of the proposed development with other developments. PINS has prepared guidance and advice on how this might be incorporated into the NSIP process in Advice Note 17 of December 2015.
- 5.1.2 The PINS Advice Note is clear that "*the CEA should be proportionate and not be any longer than is necessary to identify and assess any likely significant cumulative effects that are material to the decision making process, rather than cataloguing every conceivable effect that might occur*" (PINS Advice Note 17, para 3.4.5).
- 5.1.3 The Advice note suggests a structured and largely sequential approach to the CEA process, and the following section sets out the intended approach to be applied within the EIA. Of particular relevance at this early stage in the process is what PINS describes as Stage 1, to establish an appropriate Zone of Influence to help identify '*other development*' of relevance to the CEA. Also of relevance is part of Stage 2 which focuses on identifying an approach to shortlisting the other development, and this process also runs further into the EIA process once the scope has been agreed.

Stage 1 – Zone(s) of Influence

- 5.1.4 In accordance with the PINS Advice, the table below provides details of the Zones of Influence (ZOI) for the proposed development. This has been informed both by professional judgement of the consultant team undertaking the various components of the EIA, but also the results of the EIA undertaken in 2014 for the planning application for similar uses on a site which coincides with the vast majority of the current site.

5.1.5 Key to the identification of the ZOI is an understanding of the receptors of relevance to each of the topics within the ES. As set out below, many of the environmental topics and assessments to be included within the ES are limited to the site itself and will therefore have a ZOI which does not extend beyond the boundary of the proposed development site (the project 'red line'). References are made in earlier topic specific sections of this Scoping Report (within section 3) to the proposed 'study area' or zone of influence.

Table 5.1 – ZOI Summary Table

Environmental Topic	Zone of Influence
Socio-Economic	<p>Study Area defined from 2011 Census Travel to Work data – proposed to cover LPA areas of:</p> <ul style="list-style-type: none"> • South Northamptonshire District • Northampton Borough • Daventry District • Wellingborough District • Kettering Borough • Milton Keynes <p>Consideration to be given to relevant major employment sites or commitments within that broad area, in consultation with the LPAs.</p>
Landscape & Visual	<p>Landscape - defined in accordance with GVLIA guidelines with reference to defined Landscape Character Areas, and following assessment of site and surround topographical and other characteristics.</p> <p>Visual – visual envelope (Zone of Theoretical Visibility) defined in accordance with GVLIA guidelines based on modelling and assessment.</p> <p>ZOI includes areas within South Northamptonshire and Northampton Borough.</p>
Ecology and Nature	<p>Assessment focused on site specific effects, taking into account strategic developments within 2km of the site. However, potential interactions with Upper Nene Valley Gravel Pits SPA located around 5.5km to the north-west of the site will also be considered due to the development site's role in accommodating wintering birds associated with the SPA.</p> <p>A project level Habitats Regulation Assessment (HRA) will form part of the ES, and will consider the potential for cumulative impacts on the SPA with other (committed) developments within 10km of the SPA.</p>
Geology, Soils and Groundwater	<p>Highly site specific, with assessments (and ZOI) limited to the site only.</p>
Water resources and drainage	<p>Assessments (and ZOI) based on the development site, with due regard to impacts on wider catchments of watercourses but flood-risk issues managed within the site as part of SuDS strategy and mitigation. As a result, and in keeping with best practice and guidance, there will be no cumulative effects with other development.</p>

Noise	Highly site specific – but some receptors nearest to the site off-site are also likely to experience effects from other nearby developments, most likely to relate to properties at the southern edge of Collingtree, and on the northern side of Milton Malsor, as well as isolated properties close to the site (e.g. on Collingtree Road).
Air Quality	AQMAs defined within the surrounding area, including on the M1 to the north of the site, and A45 to the north – the ZOI is therefore related to the TA and expected traffic generation, distribution, and associated emissions.
Cultural Heritage	Buried archaeology is highly site specific, with ZOI limited to the site. Wider heritage agenda includes consideration of any impacts on other nearby assets using a 1km buffer around the site. ZOI will include Courteenhall Estate to the east of the A508 (listed buildings and gardens) as well as assets in the village of Milton Malsor, and in Collingtree to the north.
Lighting	Relates in part to extent of visual assessment, but ZOI is informed by guidance in relevant institute guidelines and best practice (British Standards) for lighting assessments and for lighting design/implementation. Highly site specific re: impacts.
Transportation	Defined area of the Highway network, being agreed through project ‘Transport Working Group’ which is agreeing the Transport Assessment scope and methodology.
Agricultural Land	Highly site specific with ZOI limited to the site.

5.1.6 In terms of potential cumulative impacts with other developments, as shown above most of the key receptors and impacts are site specific. However, exceptions to this are transport which will be considered in the context of planned and committed growth – see below – and also Ecology which will also have particular regard to wider impacts. As referred to in Table 5.1, this is due to the potential for impacts on the Upper Nene Valley SPA. The SPA was designated due to its assemblage of bird species, and the development site is known to have a role in accommodating wintering birds (particularly the Golden Plover). Therefore, the ZOI for the Ecology Assessment will consider the SPA despite its distance from the site.

‘Other development’ for inclusion within the Cumulative Effects Assessment

5.1.7 In light of the above, the Applicant has considered which other development proposals and commitments are of relevance to the assessment of potential cumulative effects. The starting point for this was the long-list of commitments which the Transport Assessment (TA) will consider as part of the transport modelling work. The approach to the TA will follow the standard methodology and guidance, and as such considers the cumulative impacts with a wide range of relevant commitments and general traffic growth as part of the assessment of future impacts.

- 5.1.8 The assessment of cumulative effects will include consideration of the potential for any impacts or interactions with the emerging 'Smart Motorways' proposals for the M1 in Northamptonshire being taken forward by Highways England.
- 5.1.9 For other topics within the ES, a judgement has been taken as to the extent of any likely interactions and cumulative impacts by the proposed development and other committed sites or Local Plan allocations. To inform this judgement a distance threshold has been used to exclude certain other development from the assessment – this has been set as a maximum distance of 1km from the site, unless topic specific considerations or other guidance suggests an alternative distance threshold should be used.
- 5.1.10 Having applied this approach, the main 'other development' of relevance to a number of topics in the ES is the 'Northampton South Sustainable Urban Extension (SUE)' at Collingtree part of which is located to the immediate north of the M1.
- 5.1.11 As referred to above, the Ecology assessment will consider any direct and cumulative effects on the Upper Nene Valley SPA which is beyond the 1km threshold from the Proposed Development site. As a European designated site this will also require a Habitats Regulation Assessment which is explicitly required to consider cumulative effects on key ecological receptors.
- 5.1.12 In line with the PINS Guidance, this is set out below in Table 5.2, with the various 'other developments' presented in the suggested categories identified by PINS:

Table 5.2 - 'Other development' for inclusion in the CEA:

Development Category	Site/Development Title/Location
<i>'TIER 1' – under construction, permitted, or live applications.</i>	Collingtree (Northampton South) SUE – 1000 dwellings. Planning application N/2013/1035 granted by Secretary of State (August 2016) following appeal against refusal of planning permission.
<i>'TIER 2' – Projects on the Planning Inspectorate's Programme of Projects (where Scoping Report has been submitted)</i>	'Rail Central' SRFI (NSIP) – land east of the A43, between Milton Malsor and Blisworth, in South Northamptonshire.
<i>'TIER 3' - Projects on the Planning Inspectorate's Programme of Projects (where Scoping Report has not been submitted); AND Developments allocated in the Local Development Plan or other plans and programmes.</i>	Highways England 'Smart Motorways' programme (M1 motorway)

'Rail Central' SRFI – emerging NSIP

- 5.1.13 There is a live NSIP project on an adjacent site, and an ES Scoping report has been submitted to PINS by the project promoter. Informal consultation has begun with the local community and consultees. Although not a 'commitment' in the traditional sense of an

allocated site, or an approved planning permission, the intention is to assess the potential cumulative effects of that emerging proposal in addition to the Proposed Development.

- 5.1.14 Notwithstanding the decision to assess the cumulative effects of the Proposed Development with Rail Central, and without prejudice to the detailed assessments which are yet to be undertaken, it is the judgement of the Applicant that it is unlikely that both of these projects would come forward even if both were approved. This view is based around a number of judgements, including the complexity of the rail infrastructure required to deliver both schemes, and also the prospect that there is unlikely to be the commercial appetite to fund delivery of both. There is no interest in any form of joint scheme from the Applicant since the Applicant does not view the Rail Central site as being suitable for that purpose.
- 5.1.15 Furthermore, based on the knowledge of the Applicant and the consultant team which will be undertaking the EIA – many of whom know the site and surrounding area well from their earlier involvement in a major planning application on part of the same site – the collective sense is that the cumulative environmental effects of both schemes would be unacceptable.

Draft CEA ‘Matrices’

- 5.1.16 In accordance with the PINS guidance note, the applicant has prepared two matrices as part of the work to present how cumulative effects will be assessed. These are included below.
- 5.1.17 Matrix 1 summarises the information provided above with regards to the proposed ‘other development’ sites or proposals identified as central to the assessment.
- 5.1.18 Matrix 2 follows the structure recommended by PINS, and will be completed as the EIA progresses and detail of the emerging effects, and mitigation measures, are better understood.

'MATRIX 1' – summary of Cumulative Effects Assessment Stages 1 and 2

ID	Application Ref (if relevant)	Applicant, and brief description	Distance from project	Status	Tier	Stage 1		Stage 2			
						Within ZOI	Progress to Stage 2?	Temporal Overlap?	Scale/nature likely to have significant effect?	Other factors?	Progress to Stage 3 / 4?
1		Bovis Homes. Sustainable Urban Extension at Collingtree	Less than one km	Allocated in Adopted Core Strategy (2014). Planning permission approved at appeal, July 2016	1	Yes	Yes	Yes, likely to overlap for construction and operation/ occupation	Some potential – transport, air quality, visual, noise as key potential effects	n/a	Yes
2		'Rail Central' SRFI – Ashfield Land	Less than one km	Emerging NSIP – Scoping Report submitted	2	Yes	Yes	Yes – potentially for both construction and operation	Yes – potentially significant impacts on transport, air quality, visual and noise, socio economic	Alternative SRFI site	Yes
3		Highways England 'Smart Motorways' programme (M1 motorway) - north and south of Junction 15 (13-16)	Less than one km	Committed programme of Highways England	3	Yes	Yes	Yes – potentially for both construction and operation	Transport. Intended to have positive impacts on M1 traffic conditions	Potential implications for the detail of proposed Junction 15 improvements	Yes

DRAFT

MATRIX 2 – Summary of potential cumulative effects (stages 3 and 4) –

IN LINE WITH THE PINS GUIDANCE THIS IS FOR INFORMATION AT THIS STAGE – MATRIX 2 WILL BE COMPLETED FOLLOWING SCOPING PROCESS AND ONCE EIA HAS PROGRESSED

ID	Tier	Application Ref (if relevant)	Applicant, and brief description	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP	Residual cumulative effects
1	1		Bovis Homes. Sustainable Urban Extension at Collingtree.			
2	2		'Rail Central' SRFI – Ashfield Land			