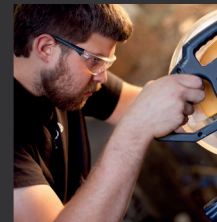




# THRAPSTON BUSINESS PARK

## Environmental Statement Volume 4: Non-Technical Summary

April 2022



# **IM Z3002 ES V4 Non-Technical Summary (NTS)**

Land East of Thrapston,  
Northamptonshire

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# 1. Introduction

## What is an Environmental Statement and Non-Technical Summary?

- 1.1 This document, the Non-Technical Summary (NTS), is part of the Environmental Statement (ES) that has been prepared and submitted in support of the planning application for the proposed Thrapston Business Park development (the 'Proposed Scheme'). The planning application has been submitted on behalf of IM Properties Limited, who are the 'Applicant'.
- 1.2 Greater details of the Proposed Scheme are provided in **Section 2**.
- 1.3 The ES, comprising of **Volumes 1 – 4**<sup>1</sup>, submitted in support of the planning application has the status of a 'material consideration' during the determination of the planning application by North Northamptonshire Council (NCC), who are the determining authority<sup>2</sup> of the planning application. The ES is the output of the Environmental Impact Assessment (EIA) process undertaken in accordance with the 'EIA Regulations'<sup>3</sup>.

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<sup>1</sup> Volume 1: Main Text and Figures; Volume 2: Technical Appendices; Volume 3: Environmental Management Plan; and Volume 4: Non-Technical Summary

<sup>2</sup> This is the local planning authority who the Application is submitted to. They decide whether or not to grant planning permission.

- 1.4 The purpose of EIA and the ES is to assess and report the 'likely significant effects' of the Proposed Scheme on the environment, so that they can be taken into account by NNC when deciding whether to grant permission for the planning application.
- 1.5 In line with the EIA Regulations, the ES should include a non-technical summary of the information presented within the ES. As defined in the Planning Practice Guidance (PPG)<sup>4</sup>, the non-technical summary should be written in '*plain English*', so as to ensure that the findings reported in **Volume 1: Main Text and Figures** (and where applicable **Volume 2: Technical Appendices**) and **Volume 3: Environmental Management Plan (EMP)** can be easily understood by non-experts (i.e., the general public).
- 1.6 The EIA Regulations have various requirements of what needs to be reported in the ES (and thus summarised in the NTS), which are set out in **Appendix 1** alongside where that information can be located in this document to ensure clarity that regulatory requirements have been met.

<sup>3</sup> The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (SI 2017/571).

<sup>4</sup> PPG, Paragraph 035, Reference ID: 4-035-20170728

## What does the NTS include?

- 1.7 As mentioned above, the NTS provides the summary of the EIA process and outputs of assessments, specifically covering the following key aspects:
- An overview of the Proposed Scheme and what it includes (**Section 2**);
  - Outline of the 'EIA Process' and the approach taken for this specific project (**Section 3**);
  - The existing relevant baseline conditions of the Site and surrounding area (**Section 4**), as EIA is focused on the 'changes' caused by the Proposed Scheme;
  - A summary of the outputs of the technical assessments undertaken to determine the 'effects' of the Proposed Scheme and if they are significant (**Section 5**); and
  - Synopsis of the evaluation of 'cumulative effects' of the Proposed Scheme and with other projects (**Section 6**).

## What Happens Next?

- 1.8 The ES has been submitted to NNC in support of the planning application and is now with NNC for determination, which follows the general process outlined within **Extract 1**. The process of determination of the planning application (once validated) is 16 weeks. NNC can request an extension to this period, if agreed in writing within the Applicant.

- 1.9 The ES (**Volumes 1 – 4**) have been submitted in digital format and is available on the NNC planning portal website (**Box 1**). Hard copies of the ES will be made available by NNC, with their locations advertised. Further details on the location and accessibility of these hard copies can be obtained from NNC (**Box 1**).
- 1.10 Electronic copies of the ES can be request from Turley at a fee of £15 (digital file) using the contact details within **Box 1**.

### Box 1. Contact Details

#### North Northamptonshire Council

Cedar Drive, Thrapston  
Northamptonshire  
NN14 4LZ

**Tel:** 0300 126 30000

**Email:** [planning@northamptonshire.gov.uk](mailto:planning@northamptonshire.gov.uk)

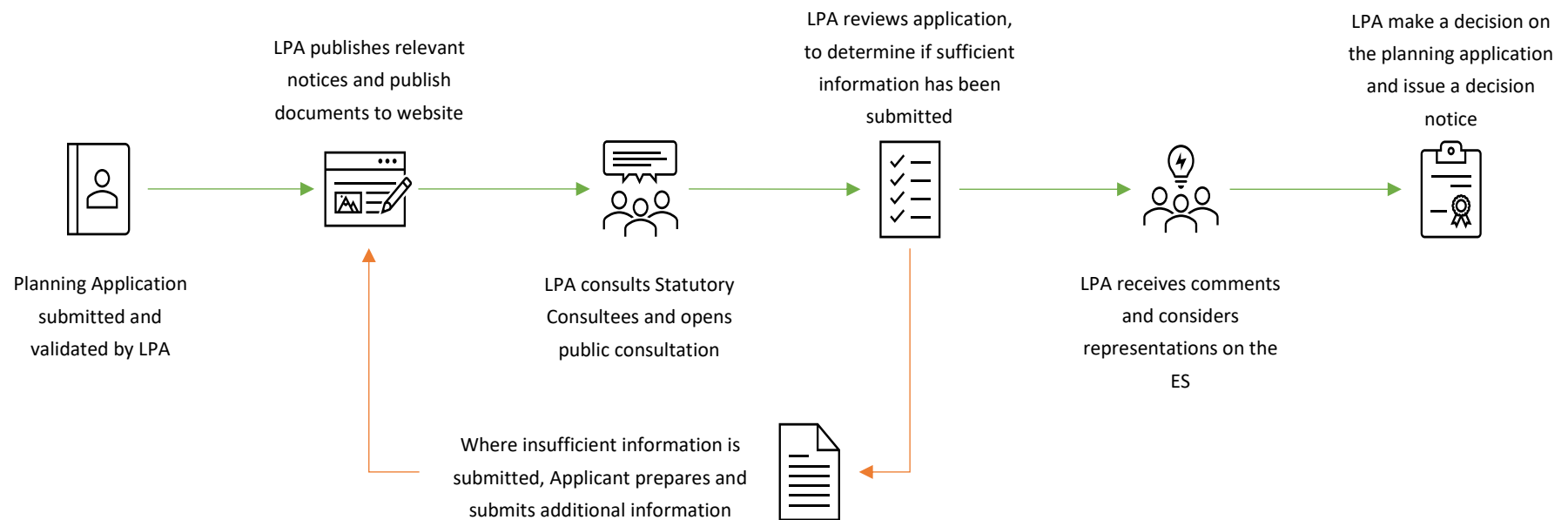
**Planning Portal Website:** <https://www.northnorthants.gov.uk/planning-and-building-control/view-and-comment-application>

#### Turley (EIA Team)

9 Colmore Road  
Birmingham  
B3 2BJ

**Tel:** 0121 233 0902

- 1.11 During the determination of the planning application members of the public have an opportunity to comment on the planning application via the NNC planning portal website (**Box 1**).



Extract 1. Overview of the determination of planning application process

## 2. The Proposed Scheme

- 2.1 The Applicant is seeking planning permission for a new employment led 'Business Park' (to support future commercial / logistics facilities).
- 2.2 The Site of the Proposed Scheme, for the purpose of the ES<sup>5</sup>, is shown on **Extract 2 and 3** and is split across three 'parcels'; the 'western parcel' consisting of the triangular parcel of land to the west of the A605 (approximately 2.00ha); the 'main parcel' bordered (approximately 46.38ha in size and bordered directly to the west by the A605 and to the east of Islington) and the Eastern parcel (comprises of three separate fields of a total of 15.46ha in size and is located adjacent to the village of Titchmarsh).
- 2.3 The Site also includes extents of the A605 from the roundabout with Huntingdon Road to Junction 13 of the A14, as well extents of Oundle Road. The area of the Site within these extents include the existing road carriageways and adjacent verges where present.
- 2.4 As **Extract 2** shows, the Site lies between Titchmarsh and Thrapston, immediately north of the existing Halden's Parkway business park.
- 2.5 The planning application submitted is termed a 'hybrid' planning application, where some elements of the Proposed Scheme are seeking permission in 'detail' and others in 'outline'. The 'outline' elements will be subject to reserved matters application(s) to confirm the details. Given the nature of the planning application the ES has assessed 'maximum parameters' with respect to the development plots (where built form will be concentrated). This approach to the environmental assessment is discussed further in **Section 3**.
- 2.6 The 'parameters' assessed within the ES are shown in **Extract 3** and defined the Proposed Scheme considered across all technical assessments within the ES<sup>6</sup>. As is shown from **Extract 3** it is proposed that the Proposed Scheme will comprise four 'development plots'<sup>7</sup> where built form will be contained. The areas of the Site outside of the development plots will be for strategic landscaping (inclusive of attenuation features for the purpose of management of flood risk). Elements of the strategic

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<sup>5</sup> The 'Site' referred to within this ES is larger than the planning application boundary. This is as a result of the inclusion of the eastern parcel which has been included to appropriately consider all environmental effects of the Proposed Scheme (including the proposed mitigation).

<sup>6</sup> Some of the wider planning application reports considered a greater level of detail for Development Plot 1

<sup>7</sup> The specific number of units within each development plot is to be determined as part of a reserved matters planning application(s). This is except for Development Plot 1 which is the detailed part of the hybrid application.

landscaping have been submitted in detail and this has been considered as part of the assessments within the ES.

- 2.7 Alongside the development plots and strategic landscaping, the Proposed Scheme will deliver new access and internal primary access road. The areas of the Site within the highways boundaries are included for proposed upgrades to these roads. No built development is proposed within the eastern parcel of the Site.
- 2.8 Greater detail of the Proposed Scheme is provided below.





Extract 2. The Site, as considered within the ES



Extract 3. Proposed Maximum Parameters for Development Plots 1-4



- 2.9 The key characteristics of the Proposed scheme, specifically the maximum parameters as assessed within the ES, are set out below.

#### Proposed Land Use and Quantum

- 2.10 Land use, a termed used within planning applications, describes what categories of ‘uses’ are being proposed. Land uses are categorised by the Town and Country Planning (Use Classes) Order 1987 (as amended).
- 2.11 The maximum parameters with respect to land uses and corresponding quantum proposed for each is set out below per development plot.

Plot	Land Uses	Maximum Quantum (Gross Internal Area)
1	B2 ( <i>general industrial</i> ) and B8	100,480 m <sup>2</sup>
2	( <i>storage and distribution</i> ) with ancillary E ( <i>office to carry out any</i>	40,244 m <sup>2</sup>
3	<i>operational or administrative functions</i> )	41,251 m <sup>2</sup>
4	B2 ( <i>general industrial</i> ), B8 ( <i>storage and distribution</i> ) and E ( <i>office to carry out any operational or administrative functions</i> )	4,000 m <sup>2</sup>

<sup>8</sup> Referred to as ‘finished floor levels’ (FFL).

Plot	Land Uses	Maximum Quantum (Gross Internal Area)
		Total 185,975 m <sup>2</sup>

#### Proposed Building Heights

- 2.12 The maximum height of proposed built form is shown on **Extract 3**, with proposed buildings ranging from 13m up to 24m, relative to the proposed ground levels<sup>8</sup>, which will range from 49.2m Above Ordnance Data (AOD)<sup>9</sup> up to 61.5m AOD. On this basis the maximum building height, expressed in meters AOD is set out below.

Plot	Proposed Building Height	Maximum Building Height (meters AOD)
1	21	82.5
2	24	79.5
3	21	71.2 – 78.1
4	13	62.2

*Proposed ground levels within Plot 3 range from 50.2m AOD up to 57.1m AOD.*

<sup>9</sup> A vertical datum point used across Great Britain to measures all heights from to provide uniformity

### Access

- 2.13 The primary access to the Site will be from a new 4-arm roundabout on the A605, which will then connect to an internal primary access road.
- 2.14 Additional access points will be provided from Oundle Road to Development Plot 4 and an emergency access point from Islington to the east.
- 2.15 The new access points, except for the emergency access to the east, will include provisions for pedestrians and cyclists, with new footway/cycleway infrastructure provided, including a new toucan crossing on the A605 north of the new roundabout.
- 2.16 A new additional footway/cycleway will be provided along the northern extent of the Site (**Extract 3**) to provide further access east to west and connect into existing public rights of way (PRoWs).

### Highways Works

- 2.17 As set out earlier, the Site includes the A605 / Huntingdon Road roundabout and the A605 / A14 / A45 Roundabout (Junction 13 of the A14). Upgrade work are proposed within these areas, comprising principally of widening of the A605 and A45 arms of the two roundabout junctions to accommodate additional lane(s). In addition, the A14 eastbound and westbound exit slip roads are included within the Site to again support minor proposed alterations and potential signalisation.

### Landscape Strategy

- 2.18 The Proposed Scheme includes a landscaping strategy that retains and enhances existing vegetation where possible, as well as development of new vegetation. The landscaping also provides habitat for biodiversity.
- 2.19 The landscaping proposed as part of the Proposed Scheme includes:
- Planting at the north-western corner to create a 'gateway' feature at the new access from the A605;
  - Landscaping along the northern boundary of the Site that combines planting / habitat creation alongside drainage features (i.e. attenuation ponds) to create a new attractive green space;
  - Focused woodland planting to the north-eastern and eastern edges to help contain / filter views of the Proposed scheme from the east and north-east;
  - Green corridors between development plots, providing further opportunities for landscaping and habitat creation;
  - Robust landscape buffer to the southern and western boundaries. Planting around western parcel to create robust green edge; and
  - Internal landscape amenity areas within Development Plots.

### Biodiversity Strategy

- 2.20 The Proposed Scheme has been designed to retain existing key habitat where possible and provide enhanced or new habitat to support biodiversity. Key metrics of the strategy are set out in **Extract 4**.
- 2.21 The biodiversity strategy also includes the 'eastern parcel' of the Site. This parcel of land is proposed for habitat creation / enhancement / management. The specifics of this will be subject to further design and discussions with NNC but will help the Proposed Scheme deliver a minimum of 30% 'net gain' in terms of biodiversity.

### Lighting Strategy

- 2.22 All operational lighting within the Site will be subject to a series of best practice lighting principles, relating to the design and installations of all proposed lighting, which are governed by industry standards (i.e. British Standards) and guidance (i.e. from the Institute of Lighting Professionals)<sup>10</sup>. Adherence to these specific standards and guidance ensures that light pollution arising from the Proposed Scheme is suitably controlled to not give rise to nuisance experienced by nearby residential receptors.

### Operational Strategies

- 2.23 Several additional operational strategies will be implemented as part of the Proposed Scheme, in relation to energy (and

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<sup>10</sup> Full details of all relevant standards and guidance are set out within **Volume 1: Chapter 4: Development Specification**.



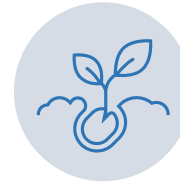
1.4km hedgerow retained



5.6km hedgerow created



7.2ha grassland created



4.2ha shrub/mixed scrub created



1.1ha tree/woodland created



2.1ha attenuation features created

Extract 4. Overview of biodiversity strategy key metrics

sustainability), operational lighting, drainage and flood risk strategy, as well as crime prevention principles. These strategies have all been prepared in line with relevant best practice or technical guidance / legislation / regulation. As such, issues such as flood risk (on and/or off-site) will be controlled, energy consumption will be minimised, and opportunities of crime reduced.

### **Construction of the Proposed Scheme**

2.24 The Proposed Scheme is estimated to be constructed within a 5-year period, starting approximately 2023. The sequencing of the construction phase is to be determined; however, it has been assumed that the new access of the A605, the internal access road, and Development Plot 1 will be progressed first.

2.25 Access for the purposes of construction will be via the existing A605 roundabout and the new A605 roundabout once constructed. However, to facilitate construction within Development Plot 1, a temporary construction access is proposed off of Islington, at the north-east corner of the Site<sup>11</sup>.

2.26 The construction phase will include various stages or works, including but not limited to; creation of accesses (permanent and temporary); implementation of construction compound and facilities; site clearance; earthworks and profiling of the ground; erection of structures and implementation of landscaping.

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<sup>11</sup> Aligning with an existing field gate access that will be partly amended to accommodate construction vehicles.

2.27 A commitment has been made to adopt a series of environmental management best practices to avoid, offset and reduce environmental effects associated with the construction. These measures will be provided within a Construction Environmental Management Plan (CEMP) and submitted to NNC for approval<sup>12</sup> in advance of construction activities occurring. These measures are derived from best practice measures or technical specific guidance / recommendations. As such, these measures are 'tried and tested' to effectively mitigate construction related environmental effects.

2.28 The measures committed to within the CEMP will cover:

- General health and safety practice, site security and crime prevention measures;
- The management of construction related traffic;
- Dust suppression / management and control of non-road mobile machinery emission in line with defined standards. In addition, a communication strategy with local community will be set out in relation to dust and air quality;
- Management of noise in line with Control of Pollution Act 1974 and other best practice measures;

<sup>12</sup> The CEMP will be prepared by the appointed contractor and maintained and updated (as required) throughout the construction process

- Appropriate siting, use and control of temporary construction lighting;
- Management of construction activities in and around key retained or created ecological habitat in line with correct British Standards and best practice measures;
- Adoption of waste management strategies and practices in line with the waste hierarchy principles; and
- The management of soils and materials, including adoption of measures to control potential pollution events occurring.

### Reasonable Alternatives

- 2.29 The EIA Regulations require “*a description of the reasonable alternatives studied by the developer*”, including in relation to alternative sites; design; or technology. Alternatives sites were not considered, as the applicant is not in control of any other sites, and alternative technology aspects was not considered relevant to the Proposed Scheme, as the nature of the uses proposed does not relate directly to specific technologies. As such, only an evaluation of alternative design was considered.
- 2.30 The evaluation of alternative ‘design’ largely focused on the options during the design evolution to the overall layout of the Proposed Scheme, allocation of massing and choice of uses.

- 2.31 It was identified that layout was principally governed by the point of access to the Site (A605) and the need for a revised roundabout layout to accommodate traffic for the Proposed Scheme whilst maintaining continued use for other road users<sup>13</sup>. The internal primary access was then taken from this point and applying efficiencies, built form was concentrated to the south of the internal road. This layout not only derived efficiencies for the developable areas, allowing for large Development Plots, but also allowed for the strong northern landscape buffer proposed which reduces the landscape and visual effects associated with the Proposed Scheme (**Section 5**). The proposed placement of Development Plots to the south also results in greater connectivity to the existing Halden’s Parkway immediately south.
- 2.32 In terms of the proposed massing, this was a response to existing topography and the way in which suitable development plateaus could be created. The finished levels rise from west to east and maximum massing was avoided on the eastern most Development Plot 1, which would have also given rise to greater landscape and visual impacts for receptors to the north-east. Reduced massing is proposed for Development Plot 4, reflecting the size and structure of the western parcel within which it is located.

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<sup>13</sup> With the design aligning with the necessary highways standards.

2.33 The uses proposed as part of the Proposed Scheme were identified as a result of a market analysis<sup>14</sup> exercise. The exercise supports the need for B8 and B2 uses (to meet market needs for logistics and manufacturing businesses) given the strategic location of the Site and in order to meet the market needs for logistics and manufacturing businesses. In addition, the market analysis identified that 'unit sizes' were also relevant with a lack of existing industrial and logistics buildings that offer 50,000sq.ft. or more. On this basis the Proposed Scheme was designed to accommodate the identified primary uses and the likely needs of end users (i.e., in terms of size and units), taking account of the design of the layout and allocation of massing discussed above. In addition to the primary uses proposed, opportunities for small and medium sized business local to Thrapston have been accounted for within Development Plot 4 support a range of potential employment uses.

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<sup>14</sup> Provided as part of the Employment Land, Labour Supply & Economic Benefits Statement application report submitted with the planning application.



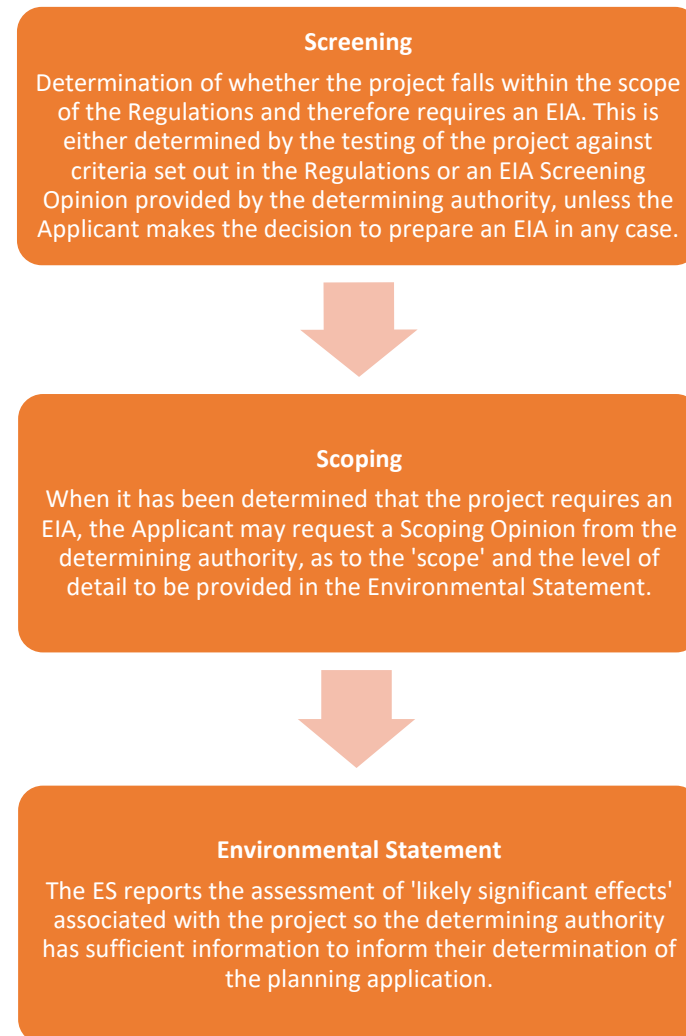
### 3. The EIA Process and Approach

#### The EIA Process

- 3.1 The aim of EIA is to protect the environment by ensuring that a determining authority (in this case NNC) when deciding whether to grant planning permission for a project, does so in the full knowledge of the likely significant environmental effects of the project and taken them into account in the decision-making process.
- 3.2 As such, EIA is a tool to assess likely significant environmental effects. As such, EIA is a tool used to assess likely significant environmental effects.
- 3.3 The EIA process generally comprises a series of steps, which are summarised in **Extract 5**. It should be noted that the first step (Screening) is not mandatory, and the second stage (Scoping) is voluntary. Nonetheless, for this project all stages of the EIA process were completed.

#### Approach to EIA

- 3.4 The EIA Regulations specify that EIA must “*identify, describe and assess the direct and indirect significant effects*” of the Proposed Scheme on a number of ‘factors’. These factors, generally broken down into specific sensitive receptors, have been considered/assessed within a number of technical topics and appraised at each stage of the EIA process.



Extract 5. Steps in EIA process

## EIA Screening

- 3.5 As indicated in **Extract 5** the purpose of the EIA Screening process is to establish if the Proposed Scheme for which consent is being sought is considered 'EIA Development', principally due to the presence of likely significant environmental effects.
- 3.6 An EIA Screening Report<sup>15</sup> was prepared and submitted to NNC seeking a formal EIA Screening Opinion. A Screening Opinion (Ref: 21/00993/SCR) was issued by NNC on the 15 July 2021 confirming the Proposed Scheme was EIA development, identifying the potential for likely significant effects from the Proposed Scheme and cumulatively with other projects.
- 3.7 The project then moved forward to the EIA Scoping stage.

## EIA Scoping

- 3.8 The EIA Scoping process, informed by a series of baseline studies, undertook a preliminary assessment in order to identify technical topics and/or specific effects which were considered 'not significant'. This process was used to 'scope' the ES, thereby ensuring only those topics and/or effects that were likely to be significant would be subject to further assessment and reported as part of the ES.

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<sup>15</sup> The EIA Screening Report has been submitted within the ES, as **Volume 2, Appendix 1.1**.

<sup>16</sup> The EIA Scoping Report has been submitted with the ES, as **Volume 2, Appendix 1.2**.

- 3.9 The EIA Scoping process, culminating in an EIA Scoping Report<sup>16</sup> submitted to NNC, proposed scoping out the following technical topics because no likely significant effects were anticipated.
- Ground Conditions and Contamination.
  - Flood Risk and Hydrology.
  - Waste; and
  - Major Accidents and/or Disasters.
- 3.10 The Scoping Opinion<sup>17</sup> from NNC confirmed the scoping approach set out within the EIA Scoping Report. As such, the ES has reported the assessment of '*likely significant effects*' for the following technical topics:
- Transport and Access.
  - Air Quality.
  - Noise and Vibration.
  - Lighting.
  - Archaeology.

<sup>17</sup> The EIA Scoping Opinion has been submitted within the ES, as **Volume 2, Appendix 1.3**.

- Biodiversity.
- Built Heritage.
- Landscape and Visual.
- Socioeconomics.
- Agricultural Land and Soil Resources.
- Climate Change.

3.11 The precise approach to the assessment of likely significant effects varies somewhat between the various technical topics, reflecting relevant industry and technical guidance/regulations. The adopted methodology for each technical topic was confirmed through the EIA Scoping process. The methodologies adopted are clearly outlined for each technical topic within Volume 1 of the ES.

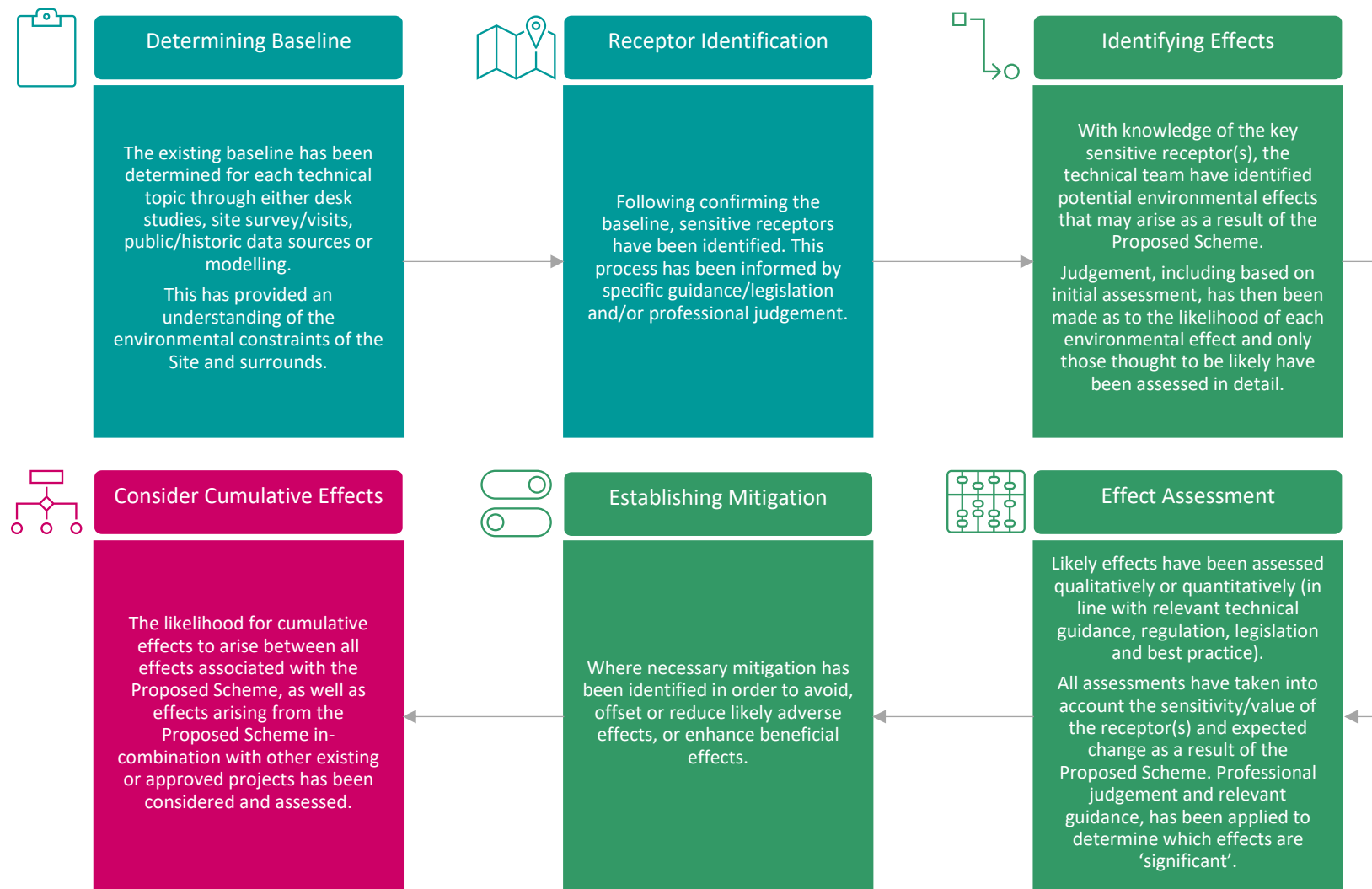
3.12 Nonetheless an overarching approach, required by the EIA Regulations that covers all technical topics is set out in **Extract 6**. The steps within **Extract 6** are colour coded, with the subsequent sections of this NTS following a similar colour coding, allowing readers to understand how each step within the assessment approach (**Extract 6**) has been completed as part of the ES.

### Environmental Statement

3.13 As set out within **Section 1** the purpose of EIA and the ES is to assess and report the 'likely significant effects' of the Proposed

Scheme on the environment. On this basis the summary of the technical assessments presented within this NTS (**Section 4**) concludes with respect to if an effect was considered 'significant' or 'not significant'.

3.14 Furthermore, where the determination of 'significant' or 'not significant' is linked to the implementation of specific mitigation, this proposed mitigation has been noted as part of the summary within **Section 5**.



Extract 6. Overview of EIA process

## 4. Determining the Baseline

- 4.1 As set out within **Extract 5**, in order to determine the environmental effects of the Proposed Scheme it was necessary to establish the existing characteristics of the Site and surrounding area (i.e., the existing baseline conditions).
- 4.2 As such, a summary of the relevant baseline information for the various technical topics scoped into the assessment are provided below<sup>18</sup>.
- The Site is located adjacent to the A650 which connects to the wider national road network by way of the A14 via Junction 13. Other key minor roads include Islington, Huntingdon Road and Oundle Road.
  - There are no designated cycleways on the immediate local road network except for a small section of shared footway/cycleway provided along Huntingdon Road from the roundabout junction with A605, extending into Halden's Parkway Business Park
  - There are limited footpaths provided on the immediate local road network expect near to residential properties or at the

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<sup>18</sup> Baseline data for topics scoped out have not been set out and was provided in full as part of the EIA Scoping Report.

A605 / Huntingdon Road roundabout extending into Thrapston and Halden's Parkway Business Park.

- There is an extensive PROW network around the Site, with Footpath NZ8 running along the northern boundary of the Site.
- The Site does not intersect with an Air Quality Management Area. NNC monitor data for Nitrogen Dioxide (NO<sub>2</sub>) indicates no exceedances of national objective levels<sup>19</sup> within the past five years, with the highest concentrations noted on Huntingdon Road<sup>20</sup>.
- The noise environment within the Site and the rural areas surrounding it are governed by road traffic noise associated with the local road network, with occasional noise associated with Halden's Parkway.
- Recorded archaeological sites in the surrounding area cover time periods spanning from the Lower Palaeolithic to the modern-day, which is mostly associated with Titchmarsh Roman settlement, the medieval and later settlement of Thrapston, and the medieval and later settlement of Titchmarsh. Historic Environmental Record (HER) data identified several features of interest associated with the Roman and Iron Age periods.

<sup>19</sup> National objective levels are defined based on what is considered to be acceptable in terms of what is scientifically known about the effects of each pollutant on human health and on the environment.

<sup>20</sup> The recorded levels where 54.4% of the objective level in 2019

- The Site (the eastern parcel) extends into the Titchmarsh Conservation Area, which includes a number of listed buildings. To the south of Titchmarsh is the Titchmarsh Castle moated site and fishponds Scheduled Monument.
- The Upper Nene Valley Gravel Pits is located <150m from the Site which is designated as a Special Protection Area (SPA), Ramsar Site, Site of Special Scientific Interest (SSSI) and Local Nature Reserve (in part).
- Habitats within the Site are limited given the existing agricultural uses; however, the Site include four habitats of value – hedgerows, natural semi-improved grassland, scatter trees and running water.
- Targeted ecological survey works have identified the Site can support foraging and commuting bats, badgers, winter and breeding birds and other terrestrial mammals.
- The Site is located within National Landscape Character Area 89: Northamptonshire Vales and the Limestone Valley Slopes Landscape Character Type [12c – Thrapston and Warmington] at the county level.
- National data indicates the agricultural land within the Site is classified as 'Grade 3'. Site specific investigations have identified the main and western parcels of the Site includes 10.1 ha of

Grade 2 (very high-quality land), 17.4 ha of Grade 3a (high quality land) and 21.3 ha Grade 3b and 4 (lower quality land).

- There are 181,000 jobs in North Northamptonshire – fewer jobs than there are residents aged 16 to 64 years (212,900).
- A higher proportion of North Northamptonshire's population is economically active (81%) compared to the East Midlands (79%) and GB (79%) averages and a higher proportion of North Northamptonshire's population are in employment (80%)<sup>21</sup>.

#### Natural Evolution of the Site

- 4.3 The EIA Regulations require the provision of, as far as reasonably possible, an estimation of the future natural evolution of the Site (i.e., future baseline) were the Proposed Scheme not to go ahead (i.e. no development scenario).
- 4.4 For all technical topics, it was determined that influencers of change would occur from human intervention or action, more so than natural processes or activities. On this basis it was determined that the future baseline would likely be the same as the existing baseline if no development was to occur and the Site would remain in agricultural use and subject to ongoing agricultural practices, which could likely include management of boundary features.

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<sup>21</sup> Based on latest socio-economic data available through the Office of National Statistics and inclusive of census data.

## 5. Effects of the Proposed Scheme

- 5.1 A summary of the assessment in the ES and the identified 'likely significant effects' reported within **Volume 1: Main Text and Figures**, taking each topic in turn, is provided below.
- 5.2 The summary is reflective of the scope of assessments, as discussed within **Section 2** and therefore technical topics or effects 'scoped out' have not been discussed. Assessments within **Volume 1** have considered effects arising from the construction and operational stages of the Proposed Scheme, however, where the text only considers a single stage this is due to that fact that effects associated with the other stage where also 'scoped out'.
- 5.3 As with the requirements of the Non-Technical Summary, to be written in plain English, the summaries of assessment presented below are not overly detailed and parties interested in understanding the specifics of an assessment process or output are directed to **Volume 1**.
- 5.4 In total the ES identified 20 effects at the construction stage and a further 20 effects at the operational stage.
- 5.5 At the construction stage it was determined that 8 effects are significant, 1 beneficial and 5 adverse. All other effects were not significant.
- 5.6 At the operational stage it was determined that 8 effects would be significant, 3 beneficial, 2 adverse and 1 neutral<sup>22</sup>. All other effects were not significant.

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<sup>22</sup> Within the Landscape and visual assessment 'neutral' is a term used to describe an effect that is both adverse and negative.

## Transport and Access

### What effects were considered?

- 5.7 The assessment considered the direct environmental effects associated with operational stage traffic, specifically the consideration of severance and increase in fear and intimidation, pedestrian amenity and delay, and the increase in driver delay. Construction stage effects were scoped out of the assessment through the EIA Scoping Report.
- 5.8 It should be noted that indirect environmental effects arising from the traffic, considered to be noise and air pollution, were considered within the respective technical chapters and are discussed later in the NTS. Furthermore, the testing of the ability of the road network to accommodate additional traffic movements<sup>23</sup> is assessed within the Transport Assessment (TA).
- 5.9 The assessment of traffic was informed by predicted future traffic flows (and distribution across the network) based on a 'peak' number of construction vehicles<sup>24</sup> and operational traffic linked to the overall quantum of uses proposed as part of the Proposed Scheme. The predicted traffic was determined through discussions with North Northamptonshire Highways Authority and using nationally defined 'factors' that are applied to differing

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<sup>23</sup> Required by the National Planning Policy Framework (NPPF)

<sup>24</sup> To inform the assessment of construction effects for Air Quality and Noise and Vibration only.

<sup>25</sup> Use classes are the legal framework which determines what a particular property may be used for by its lawful occupant.

'uses'<sup>25</sup>. The traffic data use within the assessment was inclusive of an element of 'future growth' on the road network. As such, the outputs of the assessment are considered to be an absolute 'worst case' situation.

### What receptors were considered?

- 5.10 In the most part, the assessment of effects was focused on 'pedestrians', however, this term includes all non-motorised users of the local road network. The only exception to this is with respect to 'driver delay' which was focused on the motorised users of the local road network.
- 5.11 In line with relevant guidance<sup>26</sup> the identification of specific receptors related to those road links where a perceived change as a result of construction or operational related traffic is expected. The threshold for this change is a 10% or 30% increase in traffic<sup>27</sup>. As such, it was determined that of all the road links where a change in traffic was expected to occur (**Extract 7**), only three road links would meet the specific criteria, namely: A605 North of Oundle Road (Link 1); Oundle Road (Link 3); and A605 North of the A14 (Link 4).

### What did the assessments identify?

- 5.12 The assessment of each effect was undertaken in line with the IEMA Guidance, which defines a combination of 'factors' to be

<sup>26</sup> Institute of Environmental Management and Assessment (IEMA), Guidance for the Assessment of Environmental Effects Arising from Road Traffic

<sup>27</sup> These thresholds are defined within the IEMA Guidance and therefore considered appropriate for the selection of road links.



considered for each effect. However, the IEMA Guidance does say that the final conclusions of effects should be informed by professional judgement.

- 5.13 Severance and increase in fear and intimidation<sup>28</sup> across Links 1, 3 and 4 was determined to be not significant. This was due largely to the absence of changes to existing crossing facilities and footway/cycle infrastructure or proximity to the road. As well as the provision of additional crossing and footway/cycleway infrastructure (associated with the new A605 roundabout junction and continued improvements onto Oundle Road), all provided in line with relevant standards. Although additional traffic would be generated on the road links, the ability to cross would not be impacted, in part improved on the A605, and users would be appropriately distant from traffic.
- 5.14 In terms of pedestrian amenity<sup>29</sup> the assessment identified that for all three road links the effect of the Proposed Scheme would be adverse, largely as a result of the increase in traffic. Nonetheless, the change in traffic is tempered given the provision of the new footway/cycleway infrastructure associated with key access junctions and the new pedestrian linkage within the northern extent of the Site, which will be within a key landscaped area of the Site. As such, overall, the effect was not considered to be significant.

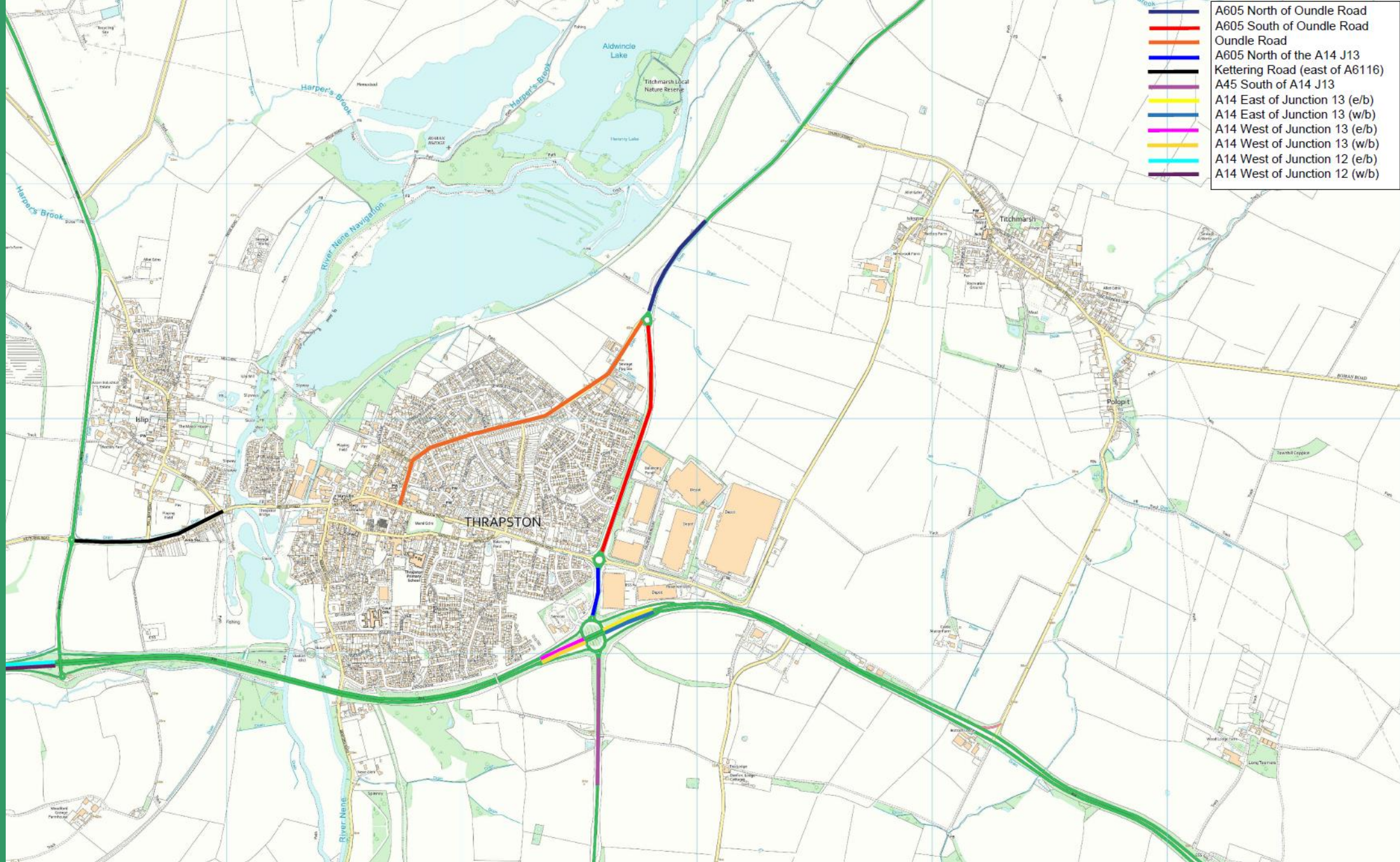
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<sup>28</sup> Severance is the perceived reduction in the ability to cross a road as a result of increased traffic route or division created by a new road link.

- 5.15 The evaluation of pedestrian delay on road links 1 and 3 was determined to be beneficial due to the provision of new footway/cycleway infrastructure and crossing facility associated with the access junctions. Nonetheless, on the whole, it was determined that this effect would not be significant. In terms of road link 4, the expected increase in traffic was considered to increase time to cross the road, however, on balance with the provision of signalised infrastructure at the A14 slip road to control the flow of traffic up to the A605. Overall, it was determined the effect at road link 4 would be adverse but not significant.
- 5.16 Driver delay was determined by the completion of specific junction modelling work (linked to the testing of capacity of the junction). The outputs identified that in the morning peak times, driver delay would increase by approximately 10 – 13 seconds and then by 6 – 13 seconds in the evening peak time. These changes were well below the lowest threshold (taken as 30 seconds) and thus the effect was considered not to be significant.

Fear and intimidate relates to the ability to cross a road using own judgement and proximity of non-motorised users to traffic.

<sup>29</sup> Taken as the general pleasantness of a journey.



Extract 7. Highways links considered within the Transport and Access assessment

## Air Quality

### What effects were considered?

- 5.18 The assessment examined the effects of increased traffic arising from the construction and operation of the Proposed Scheme on the existing pollutant concentrations, relevant to existing national air quality objectives<sup>30</sup>. The assessment considered the three main air pollutants associated with emissions from vehicles – Nitrogen Dioxide (NO<sub>2</sub>), Particulate Matter 2.5 and 10 (PM<sub>2.5</sub> and PM<sub>10</sub>).
- 5.19 In line with best practice guidance<sup>31</sup> computer modelling was used to predict pollutant concentrations, expressed as annual mean concentrations<sup>32</sup>. This modelling was informed by predicted traffic flows associated with the construction and operation of the Proposed Scheme. In addition, as identified earlier (**Paragraph 4.8**) the traffic data used considered ‘future growth’ on the road network. Therefore, the outputs of the assessment are considered to be an absolute ‘worst case’ situation.

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<sup>30</sup> National objective levels are defined based on what is considered to be acceptable in terms of what is scientifically known about the effects of each pollutant on human health and on the environment.

<sup>31</sup> Environmental Protection UK and Institute of Air Quality Management, (2017). Land-Use Planning & Development Control: Planning for Air Quality

### What receptors were considered?

- 5.20 The assessment focused on existing residential properties and other sensitive uses such as schools and hotels (where relevant). A total of 21 receptors locations were identified for the purpose of assessment (as set out in **Extract 8**). The identified receptor locations were considered representative of all receptors and although a specific receptor may not be explicitly identified in **Extract 8**, it is considered that the nearest receptor location would be representative of the receptor.
- 5.21 Future occupants of the Proposed Scheme were also considered.

### What did the assessments identify?

- 5.22 During construction, vehicle movements (especially HGVs) can lead to an increase in concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> at receptor locations close to roads used by the construction traffic.
- 5.23 Predicted annual mean concentrations of NO<sub>2</sub> with the Proposed Scheme construction traffic in place was not considered to lead to an exceedance of the air quality objective of 40ug/m<sup>3</sup>. The maximum NO<sub>2</sub> concentration was predicted along the A14 (R13) at 26.3ug/m<sup>3</sup> which falls below the objective level. The largest increase in NO<sub>2</sub> is considered to be at the DSV industrial unit on Huntingdon Road (R14) where a 0.08ug/m<sup>3</sup> increase is

<sup>32</sup> Emissions are normally expressed in annual mean concentrations as this is the way in which national air quality objectives are expressed, thus allowing for direct comparison when considered impacts relative to national objective levels.



anticipated. For PM<sub>10</sub> and PM<sub>2.5</sub>, the predicted annual mean concentrations did not exceed the air quality objective levels of 40ug/m<sup>3</sup> and 25ug/m<sup>3</sup> respectively. Therefore, overall, it was determined that effects as a result of construction stage emissions were not significant.

- 5.24 For the operational stage, the assessment considered the emissions from vehicle exhausts and the associated effects on air quality in 2028 (the proposed opening year of the Proposed Scheme). Modelling outputs identified that neither NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> were predicted to exceed their relevant air quality objectives. Like the construction stage, the maximum NO<sub>2</sub> concentration were predicted at R13 at 26.8ug/m<sup>3</sup> and the largest increase in NO<sub>2</sub> would be at R14 where a 1.04ug/m<sup>3</sup> increase was identified. As such, operational stage emissions were not considered to be significant.
- 5.25 As noted early, the assessment also considered emissions at the Site once the Proposed Scheme was operational (i.e., 2028). The modelling work determined that annual mean NO<sub>2</sub> concentrations were predicted to be below the air quality objective level and therefore not considered to be significant.



## Noise and Vibration

### What effects were considered?

- 5.26 The assessment considered the noise and vibration effects from construction works/activities on-site as well as noise generated by construction traffic. Furthermore, the assessment considered noise generated by the operation of the Proposed Scheme (i.e., loading and unloading activities within service yards), from traffic on the road network associated with the Proposed Scheme and noise from building services and plant.
- 5.27 The assessment of noise and vibration was undertaken in line with a series of technical standards and guidance documents<sup>33</sup>, hence why noise sources are considered 'separately'. The evaluation of noise generated by construction and operational predicted traffic and distribution.

### What receptors were considered?

- 5.28 The assessment focused on existing residential properties and other sensitive uses (where relevant) in close proximity to the Proposed Scheme. A total of 15 receptors locations were identified for the purpose of assessment (as set out in **Extract 9**).
- 5.29 The identified receptor locations were considered representative of all receptors and although a specific receptor may not be explicitly identified in **Extract 9**, it is considered that the nearest receptor location would be representative of the receptor.

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<sup>33</sup> Detailed fully within **Volume 1: Chapter 8: Noise and Vibration**.

### What did the assessments identify?

- 5.30 The assessment of noise generated by construction activities on-site is judged against ambient noise level<sup>34</sup> limits, where an exceedance could give rise to a significant effect. For the purposes of the assessment, the adopted level was 65dB.
- 5.31 The threshold level was predicted to be exceeded at 43 and 46 Sissinghurst Drive, Monmouth Close and Kenilworth Gardens. The noted exceedances are predicted to be less than 10dB for all phases of construction works. The identified exceedances were therefore deemed not to be significant.
- 5.32 Exceedance was also identified at Springfield Cottage, where it was predicted to be more than 10dB for some early phases of construction. As such the effect was considered to be significant, albeit this was only considered to be short-term as the effect was linked to early phases of construction activities and thus have a limited time period. Furthermore, the assessment assumed a worst-case where activities would occur directly on the boundary of the Site closest to the receptor. In reality, this is unlikely or only likely for a very small proportion of the overall construction period.
- 5.33 Works associated with the A605 upgrades were also considered and it was identified that these works would also lead to exceedances in the 65dB criterion by more than 10dB (at those receptors located adjacent to the A605 works). The effect was

<sup>34</sup> In simple terms this is taken as a 'baseline' level recorded through baseline survey work in and around the Site.

considered to be significant, but again short-term given the nature of the works and likely timescales to complete the works.

5.34 Construction works may also generate perceptible levels of vibration at nearby receptors, the effect of which has been assessed. Apart from Springfield Cottage, all receptors are greater than 50m from part of the Site where potential groundworks may be undertaken, therefore, vibration levels of more than 1mm/s<sup>35</sup> are unlikely and effects are not significant. As Springfield Cottage is located approximately 30m away any vibratory compaction undertaken on the closest boundary could lead to vibration levels exceeding 1mm/s. Such exceedances were considered a significant adverse effect albeit short term as works at the boundary would be limited and only occur for a short period of time. Similarly, if vibratory compaction associated with the A605 upgrade works is undertaken close to the nearby residential properties, vibration levels may exceed 1mm/s. Again, this was considered to be a short term significant adverse effect.

5.35 The predicted changes in noise levels associated with the construction traffic generated by the Proposed Scheme is predicted to lead to less than a 1dB<sup>36</sup> increase along all the road links considered. As such the effect was not considered to be significant.

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<sup>35</sup> 1-10mm/s is considered a medium magnitude of change and therefore, above 1mm/s is more likely to be significant at sensitive receptors.

<sup>36</sup> A change of 1dB is classed as the smallest change that is considered perceptible in the short-term

5.36 The operation of the Proposed Scheme includes elements that will generate noise (contained principally to the Development Plots) and for the purpose of assessing a “worst case” scenario, it was assumed that these activities would be located at the closest point to identified receptors. The evaluation of the effect was informed by comparing predicted sound levels against background levels. At receptors to the south-west on Sissinghurst Drive, Monmouth Close and Kenilworth Gardens, rating levels<sup>37</sup> are predicted to be between +1dB and +4dB above the background sound level. At Springfield Cottage, rating levels are predicted to be +9dB above the background sound level during the day (07:00 to 19:00) and evening (19:00 to 23:00) and between +12dB and +15dB at night (23:00 to 7:00). Unmitigated, these effects would likely be significant. However, the assessment demonstrated that with appropriate noise mitigation measures<sup>38</sup> the effect would not be significant.

5.37 With respect to noise generated by operational traffic associated with the Proposed Scheme, increases in daytime (07:00 to 19:00)

<sup>37</sup> A rating level is obtained by converting a sound level by adding penalties on a sliding scale for either potentially tonal, impulsive or intermittent elements.

<sup>38</sup> These measures relate to the control of a number of features and detailed fully within **Volume 1: Chapter 8: Noise and Vibration**.

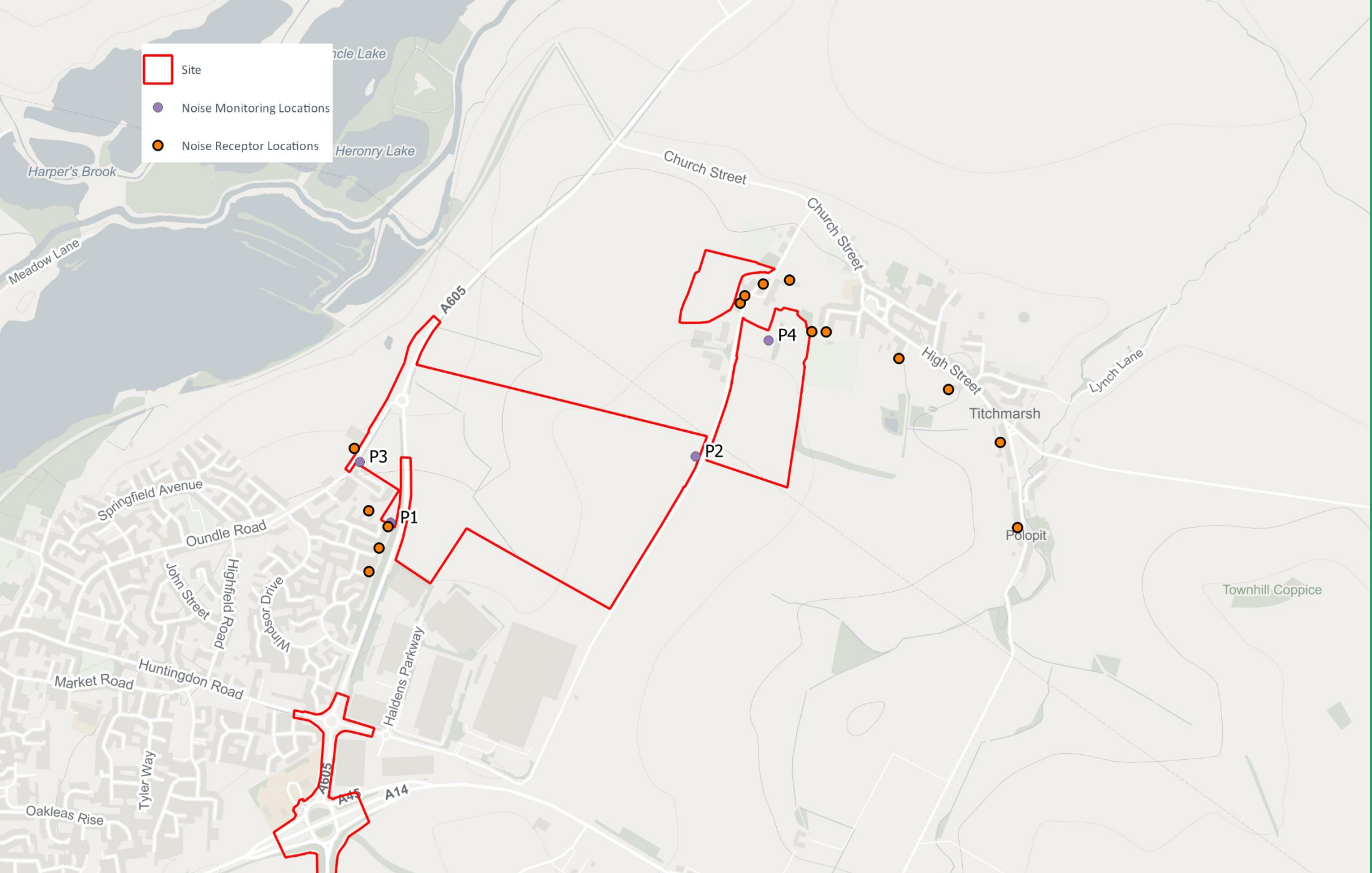
traffic noise is predicted to be less than 3dB<sup>39</sup> along all but one of the link roads considered (the A605 North of Huntingdon Road). These changes in noise levels were not considered to be significant. On the A605 North of Huntingdon Road, an increase of +4.2dB was predicted which is considered to be an adverse and significant effect.

- 5.38 Increases in night-time (23:00 to 7:00) traffic noise was predicted to be less than 3dB along all but two of the roads considered (A605 North of Huntingdon Road and A605 North of A14). These changes in noise levels were not considered to be significant. On the A605 North of Huntingdon Road, an increase of +4.8dB was predicted, with an increase of +3.4dB on the A605 North of A14. These increases were considered to be an adverse significant effect.
- 5.39 During operation, the Proposed Scheme will likely have plant to control the climate within the buildings which can generate noise. Plant noise was confirmed to be controllable through the incorporation of appropriate design measures to ensure plant adheres to recommended noise limits in line with British Standards guidance and therefore it was considered that the noise emissions from plant will be not significant.

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<sup>39</sup> A change of 3dB is considered to be the smallest change in noise that is perceptible in the long-term





Extract 9. Noise monitoring locations and selected assessment locations

## Landscape and Visual

### What effects were considered?

- 5.40 The assessment considered the changes to 'landscape character' and visual amenity/character. Landscape character is a broad term that covers various aspects of the landscape that contribute to an overall character.
- 5.41 In terms of visual amenity and character, the assessment was informed by a series of 'representative viewpoints' (**Extract 10**) which are considered representative of the view experienced by nearby receptors (i.e., residents, user of PRow, etc.). The viewpoints were subject to discussions and agreement with NNC.

### What receptors were considered?

- 5.42 In terms of 'landscape character' the assessment considered the landscape character of the Site as well as that of the surrounding landscape.
- 5.43 The visual assessment considered residential receptors, users of the local road network and PRow network, informed by the representative viewpoints (**Extract 10**).

### What did the assessments identify?

- 5.44 During the construction stage, it was concluded that the construction of the Proposed Scheme would result in a high degree of change as a consequence of construction activity (i.e., machinery, plant and general activity on site) as well as the gradual increase in massing associated with the new buildings and application of landscaping.

- 5.45 In terms of landscape character, it is considered that the landscape character of the Site (including all its components) will be materially altered as a result of the construction works. A number of the changes expected were both determined to be experienced temporarily and permanently, with the latter derived from the fact that the built form proposed would be permanent. The surrounding landscape will not necessarily experience direct changes to various aspects of its character (i.e., landform, vegetation etc.) instead experiencing change derived from inter-visibility, relationship and the way in which the Site contributes to the surrounding landscape character. Overall, it was concluded that the effects on the landscape character of the Site would be adverse but not significant but the effect on the surrounding landscape character would be adverse and significant.
- 5.46 The evaluation of visual amenity and character, informed by the appraisal of the construction effects at each of the identified representative viewpoints (**Extract 10**), identified adverse effects at all viewpoints, some of which were considered temporary whilst others permanent. The effects ranged depending on the proximity to the Site, with those viewpoints located close to the Site considered to experience the largest changes given proximity and the contribution the Site makes towards the overall views from that viewpoint. The significance of each viewpoint is documented in **Table 5.1**.
- 5.47 The assessment of operational stage effects took account of the strategic landscaping proposed as part of the Proposed Scheme (discussed briefly in **Section 2**) which includes strategic

landscaping along all site boundaries and areas outside of the Development Plots.

- 5.48 The assessment of landscape and visual effects was based on maximum parameters associated with the proposed built element, as well as the proposed strategic landscaping (as set out in **Section 2**). The evaluation of operational effects identified the need for additional mitigation, to ensure the long-term success and maturity of the proposed strategic landscaping, to be controlled through a Combined Landscape and Ecological Management Plan (CLEMP). A Framework CLEMP was submitted in support of the ES<sup>40</sup> and Application, which set out the overarching principles for the final CLEMP, which will be subject to a condition to any planning permission. It was determined that the CLEMP, informed by the framework CLEMP would help to further mitigate impacts of the Proposed Scheme, visually and in relation to the integration into the wider landscape. The final conclusions of the assessment took this into consideration when concluding if effects were significant or not, and therefore the below summary is based on the same conclusion.
- 5.49 At the operational stage, the Proposed Scheme would result in new and notable development within a Site that is currently agricultural fields. Overall, the operational landscape character effects in relation to the Site was not considered to be significant. However, with respect to the surrounding area, the effect was deemed to be adverse and significant.

- 5.50 In terms of visual amenity and character, as with the construction assessment, the effects experienced across the considered viewpoints was varied. Again, those viewpoints closer to the Site were considered to experience the most change as a result of the Proposed Scheme, as the Site contributed notably to these views, whilst further afield views were less impacted as the Site was only a small element of the overall view. The analysis also took account of the existing Halden's Parkway, which was considered to provide some 'context' in terms of similar type of development to the Proposed Scheme already evident in some views.
- 5.51 Overall, adverse effects were identified at some viewpoints (detailed in **Table 5.1**) but none were considered significant. The assessment also concluded for viewpoint 12, a significant 'neutral' effect. In landscape and visual assessments, a 'neutral' term is derived when it is perceived that the overall effect has adverse and beneficial effects. Other not significant neutral effects were also identified within the assessment (detailed in **Table 5.1**).

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<sup>40</sup> Volume 2, Appendix 9.3

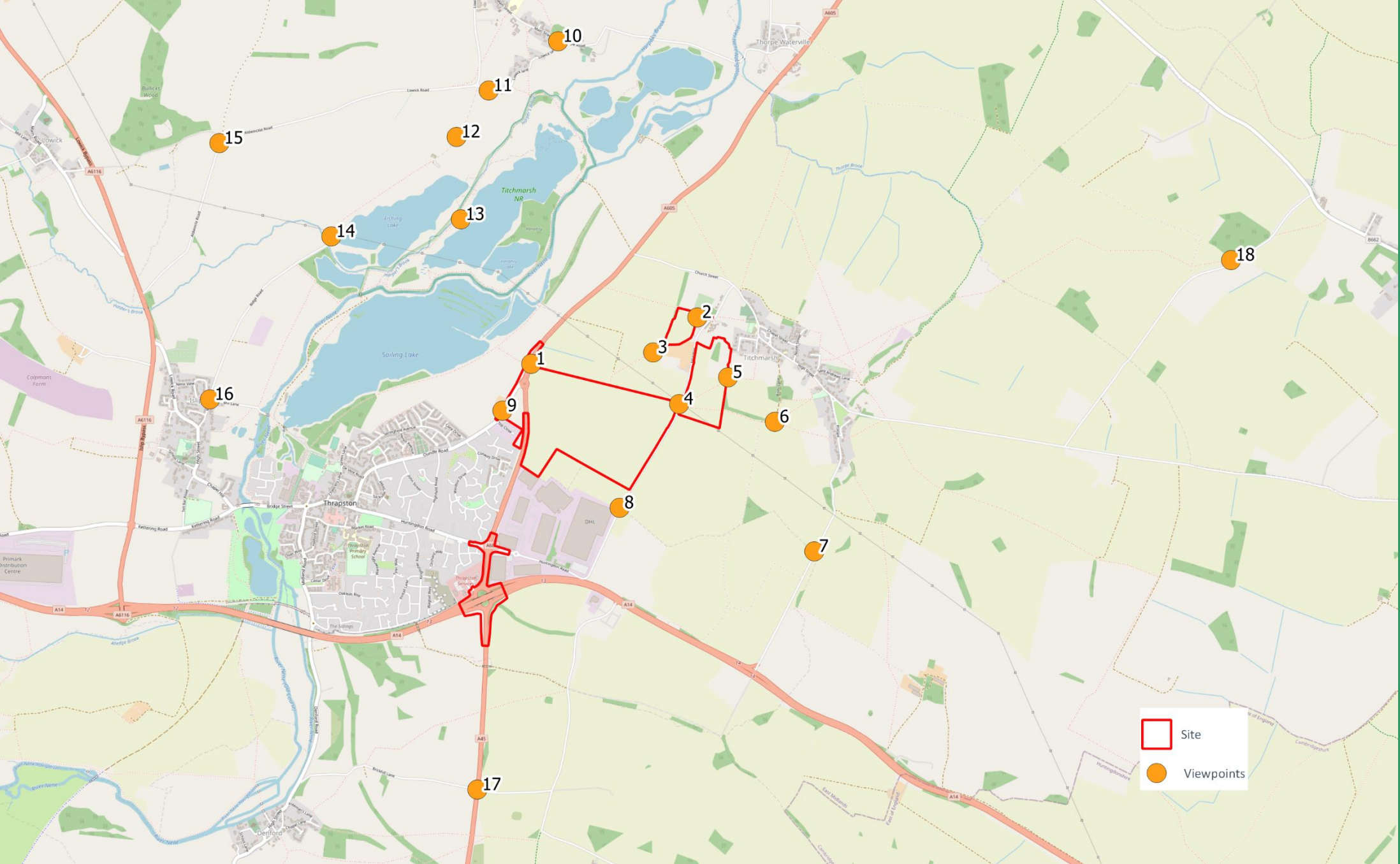
**Table 5.1. Representative viewpoints and their effects**

Viewpoint	Significance <sup>41</sup>	
	Construction	Operation
1	N	N
2	N	N
3	N	N
4	Y	N
5	N	N
6	N	N
7	N	N
8	N	N
9	N	N
10	N	N
11	N	N
12	N	Y
13	N	N
14	N	N
15	N	N
16	N	N

<sup>41</sup> Y = significant, N = not significant. Red = adverse, Blue = neutral

Viewpoint	Significance <sup>41</sup>	
	Construction	Operation
17	N	N
18	N	N





Extract 10. Representative viewpoints assessed

## Built Heritage

### What effects were considered?

- 5.52 The assessment was focused on the change caused to the 'significance' (in heritage terms)<sup>42</sup> and the setting of heritage assets as a result of the construction of the Proposed Scheme and the permanent presence of the Proposed Scheme following construction.

### What receptors were considered?

- 5.53 The receptors considered within the ES included Titchmarsh Conservation Area; Church of St Mary the Virgin (Grade I listed building); Titchmarsh Castle moated site and fishponds Scheduled Monument; and numerous Grade II listed Buildings in Titchmarsh (focused around the Church of St Mary the Virgin and distributed along the High Street).
- 5.54 Because the assessment within the ES has only been focused on likely significant effects, the effects of the Proposed Scheme on other assets have been considered separately within a Heritage Assessment<sup>43</sup>.
- 5.55 All noted built heritage assets are shown on **Extract 10**.

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<sup>42</sup> 'Significance' (in heritage terms) refers to the value or importance of a heritage asset because of its heritage interest. Significance derives not only from a heritage asset's physical presence, but also from its setting

### What did the assessments identify?

- 5.56 During the construction stage, there are several forms of temporary effects that may affect the setting of heritage assets. This includes the temporary diminution in the quality of the setting of heritage assets, from the presence of mobile cranes, visible machinery, and construction traffic movements. Despite this, the assessment found that due to distance and a lack of intervisibility to many of the assets the construction stage would not significantly diminish the significance of the heritage assets and therefore no significant effects are anticipated.
- 5.57 Once constructed and operational, the Proposed Scheme would harm the Titchmarsh Conservation Area due to visual impact and the effect of a change in the character of the Site from open agricultural land to built development. Nevertheless, the impact of the Proposed Scheme on the character and appearance / significance of Titchmarsh Conservation Area was considered to be tempered by distance and the level of separation between the Site and designated area, the extent to which visual impact from the conservation area itself will be restricted and the presence of existing large format buildings that already influence the setting and approaches to the conservation area. As such, although the

<sup>43</sup> Provides an assessment of the Proposed Scheme on the significance of the relevant heritage assets to address the statutory duties in the Planning (Listed Buildings and Conservation Areas) Act 1990, and national policy/guidance on the historic environment in the NPPF and PPG.

change was considered to be adverse the effect was not considered to be significant.

- 5.58 The Proposed Scheme would also harm the significance of the Church of St Mary (Grade I listed) as there would be a reduction in the prominence of the Church tower due to the presence of built form of the height and scale proposed within its setting and in general views of the tower. However, the effect was not considered significant as the other aspects that contribute to its significance (i.e., tower, architectural interest) would be unaffected by the Proposed Scheme.
- 5.59 The Titchmarsh Castle moated sites significance is principally evidential though above-ground remains. Due to distance and lack of intervisibility with the Site it was not considered that the significance of the asset would be affected. Effects were therefore not considered to be significant.
- 5.60 Grade II listed Buildings in Titchmarsh, focused on the Church of St Mary the Virgin and those distributed along the High Street, to the south of Titchmarsh were determined unlikely to experience adverse effects due to distance, orientation (with respect to the Site) and existing screening. Effects therefore were not considered to be significant.





Extract 11. Built heritage assets plan



## Archaeology

### What effects were considered?

- 5.61 The assessment was focused on the effects of construction works, including those associated with changes to ground levels, cut / fill operations and / or foundations on below ground archaeological features.

### What receptors were considered?

- 5.62 Extensive baseline investigation works were undertaken to establish the presence of below ground archaeological remains, including a Geophysical Survey<sup>44</sup> and Archaeological Trial Trenching investigations<sup>45</sup>. As such, the assessment was focused on three 'groups' of archaeological features, comprising:

- Remains associated with Titchmarsh Roman town;
- Remains associated with outlying areas of Roman settlement; and
- Remains of other dates.

- 5.63 The location of archaeological assets and areas of interest are shown in **Extract 12**.

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<sup>44</sup> Using ground-based physical sensing techniques to determine present of subsurface archaeological features.

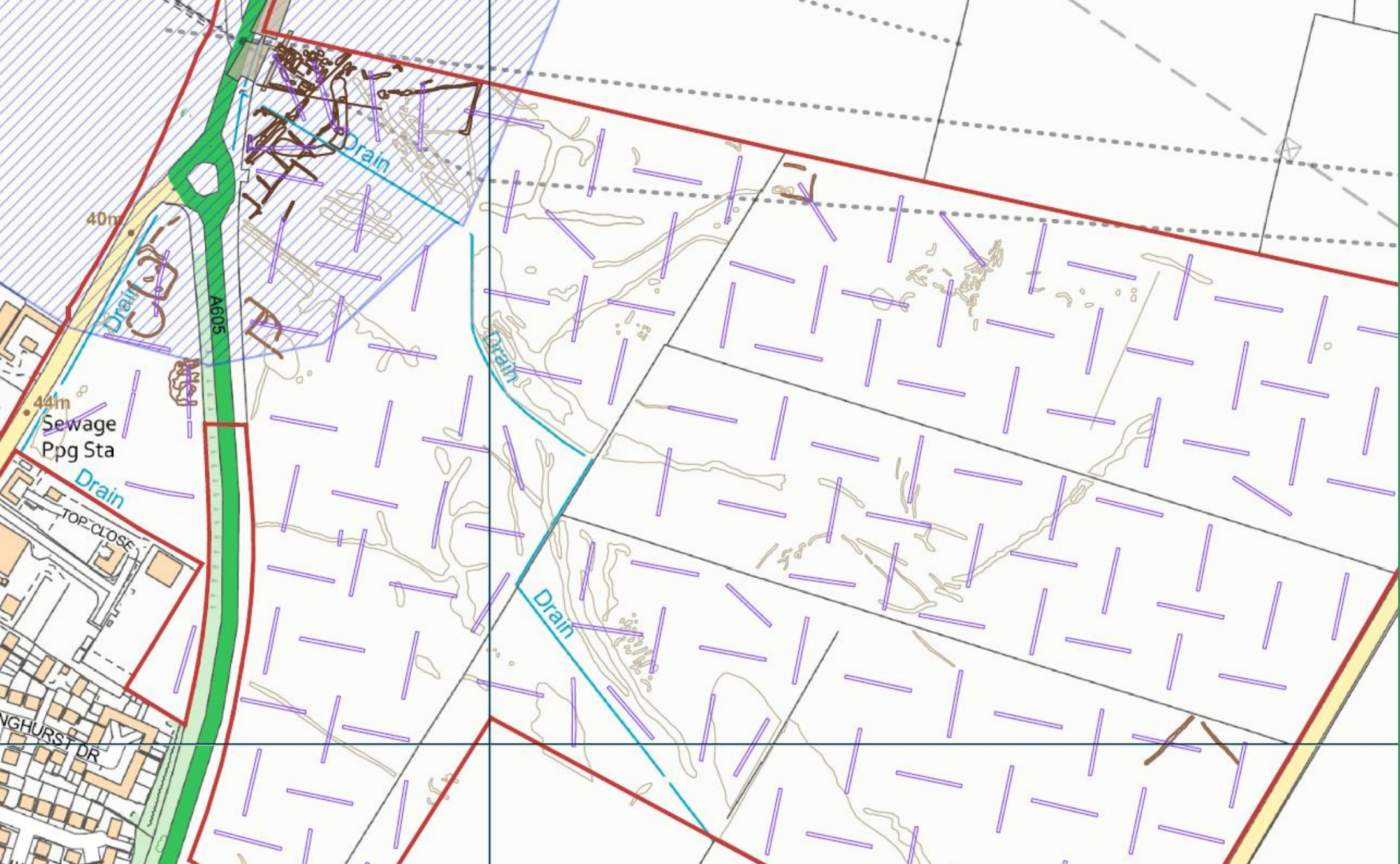
<sup>45</sup> A rapid means of investigating where 'trenches' within the surface in order to investigate presence of features/remains. The process is

### What did the assessments identify?

- 5.64 For the purposes of the assessment, it was assumed that any remains of archaeological interest would be lost during construction (i.e., assuming a worst-case scenario).
- 5.65 The baseline investigation works identified extensive archaeological remains associated with the Roman town in the north-western part of the main parcel of the Site. These comprised an area of deeply stratified occupation deposits, masonry, metalled surfaces and industrial waste, as well as ditched enclosures, pits and postholes. These assets were considered primarily of evidential value and therefore had little associative historical interest (as there is no direct record). Given this, their loss, although being adverse, was not considered to be significant.
- 5.66 Outlying areas of the Roman settlement, predominantly comprising of enclosures, were considered as a separate asset for the purpose of the assessment as these types of remains are relatively common in comparison to the more complex remains associated with the town (the latter of which include deeply stratified deposits) and considered to be of local interest. With that said, the loss of the asset was again considered to be adverse but not significant.

overseen by an archaeologist and the trenches usually cover a sample of the Site, generally between 2% - 5%.

- 5.67 Remains of other dates were generally isolated non-domestic features or those associated with post medieval agriculture the loss of which were considered to be adverse but not significant.
- 5.68 It was identified that the assumed loss of the remains as a result of the Proposed Scheme could be in part mitigated through information gained from excavation and recording of the remains. Furthermore, the additional investigations offer the opportunity for the realisation of the communal value of archaeological remains, through the reporting and public dissemination of the results of the investigation, public outreach and interpretation.
- 5.69 The assessment did also note that the effects of the Proposed Scheme should be seen in the context of the likely continuing truncation of archaeological deposits over time due to the ongoing agricultural practices within the Site. These activities would reduce the heritage significance of the remains and thus the opportunity for the recovery of information through the mitigation set out above was taken into account when considering the overall effects of the Proposed Scheme.



Extract 12. Archaeological assets and areas of Interest

## Biodiversity

### What effects were considered?

5.71 The assessment, informed by extensive baseline ecological survey works and studies, was focused on:

- indirect effects on the Upper Nene Valley Gravel Pits Special Protection Area (SPA)<sup>46</sup> and Ramsar Site<sup>47</sup> as a result of pollution events<sup>48</sup> arising from construction activities/traffic;
- disturbance to species of importance to the Nene Valley Gravel Pits SPA and Ramsar Site as result of construction and operational related activities;
- the temporary loss of habitat of importance within the Site;
- the short-term loss of habitat within the Site that supports notable protected species;

- the long-term loss of habitat that supports farmland bird species;
- long-term disturbance from operational noise and movement resulting in a decline to favourable conservation status of breeding and wintering birds<sup>49</sup>; and
- disturbance to commuting and foraging bats within the Site due to new operational lighting.

### What receptors were considered?

5.72 Given the effects being considered the receptors related to the specific ecological features of interest for each effect, be it specific habitat within the Site, the nearby Upper Nene Valley Gravel Pits SPA and the Ramsar site and associated qualifying species of importance, or more general protected/notable species.

5.73 In terms of on-site habitats, the habitats of importance were found to be hedgerows<sup>50</sup>, running water and mature trees. Other

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<sup>46</sup> A SPA is a designation under the European Union Directive on the Conservation of Wild Birds. Under the Directive, Member States of the European Union (EU) have a duty to safeguard the habitats of migratory birds and certain particularly threatened birds.

<sup>47</sup> Ramsar Sites are wetlands of international importance that have been designated under the criteria of the Ramsar Convention on Wetlands for containing representative, rare or unique wetland types or for their importance in conserving biological diversity

<sup>48</sup> This included consideration of nitrogen deposition from vehicles on the Nene Valley Gravel Pits SPA and Ramsar

<sup>49</sup> In terms of species that are not species of importance for the Nene Valley Gravel Pits SPA and Ramsar

<sup>50</sup> A Hedgerow Regulations (1997) Assessment has been undertaken, identifying eight hedgerows being of 'important' in accordance with the Hedgerow Regulations (1997).



habitats were identified on-site (set out within **Extract 13**) but these habitats did not qualify as 'habitats of importance'.

- 5.74 The baseline survey works also confirmed a range of protected species as part of the assessment including: Bats, badgers, other terrestrial mammals such as hedgehog and brown hare, reptiles, breeding and wintering birds.

#### What did the assessments identify?

- 5.75 The entire ecological assessment was informed by the proposed strategic landscaping proposals included within the Proposed Scheme and its linkages to the Biodiversity Strategy adopted as part of the Proposed Scheme (as detailed in **Section 2**). With this in place it was understood that an element of existing habitat would be retained and enhanced, and new habitat would be provisioned as part of the Proposed Scheme. Furthermore, the evaluation of impacts of operational lighting on bat species was informed by operational lighting principles that govern all operational lighting within the Site.
- 5.76 During the construction stage, the uncontrolled release of pollutants has the potential to impact the qualifying species of the Upper Nene Valley Gravel Pits Special Protection Area (SPA) and Ramsar Site, as a result of hydrological connectivity between the Site and the designation. Furthermore, such species could experience disturbance associated with construction activities

(specifically noise, light and general activity). However, with the implementation of appropriate construction working methods, best practice measures and well-established avoidance measures included within the CEMP it was considered that this potential effect pathway can be controlled and removed. On this basis, it was determined that such effects would not be significant.

- 5.77 Construction of the Proposed Scheme will inevitably cause the loss of existing ecological important habitats, specifically the loss of 2.3km of hedgerow<sup>51</sup>, running water and several mature trees. This will lead to a short-term adverse effect in relation to habitat of importance. Nonetheless, when considering the enhancement proposed as part of the Proposed Scheme (set out in **Section 2** and **Extract 4**) the effect of the loss of ecologically important habitat in the long-term was not significant. This was informed by that fact that as a whole the Proposed Scheme would result in a biodiversity 'net gain' of over 30% compared to the baseline.
- 5.78 During construction, the short-term loss of habitat will lead to a loss of supporting habitat for several protected/notable species. It was considered that the proposed retention of suitable habitat around the Site peripheries, as well as the presence of suitable habitats within the surrounding landscape, would mitigate the effect of short-term loss to some extent. Furthermore, it was determined that the further habitat creation and enhancement proposed as part of the Proposed Scheme, the long-term impacts

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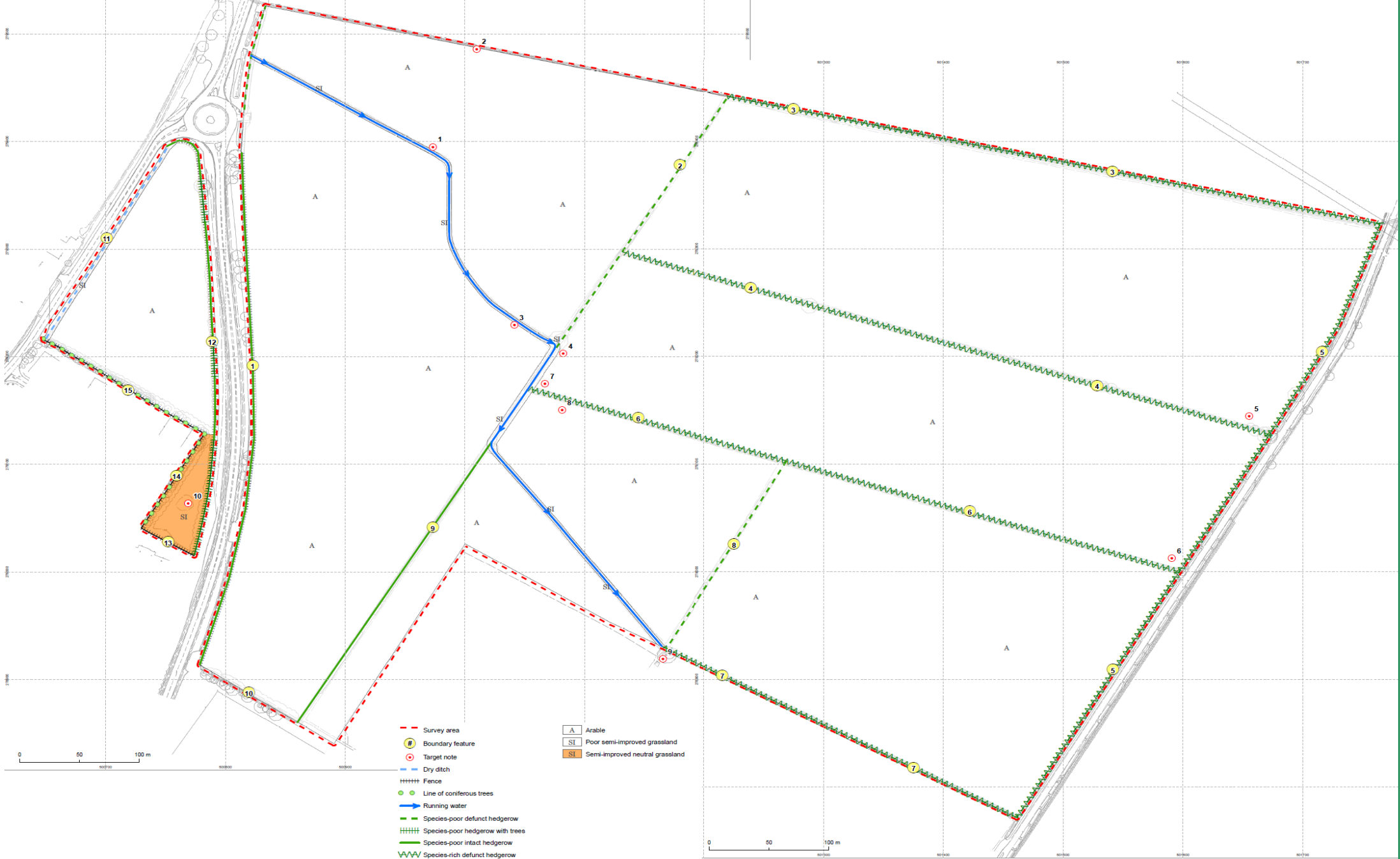
<sup>51</sup> Three 'Important' hedgerow (defined within the Hedgerow Regulations (1997)) will be included within the expected extent of loss arising from the Proposed Scheme.

would not impact the favourable conservation status almost all protected/notable species. As such, it was concluded that the overall effect would not be significant.

- 5.79 The only exception to the above was in relation to breeding and wintering farmland birds, given that the existing arable habitat would be lost. The evaluation noted that the species would therefore likely be displaced to surrounding arable habitat and that the proposed habitat creation/enhancement, which would form a mosaic of habitat, may offer opportunities to support key habitat for such species. Overall, although a long-term adverse effect was noted, it was concluded to effect would not be significant.
- 5.80 Once the Proposed Scheme is operational the assessment determined that there was the potential for adverse effects upon the qualifying species the Upper Nene Valley Gravel Pits Special Protection Area (SPA) and Ramsar Site. The potential effects were in relation to increased vehicle movements, human movements onsite and recreational usage of the designations. Nonetheless, the assessment concluded that the proposed strategic landscaping would provide a good level of screening and recreational options for future users of the Site. Furthermore, the presence of existing footways within the designations helped to ensure that recreational disturbance is minimised. Therefore, the assessment conclude the overall effects would not be significant.
- 5.81 Operational lighting of the Proposed Scheme can result in increase in light spill on habitats utilised by foraging and

commuting bats, thereby reducing the extent of dark areas and deterring bats from using habitats within the Site. Nonetheless, baseline surveys identified that boundary hedgerow and scatter trees provided foraging resource and commuting habitat for bat species. The assessment identified that on balance bat species will continue to be able to commute through the Site, utilising the northern boundary corridor, which will remain at less than 0.5 lux as result of key lighting principles adopted for the Proposed Scheme (**Section 2**). Furthermore, given that the eastern parcel of the Site would not include any form of development, it would offer high value habitat for bat species. As such, it was concluded that the effects on bat species from operational lighting was not significant.





Extract 13. Phase 1 Habitat Survey Map

## Lighting

### What effects were considered?

- 5.82 The lighting assessment considered the effects of the increase in light pollution arising from temporary lighting associated with construction and new permanent lighting required for the operation of the Proposed Scheme<sup>52</sup>.

### What receptors were considered?

- 5.83 The receptors considered include the existing nearby residential receptors and users of the local road network.
- 5.84 The assessment of residential receptors focused on the nearest residential properties on the basis this would 'represent' the worst-case effects and other receptors nearby would experience a similar effect. Representative receptor points were used in the assessment were based on the baseline monitoring locations visited when completing a baseline lighting survey (**Extract 14**). Specifically, the assessment considered 3A (for receptors at the edge of Titchmarsh), 8A (for Springfield Cottage) and 10A (for residential properties backing onto the A605).
- 5.85 The assessment on road users was focused on the users of the A605 and Islington, given their proximity to the Proposed Scheme and thus temporary and permanent lighting.

Representative receptor points 5, 6 and 9 were used to inform the assessment.

### What did the assessments identify?

- 5.86 During construction, temporary lighting required to complete works (especially in the winter months when daylight hours are reduced) can result in light pollution experienced by nearby receptors, include glare to road users cause by poorly sited and angled lighting. Nonetheless, construction lighting effects can be appropriately controlled in line with relevant guidance and standards to ensure that light pollution is minimised. Such measures were suggested as part of the assessment for incorporation within the CEMP. With such measures in place the effects of light pollution from temporary construction lighting were not considered to be significant.
- 5.87 The Proposed Scheme will inevitably result in new permanent lighting to ensure safe working environments in line with national health and safety standards, as well as the correct lighting measures on the access road to ensure highways safety standards.
- 5.88 Lighting design principles have been included as part of a lighting strategy for the Proposed Scheme (**Section 2**) informed by current British Standards and other industry standard guidance. These standards and guidance require the appropriate control of

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<sup>52</sup> The assessment did not consider changes to views (at night-time) because of lighting. This was qualitatively factored into the evaluation of landscape and visual effects identified earlier.

operational lighting to ensure only areas required to be lit are lit. This specification is met through the careful selection of lighting, consideration of placement, mounting and orientation<sup>53</sup>. With such measures in place, it was identified that the Proposed Scheme would not generate significant effects during operation, with respect to light pollution, either to local residents or road users.

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<sup>53</sup> Specifically, the angle of the lighting.



Extract 14. Baseline Lighting Survey Locations

## Socio-Economics

### What effects were considered?

- 5.89 The assessment was focused on the jobs created<sup>54</sup>, the economic output(s)<sup>55</sup> and workforce expenditure associated with the construction and operation of the Proposed Scheme.

### What receptors were considered?

- 5.90 The assessment was focused on the borough area of North Northamptonshire, as this was considered to be the reasonable scale at which the majority of economic effects would be concentrated.

### What did the assessments identify?

- 5.91 In terms of jobs created during the construction stage, it was estimated that the construction of the Proposed Scheme will support 500 direct jobs over the entire construction stage. In addition to this, it was determined that a further 484 indirect jobs will be supported during the construction stage.
- 5.92 Though the additional jobs would be beneficial, when compared to the existing number of jobs in the construction sector (c. 7,000) and that the construction sector only amounted to approximately 5% of employment within North

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<sup>54</sup>Considering both direct (i.e., directly generated by the Proposed Scheme) and indirect jobs (i.e., those generated in the wider economy or supply chain due to Proposed Scheme being constructed or operational).

<sup>55</sup> Considered in terms of the creation of Gross Value Added (GVA), which is a measure of economic impact, distributed through retained

Northamptonshire. The effect of these new jobs was not determined to be significant.

- 5.93 Once operational, the Proposed Scheme is expected to support 2,090 jobs on Site, albeit it is anticipated that 522 of these jobs will be displaced from elsewhere<sup>56</sup> in North Northamptonshire meaning a total of 1,567 net direct jobs will be created by the Proposed Scheme. Furthermore, further indirect employment will also be generated as a result of the spin-off and multiplier effect in the supply chain which is anticipated to generate a further 627 net indirect jobs. The total job creation of the Proposed Scheme will therefore be 2,194 jobs (direct and indirect). These additional jobs have been considered in the context the existing c. 42,000 jobs in the 'transport and storage' and 'manufacturing' employment sectors and that 27% of employment within North Northamptonshire is within these sectors. Overall, it was judged that the additional jobs would give rise to a significant beneficial effect.
- 5.94 The economic output of the Proposed Scheme during the construction stage was determined to be a Gross Value Added (GVA) of £53.0m per annum, equivalent to a total of £317.9m. Currently the annual GVA of the construction sector in North

profit and wages. The GVA is linked to the jobs created by the Proposed Scheme (both direct and indirect).

<sup>56</sup>

Displacement is the level of employment likely to be lost, moved or adversely affected by the employment created as a result of the Proposed Scheme

Northamptonshire is £507.7m and the construction of the Proposed Scheme would increase this by approximately 10%. meaning the construction of the Proposed Scheme will increase construction GVA in North Northamptonshire by approximately 10%. The effect was therefore considered to be a significant beneficial effect.

5.95 Once operational, the Proposed Scheme is expected to generate £101.2m per annum which will increase the GVA of the transport, storage and manufacturing sector by approximately 1.4%. The beneficial effect was also determined to be significant.

5.96 In terms of workforce expenditure, the construction workforce associated with the Proposed Scheme is expected to generate additional expenditure equivalent to £135,000 per annum, which is a total of £810,000 over the entire construction stage. The existing workforce expenditure in North Northamptonshire is approximately £48.3m per annum and therefore the construction of the Proposed Scheme would contribute to a c.0.3% increase. Overall, although beneficial the effect was not considered to be significant.

5.97 During operation, the workforce expenditure was anticipated to be £592,500 per annum, which would mean an increase in workforce expenditure by 1.2% in North Northamptonshire. Such a change, although beneficial, was not considered significant.

5.98 During operation, whilst the Proposed Scheme will create 2,194 net jobs not all of this employment benefit will be attributed to North Northamptonshire. Approximately 23% of the jobs in North Northamptonshire are filled by people who live outside of North Northamptonshire. Therefore, through applying the same leakage factor<sup>57</sup>, the Proposed Scheme will produce 1,690 FTE jobs in North Northamptonshire that will increase resident employment in the transport and storage, and manufacturing sectors by 3.8% which is a significant beneficial effect.

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<sup>57</sup> The number of jobs likely to be taken up by people who live outside of North Northamptonshire



## Agricultural Land and Soil Resources

### What effects were considered?

- 5.99 The assessment considered the effects of the construction of the Proposed Scheme on the existing agricultural land resource and on the existing tenant farmer (in terms of affecting the future farm viability).
- 5.100 Effects were limited to the construction stage as it is at this point the existing receptors on-site (see below) would be impacted, it is just the effect would be permanent.

### What receptors were considered?

- 5.101 The receptors considered comprise the existing agricultural land and the tenant farmer(s) in the context of their wider land holding.
- 5.102 Agricultural land was further defined as either being classified as 'Best and Most Versatile' (BMV) or other agricultural land falling outside of this definition. This categorisation is derived from national guidance on the classification of agricultural land<sup>58</sup>. The Site was found to support an element of BMV (approximately 27.5ha) and other agricultural land (approximately 21.3ha) (**Extract 15**).

### What did the assessments identify?

- 5.103 The construction of the Proposed Scheme will result in the loss of 27.5ha of BMV (comprising 10.1 ha of Grade 2 and 17.4 ha of

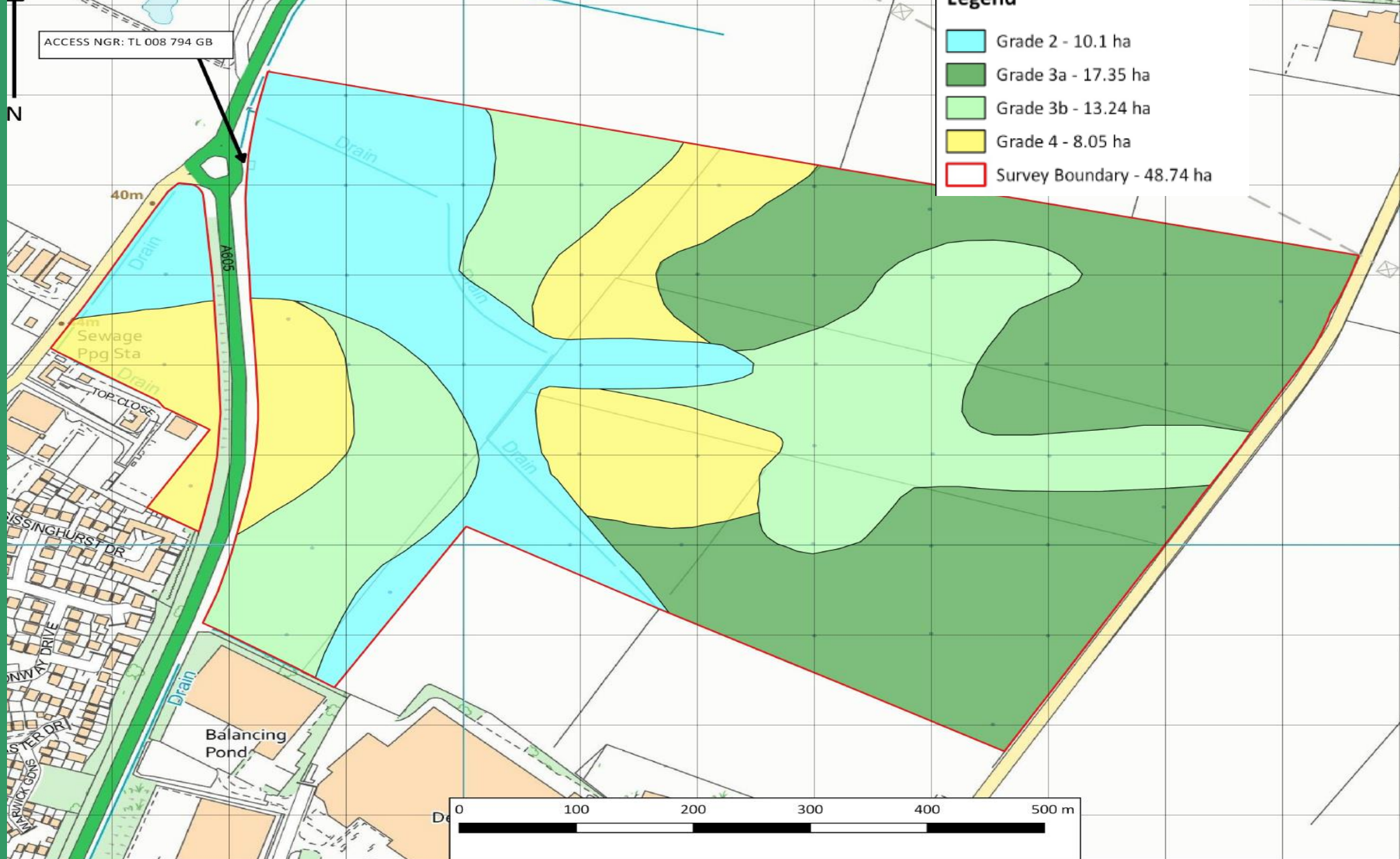
subgrade 3a land) as well as the loss of 21.3 ha of other agricultural land (Grade 3b and 4). The loss of agricultural land is considered to be adverse, however, only the loss of the BMV land was considered significant.

- 5.104 The development of the Site would result in the loss of 48.7 ha of arable land and this would directly impact the existing tenant farmer(s)<sup>59</sup> who also farm their own land-owning of approximately 500ha some 2 – 3 miles away. As such, the loss of farmland associated with the Site would therefore constitute less than 10% of the total farmland available to the tenant farm business and would not involve the loss of critical infrastructure. Therefore, given the size of the land holding owned by the business outside of the Proposed Scheme, the effect on the farm business was not considered significant.

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<sup>58</sup> Agricultural land is normally categorised from Grade 1 to 5 (with some sub-grades) where Grade 1 – 3a are considered to constitute BMV.

<sup>59</sup> The Site is currently subject to a long-term farm business tenancy.



Extract 15: Agricultural Land Classification Survey Map

## Climate Change

### What effects were considered?

- 5.105 The effects of the release of greenhouse emissions from the construction, operation and construction and operation combined were quantitatively assessed.

### What receptors were considered?

- 5.106 The effects of emissions on the global climatic system were considered.

### What did the assessments identify?

- 5.107 The construction of the Proposed Scheme will result in GHG emissions from activities, both on and off-site, including the consumption of fossil fuels by plant and vehicles, the generation of consumed electricity and the transport to/from Site of workers, materials, and waste. The assessment found that with the implementation of mitigation such as the specification of material with lower embodied carbon<sup>60</sup>, the Proposed Schemes construction would emit a total of 72,567 tCO<sub>2</sub>e. This is 0.036% of the East Midlands total GHG emission (2019) and 0.574% of the total GHG Emissions in North Northamptonshire (2019). This is not considered significant.
- 5.108 During operation, the principal sources of GHG emissions relate to the indirect emissions associated with the use of electricity for

heating, cooling, lighting and other uses. The assessment found that 791 tCO<sub>2</sub>e during the first year of operation (2023) and 11,858 tCO<sub>2</sub>e over the operational period (2023-2037)<sup>61</sup> will be emitted. This is 0.003% of the East Midlands total GHG emission (2019) and 0.044% of the total GHG Emissions in North Northamptonshire (2019). This is not considered significant.

- 5.109 Collectively, the construction and operation of the Proposed Scheme will result in 84,425 tCO<sub>2</sub>e. This is 0.038% of the East Midlands total GHG emission (2019) and 0.618% of the total GHG Emissions in North Northamptonshire (2019). This is not considered to be significant.

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<sup>60</sup> Embodied carbon - Embodied carbon is the carbon dioxide (CO<sub>2</sub>) emissions emitted in producing materials

<sup>61</sup> To enable comparison with relevant UK and North Northamptonshire carbon budgets, operational GHG emissions are assessed up to the end of 2037

## 6. Cumulative Effects

- 6.1 It is a requirement of the EIA Regulations for the EIA to assess the 'cumulative' effects arising from the Proposed Scheme.
- 6.2 There is no standard set methodology for the assessment of cumulative effects, but it is common (and in accordance with accepted guidance) for two types of cumulative effects to be considered, namely:
- **Effect Interactions** – which considers different effects within the project itself affecting the same receptors, either within the Site or in the local area; and
  - **In-combination effects** – which considers effects from the Proposed Scheme alongside those from other existing or approved projects impacting upon a common receptor.
- 6.3 For both types of cumulative effects there needs to be a 'common receptor'. By this it is meant that the same receptors is considered in either two or more topics (for effect interactions) or by the Proposed Scheme and another existing or approved project (for in-combination effects). If there is an absence of a common receptor it is considered that a cumulative effect does not occur.

- 6.4 Identifying, interpreting and communicating cumulative effects can often be technical and complicated, making it difficult to explain the outputs in 'plain English'. However, the process and outputs are out below.

### Effect Interactions

#### Approach

- 6.5 The evaluation of effect interactions first looks to combine all of the effects assessed within all technical chapters and 'categorise' them into 'receptor groups'. By sorting all effects into receptor groups, the potential for an effect interaction to occur can be identified.
- 6.6 The receptors groups are based on the list of 'factors' that are specified within the EIA Regulations, that an ES should report the likely significant effects upon<sup>62</sup>. Often the receptors considered within the technical assessments will fall within one of the receptor groups.
- 6.7 Once collated in tabular form, it is clear where a receptor group is experiencing multiple effects associated with the Proposed Scheme and thus there is then considered the 'potential' for an effect interaction. Following this initial sorting process, the specific effects are examined in greater detail and the specific individual receptors assessed to confirm a common receptor.

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<sup>62</sup> population, human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape

## Evaluation Results

- 6.8 During construction stage potential effect interactions were identified for the *Population and Human Health*, *Cultural Heritage* and *Biodiversity* receptor groups. At the operational stage potential effect interactions were identified in the *Population and Human Health* and *Biodiversity* receptor groups.
- 6.9 A summary of the outputs of evaluation is provided below.

Receptor Group	Construction Stage	Operational Stage
Population and Human Health	Effect interactions were identified with respect to noise, vibration and changes to visual amenity arising from construction activities in proximity to receptors. It was concluded that the way in which these effects are experienced by the receptor (i.e., differently) the effect interaction was equivalent to the 'greatest' individual effect, be it derived from construction noise,	The evaluation identified effect interactions with respect to noise from operational activities, noise associated with operational traffic and changes to visual amenity. The same conclusion was reached as that for the construction stage, where the effect interaction was equivalent to the 'greatest' individual effect.

Receptor Group	Construction Stage	Operational Stage
	vibration or the visual amenity aspect.	
Cultural Heritage	Effect interactions where discounted as the archaeological assets effected by the Proposed Scheme where not considered to contribute to the setting or understanding of the built heritage assets considered with the assessment, these receptors, and effects where discrete from one-another.	n/a
Biodiversity	Effect interactions were identified in relation to habitat, both in terms of direct loss of habitat and how the habitat supports specifics species. Overall, it was concluded the effect interactions would equate to the effects in	Effect interactions where discounted as the effects and receptors were considered discrete from one another.

Receptor Group	Construction Stage	Operational Stage
	isolation, purely as a result of the way in which the evaluation of habitat is focused on the importance at a geographical scale (in this instance local).	

## In-combination Effects

### Approach

6.10 The first stage for this assessment is to identify other existing or approved projects that should be considered in cumulation with the Proposed Scheme. This identification and selection process was completed as part of the EIA Scoping process to ensure agreement with NNC on the existing or approved projects to consider. The other projects identified and agreed with NNC to be assessed as part of the cumulative effects assessment are set out in the table below.

ID	Planning Application Reference	Project 'Name'
1	16/01690/REM	Land off Huntingdon and Market Road
2	NE/22/00151/FUL	Land East of Halden's Parkway

3	11/01240/FUL	Thrapston Market Relocation
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6.11 The evaluation of in-combination effects is undertaken by each technical topic. The evaluation is informed by technical reports submitted in support of the other projects, or where this is not available professional judgement is applied. The evaluation is as follows:

- Do the projects share a common receptor, across either the construction and/or operational stages?
- Does the combined effect of each project together give rise to an effect that is greater than that reported for the Proposed Scheme in isolation?

6.12 The evaluation of in-combination effects is normally undertaken qualitatively but some topics use quantitative modelling work that accounts for the other projects.

### Evaluation Results

6.13 The results of the evaluation of in-combination effects are summarised below. Within the table where:

- No in-combination effects where identified this has been denoted by x.
- In-combination effects occur but are no greater than the Proposed Scheme in isolation are denoted with =.



- In-combination effects greater than the Proposed Scheme in isolation are denoted by >.
- Where a greater in-combination effect is identified and is considered significant, this has been highlighted in **bold**.

Topic	Project 1	Project 2	Project 3
Transport and Access	=	=	=
Air Quality	=	=	=
Noise and Vibration	=	>	=
Landscape and Visual	=	>	=
Built Heritage	x	=	=
Archaeology	x	x	x
Biodiversity	=	=	=
Lighting	x	=	=
Socio-Economics	=	=	=
Agricultural Land and Soil Resource	x	=	=

Topic	Project 1	Project 2	Project 3
Climate Change	>	>	>



## Appendix 1: Regulatory Compliance Checklist

Regulation 18, Paragraph 3 (e) of the EIA Regulations requires “a non-technical summary of the information referred to in sub-paragraphs (a) to (d)” to be provided. Schedule 4, Paragraph 9 of the EIA Regulations requires “A non-technical summary of the information provided under paragraphs 1 to 8” to be provided. For clarity around compliance with the EIA Regulations, the schedule below identifies where the information from paragraphs a to d of Regulation 18a and paragraphs 1 to 8 of Schedule 4 is located in this Non-Technical Summary.

Regulation 18. Environmental Statements	Schedule 4. Information for Inclusion in Environmental Statements	Location of Information in this Non-Technical Summary
(a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development	<p>1. A description of the development, including in particular:</p> <p>(a) a description of the location of the development;</p> <p>(b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;</p> <p>(c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;</p> <p>(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.</p>	<p>Section 2: The Proposed Scheme; and</p> <p>Section 4: Determining the Baseline</p>
(d) a description of the reasonable alternatives studied by the developer, which are relevant to the	2. A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by	Section 2: The Proposed Scheme

Regulation 18. Environmental Statements	Schedule 4. Information for Inclusion in Environmental Statements	Location of Information in this Non-Technical Summary
proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment	the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	
-	3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.	Section 4: Determining the Baseline
-	4. A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	Section 4: Determining the Baseline; and Section 5: Effects of the Proposed Scheme
(b) a description of the likely significant effects of the proposed development on the environment	5. A description of the likely significant effects of the development on the environment resulting from, inter alia: (a) the construction and existence of the development, including, where relevant, demolition works;	Section 5: Effects of the Proposed Scheme Section 6: Cumulative Effects

Regulation 18. Environmental Statements

Schedule 4. Information for Inclusion in Environmental Statements

Location of Information  
in this Non-Technical  
Summary

(b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;

(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;

(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);

(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;

(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;

(g) the technologies and the substances used.

The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC(1) and Directive 2009/147/EC(2).

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Regulation 18. Environmental Statements	Schedule 4. Information for Inclusion in Environmental Statements	Location of Information in this Non-Technical Summary
-	6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	Section 5: Effects of the Proposed Scheme
(c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment	7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	Section 5: Effects of the Proposed Scheme
-	8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU(3) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(4) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	Section 3: The EIA Process and Approach; and Section 5: Effects of the Proposed Scheme





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