

**CORBY NORTHERN ORBITAL ROAD – PHASE 2
PLANNING APPLICATION
VOLUME 1
PLANNING SUPPORT STATEMENT**



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Northamptonshire County Council

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Volume 1 – Planning Support Statement

Project Corby Northern Orbital Road

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1. INTRODUCTION

This Planning Support Statement, for the Corby Northern Orbital Road Phase 2, has been prepared by Clarke Bond Civils Ltd in support of a planning application by Northamptonshire County Council (NCC). NCC and Bee Bee Developments Ltd. have formed a Joint Venture (JV) to deliver the project, with the JV having appointed Bela Partnership Ltd as their delivery vehicle. The planning application comprises the following parts:-

- Volume 1 – Planning Support Statement (this volume)
- Volume 2 – Drawings
- Volume 3 – Environment Statement
- Volume 4 – Transport Assessment
- Volume 5 – Flood Risk Assessment
- Volume 6 – Statement of Community Engagement

The Environmental Assessment has been prepared by Wardell Armstrong and the Transport Assessment by RPS.

The red-line application boundary is shown on drawing CL00490/P02 in volume 2.

Note that a separate planning application is to be made for Phase 1 of the project.

1.1. Project Description

Corby Northern Orbital Road (CNOR) comprises a strategic new and improved highway linking Steel Road (junction with A43) with a junction with Mitchell Road on Phoenix Parkway (A6116). See overall site plan (no. CL00490/02) for location and layout. The project is located in the northwest corner of Corby and situated in an Industrial area of the town. The project, working from south to north, consists the following:-

- i). **Roundabout 1** – Revised roundabout at junction with A43 to take dualling of Steel Road and an extra arm to Priors Haw Road.
- ii). **Road 1** – Dualling of the existing Steel Road which is currently a wide single lane carriageway. The junction with Priors Haw Road will be stopped off whilst the other existing junctions (Hunters Road and RC Components) will be retained.
- iii). **Roundabout 2** – Revised existing roundabout at Birchington Road to cater for dual carriageway arms.

- iv). **Road 2** – Dual Carriageway link to roundabout 3 west of the existing Morrison depot. The existing access arrangements for Morrison's depot will be modified to suit a single left-in/left-out t-junction with the dual carriageway.
- v). **Roundabout 3** – New roundabout north of the Morrison's depot with provision for further links.
- vi). **Road 3** – Dual carriageway to roundabout 4 in the western portion of the Rockingham Speedway land. A bridge will be provided where the route crosses Willow Brook North in an area known locally as 'Dingley Dell'. General arrangement details showing the form and appearance of this bridge are shown in drawings CL00490/80 and 81 – Willow Brook Bridge.
- vii). **Roundabout 4** – New roundabout to provide link to Phoenix Parkway and access to Rockingham Speedway with provision for a further link.
- viii). **Road 4** – Dualling of Mitchell Road link which is currently a 7.3m wide single carriageway.
- ix). **Junction 5** – new signalised junction between Road 4 and Phoenix Parkway.

Typical sections illustrating the form of the proposed highway are shown in drawing CL00490/39 – Typical sections.

Phase 2 of CNOR comprises Road 3 extending from (but not including Willow Brook Bridge) to Roundabout 4, Road 4 and Junction 5 (as indicated on drawing CL00490/P02 in Volume 2 of this application).

Phase 1 of CNOR comprises the remainder of the route from (and including) Willow Brook Bridge through to and including Roundabout 1.

The information in this planning application relating to Phase 2 is based on a preliminary design of the scheme. The appointed contractor will undertake the detailed design and construction of scheme. Because the contractor will be carrying out the detailed design the details indicated in this application for the Phase 2 works could be subject to minor adjustments.

The information in this planning application relating to Phase 1 is based on detailed design for the scheme. This design was undertaken against a previous planning application (ref. CO/06/419/COC EN/06/02628/EXT/PAR dated 11 November 2006) and received Technical Approval from NCC (Atkins) on 16 July 2007.

It is recognised that whilst the project is split into two Phases under separate planning applications, much of the supporting documentation is only coherent if information pertaining to both phases is provided against

each application. Accordingly for this (Phase 2) application Volume 2 contains drawings for both phases (annotated appropriately) and Volumes 3, 4, 5 and 6 are scheme wide.

1.2. Standard of Highway

The proposed highway will be constructed to Highway Agency standards in accordance with the Design Manual for Roads and Bridges (DMRB) and also to adoptable standards required by Northamptonshire County Council (NCC). The speed limit will be 40 mph (the same as the principal roads in the area) and constructed to an urban dual carriageway standard comprising 7.3m carriageways and 2.5m central reserve. It is proposed that the highway will be provided with street lighting. A cycleway/footway will be provided on one side within a wide verge (4-5m). This will be provided on roads 1, 2, 3 and 4. Affected existing footpaths around Junction 5 and the north end of Steel Road will be replaced by footways to a higher standard than at present.

Appropriate landscaping will be incorporated into the scheme to ensure the highway is sympathetic with the surrounding landscape.

1.3. Drainage Provision

The majority of the highway will drain into two new retention ponds on each side of Willow Brook (North). This will ensure that the additional catchment from the new highway will not result in additional flow into Willow Brook. Oil interceptors will also be provided upstream of these retention ponds. The outfalls from these ponds will require Environment Agency discharge consent.

A proportion of road 1 will drain southwards via a new small retention pond to the north side of roundabout 1. This will ensure that no additional flows discharge into the existing reservoir south of roundabout 1.

The western portion of Mitchell Road (Road 4) will drain, via a new small retention tank, into the existing highway drainage system in Phoenix Parkway.

An existing retention pond to the north of Willow Brook, which takes discharge from the southern part of Rockingham Motor Speedway site, will be affected by the proposed highway. This will be re-profiled to maintain the current volume.

A flood risk assessment for Willow Brook has been carried out and included with this planning application as Volume 5. This indicates that the bridge proposed for this project will have no effect on the existing flood plain for Willow Brook.

Drainage layouts are indicated in drawings CL00490/P40-P43 (Volume 2).

1.3.1. Sustainable Urban Drainage System (SuDS)

Various SuDS techniques were assessed for this project. However, all infiltration methods such as swales, soakaways and infiltration trenches were discounted due to unsuitable ground conditions. Ground investigations previously carried out indicate that much of the proposed route comprises un-compacted quarry fill at depth which is susceptible to unpredictable settlements when inundated with water. Therefore infiltration systems were discounted on the basis that:-

- Infiltration, in the quarry fill areas, could effect the stability of the formation of the highway, and
- The remaining sections comprise in situ cohesive soils of low permeability.

2. BACKGROUND

The project has been approved to receive funding from the Community Infrastructure Fund (CIF). Previously Northamptonshire County Council (NCC) successfully made a case to satisfy the Department for Transport (DfT) and Office of the Deputy Prime Minister (ODPM) to demonstrate that the Corby Northern Orbital Road will help meet Central, Regional and Local Government aspirations with regard to the construction of housing in the Milton Keynes – South Midlands sub-region. Extracts from the CIF application are included below to demonstrate the need for the project.

2.1. Previous Alignment

There are few alternatives which can be considered as the start and finish points are fixed and there is a narrow land corridor for the route. However the route has developed from the CIF application and this previous route will be used as the alternative for comparison purposes for the Environmental Impact Statement.

3. NEED FOR THE PROJECT

3.1. Background

The Corby Northern Orbital Road is consistent with Northamptonshire County and Corby Borough planning policies, in particular Corby Borough Policy T10. The thrust of this policy is the development of an industrial distributor road to serve the proposed employment land north of Birchington Road, adjacent to the proposed alignment of the Corby Northern Orbital Road. The Corby Northern Orbital Road will also aid in the delivery of 5600 houses in Priors Hall and Weldon Park.

The CIF is a £200 million fund set up to speed the creation of housing in the areas detailed in the Sustainable Communities Plan – Thames Gateway, Milton Keynes/South Midlands, London/Stansted/Cambridge/Peterborough and Ashford. Its stated objective is:

“to support transport infrastructure costs to enable faster housing development in the four growth areas in 2006/07 and 2007/08. It will complement not replace mainstream transport funding in these areas.”

The Corby Northern Orbital Road is key to opening up new opportunities to provide housing in the Milton Keynes/South Midlands Sub-Region.

There is currently no housing within the immediate area of the proposed road. However, there are two housing developments to be created in this area – Priors Hall and Weldon Park. Priors Hall is to consist of approximately 5093 new houses as well as employment, education and leisure uses. It is located to the east of the proposed road. Weldon Park is to consist of approximately 500 houses and is located to the south east of the proposed road.

3.2. Objectives

The Corby Northern Orbital Road's objectives are:-

- To aid the delivery of 5600 houses in the Prior's Hall and Weldon Park developments in the vicinity of the Orbital Road.
- To aid the movement of traffic through and around Corby by eventually extending across the north of Corby to complete an orbital road around the city consisting of the A43 in the south east, the Western Distributor and A6003 in the west and the Northern Orbital Road in the north.

- To relieve congestion.
- To encourage additional employment and regeneration within Corby.

3.3. Corby 2006-2031

3.3.1. Introduction

Corby is to undergo a massive transformation within the next 25 years. Within the next 16 years, the town is expected to double in population. There are a number of developments that will contribute to this growth. As such, it will be necessary to provide sufficient new infrastructure to cope with the transport demands such expansion will generate.

3.3.2. Regeneration

Corby has experienced a recent trend in net out-migration, particularly amongst young adults. Poor transport connections and a lack of housing choice are factors in influencing the exodus of this group.

As a result of this, Government policies – in particular the CIF - are now aimed at regenerating Corby through growth in housing and employment. The Orbital Road can contribute to attracting young and skilled people to Corby by aiding in the provision of new housing alternatives and employment opportunities as well as creating an alternative transport route which will impact positively on movement and flow of traffic within Corby.

The CNOR will promote the growth and diversification of employment land in the north west of Corby. This location is in close proximity to existing residential areas to the south and east and close to the proposed urban extension at Priors Hall to the east. In particular, Priors Hall intends to develop a range of housing which will represent a step change in housing in Corby and will therefore attract a highly skilled population.

3.3.3. Developments

Corby has been earmarked by the Government for growth and regeneration. There are 16,800 new houses to be built in Corby by 2021, effectively doubling its size. In order to cope with this expansion, investment must be made in Corby's infrastructure to ensure efficient movement of people and goods around the town.

Of the 16,800 houses to be built in Corby, approximately 5,200 are to be delivered at Priors Hall and 500 on the land north of Weldon, immediately adjacent to the proposed road. In addition to these developments, the following housing developments are also either approved or seeking approval: Oakley Vale; Walton Homes/Gainsborough Road; Rockingham

Road; Top Shops; Rowlett Road; Willowbrook Road; Oakley Hay; Long Croft Road Parkland Gateway; Weldon Park; Priors Hall; Glastonbury Road; Western Housing; and Southern Housing. The following employment developments are also approved or seeking approval: Oakley Vale; Oakley Hay; Eurohub Expansion; Longhills; Phoenix Parkway; Birchington Road; Priors Hall; Princewood Road; Rockingham Triangle; Lloyds Road; Town Centre Improvements; Cockerell Road; Railway Business Park; and TOPS Anne Street.

At present, access to the Priors Hall site is to be from the A427 at the southern edge of the site. The Northern Orbital Road would, however, provide an opportunity to construct a northern access to Priors Hall with the potential to bring forward its development and reduce its reliance on the A427 by offering an alternative route to the Town.

3.3.4. Rockingham Speedway

The site of the Corby Northern Orbital Road is adjacent to the existing Rockingham Speedway, a major sports venue in north eastern Corby. The venue can seat up to 55,000 spectators when full. There is currently no public transport access to the speedway, and it is not located near any residential development. Access to the speedway is very difficult.

Currently, the venue hosts approximately 20 motor sport events per year. Assuming the following:

- A crowd of 80 percent of the capacity at an event;
- That the crowd arrive over a period of 2 hours, but leave all at once;
- 100 percent car mode share;
- All competitor and catering deliveries arrive in the week leading up to an event;
- Event staff arrive before spectators and leave afterwards; and
- An average of one passenger per spectator vehicle.

There will be a sudden loading of 22,000 vehicles onto the existing road network.

There is also an annual major exhibition held on a showground recently constructed at the speedway.

Currently, the site is accessed from Mitchell Road, which leads to Phoenix Parkway. This is a minor single carriageway road that has proved insufficient to cater for the type of traffic a large stadium will generate for an event.

The Corby Northern Orbital Road would provide better and more direct access to the site from the A43 via Steel Road. Rather than having to use Phoenix Parkway and Mitchell Road, the Speedway could be accessed directly from the Northern Orbital Road. This would enable the easy removal of race day traffic via a dual carriageway rather than a series of single carriageways.

3.3.5. Industry

The land north of Birchington Road is currently being developed as a major distribution centre for supermarket chain Morrison's. As such, heavy goods movements around the Steel Road, Phoenix Parkway and Birchington Road area are set to increase. Good highway links are essential to the success of such a development.

South of Corby, the existing Eurohub distribution centre is to be expanded. This development will rely on good highway links in all directions. An orbital road around the town will remove the need for vehicles travelling from Eurohub to the north of Corby and beyond to cross the town, as well as those from the Phoenix Parkway and Rockingham Road Industrial Estates travelling to the south of Corby and beyond.

3.4. Planning

3.4.1. Introduction

This section discusses issues relating to planning in light of the proposals to develop a Corby Northern Orbital Road and sets out the planning process, procedures and context, including relevant planning guidance and the extent to which the proposed development conforms to these policies.

3.4.2. Planning Process

This section sets out the planning process in terms of working towards gaining planning permission for the proposed Corby Northern Orbital Road.

- The planning application will be carried out by NCC with NCC giving approval if successful. The two local authorities which the project will cover, namely Corby Borough Council and East Northamptonshire District Council, will be consultees.
- The proposals are classified as a 'Schedule 2 Development'. Therefore, in accordance with Government guidance, an Environmental Impact Assessment (EIA) is included.
- As part of seeking planning permission, the EIA is included to consider and respond to relevant planning guidance and policies which are both

for and against the proposals. Key planning policies are set out and assessed in the following section.

3.4.3. Planning Context

The development plan provides the essential framework for planning decisions. Under the *Planning and Compulsory Purchase Act (2004)*, the Development Plan for Corby and East Northamptonshire will consist of Regional Spatial Strategy 8 (RSS) East Midlands, which incorporates the Milton Keynes South Midlands (MKSM) Sub-regional Strategy (SRS), and the Local Plan.

3.4.4. Strategic

3.4.4.1. **The Sustainable Communities: Building for the Future – The Communities Plan (2003)** states that communities are more than just housing and that other needs of communities must be satisfied. The most important requirements of sustainable communities include:

- A flourishing local economy to provide jobs and wealth;
- Strong leadership to respond positively to change; and,
- Good public transport and other transport infrastructure.

The Plan notes that the sub-region is already demonstrating dramatic capacity for economic success, illustrated by the Milton Keynes and Northampton employment growth which was three times over the national average between 1991 and 2000.

In accordance with PPG13, the wider benefits of economic development should be recognised whilst considering any adverse local impacts. New development should contribute towards global sustainability by seeking to reduce energy use and emissions. Therefore patterns of development which reduce the need to travel by car, or reduce the impact of moving freight are encouraged.

3.4.4.2. **PPS1 Delivering Sustainable Development (2005)** promotes sustainable development (ensuring a better quality of life for everyone) as the core principle underpinning planning. Four key aims are:

- To maintain high and stable levels of economic growth and employment;
- Social progress which recognises the needs of everyone;
- Effective protection of the environment; and,
- Prudent use of natural resources.

- 3.4.4.3. **PPG3 Housing** (2000) expects one of the main roles of the planning system is to provide sufficient housing land (in accordance with sequential test).
- 3.4.4.4. **PPG4 Industrial, Commercial Development and Small Firms** (1992) encourages continued economic development in a way that is compatible with environmental objectives. The challenge is to integrate these two objectives. Industry and commerce seek locational advantages including:
- Links with other businesses – clusters;
 - The workforce catchment area – proximity to skilled workers;
 - Transport considerations – good access to roads is a particularly high priority. Locations should also seek to minimise length and number of trips, and reduce use of the car.
- 3.4.4.5. **PPG9 Nature conservation** (1994) advises that environmental interests should be considered in all planning activities where there is wildlife of local importance. Planning permission should not be refused if development can be subject to conditions that will prevent damaging impacts.
- 3.4.4.6. **Draft PPS 9 Biodiversity and Geological Conservation** (2004) sets out further policy objectives including a clearer focus on the need to conserve, enhance and restore biological and geological diversity.
- 3.4.4.7. **PPG13 Transport** (2001) states that our quality of life depends on transport and easy access to jobs, shopping, leisure facilities and services. The integration of land use planning and transport has a key role in delivering sustainable development. Accessibility to a range of land uses including areas of employment, where jobs are located, is promoted.
- 3.4.4.8. **Regional Spatial Strategy 8 (RSS) East Midlands** (2005) sets out proposals for the sustainable development of the region's economy, infrastructure and housing. Core Regional Objectives are to:
- Promote and improve economic prosperity, employment opportunities and regional competitiveness;
 - Protect and where possible enhance the quality of the environment;

- Improve accessibility to jobs, homes and services by developing integrated transport;
- Enhance the capacity of existing infrastructure, including the highway network to absorb further development; and,
- Improve the accessibility of sites by non-car modes and impact of development on environmental assets.

3.4.4.9. **RSS8** notes that future growth should contribute to the regeneration of Corby (Policy 13). The level of housing proposed will significantly reduce the need for in-commuting and new transport infrastructure will also support regeneration of Corby.

3.4.4.10. **Milton Keynes South Midlands (MKSM) Sub-regional Strategy (SRS) (2005)** sets targets for future housing and employment:

- Corby will develop 16,800 new dwellings by 2021, with an additional 28,000 new dwellings over Corby, Kettering and Wellingborough by 2031.
- Corby, Kettering, Wellingborough and East Northamptonshire should accommodate 43,800 new jobs by 2021.
- Corby is a main location for future growth, particularly regeneration.
- Key objective is to provide infrastructure and linkages to support requirements generated by new development.

In 2003, a strategic assessment of Northampton's growth potential was undertaken as part of the technical work underlying the Milton Keynes and South Midlands Sub-Regional Strategy. This culminated in the formal approval of the MKSM Strategy in 2005. It proposed the construction of 16,800 new homes and the creation of 14,400 new jobs in the Corby area up to 2021. The development of the Priors Hall and Weldon Districts will make a significant contribution to achieving both these housing and employment targets.

3.4.4.11. **Strategy for Movement** - the need for movement within the sub-region will increase with future growth. Further demands will be placed on roads. In accordance with Regional Transport Strategies the key aim is to invest in highways improvements.

3.4.4.12. **East Midlands Regional Economic Strategy** sets the following objectives:

- Develop a strong culture of enterprise and innovation;
- Create high-quality employment opportunities and bring about excellence in learning and skills, giving the region a competitive edge;

- Provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies.
- Provide quality employment sites, on previously developed land;
- Enhance the competitiveness of businesses in the urban areas; and,
- Create a sustainable and sequential land supply for new businesses and residential use to meet needs of high growth industry and support services.

3.4.4.13. **Catalyst Corby Regeneration Framework** (2002) aims to deliver real change in Corby. Improvements will be made to transport infrastructure, providing an accessible network throughout the town, in particular connecting new peripheral employment and residential expansion areas. The Framework sets out the following core economic development objectives:

- Provide a suitable amount of employment;
- Provide a greater choice and quality of employment sites; and
- Provide improvements to the road network.

The Framework proposes that the existing motor sports and precision engineering cluster centred upon the Rockingham Motor Speedway provides a key opportunity to develop further motor sports and hi-tech engineering activity.

3.4.4.14. **Corby Local Delivery Framework**

The development planning context for the CNOR is part of the emerging Local Delivery Framework (LDF). This envisages the development of some 16,800 houses and about 68 hectares of employment land in a number of undeveloped areas in Corby, particularly to north-east and west of the Town. Priors Hall, which is one of the principal sites on the north-east side of town benefits from a planning consent. The site was originally allocated for commercial use in the last Corby Local Plan.. The CNOR provides a highways link between the A43 and Phoenix Parkway.

Development of the Urban Extension on the and east side of Corby depends heavily on the construction of the Northern Orbital Road, for the deliverability of the housing requirements necessary to meet the growth agenda, particularly on the north and east side of Corby.

The Corby Northern Orbital Road is integrated within government policy at Local, Regional and National levels. The CNOR is consistent with the Corby Local Plan and the East Northamptonshire Plan. Catalyst Corby and the MKSK Sub-Regional Strategy.

3.4.4.15. Analysis

The Corby Northern Orbital Road will make north east Corby more attractive to residents and businesses. It will improve access to the existing industrial and sporting developments as well as to proposed residential and industrial developments in a manner consistent with Regional and National Government strategic policies.

The Corby Northern Orbital Road will complement the Priors Hall development, aiding in the regeneration of the town, by providing accessible, high quality housing to a skilled workforce and employment opportunities for these skilled workers within Corby.

As one of the preferred growth locations within the sub-region, Corby has an important role to play and should contribute towards economic progression, as its local economy is subject to change with the development of future housing and jobs. The Orbital Road will create opportunities to develop land to the north of Corby, for housing and employment uses.

3.4.5. Local Planning Policies

3.4.5.1. **Corby Local Plan** (1997) designates a proposed road layout for the Corby Northern Orbital Road that covers an area of land designated for Transportation (Policy T10), and crosses two narrow elements of larger sites designated for Employment (J23) and Environment and Nature Conservation (E10).

- T10 Transportation Proposals – Provision of an industrial distributor road to serve the proposed employment land north of Birchington Road, including a new junction to the Birchington Road roundabout.
- J23 Employment Area – North of Birchington Road.
- E10 Environment and Conservation – Linear nature conservation area at the end of Willow Brook North Industrial Area. Policy states that the site has some conservation interest and existing hedgerows should be retained.

However, the environmental designations set out in the local plans are considered to have been superseded by guidance contained in regional planning policy.

3.4.5.2. **East Northamptonshire Local Plan.** The proposed development covers land designated as Special Landscape Area (Policy EN2) and is in close proximity to Historic Parks and Gardens site (EN25).

In terms of employment the local plan aims to create conditions suitable for the growth and diversification of the local economy and the creation of new employment opportunities. It is also equally important to provide a range of suitable housing, improved communications, a high standard of retail and leisure activities and to conserve the built and natural environment. Policy EMP5 advises that planning permission will be granted for development which strengthens the economy and generates employment, including the expansion of existing businesses.

3.4.5.3. **Analysis**

Regeneration is the main objective in Corby. Sustainable future growth, particularly the provision of adequate infrastructure to facilitate housing, employment and economic growth, will play a significant role in achieving regeneration. The Corby Northern Orbital Road will assist in achieving regeneration in line with local planning policies.

Policies emphasise that future growth must be infrastructure and employment led. The proposed Corby Northern Orbital Road forms part of the physical infrastructure required to supplement housing development.

Policies do generally indicate that the need to travel, particularly by car, should be reduced, and that alternative modes should be promoted. In accordance with this, the opportunities for improving public transport services to the new housing development at Priors Hall and the new industrial areas will be improved through the construction of the Corby Northern Orbital Road.

3.4.6. **Conclusions**

National, Regional and Local policies concerning Corby are aimed at its regeneration. Corby is nominated as a priority for housing, employment and general economic growth. The Corby Northern Orbital Road provides opportunities for regeneration by providing access to new employment land and improving access to proposed residential and employment developments.

The Corby Northern Orbital Road is consistent with Local, Regional and National Government policies and aspirations.

4. EFFECTS ON THE ENVIRONMENT

4.1. Landscape and Visual Effects

There will be few landscape impacts resulting from the proposed development, this is because much of the scheme is located on the alignment of existing roads and associated grass verges within industrial estates.

Similarly, visual impacts will be low due to the location. The greatest visual impacts will be experienced from existing roads during the construction phase but these will be short term and will decrease on completion.

There are no residential properties along or in close proximity to the proposed route. However, properties on the periphery of Weldon may experience some views of construction operations. These will be short term and will reduce on completion.

4.2. Biodiversity

The proposed scheme will have no direct impact on any area of habitat protected by statutory designations and will have neutral impacts on designated sites. There will be neutral to slight adverse impacts on four habitat types along the route. Species protected under Schedule 5 of the Wildlife and Countryside Act present around and along the proposed route include Great Crested Newt. In addition, the scheme may also impact on habitats frequented by Badgers.

The proposed road crosses the Willow Brook North Watercourse. The Brook is important due to its role as a habitat corridor for a number of species including badgers. The Brook may be affected by changes in hydrology.

4.3. Noise

The noise assessment has identified the predicted noise levels for all relevant receptors, including properties and other locations taking into account mitigation proposals. The proposed route is located in an unpopulated area and open countryside with no residential properties within close proximity.

The assessment indicated that none of the receptor locations will experience an increase or decrease in noise levels of 1 dB(A) or more in 2008 (the opening year) or 2023 (the design year). The noise assessment indicates that none of the receptors identified will experience a significant increase in noise levels. Because none of the receptor locations will

experience a change in noise levels of 1 dB(A) or more a noise nuisance assessment was not required. The predicted noise levels and changes in noise levels indicate that against the criteria set out in The Noise Insulation (Amendment) Regulations 1988 none of the receptors are likely to be eligible for compensation.

4.4. Air Quality

The properties within 200 metres of the existing routes that will be potentially affected by CNOR have been identified. Air pollutant concentrations were predicted for all six of the receptors within 200m of the routes affected by the scheme. The air pollutant concentrations were predicted using the DMRB spreadsheet "The Local Impacts Screening Method". The concentrations were predicted for the opening year 2008 and the design year 2023, each for Do-Minimum and Do-Something scenarios.

The results of the DMRB assessment indicated that the proposed scheme would have an insignificant impact on air quality at all receptor locations. All modelled air pollutant concentrations were well below the National Air Quality Standard objectives for both assessment years.

The overall change in NO₂ and PM₁₀ experienced at the receptor locations was assessed. The change in pollutant concentrations between a Do-Minimum to a Do-Something scenario was identified for each of the receptors.

The number of properties likely to experience a deterioration in air quality for the pollutant PM₁₀ is 0, with 1 property experiencing no change and 5 properties experiencing an improvement. The number of properties experiencing deterioration in air quality for the pollutant NO₂ was 0, with 5 properties experiencing an improvement, and 1 experiencing no change.

All air pollutant concentrations were found to be well below the National Air Quality Standard objectives.

A regional assessment of the total change in emissions was carried out. The total emissions for NO₂ and PM₁₀ were found to decrease between a Do-Minimum to a Do-Something scenario in 2008 and increase between a Do-Minimum to a Do-Something scenario in 2023.

4.5. Water Environment

The development area has been extensively quarried and back-filled with quarry and landfill material. A review of available information has shown that as a result the importance of the local aquifer has decreased over time and there are few local water abstractions. The proposed road is therefore not expected adversely change the current status of the underlying aquifer.

The proposed road will cross the Willow Brook North watercourse via a bridge. The design of the road and bridge will have little impact on the current floodplain area. Surface water runoff from the road will be directed to the existing watercourse via new retention ponds. The quality of discharge from the road surface has been assessed and it is not expected to impact on the local surface water environment

4.6. Local Community

There is little in the way of a local community as there are no residential properties in the area as the route is situated in an industrial region of Corby.

Existing pathways affected by the works, particularly around Roundabout 2 and Junction 5, will be reconstructed to a higher standard.

A widened verge on one side of the proposed highway will include a new footpath/cycleway for the remaining sections.

There is only one public right of way which may be effected by the construction works namely UB 21. This public right of way is outside the permanent works and therefore not effected by the completed scheme. However the construction works may require a temporary localised diversion depending on the method of construction adopted by the contractor.

The JV (Bee Bee Developments and Northamptonshire County Council) have undertaken pre-application discussions with the local planning authorities, statutory consultees and the local community. Previous consultations for the development of this area of Corby have involved Stakeholder Groups acting within workshops communicating with major employers in the area and residence associations. Deene and Deenethorpe Parish Council have previously been notified of this project.

These discussions have been used to shape and improve the scheme currently being proposed in this planning application. This approach reflects the guidance contained within Planning Policy Statement 1 and the County Council's Statement of Community Involvement (SCI) as presented in Volume 6 of this Application.

4.7. Ground Conditions

4.7.1. Ground Investigation

An intrusive geo-environmental investigation has been undertaken at the site, with exploratory holes completed at intervals along the route, based on the findings of a Phase I Desk Study. Geotechnical and chemical tests were scheduled on selected samples collected from the investigation.

Chemical testing was programmed with particular reference to areas of potential concern defined from the Desk Study.

The investigation followed the proposed route alignment current in September 2006. Various amendments to this alignment have been made subsequently, and it is likely that a further supplementary investigation will be required to address portions of the route not covered by the initial investigations. This particularly relates to the west end of the alignment, including parts of Road 3, Roundabout 4, Road 4 and Junction 5.

Reference Documents.

The following documents have been prepared relating to the geo-environmental investigations:

- Corby North Orbital Road, Phase I Geo-Environmental Desk Study Report, Clarke Bond Geo-Environmental Ltd, ref. EL00333/R1/1, November 2006
- Ground Investigation for Corby Northern Orbital Road, Geotechnics Ltd, ref. PC062550, in preparation, submission anticipated October 2006
- Corby North Orbital Road, Phase II Geo-Environmental Investigation, Clarke Bond Geo-Environmental Ltd, ref. EL00313/R2, November 2006
- Corby North Orbital Road, Phase II Geotechnical Investigation, Clarke Bond Geo-Environmental Ltd, ref. EL00313/R3, November 2006

4.7.2. Ground Conditions

Geological conditions at the site have been determined as comprising Glacial Till overlying bedrock of the Great Oolite Series or Jurassic age, comprising mixed limestone, sandstone and mud rocks.

The natural geology has been greatly disturbed through much of the route by former quarrying activities, leaving a legacy of un-compacted Quarry Fill comprising generally reworked overburden soils (Glacial Till and Limestone) extending to typically 25mBGL.

The site has been divided into 5nr Geotechnical Domains distinguished largely due to the occurrence of quarrying in the past, the definitions of which are:

- Geotechnical Domain 1 (GD1) – Roundabout 1, Road 1, Roundabout 2. Characterised by in situ soils of Glacial Till overlying Bedrock, with various Made Ground at surface generally associated with the existing highway construction.

- Geotechnical Domain 2 (GD2) – Road 2, Roundabout 3, Road 3 to Ch360. Characterised by Quarry Fill extending to c.25m depth comprising un-compacted reworked overburden of Glacial Till and Limestone.
- Geotechnical Domain 3 (GD3) – Road 3 Ch.360m to Ch.590. The Willow Brook Valley, comprising Quarry Fill on the flanks and Made Ground/Alluvium and Glacial Till to about 4m in the valley floor.
- Geotechnical Domain 4 (GD4) – Road 3 Ch.590, Roundabout 4, Road 4. Characterised by Quarry Fill extending to c.25m depth comprising un-compacted reworked overburden of Glacial Till and Limestone.
- Geotechnical Domain 5 (GD5) – Junction 5. Characterised by in situ soils of Glacial Till overlying Bedrock, with various Made Ground at surface generally associated with the existing highway construction. All works associated with the CNOR construction are likely to be within heavy clay soils of Glacial Till and Made Ground, comprising reworked Glacial Till.

Groundwater was encountered as minor perched water bodies in both the natural ground and Quarry Fill across the site and is not generally anticipated to impact on the engineering design or construction. The single exception was within the Willow Brook valley (GD3) where groundwater was encountered at about 90mOD potentially in hydraulic continuity with the Willow Brook.

4.7.3. Geotechnical Risk

The ground engineering assessment has indicated the following:

- Ground Treatment – Ground treatment is likely to be required to improve soils where the route crosses areas of infilled ironstone quarries. Improvement by direct surcharging (the construction of a temporary earthwork embankment) is likely to be adopted as the most suitable technique. Improvement by dynamic compaction or high-energy impact compaction may be considered although either of these processes will have noise and vibration implications over and above the normal construction activities. Notwithstanding the above, geogrid reinforcement is also likely to be required for the road foundations.
- Earthworks - The majority of arisings are likely to be classified as Class 2A or 2B according to the DMRB. Near surface arisings are likely to include large volumes of soil that is too wet for direct re-use in earthworks.

- Slope Stability - Based on a minimum characteristic angle of internal friction of 27° for all soil types, in the absence of ground water, stable slopes for both cut and fill slopes will be $\beta = 1_{\text{vertical}} : 2.5_{\text{horizontal}}$
- Highway Structures – A single structure is proposed for inclusion in the works, being a viaduct crossing the Willow Brook Valley. The structure will require piled foundations for piers and abutments, with allowance for negative skin friction included in the abutment pile design.
- Drainage –Where the road is constructed over Quarry Fill (i.e. GD2 and GD4), all drainage runs should include impermeable liners to prevent inundation into the soils.
- Ground aggressivity to buried concrete – the Design Sulphate Class indicated from test samples is DS-1, and ACEC Class – AC-1

Additional site investigation will be required to address the following:

- The route alignment changes in GD4 including the relocation of Roundabout 4 and realigned section south of Mitchell Road will require further investigation;

4.7.4. Geo-environmental Risk

Based on desk study research and testing of soil and ground water samples collected along the route of the CNOR, conclusions relating to the contamination status of the project are as follows:

- With exception of two (2nr) potential areas of concern (PAOC) (see below), the environmental investigation indicates that contamination generally poses a low risk to the human health of future site users, providing the proposed use of the site does not alter from a road.
- Elevated values of Total Ammonia were found in water samples from boreholes that were located in the Willow Brook valley in the vicinity of an drainage outfall discharging from a former landfill area containing foundry tailings (colloquially known as the “Ammonia Spring”). The groundwater levels indicate hydraulic continuity with the Brook. Due to the depth of water in the ground and the fast rate of ammonia disintegration (days), there is no risk associated with the road construction.
- Review and analysis of the chemical data has identified local exceedances of cyanide, zinc, lead, and hydrocarbons of both the Aliphatic and Aromatic range, as follows:

1. Elevated levels of zinc, lead and hydrocarbons have been measured at depths that pose a potential to migrate to groundwater. Lead is a heavy metal that tends to adsorb to soil particles and is essentially insoluble in water. Some of the medium hydrocarbons (C12-16 range) are not persistent and biodegrade in soils with sufficient organic matter. Based on the nature of these contaminants, the low permeability of the soil where these results were measured, and the absence of a measurable aquifer beneath these areas, no pollutant linkage to groundwater has been identified.
2. In respect to risk posed to human health from elevated concentrations of contaminants, construction of the road will effectively cap the soils reducing the likelihood of ingestion and inhalation pathways between source (contaminated soil) and human receptor (site user). The pathways will be further reduced by the nature of the site and average duration that site users will be within it; i.e. the majority of site users will traverse the site in or on a vehicle and will not remain on the site for prolonged periods of time. Therefore the risk to future site users from contaminants outside of the identified Potential Areas of Concern is considered low.
3. **PAOC 1** - An area of concern was identified to the west of Roundabout 4 at TP41. The maximum value test concluded that the elevated level of detected cyanide is a statistical outlier and therefore should be treated as a "hot spot". Sufficient data regarding the extent of contamination is not available. Therefore further investigation is recommended in this area to adequately assess the concentration and distribution of cyanide at this location.
4. **PAOC 2** - The potential intersection of the route at the south end of the foundry tailings tip will require further investigation. Investigations to date have not uncovered tailings, but further detailed investigation is required to confirm this.

For this (Phase 2) application further ground investigations are recommended to address uncertainties arising from the existing data as follows:

- Variations in the alignment of the road have occurred since the intrusive investigation. Additional investigation and testing of samples should be conducted along lengths of alignment that are not covered in this document;

- The potential for cyanide contamination at PAOC1, in the vicinity of TP41 will require further investigation;
- The potential for the foundry tailings tip to encroach onto the site at PAOC2 will require confirmation from additional intrusive investigations.

In addition to the requirement for further investigations, the study has indicated the following requirements for protection of the construction workforce and future site users (including maintenance staff) as follows:

- During construction and maintenance of the road, site operatives are recommended to follow health and safety guidance, including appropriate PPE, and to avoid contact with soil and groundwater;
- Ground gas has not been detected in the monitoring to date. However, given the history of the site, conditions are such that the potential for ground gas is present.

4.8. Construction

Stringent measures will be taken to protect the ecology and the drainage system of the area during the construction phase. Construction traffic will be confined to the main roads and within the site boundary. The spread of dust and dirt will be kept to a minimum by employing appropriate working practices.

5. MEASURES TO LESSEN EFFECTS OF THE SCHEME

5.1. Landscape

Mitigation proposals will improve wildlife corridors and green linkages through the planting of locally appropriate native woodland belts (such as Oak-Ash woodland mix planting). This will also provide screening of the road and integrate the new scheme with the surrounding area. Hedgerow replacement will be incorporated into the design to mitigate for hedgerows lost during construction of the road.

In the long term, the establishment of restoration proposals will enable the site to integrate into the existing landscape.

5.2. Biodiversity

To minimise the impact on Willow Brook North, the Environment Agency Pollution Prevention Guidelines will be followed to control any spillages and the extent of the sediment load entering watercourses during construction. The banks of the watercourse will be re-instated after construction, which may provide the opportunity to enhance some of the watercourse as suitable water vole habitat by re-profiling the bank sides. A wildlife corridor shall be retained encompassing a badger pathway along Willow Brook North.

The watercourse will be re-surveyed before construction begins in order to confirm that no adverse impacts will occur from the proposal to potential species and habitats.

During the construction phase, site compounds and equipment storage areas will be located away from badger setts and prime foraging sites. In addition, lighting used will be white mercury vapour lamps that will attract more insects and provide a good source of food for bats.

The roadside verges on sections of the road will be planted with grassland and scrub species of local provenance to enhance biodiversity and mitigate against loss of land.

Mitigation measures will also be required to ensure the appropriate protection of amphibians and reptiles protected under the Wildlife and Countryside Act. This will need to include the provision of fencing during construction, against the road and trapping for relocation. In addition, in regard to great crested newts, a licence consent from DEFRA will be applied for subject to discussions with Natural England. The survey trapping will take place for 60 days before work commences, during the active season between February and October.

Any clearance of scrub, trees and other potential breeding bird habitats, including areas of grassland and ruderal vegetation will be undertaken outside of the breeding bird season.

5.3. Noise

There will be no significant increase in noise levels at any of the sensitive receptor locations. Therefore, there are no identified sensitive receptors that are likely to be eligible for compensation as identified in The Noise Insulation (Amendment) Regulations 1988. In addition, as none of the receptor locations would experience perceptible impact, measures will not be required to mitigate noise.

5.4. Air Quality

All of the air pollutant concentrations for all receptors are well below the NAQS objectives for the assessment years. The air quality assessments for the proposed scheme have predicted that the overall impact will be insignificant. As the overall impact of the scheme will be insignificant, no mitigation measures are required during scheme operation.

As no mitigation measures are proposed as part of the development the residual impacts will remain unchanged.

5.5. Hydrology and Hydrogeology

In order to mitigate against potential impacts to the water environment a number of measures will be taken. For example, the proposals include the provision of an oil retention system at the main discharge point and a further provision to upgrade the system that currently discharges to the Steel Road retention ponds. Furthermore, the implementation of Sustainable Urban Drainage Systems will be incorporated to prevent high intensity runoff, reduce sediment load to watercourses and to maintain the water balance of the river system.

5.6. Contaminated Land

The preliminary assessment of chemical data collected from the site indicates a low to negligible risk of contamination that would cause a significant risk of significant harm to human health. Two potential areas of concern have been identified that require further investigation, as follows:

- **PAOC 1** - An area of concern was identified to the west of Roundabout 4 at TP41. The maximum value test concluded that the elevated level of detected cyanide is a statistical outlier and therefore should be treated as a "hot spot". Sufficient data regarding the extent of contamination is not available. Therefore further investigation is

recommended in this area to adequately assess the concentration and distribution of cyanide at this location.

- **PAOC 2** - The potential intersection of the route at the south end of the foundry tailings tip will require further investigation. Investigations to date have not uncovered tailings, but further detailed investigation is required to confirm this.

There is a low risk to human health present for construction and future maintenance workers. Normal site hygiene measures are anticipated to provide sufficient to safeguard the workforce from this risk.

5.7. Construction

Construction impacts will be temporary in nature and with mitigation measures in place, adverse impacts during construction should be limited. The key consideration during the road construction would be the timing of the clearance works and major construction activities. Noise control measures will be agreed with the local authority to ensure construction noise is minimized; stringent measures will be taken to protect the ecology and the drainage system of the area during the construction phase; construction traffic will be restricted to main roads and within the site boundary and dust and dirt nuisances will be kept to a minimum by employing appropriate working practices.