

Sustainability Appraisal

Rail Central Strategic Rail Freight Interchange (SRFI)

March 18



Contents



Executive Summary	3
1. Introduction	5
2. Policy Context	7
3. Sustainability at Rail Central	13
4. Sustainable Freight Distribution in a Sustainable Location	15
5. Sustainable Development at Rail Central	19
6. Conclusion	39

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The delivery of a new SRFI at Rail Central will help the government meet its strategic target of modal shift of freight from road to rail which helps reduce Greenhouse Gas Emissions and improve air quality.

Executive Summary



The development of the Rail Central SRFI responds positively to the national need for new rail connected logistics space and will deliver significant local economic, social and environmental benefits.

This Sustainability Appraisal demonstrates how the Proposed Development constitutes sustainable development in accordance with the objectives of the NN NPS and delivering local and national social, economic and environmental benefits in line with the objectives of sustainable development and the NPPF.

Sustainable Location

The proposed Rail Central SRFI is located 6km to the south of Northampton with direct access to both the national road and rail networks. The site is located

between the West Coast Main Line and Northampton Loop, and approximately 2.2km from Junction 15a of the M1. The location of the site provides opportunities for both rail and road logistics and servicing a wide area of the country including London and the East and West Midlands.

In addition to the sites access to the national road and rail networks with the sites proximity to Northampton the site has access to a large labour resource, accessible via strong sustainable transport links further enhancing the sustainability of the location of the development.

The proximity of Northampton to the SRFI site provides access to a key labour market which is anticipated to grow with the addition of new homes and the local labour force will exceed the employment opportunities created by the Proposed Development.

UK Road Congestion and Carbon Emissions

One of the key benefits of an SRFI as set out in the NPSNN is the potential for switching freight from the road network to the rail network, reducing both congestion on the road network and vehicle emissions through a more efficient logistics network.

With an increase in logistics being driven by a shift to e-commerce, creating a more efficient distribution network is key to ensuring overall emissions remain within agreed limits. It is anticipated that through the development of the Rail Central SRFI that approximately 246.8 million tonne.kms of freight will be transferred from the national road network to rail, potentially saving 739,668 tonnes of GHG emissions through operation up to 2050. This saving will continue to increase over time as rail is

expected to decarbonise at a faster rate than equivalent road emissions.

Sustainable Development

The development has been designed to respond to key local sustainability policies and the sustainability objectives of the NN NPS and NPPF and includes a range of measures to deliver sustainable development which also adapts to and mitigates the impacts of climate change. The key design measures included at this stage and to be considered during the detailed design of the development are summarised below.

Building a Strong and Competitive Economy – The proposed Rail Central SRFI will deliver significant local economic and social benefits with a £337m investment delivering 8,111 jobs once operational and delivering £555.6m of GVA to the national economy with £169.1m to the local impact area including Northampton.

Promoting Sustainable Transport – The development aims to prioritise pedestrians and cyclists through the provision of a network of paths separate from the development roads providing connections to the existing path and road network through Milton Malsor.

The development is 6km to the south of Northampton and will include a number of measures to encourage sustainable transport and improve links to Northampton, the key local labour market including; secure cycle storage, changing facilities and showers in accordance with BREEAM; a bus interchange in the centre of the site

facilitating bus travel; and provision of EV charging points.

Requiring Good Design – As a commitment to sustainable development the new buildings will be designed to achieve as a minimum a BREEAM Very Good rating based on the BREEAM 2014 New Construction scheme.

In addition the design of the development and new buildings will include a range of good design measures such as, provision of landscape buffers to minimise the impact of the development on the local area, use of sustainable materials, efficient resource and a 25% reduction in water use, and use of best practice sustainable construction methods.

Promoting Healthy Communities – The development aims to promote health and wellbeing through the external and internal design, including the provision of safe and secure access to the site via a network of walking and cycle paths, provision of cycle storage, and prioritising natural daylighting and ventilation.

Meeting the Challenge of Climate Change and Resource Efficiency – The development has been designed to take into account the impacts of climate change including measures to mitigate carbon emissions, reduce resource and adapt to climate change.

During the design process a Climate Change Co-ordinator has been appointed to ensure the design of the development responds to the predicted impacts of climate change and incorporates measures to adapt to

those impacts, for example ensuring the surface water drainage strategy includes capacity to cope with a 1 in 200 year storm with a 40% allowance for climate change.

To mitigate the impacts of climate change the new buildings will be designed in accordance with the energy hierarchy to achieve a 10% reduction in carbon emissions above the requirements of the 2013 Building Regulations.

Conserving and Enhancing the Natural Environment – The development of Rail Central will include a range of measures to protect and enhance the environment including the creation of new habitats through planting and around the proposed attenuation basins.

Sustainable Waste Management – The development will reduce waste and resource use through design, construction and operation such as design stage measures to reduce resource use, and preparation of a SWMP to minimise waste during construction and operation in accordance with the waste hierarchy.

Overall it is considered the development of the Rail Central SRFI responds positively to the objectives of the NN NPS and will deliver sustainable development providing a range of social, economic and environmental benefits.

Sustainability Benefits

The Social, Economic and Environmental benefits at Rail Central

Economic and Social Benefits

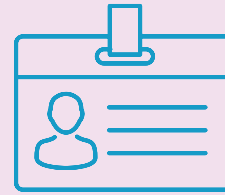


£377 million

Private Sector Investment
in the development of 7.4 million sq ft
of new logistics distribution space



Provision of **7.4m sq ft**
of rail connected logistics space providing
opportunities for a range of medium and
large scale national companies

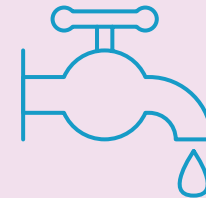


Provision of **8,111** FTE
new jobs once fully operational
providing significant social and
economic benefits

Environmental Sustainability

BREEAM[®]

Commitment to achieving a
BREEAM Very Good rating²

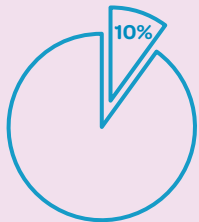


Provision of measures to reduce
water use by **25%**



Provision of rainwater harvesting systems
to capture rainwater for use as greywater
in building WCs

Energy Strategy and Carbon Savings



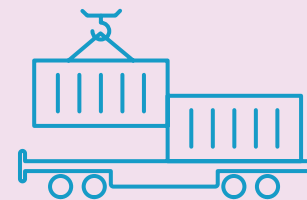
10% Reduction

10% reduction in carbon dioxide emissions
for all warehouse / B8 units compared with
Part L Building Regulation requirements



307% Reduction

The GHG assessment of the Proposed
Development estimates a 307% reduction in
operational GHG emissions from 2018 - 2038
compared to the current baseline



739,668 t CO₂e

It is anticipated 739,668 tonnes of CO₂e will be
saved through the shift of road to rail freight from
2018 - 2050¹

¹ All figures are based on current estimates prepared and may change during the detailed design.

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1. Introduction



This Sustainability Appraisal has been prepared to demonstrate the measures incorporated into the design of the proposed Rail Central Strategic Rail Freight Interchange.

This Sustainability Appraisal has been prepared to support the Proposed Development of a new Strategic Rail Freight Interchange (SRFI) in Northamptonshire.

Site and Surroundings

The Proposed Development is located in Northamptonshire between the villages of Bilsworth and Milton Malsor where the West Coast mainline meets the Northampton Loop Line.

The development site comprises of 291 hectares (ha) of agricultural land and is located approximately 6km to the south west of the centre of Northampton.

The site benefits from access to the national rail network and is located 2km from junction 15a of the M1 providing easy access to the national road network. The connectivity of the site being on the most strategic corridor for freight transport within England and being

within the principal route for intermodal and express freight in Great Britain has the potential to act as a key central distribution hub to the West and East Midlands, Central England and London is a significant positive for the location of the development.

Proposed Development

The proposed Rail Central SRFI comprises of up to 702,970m² of new employment and ancillary space and Figure 1 shows the illustrative masterplan which incorporates 13 new distribution warehouse buildings, rail infrastructure, and a significant area of green infrastructure.

In addition to facilitate the delivery of the SRFI the development will also include a number of wider highways works including changes to Junctions 15 and 15a of the M1.

This Sustainability Appraisal focusses predominantly on the main SRFI site as the key element of the development. The highways works while part of the Proposed Development enable the delivery of the SRFI and are therefore only indirectly referenced as part of this assessment, where appropriate considering key sustainability measures in the context of the highways improvements delivered.

Further details of the Proposed Development are contained in the application which accompanies this report.

Sustainability Appraisal

This Sustainability Appraisal has been set out to demonstrate how the development has been located and designed to deliver a sustainable SRFI in a sustainable location providing local economic, social and environmental benefits. The Appraisal is set out under the following section headings.

2. Policy Context – Sets out local and national planning policy with regards to the principles and objectives relating to sustainable development.

3. Sustainability Appraisal Methodology – Sets out details of the methodology used to assess the sustainability of the new Rail Central SRFI in relation to the sections outlined below.

4. Context for Need – Sets out the need for the construction of a new SRFI in South Northamptonshire and the benefits of transferring freight from the national road network to the rail network.

5. Sustainable Development – A review of the sustainable design measures incorporated into the development and to be considered during the detailed design of the development and new homes to ensure the delivery of sustainable new logistics buildings.



2. Policy Context



This section of the report provides an overview of the relevant planning policy and guidance regarding the development of sustainable low carbon new development.

UK Sustainable Development Strategy

In 2005, the Government published an updated strategy, Securing the Future – Delivering UK Sustainable Development Strategy, for implementing sustainable development across the UK.¹

This strategy acts as an overarching document from which a range of specific policies and legislation was derived. Although published in 2005, the strategy has taken a recently renewed focus in light of the government's definition of Sustainable Development in the NPPF.

One of the key aims of this strategy is to recognise the threats of climate change and ensure that the UK

¹ <https://www.gov.uk/government/publications/securing-the-future-delivering-uk-sustainable-development-strategy>

develops a strategy to mitigate and adapt to this phenomenon.

The document established five key principles that will underpin the national sustainable development strategy:

- Living within Environmental Limits;
- Ensuring a Strong, Healthy and Just Society;
- Achieving a Sustainable Economy;
- Promoting Good Governance; and
- Using sound science responsibly.

The strategy will be implemented at a national level through the development of more specific strategies at a government department or sector level.

With regards to planning and the built environment, this document sets the basis for the development of plans and Policies that promotes development that mitigates and adapts to climate change.

Climate Change Act

The Climate Change Act (2008)² sets a legally binding target for reducing UK CO2 emissions by least 80% on 1990 levels by 2050.

At the end of June 2016, the Government published the Fifth Carbon Budget. The budget sets a target for emission cuts of 57% from 1990 levels by 2030.

The House of Lords passed the Carbon Budget Order 2016 on 19 July, making the budget and its target law. A bill passed in early July to abolish the Department of Energy and Climate Change (DECC) and absorb its functions into the new Department for Business, Energy and Industrial Strategy, will not affect the implementation of the Carbon Budget.

National Policy Statement for National Networks

The National Policy Statement for National Networks (NN NPS)³ sets out the Government's approach to new road and rail infrastructure. With regards to freight the NN NPS highlights the need for the development of new SRFIs and how this can facilitate the shift of freight from

² <http://www.legislation.gov.uk/ukpga/2008/27/contents>

³ <https://www.gov.uk/government/publications/national-policy-statement-for-national-networks>

the road to the rail network and the positive impact this can have on Greenhouse Gas (GHG) emissions.

The document sets out a number of considerations for new development and in relation the SRFIs clearly sets out that applicants must consider the impacts of climate change when planning the location, design, build and operation of new national networks infrastructure.

In addition to the specific requirements in relation to Climate Change Part 5 identifies a range of generic impacts which may arise from the type of infrastructure covered by the NN NPS. The generic impacts which are considered relevant to the Proposed Development include:

- Air quality;
- Carbon dioxide emissions;
- Biodiversity and ecological conservation;
- Waste management;
- Flood risk;
- Land use (including open space, green infrastructure and green belt);
- Noise and vibration;
- Impact on transport network; and
- Water quality.

The NPSNN states “good design” should be applied to national network projects. This will include requirements for sustainability and energy efficiency and should therefore produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction that the accompanying environment statement.

National Planning Policy Framework

Following its publication in March 2012, national planning policy is now provided by the National Planning Policy Framework (NPPF)⁴ which sets out the government's planning policies for England and how these are expected to be applied. It also sets out the requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. While not directly relevant to a DCO application it provides context for the assessment of development to ensure it meets key national objectives for sustainable development.

The Government has made clear its expectation that the planning system should positively embrace well-conceived development to deliver the economic growth necessary and the housing we need to create inclusive and mixed communities.

The NPPF states that: ‘*the purpose of the planning system is to contribute to the achievement of sustainable development*’.

⁴ <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

It states clearly that in order to deliver sustainable development, the planning system must perform three distinct roles, aligned to the three pillars of sustainability, which must not be taken in isolation and should be pursued jointly:

An economic role contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

A social role supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

An environmental role contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

Planning Policy Guidance

The revised Planning Practice Guidance (PPG)⁵ provides further advice on various planning issues associated with development, including those linked to sustainability and renewable energy and underpins the policies within the NPPF and relevant to development applications made through the Local Plan process.

The PPG is an important material consideration in planning decisions and should generally be followed unless there are clear reasons not to. It sets out how local authorities should include policies that protect the local environment and strategies to mitigate and adapt to climate change and supports developments that are functional and adaptable for the future.

The PPG reiterates that local authorities should set sustainability policies for new housing that are in line with the government's Housing Standards Review.

The latest update to the PPG in April 2016 confirms Local Authorities have the option to set technical requirements exceeding the minimum requirements of the Building Regulations in respect of access, water and space where sufficient evidence is produced to justify the target.

The PPG also states that the distribution and design of new development, and the potential for servicing sites through sustainable transport solutions, are particularly important considerations.

⁵ <https://www.gov.uk/government/collections/planning-practice-guidance>

Building Regulations

Whilst not planning policy, the Building Regulations⁶, and specifically Approved Documents Part L⁷; Conservation of Fuel and Power, are relevant as they determine the energy efficiency and carbon dioxide emission standards required by new buildings.

The primary mechanism for reducing carbon emissions in new development is progressive changes to Part L aiming to deliver zero carbon buildings by 2019 and the latest update in 2013 requires non-domestic buildings to achieve an aggregated 9% reduction in carbon dioxide emissions over the 2010 Regulations.

These changes aim to strike a balance between the commitment to reducing carbon dioxide emissions and improving energy efficiency and ensuring that the overall effect of regulation upon consumers and businesses does not stifle growth. The Government has stated that developers will continue to have flexibility in how they meet carbon dioxide reduction targets; however, the emphasis of these changes is on using a fabric first approach.

Local Development Plan

The Local Development Plan for the development is split between both the South Northamptonshire Council (SNC) and Northampton Borough Council (NBC). The main development site is covered by the SNC while a

⁶ <https://www.gov.uk/government/policies/building-regulation>

⁷ <https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l>

number of the transport mitigation measures are covered by the NBC.

This report focuses on the sustainability of the main SRFI site and therefore the Proposed Development includes the policies of South Northamptonshire Council (SNC) which includes:

- Saved Policies of the South Northamptonshire Local Plan⁸; and
- West Northamptonshire Joint Core Strategy Local Plan⁹.

In addition the local development plan includes a number of Supplementary Planning Documents (SPD).

The Council is in the process of preparing the Local Plan Part 2 which will build on the strategy and policies of the Joint Core Strategy, however this is at an early stage and is yet to go to examination.

The following highlights the policy requirements from each which each of the technical disciplines will need to take into consideration as part of the Proposed Development.

South Northamptonshire Local Plan Saved Policies

The South Northamptonshire Local Plan (September 2007) – Saved Policies (2014). Sets out a number of

⁸ <http://www.harpoleactionteam.co.uk/snccsaved2014.pdf>

⁹ <http://www.westnorthamptonshirejpu.org/connect.ti/website/view?objectId=5130832#5130832>

objectives ensure that development and growth in South Northamptonshire is sustainable and includes:

- Provision of a range of employment opportunities and enhance the prosperity of the local economy; and
- Achievement of an acceptable balance between the level and rate of development and the need to protect the natural and built environment and conserve the particular character of the District.

Development should also consider a range of sustainable design factors appropriate to the Proposed Development including:

- Reducing the need to travel and that maximise opportunities for walking and cycling;
- Creating attractive, usable and durable places, including high quality and inclusive design of development, open spaces and green infrastructure that support community health and well-being; and
- Addresses community safety and cohesion.

West Northamptonshire Joint Core Strategy Local Plan

The West Northamptonshire Joint Strategic Planning Committee adopted the West Northamptonshire Joint Core Strategy Local Plan (Part 1) on 15 December 2014.

The overall objective of the West Northamptonshire Joint Core Strategy Local Plan (JCS) is to deliver sustainable development. It proposes to ensure this occurs through the implementation of 16 identified spatial objectives with which development must align.

It also requires that all development proposals to fully consider climate change adaptation to meet the vision of sustainable development. Design must also incorporate sustainable building techniques to help combat climate change and community safety principles to help reduce the opportunity for crime.

Objective 1 of the JCS, Climate Change, highlights the need to 'minimise demand for resources and mitigate and adapt to climate change by':

- Promoting sustainable design and construction in all new development;
- Ensuring strategic development allocations are located and designed so as to be resilient to future climate change and risk of flooding;
- Encouraging renewable energy production in appropriate locations; and
- Ensuring new development promotes the use of sustainable travel modes.

The JCS includes the following key sustainability policies.

Policy SA – Presumption in Favour of Sustainable

Development – States the Council will take a positive approach that reflects the presumption in favour of sustainable development and will work proactively with applicants to secure development that provides local economic, social and environmental benefits.

Policy S10 – Sustainable Development Principles – States development will:

- Achieve high standards of sustainable design;
- Be designed to improve environmental performance, energy efficiency and adapt to changes of use and a changing climate;
- Make use of sustainably sources materials;
- Minimise resource demand and generation of waste and maximise opportunities for reuse and recycling;
- Be located in an accessible location;
- Maximise solar gain, passive heating and cooling, natural light and ventilation;
- Maximise the generation of energy from decentralised and renewable energy or low carbon sources;
- Maximise water efficiency and promote sustainable drainage;

- Protect, conserve and enhance the natural and built environment and heritage assets and their setting;
- Promote the creation of green infrastructure networks, enhance biodiversity; and
- Minimise pollution from noise, air and runoff.

Policy S11 – Low Carbon and Renewable Energy –

States major development should contribute to reductions in carbon dioxide emissions and adapt to the effects of climate change through the sustainable development principles set out in Policy S10, to contribute to minimise energy use through sustainable design and construction, as well as maximise energy efficiency through the provision of low carbon and renewable energy, including where feasible and viable, the use of decentralised energy.

Proposals should be sensitively located and designed to minimise potential adverse impacts on people, the natural environment, biodiversity and should include measures to mitigate pollution.

All new non-residential development over 500m² gross internal floorspace is required to achieve a minimum BREEAM Very Good standard.

Policy C2 – New Developments – In relation to employment transport new development is expected to achieve a modal shift away from car travel, maximising travel choice.

Policy BN2 – Biodiversity – States development which has the potential to harm sites of ecological importance should demonstrate the methods used to conserve biodiversity in its design, construction and preparation, how habitat conservation, enhancement and creation can be achieved, and how designated sites will be protected.

Policy BN7A – Water Supply, Quality and Wastewater Infrastructure – States new development proposals should ensure there is an adequate and appropriate water supply and should use sustainable drainage systems where practicable to improve water quality, reduce flood risk and provide environmental adaptation benefits.

Energy Efficiency Supplementary Planning Document

Adopted in 2013 the Energy Efficiency SPD¹⁰ provides guidance for developers on the implementation of Core Strategy Policies S10 and S11 and aims to contribute towards the reduction in greenhouse gas emissions.

Policies S10 and S11 require development to be built to the highest standards of sustainable design and the Council requires new developments to be accompanied by an Energy Statement setting out the predicted energy demand and how development meets current energy efficiency policies.

¹⁰<https://www.southnorthants.gov.uk/downloads/download/19/supplementary-planning-documents>

The SPD sets out guidance on the measures that can be implemented for increasing Energy Efficiency in new development, as well as standards for the assessment of new buildings including BREEAM.

Low Carbon and Renewable Energy SPD

Adopted in 2013 in conjunction with the Energy Efficiency SPD the Low Carbon and Renewable Energy SPD¹¹ aims to provide developers with guidance on how to meet the requirements of Core Strategy Policies S10 and S11.

The SPD sets out guidance on potential low carbon renewable energy suitable for installation on industrial and commercial buildings, providing information on the constraints and opportunities for each technology.

Energy Demand SPD

Adopted in 2007 the Council's Energy and Development SPD¹² sets out guidance on energy efficiency and renewable energy in relation to the superseded Government Planning Policy Strategy documents.

The document include practical options for reducing operational energy use as well as potential sources of renewable energy.

The SPD also states an energy statement should accompany all planning applications and should set out

¹¹<https://www.southnorthants.gov.uk/downloads/download/19/supplementary-planning-documents>

¹²<https://www.southnorthants.gov.uk/downloads/download/19/supplementary-planning-documents>

details of energy efficiency and renewable energy measures proposed.

Summary of Policy

Both local and national policy prioritises sustainable development, ensuring the delivery of development which provides economic, social and environmental benefits.

The NN NPS highlights the need for new SFRI development to respond to the need for greater logistics space which is a result of an increased switch to e-commerce. The NN NPS highlights a number of key developments of SRFIs including significant economic benefits as well as benefits from switching freight from the road to the rail network which can deliver significant emissions savings.

Locally the SNC development plan sets out key sustainable development principles to be considered by new development which include; design to be energy efficient and adapt to the changes of use and changing climate, minimise resource use, maximise solar gain, protect and enhance the natural environment as well as improving site biodiversity.

Policy S11 of the Council's Core Strategy states major development should contribute to reductions in carbon dioxide emissions and adapt to the effects of climate change, minimising energy use through sustainable design and construction as well as considering use of low carbon renewable energy. In addition non-residential development over 500m² gross internal floorspace is

required to achieve a minimum BREEAM Very Good standard.

In this context the following sections of this Sustainability Appraisal demonstrate how the proposed Rail Central development is in accordance with national and local sustainability policies and best practice, setting out the economic, social and environmental benefits of the proposed SRFI.

3. Sustainability at Rail Central

The development at Rail Central will deliver significant environmental, economic and social benefits in line with the principles of sustainable development.

Sustainability Appraisal Methodology

To demonstrate that the development proposal at Rail Central constitutes sustainable development this report is set out under the following headings to demonstrate how the development will meet a national need, is in a sustainable location and will include a range of measures to ensure the delivery of a sustainability development providing significant local social, economic and environmental benefits.

4. Sustainable Freight Distribution in a Sustainable Location

The proposed Rail Central SRFI is based on the substantial need for additional freight connected logistics space in the Midlands to supply growing freight and logistics demand which is borne from a need to deliver goods efficiently and sustainably.

Reducing logistics traffic on major roads is a major target for the Government and this section of the report assesses and highlights the environmental benefits of removing freight from the road network and developing a central freight logistics hub at Rail Central.

5. Sustainable Development at Rail Central

Local and national policy supports sustainable development and the principles of the NN NPS, NPPF and local planning Policy set out the objectives and requirements for sustainable development.

In this context Section 5 of this report sets out the sustainability design measures incorporated into the development which demonstrate how the development responds to the requirements of local and national policy as well as the objectives of the NPSNN which sets out

climate change consideration specifically for large scale national infrastructure projects.

BREEAM

Policy S11 of the West Northamptonshire JCS states new non-residential development over 500m² requires development to achieve a BREEAM Very Good rating.

BREEAM is an environmental assessment mechanism to audit the sustainability performance of a building and mitigating the potential impact of the development by addressing key sustainability issues.

The assessment methodology is split across nine areas including Health and Wellbeing, Energy, Transport, Water, Materials and Waste. Credits are awarded for meeting a range of mandatory and optional criteria designed to ensure development is designed to:

- Mitigate the life cycle impacts of buildings on the environment;
- Enable buildings to be recognised according to their environmental benefits;
- Provide a credible, environmental label for buildings; and
- Stimulate demand and create value for sustainable buildings, building products and supply chains.

At Rail Central The Applicant is committed to the development of sustainable buildings which achieve a BREEAM Very Good rating.

The following sections include details of key BREEAM requirements which are being targeted as part of the design and development of the SRFI.

4. Sustainable Freight Distribution in a Sustainable Location



The Rail Central development responds to the Government's policy for addressing the need for SRFIs and is considered to be in a sustainable location.

This section of the report demonstrates the context for the need to transfer freight from the road to rail and create a new central freight logistics hub, setting out how the proposed Rail Central site is a sustainable location as well as demonstrating the environmental benefits associated with this modal shift.

4.1 Context of Need

In 2011 the Department for Transport issued Policy Guidance on the development of new Strategic Rail Freight Interchanges¹³ setting out the need for development of strategic rail freight interchanges. The Guidance states the main objectives of SRFIs are to:

- Reduce road congestion;

¹³ Strategic Rail Freight Interchange Policy Guidance, Department for Transport, November 2011

- Reduce carbon emissions;
- Support long-term development of efficient rail freight distribution logistics; and
- Support growth and create employment.

The guidance also states it is the aim of a SRFI is to optimise the use of rail freight, maximising the rail trunk haul and minimising elements of onward distribution, facilitating the use of consolidated delivery and last mile logistics.

In addition to government guidance a British Property Federation report, Delivering the Goods¹⁴, published in December 2015 and prepared by Turley highlights the

¹⁴ <http://www.bpf.org.uk/sites/default/files/resources/BPF-Delivering-the-Goods-Dec-15-web.pdf>

need for new logistics space due to increasing retail, e-commerce, wholesale and manufacturing uses. E-commerce in particular is projected to experience revenue growth of 10% per year between 2015/16 and 2020/21.

The NN NPS, the primary guidance for the development of new SRFIs sets out the Government's approach to delivering new road and rail infrastructure and confirms the need for the development of new facilities to be developed alongside major rail routes and neat major trunk roads to provide integrated rail and road freight logistics.

Paragraph 2.47 of the NN NPS states SRFIs play an important role in reducing trip mileage of freight movements on the national and local road networks, and the siting of many existing interchanges in traditional urban locations restricts their growth.

The growth in rail freight also necessitates the need for additional rail freight capacity to reduce the dependency on road haulage to serve major markets. This shift of freight from the road to rail can provide a benefit in reducing GHG emissions from transportation of goods.

Paragraph 2.52 states SRFIs can also provide considerable benefits for the local economy, through the creation of new job opportunities, enhancement of skills, use of technology with wider long term benefits of the economy. In this context the availability of a suitable workforce is an important consideration.

In this context the Government's policy for addressing the need for SRFIs states the development of the intermodal rail freight industry and transfer of freight from road to rail has an important part to play in a low carbon economy and addressing climate change (Paragraph 2.53)

4.2 Sustainable Location

The NPSNN clearly sets out the need for the development of new SRFIs and notes the need for these to serve regional, sub-regional and cross-regional markets through good connection with both road and rail network (Paragraph 2.54).

The proposed Rail Central SRFI has been located to maximise the potential for access to both the rail and road network and key distribution markets in central England, and the West Midlands.

Rail Connections – The site is located approximately 6km to the south of Northampton on land between the Northampton Rail Loop and West Coast Main Line (WCML).

The WCML links London and the South east with the Midlands, North West and Scotland and is the principle route to movement of freight from north to south in the UK, and forms a core part of the Trans-European Network (TEN-T).

The WCML enables connection to the wider rail network with connections to major UK ports and the Channel Tunnel providing connections to Europe and the rest of

the Globe facilitating the import and export of goods to the UK.

It is anticipated that the majority of rail traffic visiting the site would comprise deep-sea containers moved from the network of major UK port facilities including Felixstowe, Southampton, London Gateway, and Bristol. Once fully operational it is estimated the development will generate 13 intermodal trains per day, equivalent to 800 containers per day.

Road Connections – The Rail Central SRFI site is located approximately 2.2km from Junction 15a of the M1. The development includes the provision of a new roundabout on the A43 to facilitate a sustainable connection to the M1 and the national road network. The M1 provides a direct link between London and the north via Luton, Milton Keynes, Northampton and Birmingham. The location of the site and proximity to the M1 and the national road network allows the development to provide distribution to a wide area of the centre of England as well as the East and West Midlands.

Local Labour Market – The NN NPS states it is important to consider the availability of suitable workforce when developing an SRFI. Located 6km from the centre of Northampton the development has access to a large labour market and provisions will be made as part of the development to facilitate access to the site for potential employees. The Socio-Economic ES of the draft PEIR confirms that the operation of the Proposed Development will provide a significant benefit in local

jobs and a minor benefit to the Local Labour Market in the wider area.

Sustainable Transport – As part of the development a range of sustainable transport measures will be included in the development including the creation of a bus interchange on the site, as well as provision of cycle storage and changing facilities. Further details of the sustainable transport measures proposed are set out in the following section of this report.

In this context it is considered the proposal Rail Central development is in a sustainable location, supporting the objectives of the NN NPS through key road and rail links, location in close proximity to a suitable workforce accessible through sustainable transport.

4.3 Reducing Congestion on the UKs Roads

One of the key drivers for the development of the SRFI as set out above is the need for new centralised distribution hubs as a response to an increase in distribution requirements, primarily driven by the rise of e-commerce.

This is resulting in an increase in freight being distributed on the road network which has an direct impact on congestion, as well as increasing vehicle emissions. The NPSNN states the modal shift from road to rail can reduce transport emissions, as well as providing wider transport and economic benefits.

The development of an SRFI as set out in the previous section is a key part of the future of distribution in the UK and the transfer of road freight onto the rail network has a number of indirect benefits, including:

- Reduced congestion on the UK road network;
- Reduced vehicle emissions with the switch of road freight onto the rail network; and
- Opportunities for implementing consolidated consignments and onward low emissions last mile logistics.

The following sections set details on the benefits of the development of the Rail Central SRFI and modal shift in freight from the road to the rail network.

4.3.1 Reducing Congestion on the UKs Roads

The UK road network transported 1.97 billion tonnes of freight between April 2016 and March 2017 and increase of 17% over the same period the previous year¹⁵.

Through the growth in e-commerce there is expected to be a significant rise in the demand for new logistics space and therefore freight movement as a result.

Maximising the efficient of the transportation network is a key aim for the future and the development of SRFIs

¹⁵

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/651257/road-freight-stats-april-2016-to-march-2017.pdf

can help in transferring freight from the road to the rail network.

MDS Transmodal have been commissioned as part of the preparation of the application to estimate the potential impact of the new facility and the potential shift from road to rail freight.

The report submitted alongside the application sets out the anticipated split of road and rail freight arriving and leaving the SRFI site comparing this to a road freight only scenario.

The proposed SRFI site is anticipated to receive 3,336 HGV vehicles per day and 498 rail freight containers resulting in 626,790 HGV km of travel per day, approximately 210m km per year.

Conversely in the road freight only scenario the level of HGW road transport increase to 784,842 per day, approximately 263m km per year.

	Daily HGV – km	Annual HGV-km
Rail Central SRFI	626,790	210 million
Road only scenario	784,842	263 million
% Change		20%

The report estimates that through the creation of a rail connected distribution site approximately 53 million km

of HGV transport could be avoided through a shift to rail freight.

4.3.2 Reducing Carbon Emissions

Sustainable and efficient transport is increasingly important as freight traffic grows and regions of the UK, including City centres struggle to cope with meeting UK Air Quality targets and mitigating the impacts of Climate Change.

The NN NPS recognises another key benefit of the transfer of freight from the road to the rail network is the resulting reduction in vehicle emissions. Tonne for tonne carried, rail freight produces five times less carbon dioxide emissions than road freight and up to fifteen times less noxious emissions. With further improvements and electrification of the UK rail infrastructure this is set to improve further.

As noted the development of the Rail Central SRFI is anticipated to result in the shift of 53 million km of HGV transport from the Road Network to the Rail Network each year.

Transport via the rail network is less carbon intensive and the assessment GHG emissions savings achieved through freight and a shift from road to rail (including all Scope 1, 2 and 3 emissions) is set out in Table 1 which sets out the cumulative GHG savings achieved through the predicted life of the Proposed Development up to 2050.

Table 1: GHG emissions assessment

Assessment period	Cumulative GHG Emissions (tonnes CO _{2e})
2018 – 2028	-84,639
2029 – 2038	-275,393
2039 – 2050	-379,363
Total to 2050	-739,668

The significant GHG savings set out in Table 1 are achieved primarily through the reduction in emissions associated with the shift of road to rail freight.

5. Sustainable Development at Rail Central



This chapter summarises the sustainable design measures incorporated into the application and measures to be considered during the detailed design to deliver a sustainable development.

Achieving Sustainable Development

This section of the report outlines the Sustainable Design and Energy Strategy for the Proposed Development demonstrating how the development responds to both local and national sustainability objectives.

In this context this section sets out the sustainable design measures incorporated into the development design at the application stage, as well as measures to be considered during the detailed design which reflect objectives of the NN NPS and the sustainability and climate change objectives of the NPPF and local planning policy.

Where appropriate each section will note key BREEAM credits being targeted which will contribute to the development achieving a BREEAM Very Good rating.

5.1 Building a Strong and Competitive Economy

5.2 Sustainable Transport

5.3 Requiring Good Design

5.5 Promoting Healthy Communities

5.6 Meeting the Challenge of Climate Change

5.7 Conserving and Enhancing the Natural Environment

5.8 Sustainable Waste Management

5.1 Building a Strong and Competitive Economy

The Proposed Development will contribute to the positive economic growth for the district, providing new logistics space in a central location facilitating the UK's growing logistics market.

The Rail Central site is located approximately 6.5km to the South of Northampton and 2km from Junction 15 of the M1 which provides access to the national road network and several major local settlements including Birmingham and London.

A recent report by the British Property Federation, *Delivering the Goods* (2015), outlines the growth and demand for logistics space, setting out the economic benefits of the sector and the need to identify, and protect, areas of land for the development of logistics buildings.

The report demonstrates how the logistics sector in the UK directly supports 56,000 businesses and 710,000 jobs, with economic productivity estimated at £100billion Gross Added Value (GVA) per year.

The NN NPS states SRFIs can provide considerable benefits for the local economy, through new job opportunities, contribution to enhancement of skills, and use of technology, with wider long term benefits to the economy.

In addition to local transport links the proximity of the development to Northampton provides a key local labour

force and it is anticipated that with the addition of new homes the local labour force will exceed the employment opportunities created by the Rail Central SRFI.

These employment opportunities have the potential to improve the current labour market skill set which is shown in the Socio-Economic ES chapter to be slightly behind the anticipated requirements of the SFRI project providing additional local social benefits.

The Socio-Economic chapter prepared by Turley sets out the key socio-economic benefits of the Proposed Development from construction to operation and these include:

- Investment of circa £377m contributing a total of £203.5m in Gross Value Added (GVA) to the national economy, including £67m for the local South Northamptonshire economy.
- Creation of 268 Full Time Employment (FTE) gross temporary construction jobs per year over the 10 year construction period.
- An additional 187 indirect and induced jobs per year within the local and wider supply chain of which 40 are expected to be within South Northamptonshire.
- It is estimated that 1 FTE job is provided for every 130m² of rail connected warehousing space which is anticipated to deliver 8,111 FTE jobs once the site is fully operational and could provide a positive improvement in local labour force skills.

- It is anticipated that a further 4,056 jobs will be indirectly or induced based on expenditure on goods and services within the local and wider supply chain, including 1,217 jobs locally in South Northamptonshire.
- Once fully operational it is estimated the development will generate an annual contribution of £555.6m of GVA to the national economy including £169.1m to the local impact area.

In addition the main SRFI site could generate circa £14.8m in annual business rates revenue, from 2020 local authorities will receive all of the additional business rate revenue generated.

In this context it is considered the development will provide significant socio-economic benefits to the local South Northamptonshire area directly through new job opportunities and economic investment, as well as the indirect benefits to local businesses and services.

5.2 Promoting Sustainable Transport

The Rail Central site is considered to be in a sustainable location, centrally located to act as a SRFI serving key markets in the midlands, with good access to the national road network as a result of local road improvements and access to local labour market in South Northamptonshire.

In this context a Transport Assessment and Draft Framework Travel Plan has been prepared to assess the impact of the development on the road network and set out measures to be included and considered as part of the development to promote sustainable transport.

As noted in Section 4.2 a key benefit of the construction of the SRFI is the transfer of freight from the national road network to the rail network which has a significant positive impact in terms of emissions but also in reducing traffic and congestion on the road network.

Primary access to the development will be via a new junction on the A43 to providing a connection to the M1 and the national road network, bypassing the local village of Milton Malsor and minimising the impact of the development on the local villages.

Once operational the development is anticipated to employ over 8,111 people with over 3,700 freight vehicles leaving and returning to the site each day. Development of a Green Travel Plan which promotes sustainable travel is therefore key to the ongoing operation of the site.

The development site is located approximately 6km to the south of the centre of Northampton with access to a wide labour workforce and providing a benefits to the local economy through the provision of nearby employment.

The site benefits from a number of key sustainable transport links which will be enhanced through the development.

Walking – The Northampton Road which runs through the site provides the current access to the area and provides a direct link through Milton Malsor and to the centre of Northampton to the north including a footpath along the western side of the road.

There are also a number of Public Rights of Way (PRoW) which cross the site including the towpath running alongside the Grand Union Canal. The development will redirect the PRoW through the site providing new footbridges over the West Coast Mainline and Northampton Loop.

Cycling – The centre of Northampton is located approximately 6km to the north of the site and therefore the majority of the south of the Town is within easy cycling distance of the site, as are the villages of Blisworth to the south and Gayton to the south west.

As part of the development a new footpath/cycle link will be provided along Northampton Road, through Milton Malsor and in the south of Northampton.

Cycling will be encouraged through the installation of secure cycle storage, as well as the provision of

showers, changing facilities and lockers in accordance with BREEAM sustainable transport requirements. The detailed design of any proposed buildings will include the details and locations of cycle storage and changing facilities.

Bus Services – The nearest existing bus services to the area are located on the Northampton Road adjacent to the Blisworth Business Park. Currently the area is served by the number 86, 88, 89 and 89X bus services which provide services between Northampton, Towcester, Potterspurty, Deanshanger and Milton Keynes.

As part of the development a bus interchange is being proposed, located in the centre of the site to the west of the Northampton Road the site will provide links to the existing services as well as new services.

Rail Services – Northampton rail station is located 6km to the north of the site and provides local and national rail links to Coventry, Birmingham, Milton Keynes and London. The station includes 85 secure cycle spaces to encourage further onward sustainable travel.

Vehicles – To further reduce potential car travel to the site a car sharing scheme database will be implemented and managed to encourage shared travel.

In addition to facilitate the use of low emission vehicles the new buildings will incorporate a suitable proportion of both active and passive Electric Vehicle spaces to accommodate current and potential future use of electric vehicles.

HGV Freight – The development of the Rail Central SRFI will naturally generate road freight travelling to the site. To mitigate the impact of this a number of wider highways improvements are proposed as part of the development including:

- Improvements to Junction 15a of the M1;
- Improvements to Junction 15 of the M1; and
- Creation of a new roundabout and access to the site from the A43.

In addition a number of other minor highways works are proposed to strengthen the local road network and mitigate potential congestion issues associated with the development of the site.

Main SRFI Site Design - The development will be designed to prioritise pedestrians and cyclists where possible including:

- A network of cycle paths and footways through the sites green open space to separate cyclists and pedestrians from the site traffic.
- Provision of appropriate street and path lighting to provide safe and secure access routes through the site.
- Dedicated footpath and cycle link to Northampton.
- Clear signage and maps to facilitate travel through the site and to key local transport links, services and amenities.

- Roads designed to limit vehicle speeds prioritising pedestrians and cyclists.

Draft Framework Travel Plan

A Draft Framework Travel Plan has been prepared to support the application providing further detail on how sustainable travel will be prioritised at Rail Central.

As part of the development a Travel Plan Co-ordinator will be appointed to implement, monitor and manage the Framework Travel Plan which will include a range of measures to further reduce car use and facilitate sustainable transport. Additional measures include:

- Creation of pedestrian friendly infrastructure including well-lit foot paths and cycle paths which connect to the existing network.
- Enhancements to existing onsite footpaths including widening of the footway on Towcester Road.
- Enhancements to the existing offsite infrastructure including the bus stops on Northampton Road and new pedestrian and cycle access.
- Contributions to the enhancement of commercial bus services 88/89 providing early morning and evening services.
- Implementation of a Car Sharing/Guaranteed Journey Home database and encourage car sharing.

- Provision of priority spaces for those using car sharing schemes.

The Framework Travel Plan will also be supported through the provision of Sustainable Travel Packs which will provide key sustainable travel information including:

- Details of public transport information including bus and rail services.
- Preparation of maps showing recommended walking routes and connections to bus stops and local amenities.
- Details of car sharing schemes.
- Promotion of national walking and cycling events and details of health benefits.

5.3 Requiring Good Design

The illustrative masterplan demonstrates how the development will aim to deliver a well-designed development which minimises its impact as far as practicable on the surrounding environment.

Development Design Objectives

The draft Design and Access Statement which accompanies the application sets out a range of key development principles for the design of the development which include:

- A well-integrated development – Which is sensitive to the surroundings.
- A Sustainable Place – Balancing social, economic and environmental factors to create a sustainable environment.
- Connected and Legible – Linking rail central to existing modes of transport and ensuring safety for all users.
- Protecting Residential Amenity – Respecting the local residential areas of Blisworth and Milton Malsor.
- Respecting the Landscape – Aiming to strengthen and diversify the identity and structure of the landscape.
- Recreation and Ecological Enhancements – Mitigating the impacts of the development and

enhancement of recreational opportunities and ecological diversity.

The Design Code

The objectives above have been incorporated into the development of a Design Code which will be used to carry out the detailed design of the development and of any new buildings; the Code includes the following sections which include sustainable design measures.

Development Components – This section of the design code is split into a number of elements and includes a range of measures including:

- The location of service areas to ensure both noise and light do not impact on the local area outside of the development.
- Provision of 5% of the total car parking spaces as disabled parking spaces.
- Position of secure cycle storage close to staff entrances and specification of changing facilities in response to BREEAM.
- The provision of refuse and recycling facilities tailored to the occupier's requirements.

Sustainable Building Design – Sets out some of the key sustainable design criteria to be included into the development related to resource use, sustainable materials and sustainable travel. This section also confirms that new buildings will be designed to achieve a BREEAM Very Good rating.

Resource Use – The new buildings will be resource efficient, targeting a 10% reduction in carbon dioxide emissions over the 2013 Building Regulations, where appropriate considering the use of low carbon renewable energy technologies such as Solar PV. In addition the new buildings will be designed to minimise water use, targeting a 25% reduction in water use achieving at least 2 BREEAM 2014 credits.

Building Materials – States glazing will be used to provide a high standard of natural lighting which may be coated to reduce solar gain. Where appropriate solar shading will be used to reduce solar gain and manage potential summer overheating.

External Materials – This section includes details on the external elements of the development including details of the location of cycle storage close to building entrances, and provision of pedestrian and cycle routes with appropriate signage to encourage walking and cycling.

Landscaping and Ecology – States a series of biodiverse ecologically rich landscape zones will be provided throughout the development to provide a net gain in biodiversity and provision of publically accessible land.

Sustainable Materials

The detailed design of new buildings will aim to ensure all of the main construction materials achieve an A rating in the Building Research Establishment's (BRE) Green Guide to Specification. An A rated material has a proven low environmental impact.

In addition new buildings will seek to specify the use of recycled materials wherever viable including steel content and aggregates.

All materials will also be sourced in accordance with a sustainable procurement strategy and will include:

- Timber sourced from sustainable sources,
- Where possible, use of recycled low carbon materials; and
- Use of off-site prefabrication to minimise construction waste.

The materials used in the development will be assessed as part of the BREEAM Assessment for the development.

Sustainable Construction

The best opportunities for improving materials resource efficiency in construction occurs during the design stage and can provide significant cost savings, reductions in waste produced and disposed to landfill, and carbon reductions.

The new buildings will aim to design out waste prior to construction, recognising that the planning and design stage of development plays an important role in reducing waste in accordance with the waste hierarchy.

During construction a range of best practice construction measures will be used to minimise resource use, waste

and encourage the recycling and reuse of materials, including:

- The monitoring of energy and water use to inform reduction targets and measures;
- Use of recycled aggregates for building foundations and hardstanding;
- Off- site prefabrication of materials is utilised to minimise waste during the construction phase.
- Avoidance of over-ordering;
- Supervision of deliveries;
- Use of secure materials storage facilities;
- Prioritisation of on-site re-use and recycling of materials; and
- Use of recycled products.

To aid with the decommissioning of the site it is anticipated that the skeleton structure of the buildings will use a steel frame design and bolted steelwork which will allow approximately 75% of the steel to be recycled at the end of the buildings life. Similarly, the cladding panels will facilitate de-construction and recycling.

In accordance with the BREEAM assessment consideration will be given to the setting waste recycling targets.

Sustainable Design at Rail Central

The illustrative masterplan demonstrates how a number of the objectives of the DAS may be incorporated into the development which The Applicant will ensure are brought forward to in the detailed design of the development.

1 – The creation of landscaped banks to shield the development from the views from Milton Malsor to the north.

2 – Provision of a significant area of green open space including cycle ways and footpaths separating pedestrians and cyclists, where possible, from vehicle traffic.

3 – Provision of green infrastructure including a network of ecological corridors around key ecological features such as the Grand Union canal to improve site biodiversity and mitigate the ecological impact of the Proposed Development.

4 – The creation of a new access point on the A43 to divert traffic away from the Northampton Road and away from the villages of Milton Malsor and Blisworth.

5 – The provision of a number of attenuation ponds to manage surface water and provide an important ecological enhancement.

6 – The provision of a bus terminal providing opportunities for the use of sustainable transport options.



Figure 2: Illustrative Masterplan

5.5 Promoting Healthy Communities

The detailed design of the development and new buildings will aim to promote the health and wellbeing of occupants and employees as well as members of the public.

External Environment

The development design code and illustrative masterplan highlight some key health and wellbeing features which will be incorporated into the development including:

- Safe and secure access to the site including a network of footpaths and cyclepaths to separate pedestrians and cyclists from vehicle traffic to encourage sustainable travel to the site and recreational opportunities for staff and visitors, including members of the public.
- A range of highways improvements as set out in the Transport Assessment to improve the surrounding road network, reducing the potential for congestion and improving road user safety.
- Provision of clear signage to facilitate pedestrian and cyclist access to the development.
- Provision of areas of green open space and ecologically managed landscape as set out in the Ecology PEIR Chapter providing attractive views from offices which provide health and wellbeing benefits recognised by BREEAM.

- Connection to the local pedestrian network to connect the development to local services and amenities available in Milton Malsor.

Indoor Environmental Quality

In addition to the external environment the new buildings will be designed where possible to create high quality working environments for building occupiers and achieves this through a number of measures such as:

- Increasing natural daylighting, identified by BREEAM as desirable in improving wellbeing.
- Prioritisation of natural ventilation to the office areas;
- Provision of secure cycle storage, showers, changing facilities and lockers to encourage cycling and other forms of sustainable travel.
- Use of materials with low pollution potential.
- Provision in the new buildings for dedicated relaxation space promoting health and wellbeing.

Further details on the measures to be included and considered during the detailed design to improve health and wellbeing is included in the Design and Access Statement and Design Code which accompany the application.

5.6 Meeting the Challenge of Climate Change and Resource Efficiency

One of the main challenges facing the UK and new residential development is the need to mitigate and adapt to a changing climate. The Government is committed to tackling climate change and has an ambitious long-term goal to reduce carbon dioxide emissions by 80% by 2050.

Climate change will cause the UK to become warmer, winters will become wetter, and summers will become drier. Adapting to this changing climate will impact on the design, construction, location, cost and operation of all new homes and other buildings in the next few decades. One of the NPPF's core planning principles is to encourage development to consider climate change adaptation and mitigation during the planning process. This is supported by the Council's Core strategy objectives and policies which also aims to ensure new development consider the impacts of climate change.

In this context the following sections outline the key climate change mitigation and adaptation measures considered appropriate for this development based on the latest national guidance under the following headings:

- Climate Change Adaptation;
- Climate Change Mitigation; and
- Water Efficiency.

5.6.1 Climate Change Adaptation

Climate change poses a significant risk to the future of development in the UK and the World, predicted to cause a shift in our climate bringing more extreme weather and challenges in the design of buildings and developments to adapt to.

The NN NPS states that new development should be planned to avoid increased vulnerability to the impacts arising from climate change through the use of suitable adaptation measures (Paragraph 4.38).

As part of the development process Climate Change Adaptation has been considered through the Environmental Impact Assessment through the appointment of a Climate Change Co-ordinator (CCC).

The role of the CCC in the development process has been to supply the development design team with details of the impacts of climate change to ensure the design proposals consider, and where appropriate, adapt to the impacts in line with the IEMA Climate Change Adaptation guidance.

This section sets out the key climate change impacts and how the development has responded to this through design.

Climate Change Impacts

The impacts of UK climate change are set out in the 2009 climate change projections, referred to as UKCP09 projections.

Due to the large scale, long term nature of the Proposed Development, and in accordance with the NN NPS the UKCP09 high emissions scenario (high carbon dioxide emission impact, low likelihood of occurrence) against the 2080 projections at the 50% probability level has been applied, which in summary means:

- An increase in annual average temperature;
- More very hot days particularly during long term operation;
- More intense downpours of rain;
- Increase in winter rainfall; and
- An increase in dry spells particularly in summer months.

The draft Climate Change PEIR chapter which accompanies the application for the Proposed Development sets out the potential climate change risks and key adaptation measures included in the development to ensure it is resilient to Climate Change.

The following sections set out the key design measures included in the development to adapt to the impacts identified above.

Flood Risk and Sustainable Drainage

A Flood Risk Assessment (FRA) and Hydrology ES chapter have both been prepared to determine the sites potential flood risk and set out a surface water management strategy to minimise the risk of surface water flooding to the SRFI site and as part of the highways improvements.

To take into account the impacts of climate change the assessment of the site has been undertaken against the higher and upper central limits for the Anglian region for fluvial flows, as well as including a 40% allowance for climate change in relation to surface water drainage.

The initial assessment of the site shows the main SRFI site is predominantly in Flood Zone 1 with some small areas of the site immediately adjacent to the Milton Malsor Brook which is at a medium to high risk of flooding.

To reduce the risk of fluvial flooding to the main SRFI site the Milton Malsor Brook and the unnamed watercourse which both run through the site will both be realigned around the site and enhanced through new planting and management. The re-routed watercourses will be designed to provide suitable capacity to contain and convey flows for all flood events.

As a green field site the development the SRFI site is likely to cause an increase in surface water run-off and the risk of surface water flooding. This is also true of the highways works where additional roads/alternations are being made to the existing network.

In this context the development of the main SRFI site and new highways therefore includes the use of a Sustainable Drainage System (SuDS) to reduce surface water run-off from the site.

At this stage it is proposed that surface water from the main SRFI site will be managed through a system of building specific underground storage and a number of attenuation basins located in the north west and central northern parts of the site before discharging to the existing watercourses within the site. Where appropriate the detailed design of the strategy will consider the use of additional SuDS including swales and permeable paving.

Where new roads are being constructed additional underground surface water storage will be provided to restrict discharge into the existing drainage network.

All of the surface water drainage systems provided will be designed to ensure post development peak run-off rates will not increase from the existing conditions, taking into account a 1 in 200 year storm events and a 40% allowance for climate change, and will result in no increase in risk of flooding to the main SRFI site or the surrounding settlements.

The final surface water drainage strategy and SuDS will be determined during the detailed design stage. Further information on the sites flood risk and the proposed surface water management system can be viewed in the accompanying FRA and Hydrology ES chapter.

Ecology

The impacts of climate change on the sites existing and proposed green infrastructure are likely to be mixed. Changing temperatures and rainfall profiles are anticipated to provide benefits to some species extending their climate space and providing opportunities for colonisation, while also restricting some species climate space and putting them under pressure from colonisation.

Current research into the impacts of climate change on biodiversity notes that sites with strong habitats and biodiversity will be better able to adapt to the UK's changing climate.

Given the location of the site it is anticipated that the onsite species and those native to the East Midlands and therefore included in the site green infrastructure plan is anticipated to be resilient over the next 30 years. The Ecology ES chapter and Ecological Assessment which accompany the application set out a strategy for enhancing the sites habitats and biodiversity which will ultimately help the site adapt to climate change.

Ground Conditions

The anticipated changes in summer temperature and summer and winter rainfall have the potential to cause greater variation in climate impacting on ground conditions creating ground movement which has the potential to impact on infrastructure foundations. Given the nature of the development this could cause permanent damage or operational loss to the site. To

ensure the risk of ground movement is minimised the detailed design of the development will incorporate best practice design and consideration of future climate change in the design of the infrastructure foundations.

5.6.2 Climate Change Mitigation - Energy and GHG strategy

The creation of energy efficient, low carbon development which mitigates the impacts of climate change is a key objective of local and national policy and contributes to the mitigation of climate change.

The Climate Change chapter which accompanies the application sets out a full Life Cycle Assessment (LCA) of the sites GHG emissions from construction and operation of the development, through to the decommissioning of the site. The LCA includes a review of the key GHG reduction and mitigation measures proposed. This section of the report sets out energy and GHG strategy focussing on the construction stage resource management, the embodied carbon of the development and the operation of the proposed new warehouse buildings

Construction Resource Management

The Construction Environmental Management Plan (CEMP) sets out the scope of the resource management to be prepared prior to the construction stage of the development related to all aspects of the Proposed Development.

At this stage it is estimated the GHG emissions of the construction stage of the development will be circa 82,499 tonnes CO_{2e}. To reduce the construction stage GHG emissions measures will be put in place manage resource use, such as:

- Measuring and monitoring of onsite energy use.
- Monitoring of fuel use.

Through the preparation of the Resource Management Plan and ongoing monitoring of energy use targets will be put in place during construction to reduce GHG emissions.

Embodied Carbon

The development and construction industry is increasingly recognising the impact of embodied emissions arising from the production of materials and the construction process. With the operational emissions of new buildings reducing over time the embodied emissions of new development contributes to an increasing proportion of developments' overall emissions.

In this context implementing a strategy to reduce and mitigate the embodied emissions will therefore result in much greater GHG emission reductions than by simply focusing on operational emissions alone. When applied on a global scale, this approach has the potential to mitigate large quantities of GHG emissions.

At this stage it is estimated the GHG emissions related to the production of materials used within the new

infrastructure and buildings are 220,504 tonnes CO_{2e}. To reduce the embodied carbon of the development a range of measures will be included in the detailed design of the development targeting a reduction in embodied carbon emissions by 20%, measures to consider include:

- Full lifecycle assessment of key materials;
- Use of low embodied carbon materials such as concrete including fly ash;
- Use of recycled materials such as recycled aggregates and steel; and
- Design which allows the recycling and reuse of materials.

Further measures to reduce the embodied carbon of the development will be considered during the detailed design of site infrastructure and buildings.

Reducing the embodied carbon of the materials used in the Proposed Development by 20% could save approximately 44,100 tonnes CO_{2e}.

Operational Energy and Carbon

The operational energy strategy focusses on the development of the onsite warehouse distribution buildings.

Given the large scale nature of the development the proposed rail freight warehouses and other site buildings will be designed in accordance with the energy hierarchy, which aims to reduce energy demand through passive design measures and a fabric first, and where possible, the use of low carbon energy and the production of on-site renewable energy.

To meet the requirements of BREEAM credits are awarded where development goes beyond the minimum Building Regulation requirements and achieves carbon dioxide emission reductions. As a commitment to sustainable development the design of new buildings will target a BREEAM Very Good rating including a 10% reduction in carbon dioxide emissions beyond the requirements of the 2013 Building Regulations.

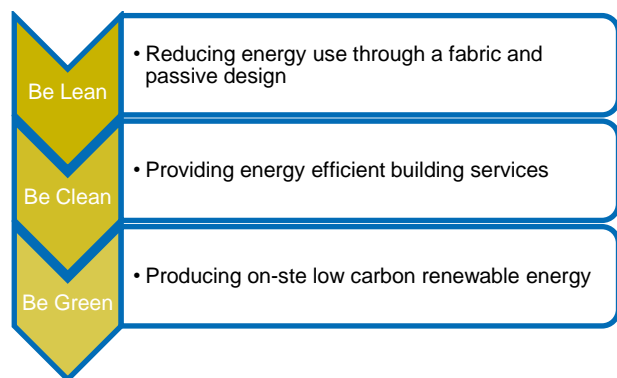


Figure 3: The Energy Hierarchy

The following sections set out the measures included to deliver an energy efficient, low carbon development.

Be Lean

Reducing the primary energy demand of a building through the use of an efficient fabric and services is widely regarded as best practice and is therefore the first and most important step to reducing carbon emissions.

The proposed new buildings will be designed and constructed in accordance with a fabric first approach to create high efficiency buildings which reduce primary energy demand and therefore carbon dioxide emissions.

In new industrial and logistics buildings the majority of the building is unlikely to require heating or cooling, with the main heating and cooling requirement limited to the small office space provided. As a result the predominant energy consumption in these buildings will be electrical energy for lighting.

Fabric Efficiency – In the first instance to create an efficient fabric and minimise energy use and lighting requirements the following measures will be used:

- Achieving higher levels of thermal insulation beyond those set out in the Building Regulations including specification of low u-value walls, floors and windows;
- Optimising the use of natural lighting and minimise the use of artificial lighting in daylight hours, taking care to avoid overheating;
- Provision of roof lights to cover 15% of the unit roof spaces to prioritise natural daylighting, minimising artificial lighting and energy requirements;
- Improved air tightness values which will be significantly lower than the Building Regulations standard of $10\text{m}^3/\text{m}^2/\text{hr}$ targeting $<2.5\text{m}^3/\text{m}^2/\text{hr}$;

Investing in improved fabric and construction techniques to create a more airtight building dramatically reduces the loss of energy to the external environment, thereby reducing energy needed for heating and cooling requirements.

Energy Efficiency – At Rail Central consideration will also be given to reducing operational energy through the specification of efficient plant and building services to include:

- Provision of new, high efficiency LED lighting throughout;

- Automatic controls for all lighting;
- Provision of battery storage technology to store electricity onsite for use in period of high demand or high network cost to; and
- Installation of a sophisticated building energy monitoring system (BEMS) together with a number of energy sub-meters. This system will constantly monitor the existing building and extensions energy use in a number of locations and report any excess energy use.

Additional energy systems and plug in loads such as office equipment or machinery will be the responsibility of the buildings tenants, however, where appropriate tenants will be encouraged to install energy efficient systems.

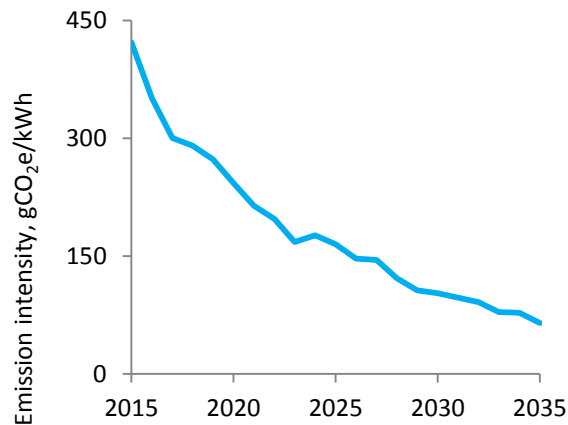
Through the use of fabric and energy efficiency measures new buildings will aim to deliver carbon savings beyond the requirements of the Building Regulations, contributing to an overall 10% reduction in carbon dioxide emissions.

Grid Decarbonisation – In addition to the energy and carbon savings delivered through the proposed fabric and energy efficiency measures the development will benefit from the predicted reduction in national energy decarbonisation.

The increasing generation of low carbon renewable energy and associated reduction in carbon heavy generation such as coal power plants is predicted to significantly reduce the grid electricity carbon factor

which will contribute to reducing the impact of the development on the environment.

The former Department for Environment and Climate Change set out the projections for grid decarbonisation based on the predicted growth of low carbon renewable energy and other alternative low carbon energy generation which is demonstrated in the graph below.¹⁶



The anticipated decarbonisation of the national grid will lead to a continual fall in building GHG emissions.

Be Clean

The next stage of the Energy Hierarchy is the provision of energy efficiently, i.e. from a decentralised energy system such as a Heat Network.

¹⁶ Figure 5.2 Decarbonising electricity generation – December 2015
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/501265/Web_Figures_2015.xls

District Heating Networks (DHN) comprise a centralised heat generator, typically a gas fired Combined Heat and Power (CHP) engine. CHP systems generate electricity and waste heat which can be fed into a network of insulated pipes which deliver low carbon heat to buildings to provide heating and hot water via individual heat transfer units.

DHNs are suited to development with high thermal demand, typically provided by sufficient density or a large anchor load, i.e. high density flats, leisure centres and industrial process.

Figure 3 shows an extract of the UK Heat Map and the proposed site demonstrating the development is not located near to any existing large heat loads or existing networks which could be used to support a local heat network.

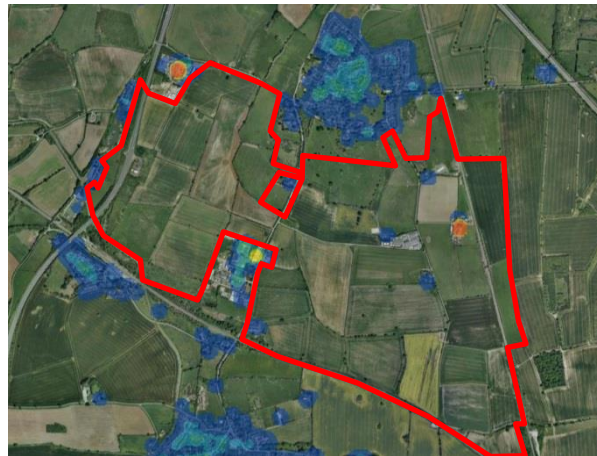


Figure 4: UK Heat Map Extract

As noted in the previous section the proposed units heating demand is limited to the small office spaces provided, combined with a lack of existing network it is considered there is insufficient demand within the new development for a DH Network or CHP system to be feasible.

Be Green

The final stage of the energy hierarchy is the generation of on-site low carbon renewable energy. The use of a fabric first approach to design and construction and provision of energy efficiency measures recognises that the most effective route to delivering long term energy and carbon reductions is through efficient building design.

This approach is reflected by latest government guidance as a result of the Housing Standards Review that aims to improve developments energy use and carbon dioxide emissions through changes to the Building Regulations and it is anticipated that any proposed new buildings will generate carbon dioxide savings beyond the requirements set out in the Building Regulations.

A high level assessment of low carbon energy and renewable energy technology options has been carried out to determine if there are any suitable measures which could be installed on the proposed buildings to reduce resource use and generate an additional carbon dioxide reduction to further mitigate the impact of the development on climate change.

Solar PV – Solar PV systems generate electricity which can be used on site or exported to the national grid and are suitable for installation on unobstructed south facing roof spaces. Recently advances in battery storage technology mean that large scale systems installed on commercial buildings combining battery storage can generate and store sufficient power to provide energy through the night.

Depending on the structure of the building roof spaces it is likely that a number of the proposed buildings will include suitable south facing roof spaces for the deployment of Solar PV.

Solar Thermal Hot Water – Solar thermal systems are used to generate hot water and similarly to Solar PV are suitable for installation on unobstructed south facing roof spaces. Typically solar thermal systems are used to pre-heat water used for use in kitchens, toilets and showers.

Heat Pump Systems – Heat pumps provide low grade heat from the ground (Ground Source Heat Pumps, GSHP) or air (Air Source Heat Pumps, ASHP).

Ground Source Heat Pumps provide low grade heat which is suitable for the heating of highly efficient buildings. The use of GSHP is subject to specific ground constraints and has a high cost when compared to the carbon dioxide savings delivered. For these reasons this technology is not considered suitable for the proposed warehouse buildings.

Air Source Heat pump systems also provide low grade heat and can also be used to provide cooling. This makes this technology suitable for installation in the

proposed building office spaces, providing both heating and cooling as required.

At this stage it is therefore considered the use of Solar PV, Solar thermal and ASHPs may be suitable for installation on the proposed rail freight buildings.

Currently it is proposed as part of the design specification that the new rail freight warehouse buildings include Solar thermal systems to provide hot water and ASHPs to provide heating and cooling to the building office spaces.

Energy Strategy Summary

In summary, the Proposed Development will include measures during the design and construction stage to reduce energy use and GHG emissions during construction, as well as measures to reduce the embodied carbon of the development.

In addition the proposed new warehouse and distribution buildings will be designed in accordance with the energy hierarchy to include a range of fabric and energy efficiency and low carbon renewable energy technologies to achieve a 10% reduction in carbon dioxide emissions above the requirements of the Building Regulations, contributing to mitigating the impacts of climate change. The strategy includes:

- New buildings will be constructed to be energy efficient through the use of roof lighting, thermally efficient fabric and air tight construction.

- The provision of low energy building services, including LED lighting and BEMS to further minimise energy use and carbon dioxide emissions.
- Installation of low carbon renewable energy technologies including solar thermal panels to generate hot water and ASHPs to provide heating and cooling.

This strategy will deliver long term operational energy reductions which reflect the specific nature of the energy demand and carbon dioxide emissions arising from the proposed rail freight buildings.

Table 2 sets out the predicted energy consumption and carbon dioxide emissions demonstrating a 10% reduction in emissions below Part L 2013 of the Building Regulations.

Table 2: Estimated Part L energy use and GHG emissions of the proposed B8 Units

	Total Energy Demand (kWh/yr)	Carbon Dioxide Emissions (tonnes CO2e/yr)
Baseline (Part L 2013)	17,479,096	6,885
Target Energy and Emissions	15,817,930	6,197
Carbon Dioxide Emissions Reduction	10%	

Providing a reduction in emissions beyond the requirements of the Building Regulations meets the Energy objectives of BREEAM and will contribute to the buildings achieving a BREEAM Very Good rating.

The final carbon dioxide emissions will be dependent on the final specification of the buildings and thermal modelling which will be completed during the detailed design stage prior to construction.

GHG Operational Emissions Summary

The Climate Change Chapter and GHG Assessment Technical Appendix which accompany the application set out a detailed assessment of the Proposed Developments GHG emissions.

Table 3 below provides a summary of the Proposed Developments operational emissions compared to the baseline, counterfactual scenario.

The operational GHG emissions assessment includes an assessment of the following emissions sources:

- Electricity and fuels across all buildings and infrastructure;
- Employee commuting;
- Transportation of waste generated by the development; and
- Upstream emissions associated with the generation, transport and distribution of fuel and electricity.

The baseline scenario considered includes the GHG emissions of the current site activity which includes fuel and agrochemical use associated with agricultural use and the existing buildings.

The SRFI scenario includes the operational GHG emissions as described as well as the GHG emissions savings achieved through the shift in road to rail freight as set out in Table 1.

The summary presented in Table 3 sets out the GHG emissions for the baseline scenario and Rail Central development showing the cumulative GHG emissions from 2019 – 2039, demonstrating the long term GHG savings achieved taking into account mitigation set out in this report.

Table 3: Summary of Operational GHG Emissions

	Cumulative GHG emissions 2019 - 2038 (tonnes CO ₂ e)
Baseline scenario	58,448
Rail Central SRFI	-121,047
Net emissions reduction	-179,495
% Reduction in GHG emissions	307%

It is anticipated that post 2038 emissions will reduce further through improved transport efficiency, new technologies and innovation and greater collaboration and efficiency in freight movement.

Should the Building Regulations change prior to the construction of new buildings an updated Sustainability Appraisal will be provided prior to the start of each phase to set out the anticipated GHG emissions and potential savings.

Summary of Operational GHG Emissions

The graph below demonstrates the estimated cumulative operational GHG emissions of the Proposed Development from 2019 – 2038 demonstrating how measures to reduce GHG emissions including the shift of road to rail freight will significantly reduce the GHG emissions of the proposed SRFI.

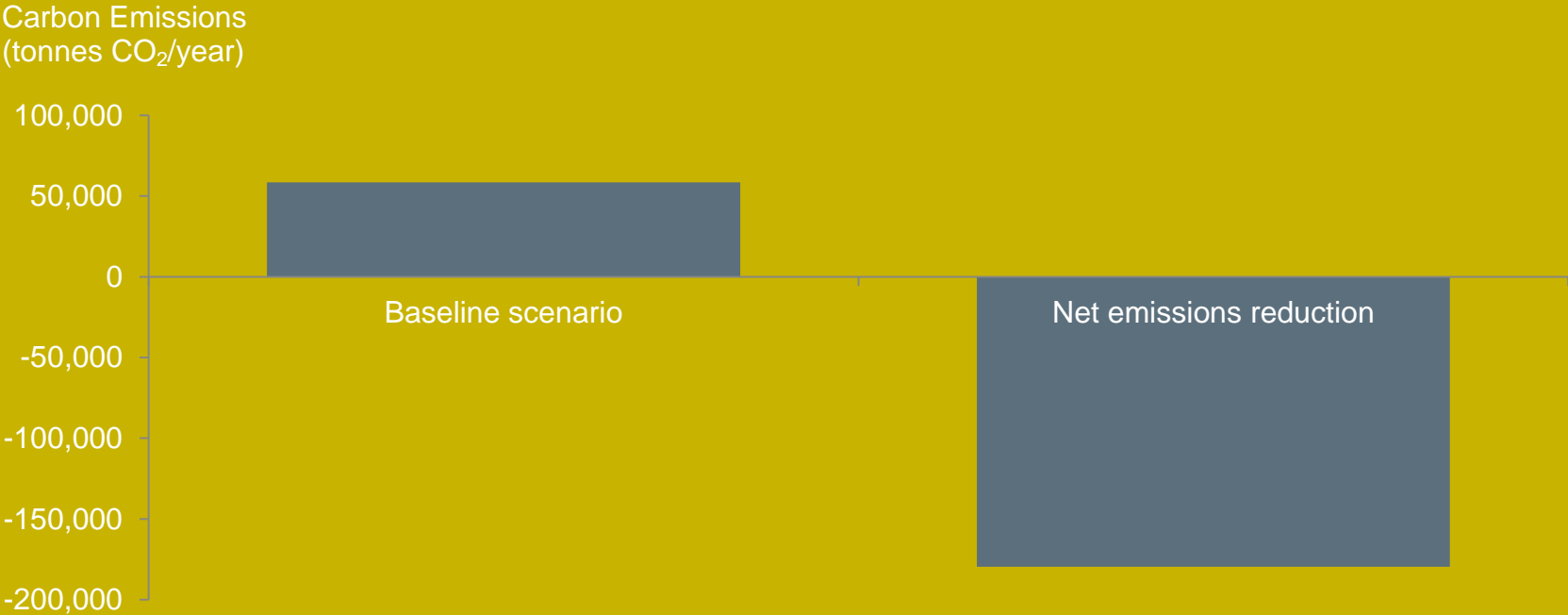


Figure 5: Estimated cumulative GHG emissions

5.6.2 Water Efficiency

Potable water is an increasingly important natural resource and with the majority of the UK classes as being in an area of moderate or severe water stress the conservation of water is becoming a more significant sustainability metric.

Although the final tenants are unknown, experience of similar buildings suggests that water use will be limited to the offices and vehicle washing and will be relatively low given the size of the Proposed Development.

Nonetheless, The Applicant is committed to sustainable buildings and to conserve water all the new buildings will include a range of water efficient appliances and fittings including:

- Dual flush toilets;
- PIR sensors for taps;
- Water meters; and
- Leak detection equipment.

To further reduce potable water use the buildings will also install rain water harvesting systems to provide storage and distribution of rain water to all non-potable facilities within the offices.

Occupiers will also be encouraged to install water efficiency appliances and equipment to further reduce water use.

These measures are anticipated to achieve 2 BREEAM credits and achieve a 25% reduction in water use which is equivalent to a BREEAM Excellent rating for water efficiency.

5.7 Conserving and Enhancing the Natural Environment

The Proposed Development will incorporate measures to support and enhance the environment through consideration of the existing site ecology, including measures to mitigate the impact of the site and enhance site biodiversity, as well as incorporate measures to reduce pollution from the site.

5.7.1 Ecology

A detailed Ecological Assessment has been carried out and is set out in the Biodiversity PEIR chapter to assess the impact of the development and recommend measures to protect existing site ecological features, mitigate the impact of the development and where possible provide enhancements to the site habitats and biodiversity.

The site currently comprises of a series of fields predominantly used for agricultural purposes with areas of semi-improved grassland in the south west and north east of the site. The fields are mostly separated by relatively species poor hedgerows.

The Biodiversity Chapter which accompanies the application sets out greater detail of the site habitats and

species. The Chapter also sets out the key mitigation and enhancements to be incorporated into the development to provide a net gain in site biodiversity.

Mitigation Measures

The Biodiversity Chapter confirms there are a number of habitats and species on site which will require appropriate mitigation during construction; this will include measures such as:

- Carrying out site clearance outside of key species nesting season;
- Measures to mitigate dust and lighting during construction, as well as checking trenches and pits each morning for mammals; and
- Ensure species are appropriately safeguarded during the construction and operation phases of development.

Enhancement Measures

Due to scale of the development there are a number of opportunities to enhance its biodiversity and the enhancement measures below demonstrate how the Proposed Development aims to enhance biodiversity and maximise the provision of new habitats where possible. The following key habitat areas include:

- Arm Farm Pocket Park – Creation of a pocket park to the west of the A43 to include native trees and grassland providing foraging habitat for bats.

- Northampton Road Greenway – Provision of a green corridor along the Northampton Road protecting the existing hedgerows.
- Renovated Barns – Renovation of disused barns in the north of the site into a permanent roost site for barn owls and bats. In addition bat boxes will be used throughout the site to provide roosting opportunities.
- Junction 15a – A new c25ha area will be dedicated to ecology mitigation and includes new hedgerows, creation of ponds and new native planting designed to provide an increase in site biodiversity.
- Grand Union Canal Ecological Corridor – A buffer zone will be created in the south west of the site and managed to include woodland, grassland and scrub species.
- West Coast Mainline Corridor - this landscape buffer will include structural planting combined with species rich grassland.
- The A43 Ecological Corridor – Will include new native planting and managed as a dark area, including an underpass designed to facilitate the passage of wildlife including bats.
- Milton Malsor Brook Ecological Corridor – The brook will be enhanced through new planting.
- Attenuation Ponds – The site attenuation ponds will be designed to enhance biodiversity with a range of

native species providing opportunities for smooth newts, birds, invertebrates and amphibians.

Through the provision of a range of mitigation measures the development aims to enhance the sites biodiversity which will also help adapt to the impacts of climate change.

5.7.2 Pollution

The Proposed Development will aim to minimise any negative impacts on the natural environment considering the impacts of water use, materials, and air quality.

Water – Throughout construction and operation water quality will be maintained by the following measures;

- Reduce erosion and run-off by minimising land disturbance and leaving vegetation cover where possible;
- Cover skips and trucks loaded with construction materials and continually damp down with low levels of water;
- Use non-toxic paints, solvents and other hazardous materials wherever possible; and
- Segregate, tightly cover and monitor toxic substances to prevent spills and possible site contamination.

The construction works will be carried out in such a manner as to avoid adverse effects on the ponds,

streams and downstream habitats in accordance with Environment Agency Pollution Prevention Guidance (PPG).

Sustainable Materials – Insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming will not be used. Natural insulation materials such as mineral wool, rock wool or cork board will be considered as they are amongst the lowest Global Warming Potential (GWP) rating.

Air Quality – The Air Quality draft PEIR chapter reviews the potential air quality of the development during construction and operation.

The assessment sets out a range of mitigation measures to minimise air pollution during construction including:

- Preparation of a Dust Management Plan to manage and monitor the generation of dust during construction;
- Siting machinery and activities away from receptors;
- Erecting screens and barriers around dust generating activities;
- Ensuring vehicles are switched off when stationary;
- Using equipment fitted, or in conjunction with, suitable dust suppression; and

- Ensuring an adequate water supply for dust suppression, where possible using non-potable water sources.

To further enhance the development a number of additional measures will be considered during the detailed design of new homes to minimise pollution, including:

- The use of key internal finishes and fittings which comply with best practice emissions levels of Volatile Organic Compounds (VOCs) and other substances;
- Where appropriate, the use of low NOx emission heating systems; and
- Specification of low Global Warming Potential (GWP) and zero Ozone Depleting Potential (ODP) insulation materials.

5.8 Waste Management

The Applicant is committed to effective resource use, increasing recycling and reducing waste sent to landfill through effective design and through measures during the construction and operation of the proposed SRFI.

Design Stage Waste Reduction

The Proposed Development will be designed to both reduce material use and waste, and facilitate the reuse and recycling of materials at the end of life. This will include the consideration of a range of measures during the detailed design of the SRFI including:

- Include measures to minimise material use through efficient design;
- Where possible specify sustainable materials i.e. recycled materials, aggregates and recycled steel;
- Use of 100% sustainable FSC Certified or equivalent timber;
- Specification of design to use offsite pre-fabrication with production of materials in low waste environments; and
- Design and specification of materials which can be easily recycled at their end of use.

These measures will help reduce primary resource use and reduce waste from the manufacture of materials and the overall development design.

Construction Waste Management

A Site Waste Management Plan has been prepared to support the application which presents a framework to reduce waste during construction, operation and the decommissioning of the site.

Prior to construction a detailed SWMP will be prepared to set out the anticipated construction waste, targets for waste recycling and reuse, information for site operatives on waste management and details on waste reporting. In addition the development aims to reduce construction waste through a range of design and operational measures including:

- Efficient design to minimise primary materials use;
- Specification of sustainable materials including FCS timber and where possible recycled materials;
- Registration of the site with the Considerate Constructors Scheme;
- Efficient resource use, reducing water and energy use through best practice measures and monitoring;
- Use of secure waste segregation and storage areas; and
- Reuse and recycling of onsite waste.

Operational Waste Management

The Applicant will work with building occupants to establish appropriate waste management strategies including encouraging occupiers to put in place recycling plans to communicate to staff minimise waste and encourage recycling.

The proposed storage and distribution units are anticipated to generate a range of operational waste, predominantly made up on non-hazardous waste including the following waste streams:

- General Waste;
- Cardboard; and

- Co-mingled recycling.

To encourage the minimisation and recycling of waste the development design incorporates a range of design measures to facilitate the segregation and storage of operational waste, including:

- Provision of space within the individual buildings for the segregation and storage of operational, recyclable waste streams;
- Where appropriate provision of secure external waste storage areas; and
- The location and design of waste storage to facilitate collection.

To encourage waste management and recycling during the operational stage occupiers will be encouraged to develop a recycling plan to be communicated to staff. Development of a recycling plan can help to manage waste by:

- Ensuring employees are informed about recycling;
- Monitoring recycling to identify where improvements can be made and to management practices are embedded in the organisation;
- Including induction to the waste management and recycling policies for new employees;
- Ensure systems are clear and user friendly, i.e.; clearly labelled containers for recycling.

6. Conclusion

This Statement demonstrates how the Proposed Development of the Rail Central SRFI is in a sustainable location and will provide a range of economic, social and environmental benefits.

This Statement sets out how the development of the proposed Rail Central SRFI meets the objectives of the NN NPS and will deliver a much needed new SRFI in a sustainable location, helping meet the government's national strategy for freight, as well as setting out the sustainability strategy for the development demonstrating how it will provide a range of social, economic and environmental benefits, including measures which adapt to and mitigate the impacts of climate change.

Sustainable Location – Section 4 of this Statement sets out the benefits of creating a SRFI in this location which include:

- Access to the national road and rail networks providing links to international ports and key UK locations such as Birmingham, Manchester and London.

- Access to local labour markets including Northampton, providing opportunities for occupiers and wider economic benefits.
- Reducing congestion and freight on the road, reducing GHG emissions by 739,668 tonnes through operation to 2050 via a shift of freight from road to rail, a key priority for the government.

Sustainable Development – The development has been designed to respond to key local sustainability policies and the sustainability objectives of the NPPF and includes a range of measures to deliver sustainable development which also adapts to and mitigates the impacts of climate change. The key design measures and benefits of the Proposed Development include:

- Investment of £377m in the construction of the Proposed Development contributing to £67m GVA for the South Northamptonshire economy.
- Creation of 8,111 direct FTE jobs once fully operational and a further 4,056 jobs indirectly and directly from expenditure on goods and services.
- An annual contribution of £555m GVA to the national economy as well as c£15m in business rates to the Local Authority supporting local services.
- Promotion of sustainable travel through a range of design measures including provision of a new bus terminal, provision of showers, changing rooms and storage in buildings and provision of EV charging points.
- Measures to promote walking and cycling including provision of an extensive network of onsite footpaths and cycle paths designed to be well-lit and safe.
- Enhancement of offsite infrastructure including improvements to bus stops on the Northampton Road and new safe access.
- Preparation of a Travel Plan Framework and TPC to promote sustainable travel through measures such as promotion of car sharing schemes and provision of priority car sharing parking spaces.
- Preparation of a development design code to ensure development incorporates a range of

sustainable design measures, including new buildings achieving a BREEAM Very Good rating.

- Measures to promote sustainable construction, i.e. prioritising the use of sustainable materials utilising the BRE Green Guide.
- Creation of a sustainable SRFI which responds to the local area with landscaping to provide ecological benefits and shield the development from the neighbouring village of Milton Malsor.
- Promoting health and wellbeing through the provision of an external environment which encourage walking and cycling and provides green spaces and opportunities for recreation.
- Creation of buildings with healthy indoor environments prioritising natural daylight and ventilation and the use of materials with low pollution potential.
- Development which includes measures to adapt to climate change including a surface water drainage system designed to accommodate a 1 in 200 rainfall event including a 40% allowance for climate change.
- Full lifecycle assessment of the development and consideration of measures to reduce GHG emissions during construction and the embodied carbon of the development.
- Sustainable design of buildings in accordance with the energy hierarchy targeting a 10%

reduction in carbon dioxide emissions above the 2013 Building Regulations.

- Provision of measures to reduce water consumption of buildings targeting a 25% reduction in water use in line with BREEAM requirements.
- Provision of a range of ecological enhancements including strengthening retained habitats and new habitats including a Farmland Bird Mitigation Zone and management of the site attenuation basins.
- Measures to reduce the pollution potential of the development including measures to treat surface water, use of sustainable materials and measures to reduce the impact on local air quality.
- Measures to reduce waste and encourage recycling through design, construction and operation including the preparation of a detailed SWMP and registration of the site to the CCS.

It is concluded that through the provision of a wide range of sustainable design measures and considerations the proposed Rail Central development will provide a range of positive economic, social and environmental benefits.

