

17. Landscape and Visual

Purpose of the Assessment

- 17.1 This chapter of the Preliminary Environmental Information Report (PEIR) reports the findings of a landscape and visual impact assessment (LVIA) undertaken for the Proposed Development i.e. the Main Strategic Rail Freight Interchange (SRFI) Site, and the associated highway improvement works at Junction 15a (J15a) and the Other Highways Works.
- 17.2 Full details of the Proposed Development are defined within Chapter 5 'The Proposed Development'.
- 17.3 The landscape assessment has considered the effects of the Proposed Development on the landscape as an environmental resource in its own right and the visual assessment has considered the effect of visual change on people's views and visual amenity.
- 17.4 Landscape and visual effects have been considered for
- the construction phase;
 - operational phase at Year 1 Winter;
 - operational phase at Years 7 and 15 during Summer (to take account of the effects once embedded mitigation has developed and reached a level of maturity); and
 - decommissioning phases of the Proposed Development
- 17.5 Together with consideration of the
- night time visual effects of the Main SRFI site; and
- 17.6 intra and inter project cumulative effects The landscape and visual assessments have been undertaken in parallel, and have been informed by a combination of desk and site-based appraisal techniques and professional judgement.
- 17.7 This chapter is accompanied by the following annexes:
- Volume 3 Appendix 17.1 – Figures
 - A17.1.1 – Zone of Theoretical Visibility (ZTV) warehousing buildings
 - A17.1.2 – ZTV container storage
 - A17.1.3 – ZTV gantry cranes
 - A17.1.4 – ZTV A43 grade separated junction
 - A17.1.5 – The Main SRFI representative viewpoint locations
 - A17.1.6 - Landscape and visual context
 - A17.1.7 - Landscape designations 1
 - A17.1.8 - Landscape designations 2
 - A17.1.9 – National landscape character
 - A17.1.10 – County landscape character
 - A17.1.11 – Topography
 - A17.1.12 – Residential receptors plan
 - A17.1.13 – J15a representative viewpoint locations

- A17.1.14 – J15a landscape and visual context plan
- A17.1.15– Cumulative assessment site locations
- Volume 3 Appendix 17.2 – Published Landscape Character Assessments
- Volume 3 Appendix 17.3 - Viewpoints
 - Viewpoint location/data plans A17.3.1 to A17.3.23
 - Viewpoint baseline photo-panoramas A17.3.24 to A17.3.46
 - Parameter and Illustrative Photomontages A17.3.53a to A17.3.75f
- Volume 3 Appendix 17.4 – Representative Viewpoint Assessment
- Volume 3 Appendix 17.5 – Visual Effects to Residential Receptors
- Volume 3 Appendix 17.6 – Visual Effects to Users of Public Rights of Way
- Volume 3 Appendix 17.7 – Visual Effects to Road Users
- Volume 3 Appendix 17.8 – Photography / verifiable photomontage methodology

17.8 The following sections of this chapter include:

- A summary of relevant legislation and planning policy;
- A summary of consultation with stakeholders;
- A summary of the study area;
- A review of baseline (existing) conditions;
- A description of the methodology for the assessment, including details of the study area and the approach to the assessment of effects;
- Details of the measures proposed as part of the project to avoid or reduce environmental effects, including mitigation and design measures that form part of the project (embedded mitigation);
- An assessment of the likely effects for the construction, operation and decommissioning phases of the project, taking into account the measures proposed;
- Assessment of any cumulative effects with other Proposed Developments;
- Identification of any further mitigation measures or monitoring required in relation to likely Significant effects; and
- A summary of limitations and assumptions.

Legislation, Policy and Best Practice

17.9 Conventions, legislation, policies and relevant best practice guidance of direct relevance to the landscape and visual assessment are considered below and listed in **Table 17.1**.

Table 17.1 Key Landscape Related Legislation, Policies and Guidance

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
---------------------------------------	----------------	--

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
NN NPS (2014) (Ref 17.1)	<p>The National Policy Statement for National Networks (NN NPS Ref 17.1) includes a section (page 75-79, Ref 17.1) which sets out requirements for the assessment of 'Landscape and Visual Impacts' for Nationally Significant road and rail projects. This section refers to the use of the Guidelines for Landscape and Visual Impact Assessment (LVIA) 3rd Edition (Landscape Institute, 2013) in relation to LVIA and a key requirement is that an LVIA should identify and report the likely Significant landscape and visual effects of the development proposed. In addition, the following are key points which should be considered when preparing an LVIA for a nationally Significant road or rail project:</p>	<p>Refer to this assessment chapter and appendices and the Method of Assessment section.</p>
	<p>Landscapes which aren't designated may be highly valued locally or have a local policy designation. <i>"Where a local development document in England has policies based on landscape character assessment, these should be given particular consideration. However, local landscape designations should not be used in themselves as reasons to refuse consent, as this may unduly restrict acceptable development."</i> (Para. 5.156, Ref 17.1)</p>	<p>Refer to Baseline Landscape Conditions section.</p>
	<p>The Secretary of State's final decision on whether to permit a development <i>"should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to avoid adverse effects on landscape or to minimise harm to the landscape, including by reasonable mitigation."</i> (Para. 5.157, Ref 17.1)</p>	<p>Refer to Embedded Mitigation section.</p>
	<p>The Secretary of State's decision will take into account <i>"whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the development."</i> (Para. 5.158, Ref 17.1)</p>	<p>Refer to the Construction Phase Visual Effects, Operation Phase Visual Effects, Residual Visual Effects section and appendices 17.4, 17.5, 17.6 and 17.7</p>

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
	<p>With regards to mitigating likely landscape and visual effects, the NN NPS states the following:</p> <p><i>“Reducing the scale of a project or making changes to its operation can help to avoid or mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design or changing the operation of a Proposed Development may result in a Significant operational constraint and reduction in function. There may be exceptional circumstances where mitigation could have a very Significant benefit and warrant a small reduction in scale or function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape effects outweigh the marginal loss of scale or function.”</i> (Para 5.159, Ref 17.1)</p>	<p>Refer to Embedded Mitigation section.</p>
	<p>The applicant should consider ways of minimising adverse landscape and visual effects <i>“through appropriate siting of infrastructure, design (including choice of materials), and landscaping schemes. It is important that materials and designs proposed for infrastructure should be given careful consideration.”</i> (Para. 5.160, Ref 17.1)</p>	<p>Refer to Embedded Mitigation section.</p>
	<p>Landscaping off site, i.e. away from the Potential Development Area (PDA), may be appropriate to mitigate adverse views of a Proposed Development, however this would have to be included within the order limits for that application. For example, filling in gaps in existing tree and hedge lines may mitigate some long range views of a Proposed Development. (Para. 5.161, Ref 17.1)</p>	<p>Refer to Mitigation section.</p>
<p>NPPF (2012) (Ref 17.2)</p>	<p>The National Planning Policy Framework (NPPF, Ref 17.2) sets out the Governments planning objectives to contribute to and enhance the natural and local environment by <i>“protecting and enhancing valued landscapes”</i> (Para. 109 Ref 17.2). It also states that in planning decisions, the greatest weight should be given to <i>“conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty”</i> (Para.115, Ref 17.2)</p>	<p>Ref to Baseline Conditions section.</p>

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
Planning Practice Guidance (PPG) Natural Environment (2016) (Ref 17.3)	<p>PPG (para 001, Ref 17.3) brings together national planning guidance and links to the NPPF by providing further detail on how the English planning system should operate. In relation to the landscape, the PPG advocates the use of landscape character assessment at a local planning level, i.e. in the preparation of local plans. This focuses the need to consider published landscape character assessments when preparing development proposals and ensuring that the design of the development takes into account the local distinctiveness of the landscape and identifies the features that give it a sense of place.</p>	Refer to Baseline Landscape Conditions section.
	<p>PPG states that <i>"Green infrastructure is important to the delivery of high quality sustainable development...To ensure that these benefits are delivered, green infrastructure must be well planned, designed and maintained. Green infrastructure should, therefore, be a key consideration in both local plans and planning decisions where relevant."</i> (Para 027, Ref 17.3)</p>	Refer to Embedded Mitigation section.
West Northamptonshire Joint Planning Unit (2014) West Northamptonshire Joint Core Strategy Local Plan (2014) (Ref 17.4)	<p>Policy BN5 refers to the protection of designated and non-designated heritage assets, including landscapes.</p> <p><i>"Designated and non-designated heritage assets and their settings and landscapes will be conserved and enhanced in recognition of their individual and cumulative significance and contribution to west Northamptonshire's local distinctiveness and sense of place,"</i> (Page 121, Ref 17.4).</p> <p><i>" In order to secure and enhance the significance of the area's heritage assets and their settings and landscapes, development in areas of landscape sensitivity and/ or known historic or heritage significance will be required to:</i></p> <p><i>1. sustain and enhance the heritage and landscape features which contribute to the character of the area including:</i></p> <p><i>a) conservation areas;</i></p> <p><i>b) significant historic landscapes including historic parkland, battlefields and ridge and furrow;</i></p> <p><i>c) the skyline and landscape settings of towns and villages;</i></p> <p><i>d) sites of known or potential heritage or historic significance;</i></p> <p><i>e) locally and nationally important buildings, structures and</i></p>	Refer to Baseline Landscape Conditions section.

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
	<p>monuments," (Pages 121-122, Ref 17.4).</p> <p>The policy also refers to the "<i>sympathetic to locally distinctive landscape features, design styles and materials in order to contribute to a sense of place,</i>" (Page 122 Ref 17.4).</p>	
<p>South Northamptonshire Local Plan (1997) (Ref 17.5)</p>	<p><i>"Proposals for new development will be expected to pay particular attention to the following elements of design:</i></p> <p><i>... (iii) the scale, density, layout, height, massing, landscape and materials in relation to the site and its surroundings;</i></p> <p><i>(iv) the appearance and treatment"</i> (Policy EV1: Design, Paragraph 4.14 Ref 17.5)</p>	<p>Refer to Embedded Mitigation section.</p>
	<p>The 'Tove Valley Special Landscape Area' is located 3.0 km south of the PDA and Policy EV7: Special Landscape Areas refers to such areas. The local plan states that "<i>in the special landscape areas planning permission will only be granted for development which will not have a detrimental impact on their character and appearance. Particular attention must be paid to design, materials, siting of buildings and the use of land.</i>" (Para. 4.22, Ref 17.5)</p>	<p>Refer to Baseline Landscape Conditions section.</p>
	<p>The local designation called important local gaps cover the location for Junction 15a proposed works. Policy EV8: Important Local Gaps states:</p> <p><i>"In order to prevent the coalescence of settlements the council will not permit development which would significantly intrude into the following important local gaps as shown on the proposals maps:</i></p> <p><i>a) between the Northampton borough boundary and the nearby villages and hamlets of Harpole, Kislingbury, Rothersthorpe, Courteenhall, Milton Malsor, Preston Deanery, Little Houghton and Cogenhoe."</i>(Para. 4.23, Ref 17.5)</p>	<p>It is considered that the J15a Works will not contribute to the coalescence of settlements as the majority of the proposed works are within the existing highways land. The extent of works outside of highways land is limited to the proposed link road. However the proposed link road is in close proximity to the</p>

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
		<p>existing highway and does not significantly intrude physically or visually into the rural undeveloped landscape. Therefore this local policy designation is not considered further within the assessment.</p>
	<p>There are Conservation Areas within the study area and Policy EV11: Preservation or Enhancement of Conservation Areas requires that development should not have "<i>an adverse effect on the setting of the conservation area or on any views into or out of the area,</i>"(Para 4.29). The nearest Conservation Areas to the site are: Milton Malsor, which is located adjacent to the northern boundary of the PDA; Blisworth, which is located 0.5 km south of the PDA; Gayton, which is located 1.0 km west of the PDA; and Rothersthorpe, which is located 1.0 km north-west of the PDA. In addition, the Grand Union Canal is located adjacent to the south-western boundary of the site and also has Conservation Area status. (Para 29 Ref 17.5)</p>	<p>Refer to the Construction Phase Visual Effects, Operation Phase Visual Effects, Residual Visual Effects section and appendices 17. 4, 17.5, 17.6 and 17.7</p>
	<p>Policy EV21: Hedgerows, Ponds and Other Landscape Features states that: "<i>Development proposals will be expected to retain wherever possible, or failing that to replace, trees, hedgerows, ponds or other landscape features where they make an important contribution to the character of the area.</i>" (Para 4.51, Ref 17.5)</p>	<p>Refer to the Construction Phase Landscape Effects, and Embedded Mitigation section.</p>
	<p>Policy EV25: Wildlife Corridors, Rivers and Waterways is predominantly an ecological policy, however it is of relevance to the landscape mitigation proposals for the Proposed Development as it requires that development should not adversely affect the landscape of dismantled railways or waterways and watercourses (Para 4.54, Ref 17.5).</p>	<p>Refer to the Construction Phase Landscape Effects, and Embedded Mitigation section.</p>

Legislation / policy / guidance	Key provisions	Relevant section of chapter where key provisions are addressed
	Policy EV28: Historic Parks, Gardens and Battlefields requires that development should not have a seriously adverse effect on the character or setting of such areas. (Para 4.57, Ref 17.5)	Refer to the Construction Phase Visual Effects, Operation Phase Visual Effects, Residual Visual Effects section and appendices 17. 4, 17.5, 17.6 and 17.7
South Northamptonshire Council (SNC), Supplementary Planning Guidance (SPG): Trees and Development (Ref 17.6)	This SPG " <i>illustrates how trees can be a positive element in the design of new development. In addition, it summarises the information about trees (existing and new) that the Council will require on submission of a planning application,</i> " (Para.1, Ref 17.6).	Refer to Embedded Mitigation section.
Landscape Institute (2013) Guidelines for Landscape & Visual Impact Assessment, 3rd Edition (GLVIA3) (Ref 17.7)	This is the main guidance document for landscape architects carrying out landscape and visual impact assessments and is widely recognised by practitioners as forming the main reference point when producing LVIA. However, the Landscape Institute are clear that the guidance is not prescriptive in that it does not provide a detailed ‘recipe’ that can be followed in every situation. The 3rd Edition, which was published in 2013, provides an updated approach from previous editions in 1995 and 2002.	Refer to the EIA Method of Assessment section.

Scoping and Consultation

As part of the formal scoping process, responses were received from various statutory and non-statutory consultees in relation to the LVIA. Following the receipt of scoping responses on the LVIA, further consultation has been carried out in relation to representative viewpoint locations for the Main SRFI Site with South Northamptonshire Council (SNC). **Tables 17.2 and 17.3** following set out the key issues which have been discussed to date in relation to the LVIA.

Table 17.2 Summary of Scoping Opinion

Scoping Opinion section/paragraph	Summary of issues raised	Where in the PEIR is this addressed?
3.90	The Proposed Development description should be consistent throughout the ES, and that all the elements which could give rise to Significant effects are identified and assessed consistently.	The Proposed Development is described in Chapter 5, and that description is adopted on a consistent basis throughout the PEIR and chapter 17.
3.91	The assessment methodology should be clearly and consistently detailed, in particular with consistent terminology.	The LVIA assessment methodology is clearly and consistently detailed in The Method of Assessment section below.
3.92	The LVIA should be based on a realistic worst case scenario to ensure that all potential Significant effects are identified.	The assessment is based on the worst case parameters as set out in the Development Consent Order (DCO) application documents and in Chapter 5 of this PEIR.
3.94-3.95	The Secretary of State (SoS) welcomed the approach to consult with South Northamptonshire Council and Natural England in relation to the LVIA. In addition, the SoS notes the inclusion of eleven preliminary viewpoints and recommends that the locations of the final viewpoints are agreed with other relevant bodies.	Further consultation has been carried out with South Northamptonshire Council (SNC) in relation to LVIA and heritage, and taking account of non-statutory organisations and public consultation feedback as addressed in the Consultation section of this chapter. A total of twenty-four viewpoints have been identified and agreed with SNC, and assessed in relation to The Main SRFI Site. A further five viewpoints have been identified for the assessment of The J15a Works. The J15a Works viewpoints are to be discussed and agreed with SNC during the statutory consultation period. No specific representative viewpoint locations for the Minor Highways Works are proposed due to accessibility and health and safety issues at some locations, and in addition due to the nature of the works proposed and limited receptors and effects

Scoping Opinion section/paragraph	Summary of issues raised	Where in the PEIR is this addressed?
		anticipated.
3.96	The SoS recommends that a Zone of Theoretical Visibility (ZTV) is included in the ES chapter.	ZTV's of The Main SRFI Site (Buildings, container storage, overhead gantry cranes, and A43 Grade Separated Junction) and based on the worst case parameters are included in Volume 3 Appendix 17.1 Figures A17.1.1 to A17.1.4
3.97	The SoS recommends that the visual effects of lighting are considered and specifically that a Lighting Assessment chapter should be included in the ES.	The Applicant has appointed a specialist lighting consultant to carry out an assessment of the potential lighting effects of the Proposed Development and a Lighting Assessment chapter is included in the PEIR (Chapter 21). Chapter 17 presents a preliminary assessment of night time visual effects during construction and operation and operation of the Proposed Development at the Main SRFI Site.
3.98	Landscape and visual mitigation proposals should be developed in conjunction with other technical disciplines, such as the ecological and cultural heritage chapters. It is also recommended that a Landscape Masterplan is included within the ES.	An iterative process of assessment and design has informed the preparation of the proposed Parameter Plan (MSA-30708-PL-DCO-113A), Green Infrastructure Plan (1627-16-28D) Illustrative Masterplan (MSA-30708-PL-DCO-111B), and an Illustrative Landscape Masterplan (1627-16-25H) and has been developed in conjunction with all relevant members of the EIA team, including those responsible for the ecological and cultural heritage assessments. The embedded landscape and visual mitigation is described in the Embedded Mitigation section.

Scoping Opinion section/paragraph	Summary of issues raised	Where in the PEIR is this addressed?
Appendix 3, Scoping response from the Canal & River Trust	Further viewpoints should be considered on the Grand Union Canal, particularly given that the canal has Conservation Area status.	The applicant has added a further viewpoint on the Grand Union Canal since the scoping report (Table 17.4, VP12) and includes further viewpoints which take account of the setting of the Grand Union Canal Conservation Area (Table 17.4, VP15 & VP22, and Table 17.8 VPC & VPE)
	With regards to green infrastructure, The ES should consider the West Northamptonshire Water Cycle Strategy, Green Infrastructure Strategy, the EU Habitat Directive and UK Regional and local Biodiversity Action Plans. The ES should also consider Northampton Borough Councils Green Infrastructure Plan for Northampton.	Green Infrastructure forms a consideration in the development of a landscape and visual mitigation for the site (see Mitigation section) and the Northamptonshire Water Cycle Strategy, Green Infrastructure Strategy, the EU Habitat Directive and UK Regional and local Biodiversity Action Plans, and the Green Infrastructure Plan for Northampton have been taken into account. Please also refer to Chapter 16 Biodiversity.
Appendix 3, Scoping response from Natural England	Natural England request that: landscape character areas (LCAs) are mapped and effects of the development on those areas are assessed; visual effects should be assessed; physical effects, such as landform changes should be identified. Natural England also place importance on The European Landscape Convention, which places a duty on Local Planning Authorities, including South Northamptonshire, to consider the impacts of landscape when exercising their functions.	LCAs are mapped in Figure A17.1.9 and A17.1.10. Refer to the Construction Phase, Operation Phase and Residual Landscape Effects assessment sections of this Chapter. This PEIR chapter takes account of The European Landscape Convention by providing an assessment of the impacts of the Proposed Development to the landscape as a resource in its own right.
Appendix 3, Scoping response from South Northamptonshire Council	SNC state in their response: "South Northamptonshire Council is unable to provide full comments on the content of this section due to the limited timeframe in which to respond to this consultation which precludes the appointment of a landscape architect. As such the Council seeks contact from the applicants to agree a final list of viewpoints in accordance with paragraphs	Further consultation with SNC was undertaken in January 2017 and additional representative viewpoints for the assessment of the Proposed Development at the Main SRFI Site have been agreed (see Table 17.4). For the J15a Works a total of five representative viewpoints that have been identified and are proposed for

Scoping Opinion section/paragraph	Summary of issues raised	Where in the PEIR is this addressed?
	15.51 and 15.52 of the Scoping Report. Section 15.35 suggests that operation effects will be considered at Year 1 (opening year) and Year 15 (design year). It is South Northamptonshire Council's initial opinion that an additional consideration should take place in the intervening period (i.e. year 5, 7 or 10)."	<p>the assessment of the visual effects. These representative viewpoints are to be discussed and agreed with SNC during the statutory consultation period. No specific representative viewpoint locations for the Minor Highways Works are proposed due to accessibility and health and safety issues at some locations, and in addition due to the nature of the works proposed and limited receptors and effects anticipated. This is to be agreed with SNC.</p> <p>Assessment of the operational visual effects at year 7 and year 15 are included in the assessment of Operational Phase Visual Effects.</p>

Table 17.3: Summary of Consultations Undertaken

Consultation and date	Summary of issues raised	Where in the PEIR is this addressed?
SNC, 1 March 2016	A preliminary list of eleven viewpoints was agreed with SNC. However, this was an interim position until such time that an external landscape consultant was appointed by SNC to provide consultation responses to the applicant in relation to landscape and visual issues.	The LVIA uses all agreed viewpoints as part of the assessment (as addressed in the Baseline Conditions section). Further consultation with SNC was undertaken in January 2017 and a final list of viewpoints was agreed.
SNC, 16 December 2016	SNC responded on the 17 th January 2017. The council proposed a list of 6 viewpoints for consideration as additional viewpoints or as alternative viewpoints with a particular focus on the assessment on the setting of heritage assets. The council's heritage advisor was concerned that the setting of heritage assets would not be reflected in the LVIA. That cumulative visual impact of Rail	Five of the six proposed viewpoints have been taken forward in the assessment (as addressed in the Baseline Conditions section). One proposed viewpoint (SVP6 to the south of Gayton Wood Farm) was discounted by the LVIA and Heritage consultants as no suitable viewpoint location in the vicinity of the provided grid

<p>Central SRFI with the proposed Northampton Gateway SRFI are unlikely to be fully assessed for the chosen viewpoints and that visual impact of combined projects is likely only fully assessed from more distant viewpoints within the Northampton Borough Council area.</p> <p>That the provision of Summer visualisations will help to establish the visual effects of existing woodlands and proposed mitigation planting.</p> <p>That the inclusion of assessment at an intervening period i.e. Year 7 to assess the effect of mitigation planting and any areas that may require enhancement or remedial attention.</p>	<p>reference could be identified due to the screening effects of roadside hedgerows.</p> <p>An assessment of the effects to the setting of heritage assets is assessed in Chapter 12 Cultural Heritage with reference to the representative viewpoints and photomontage visualisations presented in Appendix 17.3</p> <p>The proposed Northampton Gateway SRFI is at S.42 consultation stage and limited information regarding this project is available. Consideration of cumulative visual effects has been made in the Cumulative Effects section and Appendix 17.4</p> <p>Summer visualisations at years 7 and 15 have been prepared and included with the PEIR.</p> <p>An assessment of the visual effects during Summer at years 7 and 15 is presented in the Assessment of Operational Phase Visual Effects section.</p>
--	---

Study Areas for the Main SRFI Site, J15A Works Site and Minor Highways Works

- 17.10 The study areas for the Proposed Development provide a boundary to the focus of assessment, identification of key landscape and visual receptors and representative viewpoints.
- 17.11 A study area around the Main SRFI Site has been defined and agreed with SNC as a 5.0 km radius. The study area for the Main SRFI Site includes the locations of a total of twenty-four representative viewpoints agreed with SNC. The identification of key landscape and visual receptors and representative viewpoints within the Main SRFI Site study area has been aided by the preparation of Zone of Theoretical Visibility (ZTV) plans (refer to **Figures A17.1.1 to A17.1.4**).
- 17.12 A study area of approximately 1 km has been defined for the J15a Works. The study area for the J15a Works includes the locations of a total of five representative viewpoints that have been identified and are proposed for the assessment of the visual effects. These representative viewpoints are to be discussed and agreed with SNC during the statutory consultation period. ZTV's have not been prepared for the J15a Works at this time. Therefore the study area and the identification of key landscape and visual receptors and representative viewpoints for the J15a Works has been based on professional judgement informed by desk based and field based observations. The requirement for the preparation

of ZTVs for the proposed J15a works will be discussed and agreed with SNC during the statutory consultation period, and if agreed ZTVs will be presented with the Final ES submission.

- 17.13 For Minor Highways Works study areas are limited to within approximately 500 m. No specific representative viewpoint locations for the Minor Highways Works are proposed due to the nature of the works and limited effects anticipated. No ZTV's have been produced for the Minor Highways Works due to the relatively minor nature and extent of the proposed changes. These matters are to be discussed and agreed with SNC during the statutory consultation period.

Baseline Surveys and Data

- 17.14 Baseline landscape and visual assessments have been informed by a combination of desk and field-based techniques.

Desk Based

- 17.15 The identification, description and evaluation of the existing landscape and visual context of the study areas involved a desk-based review and interrogation of the following information sources:

- The project description (refer **Volume 2 Chapter 5 'The Proposed Development'**)
- Architectural drawings, engineering data and schematic plans relating to the proposals and their construction;
- Parameters Plan – Main SRFI Site Development Zones (MSA-30708-PL-DCO-113A)
- Green Infrastructure Plan (1627-16-28D)
- Parameters Plan – J15a Works
- Illustrative Masterplan (MSA-30708-PL-DCO-111B)
- Illustrative Landscape Masterplan (1627-16-25H)
- Responses obtained through the scoping and formal and informal consultation processes;
- Ordnance Survey mapping, aerial photography and topographical data relating to existing landform, vegetation, settlement patterns, promoted viewpoints and drainage regimes;
- Plans containing information relating to landscape designations and landscape related policies at the local, regional and national level;
- The Multi-Agency Geographical Information for the Countryside website; managed by Natural England (available at <http://www.magic.gov.uk>);

- National landscape character areas (NCAs) as defined by Natural England; and
- Local Landscape Character Assessments, as published and defined in: Northamptonshire County Assessment (2006)
- Woodland Trust Ancient Tree Inventory (available at <http://www.ancient-tree-hunt.org.uk/>)
- Zone of Theoretical Visibility (ZTV) plans (refer to **Figures A17.1.1 to A17.1.4**).

Field Surveys

17.16 Field surveys have been undertaken during periods of clement weather from public highways, public rights of way and publically accessible areas, including areas of public open space.

17.17 The study areas for the Main SRFI Site, J15a Works and Minor Highways Works have been visited in relation to landscape and visual studies on: 30 April 2015; 22 February 2016; 2 and 3 March 2016; 28 to 30 Nov 2016; 7 to 9 of February 2017; 13 February 2017; 2 March 2017; 13 March 2017, 25 May 2017, and 5 July 2017.

17.18 Site work has involved:

- A corroboration of the findings of the desktop review;
- Gathering of additional information on landscape elements, character, views and localised screening;
- Confirming a list of representative viewpoints for both LVIA and Heritage Assessment purposes (as addressed in Chapter 12: Cultural Heritage) and taking reference photographs;
- Identification and assessment of landscape and visual effects; and
- Consideration of potential landscape and visual mitigation.

Baseline Landscape Conditions

17.19 This section should also be read in conjunction with Chapter 2 The Site and Surroundings. It describes the 2016-17 baseline, and considers the Main SRFI Site (including A43 access and all rail infrastructure), J15a works, other minor highway works. Further work to consider the baseline of all proposed development works is ongoing and will be included in the Final ES.

17.20 In addition, further work to consider the predicted future baseline scenario (having regard for construction of any relevant committed developments in advance of the commencement of construction of the Proposed Development) is ongoing and will be included in the Final ES.

2016-17 Baseline

Main SRFI Site (including A43 access and all rail infrastructure)

Zone of Theoretical Visibility and Representative Viewpoints

- 17.21 In order to identify sensitive landscape and visual receptors Zone of Theoretical Visibility (ZTV) plans have been prepared to illustrate the maximum potential areas of visibility of the Proposed Development at the Main SRFI Site. The term ZTV is used to describe the area over which it may be possible to see some part of the development.
- 17.22 **Figures A17.1.1 to A17.1.4** illustrate the Zone of Theoretical Visibility (ZTV) plans of the unmitigated Main SRFI Site features i.e. the logistics buildings, gantry cranes, container storage area, and the grade separated junction on the A43. These plans are based on the worst-case parameters (e.g. maximum potential height Above Ordnance Data (AOD)) and demonstrate the worst-case visibility based on bare earth landform data only, i.e. they do not take into account the screening effect of above ground features such as trees, hedgerows, and built form. Such above ground features will limit visibility of the Main SRFI Site.
- 17.23 The ZTV's are based on a contour model prepared using Ordnance Survey (OS) Terrain 5 data. This 5m resolution dataset was then up-sampled to 1m resolution to allow integration with the more detailed surface models prepared for the bulk earthworks of the Main SRFI Site.
- 17.24 The selection of representative viewpoints have been informed by reference to the ZTVs, desk based and field based studies and through consultation and agreement with SNC. The representative viewpoints in **Table 17.4** have been considered as part of the assessment of the Main SRFI Site. The representative viewpoints locations are presented in **Figures A17.1.1 to A17.1.5** and detailed viewpoint location plans are presented in **Figures A17.3.1 to A17.3.23**.

Table 17.4: Representative Viewpoints of the Main SRFI Site

Ref	Name	Justification	OS Grid Reference	
			Easting	Northing
VP1	Barn Lane	LVIA VIEWPOINT Representative of views from Public Right of Way (PRoW) and from properties on Rectory Lane on the southern edge of Milton Malsor	473686	255336
VP2	Public Right of Way KZ19	LVIA VIEWPOINT Representative of views from PRoW	474358	254621
VP3	Public Right of Way RD6	LVIA VIEWPOINT Representative of views from PRoW	474095	253133
VP4	Public Right of Way RD1	LVIA VIEWPOINT Representative of views from PRoW	473337	253799
VP5	Railway Cottages, Northampton Road	LVIA VIEWPOINT Representative of views from residential properties and users of Northampton Road	472883	254235

Ref	Name	Justification	OS Grid Reference	
			Easting	Northing
VP6	Public Right of Way RD12	LVIA VIEWPOINT Representative of views from PRow	472078	254768
VP7	Blisworth Arm	HERITAGE and LVIA VIEWPOINT Representative of views from residential properties, and the Grand Union Canal Walk recreational route	472054	255119
VP8	Milton Road, Gayton	LVIA VIEWPOINT Representative of views from Milton Road and eastern extents of Gayton	471041	254909
VP9	Rothersthorpe	Omitted from the assessment, views screened by intervening topography and vegetation, no alternative identified		
VP10	Northampton	LVIA VIEWPOINT Representative of views from residential properties within Northampton	474985	257743
VP11	Public Right of Way LB5	LVIA VIEWPOINT Representative of views from residential properties and from the Nene Way recreational route	471883	259753
VP12	Grand Union Canal	HERITAGE and LVIA VIEWPOINT Representative of views from the Grand Union Canal Walk recreational route and the Grand union Canal Conservation Area	471985	254923
VP13	Courteenhall Road	LVIA VIEWPOINT Representative of views from residential / commercial properties and Courteenhall Road	473352	253466
VP14	Hill Farm, Gayton Road	LVIA VIEWPOINT Representative of views from Hill Farm, from Gayton Road and from the Midshires Way recreational route	472152	253788
VP15	Public Right of Way RL5	HERITAGE and LVIA VIEWPOINT Representative of views from PRow and the setting of the Grand Union Canal Conservation Area at Blisworth Arm	471605	255116
VP16	Public Right of Way KX5,	LVIA VIEWPOINT Representative of views from PRow	472725	255891
VP17	Public Right of Way KX7	HERITAGE and LVIA VIEWPOINT Representative of views from PRow	473209	255180
VP18	Milton Malsor	HERITAGE and LVIA VIEWPOINT Representative of views from village and Conservation Area	473595	255523
VP19	Public Right of Way KX10	LVIA VIEWPOINT Representative of views from PRow	473990	255748
VP20	Church of St Peter and St Paul Courteenhall	HERITAGE and LVIA VIEWPOINT Representative of views from Conservation Area and Registered Park and Garden	476411	252946

Ref	Name	Justification	OS Grid Reference	
			Easting	Northing
VP21	Northampton Road	HERITAGE and LVIA VIEWPOINT Representative of views from Northampton Road and setting of the Railway Arch heritage asset	472805	254103
VP22	12 Station Road	HERITAGE and LVIA VIEWPOINT Representative of views from 12 Station Road, users of Station Road and the setting of the Grand Union Canal	472246	254361
VP23	Walnut Tree Inn, Station Road	LVIA VIEWPOINT Representative of views from Walnut Tree Inn, Blisworth Park and Station Road	472102	254524
VP24	Deveron House, Towcester Road	LVIA VIEWPOINT Representative of views from Deveron House and Towcester Road	473413	254998

17.25 Descriptions of the existing baseline views for each viewpoint are provided in **Volume 3 Appendix 17.4**.

Main SRFI Site Description - Landscape Elements

17.26 The Main SRFI Site largely consists of large scale arable farmland, with some smaller scale pastoral fields located within its north-eastern extent, just to the south of the village of Milton Malsor. Given the extent of the Main SRFI Site, its rural character and the limited number of built features, there is a relatively low level of tree and hedgerow cover. Field boundaries generally have some hedgerow or intermittent tree cover and hedgerow boundaries with occasional mature trees are a feature of views across the Main SRFI Site.

17.27 There are no large blocks of woodland within the Main SRFI Site, only small belts and some small lines of evergreen trees which act as shelterbelts. However, there are occasional belts of dense and mature deciduous tree planting beside the linear infrastructure features, such as the A43 road at the western extent of the Main SRFI Site and the Northampton Loop Line (NLL) at the eastern extent. In the wider study area and there are extensive belts of woodland vegetation in the vicinity of and surrounding Courteenhall Park, approximately 1.0 km east of the Main SRFI site boundary.

17.28 A number of high value individual trees are located within the Main SRFI Site. A number of high value individual trees are located within the Main SRFI Site. Sixty-three trees were recorded as locally notable/notable/veteran/ancient. Twenty six veteran trees, one notable and seventeen locally notable trees would require removal to facilitate the Proposed Development at the Main SRFI Site. The consideration of the effects on Veteran trees as habitat in **Chapter 16 Biodiversity**. Also refer to **Appendix 16 Biodiversity, Annex M Veteran Tree Report**, and **Figure M1.1**.

17.29 There are 5 TPO trees within the Main SRFI Site order limits (refer to **Figure A17.1.8**). However the trees are to be retained within an area of proposed primary green infrastructure and proposed landscaped open space and no significant effects are anticipated to these trees. Therefore they are not considered further within this assessment,

- 17.30 There are a small number of farm buildings within the Main SRFI Site, located in the eastern extents, and there is a disused service station within the western extent of the Main SRFI Site, beside the A43.
- 17.31 Milton Brook crosses the western part of the Main SRFI site and another minor watercourse, believed to be named Wooton Brook, the eastern.

Designations

- 17.32 As presented in **Figures A17.1.7 & A17.1.8** there are no national, regional or local landscape designations within the Main SRFI Site.
- 17.33 Considering the wider study area, there are three Registered Parks and Gardens identified.
- 17.34 Stoke Park is located approximately 4.2 km south of the Main SRFI Site and Easton Neston is located approximately 4.9km south, south-west of the Main SRFI Site. However, the ZTV's indicate there is no potential visibility of the Main SRFI Site from within these Registered Parks and Gardens and therefore they are not considered further within this assessment.
- 17.35 Courteenhall is located 1.0 km east of the Main SRFI Site and is located within the zone of theoretical visibility of the Main SRFI Site. Viewpoint 20 has been located at Courteenhall to assess likely visual effects from this location.
- 17.36 With respect to local landscape policy areas, the South Northamptonshire 'Tove Valley Special Landscape Area' is located 3.0 km to the south of the Main SRFI Site. However, as illustrated on the ZTV's figures A17.1.1 to A17.1.4, views of the Main SRFI Site are not possible from here due to topography and existing screening and therefore this local designation will not be considered further with this assessment
- 17.37 There are ten Conservation Areas located within the study area. Conservation Areas are primarily heritage designations, however the contribution of these areas to the landscape character and value of the study area, together with the views and visual amenity of residents, visitors and others within these areas is of relevance to the LVIA. The consideration of the effects on the setting of heritage assets is considered within **Chapter 12 Cultural Heritage**.
- 17.38 Of the ten Conservation Areas which have been identified, the following have been considered further within the LVIA as the ZTVs indicate potential views of the Main SRFI Site are possible from within their boundary, albeit each to varying extents:
- Milton Malsor, which is located adjacent to the northern boundary of the Main SRFI Site;
 - Blisworth, which is located 0.5 km south of the Main SRFI Site;
 - Gayton, which is located 1.0 km west of the Main SRFI Site;
 - Rothersthorpe, which is located 1.0 km north-west of the Main SRFI Site; and
 - The Grand Union Canal, which is located immediately adjacent to the south-western boundary of the Main SRFI Site at its closest point.

17.39 There are two SSSIs within 2km and 2 Local Nature Reserves within 5km of the main SRFI Site, with non-statutory County and Local Wildlife Sites within the Study Area, as described in **Chapter 16: Ecology and Nature Conservation**.

17.40 Please refer to **Figures A17.1.6 & A17.1.7** which illustrate the location of landscape, cultural heritage and ecological designations which are of relevance to this chapter.

National Landscape Character Assessment

17.41 Landscape character has been assessed from the national level to the local scale commensurate to the proposed scheme. At a national level, the Main SRFI Site is located within National Character Area (NCA) 89: Northamptonshire Vales (refer to **Figure A17.1.8**).

17.42 The key characteristics of NCA 89: Northamptonshire Vales are defined as:

- *“An open landscape of gently undulating clay ridges and valleys with occasional steep scarp slopes. There is an overall visual uniformity to the landscape and settlement pattern.*
- *Diverse levels of tranquillity, from busy urban areas to some deeply rural parts.*
- *Mixed agricultural regime of arable and pasture, with arable land tending to be on the broader, flat river terraces and smaller pastures on the slopes of many minor valleys and on more undulating ground.*
- *Relatively little woodland cover but with a timbered character derived largely from spinneys and copses on the ridges and more undulating land, and from waterside and hedgerow trees and hedgerows, though the density, height and pattern of hedgerows are varied throughout.*
- *A strong field pattern of predominantly 19th-century and – less frequently – Tudor enclosure.*
- *Distinctive river valleys of the Welland and the Nene, with flat flood plains and gravel terraces together with their tributaries (including the Ise). Riverside meadows and waterside trees and shrubs are common, along with flooded gravel pits, open areas of winter flooded grassland, and wetland mosaics supporting large numbers of wetland birds and wildfowl.*
- *Frequent large settlements that dominate the open character of the landscape, such as Northampton and Wellingborough, and associated infrastructure, including major roads, often visually dominant.*
- *Frequent small towns and large villages often characterised by red brick buildings and attractive stone buildings in older village centres and eastern towns and villages. Frequent imposing spired churches are also characteristic, together with fine examples of individual historic buildings.*

- *Relatively frequent, prominent historic parklands and country houses towards the outer edges and close to more wooded areas. Other characteristics include ridge and furrow and nationally important townships such as Sutton Bassett and Clipston.*
- *Localised high concentrations of threshing barns and high status timber-framed farm buildings from the 18th century or earlier.” (Page 6 Ref 17.9)*

17.43 There are two additional National Character Areas within the 5 km study area namely:

- National Character Area 90: Yardley Whittlewood Ridge; and
- National Character Area 88: Bedfordshire and Cambridgeshire Claylands.

17.44 Please refer to **Volume 3 Appendix 17.2** for the description of the key characteristics for these NCA's.

17.45 However there will be no direct impacts to these NCA's and the ZTV's indicate there is no potential visibility of the Main SRFI Site from within these NCA's, therefore they are not considered further within this assessment.

County Landscape Character Assessment

17.46 Desk and field based observations have identified that the Potential Development Area (PDA) and study areas are broadly typical of the descriptions identified within the Northamptonshire Current Landscape Character Assessment (2006) (Ref 17.10) and specifically:

- Character Type 13: Undulating Hills and Valleys; and Character Area 13b: Bugbrooke and Daventry; and
- Character Type 6: Undulating Claylands; and Character Area 6a: The Tove Catchment.

17.47 The majority of the Main SRFI Site (with the exception of Zone 5 and Zone 6 in the south-eastern corner of the site), and the J15a Site is located within Character Type 13: Undulating Hills and Valleys; and Character Area 13b: Bugbrooke and Daventry.

17.48 The representative viewpoints (refer to **Table 17.4** and baseline panorama photographs presented in **Appendix 17.3**) located within Character Type 13: Undulating Hills and Valleys; and Character Area 13b: Bugbrooke and Daventry are:

- VP1 Barn Lane;
- VP5 Railway Cottages, Northampton Road;
- VP6 Public Right of Way RD12;
- VP7 Blisworth Arm;
- VP8 Gayton;
- VP9 Rothersthorpe;

- VP12 Grand Union Canal;
- VP14 Hill Farm, Gayton Road;
- VP15 Public Right of Way RL5;
- VP16 Public Right of Way KX5;
- VP17 Public Right of Way KX7;
- VP18 Milton Malsor;
- VP19 Public Right of Way KX10;
- VP21 Northampton Road;
- VP22 12 Station Road;
- VP23 Walnut Tree Inn, Station Road; and
- VP24 Deveron House, Towcester Road

17.49 The relevant key characteristics of the Undulating Hills and Valleys Character Type are:

- *“Extensive undulating and productive rural landscape stretching across the west of the county;*
- *cohesive and recognisable unity of character despite scale and extent;*
- *variations in the underlying geology influence local landform;*
- *watercourses form part of three principal river catchments of the Cherwell, Nene and Welland;*
- *navigable canals are an important visual component of the landscape and linear wildlife and recreational asset;*
- *mixed farming predominates across the landscape although local land use and field patterns are strongly influenced by changes in landform;*
- *numerous small deciduous woodlands, copses and shelterbelts punctuate the rural landscape;*
- *hedgerow trees, within the strong hedgerow network, contribute to the perception of a well treed landscape and combine with other landscape and landform features to create an intimate, human scale landscape;*
- *strong historic character underlies this deeply rural landscape;*
- *numerous villages linked by winding country lanes contribute to rural character; and*

- *communication routes and urban influences and infrastructure have, where present, eroded local rural landscape character where present.” (Page 130, Ref 17.10)*

17.50 Specific characteristics of Character Area 13b Bugbrooke and Daventry relating to the Main SRFI Site, the J15a site and wider study area include:

- *“Whilst this undulating landscape has a pronounced series of hills and valleys to the west, to the south and east it becomes more subtle due to its proximity to the River Nene and its floodplain. Views along the undulations are generally long and open, although landform and vegetation frequently limit more extensive, panoramic views.*
- *Land cover in the area is a combination of both arable and pastoral farmland in fields of varying size. There is, however, a predominance of improved pastures with grazing cattle and horses surrounding the settlements dispersed through the character area... Woodland is limited to small, predominantly broadleaved woodland copses sparsely scattered throughout the area and becoming less frequent south of the River Nene. A number of well treed field boundaries also contribute to the overall woodland cover and often emphasise the undulating landform.*
- *The landscape is well settled with a number of larger village settlements... Between the villages, the settlement pattern includes scattered farmsteads and dwellings located both adjacent to roadsides, and set back from the road and accessed via minor tracks. Some areas remain unsettled, however, with the only means of access on foot. Crossing the landscape and connecting settlement is a network of minor roads along with a number of more major roads, including a limited stretch of the M45 and M1, the A361, A45(T), A43(T)*
- *Strong urbanising influences are evident in the landscape, not only through the presence of the M1 and M45 motorways, and other major ‘A’ roads and the railway, but also through the number of high voltage pylons crossing the character area. The undulating landform does, however, provide some screening for such elements.” (Pages 136 & 137 Ref 17.10)*

17.51 Zone 5 and Zone 6 in the south-eastern corner of the Main SRFI Site are located within Character Type 6: Undulating Claylands; and Character Area 6a: The Tove Catchment.

17.52 The representative viewpoints (refer to **Table 17.4** and baseline panorama photographs presented in **Figures A17.3.24 & A17.3.46**) located within Character Type 6: Undulating Claylands; and Character Area 6a The Tove Catchment are:

- VP2 Public Right of Way KZ19;
- VP3 Public Right of Way RD6;
- VP4 Public Right of Way RD1;
- VP13 Courteenhall Road; and
- VP20 Church of St Peter and St Paul, Courteenhall.

17.53 The relevant key characteristics of the Undulating Claylands Character are:

- *“Boulder Clay deposits overlie almost the entire landscape, revealing little surface expression of the varying underlying solid geology;*
- *alluvium conspicuous along the tributaries and upper reaches of rivers that drain the area;*
- *broad, elevated undulating landscape that is more elevated to the west shelving eastwards and drained by numerous broad, gentle convex sloped valleys;*
- *wide panoramic views across elevated areas, though the undulating landform creates more contained and intimate areas;*
- *a productive rural landscape with an equal balance of arable and pastoral farming with the former predominating on more elevated land and often larger in scale, although arable land can be found along valley bottoms where sand and gravel deposits are located;*
- *improved and semi improved pastures located along narrow floodplains and sloping land bordering them, often more intricate and smaller in scale;*
- *large woodlands are not a characteristic feature, although woodland in surrounding landscape types, small deciduous copses and hedgerow trees can together create the sense of a well-wooded character;*
- *concentrations of small woodlands apparent around designed parklands;*
- *hedgerows are often low and well clipped emphasising the undulating character of the landscape with scattered hedgerow oak and ash trees;*
- *post and wire fencing frequently reinforces gappy hedgerows, in particular where pasture is the current land use;*
- *numerous villages located throughout the landscape with varying morphology;*
- *settlement beyond the villages include scattered Enclosure age farmsteads and isolated dwellings, located at the end of short access tracks and adjacent to the roadside;*
- *a long settled landscape with evidence dating back to the Bronze Age and evidence of Roman occupation;*
- *many historic remnants evocative of the medieval period, including rural villages, moated sites, and extensive areas of ridge and furrow;*
- *historic parklands provide important landscape features along with remnants of the industrial age, including disused railways and canals;*

- *minor roads located on interfluves avoiding river valleys and emphasising the natural grain of the landscape; main routes take a direct course from the northwest to southeast; and*
- *recreational opportunities are diverse, including listed manors and parkland estates, canal trips, llama trekking and numerous national trails.” (Pages 72 & 73 Ref 17.10)*

17.54 Specific characteristics of Landscape Character Area 6a The Tove Catchment relating to the Main SRFI Site and wider study area include:

- *“The streams have eroded broad, gentle, convex sloped valleys, resulting in the distinctive undulating landform. The streams are of limited scale, however, with undulations therefore varying in size, with many not evident in the landscape as river valleys. A section of the Grand Union Canal also passes through the area from Blisworth to south of Stoke Bruerne. The Blisworth Tunnel comprises an underground section of the canal, and is identifiable by a series of locally prominent airshafts visible as a series of bunds in the landscape.*
- *Land cover is typically a combination of both arable and pasture farming with improved pasture largely located around village settlements bordering the River Tove and its tributaries, and also on sloping valley sides. Where pastoral fields predominate, a more intricate and intimate pattern prevails.*
- *A Significant number of the woodlands are also ancient woodland. Woodland associated with estate parklands are particularly Significant in the character area.... The 150 ha Grade II registered landscaped park at Courteenhall, developed in 1791 by Humphrey Repton, and Stoke Bruerne Park are both notable. The latter comprises two 17th Century pavilions, a colonnade by Inigo Jones and terraced lawn, herbaceous borders, herb gardens, fountains and pools. Both parks include a Significant number of predominantly broadleaved woodlands, although some have a mixed composition. Woodland at Stoke Bruerne is also ancient.*
- *Whilst woodland is not a prominent feature on the Undulating Claylands, there are a number of moderately sized woodland blocks. These create a more localised woodland character in places that contain views, and result in a more intimate landscape.*
- *The landscape is relatively well settled with numerous villages scattered throughout the area. Whilst the majority are relatively small in size, Blisworth, Roade and Greens Norton are slightly larger with evidence of post war development on the edge of the settlements.... Prominent within many villages are church spires, providing local landmarks throughout the area and punctuating the horizon. Spires at Blisworth, Stoke Bruerne, Tiffield, Green Norton, Wappenham and Weedon Lois are particularly notable. The landscape beyond the villages is generally well settled with numerous farms and dwellings, although some areas are devoid of any development and often have an unoccupied character. Communication routes are extensive in the area, including the A43, A5 and A508. Glimpsed views are also possible towards the M1 on the northeastern edge of the character area.*

- *Various features of heritage interest are scattered across the Tove Catchment. Areas of ridge and furrow are in evidence and may generally be found in close proximity to villages. However, isolated patches can also be observed throughout the rural landscape.... Recreational opportunities in the character area include sections of the Grand Union Canal Walk, Midshires Way, Knightley Way, Grafton Way, canal trips at Stoke Bruerne and Llama Trekking.” (Pages 77 & 78 Ref 17.10)*

17.55 Following site based surveys and a review of published assessments, a summary of the landscape character of the Main SRFI Site and its study area can be provided in the following points:

- This is a gently undulating landscape. Views are often open across agricultural fields; however landform and vegetation frequently limit more extensive, panoramic views. In addition, some man-made landforms, such as road and rail embankments, provide an effective visual barrier;
- Land cover, particularly within the Main SRFI Site, is a combination of both arable and pastoral farmland in fields of medium to large size;
- Woodland cover is relatively limited and consists mainly of small, predominantly broadleaved woodland copses sparsely scattered throughout. Field boundaries have intermittent tree and hedgerow cover, particularly within the Main SRFI Site itself, with more extensive areas of planting being located adjacent to villages within the area and adjacent to infrastructure such as roads, railway and canals. Individual mature hedgerow trees are in evidence within hedgerows. Some evergreen shelterbelts are in evidence beside farms;
- The study area is largely rural and consists of small villages, the closest of which to the Main SRFI Site are Milton Malsor, Blisworth and Gayton. However, part of the northern extent of the study area includes the urban form of Northampton, the nearest point of which to the Main SRFI Site is 2.0 km north. There are long-range views from the vicinity of the Main SRFI Site of more elevated areas within Northampton, which therefore does have some influence on the character of the Main SRFI Site and its immediate surroundings;
- There are examples of large industrial estates within the study area, which have an influence on landscape character, i.e. Grange Park, which is located approximately 1.3 km east of the Main SRFI Site, and the Swan Valley Estate, which is located 1.5 km north north-east of the Main SRFI Site; and
- The Main SRFI Site is located directly adjacent to some large scale transport routes, some of which have an urbanising influence on the study area. These are:
 - The west coast mainline (WCML), which is located directly adjacent to the southern boundary of the Main SRFI Site, part of which is on embankment, raising it above the Main SRFI Site;
 - The Northampton Loop Line (NLL), which is located adjacent to the eastern boundary of the Main SRFI Site and which is also located on an embankment. This

line spurs off from the WCML, approximately 0.5 km south-east of the Main SRFI Site;

- The A43 road, which crosses through the western extent of the Main SRFI Site and is also on an embankment;
- The M1 motorway, which is located 1.0 km north of the Main SRFI Site, however it does have less influence on the Main SRFI Site and study area as it is within cutting and surrounded by woodland for long extents; and
- The Grand Union Canal, which crosses adjacent to the south-western corner of the Main SRFI Site.

Topography

17.56 The topography of the study areas is presented in **Figures A17.1.10**.

17.57 In relation to the study areas, the Main SRFI site is located in an undulating shallow valley, with a ridge of higher land located to the south and running broadly west to east from Pattishall to Eastcote, Blisworth, Roade and Hartwell. To the north of the Main SRFI site and the M1 the undulating topography gives way to the valley of the River Nene extending broadly from northwest to southeast from Kislingbury to Swan Valley and towards Collingtree, and broadly east to west from Kislingbury into Northampton. A ridgeline within the Northampton urban area extends broadly northwest to southeast from Briar Hill to Wootton.

17.58 The Main SRFI Site gently undulates for much of the area between an approximate elevation of 80 m to 90 m AOD, with the land rising to the east including the NLL (approximately 90 m to 95 m AOD) and to a high point (approximately 102 m AOD) beyond the site boundary near Rectory Farm, to the south-eastern corner of the site at the confluence of the NLL and the West Coast Main line (approximately 120 m AOD), and to south to the WCML (approximately 95m AOD) and Blisworth further beyond (approximately 120 m AOD).

Visual Context

17.59 Visual receptors within the Main SRFI Site study area with views of the Main SRFI Site include residents in individual properties, groups of properties, and settlements, users of Recreational Routes and Public Rights of Way (PRoW), and road users. The location of individual properties, groups of properties and settlements are presented on **Figure A17.1.12**. The baseline description of the visual context for identified properties, groups of properties and settlements is set out in **Table 17.5**.

Table 17.5: Residential Receptors

Ref.	Receptor & Baseline condition
R1	Refer to VP5 and Figures A17.3.5, A17.3.28, & A17.57a to A17.57l
Railway Cottages	The front aspect of the cottages is directed south, away from the Main SRFI Site towards the WCML embankment. The rear aspect is directed northwards across agricultural field and along the Northampton / Towcester Road and towards JBJ Business Park and adjacent commercial / industrial area either side of the road. The commercial industrial buildings and the intervening roadside hedgerows screen and

Ref.	Receptor & Baseline condition
	filter views of the Main SRFI Site to the west of Northampton / Towcester Road. Direct and oblique partial views, of the Main SRFI Site to the east of Northampton / Towcester Road are available from rear upper storey windows of the houses. Garden vegetation and boundary fences/walls and other structures partially screen views from rear ground floor windows.
R2 Willow Lodge	The front aspect of this bungalow faces west towards Northampton Road and JBJ Business Park, and the rear aspect to the east towards the eastern side of the Main SRFI Site. Views to the west and north are blocked by tall hedgerows to the garden boundary, and to the south by the immediately adjacent commercial buildings. Views of the eastern part of the Main SRFI site may be possible from eastern elevation of the building and gardens over a low hedgerow boundary.
R3a Springfield	Property located within JBJ Business Park with adjacent commercial premises. Front aspect of the property on southern elevation with direct close range views of the adjacent commercial area and buildings. Gable end views from upper window towards the eastern part of the Main SRFI across adjacent commercial area and buildings. Ground floor views from rear elevation are blocked by intervening tall coniferous boundary vegetation, with direct and oblique views to the north and northwest, and oblique views north-east of the Main SRFI site from upper floor windows.
R3b 37 Northampton Road	Property located adjacent to JBJ Business Park and other commercial premises. Front aspect of the property on northern elevation with direct close range views of the adjacent commercial area and buildings. Gable end views towards the eastern part of the Main SRFI site are blocked by tall coniferous vegetation to the garden boundary. Views to the south and west are heavily screened and filtered by dense garden vegetation, with adjacent commercial area and buildings immediately beyond.
R3c 33 Northampton Road	Property located within and adjacent commercial premises and a business park. The property is unoccupied and appears boarded up / abandoned.
R4 Deveron House	Refer to VP24 and Figures A17.3.23, A17.3.46, A17.3.75a to A17.3.75l. Deveron House is surrounded by mature deciduous and evergreen coniferous trees and shrubs to its boundaries and within the garden which screen or heavily filter views of the Main SRFI Site. Other vegetation to the north, west and south, out with the garden, further screens views. Narrow views to the east from upper and lower storey windows along the driveway and across Northampton / Towcester Road are framed by the boundary vegetation. However intervening hedgerow vegetation to the east of Northampton / Towcester Road, restrict views of the Main SRFI Site.
R5 Hill Farm	Refer to VP14 and Figures A17.3.13, A17.3.36, A17.3.65a & A17.3.65b This property is located on an area of higher ground to the west of Blisworth. The main aspect of the property is directed to the east, and vegetation extending eastwards along the northern boundary of the garden directs views to the east towards the eastern side of the Main SRFI Site east of the Northampton / Towcester Road beyond the WCML and railway arch. These views are partially filtered by intervening vegetation within the garden. The western side of the Main SRFI Site is

Ref.	Receptor & Baseline condition
	screened by intervening vegetation and topography.
R6 Station Road	Group of properties is at the eastern end of Station Road at the junction with Northampton Road. Views of the Main SRFI Site are effectively blocked by the West Coast Main Line railway embankment.
R7a 12 Station Road	Refer to VP22 and Figures A17.3.21, A17.3.44, A17.3.73a & A17.3.73b Bungalow property with a number of windows facing to the northeast.
R7b Station Road (Walnut Tree Inn and Park Homes)	Refer to VP23 and Figures A17.3.22, A17.3.45 A17.3.74a & A17.3.74b From the upper storey windows of the Walnut Tree Inn and from front elevations of a number of Park Homes properties, foreground views are dominated by the WCML Blisworth Junction. Direct views over the WCML to the Main SRFI site are heavily filtered by intervening vegetation and trees to the north of the WCML, around Blisworth Marina, along the Grand Union Canal and within the Main SRFI Site further screen and filter views.
R8a Nos. 1, 17 to 29, & 33 Rectory Lane	Refer to VP1 and Figures A17.3.1, A17.3.24, A17.3.53a to A17.3.53l. Views of the eastern side of the Main SRFI Site from the rear aspect upper and lower storey windows and gardens of residential properties on the southern edge of Milton Malsor on the southern side of Rectory Lane are framed and filtered by mature vegetation within and to the boundaries of the properties.
R8b Milton House, Rectory Lane	From Milton House views from front aspect lower and upper storey windows are heavily filtered by intervening garden vegetation as well as mature outgrown hedgerow vegetation to the southern side of Rectory Lane.
R8c Spinney Lodge and Milton Hall, Rectory Lane	From Spinney Lodge and Milton Hall views from front aspect lower and upper storey windows of the Main SRFI site are effectively screened by intervening garden vegetation as well as mature outgrown hedgerow and tree belts to the southern side of Rectory Lane.
R9 Nos 1 – 25 Barn Lane	Oblique, filtered views to east and southeast towards the Main SRFI site from upper side windows and rear windows, and there would be very limited filtered oblique partial views of the Main SRFI Site from front windows to the south and southwest.
R10 Beech Croft and Beech Cottage, Collingtree Road	Partial views of the eastern side of the main SRFI site from rear aspect upper and lower windows are filtered by garden vegetation and are directed southwards by the houses and garden vegetation of properties on Barn Lane and a belt of woodland to the southeast of the properties.
R11 63 Collingtree Road and Maple House	Direct filtered lower storey (No. 63) and upper storey (Maple House) of the Main SRFI Site fields to east of the NLL are filtered by intervening garden and hedgerow vegetation.

Ref.	Receptor & Baseline condition
R12a Spring Gardens and Parley Pole, Towcester Road	Spring Gardens and Parley Pole (a bungalow) appear to be well screened by existing vegetation.
R12b Gayton Way, Copper Beeches, and Woodbury, Towcester Road	These properties have significant amount of vegetation around their curtilage. Partial glimpsed, heavily filtered direct and oblique views of the north-western part of the Main SRFI Site may be possible from the rear upper windows of Gaytonway, Copper Beeches and Woodbury.
R13 Northampton	Refer to VP10 and Figures A17.3.9, A17.3.32 and A17.3.61a. There may be glimpsed distant views of the SRFI site from some roads and buildings, but seen in a very wide context. Most views blocked by intervening vegetation and built form.
R14 Northampton	Refer to VP11 and Figures A17.3.10, A17.3.33 and A17.3.62a. Longer range views of the Main SRFI Site are screened by the intervening topography, industrial buildings and mature trees. The ridgeline to the south of the Main SRFI Site in the vicinity of Blisworth is visible on the horizon along with a cluster of wind turbines.
R15 Collingtree and Grange Park	Views of the Main SRFI Site are effectively screened by intervening built form, vegetation and M1 corridor.
R16 Courteenhall	Refer to VP20 and Figures A17.3.19, A17.3.42 and A17.3.71a. Views of the Main SRFI Site from the village and parkland would be effectively blocked by the mature vegetation that surrounds the village.
R17a Thorpewood Farm House, Bridge Cottage and The Lodge	From the isolated properties and farmsteads in-between Courteenhall and the NLL, off Northampton Road and Courteenhall Road including; Thorpewood Farm House, Bridge Cottage and The Lodge. Views towards the Main SRFI Site appear well screened by intervening garden vegetation and woodland belts along the WCML, woodland blocks and localised variations in topography.
R17b Courteenhall West Lodge & West Lodge Cottages	From the isolated properties and farmsteads in-between Courteenhall and the NLL, off Northampton Road and Courteenhall Road including; Courteenhall West Lodge and West Lodge Cottages. Views towards the Main SRFI Site appear partially screened and filtered by intervening garden vegetation and woodland belts along the WCML, woodland blocks and localised variations in topography.

Ref.	Receptor & Baseline condition
R18	Refer to VP13 and Figures A17.3.12, A17.3.35, A17.3.64a to A17.3.64h.
64-82 Courteenhall Road, Blisworth	Views from north facing properties along Courteenhall Road in-between Greenway Close and Connegar Leys. Views from these properties would be from the upper storey windows facing north towards the Main SRFI Site. The majority ground floor views would be blocked by the intervening roadside hedgerow vegetation (when left unclipped). The Main SRFI Site is located within lower lying land, and views towards the western and southern areas of the Site are partially obstructed by the intervening landform and vegetation. The foreground of the view is dominated by the roadside hedgerow and large agricultural field beyond. The top of a railway footbridge and electricity gantry associated with the WCML are partially visible and there are partial views of the large-scale fields and farm properties located on lower ground in the north-east of the Main SRFI Site. The NLL line M1 motorway and A43 are visible detractors in more distant views, and warehousing at Grange Park is partially visible.
R19 Blisworth Lodge	Blisworth Lodge is located along Courteenhall Road on the eastern fringe of Blisworth. The property is surrounded by mature vegetation to the north, east and south and commercial properties immediately to the west. A section of adjoining property extends northwards beyond the elevation of Blisworth Lodge and directing views from the rear aspect windows northwards to a gap in the boundary vegetation and across the eastern part of the Main SRFI Site.
R20 Gayton	Gayton sits on the higher ground to the west of the Main SRFI Site. There is a belt of mature vegetation that runs along the eastern part of the settlement which appears to block or heavily filter views of the Main SRFI Site from most properties.
R21 Blisworth Arm	Refer to VP7 and figures A17.3.7, A17.3.30, A17.3.59a to A17.3.59l. There are a number of residential properties within Blisworth Arm, which include Barn Cottage, Navigation Cottage, The Cottage, Canal House, Arm Farm, Old Toll House and Arm Farm Cottage. The Cottage and Old Toll House would have limited views of the Main SRFI Site as they are on the western side of the settlement and would have their views blocked by the other properties and vegetation along the A43. Direct, unobstructed views of the Main SRFI Site located to the west of the A43 may be gained from the lower and upper rear elevation of Arm Farm and from gable end windows of Canal House. Partial views of the SRFI Site to the east of the A43 are obstructed by intervening vegetation along the A43.
R22 Gayton Marina	The intervening vegetation along the Grand Union Canal towpath and trees along the side of the A43 effectively blocks views to the Main SRFI Site.
R23 Blisworth Marina	Refer to VP12 and Figures A17.3.22, A17.3.45, A17.3.74a & A17.3.74b. Views of the Main SRFI Site are effectively screened or heavily filtered by the intervening hedgerows and vegetation along the canal towpath and western side of the A43.

17.60 There are a number of Recreational Routes and PRoW which cross or are in proximity to the Main SRFI Site (refer to **Figure A17.1.5**) and where the ZTV's indicate that views may be obtained. The baseline description of the visual context for users of the identified PRoW is

set out on **Table 17.6**. For further detail refer to the representative viewpoint descriptions in **Appendix 17.4**.

Table 17.6: Recreational Routes and Public Rights of Way

Ref.	Baseline condition
GUCW Grand Union Canal and Walk	<p>Refer to VP12 and Figures A17.3.22, A17.3.45, A17.3.74a & A17.3.74b, and VP7 and Figures A17.3.7, A17.3.30, A17.3.59a to A17.3.59l.</p> <p>For the users of the canal and Grand Union Canal Walk that runs along the towpath just to the south of the Main SRFI Site in-between the A43 bridge and West Coast Main Line bridge very occasional, intermittent, filtered, glimpsed oblique views of the western part of the Main SRFI site through intervening tall outgrown hedgerow vegetation adjacent the towpath may be gained.</p> <p>For the users of the canal and Grand Union Canal Walk that runs past Blisworth Marina, Blisworth Arm and Gayton Marina views of the wider SRFI Site are effectively blocked by the vegetation along the A43 corridor and hedgerows adjacent the towpath as well as the buildings within Blisworth Arm. Filtered oblique views is available from a short section of the route near to Arm Farm.</p>
MSW Midshires Way	<p>Refer to VP14 and Figures A17.3.13, A17.3.36, A17.3.65a & A17.3.65b</p> <p>There is a short section of the recreational route, on Gayton Road to the southwest of the Main SRFI Site. From this area of higher ground to the northwest of Blisworth glimpsed views of the Main SRFI Site may be gained over the clipped roadside hedgerows.</p>
KX5	<p>Refer to VP16 and Figures A17.3.15, A17.3.38 and A17.3.67a to A17.3.67h.</p> <p>Users of PRoW KX5 would experience partial, oblique views of the Main SRFI Site along the majority of the route. The PRoW to the west of Milton Malsor traverses higher ground (former landfill) from KX1 to the western edge of Milton Malsor. From this footpath, oblique, filtered views of the Main SRFI Site either side of Northampton / Towcester Road may be gained through the intervening trees and vegetation along Gayton Road. Such views may be gained for approximately half of this route, with views becoming obscured by topography and intervening vegetation as the route descends to Milton Malsor.</p>
KX7 and KX8	<p>Refer to VP17 and Figures A17.3.16, A17.3.39 and A17.3.68a A17.3.68l.</p> <p>PRoW KX7 and KX8 are located to the south of Milton Malsor crossing arable fields between Rectory Lane and Towcester Road. Partial, direct views are available of the eastern side of the Main SRFI Site including large-scale fields, hedgerows and agricultural sheds, beyond a number of mature trees located in the foreground of the view.</p>
KX9	<p>Refer to VP18 and Figures A17.3.17, A17.3.40 and A17.3.69a to A17.3.69d.</p> <p>PRoW KX9 is situated within the Milton Malsor Conservation Area in. Views of the main SRFI site are restricted by intervening vegetation and the properties on Rectory Lane and Barn Lane.</p>

Ref.	Baseline condition
KX10	<p>Refer to VP19 and Figures A17.3.18, A17.3.41 and A17.3.70a to A17.3.70c</p> <p>To the east of Milton Malsor KX10 that runs in-between the village and Collingtree. Oblique views towards the Main SRFI Site from the eastern section of the footpath are heavily filtered by intervening trees and hedgerows field boundaries in the short to middle distance, and by vegetation and infrastructure associated with the NLL.</p>
KX13	<p>Refer to VP2 and Figures A17.3.2, A17.3.25 and A17.3.54a A17.3.54f.</p> <p>PRoW KX13 runs from Collingtree to the east of the main SRFI site, through the Main SRFI Site to a junction with PRoW RD1 over the West Coast Main Line. The part of the PRoW within the Main SRFI Site would be diverted. From its current route within the site open views of the eastern part of the site are possible and there would be open views of the western part of the main SRFI site. Wider views are blocked by hedgerow vegetation. For the section to the east of the site glimpsed views of the site would be possible through the vegetation running along the NLL corridor.</p>
KX15	<p>PRoW KX15 runs through the eastern part of the Main SRFI Site from the West Coast Main Line up to Barn Lane and joins up with PRoW KX13. Users of this footpath have unobstructed views of the Main SRFI Site.</p>
KX16	<p>Refer to VP6 and Figures A17.3.6, A17.3.29 and A17.3.58a to A17.3.58f.</p> <p>PRoW KX16 runs from a junction with RD12 close to the A43 in a north-easterly direction until it reaches Gayton Road. Users of this footpath have unobstructed views of the western part of the Main SRFI Site.</p>
RD1 & RD22	<p>Refer to VP4 and Figures A17.3.4, A17.3.27 and A17.3.56a to A17.3.56l.</p> <p>PRoW RD1 is routed from Blisworth past allotments and a recreational ground, and down slope to a bridge crossing over the WCML and into and across the Main SRFI site to meet with KX15 and KX13. PRoW RD22 runs down the same slope but further east from Courteenhall Road. From these elevated positions open, unobstructed views of the eastern part of the Main SRFI Site are possible, though views to the western side are restricted by intervening topography vegetation.</p>
RD3, RD6 & KZ14	<p>Refer to VP3 and Figures A17.3.3, A17.3.26, and A17.3.55a to A17.3.55f.</p> <p>A number of PRoW run to the east of Blisworth, including RD3, RD6 and KZ14. They are located in an elevated position with long range views. Views of the eastern part of the Main SRFI Site are partially filtered by intervening field boundary hedgerows and along Courteenhall Road, with the western part of Main SRFI Site more heavily filtered and screened by intervening topography and vegetation. Views from the western part of RD3 would be blocked by the built form of Blisworth.</p>
RD12	<p>Refer to VP6 and Figures A17.3.6, A17.3.29 and A17.3.58a to A17.3.58f.</p> <p>PRoW RD12 is routed from the Grand Union Canal towpath and across elevated made ground within the western side of the Main SRFI Site. This PRoW has open views north and east of the western part of the Main SRFI site; views to the west are blocked by vegetation on the A43 embankments.</p>

Ref.	Baseline condition
RL5	<p>Refer to VP15 and Figures</p> <p>PRoW RL5 is routed from Milton Road across lower lying arable fields to Blisworth Arm and the Grand Union Canal towpath. Views towards the Main SRFI Site are only available from the very western end of the PRoW at Milton Road, which is situated at higher elevation than the rest of the PRoW route. Views of the fields within the Main SRFI site and the NLL beyond are restricted to partial, glimpsed and filtered views between buildings at Blisworth Arm and gaps in the intervening vegetation around Blisworth Arm, along the Grand Union Canal and adjacent the A43. From Milton Road the footpath immediately drops down into and across lower lying arable fields. Within these fields, views of the Main SRFI Site are blocked by intervening hedgerow and streamside vegetation and the buildings at Blisworth Arm. Large-scale arable fields dominate the foreground of the view. The buildings within Blisworth Arm and a crane located within the Canal and Rivers Trust yard, a notable local landmark, can be seen in the middle distance breaking the horizon.</p>
LB5	Refer to VP11 and Figures A17.3.10, A17.3.33 and A17.3.62a.
Nene way	<p>Viewpoint 11 is a long distance view representative of footpath users of PRoW LB5. Farmland and blocks of coniferous trees are visible in the foreground of the view. Housing can be seen in the middle distance of the view to the south-west. Industrial/commercial units within Swan Valley are visible partially screened and filtered by intervening vegetation. There are glimpsed views of the M1. Longer range views of the Main SRFI Site are screened by the intervening topography, industrial buildings and mature trees.</p>

17.61 The locations of roads are indicated on **Volume 3 Appendix 17.1 Figures A17.1.5**. The baseline description of the visual context for users of the identified roads is set out on **Table 17.7**.

Table 17.7: Roads

Ref.	Receptor & Baseline condition
BLn	Refer to VP1 and Figures A17.3.1, A17.3.24, A17.3.53a to A17.3.53l.
Barn Lane	Barn Lane runs from Milton Malsor through the eastern part of the Main SRFI Site where intermittent views east towards the NLL and south and west across the site may be gained, restricted by intervening hedgerow vegetation.
CRd	Refer to VP13 and Figures A17.3.12, A17.3.35, A17.3.64a to A17.3.64h.
Courteenhall Road	Courteenhall Road runs to the south of the Main SRFI Site between Blisworth and Courteenhall. Intermittent direct and oblique views of the eastern part of the Main SRFI Site are possible through gaps and over the tops of roadside hedgerow and from more elevated sections of the road. The undulating topography limits views. Within Blisworth oblique views towards the Main SRFI site are effectively blocked by intervening roadside and other vegetation.

Ref.	Receptor & Baseline condition
StRd	<p>Refer to: VP22 and Figures A17.3.21, A17.3.44, A17.3.73a & A17.3.73b; and VP23 and Figures A17.3.22, A17.3.45 A17.3.74a & A17.3.74b</p> <p>Station Road runs roughly parallel with the southern boundary along the southern side of the WCML embankment joining Blisworth to Blisworth Arm. Views of the site are blocked by the WCML railway including embankments and roadside hedgerows.</p>
BAr	Refer to VP7 and figures A17.3.7, A17.3.30, A17.3.59a to A17.3.59l.
Unnamed Road Blisworth Arm	<p>For users of the road where it passes by Blisworth Marina, Blisworth Arm and Gayton Marina from a junction with Gayton Road in the north, to Station Road in the south. Hedgerows run along much of its length and together with intervening vegetation along the A43, which is partly on embankment, effectively block oblique views of the Main SRFI Site, with on only occasional gaps allowing views towards the Main SRFI Site such as that near to Arm Farm.</p>
MRd Milton Road	<p>Refer to: VP8 and Figures A17.3.8, A17.3.31, A17.3.60a & A17.3.60b; and VP15 and Figures A17.3.14, A17.3.37, A17.3.66a to A17.3.66d.</p> <p>Milton Road runs to the west of the main SRFI site. It runs from Gayton and descends to Blisworth Arm. Views of the Main SRFI site available to road users would be intermittent and brief and oblique to the direction of travel, gained over the top of roadside hedgerows and intervening field boundaries and vegetation adjacent the WCML and A43 and within Blisworth Arm.</p>
GRd1 Gayton Road	<p>Refer to VP16 and Figures A17.3.15, A17.3.38 and A17.3.67a to A17.3.67h.</p> <p>Gayton Road runs along the north boundary of the western side of the Main SRFI Site. It follows the boundary from the bridge over the A43 through into Milton Malsor. Oblique, brief, intermittent, filtered views of the Main SRFI Site are possible through gaps and over the top of roadside hedgerows for a short section of this road.</p>
GRd2	<p>Refer to VP14 and Figures A17.3.13, A17.3.36, A17.3.65a & A17.3.65b</p> <p>This is another Gayton Road that runs from Blisworth to Gayton to the south-west of the Main SRFI Site. Oblique, intermittent filtered views of the Main SRFI Site are possible through gaps and over the top of roadside hedgerows for a short section of this road between Hill Farm before the road descends into Blisworth.</p>
TRd	<p>Refer to: VP5 and Figures A17.3.5, A17.3.28, & A17.57a to A17.57l; and VP24 and Figures A17.3.23, A17.3.46, A17.3.75a to A17.3.75l.</p> <p>Towcester Road and Northampton Road bisects the Main SRFI Site. Towcester Road leaves Milton Malsor in a southerly direction to become Northampton Road and goes under the WCML Bridge towards Blisworth. Oblique intermittent filtered views of the eastern and western parts of the Main SRFI Site are possible from Towcester/Northampton Road over the top and through gaps in the roadside hedgerows.</p>

17.62 The Main SRFI Site is relatively visually contained due to a combination of: natural undulations in the landform; man-made landforms, such as road and railway embankments; and intermittent vegetation cover. A visual feature of the Main SRFI Site is that its main body is located to the east of the A43 and a separate, relatively small extent is located directly to

the west of the A43. The A43 provides a visual barrier between the two parts of the Main SRFI Site.

- 17.63 Directly adjacent to the south-western boundary of the Main SRFI Site, the WCML is on embankment and provides a visual barrier (refer to VP21 **Figure A17.3.43**). Users of the WCML are likely to have open views across the Main SRFI Site (refer to VP4 **Figure A17.3.30**) however it is acknowledged that views would be relatively short in duration due to the high speed of trains on this route.
- 17.64 Slightly further south, beyond the WCML, the landform rises to a ridgeline, upon which the village of Blisworth is located. Views from Blisworth are limited due to: landform undulations; the screening effect of buildings within Blisworth itself; and the screening effect of vegetation located at its northern extent. However, views of the Main SRFI Site are possible from the eastern extent of Blisworth, in particular properties on Courteenhall Road which face north and where gaps in the roadside hedgerows and trees and other vegetation beyond allow filtered or partial views (refer to VP13 **Figures A17.3.35**). Views of the Main SRFI Site are also possible from a PRoW RD1 which is located on a northern facing slope just to the north of Blisworth (refer to VP4 **Figure A17.3.27**) as well as on RD6 located on higher ground to the southeast of Blisworth (refer to VP3 **Figure A17.3.26**). These views include the WCML adjacent to the southern boundary of the Main SRFI Site.
- 17.65 A ridgeline located adjacent to the eastern boundary provides a visual barrier to views from the east, however views across the site from this elevated ground may be gained from a PRoW (Footpath KZ19) which crosses over this ridge and into the Main SRFI Site (refer to VP2 **Figures A17.3.25**). Intervening trees, hedgerows at field boundaries and adjacent to the NLL, planting alongside the A508 provide a further visual barrier in this direction, preventing views of the Main SRFI Site. Existing woodland around Courteenhall Registered Park and Garden further restricts more distant views (refer to VP20 **Figure A17.3.42**).
- 17.66 To the north views of the site are possible from a number of locations within and around Milton Malsor including from the rear of properties to the south of Rectory Lane (refer to VP1 **Figure A17.3.24**), and oblique views from properties along Barn Lane and Collingtree Road (refer to **VP18 Figure A17.3.40**). There are a number of PRoW to the south of the village (KX7 & KX8) which have views of the Main SRFI Site (refer to VP18 **Figure A17.3.40**). There are PRoW on the areas of higher ground to the east (KX5 refer to VP16 **A17.3.38**) and west (KX10 refer to VP19 **Figure A17.3.41**) of the village.
- 17.67 Beyond Milton Malsor to the north and north-east of the Main SRFI Site, views are screened by a combination of landform undulations and vegetation cover together with vegetation along the M1 motorway which restricts views of the Main SRFI site from Collingtree and Grange Park.
- 17.68 Further north and north-west from the Main SRFI Site there is the potential for occasional distant views from high ground within Northampton (refer to VPs 10 and 11 **Figures A17.3.32 & 33**). However, views are largely screened by intervening built form.
- 17.69 To the west of the Main SRFI Site, the embankment upon which the A43 road is located provides a partial screen to views of the main part of the Main SRFI Site. However oblique views into and across the Main SRFI Site may be obtained from a short section of the road,

particularly from the southbound carriageway in the vicinity of Gayton Marina between the Milton Business Park and the disused service station area.

- 17.70 On higher ground further west from the A43, in the vicinity of Gayton (refer to VP8 **Figure A17.3.31**) there are potential views of the Main SRFI Site, however a combination of the built form and intervening vegetation provide an effective visual screen to views of the Main SRFI Site from the village itself, with limited potential for views from the roads leading from the village towards the site.
- 17.71 To the west of the A43 lies a small enclosed area of the Main SRFI Site comprising of ridge and furrow pastoral fields. Beyond is the small settlement of Blisworth Arm, with Arm Farm, Canal House, the Canal and Rivers Trust Boat yard, and a number of other residences. Views of the site are restricted by intervening vegetation along the A43 road side as well as at property boundaries, and by agricultural buildings. To the north of this area is Gayton Marina, and views of the Main SRFI site are screened by intervening outgrown hedgerows to the west of the Grand Union Canal towpath, and by other intervening vegetation alongside the A43.
- 17.72 The Grand Union Canal forms the south-western corner of the main body of the Main SRFI Site and for users of the canal and its towpath, including the Grand Union Canal Walk, a combination of mature hedgerow cover and road and rail embankments provide an effective screen to views. Users of the canal and towpath would have glimpsed winter time views of the Main SRFI Site from a relatively short extent, approximately 0.6 km to the east of the A43 and 0.2 km to the west of the A43 through intermittent gaps in the intervening outgrown hedgerow (refer to VP12 **Figure A17.3.34**).
- 17.73 The Northampton / Towcester Road (refer to VP5 and VP24 **Figures A17.3.28 & 46**) runs through the middle of the SRFI site. Views of the site are possible over and through gaps in the road side hedgerows.
- 17.74 There are a number of residential and commercial properties within the Main SRFI Site, including Manor Farmhouse, Rathvilly Farm, Lodge Farm, and Roseacre. These properties will be lost to the construction of the Main SRFI Site and therefore are not considered further within this assessment.

Night Time Visual Conditions

- 17.75 Full details of lighting baseline including photo viewpoints are illustrated and described in **Volume 3 Appendix 22.1 of Chapter 22 Lighting**.
- 17.76 Further studies and assessment work to determine the night time visual effects of the Proposed Development are ongoing, and the results will be set out in the Final ES submission.
- 17.77 Using the Night Blight study by the CPRE the Main SRFI Site sits on a transition between lighting zones. It sits between a brighter / saturated zone in the north to a brighter zone in the south. Within the study area around the Main SRFI Site to the south of the M1 existing saturated sky glow is notable from major urban area of Northampton and associated conurbations (Collingtree etc.). The closer to Northampton and conurbations the greater the sky glow effect.

- 17.78 The majority of the views of the Main SRFI site from the surrounding settlements generally do not contain any direct light sources from within the Main SRFI site. They generally consist of distant views of other lights sources.
- 17.79 Views to the north and east have a higher degree of sky glow generated from Northampton and the M1. The lights of the commercial business park located to the west of Northampton are clearly apparent for users of the Northampton / Towcester Road and surrounding residential properties including Railway Cottages, together with street lighting.
- 17.80 There are a small number of direct light sources on the Main SRFI site. They are limited to interior and exterior domestic lighting and security lighting around the farm buildings.
- 17.81 The surrounding settlements have a small number of direct light sources, primarily street light and domestic interior and exterior lighting, and can be seen from the surrounding landscape.

J15a Works

Representative Viewpoints

- 17.82 The selection of representative viewpoints have been informed by desk based and field based studies. Agreement will be sought with SNC and Northamptonshire County Council regarding these representative viewpoints during the statutory consultation period. The representative viewpoints in Table 17.8 have been considered as part of the assessment of the Junction 15a Site. The location of the representative viewpoints are presented in **Figures A17.1.13** and a description of the existing views from each location are presented in **Appendix 17.4**.
- 17.83 The grid references for the representative viewpoints are preliminary and will be confirmed once the viewpoint photography has been captured.

Table 17.8: Summary of Representative Viewpoints of the J15a Site

VP Ref	Name	Justification	Preliminary OS Grid Reference	
			Easting	Northing
VPA	Public Right of Way LA5	LVIA VIEWPOINT Representative of views from PRow and from properties on the northern edge of New Rothersthorpe	471918	256955
VPB	Public Right of Way LA1	LVIA VIEWPOINT Representative of views from PRow and from properties on the northern edge of Rothersthorpe	471954	256753
VPC	The Grand Union Canal	LVIA VIEWPOINT Representative of views from the Grand Union Canal, towpath and Grand Union Canal Walk	472593	256805
VPD	Public Right of Way KX2	LVIA VIEWPOINT Representative of views from PRow	472804	257010

VP Ref	Name	Justification	Preliminary OS Grid Reference	
			Easting	Northing
VPE	The Grand Union Canal	LVIA VIEWPOINT Representative of views from the Grand Union Canal, towpath and Grand Union Canal Walk	472631	257439

Designations

- 17.84 There are no national, regional or local landscape designations within the J15a Site.
- 17.85 In addition to the landscape designations and policy areas identified, there are two Conservation Areas of note:
- Rothersthorpe, which is located 1.0 km west of the J15a Site; and
 - The Grand Union Canal, which runs through the J15a Site.

Landscape Character

- 17.86 The majority of the J15a Site is in the same national and county landscape character areas as the Main SRFI Site. Please refer to the Main SRFI Baseline Conditions section.
- 17.87 In addition the northern most area of the Junction 15a Site partially extends into:
- Character Type 18: Broad River Valley Floodplain; and Character Area 18b: The Nene – Weedon Bev to Duston Mill; and
 - Character Type 20: Urban; and Character Area 20d Northampton.
- 17.88 The key characteristics of Character Type 18 and Character Area 18b are described in **Appendix 17.1**

Landscape and Visual Context

- 17.89 The J15a Site can be roughly divided into two parts, one to the south of the M1 and one to the north. To the south the J15a Site consists of portions of small to medium scale pastoral, arable fields and wetland. This also includes much of the A43 corridor which is lined with tree and shrub vegetation. The northern section consists of a number of small pastoral fields and the A51123 corridor again contained by tree and shrub vegetation. The Grand Union Canal runs through or along much of the boundary of the site via a flight of locks. There is a high level of tree and hedgerow cover with large amounts of vegetation along the A43, M1 and A5123 corridors.
- 17.90 The J15a Site has a complex topography. In the southern part of the site the A43 sits on a high point with the land falling away to the west, quite steeply in places down an embankment towards the canal. The land falls further to the west of the canal, to an area of wetland. It then rises up to the west towards Rothersthorpe. The land also falls in a north to

south direction towards the bridges underneath the M1. The northern part of the site is relatively flat.

- 17.91 The existing J15a Site is relatively visually contained due to a combination of: natural undulations in the landform; man-made landforms, such as road embankments; and intermittent vegetation cover.
- 17.92 The northern part of the site is contained by the M1 road corridor vegetation to the south, A5123 road corridor vegetation to the east and to the north and west by intervening vegetation.
- 17.93 For the southern part of the site to the west views are curtailed by the high ground around Rothersthorpe, which prevent views further from that direction. There is an area of high ground where North Street crosses the A43, which blocks views from further south. The M1 blocks most views of the southern section of the J15a site from the north and the northern section from the south. An area of high ground around Towcester Road blocks most views of the southern part of the site to the east. Vegetation along the eastern side of the A5123 blocks most views of the northern part of the site to the east. Therefore the Junction 15a Site is most visible within 1km and on the higher ground surrounding it.
- 17.94 From most properties within New Rothersthorpe views of the J15a Site are blocked by the surrounding built form. From the northern part of the settlement, there would be a number of properties with views over the southern half of the J15a Site. These would include glimpsed views though winter vegetation, from the front of the properties and front gardens on the western side of Banbury Lane. Views from these receptors would be similar to those shown in Viewpoint A.
- 17.95 From most properties within Rothersthorpe views of the J15a Site are blocked by the surrounding built form. From the eastern part of the settlement, there would be a number of properties with views towards the southern half of the J15a Site. These would include limited glimpsed views though winter vegetation from the rear upper storey of the properties and rear gardens. Views from these receptors would be similar to those shown in Viewpoint B.
- 17.96 The Grand Union Canal runs through the J15a Site and there are open views of it. The M1 divides the J15a site and blocks intervisibility between the northern and southern parts. Views from the Canal and towpath (the Grand Union Canal Walk recreational route) are represented by Viewpoints C and E.
- 17.97 There are a number of PRoW in the vicinity from which views of the J15a Site may be gained as follows:
- LA5 to the west (Viewpoint A);
 - LA1 to south-west of the site (Viewpoint B);
 - LA13 (Grand Union Canal Walk), within the site (Viewpoint C);
 - KX1 to the east (Viewpoint D);
 - KX2 to the east (partially within the site) (Viewpoint D); and

- BG1 (Grand Union Canal Walk), within the site (Viewpoint E).

17.98 From the eastern section of PRoW LA1 views of the site are blocked, from the western section of the higher ground the western side of the southern part of the site is visible.

17.99 Views of the site from PRoW LA5 are only available from the western section across to the southern part of the J15 Site, from the eastern section views are blocked by the intervening vegetation and topography.

17.100 Open views of the southern part of the J15a site are visible from PRoW LA13 as it runs through it.

17.101 A small proportion of the eastern part of the site is visible from PRoW KX1 and KX2, with views of the wider site blocked by the vegetation along the eastern side of the A43.

17.102 Open views of the northern part of the J15a Site are visible from PRoW BG1 as it runs through it. Views of the southern part are blocked by the vegetation around the M1.

Minor Highway Works Landscape and Visual Context

17.103 The location of the minor highway works considered within this assessment is presented on **Figures A17.1.9 to A17.1.11.**

M1 Junction 16

17.104 This road junction is located to the west of Northampton close to the village of Upper Heyford. The majority of the land around it is open agricultural land, with the exception of two small parcels to the east and west of rough grassland. The approaches to the roundabout are lined by linear groups of shrubs and trees. The roundabout itself is a grade separated junction with the motorway beneath in a cutting. The A45 and A4500 approach roads are on rising embankments towards the junction. Views from the wider landscape of the roundabout are contained by the surrounding landform and vegetation. Views from Upper Heyford Lodge are blocked by the intervening vegetation. There are a number of PRoW within 1.5km to the south and south-west of the roundabout.

Junction 3 A4500 / Upton Way / Tollgate Roundabout

17.105 This road junction is located in the western part of Northampton. The majority of the land around it is commercial development with the exception to the south-west which is residential. The approaches to the roundabout are lined with linear belts of tree and shrub vegetation set back from the carriageway. The land surrounding the junction is relatively flat. It falls from a high point to north, towards the River Nene to the south. Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation. Views from the surrounding commercial and residential areas are glimpsed through the intervening vegetation.

Junction 4 the A5076 / A5123 / Upton Way

17.106 This road junction is located in the western part of Northampton in the Hunsbury Meadows area. It is adjacent to residential development to the south-west, south, south-east and east. There is open parkland and river corridor to the west, north-west, north and north-east. The

Danes Camp and A5123 southern approaches to the roundabout are lined by dense shrub / tree / hedgerow vegetation close to the carriageway. The Upton Valley and A5706 approaches are also lined with similar vegetation but set further back creating a more open feel. There is also a group of trees in the central area of the roundabout. The land surrounding the junction is relatively flat. It falls from a high point to south, towards the Grand Union Canal and River Nene to the north. Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation to the south and east. Longer distance views are available from Upton Park areas to north over the County Park. There are some views of the northern part of the roundabout from the section of the Grand Union Canal walk that runs to the north of the roundabout.

Junction 6 A5076 / Hunsbury Hill Road Roundabout

- 17.107 This road junction is located in the south-western part of Northampton. It is surrounded by residential areas on all side with the exception of the north-east which is commercial. All the approaches to the roundabout are lined by trees / shrubs / hedgerows with the exception of the western side of Hunsbury Hill Avenue with its amenity grass with shrubs and trees outside of the commercial buildings. There are also trees and shrubs in the central area of the roundabout. The land surrounding the junction is relatively flat. It falls from a high point to south, towards the River Nene to the north. Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation. Views from the residential areas are glimpsed through intervening vegetation.

Junction 7 Towcester Road A5076, Danes Camp Way / A5123, Towcester Road / Mere Way / Tesco Access

- 17.108 This road junction is located in the south-western part of Northampton. There is commercial development including a Tesco supermarket to the south of the junction. To the east is Hunsbury Hill Country Park. To the north residential housing at a lower elevation to the junction and approaches, is set back from the junction and is set back behind an area of green open space and belts of trees and shrubs. To the west is a cemetery and allotment gardens. A pedestrian access passes under the junction and roundabout linking the residential area in the north to the commercial area in the south and the cemetery and allotments in the east. Approaches to the junction are generally lined with tree and shrub vegetation either set back or close to the carriageway. Views from the wider landscape of the roundabout are contained by the surrounding landform and vegetation.

Junction 9 A45/Brackmills Roundabout

- 17.109 This road junction is located in the eastern part of Northampton. It is adjacent to commercial development south and east with residential development to the north and west. Approaches to the junction are generally lined with tree and shrub vegetation either set back or close to the carriageway. There is mature tree and shrub vegetation in the centre of the roundabout on the embankment running down to the A45. The junction forms part of a grade separated junction with the A45 running underneath it in a cutting. The surrounding landform is generally flat with a low point to the south-east around the Grand Union Canal rising to the north-west. Views from the wider landscape of the roundabout are contained by the surrounding landform and vegetation.

Junction 10 Barnes Meadow Interchange

17.110 This road junction is located in eastern part of Northampton. It is adjacent to commercial development south-east and north-west. The rest of the surrounding area is river and canal corridor predominantly rough grassland with groups of trees and shrubs. Approaches to the junction are generally lined with tree and shrub vegetation either set back or close to the carriageway. The junction forms part of a grade separated junction with the A45 running over the top of it. The land form surrounding the junction is complex influenced by the river corridor. The junction sits on a high point surrounded by rivers and canals. The land rises to the north-west away from the site. Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation

Junction 11 A45 / A43 Roundabout

17.111 This road junction is located in the eastern part of Northampton. Approaches to the junction are generally lined with tree and shrub vegetation either set back or close to the carriageway effectively screening views of the junction from adjacent residential development to the north and west, and a commercial area to the south and east.

Junction 12 M1 Junction 15

17.112 This road junction is located to the south of Northampton. The A45 southern approach is lined with an established belt of tree and shrub planting, with juvenile landscape planting and scrub between the roadside and footpath and the Amazon Warehouse located to the east. Views are limited to pedestrians on the footpath and passing motorists.

Junction 14 A34/A5 Tove

17.113 This road junction is located in the northern part of Towcester. It is adjacent to commercial development to the south-west, south and north. There is open agricultural land to the north-west and rough ground to the east. Most approaches to the roundabout are lined by hedgerows. Hedgerows surround the junction to the south between the A43 south, A5 south and A43 north. There is a block of mature trees between the Towcester Road and A5 north, with a linear group of trees in-between the A5 north and A43 north between the junction and garden centre. The land surrounding the junction is relatively flat. It falls from a high point to north, towards the river Broad Water to the south. Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation. There are views from the car dealership to the west and garage to the south. Views from the surrounding PRoW are blocked by the commercial properties and intervening vegetation.

Junction 15 A43 Abthorpe

17.114 This road junction is located in the western edge of Towcester. It is adjacent to commercial development to the south and south-west, with residential development to the south-east, east, north-east and north. There is open agricultural land to the west and north-west. The A43 northern approach has recently been widened with much of the existing vegetation was removed in the process. Some replacements have been planted on the roadside verges and steep embankments. The Brackly Road has also been recently widened, with much of the vegetation around the carriageway removed. There is more mature vegetation set back from the road. The A43 southern approach is lined by mature planting set back from the road on the eastern side, with some new planting around the recent pedestrian crossing works. The western side is lined with amenity grass. The land surrounding the junction to the west is

relatively flat. To the north-east it rises up a steep embankment to the residential area beyond. To the north-west it rises up an embankment to the open agricultural land beyond. To the east the land rises up a landscape screening mound and then falls away beyond that towards the river Broad Water. The A43 northern approach is within a cutting. Views from the wider landscape of the roundabout are contained by the surrounding built form, landform and vegetation. There are views from the restaurant to the south and residential areas to the west glimpsed through the intervening vegetation. Views from the Grafton Way long distance path are blocked by the intervening vegetation. There would be some views from the PRoW running close to the restaurant to the south of roundabout.

Junction 19 A5076Upton Way / Telford Way

17.115 This road junction is located in the western part of Northampton. The majority of the land to the east is commercial development, with a sports stadium and car parking area. The west of the junction is dominated by residential development. The approaches to the roundabout are lined with linear belts of tree and shrub vegetation set back from the carriageway. Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation. Views from the surrounding commercial and residential areas are glimpsed through the intervening vegetation.

Junction 20 A5076Upton Way / High Street

17.116 This road junction is located in the western part of Northampton. The majority of the land to the east is undeveloped land used for car boot sales. The north-west of the junction is dominated by residential development. To the southeast is open green space. The approaches to the roundabout are lined with linear belts of tree and shrub vegetation set back from the carriageway with distinctive lines of avenue trees immediately adjacent the roundabout. Views from the residential areas are glimpsed through the intervening vegetation.

Method of Assessment

17.117 The purpose of this LVIA is to identify and describe the likely landscape and visual effects of the Proposed Development and to determine whether or not they will be Significant. The LVIA considers the effects of the Proposed Development on both the landscape as an environmental resource in its own right and on people's views and visual amenity.

17.118 The assessment takes account of the following best practice guidance:

- Landscape Institute and IEMA (2013) Guidelines for Landscape and Visual Impact Assessment (Third Edition) (GLVIA3) (Ref 17.11);
- Natural England (2014) An Approach to Landscape Character Assessment (Ref 17.12);
- SNH and the Countryside Agency (2002) Landscape Character Assessment: Guidance for England and Scotland (Ref 17.13); and
- Landscape Institute (2011) Advice Note 01/2011: Photography and Photomontage in Landscape and Visual Assessment (Ref 17.14).

- 17.119 The methodology used for this assessment has been tailored to the specific requirements of the project and its location to ensure proportionate assessment and a focus on its most significant likely landscape and visual effects. The methodology and criteria used for this assessment of landscape and visual effects has been developed based on the non-prescriptive Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013 (GLVIA3) (Ref 17.11).
- 17.120 GLVIA3 sets out the principles that underpin landscape and visual assessment but does not provide a formulaic recipe for reaching judgements about significance. Such judgements instead rely on reasoned and experienced professional judgement.
- 17.121 The intended use of this environmental information is to inform stakeholders and to assist decision making. Through the application of experienced professional judgement this LVIA categorises the significance of landscape and visual effects as either:
- 17.122 ‘Highly Significant’ - an effect that, in the professional opinion of the landscape and visual assessor, should carry substantial weight in decision making;
- 17.123 ‘Significant’ - an effect that, in the professional opinion of the landscape and visual assessor, should carry some weight in decision making; or
- 17.124 ‘Not Significant’ - an effect that, in the professional opinion of the landscape and visual assessor, should not carry weight in decision making (i.e. a minor or negligible effect).
- 17.125 **Table 17.9** provides an overview of the factors that contribute to an assessment of landscape and visual effects. It identifies the six principal considerations that are combined to reach a conclusion on significance. The weighting attributed to each of these six considerations requires the application of experienced professional judgement and may vary depending on the landscape or visual receptor or effect being assessed.

Table 17.9: Considerations in the Overall Assessment of Significance

Nature of the receptor		Nature of the effect			
Susceptibility	Value	Degree of change	Extent	Duration	Reversibility
High	High	High	Extensive	Long term	Irreversible
Medium	Medium	Medium	Limited	Medium term	Partially reversible
Low	Low	Low	Localised	Short term	reversible
		Negligible / No change	Not applicable		Reversible
Significance/Level of effect					
Highly significant (major)					
Significant (moderate)					
Not Significant (minor/negligible)					

17.126 Detailed criteria are provided below for the six main landscape and visual considerations listed in the middle row of this table along with an explanation of how these varied considerations are combined to reach an overall professional judgement on significance of effect. Separate criteria are provided for landscape and for visual effects.

Landscape Receptors

17.127 The landscape receptors for the effects of the Proposed Development are identified as:

- Landscape elements (e.g. existing tree cover, hedgerows, etc);
- Landscape character areas (local or national); and
- Designated landscape resources (e.g. Registered Parks and Gardens).

Visual Receptors

17.128 The visual receptors for the effects of the Proposed Development are identified as:

- Residents, in individual residential properties and settlements;
- Users of Public Rights of Way;
- Road users; and
- People located in other key recreational or visitor locations

Landscape Susceptibility

17.129 The susceptibility of the landscape receptor refers to its ability to accommodate the changes likely to be brought about by the Proposed Development without undue consequences for the maintenance of the baseline situation. Typically a landscape receptor with a high susceptibility will have a lesser ability to accommodate change; a receptor with low susceptibility will have a greater capacity to accommodate change. **Table 17.10** provides a list of key characteristics and attributes that have been used in this assessment as indicators of levels of susceptibility. The table is indicative rather than prescriptive and the susceptibility of the landscape is categorised as High, Medium or Low using professional judgement. Typically a landscape receptor with a High susceptibility to a proposed change would have a lesser ability to accommodate that change without undue consequences; a landscape receptor with a Low susceptibility to a proposed change would have a greater ability to accommodate that change.

Table 17.10: Susceptibility of Landscape Character to Change

Key characteristics	Attributes indicating higher susceptibility to change	<--->	Attributes indicating lower susceptibility to change
Scale	Small-scale landform/landcover; fine grained; enclosed; sheltered	<--->	Large-scale landform/land cover; coarse grained
Enclosure	Open	<--->	Enclosed

Key characteristics	Attributes indicating higher susceptibility to change		Attributes indicating lower susceptibility to change
Landform	A flat, uniform landscape	<--->	An undulating landscape
Landcover and Pattern	Complex, irregular or intimate landscape patterns; diverse land cover	<--->	Simple, regular landscape patterns; uncluttered, sweeping lines; consistent land cover
Engineered / Built Influences	General absence of strongly engineered, built or manmade influences such as: electrical infrastructure, roads, a geometric field pattern or man-made watercourses. Predominance of traditional or historic settlements, buildings and structures	<--->	Engineered forms/land use pattern; frequent presence of man-made elements, brownfield or industrial landscapes; railways; embankments; wind farms; major road networks; presence of contemporary built structures; electrical infrastructure; man-made watercourses; and commercial forestry
Naturalness and Tranquillity	Landscape with predominance of perceived natural features and forms. Sense of peace and isolation; remote and empty; little or no built development	<--->	Non-natural landscape; busy and noisy; human activity and development; prominent movement

Visual Susceptibility

17.130 People's susceptibility to visual change varies depending on their purpose for being in a particular location (principally whether for residence, recreation, travel or employment). The susceptibility to change of different categories of visual receptor is assessed on a scale of **High, Medium or Low** and is typically defined based on the categories of viewer set out in **Table 17.11**. Typically a visual receptor with a High susceptibility to a proposed change would have a lesser ability to accommodate that change without undue consequences; a visual receptor with a Low susceptibility to a proposed change would have a greater ability to accommodate that change.

Table 17.11: Susceptibility of Visual Receptor Types to Change

Level of susceptibility	Typical Receptors
High	People with a particular interest in the available view or with prolonged viewing opportunities, such as: Promoted viewpoints (often recognised by the provision of interpretation), promoted tourist routes; Tourist, visitor and/or heritage destinations providing a specific, important and highly valued view; Recreational hilltops and peaks; Residential locations;

Level of susceptibility	Typical Receptors
	Ornamental parks and public open spaces; and Nationally or locally named trails and cycle routes.
Medium	People with a general interest in their surroundings or with transient viewing opportunities, such as: General and incidental footpaths and rights of way; Residential distributor and local road network; and General public open spaces, recreation grounds and play areas.
Low	People with a limited or passing interest in their surroundings, such as: Places of employment; Major highways (sensitivity may be higher in scenic locations); Commercial and industrial buildings; Indoor facilities; and Commuters.

Landscape Value

17.131 The value of a landscape may reflect communal perception at a local, regional, national or international scale and may be informed by a number of factors including scenic beauty, tranquillity, wildness, cultural associations or other conservation or recreation interests. It is also the case that a landscape with characteristics that suggest relatively low susceptibility to change may be judged to be of high value because of special values attached to it. Although landscape value or importance is usually determined by reference to statutory or local planning policy designations, an absence of such does not automatically imply a lack of value as other factors, for example scarcity, may be considered relevant. The value or importance of landscape elements is also considered. The degree of landscape value or importance is therefore a matter for reasoned professional judgement. Where relevant to the assessment, the value or importance of landscape elements, character areas or designated resources is categorised as either:

- **High** - which may refer to: an internationally designated landscape (rare cases only) – e.g. World Heritage Site; or a nationally designated site, e.g. National Park, AONB, Registered Historic Park or Garden;
- **Medium** - which may refer to a locally designated landscape, i.e. it has been identified by local planning authorities with a local plan policy or landscape character assessment as demonstrating a particular value e.g. Special Landscape Area; or
- **Low** - which may refer to a landscape which is valued at a local scale by local communities but has no documented evidence of value (i.e. in a policy, designation or character assessment).

Visual Amenity Value

17.132 An assessment of visual amenity value or importance refers to the judgement of whether any particular value or importance is likely to be attributed by people to their available views. For example, views experienced by travellers on a highway may be considered to be more highly valued due to the scenic context or views experienced by residents of a particular property may be considered to be less valued or important due to a degraded visual setting. The degree of value or importance is therefore a matter for reasoned professional judgement. Where relevant to the assessment, the value or importance of visual amenity is categorised as **High, Medium, or Low**.

17.133 Considerations of visual susceptibility and value overlap, which is in contrast to the equivalent landscape considerations which are more distinct. This is because indicators of landscape value are more readily available, for example documentary evidence of a designation. In the case of visual value, documentary evidence relating to views which are particularly valued exists, however value is more likely to relate to a reasoned judgement, as set out in the previous paragraph. Therefore the judgement as to whether a view is categorised as having high, medium or low value will be applied as a modifier to the judgement of susceptibility to give a combined sensitivity of high, medium or low. For example, a visual receptor may be judged as being of low susceptibility and high value. In this instance it may be appropriate to conclude that this receptor is of medium susceptibility, with the consideration of value being used to modify the original assessment of susceptibility.

Degree of Landscape Change

17.134 The degree of likely landscape change is assessed as **High, Medium, Low or Negligible/No change** by reference to the criteria set out in **Table 17.12**

Table 17.12: Degree of Landscape Change Criteria

Degree of Change	Definition
High	The Proposed Development would form a dominant or highly prominent landscape element and/or would result in substantial alteration to, or inconsistency with, an area’s key landscape characteristics.
Medium	The Proposed Development would form a reasonably conspicuous landscape element and/or would result in some alteration to, or inconsistency with, an area’s key landscape characteristics.
Low	The Proposed Development would form a reasonably inconspicuous landscape element and/or would result in only very minor alteration to, or inconsistency with, an area’s key landscape characteristics.
Negligible/No change	The Proposed Development would be a barely perceptible landscape element and/or would not change an area’s key landscape characteristics.

Degree of Visual Change

17.135 The degree of likely visual change is assessed as **High, Medium, Low or Negligible/no change** by reference to the criteria set out in **Table 17.13**

17.136 The assessment of visual change takes account of what is taken away from the view; what is added to the view; and the degree to which this would result in a change to available views. The assessment therefore reflects the level of visibility of what is introduced into a view as well as the ‘consistency’ or ‘fit’ between the character of the existing baseline view and anything introduced into it by the Proposed Development. The criteria adopted by this assessment are set out in **Table 17.13**.

Table 17.13: Degree of Visual Change Criteria

Degree of Change	Typical Receptors
High	The visual changes associated with the Proposed Development will form a dominant or highly prominent element within the view, and/or result in substantial change to the quality and character of the available view.
Medium	The visual changes associated with the Proposed Development will form a conspicuous element within the view, and/or result in some noticeable change to the quality and character of the available view.
Low	The visual changes associated with the Proposed Development will form a visible but only very minor element within the view, without materially affecting the overall quality and/or character of the available view.
Negligible/No change	The visual changes associated with the Proposed Development would be barely discernible or there would be no change at all to the existing available view.

Extent of Landscape Effect

17.137 Consideration of the extent of landscape effect can either relate to the quantification of an effect on existing landscape elements (e.g. an area of tree cover to be removed) or to the extent of the geographical area over which a change in landscape character might be experienced.

17.138 The extent of landscape change likely to arise as a result of the Proposed Development upon either landscape elements or within different landscape areas is categorised as **extensive, limited or localised**. It is not possible to provide consistent criteria for these descriptive terms that apply in every instance (i.e. to different types of landscape receptors). Instead, the terms are used in the assessment of landscape effects as qualifiers that contextualise the preceding assessment of degree of landscape change such that:

- where a high degree of landscape change is anticipated its localised extent may lead to a conclusion of not significant;
- where only a medium degree of landscape change is anticipated it is likely that the effect would need to be extensive to lead to a conclusion of highly significant (major) or significant (moderate); and
- where a low degree of landscape change is anticipated it is likely that the effects would have to be both extensive and upon a high value landscape area to lead to a conclusion of highly significant (major) or significant (moderate).

Extent of Visual Effect

- 17.139 Consideration of the extent of visual effects relates to the geographic area over which changes in visual amenity may arise (i.e. it does not relate to how much of a specific view is altered as this is included in the assessment of the degree of visual change). The extent of visual effect is not therefore relevant to the assessment of visual effects at specific viewpoints or upon specific visual receptors in fixed locations. Its relevance as a consideration in determining significance is instead limited to the extent of a route which might be affected by visual change (i.e. sequential visual effects) or to a summary assessment of the overall effect of the Proposed Development on general visual amenity.
- 17.140 Where relevant, the extent of visual change likely to arise as a result of the Proposed Development is categorised as **extensive, limited or localised**. It is not possible to provide consistent criteria for these descriptive terms that apply in every instance. Instead, the terms are used in the assessment of visual effects as qualifiers that contextualise the assessment of individual viewpoints and receptors and provide reasoning within the combined assessment of significance.

Duration of Landscape or Visual Effect

- 17.141 The duration of the landscape or visual effect likely to arise as a result of the Proposed Development on landscape elements or within different landscape character areas or types, or the duration of the visual effect likely to arise on different visual receptors is categorised as, **long term, medium term or short term**. This is used to qualify and contextualise the assessment of degree of landscape or visual change.
- 17.142 For this assessment the following categories of duration of landscape or visual effect have been adopted:
- **Long term** – an effect likely to persist for more than ten years
 - **Medium term** – an effect likely to persist for between five and ten years; and
 - **Short term** – an effect likely to last up to five years

Reversibility of Landscape or Visual Effect

- 17.143 Whatever the expected duration of a landscape or visual effect, consideration of reversibility relates to whether a landscape effect could be reversed rather than will be reversed. This enables a distinction to be made between a new element which is expected to be permanent but could nevertheless be removed without residual effect should it become unexpectedly obsolete and a landscape or visual change that is practicably irreversible. The following criteria have been adopted within this assessment:
- **Irreversible:** Major changes in landform or the removal of landscape elements, such as veteran trees, that could not be replicated within ten years.
 - **Partially reversible:** Changes that could be partially reversed within ten years (e.g. recreation of mature hedgerows of similar but not identical species mix and character).

- **Reversible:** Changes that could be totally reversed within ten years (e.g. removal of introduced features or recreation of juvenile woodland).

Level and Significance of Landscape or Visual Effects

Combining Judgements

- 17.144 The level of landscape or visual effect is categorised using a four point scale: major; moderate; minor; or negligible. The level of effect is assessed by combining all of the considerations and criteria set out above. This is described by GLVIA3 as an ‘overall profile’ approach to combining judgements and requires that all the judgements against each of the identified criteria (**susceptibility; value; degree; extent; duration; and reversibility**) are used within an informed professional assessment of the overall level of landscape or visual effect.
- 17.145 The relative weight attributed to each of the six considerations is a matter for experienced professional judgement and will vary depending on the specific visual receptor or effect being assessed. For example: in relation to landscape assessment susceptibility is more relevant to landscape character than to the removal of landscape elements such as tree cover and short term reversible effects on the landscape may still be judged to be significant; In relation to visual assessment the geographical extent of visual change is more relevant to an area or route than to a fixed viewpoint and short term reversible visual effects may still be judged to be significant.
- 17.146 Where possible to do so with a reasonable level of professional objectivity the effects of the Proposed Development on the landscape are identified as likely to be generally considered **positive (beneficial), neutral or negative (adverse)**.

Significance Thresholds

- 17.147 The significance of landscape and visual effects is categorised as ‘Highly Significant’ (Major) ‘Significant’ (Moderate) or ‘Not Significant’ (Minor or negligible).
- 17.148 GLVIA3 states the following with regard to the judgement of significant landscape and visual effects:

“There are no hard and fast rules about what makes a significant effect, and there cannot be a standard approach since circumstances vary with the location and context and with the type of proposal. At opposite ends of a spectrum it is reasonable to say that:

Major loss or irreversible negative effects, over an extensive area, on elements and/or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest significance;

Reversible negative effects of short duration, over a restricted area, on elements and/or aesthetic and perceptual aspects that contribute to but are not key characteristics of the character of landscapes of community value are likely to be of the least significance and may, depending on the circumstances, be judged as not significant;

Where assessments of significance place landscape effects between these extremes, judgements must be made about whether or not they are significant, with full explanations of why these conclusions have been reached. (Pages 92 & 93 Ref 17.11)

In making a judgement about the significance of visual effects the following points should be noted:

- *Effects on people who are particularly sensitive to changes in views and visual amenity are more likely to be significant;*
- *Effects on people at recognised and important viewpoints or from recognised scenic routes are more likely to be significant;*
- *Large-scale changes which introduce new, non-characteristic or discordant or intrusive elements into the view are more likely to be significant than small changes or changes involving features already present within the view.” (Page 116 Ref 17.11)*

Cumulative Assessment

Intra-Project Effects

17.149 Further studies and assessment work to determine the intra-project effects of the Proposed Development are ongoing, and the results will be set out in the Final ES submission.

17.150 An assessment of the intra-project cumulative effects between the LVIA and other technical disciplines will be undertaken. The key technical disciplines where intra-project cumulative effects with the LVIA may occur are: Archaeology; Cultural Heritage; Hydrology, Drainage and Flood Risk; Ecology and Nature Conservation; Noise and Vibration; and Lighting.

17.151 Technical consultants for each of these disciplines have worked together to ensure that relevant parts of the scheme design, such as the development of mitigation proposals are consistent and comply with all technical requirements.

Inter-Project Effects

17.152 The assessment of inter-project cumulative effects considers both the combined and additional cumulative landscape and visual effects of the Proposed Development in relation to the foreseeable changes in current baseline conditions that are likely to arise as a result of consented and proposed developments. When assessing combined effects the specific contribution of the Proposed Development to the sum effect of all of the other proposed developments included in the assessment is made clear.

17.153 The assessment criteria used in the cumulative landscape and visual assessments are the same as those used in the non-cumulative assessment of the Proposed Development against the current baseline.

17.154 Of key consideration within the cumulative assessment are the proposed Northampton Gateway strategic rail freight interchange and its associated infrastructure. Proposals are to locate the Northampton Gateway on green field land immediately adjacent to the Main SRFI Site. The Northampton Gateway is to include an intermodal freight terminal with container

storage, HGV parking and new railway sidings within the site. The development proposals also include up to 468,000sq m (approximately 5,000,000 sq ft) (gross internal area) of warehousing and ancillary buildings. In addition to this plans are to provide a new access with associated works to the A508; build a bypass to the village of Roade; and make substantial improvements to Junction 15 of the M1.

Assessment of Night Time Visual Effects

17.155 A preliminary assessment of the night time visual effects of the Proposed Development has been prepared. Further studies and assessment work to determine the night time visual effects of the Proposed Development are ongoing, and the results will be set out in the Final ES submission.

17.156 The methodology for the assessment of night time effects is based on the broad principles established and approaches recommended within GLVIA 3 as recommended by the Landscape Institute. Relevant text within the GLVIA3 in reference to lighting assessment:

17.157 Paragraph 6.12 states,

“visual effects of lighting may be an issue...it may be important to carry out night-time ‘darkness surveys’ of the existing conditions in order to assess the potential effects of lighting...”

Quantitative assessment of illumination levels and incorporation into models relevant to visual effects assessment will require input from lighting engineers....

will also need to include qualitative assessments of the effects of the predicted light levels on night- time visibility...”

17.158 Preliminary identification, description and evaluation of the existing light levels have involved a desk based review and interrogation of the following information sources:

- Ordnance Survey mapping and aerial photography relating to existing landform, vegetation, settlement pattern;
- National landscape character areas (NCAs) as defined by Natural England;
- Northamptonshire Landscape Character Assessment; and
- CPRE night blight assessments.

17.159 The assessment of the visual effects will be made with reference to the main LVIA methodology, and the Lighting Impact Assessment (refer to **Chapter 21**).

Viewpoint Photographic Surveys, Baseline Panoramas and Verifiable Photomontage Visualisations

17.160 The assessment of landscape and visual effects is typically aided by the preparation and use of visually representative material.

17.161 Visualisations are illustrations that aim to represent an observer’s view of a proposed development. To this end, a series of computer generated verifiable photomontages have

been produced for the agreed representative viewpoint locations. The photomontage illustrations presented, together with field surveys, were used to assist professional judgement in the robust assessment of the potential impact of the Proposed Development at the Main SRFI Site.

17.162 The following have been prepared:

- Baseline panoramas illustrating the existing views from the representative viewpoint locations during Winter;
- Baseline panoramas illustrating the existing views from the representative viewpoint locations during Summer;
- Verifiable photomontage images illustrating the Main SRFI Site parameters and the maximum massing of the Main SRFI Site and the embedded landscape and visual mitigation as it would appear in the year of opening in winter from the representative viewpoint locations. These have been produced to aid the understanding of the assessors and of the decision makers and members of the public as to the worst case effects of maximum potential extent and visibility of the Proposed Development at the Main SRFI Site in Winter conditions at the first year of operation;
- Verifiable rendered photomontage images presenting the appearance of the illustrative Main SRFI Site masterplan and the embedded landscape and visual mitigation as it would appear in the year of opening in winter from the representative viewpoint locations. These have been produced to aid the understanding of the assessors and of the decision makers and members of the public as to how the Proposed Development at the Main SRFI Site could be delivered and might appear in reality; and
- Verifiable rendered photomontage images for twelve of the representative viewpoint locations presenting the appearance of the illustrative Main SRFI Site masterplan and the embedded landscape and visual mitigation as it would appear in the Summer of year 7 following the completion of the development; and once planting proposals have reached a reasonable level of maturity, which is taken as the Summer of Year 15 following completion of development. These have been produced to aid understanding of the assessors and of the decision makers and members of the public of how the Proposed Development at the Main SRFI Site could be delivered and might appear in reality and to illustrate the effectiveness of the embedded mitigation measures over time.

17.163 A summary of the visually representative material prepared of each of the agreed representative viewpoints is set out in **Table 17.14**

Table 17.14: Summary of Visually Representative Material Prepared for Each Viewpoint

VP Ref	Baseline Panorama	Parameters Photomontage Year 1 Winter	Illustrative Masterplan Photomontage Year 1 winter	Illustrative Masterplan Photomontage Year 7 Summer	Illustrative Masterplan Photomontage Year 15 Summer
--------	-------------------	---------------------------------------	--	--	---

VP Ref	Baseline Panorama	Parameters Photomontage Year 1 Winter	Illustrative Masterplan Photomontage Year 1 winter	Illustrative Masterplan Photomontage Year 7 Summer	Illustrative Masterplan Photomontage Year 15 Summer
VP1	Yes	Yes	Yes	Yes	Yes
VP2	Yes	Yes	Yes	No	No
VP3	Yes	Yes	Yes	Yes	Yes
VP4	Yes	Yes	Yes	Yes	Yes
VP5	Yes	Yes	Yes	Yes	Yes
VP6	Yes	Yes	Yes	No	No
VP7	Yes	Yes	Yes	Yes	Yes
VP8	Yes	Yes	Yes	No	No
VP9	Omitted	Omitted	Omitted	Omitted	Omitted
VP10	Yes	Yes*	No	No	No
VP11	Yes	Yes	No	No	No
VP12	Yes	Yes	Yes	No	No
VP13	Yes	Yes	Yes	Yes*	Yes*
VP14	Yes	Yes	Yes	No	No
VP15	Yes	Yes	Yes	Yes	Yes
VP16	Yes	Yes	Yes	Yes	Yes
VP17	Yes	Yes	Yes	Yes	Yes
VP18	Yes	Yes	Yes	Yes	Yes
VP19	Yes	Yes	Yes	No	No
VP20	Yes	Yes*	No	No	No
VP21	Yes	Yes	Yes	Yes	Yes
VP22	Yes	Yes*	No	No	No
VP23	Yes*	Yes*	No	No	No
VP24	Yes	Yes	Yes	Yes	Yes

*the Main SRFI site is not visible so a wireline image has been prepared

17.164 The requirement for any additional visually representative material to be presented within the Final ES, such as parameters photomontage at year 7 and year 15 Summer, will be discussed and agreed with SNC during the statutory consultation period.

17.165 It should be stressed that visualisations provide a tool for assessment, an image that can be compared with an actual view in the field. They should not be considered as a substitute to visiting a viewpoint in the field. Photomontages combine a photograph of an existing view with a computer-generated image. They may provide photo-realistic, rendered

representations of how the proposed development may look in the context of the existing landscape, as would be seen in a photograph, but not as would appear to the human eye in the field.

17.166 Please refer to **Volume 3 Appendix 17.8** for the detailed methodology for the photographic surveys and verifiable photomontage.

Embedded Mitigation

Main SRFI Site (including A43 access and all rail infrastructure)

17.167 Mitigation measures that were identified and adopted as part of the evolution of the project design (embedded into the project design) and that are relevant to this chapter are listed in Chapter Five. General mitigation measures, which apply to all parts of the works, are set out first. Thereafter mitigation measures that apply specifically to each landscape area. Please refer to the: Landscape and Ecological Infrastructure Strategy (1627-15-RP01); Green Infrastructure Plans (1627-16-28D & 1627-15-202B); Ecological Mitigation Plans 1627-15-27B & 1627-15-203B; and the 15 Year Soft Landscape Maintenance, Ecological Enhancement And Overall Management Plan (1627-15-RP02) for full details of the mitigation strategy, which includes detail on the approach to mitigating landscape and visual effects.

17.168 The landscape strategy is summarised below:

17.169 The Main SRFI Site will have a series of landscape corridors focused around the periphery and adjacent to internal road corridors. The landscape proposals for these zones will be based on the following key design principles.

- To minimise the effect of the development on the adjacent landscape character and on views towards the Main SRFI Site through the use of mitigation bunding and native structural planting belts.
- To integrate drainage and acoustic mitigation into the design to provide a holistic landscape strategy that responds to the existing Main SRFI Site constraints and surrounding receptors.
- To maximise the ecological mitigation within the landscape zones through the retention and enhancement of the existing vegetation framework and field pattern where feasible.
- To provide connectivity for wildlife through the creation of a matrix of different habitats providing interconnectivity between the different zones and into the wider area. Mitigation will be implemented where required to respond to individual species needs and provide a robust Main SRFI Site specific solution.
- To provide connectivity both through the Main SRFI Site and into surrounding areas. The development will incorporate a number of diverted footpaths along with new footpath links. Footpaths around the periphery of the Main SRFI Site will be placed in broad landscape corridors to retain openness and provide a setting.
- In order to minimise the engineered look of the proposed mitigation mounding, external slopes will be kept to a maximum slope of 1 in 5. The bunding will also follow existing

contouring on the Main SRFI Site to create a more naturalised landscape edge. Slopes facing in towards the Main SRFI Site will be a maximum of 1 in 3 to ensure that the proposed bunding can achieve the intended level of visual mitigation of key views towards the development and also support structural vegetation. Bunding will be kept close to the development edge to ensure the maximum amount of amenity space can be created around the periphery of the Main SRFI Site.

- To implement the landscape proposals in accordance with current best practice.

17.170 The successful implementation of the landscape strategy will depend upon the continuation of these key design principles into the detailed design process and the 15 Year Soft Landscape Maintenance, Ecological Enhancement And Overall Management Plan (1627-15-RP02) put in place to ensure the landscape establishes through to maturity.

17.171 While the responsibility of the implementation of the landscape strategy and subsequent management of landscape ultimately rests with the developer, the possibility of community engagement with the proposals will be explored through dialogue with the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire and through approaching representatives of both Milton Malsor and Blisworth Parish Councils. The key areas of landscape mitigation will be safeguarded by the developer to ensure continued public accessibility. However the safeguarding of public accessibility and protection from any future development may also be sought through the creation of a community trust or by some other means.

17.172 The landscape within the Main SRFI Site has been broken down into key zones that reflect the key characteristics within them, these are:

- Publically Accessible Structural Landscape Zones
- Structural Landscape Zones
- Estate Road Landscape

17.173 Each of these zones are shown on the Green Infrastructure Plan (1627-16-28D) which also shows retained vegetation, native structural planting belts, proposed mitigation bunding with spot heights, proposed public footpath routes and the Milton Malsor Brook. Once established, i.e. at maturity after 15 to 20 years, they are intended to reduce and, if possible, remedy potential Significant or Highly Significant adverse landscape and visual effects.

Table 17.15: Embedded Landscape and Visual Mitigation for the Main SRFI Site

Parameter	Mitigation measures embedded into the project design
General	
Building layout and height	Building locations have been set back from Milton Malsor to minimise impacts on visual amenity and landscape character Building locations have been set back from Northampton Road to maintain open character of the road. Building height set to minimize impacts on visual amenity from surrounding

receptors.

Construction

Construction phasing Landscape screening bunds and landscape planting implemented before the majority of other works to minimise construction impacts on visual amenity and landscape character.

Construction Management Development and implementation of the project Construction Environmental Management Plan (CEMP).

Operation

Landscape zone 1A Arm Farm Pocket Park would provide mitigation from visual and landscape impacts of the A43 junction works on the properties, marinas, canals and PRoW around Blisworth Arm. Native tree and shrub planting will be used to block views to the proposed junction and provide a landscape buffer between the junction and Blisworth Arm.

Landscape zone 1B Northampton Road Greenway would provide mitigation from visual and landscape impacts of the development from users of Northampton Road. Native tree and shrub planting and bunds wrapped around the development zones will be used to create a landscape buffer between the Main SRFI Site and to maintain the open character of the road. Tree planting on the landscape screening bunds once established would partially screen the built form.

Landscape zone 1C Milton Malsor Ecological Corridor would provide mitigation from visual and landscape impacts of the development from Milton Malsor. Native tree and shrub planting and landscape screening bunds wrapped around the development zones would be used to create a landscape buffer between the Main SRFI Site and the village. Landscape screening bunds would be located close to the proposed buildings, with tree and shrub planting on top, which once established would screen the buildings from view. Much of the landscape zone particularly in the north would be left open, in order to maintain the open character surrounding the settlement. Mature trees would be retained where appropriate and the water bodies would provide a landscape enhancement by increasing the habitat diversity of the area.

Landscape zone 1D Blisworth to Collingtree Footpath Diversion would provide mitigation from impacts of the development from users of the diverted PRoW KX13. Native hedgerow and tree planting will be used to screen the development from the PRoW.

Landscape zone 1E A43 Ecological Corridor would provide mitigation from visual and landscape impacts of the development from users of the PRoW. Footpath KX16 would be diverted along this route. Retaining the grassland and adding new native planting belts were required which would maintain the sense of openness round the path. The planting will screen the A43 to the west and partially screen the proposed buildings to the east.

Landscape zone 2A Milton Malsor Brook Ecological Corridor would follow the diverted Milton Malsor Brook. Where appropriate the watercourse profile will be varied to provide a variety of flow rates, depths and widths to maximise ecological

	potential and enhance this landscape feature.
Landscape zone 2B	WCML Ecological Corridor would provide mitigation from visual and landscape impacts of the development from Blisworth and users of the PRow to the south. The planting will soften views of the proposed buildings from the south, partially screening them once established. The interconnecting habitats would also increase habitat diversity in that area.
Landscape zone 2C	Grand Union Canal Ecological Corridor would provide mitigation from visual and landscape impacts of the development from The Grand Union Canal and users of the PRow. Native tree and shrub planting would provide layers of screening from users of the canal and PRow. The buffer will create a sense of separation between the canal and the proposed buildings.
Landscape zone 3	The Estate Road Landscaping will provide a robust setting for the development and tie it back to the surrounding landscape. Planting would be more formal in the heart of the <i>Main SRFI Site</i> with native planting used of the periphery. The planting would help screen the proposed access road from the A43 down into the Main SRFI Site. It will also screen the internal road and roundabout from users of Northampton Road.

J15a Works

17.174 Embedded landscape and visual mitigation for the Junction 15a Works includes:

- Strategic woodland planting belt to the south and west of proposed link road route;
- Provision of new roadside new roadside planting to compensate for loss of existing roadside vegetation due to construction activities;
- Ecological/habitat creation;
- Farmland Bird Mitigation Zone; and
- Development and implementation of the project CEMP.

Minor Highway Works

17.175 Embedded landscape and visual mitigation for the Minor Highway Works includes:

- Grading and reinstatement of roadside verges;
- Reinstatement of land cover (grassland);
- Provision of new roadside planting to compensate for minor loss of existing roadside vegetation due to construction activities; and
- Development and implementation of the project CEMP.

Assessment of Construction Phase Effects

Main SRFI Site (including A43 access and all rail infrastructure)

Construction Phase Landscape Effects

17.176 The landscape effects which are associated specifically with the construction phase of the Main SRFI Site relate to the introduction of construction operations, related structures, equipment, landform alterations and stockpiling of materials for a temporary period. The existing site has a network of hedgerows and small amount of tree cover related to the existing field boundaries. So the alteration in land cover due to the construction of the Main SRFI Site relates to a loss of arable land as a component of the landscape character and a direct loss of other landscape elements such as hedgerows, hedgerow trees including some notable and veteran trees.

17.177 Specific aspects of the construction operations which have the potential to give rise to effects on the landscape for a temporary period include:

- The establishment temporary and permanent access tracks
- The establishment and operation of construction compounds;
- The movement of construction plant and vehicles;
- Landform alterations in relation to bulk earthworks including topsoil stripping, stockpiling of materials, creation of development platforms and screening bunds; and
- The use of tall construction equipment, such as cranes.

17.178 The defining characteristics of the Main SRFI Site that indicate its susceptibility to the type of changes associated with the construction activities are:

- The large to medium scale field structure of mixed arable and pastoral land use is common within the area and indicates a medium level of susceptibility;
- The field boundaries have intermittent tree and hedgerow cover combined with the relatively flat landform in the Main SRFI Site create a relatively enclosed landscape. This indicates a medium level of susceptibility;
- This specific character area represents an extensive character type which consists predominantly of large scale mixed agricultural land, covering approximately one third of the county. This limits its scarcity as a landscape resource and indicates a medium level of susceptibility; and
- The Main SRFI site is partly influenced by the transport infrastructure around it, including the WCML, NLL and the A43 including the frequent noise and movement of trains and vehicles. Milton Business Park and the commercial / industrial area to west of Northampton Road exert some man-made built influence over the site. In addition noise from the M1 is apparent. Therefore this indicates a medium level of susceptibility.

17.179 In summary, the above analysis indicates that the landscape character of the Main SRFI Site demonstrates a **Medium susceptibility** to the type of development proposed.

17.180 The Main SRFI Site is not designated and demonstrates a local level of value; therefore the Main SRFI Site is considered to be **Low value**.

17.181 The construction operations will be highly prominent in the landscape of the study area given the relative complexity of their appearance. Construction operations will also be in a state of change as construction progresses, and operations such as the bulk earthworks, together with the loss of agricultural fields, field boundaries and trees, would result in a substantial alteration to the area's key characteristics. Therefore the effects of construction are considered to result in a **High degree of change**.

17.182 The construction operations will result in extensive change across the Main SRFI Site for up to ten years. Therefore the extent and duration of change to the local landscape character of the Main SRFI Site is considered to be **Extensive and Long term**. The changes would be **Partially Reversible** as the construction compounds, construction access tracks and roads, plant and machinery, buildings and bunds could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.183 Therefore it is considered that the construction of the Main SRFI Site will give rise to a **Major Adverse** level of effect to local landscape character which is **Highly Significant**.

17.184 Following the completion of construction operations, the following reinstatement will occur:

- The removal of the construction compounds; and
- The removal of all construction vehicles, plant and equipment.

Construction Phase Effects to County Landscape Character

17.185 The majority of the Main SRFI Site (with the exception of Zone 5 and Zone 6 in the south-eastern corner of the site), and the Junction 15a Site is located within Character Type 13: Undulating Hills and Valleys; and Character Area 13b: Bugbrooke and Daventry.

17.186 The representative viewpoints (refer to **Table 17.4** and baseline panorama photographs and photomontage presented in **Volume 3 Appendix 17.3**) located within Character Type 13: Undulating Hills and Valleys; and Character Area 13b: Bugbrooke and Daventry are:

- VP1 Barn Lane;
- VP5 Railway Cottages, Northampton Road;
- VP6 Public Right of Way RD12;
- VP7 Blisworth Arm;
- VP8 Gayton;
- VP9 Rothersthorpe;

- VP12 Grand Union Canal;
- VP14 Hill Farm, Gayton Road;
- VP15 Public Right of Way RL5;
- VP16 Public Right of Way KX5;
- VP17 Public Right of Way KX7;
- VP18 Milton Malsor;
- VP19 Public Right of Way KX10;
- VP21 Northampton Road;
- VP22 12 Station Road;
- VP23 Walnut Tree Inn, Station Road; and
- VP24 Deveron House, Towcester Road.

17.187 With reference to the key characteristics of the published character assessment for area 13b: Bugbrooke and Daventry, the indicators of its susceptibility to the construction of the proposed SRFI are considered to be:

- Elevated ridges in proximity to the Main SRFI Site tend to limit more extensive, panoramic views. However, there are medium distance views possible from more elevated ground within the character area, such as to the north-east of Blisworth, which indicate a **medium level of susceptibility**;
- Woodland cover is relatively limited and consists mainly of small, predominantly broadleaved woodland copses sparsely scattered throughout. Field boundaries have intermittent tree and hedgerow cover, particularly within the Main SRFI Site itself, with more extensive areas of planting being located adjacent to villages within the area and adjacent to infrastructure such as roads, railway and canals. This indicates a **medium level of susceptibility**;
- This specific character area represents an extensive character type which consists predominantly of large scale mixed agricultural land, covering approximately one third of the county. This limits its scarcity as a landscape resource and indicates a **medium level of susceptibility**;
- This is a well settled landscape character area which includes some key transport routes, such as the West Coast Main Line and the A43, which indicates a lower susceptibility to a built development. In addition, there are examples of large industrial scale developments within adjacent character areas, i.e. Grange Park, which is located approximately 1.3 km east of the PDA, and the Swan Valley Estate, which is located 1.5 km north north-east of the Main SRFI Site. It is also the case that there are small scale

employment sites within the immediate vicinity of the Main SRFI Site. However, character area 13b, and specifically the part of the area within which the Main SRFI Site falls, does not demonstrate any similar developments of the scale that is proposed. Therefore, this indicates a **medium level of susceptibility**.

17.188 In summary, the above analysis indicates that area 13b: Bugbrooke and Daventry character area demonstrates a **Medium susceptibility** to the type of development proposed.

17.189 Within the study area there are no nationally important landscape designations within 13b character area and it demonstrates no greater than local level of value. Therefore character area 13b is considered to be **Low value**.

17.190 Construction activities will give rise to a **High degree of change** at a local site level. The Main SRFI site demonstrates only a limited level of intervisibility with the rest of character area 13b given that it is relatively visually contained from the surrounding area, and would only influence landscape character within its immediate locality. Therefore the construction activities would form a reasonably conspicuous element of this extensive character area, and would result in some alteration to the areas key characteristics resulting in a **Medium degree of change** to character area 13b.

17.191 Within the context of character area 13b as a whole the effects of the construction of the Proposed Development at the Main SRFI Site will be of **Localised extent** and of **Medium term duration**. The changes would be **Partially Reversible** as the buildings and bunds could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.192 Therefore it is considered that the proposed SRFI will give rise to a **Minor Adverse level of effect** to character 13b which is **Not Significant**.

17.193 Zone 5 and Zone 6 in the south-eastern corner of the Main SRFI Site is located within Character Type 6: Undulating Claylands; and Character Area 6a: The Tove Catchment.

17.194 The representative viewpoints (refer to **Table 17.4** and baseline panorama photographs and photomontage presented in **Volume 3 Appendix 17.3**) located within Character Type 6: Undulating Claylands; and Character Area 6a: The Tove Catchment are:

- VP2 Public Right of Way KZ19;
- VP3 Public Right of Way RD6;
- VP4 Public Right of Way RD1;
- VP13 Courteenhall Road; and
- VP20 Church of St Peter and St Paul, Courteenhall.

17.195 With reference to the key characteristics of the published character assessment for area 6a The Tove Catchment the indicators of its susceptibility are considered to be:

- The undulating landform creates more contained and intimate areas with view long distance views indicate a **medium level of susceptibility**;

- A productive large to medium scale rural landscape with an equal balance of arable and pastoral farming, covering a large proportion of the county with a relatively regular field patterns. This limits its scarcity as a landscape resource and indicates a **medium level of susceptibility**;
- This is a well settled landscape character area which includes communication routes and some key transport routes, such as the A43, which indicates a lower susceptibility to a built development. This indicates a medium to **high level of susceptibility**.

17.196 In summary, the above analysis indicates that area 6a The Tove Catchment character area demonstrates a **Medium susceptibility** to the type of development proposed.

17.197 Within the study area there are no nationally important landscape designations within 6a character area and it demonstrates no greater than local level of value. Therefore character area 6a is considered to be **Low value**.

17.198 Character Area 6a covers an extensive area within the County and Zone 5 and 6 of the Main SRFI Site represents a very small proportion of this character area. The Main SRFI site demonstrates only a very limited level of intervisibility with the rest of character area 6a given that it is relatively visually contained from the surrounding area, and would only influence landscape character within its immediate locality. Therefore the construction activities would form a reasonably inconspicuous element of this extensive character area, and would result in only a minor alteration to the area's key characteristics resulting in a **Low degree of change** to character area 6a.

17.199 Within the context of character area 6a as a whole the effects of the introduction of the proposed SRFI will be of **Localised extent** and of **Medium term duration**. The changes would be **Partially Reversible** as the buildings and rail infrastructure could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.200 Therefore it is considered that the proposed SRFI will give rise to a **Minor/Negligible Adverse level of effect** to character 13b which is **Not Significant**.

Construction Phase Visual Effects

17.201 The main visual effects which are associated specifically with the construction phase of the Main SRFI Site relate to the introduction of construction operations, related structures, equipment, earthworks and stockpiled material for a temporary period. The existing PDA has a network of hedgerows and small amount of tree cover related to the existing field boundaries. So the visual effects during construction relate to the introduction of new features for a temporary period and a direct loss of other landscape elements such as the hedgerows.

- Specific aspects of the SRFI construction operations which have the potential to give rise to visual effects for a temporary period are:
- The presence of a construction compounds;
- The use of tall construction equipment, such as cranes;

- The storage of materials on the PDA; and
- The movement of construction vehicles within the PDA and along the new temporary and permanent access tracks.

17.202 The potential duration of construction for the Main SRFI site to be built out considered as part of this assessment is up to 10 years (Medium Term duration). As the development will be demand led, there is the potential for some phased construction to take place after 10 years (Long Term Duration) however an increased duration is not anticipated to alter the assessment of significance of the construction phase visual effects as set out in the following sections.

17.203 For the purposes of this visual assessment, the visibility of three stages of construction will be described. Then the overall worst case visual effects of construction will then be assessed. The three stages of construction are described below:

- Construction of the A43 grade separated junction, Northampton Road underpass and internal access roads;
- Construction of the landscape screening mounds; and
- Construction of the warehouses and gantry cranes.

17.204 A detailed viewpoint assessment has been undertaken for the representative viewpoints and is summarised in **Table 17.16** below. Refer to **Figures A17.1 to A17.5** for the viewpoint locations. The detailed viewpoint assessments can be found in **Appendix 17.3** and viewpoint panoramic photographs and photomontages in **Appendix 17.4**.

Table 17.16: Representative Viewpoint Summary Assessment – Construction Phase Visual Effects

Ref	Name	Receptor (Ref)	Level of effect/ significance
VP1	Barn Lane	Residents (R8) PRoW	Major Adverse / Highly Significant Major Adverse / Highly Significant
VP2	Public Right of Way KX13	PRoW (KX13)	Major Adverse / Highly Significant
VP3	Public Right of Way RD6	PRoW (RD6)	Major Adverse / Highly Significant
VP4	Public Right of Way RD1	PRoW (RD1)	Major Adverse / Highly Significant
VP5	Railway Cottages, Northampton Road	Residents (R8) Road Users (TRd)	Major Adverse / Highly Significant Moderate Adverse / Significant
VP6	Public Right of Way RD12	PRoW (RD12)	Major Adverse / Highly Significant
VP7	Blisworth Arm	Residents (R21) PRoW (GUCW2)	Major Adverse / Highly Significant Major Adverse / Highly Significant
VP8	Milton Road, Gayton	Road Users (MRd)	Minor Adverse / Not Significant
VP9	Rothersthorpe	N/A	N/A

Ref	Name	Receptor (Ref)	Level of effect/ significance
VP10	Northampton	High	Negligible / Not Significant
VP11	Public Right of Way LB5	High	Negligible / Not Significant
VP12	Grand Union Canal	PRoW (GUCW1)	Minor Adverse / Not Significant
VP13	Courteenhall Road	Residents (R6) Road Users (CRd)	Moderate Adverse / Significant Minor Adverse / Not Significant
VP14	Hill Farm, Gayton Road	Residents (R5) PRoW (MSW) Road Users (GRd2)	Moderate Adverse / Significant Moderate Adverse / Significant Minor Adverse / Not Significant
VP15	Public Right of Way RL5	PRoW (RL5)	Minor Adverse / Not Significant
VP16	Public Right of Way KX5,	PRoW (KX5)	Moderate Adverse / Significant
VP17	Public Right of Way KX7	PRoW (KX7 & KX8)	Major Adverse / Highly Significant
VP18	Milton Malsor	Residents (R11) PRoW KX9	Major Adverse / Highly Significant
VP19	Public Right of Way KX10	PRoW KX10	Minor Adverse / Not Significant
VP20	Church of St Peter and St Paul Courteenhall	R11	Negligible / Not Significant
VP21	Northampton Road	TRd	Minor Adverse / Not Significant
VP22	12 Station Road	Residents (R6) Road Users (StRd)	Negligible / Not Significant Negligible / Not Significant
VP23	Walnut Tree Inn, Station Road	Residents (R7) Hotel Guests Road Users (StRd)	Minor Adverse / Not Significant Negligible / Not Significant Negligible / Not Significant
VP24	Deveron House, Towcester Road	Residents (R4) Road Users (TRd)	Minor Adverse / Not Significant Major Adverse / Highly Significant

Residential Receptors – Construction Phase Visual Effects

17.205 A detailed assessment of visual effects on identified residential receptors during construction is set out in **Appendix 17.5**. A summary of this assessment is set out in **Table 17.17**. Refer to **Figure A17.1.12** for the location of individual properties, groups of properties, and settlements.

Table 17.17: Residential Receptors – Summary Assessment of Construction Phase Visual Effects

Ref	Receptor	Level of effect / significance
R1	Railway Cottages	Major Adverse / Highly Significant
R2	Willow Lodge	Major Adverse / Highly Significant
R3a	Springfield Northampton Road	Minor Adverse / Not Significant
R3b	37 Northampton Road	Negligible / Not Significant
R3c	33 Northampton Road	No Change / Not Significant
R4	Deveron House	Minor Adverse / Not Significant
R5	Hill Farm	Moderate Adverse / Significant
R6	Station Road	No change / Not Significant
R7a	12 Station Road	No change / Not Significant
R7b	Station Road (Walnut Tree Inn and Park Homes)	Walnut Tree Inn – Negligible Park Homes - Minor Adverse Not Significant
R8a	Nos. 1, 17 to 29, & 33 Rectory Lane	Major Adverse / Highly Significant
R8b	Milton House, Rectory Lane	Moderate Adverse / Significant
R8c	Spinney Lodge and Milton Hall, Rectory Lane	No change / Not Significant
R9	Nos 1 – 25 Barn Lane	Moderate Adverse / Significant
R10	Beech Croft and Beech Cottage, Collingtree Road	Moderate Adverse / Significant
R11	63 Collingtree Road and Maple House	Moderate Adverse / Significant
R12a	Spring Gardens and Parley Pole, Towcester Road	No change / Not Significant
R12b	Gayton Way, Copper Beeches, and Woodbury, Towcester Road	Moderate Adverse / Significant
R13	Northampton	Negligible / Not Significant
R14	Northampton	Negligible / Not Significant
R15	Collingtree and Grange Park	Negligible / Not Significant
R16	Courteenhall	No change / Not Significant
R17a	Thorpewood Farm House, Bridge Cottage and The Lodge	No change / Not Significant
R17b	Westlodge Farm and Westlodge	Minor Adverse / Not Significant.
R18	64-82 Courteenhall Road, Blisworth	Moderate Adverse / Significant
R19	Blisworth Lodge	Moderate Adverse / Significant
R20	Gayton	Negligible Adverse / Not Significant
R21	Blisworth Arm	Major Adverse / Highly Significant

Ref	Receptor	Level of effect / significance
R22	Gayton Marina	Negligible / Not Significant
R23	Blisworth Marina	Minor Adverse / Not Significant

- 17.206 In summary **Highly Significant or Significant** visual effects will be limited to a small number of residents in individual properties, groups of properties in close proximity to the Main SRFI site or in more distant locations where views may be gained from elevated locations overlooking the site.
- 17.207 The north facing upper floors of Railway Cottages (Ref. R1) would have open views of much of the construction of the landscape screening bunds and warehousing whilst the ground floors and gardens would have views restricted by the vegetation and fencing marking their curtilage. This would also be the case for the eastern facing windows of Willow Lodge (Ref. R2). It is considered that the visual effects will be **Highly Significant** on these properties. The properties within the commercial area along Northampton Road would have their views of the construction activities filtered by the intervening vegetation and any views would be through this and in-between the existing industrial buildings and effects are considered to be **Not significant**.
- 17.208 Views of the Main SRFI Site from the majority of Blisworth would be blocked by landform or surrounding built form. There are a number of properties in the northern part of the settlement along Courteenhall Road that face north towards the Main SRFI Site (Ref. R18 and R19). Views of the construction of the eastern part of the Main SRFI Site would be possible from the upper floors of these properties. Blisworth Lodge Farm and Prospect Court on the eastern edge of Blisworth would share a similar view from north facing windows. There may also be partial views from other upper storey north facing windows from properties along Greenway Close and Ladyfield. These views would include the construction of the warehousing and gantry cranes in the eastern part of the site. It is considered that the visual effects will be **Significant**.
- 17.209 Hill Farm (Ref. R5) is situated at an elevated position to the southwest of the Main SRFI Site. **Significant** visual effects are anticipated from the front aspect of the property at years 1, 7 & 15 of operation. As the property overlooks the site, whilst the embedded mitigation will serve to soften the appearance of the Main SRFI Site, it will remain conspicuous in views.
- 17.210 From most properties within Milton Malsor views of the Main SRFI Site would be blocked by the surrounding built form and would not experience any significant visual effects. However, **Highly Significant** effects may be experienced by residents at a number of properties on the southern edge of Milton Malsor, where the construction of the landscape screening bunds would dominate views from the rear aspect of the properties and gardens to the southern side of Rectory Lane (Ref. R8).
- 17.211 Significant visual effects may be experienced from the front and rear aspect and gardens of properties to the east of Barn Lane (Ref. R9) where there would be filtered, oblique views of the construction of the landscape screening mounds. Properties along Collingtree Road (Ref. R10 & R11) would have views of the construction of the landscape screening bunds and gantry cranes from south facing windows and gardens which would lead to **Significant** visual effects. There are number of individual properties to the western side of Towcester Road in

the southern part of Milton Malsor. These include Gayton Way, Copper Beeches, Spring Gardens, Parley Pole and Woodbury. These properties have significant amount of vegetation around their curtilage. Some glimpsed views of construction of the landscape screening bunds and warehouses would be possible from gardens and southern and western facing windows (Ref. R12) and **Significant** visual effects may be experienced. Deveron House further to the south would not experience Significant effects due to the screening effect of the vegetation around the curtilage and beyond.

17.212 The Blisworth Arm is an area to the west of the Main SRFI Site on the other side of the A43. There are a number of residential properties and marinas along the Northampton Arm of the Grand Union Canal (parallel with an unnamed local road) (Ref. R21). There would be open views of the construction of the grade separated junction from much of this area and it is considered that the visual effects will be **Highly Significant**.

17.213 There will be no significant construction phase visual effects from Northampton, Collingtree, Grange Park, Courteenhall, Gayton or Rothersthorpe.

Recreational Routes and Public Rights of Way – Construction Phase Visual Effects

17.214 A detailed assessment of visual effects that may be experienced by users of the identified PRoW during construction is set out in **Volume 3 Appendix 17.6**. A summary of this assessment is set out in **Table 17.18**. Refer to **Volume 3 Appendix 17.1 Figure A17.6** for the location of the PRoW.

Table 17.18: Recreational Routes and Public Rights of Way - Summary Assessment of Construction Phase Visual Effects

Ref	Level of effect / significance
GUCW1	Minor Adverse / Not Significant
MSW	Minor Adverse / Not Significant
KX5	Moderate Adverse / Significant
KX7 and KX8	Major Adverse / Highly Significant
KX9	Major Adverse / Significant
KX10	Minor Adverse / Not Significant
KX13	Major Adverse / Highly Significant
KX15	Major Adverse / Highly Significant
KX16	Major Adverse / Highly Significant
RD1 & RD22	Major Adverse / Highly Significant
RD3, RD6 & KZ14	Major Adverse / Highly Significant
RD12	Major Adverse / Highly Significant
RL5	Minor Adverse / Not Significant
LB5	Negligible / Not Significant

- 17.215 In summary **Significant** and **Highly Significant** construction phase visual effects will be limited to users of Recreational Routes and PRoW in close proximity to the site and from elevated ground overlooking the Main SRFI Site.
- 17.216 From the north PRoW KX7 and KX8 which run in-between Rectory Lane and Towcester Road. These would have open views of the construction of the landscaping screening bunds and visual effects would be **Highly Significant**. This would also be the case for PRoW KX9 which runs in the Conservation Area.
- 17.217 There would also be **Significant** visual effects from the PRoW KX10, KX12 to the east and KX5 to the west. These would have views of the construction of the landscape screening bunds and warehousing with KX10 and KX12 also having views of the construction of the gantry cranes. As PRoW KX13 runs along the ridge to the east of the Main SRFI Site it would views of the construction of the gantry cranes and landscape screening bunds and visual effects would be **Highly Significant**.
- 17.218 There are number of PRoW with elevated views over the Main SRFI Site to the south; these include RD1, RD22, RD3, RD6 and KZ14. The elevated position would allow open views over the construction of the warehousing, intermodal area and gantry cranes bunds and visual effects would be **Highly Significant**. This would also be the case for PRoW RD12 to the west of the site.
- 17.219 Three PRoW cross the Main SRFI site (KX13, KX15 and KX16) all of which will be diverted. Close range views of the construction of the warehousing would be possible and the visual effects effect will be **Highly Significant**. There would also be Significant visual effects of the section of the Grand Union Canal Walk that runs close the southern boundary of the Main SRFI Site. These views would be of the construction of the warehousing.
- 17.220 There will be no significant visual effects from Midshires Way or Nene Way (PRoW LB5) recreational routes or PRoW RL5.

Road Users - Construction Phase Visual Effects

- 17.221 A detailed assessment of visual effects that may be experienced by users of the identified roads during construction is set out in **Volume 3 Appendix 17.7**. A summary of this assessment is set out in **Table 17.19**. Refer to **Volume 3 Appendix 17.1 Figure A17.6** for the location of the roads.

Table 17.19: Road Users - Summary Assessment of Construction Phase Visual Effects

Ref	Receptor	Level of effect / significance
BLn	Barn Lane	Major Adverse / Highly Significant
CRd	Courteenhall Road	Minor Adverse / Not Significant
StRd	Station Road	Negligible / Not Significant
Bar	Blisworth Arm	Minor Adverse / Not Significant
MRd	Milton Road	Minor Adverse / Not Significant
GRd1	Gayton Road (Milton Malsor)	Minor Adverse / Not Significant

Ref	Receptor	Level of effect / significance
GRd2	Gayton Road (Gayton to Blisworth)	Minor Adverse / Not Significant
TRd	Northampton / Towcester Road	Major Adverse / Highly Significant

17.222 In summary **Highly Significant and Significant** construction phase visual effects will be limited and localised to users of roads running through the site or close to it. There will be **Highly Significant** visual effects from Barn Lane and Northampton Road/Towcester Road.

17.223 There would be **Significant** visual effects on roads close to the site including Gayton Road which runs along the northern boundary of the site.

17.224 There will be no significant visual effects from Courteenhall Road, Station Road, Milton Road and the Gayton Road which runs to the south-west of the site.

J15a Works

Construction Phase Landscape Effects

17.225 The landscape effects which are associated specifically with the construction phase of the J15a Works relate to the introduction of construction operations, related structures, equipment, landform alterations and stockpiling of materials for a temporary period. The existing site has a network of linear tree and shrub belts along the road corridors. There is little alteration in land cover due to the construction of the J15a Works as it relates to the upgrading, widening and / or realignment of existing road lines and bridges, and the introduction of a new link road and bridge structure south of the M1. Impacts relate more to the direct loss of other landscape elements primarily the linear tree and shrub belts.

17.226 Specific aspects of the construction operations which have the potential to give rise to effects on the landscape for a temporary period include:

- The establishment of temporary and permanent access tracks;
- The establishment and operation of construction compounds;
- The movement of construction plant and vehicles;
- Landform alterations in relation to bulk earthworks including topsoil stripping, stockpiling of materials, creation of development platforms and road embankments; and
- The use of tall construction equipment, such as cranes.

17.227 The defining characteristics of the J15a Site that indicate its susceptibility to the type of changes associated with the construction activities are:

- The small to medium scale field structure of mixed arable and pastoral land use is common within the area and indicates a medium level of susceptibility;

- The field boundaries have intermittent tree and hedgerow cover, which combined with the complex topography create a relatively enclosed landscape. This indicates a medium level of susceptibility; and
- The J15a site is highly influenced by the transport infrastructure around it, including the M1 and A43 including the frequent noise and movement of trains and vehicles. The Swan Valley Industrial Estate and motorway services have a strong influence over the site.

17.228 In summary, the above analysis indicates that the landscape character of the J15a Site demonstrates a **Medium susceptibility** to the type of development proposed.

17.229 The Grand Union Canal corridor is designated as a Conservation Area and demonstrates a limited area of higher value. However the land within the J15a Works order limits demonstrates a local level of value, therefore the land within the J15a Works order limit is considered to be **Low value**.

17.230 The construction operations will be prominent in close proximity. However works to the road network are relatively common place and would be experienced in the context of ongoing maintenance to the highway network. Construction operations will also be in a state of change as construction progresses, and operations such as the bulk earthworks, together with the loss of linear groups of shrubs and trees, and loss of one locally notable tree would result in a very minor alteration to some of the local landscapes key characteristics to the south of the M1 in particular. Therefore the effects of construction are considered to result in a **Low** degree of change over a very limited geographical extent. The duration of change is considered to be Medium term. The changes would be **Partially Reversible** as the construction compounds, construction access tracks and roads, plant and machinery, buildings and embankments could be removed and land cover, field pattern and field boundaries re-established, the loss of mature trees may be reversed in the medium to long term.

17.231 Therefore it is considered that the construction of the J15a Site will give rise to a **Minor Adverse** level of effect to local landscape character which is **Not Significant**.

17.232 Following the completion of construction operations, the following reinstatement will occur:

- The removal of the construction compounds;
- The removal of all construction vehicles, plant and equipment; and
- Reinstatement of grass verges and replacement planting.

J15a Works Construction Phase Visual Effects

17.233 A summary of the viewpoint assessment (refer to **Appendix 17.4**) at construction of J15a proposed development is set out in **Table 17.20**. Refer to **Figure A17.1.13** for the location of viewpoints.

Table 17.20: Viewpoints – Summary Assessment of Construction Phase Visual Effects

VP	Nature of receptor	Nature of effect	Level of effect /
----	--------------------	------------------	-------------------

	Susceptibility	Value	Degree of Change	Duration of Change	Reversibility of Change	
A PRoW LA5	High	High	Low	Medium Term	Partially reversible	Minor Adverse / Not Significant
B PRoW LA1	High	High	Low	Medium Term	Partially reversible	Minor Adverse / Not Significant
C Grand Union Canal	High	High	High	Medium Term	Partially reversible	Major Adverse / Highly Significant
D PRoW KX2	High	High	High	Medium Term	Partially reversible	Major Adverse / Highly Significant
E Grand Union Canal	High	High	Moderate	Medium Term	Partially reversible	Moderate Adverse / Significant

17.234 **Highly Significant** and Significant construction phase visual effects would be limited to the visual receptors in close proximity to the J15A Works site, to users of the Grand Union Canal recreational route (the Grand Union Canal Walk), and PRoW KX2. The Grand Union Canal passes through the middle of the J15a Works site and unobstructed views of the construction of the southern link road and other modifications to the north would be available to users of the canal and walk in close proximity to the works. Similarly PRoW KX2 passes through an area defined for use as a construction compound, and unobstructed views may be obtained to users.

Minor Highway Works Construction Phase Landscape and Visual Effects

M1 Junction 16

17.235 The widening of the north and southbound off slip approach and the A45 approach would lead to the minor loss of roadside vegetation. The hedgerows and trees have a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of trees and shrubs on the embankment would result in a **Low degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of effect** which is **Not Significant**.

17.236 The minor nature of these highway works means that there would be **no change** to local landscape character.

17.237 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users have a **Low susceptibility** to the type of development proposed whilst the users of the PRow have a **High susceptibility**. The minor loss of vegetation and the presence of construction activities would result in a **Low degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 3 A4500 / Upton Way / Tollgate Roundabout

17.238 The construction of the additional lane on the A4500 would lead to the loss of the southern edges of the group of mature trees to the north of the road to accommodate the pedestrian access.

17.239 The trees, shrubs and amenity grass have a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of the southern edge of the group of trees, amenity grass and ornamental shrubs would result in a **Medium degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of effect** to landscape elements which is **Not Significant**.

17.240 The minor nature of these highway works means that there would be **no change** on local landscape character.

17.241 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users have a **Low susceptibility** and pedestrians have a **Medium susceptibility** to the type of development proposed and a **Low value** as this is a busy road running through a commercial area. The loss of the southern section of the group of trees, amenity grass and shrubs would result in a **Low degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 4 the A5076 / A5123 / Upton Way

17.242 The construction of the widening of the A5123 northbound would lead to the loss a proportion of the tree / shrub / hedgerow vegetation in the central reservation of the dual carriageway leading up to the roundabout.

17.243 The hedgerows and trees have a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of a short section of the hedgerow and a proportion of the block of trees would result in a **Minor degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of effect** to landscape elements which is **Not Significant**.

17.244 The minor nature of these highway works means that there would be **no change** to local landscape character.

17.245 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users have a **Low susceptibility** to the type of development proposed, whilst the users of the Grand Union Canal Walk and County Park have a **High susceptibility**. The value of the visual amenity is considered **Low** as this is a busy arterial road. The loss of a short section the vegetation in the central reservation and changes to road alignment would result in a **Low degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 6 A5076 / Hunsbury Hill Road Roundabout

17.246 The construction of the widening of the A5076 east and west and Hunsbarrow Road would lead to the loss of vegetation. The additional lane on the northern side of the A5706 west would lead to the loss of shrubs, trees and impact the root protection areas of other trees. The lane widening along the eastern side of Hunsbarrow Road could lead to the loss of some trees and impact the root protection areas of other trees. The additional lane of the southern side of the A5706 east and the widening of the lane on the northern side of the road would lead to the loss of shrubs, trees and impact the root protection areas of other trees.

17.247 The vegetation has a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of a proportion of the vegetation would result in a **Medium degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed SRFI will give rise to a **Minor Adverse level of effect** to landscape elements which is **Not Significant**.

17.248 The minor nature of these highway works means that there would be **no change** on local landscape character.

17.249 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The loss of a proportion of the trees would lead to an increased view of the roundabout from the surrounding houses. The road users and users of commercial properties have a **Low susceptibility** to the type of development proposed whilst the residential areas have a **High susceptibility**. The value of the visual amenity is considered **Low** as this is a busy arterial road. The loss of vegetation allowing a greater degree of visibility onto the roundabout would result in a **Medium degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed SRFI will give rise to a **Moderate Adverse level of visual effect** which is **Significant**.

Junction 7 Towcester Road A5076, Danes Camp Way / A5123, Towcester Road / Mere Way / Tesco Access

17.250 The proposed works would lead to the loss of some roadside verge which is of **Low susceptibility** to the type of development proposed and **Low value**. This would result in a **Negligible degree of change** which is **Not Significant**. The minor nature of these highway works means that there would be **no change** to local landscape character.

17.251 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 9 A45/Brackmills Roundabout

17.252 The construction of the traffic lights controlled junction would not lead to the loss of any significant vegetation and there would be **no change** on local landscape features. The minor nature of these highway works means that there would be **no change** on local landscape character.

17.253 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users have a **Low susceptibility** to the type of development proposed and a **Low value** as this is a busy arterial road. The works would result in a **Low degree of change**. This would be for a **Short term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 10 Barnes Meadow Interchange

17.254 This road junction is located in the eastern part of Northampton. It is adjacent to commercial development to the south-east and north-west. The rest of the surrounding area is river and canal corridor predominantly rough grassland with groups of trees and shrubs. Approaches to the junction are generally lined with tree and shrub vegetation either set back or close to the carriageway. The junction forms part of a grade separated junction with the A45 running over the top of it. The land form surrounding the junction is complex and influenced by the river corridor. The junction sits on a high point surrounded by rivers and canals. The land rises to the north-west away from the site.

17.255 Views from the wider landscape of the roundabout are contained by the surrounding built form and vegetation

17.256 The construction of the widening of the roundabout would not lead to the loss of any significant vegetation. A proportion of highway verge grass in the central area would be lost. The highway verge grass have a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of the highway verge grass area would result in a **Negligible degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Negligible level of effect** to landscape elements which is **Not Significant**.

17.257 The minor nature of these highway works means that there would be no change on local landscape character.

17.258 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users have a **Low susceptibility** to the type of development proposed and a **Low value** as this is a busy arterial road. The works would result in a **Low degree of change**. This would be for a

Medium term and would be Partially Reversible. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 11 A45 / A43 Roundabout

17.259 The proposed works to the east of the A45 approach would lead to the loss of some roadside verge vegetation which is of **Low susceptibility** to the type of development proposed and **Low value**. This would result in a **Negligible degree of change** which is **Not Significant**. The minor nature of these highway works means that there would be **no change** to local landscape character.

17.260 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 12 M1 Junction 15

17.261 The proposed works to the east of the A45 approach would lead to the loss of some roadside verge juvenile amenity planting and scrub vegetation which is of **Low susceptibility** to the type of development proposed and **Low value**. This would result in a **Minor Adverse** degree of change which is **Not Significant**. The minor nature of these highway works means that there would be **no change** to local landscape character.

17.262 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 14 A34/A5 Tove

17.263 The construction of the widening of the Towcester Road and A5 north would lead to the loss of the southern and western edges of the group of mature trees between the two roads. It would also lead to the loss of a section of hedgerow along the western side of the A5 north.

17.264 The hedgerows and trees have a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of a short section of the hedgerow and a proportion of the block of trees would result in a **Medium degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of effect** to landscape elements which is **Not Significant**.

17.265 The minor nature of these highway works means that there would be **no change** to local landscape character.

17.266 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users and users of the commercial properties have a **Low susceptibility** to the type of development proposed and a **Low value** as this is a busy road running through a commercial area. The loss of a short section the hedgerow and a proportion of the block of trees would result in a **Low degree of change**. This would be for a **Medium term** and would be **Partially Reversible**.

Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 15 A43 Abthorpe

- 17.267 The widening of the A43 northern approach and Brackley Road would lead to the loss of some of the new planting and highway verge grass areas along those roads. The additional lane to the southern part of the roundabout would lead to a loss of a small area of highway verge grass in the central area of the roundabout.
- 17.268 The young planting and highway verge grass has a **Medium susceptibility** to the type of development proposed and a **Low value** as they are part of an engineered landscape and are common in the local area. The loss of a small area of new planting and highway grass would result in a **Low degree of change**. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed highway works will give rise to a **Minor Adverse level of effect to landscape elements** which is **Not Significant**.
- 17.269 The minor nature of these highway works means that there would be **no change** on local landscape character.
- 17.270 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. The road users and users of restaurant have a **Low susceptibility** to the type of development proposed, whilst the users of the PRoW and residential areas have a **High susceptibility**. The value of the visual amenity is considered **Low** as this is a busy arterial road. The loss of these areas of new planting and highway verge grass along with the minor lane realignments would result in a **Negligible degree of change**. This would be for a **Medium term and** would be **Partially Reversible**. Therefore it is considered that the proposed highway works will give rise to a **Negligible level of visual effect** which is **Not Significant**.

Junction 19 A5076Upton Way / Telford Way

- 17.271 The proposed works to the junction would lead to the loss of some roadside verge and hedgerow to the south-east of the junction which is of **Low susceptibility** to the type of development proposed and **Low value**. This would result in a **Low degree of change**. This would be for a **Medium term and** would be **Partially Reversible**. Therefore it is considered that that the proposed highway works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**. The minor nature of these highway works means that there would be **no change** to local landscape character.
- 17.272 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

Junction 20 A5076Upton Way / High Street

- 17.273 The proposed works to the junction would lead to the loss of some roadside verge and hedgerow to the south-east of the junction which is of **Low susceptibility** to the type of development proposed and **Low value**. This would result in a **Low degree of change**. This would be for a **Medium term and** would be **Partially Reversible**. Therefore it is considered

that that the proposed highway works will give rise to a **Minor Adverse** level of visual effect which is **Not Significant**. The minor nature of these highway works means that there would be **no change** to local landscape character.

- 17.274 The construction traffic and activities would be seen as part of the continuing management of the highway network. They would be short term and temporary in nature. Therefore it is considered that the proposed works will give rise to a **Minor Adverse level of visual effect** which is **Not Significant**.

All Proposed Development works (i.e. consideration of the Proposed Development as a whole)

Construction Phase Landscape and Visual Effects

- 17.275 The assessment of construction phase landscape effects of the Proposed Development at the Main SRFI Site has found that there will be **Highly Significant** effects to landscape character at the site specific level. No significant construction phase effects to landscape character at the site specific level are anticipated for the J15a Works or Minor Highways Works. No significant effects are anticipated to National or County landscape character types or areas considering all proposed development works.

- 17.276 **Highly Significant or Significant** construction phase visual effects will be limited to a small number of residents in individual properties, groups of properties in close proximity to the Proposed Development at Main SRFI Site or in more distant locations where views may be gained from elevated locations overlooking the site. **Highly Significant or Significant** visual effects are anticipated to users of limited number of Recreational Routes and PRoW in close proximity to the Main SRFI Site and J15a Works Site, or in more distant locations where views may be gained to the Proposed Development at the Main SRFI Site from elevated locations. No significant construction phase visual effects are anticipated to users of limited number of Recreational Routes and PRoW in proximity to the Minor Highways Works.

- 17.277 **Highly Significant and Significant** construction phase visual effects will be limited and localised to users of roads running through proximity to the Proposed Development at Main SRFI Site. No significant construction phase visual effects are anticipated to road users in proximity to the J15a Works or the Minor Highways Works.

Construction Phase Night Time Visual Effects

- 17.278 Potential night time construction phase visual effects may be experienced by visual receptors in Blisworth Arm in close proximity to the A43 access works. Construction lighting within the Main SRFI site would be most prominent from properties in close proximity along The Northampton / Towcester Road including Willow lodge and Railway Cottages, and along the southern edge of Milton Malsor on Rectory Lane. Construction lighting within the Main SRFI Site would also be most prominent from properties elevated positions overlooking the Main SRFI Site including properties on Courteenhall Road and Hill Farm.

- 17.279 As set out in the Draft Construction Environmental Management Plan, Section 5.8 Lighting, the use of artificial light during construction will be minimised to that required for safe working.

- 17.280 Security lighting will be provided to the compound area and for task specific items associated with earthworks and stockpiling activities on site and the surrounding works area.

17.281 Lighting will be directed so only the site compound is illuminated, minimising light pollution beyond the compound boundary. There may be a security presence on site overnight. However to minimise impacts on local residents there will be no lighting of the construction site once works cease each evening.

17.282 Construction lighting will be required to illuminate the access / egress point to the site, site safety working and security. Construction lighting may also be required to facilitate early evening working through the winter. Where appropriate site lighting will be time controlled to turn off to a reduced coverage for security during the night.

17.283 The lighting adopted will be selected and installed to negate obtrusive light (light pollution). The selection of lighting fittings and illumination levels will be in accordance with the recommendations of the Chartered Institute of Building Services Engineers (CIBSE) (Ref 14) and relevant Health and Safety Regulations (Ref 15).

17.284 During the earthworks and development works temporary site lighting will be in accordance with Guidance Notes for the Reduction of Light Pollution (Institution of Lighting Engineers, 2000) (Ref 16) including:

- Lighting will be switched off when not required for safety or security;
- Temporary lighting will be directed into the site away from residential areas;
- Wherever possible lighting will be directed downwards to illuminate the target area to reduce spill light to a minimum;
- Specifically designed lighting equipment will be installed to minimise the spread of light near to or above the horizontal;
- Keep glare to a minimum, the main beam angle of all lights directed towards any potential observer will be kept below 70 degrees. Higher mountings used for the lighting will lower the main beam angle reducing potential glare; and,
- Wherever practicable, floodlights with asymmetric beams will be used.

17.285 Once constructed the landscape screening mounds would block most views of low level construction lighting. However the majority of the construction works would be undertaken in day time hours with controls over night working and lighting as set out above. Lighting effects on visual amenity are expected to be **Localised** and **Medium term**. A preliminary assessment is that the development will give rise to a **Minor Adverse** level of effect on the visual amenity of the visual receptors identified which is **Not Significant**.

Assessment of Operational Phase Effects

The Main SRFI Site (including A43 access and all rail infrastructure) – Operational Phase Landscape Effects

17.286 The main landscape effects which are associated specifically with the operational phase of the Main SRFI Site, immediately following completion of construction operations, relate to the introduction of an additional built form, and associated additional movement of gantry

cranes, vehicles and freight trains into the landscape and the subsequent effects on landscape character. The Main SRFI Site has a network of hedgerows and small amount of tree cover related to the existing field boundaries. So the alteration in land cover as part of the Main SRFI Site relates to a loss of arable land as a component of the landscape character and a direct loss of other landscape elements such as the hedgerows and trees.

The Main SRFI Site Operational Phase Landscape Character Effects

- 17.287 As noted in the assessment of construction phase landscape effects section, the landscape character of the Main SRFI Site and its immediate surroundings is considered to be of **Medium** susceptibility to the change proposed. The Main SRFI Site is rural in nature, fields are medium in scale and boundary vegetation is relatively well covered, with some gaps evident. However, there are urbanising influences in the baseline situation which limit its susceptibility to the type of development proposed, i.e.: the WCML, and associated overhead gantries; the Milton Business Park and the commercial and industrial development located to the west of Northampton Road.
- 17.288 The Main SRFI Site is not subject to any landscape designation and, whilst it contains a number of valued trees, overall it is predominantly operational agricultural land and demonstrates no greater than a local level of value, therefore landscape character of the Main SRFI Site is considered to be of **Low value**.
- 17.289 The introduction of the Proposed Development at Main SRFI Site will involve the loss of the following landscape features: a large expanse of arable farmland, including areas of ridge and furrow, and some areas of calcareous grassland; rows of hedgerow field boundaries and hedgerow trees; small belts of trees, including coniferous shelterbelts. However, the primary change will be due to the introduction of large-scale buildings that would form a highly prominent element within the local landscape and would result in a substantial alteration to the key characteristics of the Main SRFI Site resulting in a **High** degree of change.
- 17.290 There would be an **Extensive** change to the landscape elements and key characteristics of the Main SRFI Site and the effects to the landscape elements and key characteristics of the SRFI site would be of **Long term** duration. The changes would be **Partially Reversible** as the buildings and bunds could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the **short or medium term**.
- 17.291 Therefore it is considered that the Main SRFI will give rise to a **Major Adverse** level of effect to local landscape character which is **Highly Significant**.
- 17.292 After 7 years it is considered that the embedded mitigation of primary green infrastructure, including screening bunds, woodland and hedgerow planting will begin to mature and will soften the Proposed Development at the Main SRFI Site and help to screen lower level activities such as vehicle and freight movements, and integrate the Proposed Development into the receiving landscape. After 15 years of operation the embedded mitigation of primary green infrastructure will have established and reached a reasonable level of growth and maturity, and planting on the screening bunds would further soften, screen and filter views of the Main SRFI Site reducing its prominence in the local landscape. The embedded mitigation of primary green infrastructure would replace and compensate for the loss of existing trees and hedgerows, and would contribute to minimising the effects due to the loss

of veteran trees, and would enhance these habitats where they are retained. The Proposed Development at the Main SRFI site would form a reasonably conspicuous element in the local landscape and would result in some alteration to key characteristics, resulting in a **Medium** degree of change.

17.293 Therefore it is considered that at years 7 and 15 the Main SRFI will give rise to a **Moderate Adverse** level of effect to local landscape character which is **Significant**.

The Main SRFI Site Operational Phase Effects to County Landscape Character Areas

17.294 As noted in the assessment of construction phase landscape effects section, character area 13b: Bugbrooke and Daventry demonstrates a **Medium susceptibility** to the type of development proposed.

17.295 Within the study area there are no nationally important landscape designations within character area 13b and it demonstrates a local level of value. Therefore character area 13b is considered to be **Low value**.

17.296 With regards to the degree of change, a large scale development of commercial warehousing and rail infrastructure will give rise to a **High degree of change** at a local site level. However, character area 13b is well settled, and includes some similar types of developments (e.g. Swan Valley) and there are urbanising features throughout. Given that the wider character area does have an acknowledged level of built development, this will limit the degree of change to the character area. Character Area 13b covers an extensive area within the County and the Main SRFI Site represents a relatively small proportion of this character area. The Main SRFI site demonstrates only a limited level of intervisibility with the rest of character area 13b given that it is relatively visually contained from the surrounding area, and would only influence landscape character within its immediate locality. Therefore the Main SRFI Site would form a reasonably conspicuous element of this extensive character area, and would result in some alteration to the area's key characteristics resulting in a **Medium degree of change** to character area 13b.

17.297 Within the context of character area 13b as a whole the effects of the introduction of the proposed SRFI will be of **Localised extent** and of **Long term duration**. The changes would be **Partially Reversible** as the buildings and bunds could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.298 It is considered that the proposed SRFI will give rise to a **Minor Adverse level of effect** to character 13b which is **Not Significant**. Therefore effects at years 7 and 15 are considered to be **Not Significant**.

17.299 Character area 6a The Tove Catchment demonstrates a **Medium susceptibility** to the type of development proposed.

17.300 Within the study area there are no nationally important landscape designations within 6a character area and it demonstrates no greater than local level of value. Therefore character area 6a is considered to be **Low value**.

17.301 Character area 16a is influenced by urbanising features throughout including the presence of the NLL and WCML and associated infrastructure, and the M1. It is well settled, and includes

some similar types of developments (e.g. Grange Park). Given that the wider character area does have an acknowledged level of built development, this will limit the degree of change to the character area. Character Area 6a covers an extensive area within the County and Zone 5 and 6 of the Main SRFI Site represents a very small proportion of this character area. The Main SRFI site demonstrates only a very limited level of intervisibility with the rest of character area 6a given that it is relatively visually contained from the surrounding area, and would only influence landscape character within its immediate locality. Therefore the Main SRFI Site would form a reasonably inconspicuous element of this extensive character area, and would result in only a minor alteration to the area's key characteristics resulting in a **Low degree of change** to character area 6a.

17.302 Within the context of character area 6a as a whole the effects of the introduction of the proposed SRFI will be of **Localised extent** and of **Long term duration**. The changes would be **Partially Reversible** as the buildings and rail infrastructure could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.303 It is considered that the proposed SRFI will give rise to a **Minor/Negligible Adverse level of effect** to character 13b which is **Not Significant**. Therefore effects at years 7 and 15 are considered to be **Not Significant**. Therefore effects at years 7 and 15 are considered to be **Not Significant**.

Table 17.21 Summary of Landscape Effects during Operation

Receptor	Nature of receptor		Nature of effect				Level of effect / significance
	Susceptibility	Value	Degree of Change	Extent of Change	Duration of Change	Reversibility of Change	
Landscape character of the Main SRFI Site Year 1	Medium	Low	High	Extensive	Long term	Partially reversible	Major Adverse / Highly Significant
Year 7	Medium	Low	Medium	Limited	Long term	Partially reversible	Moderate Adverse / Significant
Year 15	Medium	Low	Medium	Limited	Long term	Partially reversible	Moderate Adverse / Significant
Landscape character area 13b	Medium	Low	Medium	Localised	Long term	Partially reversible	Minor Adverse / Not Significant
Year 7	Medium	Low	Low	Localised	Long term	Partially reversible	Minor Neutral / Not Significant
Year 15	Medium	Low	Negligible	Localised	Long term	Partially	Negligible

						reversible	Neutral / Not Significant
Landscape character area 6a	Medium	Low	Low	Localised	Long term	Partially reversible	Minor /Negligible Adverse / Not Significant
Year 7	Medium	Low	Negligible	Localised	Long term	Partially reversible	Negligible Neutral / Not Significant
Year 15	Medium	Low	Negligible	Localised	Long term	Partially reversible	Negligible Neutral / Not Significant

The Main SRFI Site (including A43 access and all rail infrastructure) Operational Phase Visual Effects

17.304 The following section identifies the visual effects on the identified visual receptor groups at Year 1, 7 and 15 of the operational period and takes account of the effects of the embedded mitigation measures. Visual receptors within the study area with views of the Main SRFI Site include residents in individual properties, groups of properties, and settlements, users of Recreational Routes and Public Rights of Way (PRoW), and road users.

17.305 The main visual effects during the operational phase of the Main SRFI Site, relate to the introduction into the view of the Grade Separated Junction, Warehousing Units, Gantry Cranes, Container Store and Intermodal area, and to the removal of some landscape features which contribute to existing views experienced by identified visual receptors and the subsequent effects on the visual amenity of those receptors. Additional visual effects relate to ground level activities including the movement of traffic, freight and freight trains, and the gantry cranes.

17.306 A detailed viewpoint assessment has been undertaken for the representative viewpoints and is summarised in **Table 17.22** below. Refer to **Appendix 17.1. Figures A17.1 to A17.5** for the viewpoint locations. The detailed viewpoint assessments can be found in **Appendix 17.3** and viewpoint panoramic photographs and photomontages in **Appendix 17.4**. To illustrate the worst-case visual effects of the Main SRFI Site verifiable photomontage visualisations have been prepared for year one in the winter immediately following construction.

Table 17.22: Summary of Representative Viewpoint Assessment of Operational Phase Visual Effects

Ref	Name	Receptor (Ref)	Level of effect/ significance
VP1	Barn Lane	Residents (R8)	Major Adverse / Highly Significant
Year 1		PRoW	Major Adverse / Highly Significant

Ref	Name	Receptor (Ref)	Level of effect/ significance
Year 7		Residents (R8) PRoW	Moderate Adverse / Significant Moderate Adverse / Significant
Year 15		Residents (R8) PRoW	Minor Adverse / Not Significant Minor Adverse / Not Significant
VP2 Years 1, 7 & 15	Public Right of Way KX13	PRoW (KX13)	Major Adverse / Highly Significant
VP3 Years 1, 7 & 15	Public Right of Way RD6	PRoW (RD6)	Major Adverse / Highly Significant
VP4 Years 1, 7 & 15	Public Right of Way RD1	PRoW (RD1)	Major Adverse / Highly Significant
VP5 Year 1	Railway Cottages Northampton Road	Residents (R8) Road Users (TRd)	Major Adverse / Highly Significant Moderate Adverse / Significant
Year 7		Residents (R8) Road Users (TRd)	Major Adverse / Highly Significant Minor Adverse / Not Significant
Year 15		Residents (R8) Road Users (TRd)	Moderate Adverse / Significant Minor Adverse / Not Significant
VP6 Year 1	Public Right of Way RD12	PRoW (RD12)	Major Adverse / Highly Significant
Year 7			Major Adverse / Highly Significant
Year 15			Moderate Adverse / Significant
VP7 Year 1	Blisworth Arm	Residents (R21) PRoW (GUCW2)	Major Adverse / Highly Significant Major Adverse / Highly Significant
Year 7		Residents (R21) PRoW (GUCW2)	Moderate Adverse / Significant Moderate Adverse / Significant
Year 15		Residents (R21) PRoW (GUCW2)	Minor Adverse / Not Significant Minor Adverse / Not Significant
VP8 Years 1, 7 & 15	Milton Road, Gayton	Road Users (MRd)	Minor Adverse / Not Significant
VP9	Rothersthorpe	N/A	N/A

Ref	Name	Receptor (Ref)	Level of effect/ significance
VP10 Years 1, 7 & 15	Northampton	Residents (R13)	Negligible / Not Significant
VP11 Years 1, 7 & 15	Public Right of Way LB5	Residents (R14) PRoW (LB5)	Negligible / Not Significant Negligible / Not Significant
VP12 Year 1	Grand Union Canal	PRoW (GUCW1)	Minor Adverse / Not Significant
Year 7 & 15			Negligible / Not Significant
VP13 Years 1, 7 & 15	Courteenhall Road	Residents (R6) Road Users (CRd)	Moderate Adverse / Significant Minor Adverse / Not Significant
VP14 Years 1, 7 & 15	Hill Farm, Gayton Road	Residents (R5) PRoW (MSW) Road Users (GRd2)	Moderate Adverse / Significant Moderate Adverse / Significant Minor Adverse / Not Significant
VP15 Years 1, 7 & 15	Public Right of Way RL5	PRoW (RL5)	Minor Adverse / Not Significant
VP16 Year 1	Public Right of Way KX5,	PRoW (KX5)	Moderate Adverse / Significant
Year 7		PRoW (KX5)	Moderate Adverse / Significant
Year 15		PRoW (KX5)	Minor Adverse / Not Significant
VP17 Year 1	Public Right of Way KX7	PRoW (KX7 & KX8)	Major Adverse / Highly Significant
Year 7		PRoW (KX7 & KX8)	Minor Adverse / Not Significant
Year 15		PRoW (KX7 & KX8)	Negligible / Not Significant
VP18 Year 1	Milton Malsor	PRoW KX9	Major Adverse / Highly Significant
Year 7		PRoW KX9	Moderate Adverse / Significant
Year 15		PRoW KX9	Minor Adverse / Not Significant
VP19 Years 1, 7 & 15	Public Right of Way KX10	PRoW KX10	Moderate Adverse / Significant

Ref	Name	Receptor (Ref)	Level of effect/ significance
VP20 Years 1, 7 & 15	Church of St Peter and St Paul Courteenhall	R11	No change / Not Significant
VP21 Year 1	Northampton Road	TRd	Minor Adverse / Not Significant
Year 7			Minor Adverse / Not Significant
Year 15			Negligible / Not Significant
VP22 Years 1,7 & 15	12 Station Road	Residents (R6) Road Users (StRd)	No change / Not Significant No change / Not Significant
VP23 Years 1, 7 & 15	Walnut Tree Inn, Station Road	Residents (R7) Hotel Guests Road Users (StRd)	Minor Adverse / Not Significant Negligible / Not Significant Negligible / Not Significant
VP24 Year 1	Deveron House, Towcester Road	Residents (R4) Road Users (TRd)	Moderate Adverse / Significant Major Adverse / Highly Significant
Year 7		Residents (R4) Road Users (TRd)	Negligible / Not Significant Moderate Adverse / Significant
Year 15		Residents (R4) Road Users (TRd)	Negligible / Not Significant Minor Adverse / Not Significant

Residential Receptors – Operational Phase Visual Effects

17.307 The representative viewpoint assessment (refer to **Appendix 17.4**) has informed a detailed assessment of operational visual effects on identified residential receptors (refer to **Appendix 17.5**) A summary of this assessment is set out in **Table 17.23**. Refer to **Figure 17.1.12** the location of individual properties, groups of properties, and settlements.

Table 17.23: Residential Receptors - Summary Assessment of Operational Phase Visual Effects

Ref	Receptor	Level of effect / significance
R1 Year 1	Railway Cottages	Major Adverse / Highly Significant
Year 7		Major Adverse / Highly Significant
Year 15		Moderate Adverse / Significant
R2 Year 1	Willow Lodge	Major Adverse / Highly Significant

Ref	Receptor	Level of effect / significance
Year 7		Moderate Adverse / Significant
Year 15		Minor Adverse / Not Significant
R3a	Springfield	Minor Adverse / Not Significant
Years 1, 7 & 15		
R3b	37 Northampton Road	Negligible / Not Significant
Years 1, 7 & 15		
R3c	33 Northampton Road	No change / Not Significant
Years 1, 7 & 15		
R4	Deveron House	Moderate Adverse / Significant
Year 1		
Years 1, 7 & 15		Negligible / Not Significant
R5	Hill Farm	Moderate Adverse / Significant
Years 1, 7 & 15		
R6	Station Road	Negligible / Not Significant
Years 1, 7 & 15		
R7a	12 Station Road	Negligible / Not Significant
Years 1, 7 & 15		
Year 7b	Station Road -	
Years 1, 7 & 15	Walnut Tree Inn	Negligible / Not Significant
	Park Homes	Minor Adverse / Not Significant
R8a	Nos. 1, 17 to 29, & 33 Rectory Lane	Major Adverse / Highly Significant
Year 1		
Year 7		Moderate Adverse / Significant
Year 15		Minor Adverse / Not Significant
R8b	Milton House, Rectory Lane	Negligible / Not Significant
Year 1		
R8c	Spinney Lodge and Milton Hall, Rectory Lane	No change / Not Significant
Year 1		
R9	Nos. 1 – 25 Barn Lane	Minor Adverse / Not Significant
Year 1		
Year 7		Minor Adverse / Not Significant
Year 15		Negligible / Not Significant
R10	Beech Croft and Beech Cottage, Collingtree Road	Moderate Adverse / Significant
Year 1		
Year 7		Minor Adverse / Not Significant

Ref	Receptor	Level of effect / significance
Year 15		Negligible / Not Significant
R11 Years 1, 7 & 15	63 Collingtree Road and Maple House	Moderate Adverse / Significant
R12a Years 1, 7 & 15	Spring Gardens and Parley Pole, Towcester Road	No change / Not Significant
R12b Year 1	Gayton Way, Copper Beeches, and Woodbury, Towcester Road	Moderate Adverse / Significant
Year 7		Minor Adverse / Not Significant
Year 15		Negligible / Not Significant
R13 Years 1, 7 & 15	Northampton	No change / Not Significant
R14 Years 1, 7 & 15	Northampton	No change / Not Significant
R15 Years 1, 7 & 15	Collingtree and Grange Park	Negligible / Not Significant
R16 Years 1, 7 & 15	Courteenhall Village	Negligible / Not Significant
R17a Years 1, 7 & 15	Thorpewood Farm House, Bridge Cottage and The Lodge	No change / Not Significant
R17b Years 1, 7 & 15	Courteenhall West Lodge & West Lodge Cottages	Minor Adverse / Not Significant
R18 Years 1, 7 & 15	64-82 Courteenhall Road, Blisworth	Moderate Adverse / Significant
R19 Years 1, 7 & 15	Blisworth Lodge	Major Adverse / Highly Significant
R20 Years 1, 7 & 15	Gayton	Negligible / Not Significant
R21 Year 1	Blisworth Arm	Major Adverse / Highly Significant
Year 7		Moderate Adverse / Significant
Year 15		Minor Adverse / Not Significant
R22 Years 1, 7 & 15	Gayton Marina	No change / Not Significant

Ref	Receptor	Level of effect / significance
R23	Blisworth Marina	Minor Adverse / Not Significant
Year 1		
Years 7 & 15		Negligible / Not Significant

- 17.308 In summary, **Highly Significant** or **Significant** visual effects will be limited to residents in individual properties in close proximity to the Main SRFI site or in more distant locations where views may be gained from elevated locations overlooking the site.
- 17.309 From most properties with Milton Malsor views of the Main SRFI Site would be blocked by the surrounding built form and intervening vegetation, and would not experience any significant visual effects. However, **Highly Significant** effects may be experienced by residents at a number of properties on the southern edge of Milton Malsor, where proposed warehousing in Zone 3 in the eastern part of the Main SRFI site would dominate views from the rear aspect of the properties and gardens to the southern side of Rectory Lane (Ref. R8a). Likewise there may be limited views from open space within the Conservation Area to the south-west of The Parish Church of Holy Cross between Collingtree Road and Rectory Lane. **Significant** visual effects may be experienced from two properties to the north of Barn Lane on Courteenhall Road (Ref 10) and three properties off Towcester Road (Ref 12a). However **Highly Significant** and **Significant** effects from these locations would reduce to **Not significant** by year 15 due to the effectiveness of the proposed embedded mitigation including screen bunding and planting. **Significant** visual effects may be experienced from two individual isolated properties on Collingtree Road to the East of the NLL (R11)
- 17.310 Views of the Main SRFI Site from the majority of Blisworth would be blocked by surrounding built form and intervening vegetation. However there are a number of properties in the north-eastern part of the settlement along Courteenhall Road that face north towards the Main SRFI Site (R18 and R19). Views of the eastern part of the Main SRFI Site would be possible and **Significant** or **Highly Significant** visual effects are anticipated.
- 17.311 At Blisworth Arm, to the west of the Main SRFI site on the western side of the A43, there are a number of residential properties and marinas along the Northampton Arm of Grand Union Canal (parallel with an unnamed local road) (R21, R22 & R23). From the majority of the settlement and from the marinas no significant effects are anticipated due to the screening effects of built form and intervening vegetation. There would be open views of the grade separated junction and warehousing in Zone 2 from Arm Farm and Canal House and it is considered that the visual effects will be **Highly Significant**. However, the effects from these locations would reduce to **Not significant** by year 15 due to the effectiveness of the proposed embedded mitigation including screen bunding and planting.
- 17.312 Railway Cottages (R1) are located along Northampton Road just to the north of WCML embankment. **Highly significant** visual effects are anticipated from the rear aspect of the properties at year one of operation. Such effects are anticipated to reduce to **Significant** by Year 15 due to the effectiveness of the proposed embedded mitigation including screen bunding and planting.
- 17.313 Willow Lodge (R2) is located along Northampton Road to the east of the JBJ business Park, and **Highly significant** visual effects are anticipated from the rear aspect of this property at year one of operation. However such effects would reduce to **Not significant** by year 15 due

to the effectiveness of the proposed embedded mitigation including screen bunding and planting.

17.314 No significant effects are anticipated for other properties along Northampton Road, within and adjacent the JBJ Business park (R3a, 3b,& 3c), and Deveron House (Ref R4).

17.315 No significant visual effects are anticipated from the Park Homes and other properties on Station Road, from Northampton, Collingtree, Grange Park, Courteenhall, Gayton or Rothersthorpe.

Recreational Routes and Public Rights of Way – Operational Phase Visual Effects

17.316 The representative viewpoint assessment has informed a detailed assessment of visual effects that may be experienced by users of the identified PRoW at Years 1, 7 and 15 of operation (**refer to Appendix 17.6**). A summary of this assessment is set out in **Table 17.24**. Refer to **Figure 17.5** for the location of the PRoW.

Table 17.24: Recreational Routes and Public Rights of Way - Summary Assessment of Operational Phase Visual Effects

Ref / Receptor	Level of effect / significance
GUCW Year 1	Minor Adverse / Not Significant
Years 7 & 15	Negligible / Not Significant
MSW Year 1	Minor Adverse / Not Significant
Years 7 & 15	Minor Adverse / Not Significant
KX5 Year 1	Major Adverse / Highly Significant
Year 7	Major Adverse / Highly Significant
Year 15	Moderate Adverse / Significant
KX7 and KX8 Year 1	Major Adverse / Highly Significant
Year 7	Minor Adverse / Not Significant
Year 15	Negligible / Not Significant
KX9 Year 1	Major Adverse / Highly Significant
Year 7	Moderate Adverse / Significant
Year 15	Negligible / Not Significant
KX10 Year 1	Moderate Adverse / Significant
Years 7 & 15	Moderate Adverse / Significant
KX13 Year 1	Major Adverse / Highly Significant
Years 7 & 15	Major Adverse / Highly Significant
KX15 Years 1, 7 & 15	Nil
KX16 Year 1	Major Adverse / Highly Significant

Ref / Receptor	Level of effect / significance
Years 7 & 15	Moderate Adverse / Significant
RD1 & RD22 Year 1	Major Adverse / Highly Significant
Years 7 & 15	Major Adverse / Highly Significant
RD3, RD6 & KZ14 Year 1	Major Adverse / Highly Significant
Years 7 & 15	Major Adverse / Highly Significant
RD12 Year 1	Major Adverse / Highly Significant
Year 7	Major Adverse / Highly Significant
Year 15	Moderate Adverse / Significant
RL5 Year 1	Minor Adverse / Not Significant
Years 7 & 15	Minor Adverse / Not Significant
LB5 Years 1, 7 & 15	Negligible / Not Significant

17.317 In summary **Highly Significant** and **Significant** visual effects will be limited to users of Recreational Routes and PRoW in close proximity to the site and from elevated ground overlooking the Main SRFI Site, where unobstructed prolonged views are available from a large proportion of the route.

17.318 There will be **Highly Significant** visual effects at years 1, 7 and 15 from KX13, RD1, RD22, RD3, RD6 and KZ14.

17.319 There will be **Significant** effects at years 1, 7 and 15 from KX10 & KX12,

17.320 From KX5, KX16 and RD12 **Highly Significant** visual effects are reduced by the effectiveness of the embedded mitigation to **Significant** by year 15.

17.321 From KX7, KX8 & KX9 **Highly Significant** or **Significant** visual effects are reduced by the effectiveness of the embedded mitigation to **Not Significant** by year 15.

17.322 No significant effects are anticipated for recreational routes: Grand union Canal Way and the Midshires Way; and for PRoWs: RL5 and LB5.

Road Users - Operational Phase Visual Effects

17.323 The representative viewpoint assessment has informed a detailed assessment of visual effects that may be experienced by users of the identified Roads at Year 1 of operation (refer to **Appendix 17.7**). A summary of this assessment is set out in **Table 17.25**. Refer to **Figure A17.1.5** for the location of the roads.

Table 17.25: Road Users - Summary Assessment of Operational Phase Visual Effects

Ref	Receptor	Level of effect / significance
BLn Year 1	Barn Lane	Major Adverse / Highly Significant
Year 7		Moderate Adverse / Significant
Year 15		Minor Adverse / Not Significant
CRd Years 1, 7 & 15	Courteenhall Road	Minor Adverse / Not Significant
StRd Years 1, 7 & 15	Station Road	No change / Not Significant
Bar Year 1	Blisworth Arm	Minor Adverse / Not Significant
Years 7 & 15		Negligible / Not Significant
MRd 1, 7 & 15	Milton Road	Minor Adverse / Not Significant
GRd1 Year 1	Gayton Road (Milton Malsor)	Minor Adverse / Not Significant
Years 7 & 15		Negligible / Not Significant
GRd2 1, 7 & 15	Gayton Road (Gayton to Blisworth)	Minor Adverse / Not Significant
TRd Year 1	Northampton / Towcester Road	Major Adverse / Highly Significant
Year 7		Moderate Adverse / Significant
Year 15		Minor Adverse / Not Significant

17.324 In summary **significant** visual effects will be limited to users of roads running through the site or close to it. There will be **Highly Significant** visual effects from Barn Lane and Northampton Road / Towcester Road where the Main SRFI site will be visible in close proximity. However by Year 15 the effects will reduce to **Not Significant** due to the effectiveness of the embedded mitigation measures.

17.325 There will be **no significant** visual effects from other identified roads.

Main SRFI Site Operational Phase Night Time Visual Effects

17.326 As the application is outline in nature the exact details and positions of all lighting equipment cannot be finalised. The External Operational Lighting Parameters Plan in **Appendix 21.2a** has been used for the basis of this assessment.

17.327 A preliminary assessment of the night time visual effects is presented below. This is based on the findings of the Lighting Impact Assessment presented in Chapter 21. Further studies and assessment work to determine the night time visual effects of the Main SRFI Site during operation, including the preparation of night time photomontage visualisations is ongoing, and the results will be set out in the Final ES submission.

17.328 Potential night time visual effects as a result of the Proposed Development at the Main SRFI Site may relate to:

- Street lighting at the A43 access;
- Street lighting along internal roads;
- HGV parking area lighting;
- Service yards and car parking areas lighting; and
- Express platform and intermodal lighting.

17.329 The visual receptors most likely to be affected by the lighting of the Proposed Development would be in close proximity to the Main SRFI Site or located in elevated positions where views into and over the site may be obtained and may include:

- Properties in the southern parts of Milton Malsor along Rectory Lane and Barn Lane;
- The properties along Towcester Road / Northampton Road including Willow Lodge, Gaytonway, Spring Gardens, Parley Pole, Woodbury and Deveron House;
- The properties along Courteenhall Road including 64-82 Courteenhall Road, properties on Connegar Leys and Blisworth Lodge Farm;
- Hill Farm; and
- Properties in Blisworth Arm.

17.330 As identified in Chapter 21 Lighting, the Main SRFI Site and its surroundings are in E2 Zone classification (Rural, low district brightness – Village or relatively dark outer suburban locations).

17.331 Visual effects would relate to potential light trespass and glare from poorly aimed lighting, sky glow, and changes to the character of existing night time views as a result.

17.332 The Lighting Impact Assessment presented in Chapter 21 finds that the effect of lighting on the residential receptors identified above would be **Minor Adverse** i.e. **Not Significant**.

17.333 Properties in the southern parts of Milton Malsor along Rectory Lane and Barn Lane, and for properties along Towcester Road / Northampton Road including Willow Lodge, Gaytonway, Spring Gardens, Parley Pole, Woodbury and Deveron House view of the Proposed Development at the Main SRFI Site will be limited and will be filtered by garden and other vegetation. At year 1 of operation, the screen bunding and acoustic barriers will screen lower level light sources from view and in combination with the existing screening afforded by intervening garden and other vegetation would result in a **Low** degree of change and a **Minor Adverse** level of effect which is **Not Significant**. At year 7 and 15 the mitigation planting will have matured and established and would provide additional screening and filtering of the lighting resulting in a **Negligible** degree of change and a **Negligible** level of effect which is **Not Significant**.

17.334 The properties along Courteenhall Road including 64-82 Courteenhall Road, properties on Connegar Leys and Blisworth Lodge Farm, and Hill Farm views would again be filtered by intervening garden and other vegetation and topography. Views may be gained into and

over a limited proportion of the Proposed Development within the Main SRFI Site from these elevated positions, and light sources may be visible seen within the context of further distant light sources and sky glow emanating from Milton Malsor and Northampton beyond. At year 1 of operation the proposed lighting would result in a **Low** degree of change and a **Minor Adverse** level of effect which is **Not Significant**. At year 7 and 15 the mitigation planting will have matured and established and would provide some additional screening and filtering of the lighting, however from these elevated positions the screening effect would be minimal. Therefore at year 7 and 15 the degree of change would remain **Low**, and the level of effect **Minor Adverse** which is **Not Significant**.

- 17.335 For properties in Blisworth Arm views may be gained of lighting associated with the A43 access, including lighting columns and moving vehicles on slip roads and the elevated roundabout. Views of the lighting would be partially filtered by intervening vegetation and would be seen in the context of lighting and vehicle movements on the A43. At year 1 of operation, the proposed lighting would result in a **Low** degree of change and a **Minor Adverse** level of effect which is **Not Significant**. At year 7 and 15 the mitigation planting in the area to the west of the A43 and on road side embankments will have matured and established and would provide additional screening and filtering of the lighting resulting in a **Negligible** degree of change and a **Negligible** level of effect which is **Not Significant**.

J15a Works Operational Phase Effects

- 17.336 The main landscape effects which are associated specifically with the operational phase of the J15a Site, immediately following completion of construction operations, relate to the removal of landscape elements and the subsequent effects on landscape character. The existing site has a network of linear tree and shrub belts along the road corridors. There is little alteration in land cover due to the construction of the J15a Site as it relates to the upgrading and replacement of existing bridges and roads and impacts relate more to the direct loss of other landscape elements such as linear tree and shrub belts.

The J15a Works Operational Phase Landscape Character Effects

- 17.337 As noted in the assessment of construction phase landscape effects the landscape character of the J15a Site is considered to be of Medium susceptibility to the change proposed. The J15a Site is engineered in nature, heavily influenced by the road network that runs close to it. There are also urbanising influences in the baseline situation which limit its susceptibility to the type of development proposed, i.e. motorway services and Swan Valley Industrial Estate.
- 17.338 The J15a Site is not subject to any landscape designation although the Grand Union Canal is a Conservation Area and it demonstrates no greater than local level of value, therefore landscape character of the Main SRFI Site is considered to be of **Low value**.
- 17.339 The introduction of the J15a works will involve the some loss of linear belts of tree and shrub vegetation but would introduce the new link road and bridge structure to the south of the M1 and the remaining works would involve the upgrade or modifications to or within the existing highway. The J15a works would appear reasonably inconspicuous within the local landscape, and would result in minor alteration to the key characteristics of the J15a Site resulting in a **Low degree of change**.

17.340 There would be a **Localised** change to the landscape elements and key characteristics of the J15a site and the effects to the landscape elements and key characteristics of the J15a site would be of **Long term** duration. The changes would be **Partially Reversible** as the roads and embankments could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.341 Therefore it is considered that the proposed J15a works will give rise to a **Minor Adverse** level of effect to local landscape character which is **Not Significant**.

The J15a Site Operational Phase Effects to County Landscape Character Areas

17.342 The majority of the J15a Site (with the exception of northern part of the site) is located within Character Type 13: Undulating Hills and Valleys; and Character Area 13b: Bugbrooke and Daventry. Character Area 13b: Bugbrooke and Daventry character area demonstrates a **Medium susceptibility** to the type of development proposed.

17.343 Within the study area there are no nationally important landscape designations within character area 13b and it demonstrates a local level of value. Therefore character area 13b is considered to be **Low value**.

17.344 With regards to the degree of change, the removal of the linear belts of vegetation and the upgrading of the road network would give rise to a Low degree of change at a local site level. The character area 13b is well settled and there are large linear transport features throughout. The J15a site demonstrates only a limited level of intervisibility with the rest of character area 13b given that it is relatively visually contained from the surrounding area, and would only influence landscape character within its immediate locality. Therefore the J15a Site would result in a very minor alteration to the area's key characteristics resulting in a **Low degree of change** to character area 13b.

17.345 The effects of the proposed J15a Site will be of **Localised extent** and of **Long term duration**. The changes would be **Partially Reversible** as the roads and earthworks could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.346 Therefore it is considered that the proposed J15a development will give rise to a **Minor Adverse** level of effect to character area 13b which is **Not Significant**.

17.347 The northern part of the site is within Landscape Character Type 18: Broad River Valley Floodplain; and Character Area 18b: The Nene – Weedon Bev to Duston Mill.

17.348 Viewpoint E: The Grand Union Canal, looking south is located within and representative of Landscape Character Type 18: Broad River Valley Floodplain; and Character Area 18b: The Nene – Weedon Bev to Duston Mill.

17.349 With reference to the key characteristics of the published character assessment for area 18b: The Nene – Weedon Bev to Duston Mill the indicators of its susceptibility are considered to be:

- Predominance of unimproved pasture with pockets of both neutral and improved grassland and scattered arable land in fields of varying size; arable land becomes more

frequent within the western section of the Nene Valley. This limits its scarcity as a landscape resource and indicates a **Medium susceptibility**;

- Urban influences arising from the proximity of large urban areas and associated road infrastructure on the perimeter of some sections of the floodplain indicates a **Medium susceptibility**.

17.350 In summary, the above analysis indicates that character area 18b: The Nene – Weedon Bev to Duston Mill demonstrates a **Medium susceptibility** to the type of development proposed.

17.351 Within the study area there are no nationally important landscape designations within character area 18b and it demonstrates a local level of value. Therefore character area 18b is considered to be **Low value**.

17.352 Character area 18b is influenced by urbanising features throughout including the presence of the M1, A4500 and A45. The J15a site demonstrates only a very limited level of intervisibility with the rest of character area 18b given that it is relatively visually contained from the surrounding area, and would only influence landscape character within its immediate locality. Therefore the J15a Site would form a reasonably inconspicuous element of this extensive character area, and would result in only a minor alteration to the areas key characteristics resulting in a **Low degree of change** to character area 18b.

17.353 Within the context of character area 18b as a whole the effects of the introduction of the proposed SRFI will be of **Localised extent** and of **Long term duration**. The changes would be **Partially Reversible** as the roads and earthworks could be removed and land cover, field pattern and field boundaries re-established however the loss of mature trees could not be reversed in the short or medium term.

17.354 Therefore it is considered that the proposed J15a proposed works will give rise to a **Minor Adverse** level of effect to character 18b which is **Not Significant**.

17.355 At year 7 it is considered that the maturing landscape planting introduced as part of the embedded mitigation will begin to soften and screen the J15a Site and help to embed it within the receiving landscape. At approximately year 15 of operation the proposed structural planting expected to have reached a level of maturity such that it will provide mitigation of operational landscape effects of the Main J15a site returning to the baseline conditions resulting in a **Negligible** change.

17.356 It is considered that the residual landscape effects of the landscape character of the J15a Site at year 15 would be a **Negligible** level of effect which is **Not Significant**.

17.357 In relation to landscape character areas 13b and 18b it is considered that the residual landscape effects at year 15 would be a **Negligible** level of which is **Not Significant**.

Table 17.26 Summary of J15a Site Landscape Character Effects during Operation

Receptor	Nature of receptor		Nature of effect				Level of effect / significance
	Susceptibility	Value	Degree of	Extent of	Duration of	Reversibility	

	ility	Change	Change	Change	of Change		
Landscape character of the J15a Works Site Yr 1	Medium	Low	Low	Limited	Long term	Partially reversible	Minor Adverse / Not Significant
Years 7 & 15	Medium	Low	Low	Limited	Long term	Partially reversible	Minor Adverse / Not Significant
Year 15	Medium	Low	Negligible	Localised	Long term	Partially reversible	Negligible / Not Significant
Landscape character area 13b	Medium	Low	Low	Localised	Long term	Partially reversible	Minor Adverse / Not Significant
Years 7 & 15	Medium	Low	Negligible	Localised	Long term	Partially reversible	Negligible / Not Significant
Landscape character area 18b	Medium	Low	Low	Localised	Long term	Partially reversible	Minor Adverse / Not Significant
Years 7 & 15	Medium	Low	Negligible	Localised	Long term	Partially reversible	Negligible / Not Significant

J15a Works Operational Visual Effects

17.358 A summary of the detailed viewpoint assessment of Operational Phase Visual Effects (Year 1 Winter, and Years 7 & 15 Summer) for the J15a Works is set out in **Table 27**. Refer to **Figure A.17.3.13** for the location of viewpoints.

Table 27: Representative Viewpoints – Operational Phase Visual Effects

VP	Nature of receptor		Nature of effect			Level of effect / significance
	Susceptibility	Value	Degree of Change	Duration of Change	Reversibility of Change	
A Year 1	High	High	Medium	Long Term	Partially reversible	Moderate Adverse / Significant
A Year 7	High	High	Low	Long Term	Partially reversible	Minor Adverse / Not Significant

VP	Nature of receptor		Nature of effect			Level of effect /
A Year 15	High	High	Negligible	Long Term	Partially reversible	Negligible / Not Significant
B Year 1	High	Medium	Medium	Long Term	Partially reversible	Moderate Adverse / Significant
B Year 7	High	Medium	Low	Long Term	Partially reversible	Minor Adverse / Not Significant
B Year 15	High	Medium	Negligible	Long Term	Partially reversible	Negligible / Not Significant
C Year 1	High	Medium	High	Long Term	Partially reversible	Major Adverse / Highly Significant
C Year 7	High	Medium	Low	Long Term	Partially reversible	Minor Adverse / Not Significant
C Year 15	High	Medium	Negligible	Long Term	Partially reversible	Minor Adverse / Not Significant
D Year 1	High	Medium	High	Long Term	Partially reversible	Major Adverse / Highly Significant
D Year 7	High	Medium	Medium	Long Term	Partially reversible	Moderate Adverse / Significant
D Year 15	High	Medium	Negligible	Long Term	Partially reversible	Negligible / Not Significant
E Year 1	High	Medium	Low	Long Term	Partially reversible	Moderate Adverse / Significant
E Year 7	High	Medium	Negligible	Long Term	Partially reversible	Negligible / Not Significant
E Year 15	High	Medium	Negligible	Long Term	Partially reversible	Negligible / Not Significant

17.359 At year 1 of operation **Highly Significant** effects would be limited to the visual receptors closest to the new link road and bridge structure on the Grand Union Canal or Towpath, with **Significant** effects for receptors further away.

17.360 **Highly Significant** effects relate to the PRoW KX2, BG1 and Grand Union Canal close to the road junctions. The removal of the roadside tree and shrub vegetation would change the nature of most views opening up views of upgraded road layout and traffic using the roads and increasing the visual influence of the moving traffic.

17.361 **Significant** effects relate to PRoW LA5 further away from the site to the west. The removal of the road corridor vegetation would allow views of the moving traffic which would be conspicuous from the limited sections of the PRoW where view of the site may be gained.

17.362 By year 7 all effects would reduce to either Significant or Not Significant. The Significant effects would be limited to the PRoW and Grand Union Canal facing south, where the road embankments would be replaced by retaining structures which would be softened by the structural landscape planting. However the traffic moving along the top of these structures would still be visible and influence the view.

17.363 At approximately year 15 of operation the proposed structural planting is expected to have reached a level of maturity such that it will provide mitigation of operational visual effects of the J15a Site. Effects from views of moving traffic would be very minor or barely discernible returning to the baseline conditions resulting in a **Low** or **Negligible** change and a **Minor Adverse to Negligible** level of effects which is **Not Significant**.

Minor Highway Works Operational Landscape and Visual Effects

M1 Junction 16

17.364 At year 1 of operation replacement planting would not yet have established and formed an effective part of the vegetation along the embankment. There would be limited visual change to visual receptors around the roundabout, but users of the PRoW to the south side would have views of the traffic on the new slip road. The loss of the vegetation would result in a **Low** degree of change. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse** level of landscape and visual effect which is **Not Significant**.

17.365 By year 7 replacement mitigation tree and shrub planting will be well developed and by year 15 fully established, replacing the vegetation lost to construction and providing visual screening. Therefore it is considered that the proposed works will give rise to a **Negligible** level of residual landscape and visual effects which is **Not Significant**.

Junction 3 A4500/Upton Way/Tollgate Roundabout

17.366 At year 1 of operation there would be more open views into the group of trees to the north of A4500 west. The replacement planting would not yet have established and formed an effective part of the group of trees. The views around Tollgate would remain relatively unchanged as the ornamental shrubs were not blocking any views. Views from the surrounding commercial and residential areas would be unaffected. The loss of a southern part of the group of trees, amenity grass and ornamental shrubs would result in a **Negligible** degree of change. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**.

17.367 By year 7 replacement mitigation tree planting will be well developed and by year 15 fully established, replacing the vegetation lost to construction. Therefore it is considered that the proposed works will give rise to a **Negligible** level of residual landscape and visual effect which is **Not Significant**.

Junction 4 the A5076/A5123/Upton Way

17.368 At year 1 of operation the vegetation along that section of the road would be thinner than it is currently. The vegetation in the inner part of the group would be revealed and will have a higher canopy allowing views into the vegetation and glimpsed winter views through the

other side of the carriageway. Other changes to the alignment of the carriageway result in limited visual changes. There would be limited visual change to visual receptors around the roundabout. The loss of a small amount of vegetation would result in a **Negligible** degree of change. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**.

- 17.369 By year 7 the canopy of the vegetation in the central reservation would have developed and by year 15 fully established restoring the visual screening. Therefore it is considered that the proposed works will give rise to a **Negligible** level of residual landscape and visual effects which is **Not Significant**.

Junction 6 A5076/Hunsbury Hill Road Roundabout

- 17.370 At year 1 of operation there would be reduced amounts of vegetation along the southern and northern sides of the A5706 east, eastern side of Hunsbarrow Road and northern side of A5706 west. The replacement planting would not yet have established and formed an effective part of the linear groups of vegetation. There would be noticeable visual change to the residential visual receptors around the roundabout with a larger degree of visibility through the remaining vegetation as the crown heights of vegetation in the centre of the groups would be higher. The loss of vegetation would result in a **Medium** degree of change. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Moderate Adverse** level of landscape and visual effect which is **Significant**.

- 17.371 However, by year 7 new planting would have developed and by year 15 fully established softening the effects of the highway works. Therefore it is considered that the proposed works will give rise to a **Negligible** level of residual landscape and visual effects which is **Not Significant**.

Junction 7 Towcester Road A5076, Danes Camp Way / A5123, Towcester Road / Mere Way / Tesco Access

- 17.372 At year 1 of operation the additional and widened lanes, and traffic lights would be operational and would appear part of the wider highway network infrastructure. This would result in a **Negligible degree of change**. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**

Junction 9 A45/Brackmills Roundabout

- 17.373 At year 1 of operation the traffic lights would be operational and would appear part of the wider highway network infrastructure. This would result in a **Negligible** degree of change. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**

Junction 10 Barnes Meadow Interchange

- 17.374 At year 1 of operation the widened lanes would be operational and would appear part of the wider highway network. This would result in a **Negligible** degree of change. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**.

Junction 11 A45/A43 Roundabout

17.375 At year 1 of operation the reconfiguration of the lanes would be operational and would appear part of the wider highway network. This would result in a **Negligible** degree of change. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**.

Junction 12 M1 Junction 15

17.376 At year 1 of operation the widened lanes would be operational and would appear part of the wider highway network. There would be a reduced amount of the juvenile amenity planting and scrub vegetation to the east of the A45 approach. The replacement planting would not yet have established and formed an effective part of the linear groups of vegetation though it would be of similar juvenile nature to that lost to construction. The loss of vegetation would result in a **Low** degree of change. This would be for a **short term** and would be **Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse** level of landscape and visual effect which is **Not Significant**.

Junction 14 A34/A5 Tove

17.377 At year 1 of operation there would be a gap in the hedgerow along the western side of the A5 north and the southern and eastern edges of the block of trees between the A5 north and Towcester Road would be missing. The replacement planting would not yet have established and formed an effective part of the hedgerow or block of trees. There would be limited visual change to visual receptors around the roundabout. Users of the A5 north would have views of the wider landscape for the short section removed and users from the commercial properties would see very little difference. The trees on the inner part of the block would be revealed and will have a higher canopy allowing views into the tree block and glimpsed winter views into the wider landscape. The loss of a short section of the hedgerow and a proportion of the block of trees would result in a **Low** degree of change. This would be for a **Medium term** and would be **Partially Reversible**. Therefore it is considered that the proposed works will give rise to a **Minor Adverse** level of landscape and visual effects which is **Not Significant**.

17.378 By year 7 replacement mitigation hedgerow and tree planting will be well developed and by year 15 fully established, replacing the vegetation lost to construction and providing visual screening. Therefore it is considered that the proposed works will give rise to a **Negligible** level of residual landscape and visual effect which is **Not Significant**.

Junction 15 A43 Abthorpe

17.379 At year 1 of operation there would be limited change to visual and landscape receptors around the roundabout. The loss of a small amount of new planting and highway verge would result in a **Negligible degree of change**. It is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**.

17.380 By year 7 new planting would have developed and by year 15 fully established softening the effects of the highway works. Therefore it is considered that the proposed works will give rise to a **Negligible** effect.

Junction 19 A5076Upton Way / Telford Way

- 17.381 At year 1 of operation there would be limited change to visual and landscape receptors around the roundabout. The replacement planting would not yet have established and formed an effective part of the hedgerow. The loss of a small amount of hedgerow highway verge would result in a **Low degree of change**. It is considered that the proposed works will give rise to a **Minor Adverse** level of landscape and visual effect which is **Not Significant**.
- 17.382 By year 7 new planting would have developed and by year 15 fully established. Therefore it is considered that the proposed works will give rise to a **Negligible** effect.

Junction 20 A5076Upton Way / High Street

- 17.383 At year 1 of operation the additional and widened lanes would be operational and would appear part of the wider highway network infrastructure. This would result in a **Negligible** degree of change. Therefore it is considered that the proposed works will give rise to a **Negligible** level of landscape and visual effect which is **Not Significant**

All Proposed Development works (i.e. consideration of the Proposed Development as a whole)

Operational Phase Landscape and Visual Effects

- 17.384 The assessment of operation phase landscape effects of the Proposed Development at the Main SRFI Site has found that there will be **Highly Significant** effects to local landscape character at the site specific level at year 1. At year 7 and 15 it has been found that the Proposed Development at the Main SRFI Site would result in a **Significant** effect to local landscape character
- 17.385 **No significant** operation phase effects to landscape character at the site specific level are anticipated for the J15a Works or Minor Highways Works. **No significant** effects are anticipated to National or County landscape character types or areas considering all proposed development works.
- 17.386 No locations have been identified where combined views or visual effects of All Proposed Development Works will be obtained. Views and significant visual effects will be limited and localised to each of the Proposed Developments at the Main SRFI site and the J15a Works.
- 17.387 **Highly Significant or Significant** operation phase visual effects to residential receptors will be experienced at years 1, 7 and 15 of operation of the Proposed Development at the Main SRFI Site. By year 15 the number of receptors affected will be reduced by the effectiveness of the embedded mitigation and would be limited to a small number of residents in individual properties, groups of properties in close proximity to the Proposed Development at the Main SRFI Site or in more distant locations where views may be gained from elevated locations overlooking the site.
- 17.388 **Highly Significant or Significant** operation phase visual effects to user of Recreational Routes and PRoW will be experienced at years 1, 7 and 15 of operation of the Proposed Development at the Main SRFI Site and years 1 and 7 for the J15a works. No significant effects are anticipated for the J15a works by year 15 due to the effectiveness of the embedded mitigation. For the Proposed Development at the Main SRFI Site, by year 15 the number of receptors experiencing **Highly Significant or Significant** will be reduced by the

effectiveness of the embedded mitigation and would be limited to a users of limited number of Recreational Routes and PRoW in close proximity to the site and from elevated ground overlooking the Main SRFI Site, where unobstructed prolonged views are available from a large proportion of the route.

- 17.389 **Highly Significant and Significant** construction phase visual effects will be limited and localised to users of roads running through proximity to the Proposed Development at Main SRFI Site at year 1 of operation however the effects will reduce to **Not significant** by year 7 and 15 due to the effectiveness of the embedded mitigation. **No significant** construction phase visual effects are anticipated to road users in proximity to the J15a Works or the Minor Highways Works.

Assessment of Decommissioning Phase Effects

- 17.390 Further studies and assessment work to determine the decommissioning phase effects of the proposed development are ongoing, and the results will be set out in the Final ES submission.
- 17.391 However a preliminary assessment of the decommissioning phase landscape and visual effects is provided.
- 17.392 Decommissioning landscape and visual effects will be similar to those identified for the construction phase, though the effects will be largely determined by the nature of the demolition and restoration proposals, the intended future land use, and the degree of removal of landscape and ecological features introduced as part of the Proposed Development including any screen bunding and planting.
- 17.393 There is potential for **Significant** effects to the landscape character of the Proposed Development site due to the change from operational SRFI to restored or partially restored land. Dependent upon the final restoration design, land use and land cover, it might be considered that the decommissioning effects to the landscape character of the site are **Beneficial**.
- 17.394 No significant effects would be anticipated to National or County Landscape Character Areas.
- 17.395 There is potential for **Significant** visual effects due to decommissioning activities to sensitive visual receptors including residential properties and users of the PRoW network in close proximity to the Main SRFI Site or where views may be gained from elevated positions. Views of demolition activities within the Main SRFI site are likely to be screened from many locations by the screen bunds and planting introduced as part of the Proposed Development, though there may be views of the removal of tall structures such as gantry cranes and the upper sections of warehousing units, and the presence of tall demolition equipment such as cranes.

Cumulative Effects

- 17.396 The following section sets out a preliminary assessment of cumulative landscape and visual effects. Further studies and assessment work to determine the cumulative landscape and visual effects of the Proposed Development with other projects is ongoing, and the results will be set out in the Final ES submission.

Intra-Project Effects

Archaeology

17.397 Further studies and assessment work to determine the intra-project effects with Archaeology are ongoing, and the results will be set out in the Final ES submission.

Cultural Heritage

17.398 Further studies and assessment work to determine the intra-project effects with Cultural Heritage are ongoing, and the results will be set out in the Final ES submission.

Hydrology, Drainage and Flood Risk

17.399 Further studies and assessment work to determine the intra-project effects with Hydrology, Drainage and Flood Risk are ongoing, and the results will be set out in the Final ES submission.

Biodiversity

17.400 Further studies and assessment work to determine the intra-project effects with Biodiversity are ongoing, and the results will be set out in the Final ES submission.

Noise and Vibration

17.401 As described in Chapter 18, in order to reduce levels to an acceptable level the use of noise barriers is required in some areas.

17.402 This plan indicates that 2 m high acoustic barrier fencing is proposed on top of the proposed screening earth bund to the east of Zone 1 and west of Deveron House. Acoustic barrier fencing of 2 m height is also proposed on top of the proposed screening earth bunds to the west and south of Zone 2 and to the west and south of 4 to the north east of Railway Cottages and east of Willow Lodge.

17.403 Proposed adaptive acoustic mitigation includes a 4 m high acoustic barrier fencing to the northern and western boundaries of Zone 1, and to the western, boundary of Zone 2.

17.404 Acoustic barriers have generally been located on the top of bunds or at the boundaries of the development platform zones. These areas also tend to coincide with the native structural planting belts. Once the structure planting establishes these acoustic barriers would be hidden from view.

17.405 At year 1 these barriers would be visible, and would generally be closer to the receptors, but would be seen in the context of the much larger warehouses that they are adjacent to. In addition they would serve to block views of ground and lower level construction and operational activities such as vehicle movements within the site and service yards. At year 7 all but the top of the fencing would be hidden from view by the structural planting in the summer. Glimpsed winter views would reveal a larger amount of the barriers. Once mitigation planting reaches maturity, approximately 15 years post completion of the development, the level of vegetation around the barriers would increase which would completely block views of the barriers.

Lighting

17.406 As noted in the assessment of construction phase night time visual effects section above, it is considered that night-time visual effects during construction will be **Not significant**.

17.407 As described in Chapter 21, lighting is required around the Main SRFI Site. The lighting strategy has been developed in order to provide the required light levels, whilst avoiding significant impacts on the surrounding receptors.

17.408 As the application is outline in nature the exact details and positions of all lighting equipment cannot be finalised. The External Operational Lighting Parameters plan in **Appendix 21.2a** has been used for the basis of this assessment. Potential lighting impacts and night time visual effects as a result of the Proposed Development at the Main SRFI Site may relate to:

- Street lighting at the A43 access;
- Street lighting along internal roads;
- HGV parking area lighting;
- Service yards and car parking areas lighting; and
- Express platform and intermodal lighting.

17.409 A preliminary assessment of the night time visual effects is presented in the Main SRFI Operational Night Time Visual Effects section above. This is based on the findings of the Lighting Impact Assessment presented Chapter 21.

17.410 The visual receptors most likely to be affected by the lighting of the scheme would be in close proximity to the Main SRFI site or located in elevated positions where views into and over the site may be obtained. The preliminary of Night time visual effects has been found that the

17.411 Visual effects would relate to potential light trespass and glare from poorly aimed lighting, sky glow, and changes to the character of existing night time views as a result.

17.412 The Lighting Impact Assessment presented in Chapter 21 finds that the effect of lighting on the residential receptors identified above would be **Minor Adverse** i.e. **Not Significant**.

Inter-Project Effects

17.413 Cumulative effects that could arise as the result of more than one development at the same time are described below. This assessment considers any present or reasonably foreseeable project, programme or plan that could result in an additive impact with the Proposed Development.

17.414 All relevant projects/plans considered cumulatively alongside the Proposed Development have been allocated into 'Tiers', reflecting their current stage within the planning and development process. This allows the cumulative impact assessment to present several future development scenarios, each with a differing potential for being ultimately built out.

17.415 The proposed tier structure is intended to ensure that there is a clear understanding of the level of confidence in the cumulative assessments provided is as follows:

Tier 1

17.416 Tier 1 projects comprise those other projects / plans currently under construction and/ or those consented but not yet implemented, and/ or those submitted but not yet determined where data confidence for the projects falling within this category is high.

17.417 Built and operational projects are included within the cumulative assessment where they have not been included within the environmental characterisation survey, i.e. they were not operational when baseline surveys were undertaken, and/ or any residual impact may not have yet fed through to and been captured in estimates of 'baseline' conditions or there is an ongoing effect.

17.418 The Tier 1 assessment considers the potential effects arising from the Proposed Development together with impacts and effects arising from relevant projects / plans categorised as Tier 1 projects.

Tier 2

17.419 Tier 2 projects comprise those projects/ plans that are consented but not yet implemented and/ or submitted applications not yet determined and / or where detailed scoping reports are available where data confidence for the projects falling into this category is medium. This includes projects that are expected to be submitted over a similar timeframe to that of the Proposed Development.

17.420 The Tier 2 assessment considers the potential effects arising from the Proposed Development together with impacts and effects arising from projects included in Tier 1 and those categorised as Tier 2 projects.

Tier 3

17.421 Tier 3 projects comprise those for which a developer has notified the relevant planning authority in writing that they intend to submit an application in the future. This includes projects where a scoping report may be available, but where data presented is limited and / or data confidence is low.

17.422 The Tier 3 assessment would consider the potential effects arising from the Proposed Development together with impacts and effects arising from projects included in Tiers 1, 2 and 3. However, the lack of information for projects categorised as Tier 3, with attendant low data confidence, prevents a meaningful assessment of such projects being undertaken and therefore no detailed Tier 3 assessment has been presented. It should be noted that where scoping reports have provided sufficient detail, such projects have been elevated to Tier 2 to ensure that a comprehensive cumulative assessment, commensurate with the level of information available, has been provided for the SRFI application. The projects and plans selected as relevant to the assessment of landscape and visual effects are based upon an initial screening exercise undertaken on a 'long list'. Each project, plan or activity has been considered and scoped in or out on the basis of effect–receptor pathway, data confidence and the temporal and spatial scales involved.

Shortlisted Cumulative Projects

17.423 The specific projects scoped into this cumulative impact assessment (that are relevant to this chapter), and the tiers into which they have been allocated, are presented in **Table 17.28**.

Table 17.28: Short-listed Cumulative Projects

Tier	Status / Decision	Application reference	Project	Distance from Main SRFI
2	An application is being consulted on at present and is likely to be Submitted summer 2018	n/a (map ref. CI.2)	Strategic Rail Freight Interchange now proposed 'Northampton Gateway' 5.0m sq. ft. - Up to 468,000 sq. m (approximately 5 million sq. ft.) (gross internal area) of warehousing and ancillary buildings, with up to 155,000 sq. m of additional floorspace provided in the form of mezzanine floorspace;	Adjacent
1	Consented August 2016	N/2013/10 35 (map ref. CI.4)	1,000 dwellings, site for a primary school, green infrastructure including formal and informal open space, reconfiguration and extension of Collingtree Park Golf Course, demolition of all existing buildings and structures within the site, new vehicular accesses off Windingbrook Lane and Rowtree Road, car parking, sustainable drainage systems (including flood risk betterment) and infrastructure (including highway improvements)	4 km
1	Outline permission granted November 2013 Screening Opinion for 525 dwellings issued 20.02.2017 (EIA required)	N/2013/03 38 N/2016/07 58 (map ref. CI.5)	Outline planning application for the development of sustainable urban extension to include up to 1000 dwellings (Use Class C3), supporting retail facilities of up to 1,320 sqm net (Use Classes A1, A2 and A3), food and drink premises of up to 375 sqm net (Use Class A4), a two form entry primary school (Use Class D1) and up to 750 sqm of community uses which may include a medical centre, pharmacy and community centre (Use Class D1). Infrastructure improvements including a new pumping station, green infrastructure and highway access from Landimore Road and Newport Pagnell Road	4 km
1	Outline Approved 31.3.15	N/2011/09 97 (map ref. CI.9)	Outline planning application for up to 1000 residential units, primary school and local centre up to 2000 square metres. All matters reserved except access	3.8 km

Tier	Status / Decision	Application reference	Project	Distance from Main SRFI
1	Pending determination	S/2016/13 24/EIA (map ref. Cl.10)	Hybrid planning application seeking both full and outline planning permission for: Part A: Outline planning permission for a sustainable urban extension comprising: Up to 1,900 dwellings (use class C3);Public open space and children's play areas; Landscape areas, new landscape planting and hydrological attenuation features and sustainable drainage systems; Primary school (use class D1); and Mixed use local centre which may include residential (use class C3), retail (use classes A1, A2, A3, A4 and A5), and health and community facilities (use class D1). Part B: Full planning permission for: Demolition of any on site buildings or structures; and Routing of Sandy Lane Relief Road and associated vehicular access points	5 km

17.424 In summary, of the cumulative developments identified in **Table 17.28**, with the exception of the Northern Gateway Strategic Rail Freight Interchange located directly adjacent to the eastern boundary of the SRFI other shortlisted cumulative developments consist of residential urban extension projects. The following sections present a preliminary assessment of cumulative effects. Detailed studies are ongoing and further detailed assessment of cumulative effects will be provided in the Final ES.

Northampton Gateway Cumulative Landscape Effects

17.425 Considering the potential for cumulative landscape effects during the construction phase, the maximum adverse scenario that the two developments are constructed simultaneously will give rise to some adverse effects on landscape character within the study area. The effects would be at their greatest in the areas in-between Collingtree and Milton Malsor. The Proposed Development and the Northampton Gateway are located in close proximity to each other. The change from operational agricultural land brought about by changes to land cover and land use and the loss of landscape features such as hedgerows and trees, together with the presence of construction machinery including the use of tall construction equipment and activities such as the movement of materials, would be expected to give rise to a **Major Adverse** level of cumulative effect on the local landscape which is **Highly Significant**.

17.426 Considering the potential for cumulative landscape effects during the operational phase, a similar principle identified in the construction phase applies in that the addition of two large development schemes to the baseline landscape character will give rise to adverse effects to local landscape character. The combination of the Proposed Development and the Northampton Gateway would be likely to give rise to adverse cumulative landscape effects at year 1 of operation, and prior to the establishment of mitigation of screen bunding and planting. After 7 years it is considered that the embedded mitigation of primary green infrastructure, including screening bunds, woodland and hedgerow planting proposed by both schemes will begin to mature and will soften the appearance of the developments and help to screen and integrate them with the receiving landscape. After 15 years of operation

the embedded mitigation of primary green infrastructure will have established and reached a reasonable level of growth and maturity, and planting on proposed screening bunds would further soften, screen and filter views of each site reducing their prominence in the local landscape. The embedded mitigation of primary green infrastructure would replace and compensate for the loss of existing trees and hedgerows, and would contribute to minimising the effects due to the loss of veteran trees. Therefore after 15 years it is considered that the combined effects of both developments would result in a **Moderate Adverse** level of cumulative effect to local landscape character which is **Significant**.

Northampton Gateway Cumulative Visual Effects

- 17.427 Of the twenty-three representative viewpoints assessed in Appendix 17.4, Highly Significant cumulative visual effects including the Proposed Development at the Main SRFI Site and Northampton Gateway have been identified for one viewpoint, Viewpoint 3. Viewpoint 3 is representative of views to users of PRoW RD3, RD6, KZ14 and RD22 located to the East of Blisworth. From this elevated location overlooking the Main SRFI site and the Northern Gateway Site, successive views may be gained as walkers travel along the PRoW north-eastward. Combined views of both developments may be gained from limited vantage points along these PRoW routes. Views of the Northampton Gateway intermodal area, gantry cranes and warehouses over the landscape screening bunds would be seen in combination with views of the Proposed Development at the Main SRFI Site. Therefore from a limited extent of the PRoW RD3, RD6, KZ14 and RD22 it is considered that there will be a **Major adverse** level of cumulative visual effect during the operational phase which is **Highly significant**.
- 17.428 For representative viewpoints 4, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18 & 19 a **Minor Adverse** or **Negligible** level of cumulative visual effect as been identified which is **Not significant**.
- 17.429 For the remaining representative viewpoints no cumulative visual effects with Northampton Gateway are anticipated.
- 17.430 Considering the potential for cumulative visual effects during the construction and operational phases, there is potential for very limited and localised significant cumulative visual effects are limited to users of PRoW in a localised area on elevated land to the east of Blisworth. No significant visual effects are anticipated for residential receptors.

Other Projects Cumulative Landscape Effects

- 17.431 Considering the potential for cumulative landscape effects during the construction phase, the maximum adverse scenario that all identified developments are constructed simultaneously will give rise to some adverse effects on landscape character within the study area. These effects would be at their greatest in the areas in-between Collingtree and Milton Malsor. The Proposed Development and the residential urban extension around Collingtree Park Golf Club development (Map Ref Cl.4, Figure 17.12) are located in close proximity to each other.
- 17.432 Considering the potential for cumulative landscape effects during the operational phase, a similar principle identified in the construction phase applies in that the addition of two the development schemes to the baseline landscape character would give rise to some adverse effects. The combination of the Proposed Development and the residential urban extension

around Collingtree Park Golf Club development would increase the built form in that locality. The changes to land use and loss of existing landscape features would give rise to limited and localised effects to key characteristics at a site specific level. However in the context of County Landscape Character the limited and localised nature of effects is anticipated to give rise to a **Minor Adverse** level of cumulative effect on the landscape which is **Not Significant**.

Other Projects Cumulative Visual Effects

17.433 Further studies and assessment work to determine the cumulative landscape and visual effects of the Proposed Development with other projects is ongoing, and the results will be set out in the Final ES submission.

17.434 Of the twenty-three representative viewpoints assessed in Appendix 17.4, no significant cumulative visual effects with Other Projects have been identified.

17.435 For representative viewpoints 3, 4, 8, 10, 11, 12, 13, 14, 15, 16, 18 & 19 a **Minor Adverse** or **Negligible** level of cumulative visual effect as been identified which is **Not significant**.

17.436 For the remaining representative viewpoints no cumulative visual effects with Other Projects are anticipated.

Mitigation

The Main SRFI Site (including A43 access and all rail infrastructure)

17.437 Additional adaptive measures over and above the proposed embedded mitigation which may assist with the screening and integration of the proposed development into the landscape will be considered at the detailed design stage and agreed with SNC.

17.438 Such additional measures to be considered may include:

- site design and layout, position and orientation of buildings and other infrastructure;
- finished ground levels and heights of buildings and other infrastructure; and
- material finishes and colour scheme for buildings and other infrastructure.

17.439 Other additional mitigation measures to be considered at detailed design stage may include:

- planting strategic groups of larger sized trees (e.g. semi mature, extra heavy standard, and large feathered trees) for instant visual impact;
- planting strategic groups of coniferous and evergreen tree and shrub species for year round screening from sensitive views;
- planting of new native species hedgerows for wildlife and habitat connectivity;
- provision of oversized culverts under road and rail at key points to connect up key landscape corridors and wildlife hedges across the site;

- provision of ditches running adjacent to hedgerows to replicate the traditional field edge;
- infill planting and restoration of retained existing hedgerows for wildlife and habitat connectivity and visual screening;
- management of the existing on-site hedgerows that are to be retained (e.g. hedgerows along Northampton / Towcester road) and offsite hedgerows (subject to third party agreements) trim sides of hedges only to encourage top growth and an increased hedgerow height, maintain at taller height;
- offsite provision of planting within gardens or at boundaries of affected residential properties (subject to third party agreements);
- species selection and habitat creation will seek to provide a net gain in biodiversity across the site;
- provision of woodland, calcareous grassland and neutral grassland 'reservoirs' as defined in Northamptonshire GI Plan;
- creation of dark zones along canal side boundary; and
- collection of cuttings / seeds from TPO and Veteran Trees identified for removal in order to propagate and grow planting stock of local provenance for use in mitigation planting.

J15a Works

17.440 Additional measures over and above the proposed embedded mitigation which may assist with the screening and integration of the proposed development into the landscape will be considered at the detailed design stage and agreed with SNC / Highways England.

17.441 Additional mitigation measures to be considered at detailed design stage may include:

- planting strategic groups of larger sized trees (e.g. semi mature, extra heavy standard, and large feathered trees) for instant visual impact;
- planting strategic groups of coniferous and evergreen tree and shrub species for year round screening from sensitive views;
- planting of new native species hedgerows for wildlife and habitat connectivity;
- provision of ditches running adjacent to hedgerows to replicate the traditional field edge;
- infill planting and restoration of retained existing hedgerows for wildlife and habitat connectivity and visual screening;
- species selection and habitat creation will seek to provide a net gain in biodiversity across the site;

- provision of woodland, calcareous grassland and neutral grassland ‘reservoirs’ as defined in Northamptonshire GI Plan; and
- collection of cuttings / seeds from TPO and Veteran Trees identified for removal in order to propagate and grow planting stock of local provenance for use in mitigation planting.

17.442 Further studies to determine any requirements for additional mitigation are ongoing.

Minor Highway Works

17.443 No significant landscape or visual effects are anticipated therefore no additional mitigation over and above the embedded mitigation is proposed.

Residual Effects

17.444 The following section sets out the assessment of the residual landscape and visual effects during operation at Years 7 and Year 15 to take account of the effectiveness of the proposed embedded together with additional identified (adaptive) mitigation measures.

17.445 To illustrate the effectiveness of the embedded mitigation verifiable rendered photomontage images for ten of the representative viewpoint locations to represent the residual visual effects once planting has established in the Summer of Year 7 following the completion of the development; and once planting proposals have reached a reasonable level of maturity, which is taken as the Summer of Year 15 following completion of development. These photomontage images do not include additional (adaptive) mitigation.

Main SRFI site (including A43 access and all rail infrastructure) Residual Effects

Residual Landscape Effects

17.446 During operation, the effects of the Proposed Development at the Main SRFI Site (including embedded mitigation) to local landscape character have been assessed as **Moderate Adverse** and **Significant**. However, the introduction of additional mitigation measures as set out in the Mitigation section above may help to further limit the prominence and influence of the Main SRFI Site and provide further compensation for landscape features and habitats lost or modified during construction. The adverse effects to the landscape character of the Main SRFI site and its immediate surroundings may be modified positively through the detailed design of the green infrastructure and open spaces within and adjacent to the Main SRFI site. The measures outlined will contribute to enhancing the site through the inclusion of appropriate native species and enhancement of existing habitat, the establishment of new habitats and green and blue corridors through the site connecting to the wider landscape.

17.447 Whilst the Proposed Development at the Main SRFI site would remain a reasonably conspicuous element in the local landscape and would result some alteration to key characteristics, after 7 years it is considered that the embedded and additional mitigation will begin to mature and will soften the appearance of the Proposed Development and help to further screen and integrate it with the receiving landscape. After 15 years of operation the embedded and additional mitigation will have established and reached a reasonable level of growth and maturity, and planting on the screening bunds would further soften, screen

and filter views of the Proposed Development at the Main SRFI Site further reducing its prominence in the local landscape and provide some beneficial effects for both the landscape and ecological character of the site.

17.448 It is considered that the residual landscape effects to the landscape character of the Main SRFI Site at year 15 would be a **Moderate Beneficial** effect which is **Significant**.

Residual Visual Effects – Residential Receptors

17.449 A summary of the residential receptor assessment for those receptors where **Highly Significant** or **Significant** visual effects at Year 15 have been identified is set out in **Table 17.30**. Refer to **Figure A17.1.12** for the location of individual properties, groups of properties, and settlements.

Table 17.30: Summary of Significant Visual Effects to Residential Receptors

Ref	Receptor	Level of effect / significance
R1 Year 1	Railway Cottages	Major Adverse / Highly Significant
Year 7		Major Adverse / Highly Significant
Year 15		Moderate Adverse / Significant
R5 Years 1, 7 & 15	Hill Farm	Moderate Adverse / Significant
R11 Years 1, 7 & 15	63 Collingtree Road and Maple House	Moderate Adverse / Significant
R18 Years 1, 7 & 15	64-82 Courteenhall Road, Blisworth	Moderate Adverse / Significant
R19 Years 1, 7 & 15	Blisworth Lodge	Major Adverse / Highly Significant

17.450 In summary, **Highly Significant** or **Significant** visual effects will be limited to residents in individual properties in close proximity to the Main SRFI site or in more distant locations where views may be gained from elevated locations overlooking the site.

17.451 Railway Cottages (R1) are located along Northampton Road just to the north of the WCML embankment. **Major Adverse / Highly Significant** visual effects are anticipated from the rear aspect of the properties at year one of operation. Such effects are anticipated to reduce to **Significant** by Year 15 due to the effectiveness of the proposed embedded mitigation including screen bunding and planting. However, the visual effects may be reduced by the introduction of additional mitigation measures as set out in the Mitigation section above, and specifically in relation to Railway Cottages, by consideration of the detailed design of the mitigation planting located on the screening bunds. The targeted introduction of groups of large size feathered and semi mature deciduous and coniferous trees and other evergreen

species may result in a **Medium** degree of change by year 7, which is **Significant**, and a **Medium to Low** degree of change by Year 15, which is **Not Significant**.

17.452 For Hill Farm, 63 Collingtree Road and Maple House, 64-82 Courteenhall Road, and Blisworth Lodge Farm **Highly Significant or Significant** residual visual effects will occur.

17.453 However the Applicant is providing a fund available to the local residents affected by the Proposed Development, to enable the purchase and planting of trees, or management of existing hedgerows at affected properties. If this fund is taken up by local residents, the introduction of this additional mitigation would have a significant benefit and would reduce adverse effects at these affected properties to not significant at Year 15. However it is acknowledged that take up of this fund and the implementation of additional mitigation measures cannot be guaranteed or relied upon in the assessment, and therefore the assessment of worst case residual visual effects remains as stated above.

17.454 The following sections set out the assessment of effects in the event that affected residents take up the fund and implement additional mitigation.

17.455 Hill Farm (R5) is situated at an elevated position to the southwest of the Main SRFI Site. **Moderate Adverse / Significant** visual effects are anticipated from the front aspect of the property at years 1, 7 & 15 of operation. As the property overlooks the site, whilst the embedded mitigation will serve to soften the appearance of the Main SRFI Site, it will remain conspicuous in views. However, visual effects may be reduced by the introduction of additional mitigation measures as set out in the Mitigation section above. Specifically in relation to Hill Farm, this may be achieved by third party agreement to management of the existing garden boundary hedgerows to encourage top growth and maintain them at a taller height, or the provision of offsite planting within the gardens or at its boundary. This may result in a **Low** degree of change by year 7 and a **Negligible** degree of change by Year 15, which is **Not Significant**.

17.456 63 Collingtree Road (R11) is located to the northeast of the Main SRFI Site and **Moderate Adverse / Significant effects** are anticipated. However, visual effects may be reduced by the introduction of additional mitigation measures as set out in the Mitigation section above. Specifically in relation to 63 Collingtree Road, this may be achieved by third party agreement to management of the existing garden boundary hedgerows to encourage top growth and maintain them at a taller height, or the provision of offsite planting within the gardens or at its boundary. This may result in a **Low** degree of change by year 7 and a **Negligible** degree of change by Year 15, which is **Not Significant**.

17.457 Maple House (also R11) is also located to the northeast of the Main SRFI Site and **Moderate Adverse / Significant effects** are anticipated. However, visual effects may be reduced by the introduction of additional mitigation measures as set out in the Mitigation section above. Specifically in relation to Maple House, this may be achieved by third party agreement to management of the existing garden boundary hedgerows or other intervening field boundaries adjacent to Collingtree Road to encourage top growth and maintain them at a taller height. This may result in a **Low** degree of change by year 7 and a **Negligible** degree of change by Year 15, which is **Not Significant**.

17.458 The properties 64-82 Courteenhall Road (R18) are situated at higher elevation to the south of the Main SRFI site and **Moderate Adverse / Significant effects** are anticipated. However,

visual effects may be reduced by the introduction of additional mitigation measures as set out in the Mitigation section above. Specifically in relation to Maple House, this may be achieved by third party agreement to management of the intervening roadside hedgerow field boundary to allow it to grow out, encourage top growth and maintain the hedgerow at a taller height. This may result in a **Low** degree of change by year 7 and a **Negligible** degree of change by Year 15, which is **Not Significant**. This reduced effect is illustrated in **Figures A17.3.64e to A17.3.64h**, where the hedgerow had remained unclipped and effectively screens views of the Main SRFI Site from these properties.

17.459 Blisworth Lodge (R19) is situated at higher elevation to the south of the Main SRFI site and **Major Adverse / Highly Significant** visual effects are anticipated. However, visual effects may be reduced by the introduction of additional mitigation measures as set out in the Mitigation section above. Specifically in relation to Blisworth Lodge, this may be achieved by third party agreement to management of the existing garden boundary hedgerows to encourage top growth and maintain them at a taller height, or the provision of offsite planting within the gardens or at its boundary. This may result in a **Low** degree of change by year 7 and a **Negligible** degree of change by Year 15, which is **Not Significant**.

Residual Visual Effects - Recreational Routes and Public Rights of Way

17.460 A summary of the recreational routes and PRow assessment for those receptors where **Highly Significant** or **Significant** visual effects at Year 15 have been identified is set out in **Table 17.31**. Refer to **Figure A17.1.6** for the location of recreational routes and public rights of way.

Table 17.31: Summary of Significant Visual Effects to Recreational Routes and Public Rights of Way

Ref / Receptor	Level of effect / significance
KX5 Year 1	Major Adverse / Highly Significant
Year 7	Major Adverse / Highly Significant
Year 15	Moderate Adverse / Significant
KX10 Year 1	Moderate Adverse / Significant
Years 7 & 15	Moderate Adverse / Significant
KX13 Year 1	Major Adverse / Highly Significant
Years 7 & 15	Major Adverse / Highly Significant
KX16 Year 1	Major Adverse / Highly Significant
Years 7 & 15	Moderate Adverse / Significant
RD1 & RD22 Year 1	Major Adverse / Highly Significant

Ref / Receptor	Level of effect / significance
Years 7 & 15	Major Adverse / Highly Significant
RD3, RD6 & KZ14 Year 1	Major Adverse / Highly Significant
Years 7 & 15	Major Adverse / Highly Significant
RD12 Year 1	Major Adverse / Highly Significant
Year 7	Major Adverse / Highly Significant
Year 15	Moderate Adverse / Significant

- 17.461 In summary **Highly Significant** visual effects will be limited to users of Recreational Routes and PRoW in close proximity to the site and from elevated ground overlooking the Main SRFI Site, where unobstructed prolonged views are available from a large proportion of the route.
- 17.462 **Highly Significant** and **Significant** visual effects cannot be fully mitigated for KX13, RD1 & RD22 due to the elevated positions they occupy at close proximity to the site, and to the open nature of the fields they cross allowing prolonged, open, unobstructed views of the Proposed Development at the Main SRFI site. Therefore **Highly Significant** residual visual effects will occur to users of the PRoW.
- 17.463 For KX5, **Major Adverse / Highly Significant** visual effects are anticipated at year one of operation. Such effects are anticipated to reduce due to the effectiveness of the proposed embedded mitigation including screen bunding and planting by Year 15, however **Significant** residual visual effects are anticipated.
- 17.464 For RD3, RD6 & KZ14 **Major Adverse / Highly Significant** residual visual effects are anticipated. For KX10 **Moderate Adverse / Significant** residual visual effects are anticipated.
- 17.465 However, the introduction of additional mitigation measures as set out in the Mitigation section above may reduce the visual effects. Specifically in relation to KX5: by third party agreement to management of the existing intervening hedgerow field boundaries adjacent to Gayton Road; For RD3, RD6 & KZ14: by third party agreement to management of the existing intervening hedgerow field boundaries adjacent to Courtneehall Road and field boundaries to the south of the road; and for KX10 by third party agreement to management of the existing intervening hedgerow field boundaries adjacent to Collingtree Road and field boundaries to the south of the road. Hedgerows could be managed to grow out and tall, or targeted offsite planting adjacent to these field boundaries including the introduction of groups of large size feathered and semi mature deciduous trees may result in a **Medium** degree of change by year 7, which is Significant, and a **Low** degree of change by Year 15, which is **Not Significant**. However it is acknowledged that agreement with third parties to such measures cannot be guaranteed and therefore the implementation of the additional mitigation measures cannot be guaranteed or relied upon in the assessment, and therefore the assessment of worst case residual visual effects remains as stated above.

17.466 For KX16 and RD12, which are realigned and routed through the proposed Landscaped Open Space within the Main SRFI Site, **Major Adverse / Highly Significant** visual effects are anticipated at year one of operation. Such effects are anticipated to reduce to **Significant** by Year 15 due to the effectiveness of the proposed embedded mitigation including screen bunding and planting. However, the introduction of additional mitigation measures as set out in the Mitigation section above may reduce the visual effects. Specifically in relation to KX16 and RD12 the targeted introduction of groups of large size feathered and semi mature deciduous and coniferous trees and other evergreen species may result in a **Medium** degree of change by year 7, which is **Significant**, and a **Medium to Low** degree of change by Year 15, which is **Not Significant**.

Residual Visual Effects – Road Users

17.467 No significant residual visual effects are anticipated for road users due to the effectiveness of the embedded mitigation measures.

J15a Works Residual Effects

J15a Works Residual Landscape Effects

17.468 As described in the assessment of J15a Works Operational Landscape Effects, it is considered that the residual effects to the landscape character of the J15a Works at year 15 would be a **Negligible** level of effect which is **Not Significant**.

17.469 In relation to landscape character areas 13b and 18b it is considered that the residual landscape effects at year 15 would be a **Negligible** level of which is **Not Significant**.

J15a Works Residual Visual Effects

17.470 As described in the assessment of J15a Operational Visual Effects at approximately year 15 of operation the proposed structural planting is expected to have reached a level of maturity such that it will provide mitigation of operational visual effects of the J15a Works with moving traffic barely discernible returning resulting in a **Minor Adverse to Negligible** level of residual visual effects which is **Not Significant**.

Minor Highway Works Residual Landscape and Visual Effects

17.471 As described in the assessment of Minor highways Works Operational Landscape and Visual Effects by year 7 replacement mitigation tree planting will be well developed and by year 15 fully established, replacing the vegetation lost to construction and visual screening. Therefore it is considered that the proposed works will give rise to a **Negligible** level of residual landscape and visual effect which is **Not Significant**.

Monitoring

17.472 Post-construction monitoring of new planting and habitat creation undertaken as part of the landscape and ecological mitigation will be necessary. Any such planting will be the subject of a maintenance and management programme which will include the replacement of any defective plant material during the establishment period. This is to ensure the planting successfully establishes and can achieve its intended function.

17.473 The establishment and future success of the external landscape is largely dependent on the standard and frequency of the subsequent maintenance and management it receives.

17.474 A 15 Year Soft Landscape Maintenance, Ecological Enhancement and Overall Management Plan (1627-15-RP02) has been prepared which outlines the proposed establishment monitoring, maintenance and management programme.

17.475 Throughout the development period and thereafter a maintenance and management regime will be adopted with the following aims and objectives:

- To ensure the successful establishment and continued growth through to maturity of the Soft Landscape scheme shown on the Illustrative Landscape Masterplan (1627-15-25).
- To ensure that the infrastructure landscape at Rail Central develops in a manner commensurate with the original design intentions.
- To ensure that the maintenance and management of the soft landscape areas is commensurate with and achieves the aims and objectives of sound ecological management and enhancement.
- To ensure the successful establishment and retention of an effective landscape buffer around the periphery of the site. In particular along the northern boundary of the site where it borders the village of Milton Malsor.
- To secure a long term future for the existing trees and new tree, thicket and hedgerow planting with particular emphasis upon achieving enhancement of ecological potential, conservation and visual amenity.
- To achieve rapid establishment of the plant material with resultant total ground cover, thereby suppressing weed growth and reducing maintenance requirements.
- To retain the natural growth form and maximise the seasonal potential of individual species by the pruning methods adopted.
- To manage the landscape in a manner convivial with the safety of site users, such as maintaining visibility splays and the removal of dead, dying or diseased tree branches.
- To ensure the successful establishment and continual enhancement of the whole site in accordance with ecological principles to increase the overall biodiversity of the site.
- To enhance the ecological value of the site above and beyond its current value and provide habitats for a range of protected species known to occur within the vicinity.
- The soft landscape for each phase will, for the initial 1 year after Practical Completion, be maintained by the Landscape Contractor responsible for implementation of the works. The contract will include a defects liability clause

to ensure replacement planting is carried out and successful establishment achieved.

- 17.476 Appendix A of the 15 Year Soft Landscape Maintenance, Ecological Enhancement and Overall Management Plan (1627-15-RP02) details the proposed maintenance and management works over the first 5 year period. Work undertaken and scheme progress will need to be assessed annually, with a major assessment after the fourth year to allow revision to the existing maintenance and management regime to reflect findings. This assessment will be carried out in conjunction with the Ecological Consultant with the opportunity provided for local stakeholders to input into the long term aims and objectives and to raise any concerns on issues that may have arisen. This approach will ensure that the requirements for habitat creation and the successful establishment of robust structural planting belts are met. Maintenance for the following years is to be reviewed at 3 year intervals using the same method to ensure appropriateness of regime.
- 17.477 An indicative management strategy for woodland and thicket planted areas is outlined but this will need to be reviewed and modified as necessary following the findings of the site evaluation. The management of species rich grassland and wildflower areas will also be reviewed and modified as necessary to allow for the re-introduction of targeted wild flower species into the established grassland sward through plug planting.
- 17.478 Appendix B of the 15 Year Soft Landscape Maintenance, Ecological Enhancement and Overall Management Plan (1627-15-RP02) represents this regime in the form of a matrix identifying the work over an extended 15 year period.
- 17.479 These will be reviewed at regular intervals to respond to natural or manmade changes in the environment which affect the landscape types (e.g. tree disease) and also to allow for potential adaptations to meet the changing requirements of the local community.
- 17.480 The above approach will ensure that the quality of the landscape infrastructure created in the early years can be maintained for the benefit of visitors to the Site as well as providing a benefit to persons who live near and pass through the re-routed footpaths within the structural landscape. In addition it will ensure that the landscape develops to maximise the ecological potential of the proposals.
- 17.481 At the end of this initial 15 year period a full review of the management approach will be undertaken. Revisions and amendments will be included to form the basis of an amended plan to ensure that the landscape continues to develop its ecological potential and to maintain the benefits of the enhancements provided.

Limitations and Assumptions

- 17.482 Baseline viewpoint photography was carried out during winter (worse case) where the angle and low position of the sun resulted in poor contrast between the foreground and background of a number of viewpoint photographs. There was also a certain degree of over exposure from bright sunlight in certain views. Where this has occurred adjustments have been made to the photographs.
- 17.483 All assessment and judgements made regarding the potential impacts to residents in individual properties, and groups of properties, including assumptions regarding the availability of views from upper and lower story windows, and within the curtilage is made

with reference to desk top observations of OS Mapping, Aerial imagery such as Google Earth, and from Google Streetview together with field survey observations from publically accessible locations.

References

Council of Europe (2000) European Landscape Convention

Department for Communities and Local Government (2012) National Planning Policy Framework (NPPF)

The Countryside and Rights of Way Act (2000)

Council of Europe (2000) European Landscape Convention, Strasbourg: Council of Europe (signed by the UK Government in 2007)

Landscape Institute (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, London: Routledge

Swanwick, C. and Land Use Consultants (2002) Landscape Character Assessment for England and Scotland, Cheltenham: Countryside Agency and Battleby: Scottish Natural Heritage

Natural England: National Character Areas (NCAs)

Northamptonshire County Council (2005) Current Landscape Character Assessment

The Multi-Agency Geographical Information for the Countryside website; managed by Natural England, available at <http://www.magic.gov.uk>