M3 Junction 9 Improvement

Scheme Number: TR010055

7.9 Design and Access Statement

APFP Regulation 5(2)(q)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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M3 Junction 9 Improvement
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1 Introduction

1.1 Purpose and scope of this document

1.1.1 The purpose of this Design and Access Statement (DAS) is to explain the design rationale behind the M3 Junction 9 Improvement (the Scheme), having regard to its objectives in the Road Investment Strategy (RIS). This DAS provides a Design Narrative, summarising the design principles of the Scheme. It also demonstrates an understanding of relevant planning policies and compliance where relevant. Additionally, it sets out how the Scheme has evolved through working with stakeholders (including design changes that have emerged during the consultation process). The DAS presents the Scheme, demonstrating how the high-quality design solution responds to opportunities and meets design challenges presented by the site and its setting. It also explores how the Scheme addresses climate change and sustainability.

1.1.2 This DAS accompanies an application for a Development Consent Order (DCO) for the Scheme. While there is no statutory requirement for a DAS, the Planning Inspectorate's Advice Note Six (Ref 1-1) advises that 'other documents' may include information that the Applicant (National Highways) would normally want to submit, or which have been requested or suggested by respondents which the Applicant wishes to include. Given the Scheme passes through the South Downs National Park and crosses the River Itchen Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), National Highways considers it beneficial to set out how the design has developed in this DAS. This also supports requests made during consultation by providing a clear design narrative for the Scheme.

1.1.3 Furthermore, a DAS is considered appropriate to set out the rational and evolution of the good design evolution as identified in the National Policy Statement for National Networks (NPSNN) (Ref 1-6):

1.1.4 Paragraph 4.34 *"Whilst the applicant may only have limited choice in the physical appearance of some national networks infrastructure, there may be* ***opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation****."*

1.1.5 Paragraph 4.35 *"Applicants should be able to* ***demonstrate in their application how the design process was conducted and how the proposed design evolved****. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected. The Examining Authority and Secretary of State should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy."*

1.1.6 This DAS has been prepared with reference to the Government's Planning Practice Guidance: *Design and Design and Access Statements: How to Write,*

Read and Use Them, Commission for Architecture and the Built Environment (CABE) (Ref 1-2).

1.1.7 The guidance advises that the overall approach to a proposal should encompass both design and access in an inclusive way. Regarding design, the guidance indicates that a DAS should include the following:

- The process – how the physical characteristics of the Scheme have been informed by a rigorous process which should include the following steps:
  - Assessment
  - Involvement
  - Evaluation
  - Design
- Use – what the proposal will be used for.
- Amount – how much would be built on the site.
- Layout – how the proposal will be arranged and the relationship between it and the spaces around the site.
- Scale – how big the proposal would be (height, width and length).
- Landscaping – how proposals beyond the highway alignment and its infrastructure will be treated to enhance and protect the character of a place.
- Appearance – what the proposal will look like, for example, materials and architectural details.

1.1.8 Regarding access, the CABE guidance states that a DAS should show access issues have been considered together with:

- Vehicular and transport links.
- Inclusive access – how everyone can get to and move through the place on equal terms regardless of age, disability, ethnicity or social grouping.

1.1.9 Additionally, this DAS also explains how the 10 principles of good design set out in Highways England's document *The Road to Good Design, Highways England* (now National Highways) (Ref 1-3) have been followed.

1.2 Flexibility of design

1.2.1 The Scheme comprises the design shown on the **Works Plans (Document Reference 2.3)**, **Engineering Plans and Sections (Document Reference 2.6)**, the Limits of Deviation (LoD) set out in the DCO, and the land shown by the Application Boundary on the **Land Plans (Document Reference 2.2)**. The

design presented in this DAS provides an explanation of how the Scheme could look within those parameters, including mitigation measures outlined in the **Environmental Statement (ES) (Document Reference 6.1 to 6.4)** and following consultation and stakeholder engagement. While some landscape considerations are considered in this DAS, the detailed landscape design will be developed in accordance with Requirement 5 within the **draft DCO (Document Reference 3.1)** and mitigation measures set out in the **ES (Document Reference 6.1).** Detailed design of the Scheme would be undertaken at the next phase where the Scheme will be designed for construction. Therefore, this DAS presents an indicative design for the Scheme.

1.3 Structure of the Design and Access Statement

1.3.1 The DAS has been divided into the following sections:

- Section 2 provides an overview of the Scheme background, its objectives, and how the design has developed.
- Section 3 outlines the design policy context, legislative planning policy relating to design and other design requirements.
- Section 4 summarises the key opportunities and challenges and how the design has been informed by consultation and stakeholder engagement.
- Section 5 presents the design principles and narrative which have set the vision for the Scheme.
- Section 6 outlines the design of the Scheme and explains the design decisions that support the understanding and rationale.
- Section 7 draws together the conclusions of the DAS.

1.4 The design team

1.4.1 The design team comprises qualified and experienced professionals including highways engineers, landscape architects, planners, traffic modellers, drainage engineers, acousticians, biodiversity and other environmental professionals. The contributions of all disciplines have been critical to informing the balanced design approach to the Scheme and are reflected in the collaborative working which has gone into the production of this DAS.

1.4.2 The design team has worked collaboratively with stakeholders in developing the design since the announcement of the preferred option. This has been supplemented by holding structured workshops, running regular working groups, holding one-to-one meetings, and arranging on site workshop events. This has allowed the design to be informed by a wide range of knowledge and experience. Consultation and stakeholder engagement has influenced the vision and the methodology, articulated through the high-level design principles.

2 Scheme background

2.1 Background

2.1.1 Hampshire County Council identified in 2013 that infrastructure improvements were necessary to reduce congestion levels and assist with the strategic movement of traffic at Junction 9 of the M3, a key arterial intersection with the A34, to make sure that traffic congestion and increased journey times do not compromise the scale of potential future economic growth in the sub-region (Hampshire County Council, 2013a).

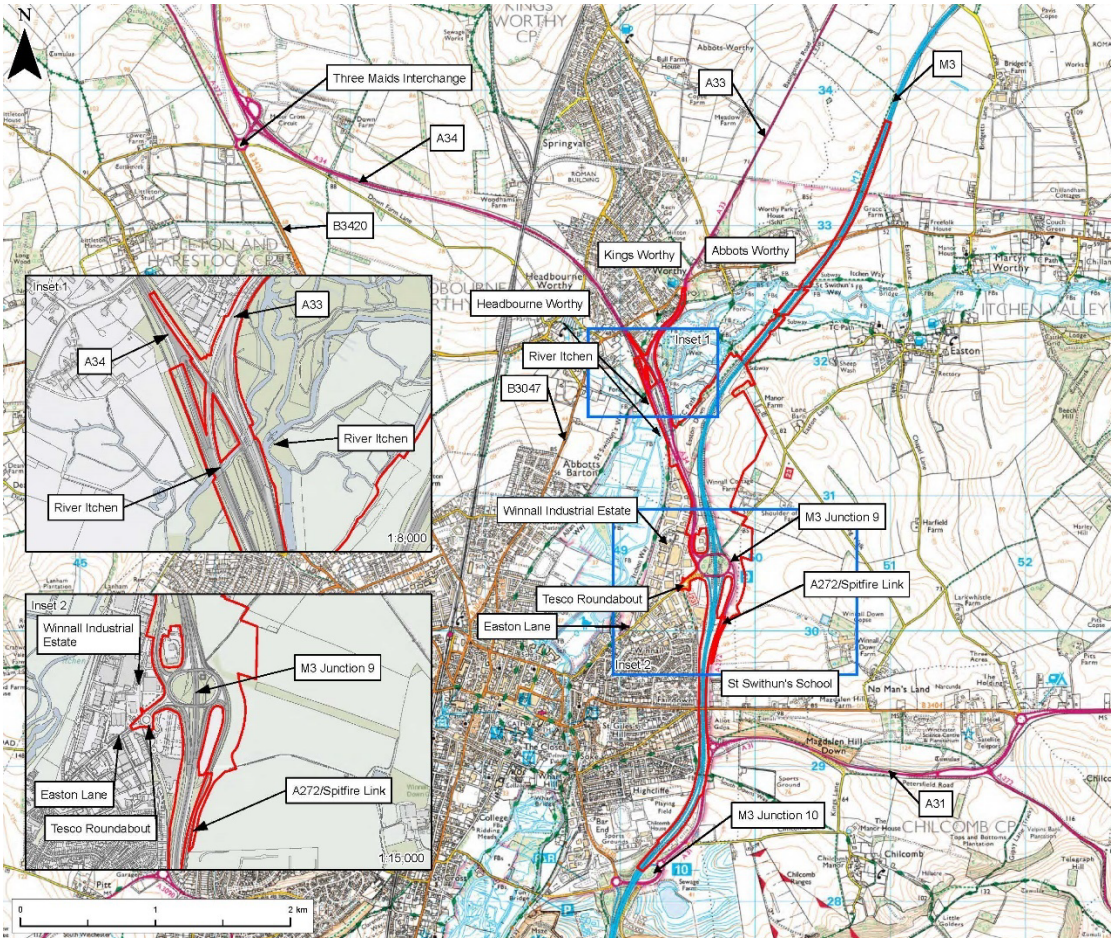
2.1.2 To address this, the improvement to M3 Junction 9 was included in the Department for Transport's RIS. The improvement contributes to national transport objectives by:

- Providing additional capacity
- Enhancing journey time reliability
- Supporting the development of housing and the creation of jobs, as set out in the existing and emerging Local Plans.

2.1.3 The Scheme is included in the Solent to Midlands Route Strategy (Highways England, 2017), which identifies the M3 Junction 9 Improvement as a major improvement project as part of this route upgrade. Within this, junction 9 of the M3 is specifically highlighted as being a location where there is a substantial barrier to connectivity in relation to the South Downs National Park and walking, cycling and horse-riding. Additionally, the Scheme is identified and committed to under RIS 2 within the *Road Investment Strategy 2: 2020-2025, Department for Transport (2020)* (Ref 1-4).

2.1.4 Upgrading Junction 9 of the M3 would help improve safety and improve the capacity of the road network in this location by reducing delays and congestion which in turn would improve journey time reliability. Combined these elements would support local growth in the area as established through requirements of local policy. This would bring significant benefits for road users, local communities and local businesses.

Figure 2.1 – Scheme Location



2.2 Scheme objectives

2.2.1 The Scheme has five objectives:

- To reduce delays at M3 Junction 9 on all links M3, A33 and A34
- Smooth the flow of traffic by improving journey time reliability and reducing delays (time lost per vehicle mile) at M3 Junction 9 and the exit and entry roads for the A33 and A34
- Improve the safety for all road users and reduce the annual collision frequency and severity ration on the M3 Junction 9
- Support economic growth and ensure the junction can accommodate additional traffic
- Improvements for walkers and cyclists including connecting the National Cycle Network Route 23 which is severed by the current junction layout

2.2.2 By providing an unconstrained link on the A34 – M3 southbound and M3 northbound to A34, vehicles would not be required to manoeuvre through a

priority or signal-controlled junction. This seeks to reduce congestion and improve journey time reliability on the M3, A34 and local road network.

2.2.3 The design of the Scheme takes into account National Highway's 10 principles of good design, published in 'The Road to Good Design' (Ref 1-3) to support its aspirations for a network that responds better to both people and places through improved design processes. These promote environmentally sustainable design that fits in context, whilst making roads safe, useful, and understandable.

2.2.4 The South Downs National Park is a sensitive landscape receptor within which the Scheme is partially located. In view of its special landscape character, there is a clear need to balance the economic, social and safety benefits of an improved junction against the impact of the existing road infrastructure and the potentially adverse environmental impacts. The sensitivity of the South Downs National Park, and consultation with the South Downs National Park Authority has been a key factor in the evolution of the Scheme, with particular regard to the profile design of the eastern section of land within the Application Boundary as it transitions to the open downland landscape within the South Downs National Park. The aim of the solution proposed has been to balance spoil placement through creation of landform which are sympathetic in profile and form and maximise environmental mitigation within this part of the South Downs National Park.

2.2.5 The development of the Scheme has considered the feedback received during the 2021 statutory consultation exercise as documented in the **Consultation Report (Document Reference 5.1)**.

2.3 Development of the Scheme

2.3.1 The Scheme has been subject to various stages of development and consultation from options through to single option development. Further details about the options considered and the feedback from consultation can be found in **Chapter 3 (Assessment of Alternatives)** of the **ES (Document Reference 6.1).**

Development of the Preferred Scheme Design 2020 Onwards

2.3.2 Following the statutory consultation undertaken on the Preferred Route in 2019 (refer to the **Consultation Report (Document Reference 5.1)** for further details) the Applicant undertook further design development in 2020 to respond to feedback provided. Each of the following elements underwent an optioneering exercise in relation to location or alignment:

- The Indicative Application Boundary (IAB) was increased from the previous version to accommodate additional areas for the management of excess spoil generated from the construction phase. This was necessary to avoid the requirement to export excess spoil on the road network to off-site receptor locations generating unnecessary and avoidable carbon emissions.

- The IAB was also increased to accommodate additional areas potentially required for construction compounds.

- Optioneering work was undertaken to identify modifications to the walking, cycling and horse-riding arrangement along the eastern and western fringes of the Scheme.

2.3.3 Further detail on each of these details is provided below.

Areas for excess spoil management

2.3.4 As outlined above, it was identified that in order to prevent the need to export excess spoil off site (which considering the initially approximated volume of 200,000m^3 excess material would likely result in 750,000 additional HGV movements, producing approximately 108 additional tonnes of CO_2), the use of deposition areas was proposed adjacent to the site.

Construction compounds

2.3.5 Alternative and additional locations for construction compounds were identified as potentially being required in order to facilitate the construction of the Scheme.

Walking, cycling and horse-riding provision

2.3.6 A number of optioneering exercises were undertaken for proposed walking, cycling and horse-riding routes as part of the Scheme, involving routes through the gyratory from Easton Lane (west) to Easton Lane (east), a new route to the west of the Scheme parallel to the M3, and from Winnall to Kings Worthy to the west of the Scheme. Such optioneering was undertaken to respond to a Scheme requirement for improvement of accessibility for these users.

Other design considerations and updates

2.3.7 Notwithstanding the alternative Scheme elements detailed above, the Scheme continued to undergo minor design evolution changes as summarised below:

- Proposed Northbound M3 / A34 Northbound diverge - A proposed level difference of approx. 6.5m was identified across the proposed chevron road markings between the Northbound Mainline M3 and the proposed A34 Northbound diverge. The section of carriageway across the chevrons should be at a constant shallow fall to allow for potential late exit vehicle manoeuvres and for emergency vehicles. As a result, the A34 Northbound diverge was reconfigured to pass over (instead of below) the realigned A33.

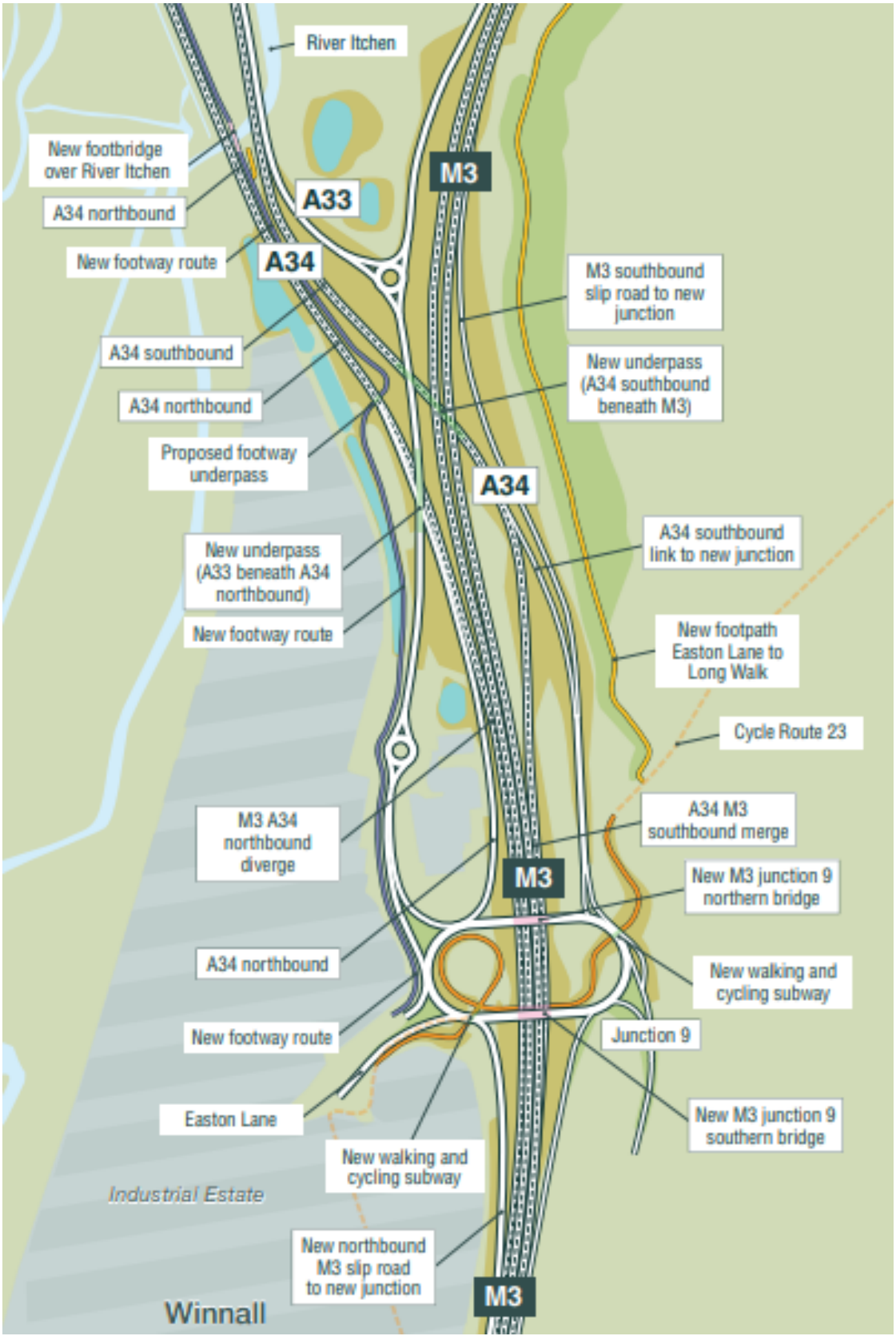
- The proposed Northbound and Southbound M3 merge and diverge layouts (to and from the proposed M3 Junction 9 gyratory) were reviewed and revised in accordance with current design standards, resulting in the lengths being increased.

- The proposed M3/A33 roundabout was repositioned based upon a review of existing and proposed ground levels. This resulted in a reduced length of retaining wall.
- The M3 Junction 9 gyratory was reduced in size (following a vehicle tracking exercise) and all entry and exit tie ins were revised.
- The proposed A33 bi-directional layout, leading to the Cart and Horses Junction (Kings Worthy), which was previously described by text within the Stage 3 Jacobs design was reviewed and designed as part of the Stage 3b work.
- The preliminary drainage design was developed including proposed surface water attenuation ponds and associated maintenance tracks.
- A general review of design levels was undertaken across the Scheme extents and the need for proposed retaining walls
- The proposed earthwork embankments were developed

Statutory Consultation 2021

2.3.8 Statutory consultation was undertaken in summer 2021 for the Scheme presented in **Figure 2.2**. The purpose of the consultation was to present the Scheme to, and receive feedback from, stakeholders and the local community, including the changes and updates to the design developed since the consultation undertaken in 2019 as outlined above. Further details about the statutory consultation in 2021 and how responses where considered are reported in the **Consultation Report (Document Reference 5.1).**

Figure 2.2 – Scheme proposal drawing for 2021 statutory consultation



Design changes following statutory consultation 2021

2.3.9 The Applicant undertook reviews of all responses received through the 2021 statutory consultation process to determine if comments resulted in the requirement to reconsider the design of the preferred option.

2.3.10 While all comments were noted and have been responded to (see the **Consultation Report (Document Reference 5.1)**), comments received from the South Downs National Park Authority and Natural England were considered to result in the need to revisit the design of the earthwork profile along the eastern flank of the Scheme parallel to the M3 and north-east of the gyratory, as well as the approach to planting of woodland across the River Itchen Valley.

2.3.11 The design changes made following consultation also responded to the comments made in relation to the walking, cycling and horse-riding provision proposed for the Scheme.

Design changes following All Lane Running pause

2.3.12 Following a ministerial statement on 12 January 2022, the roll out of all lane running (ALR) schemes not yet constructed was paused. Prior to the ministerial statement the Scheme tied into a proposed ALR scheme known as the M3 Junction 9 to Junction 14 Scheme, which was independent of the M3 Junction 9 Improvement Scheme. As the M3 Junction 9 to Junction 14 Scheme tied into the Scheme on the south facing slips of the gyratory roundabout, some minor design development was undertaken to ensure the Scheme could tie-in to the existing highway. Required design amendments are minimal and included the reconfiguration of slip roads and merge lanes, the introduction of a new retaining wall on the southbound slip, a new portal gantry, a Variable Message Sign (VMS) both within close proximity to Junction 9, and two Advanced Directional Signage (ADS) located at ½ mile and 1 mile distances south of junction 9. The resulting changes did not require a review of the Application Boundary.

3 Design Policy Context

3.1 Key policy

3.1.1 Key documents relating to design and access can be divided into primary and secondary policy frameworks. The primary policy framework comprises the NPSNN (Ref 1-6), and the secondary framework comprises the National Planning Policy Framework (NPPF) (Ref 1-7) and relevant adopted development plan policy. Relevant adopted development plans comprise:

- Winchester City Council District Local Plan Part 1 – Joint Core Strategy Development Plan (2013)
- Winchester City Council District Local Plan Part 2 – Development Management and Site Allocations (2017)
- South Downs National Park Authority Local Plan (2019)

3.1.2 Each of these plans include policies that relate to design and access and where relevant these are referenced in the paragraphs that follow. In addition, the design guidance which has shaped the design of the Scheme has also been referenced where relevant.

3.2 Primary policy framework (when within a National Park)

3.2.1 The NPSNN (Ref 1-6) was published in January 2015. The document sets out the Governments needs for, and policy to deliver Nationally Significant Infrastructure Projects (NSIPs) on the strategic road network in England (manged by National Highways). It is the primary policy in which the Planning Inspectorate examines the application for the Secretary of State for Transport to determine the development consent for the Scheme.

3.2.2 Paragraph 4.28 sets out the *'applicants should include design as an integral consideration from the outset of the proposal'*.

3.2.3 Paragraph 4.29 states *'…applying 'good design' to national network projects should therefore produce sustainable infrastructure sensitive to place efficient in the use of natural resource and energy used in their construction, matched by improving operational conditions and simultaneously minimising adverse impacts…'.*

3.2.4 Paragraph 4.31 states *'a good design should meet the principal objective of the Scheme by eliminating or substantially mitigating the identified problems by improving operational conditions and simultaneously minimising adverse impacts…'.*

3.2.5 The design of the Scheme has been fundamentally influenced by NPSNN policy. The **Case for the Scheme (Document Reference 7.1)** sets out the

rationale for the project and overall compliance in the **NPSNN Accordance Table (Document Reference 7.2).**

3.3 Secondary policy framework

3.3.1 A range of secondary policies have informed the development of the design for the Scheme. A summary of the key policies from relevant documents is summarised below.

National Planning Policy Framework (July 2021)

3.3.2 The NPPF (Ref 1-7) was first published on 27 March 2012 and updated on 24 July 2018, 19 February 2019 and 20 July 2021. This sets out the government's planning policies for England and how these are expected to be applied.

3.3.3 The NPPF requires good design of the built environment stating at Paragraph 126 *'the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities'.*

3.3.4 Paragraph 127 states that *'Plans should, at the most appropriate level, set out a clear design vision and expectations, so that applicants have as much certainty as possible about what is likely to be acceptable. Design policies should be developed with local communities, so they reflect local aspirations, and are grounded in an understanding and evaluation of each area's defining characteristics.'*

3.3.5 Paragraph 132 states that *'Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests. Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community. Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot.'*

3.3.6 Paragraph 134 states that *'Development that is not well designed should be refused, especially where it fails to reflect local design policies and government guidance on design taking into account any local design guidance and supplementary planning documents which use visual tools such as design guides and codes'.*

3.3.7 In relation to these points, this report provides detail on the design approach, vision, how it has evolved, the consultation undertaken and the relevant local polies and design guidance which has been considered.

3.3.8 Paragraphs 176 and 177 provides guidance in relation to National Parks. This states the following '*Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas and should be given great weight in National Parks and the Broads. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.*

When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;

b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and

c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.'

3.3.9 In relation to this requirement the **Case for the Scheme (Document Reference 7.1)** sets out the rationale for the Scheme.

Winchester City Council District Local Plan Part 1 – Joint Core Strategy Development Plan (2013)

3.3.10 Winchester City Council, District Local Plan (Ref 1-8) published in 2013 sets out the long term strategic plan for development within Winchester District, and includes the strategic vision, objectives and the key policies needed to achieve sustainable development in Winchester District to 2031. It does not include the area that lies in the South Downs National Park, which are covered by the South Downs National Park Local Pan as detailed below. Relevant policies to matters of design are considered below.

3.3.11 DS1 Development Strategy and Principles *'When considering development proposals across the District, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. The Council will work proactively to find solutions which mean proposals that accord with planning policies can be approved wherever possible and to secure development that improves the economic, social and environmental conditions in the area.'*

3.3.12 CP13 High Quality Design *'New development will be expected to meet the highest standards of design50. In order to achieve this all proposals for new development (excluding small domestic applications and changes of use) should demonstrate that:*

- *an analysis of the constraints and opportunities of the site and its surroundings have informed the principles of design and how the detailed design responds positively to its neighbours and the local context;*
- *the proposal makes a positive contribution to the local environment and creates an individual place with a distinctive character;*
- *the public realm has been designed to ensure that it is attractive, safe, accessible and well connected to its surroundings, including walking and cycling routes to and within the development, to encourage their use;*
- *the accompanying landscape framework has been developed to enhance both the natural and built environment and maximise the potential to improve local biodiversity*
- *measures to minimise carbon emissions and promote renewable energy and reduce impact on climate change form an integral part of the design solutions'*

3.3.13 CP15 Green Infrastructure (GI) *'The Local Planning Authority will support development proposals which:*

- *maintain, protect and enhance the function or the integrity of the existing green infrastructure network identified at a District and sub regional level, including strategic blue and green corridors and spaces, as illustrated on Map 9 particularly where the proposal allows for the enhancement of GI both on-site and in the immediate area;*
- *provide a net gain of well-managed, multifunctional green infrastructure, in accordance with the categories and standards specified in Policy CP7 and appropriate for the scale of development, through on-site provision which: -*
- *addresses deficits in local green infrastructure provision where appropriate;*
- *integrates with the green network/grid identified at the district and sub-regional level;*
- *provides a high quality public realm for the local community;*
- *encourages public access to and within the natural environment where appropriate;*
- *allows for adaptation to climate change;*
- *is well planned to allow cost effective ongoing management of the GI;*

- *links areas of biodiversity;*
- *is provided at the earliest feasible stage. Where on-site provision is not possible financial contributions will be required for the provision and management of GI sites and will be negotiated on a site by site basis*

3.3.14 CP19 South Downs National Park *'New development should be in keeping with the context and the setting of the landscape and settlements of the South Downs National Park. The emphasis should be on small-scale proposals that are in a sustainable location and well designed. Proposals which support the economic and social wellbeing of the National Park, and its communities will be encouraged, provided that they do not conflict with the National Park's purposes. Development within and adjoining the South Downs National Park which would have a significant detrimental impact to the rural character and setting of settlements and the landscape should not be permitted unless it can be demonstrated that the proposal is of overriding national importance, or its impact can be mitigated.'*

Winchester City Council District Local Plan Part 2 – Development Management and Site Allocations (2017)

3.3.15 Winchester City Council, District Local Plan Part 2 (Ref 1-9) published in 2017 supports Part 1 in allocating land to help deliver the development strategy for new housing, economic growth and diversification set out in Policy DS1 of that plan. Its function is therefore limited in context of the Scheme, however relevant policies with relation to matters of design are considered below.

3.3.16 Policy DM15 – Local Distinctiveness, identifies that development should respect qualities, features and characteristics that contribute to the distinctiveness of the local areas. In addition, Policy DM23 – Rural Character, identifies that proposals will be acceptable where they do not have unacceptable effect on the rural character of the area, by means of visual intrusion, the introduction of incongruous features, the destruction of locally characteristic rural assets, or by impacts on the tranquillity of the environment. Policy DM24 – Special Trees, Important Hedgerows and Ancient Woodlands, also places requirements on the protection of ancient woodlands, important hedgerows, special trees, and distinctive ground flora.

South Downs National Park Authority Local Plan (2019)

3.3.17 The statutory purposes of National Parks are: *'to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks' and 'to promote opportunities for the public understanding and enjoyment of the special qualities of the Parks'*.

3.3.18 The South Downs National Park Authority local plan (Ref 1-9) was adopted by the National Park Authority in July 2019 and contains a number of relevant policies. This was the first Local Plan ever produced for the National Park: a landmark for this very special place. At its heart of the local plan is the

requirement to conserve and enhance the nationally important landscapes of the South Downs. Relevant policies to matters of design are summarised below.

3.3.19 SD1 Sustainable Development; *'When considering development proposals that accord with relevant policies in this Local Plan and with National Park purposes, the Authority will take a positive approach that reflects the presumption in favour of sustainable development. It will work with applicants to find solutions to ensure that those development proposals can be approved without delay unless material planning considerations indicate otherwise. 2. The National Park purposes are i) to conserve and enhance the natural beauty, wildlife and cultural heritage of the area; and ii) to promote opportunities for the understanding and enjoyment of the special qualities of the National Park by the public. Where it appears that there is a conflict between the National Park purposes, greater weight will be attached to the first of those purposes. In pursuit of the purposes, the National Park Authority will pay due regard to its duty to seek to foster the economic and social wellbeing of the local communities within the National Park.'*

3.3.20 SD5 Design, '*Development proposals will only be permitted where they adopt a landscape led approach and respect the local character, through sensitive and high quality design that makes a positive contribution to the overall character and appearance of the area. The following design principles should be adopted as appropriate: a) Integrate with, respect and sympathetically complement the landscape character by ensuring development proposals are demonstrably informed by an assessment of the landscape context; b) Achieve effective and high quality routes for people and wildlife, taking opportunities to connect GI; c) Contribute to local distinctiveness and sense of place through its relationship to adjoining buildings, spaces and landscape features, including historic settlement pattern; d) Create high-quality, clearly defined public and private spaces within the public realm; e) Incorporate hard and soft landscape treatment which takes opportunities to connect to the wider landscape, enhances GI, and is consistent with local character; f) Utilise architectural design which is appropriate and sympathetic to its setting in terms of height, massing, density, roof form, materials, night and day visibility, elevational and, where relevant, vernacular detailing; g) Provide high quality, secure, accessible, and where possible, integrated storage for general and recycling waste, heating fuel, and transport related equipment; h) Provide high quality outdoor amenity space appropriate to the needs of its occupiers or users; i) Ensure development proposals are durable, sustainable and adaptable over time, and provide sufficient internal space to meet the needs of a range of users; j) Give regard to improving safety and perceptions of safety, and be inclusive and accessible for all; and k) Have regard to avoiding harmful impact upon, or from, any surrounding uses and amenities.'*

3.3.21 SD6 Safeguarding Views *'Development proposals will only be permitted where they preserve the visual integrity, identity and scenic quality of the National Park, in particular by conserving and enhancing key views and views of key landmarks within the National Park….'*

3.3.22 SD7 Relative Tranquillity *'Development proposals will only be permitted where they conserve and enhance relative tranquillity' 'Development proposals in highly tranquil and intermediate tranquillity areas should conserve and enhance, and not cause harm to, relative tranquillity.' 'Development proposals in poor tranquillity areas should take opportunities to enhance relative tranquillity where these exist.'*

3.3.23 SD8 Dark Night Skies *'Development proposals will be permitted where they conserve and enhance the intrinsic quality of dark night skies and the integrity of the Dark Sky Core as shown on the Policies Map'. 'Development proposals must demonstrate that all opportunities to reduce light pollution have been taken and must ensure that the measured and observed sky quality in the surrounding area is not negatively affected…'.*

3.3.24 SD42 Infrastructure *'Development proposals for new, improved or supporting infrastructure will only be permitted where: a) It represents the least environmentally harmful option reasonably available, also having regard to the operational requirements and technical limitations of the proposed infrastructure; and b) The design minimises the impact on the natural beauty, wildlife and cultural heritage of the National Park and the general amenity of local communities…'*

3.3.25 SD45 Green Infrastructure *'Development proposals will be permitted where they demonstrate that they: a) Maintain or enhance GI assets, GI links and the overall GI network; and b) Provide new GI, or improvements to existing green assets and green linkages, which are integrated into the development design, that meets the needs of communities both within and beyond the site's boundaries' '2. GI proposals must contribute to multifunctional landscapes which: a) Strengthen connectivity and resilience of ecological networks; b) Incorporate GI measures that are appropriate to the type and context of the development proposal as part of an overall landscape design; c) Maximise opportunities to mitigate, adapt and improve resilience to climate change; d) Maximise opportunities for cycling and walking, including multi user routes and, where possible, facilitate circular routes; and e) Support health and wellbeing and improve opportunities for understanding and enjoyment of the National Park and its special qualities…'*

3.4 Other design requirements

3.4.1 There are a number of requirements for the Scheme which do not form part of the legislative planning policy context. The paragraphs that follow set out those highways design principles which have influenced the design and have been embodied into the Scheme.

The Road to Good Design (2018)

3.4.2 National Highways is required as part of its operating licence to have due regard to the principles of good design, to ensure that the development of the network takes account of geographical, environmental and socio-economic context.

National Highways (formerly as Highways England) drafted a design guide, *The Road to Good Design* outlining their key principles.

3.4.3 The purpose of this document is to challenge thinking about design and quality of roads within England, with the aim of facilitating a shift in design culture towards new roads. It recognises that good design is a powerful tool for achieving a higher quality of life, as well as greater economic vitality and a more efficient use of resources.

3.4.4 The document sets out ten defined principles based on universal ideas of good design. They are not instructions for how to design a road but act as prompts to improve design quality and outcomes. Design generally combines practical, technical and economic considerations with aspects of place and culture. Universal good design is therefore a balance and coordination of aesthetic, functional and technological considerations.

3.4.5 The ten design principles have been encompassed within the three themes of people, places and processes. The design principles are set out in **Table 3.1**.

Table 3.1: National Highways Design Principles

Aspiration	Principle
Connecting people, good road design	1. Makes roads safe and useful 2. Is inclusive 3. Makes roads understandable
Connecting places	4. Fits in context 5. Is restrained 6. Is environmentally sustainable
Connecting processes	7. Is thorough 8. Is innovative 9. Is collaborative 10. Is long-lasting

3.4.6 Where the Scheme demonstrates compliance with the National Highways design principles it is referenced in this DAS.

3.4.7 *The Road to Good Design* also champions the use of National Highway's Strategic Design Panel, an independent design review panel. The panel seeks to ensure 'the strategic road network displays design quality through being safe, functional and effective, responding positively and sensitively to landscape character, cultural heritage and communities, while also conforming to the principles of sustainable development'. The panel members comprise, the

Campaign for Better Transport, the Design Council, Transport Focus, the Chartered Institute of Highways Transportation (CIHT), the Institute of Civil Engineers (ICE), the Landscape institute (LI), Historic England (HE), The Prince's Foundation, the Institute of Structural Engineers, the Royal Institute of British Architects (RIBA), the Campaign to Protect Rural England (CPRE), Natural England and the National Trust (NT). The Scheme has been presented to the Design Panel in March 2020 as detailed in **Section 4**.

3.4.8 *People, places and processes: A guide to good design at National Highways,* was published in July 2022. It was produced following the Road to Good Design (2018) guide to continue the thinking about the design and quality of our roads. It provides supplementary guidance and advice.

A Design-led Approach to Infrastructure (2012)

3.4.9 CABE supports communities, local authorities and developers involved in built environment projects by providing services in three areas, design review, customised expert support and training and continued professional development. Recurrent themes have emerged from CABE's work to date on infrastructure projects. A design-led approach to Infrastructure, prepared by CABE was produced in response to these themes.

3.4.10 A design-led approach to infrastructure provides design guidance in relation to NSIPs. The document sets out a design approach which takes geographical context into account to ensure NSIPs '*respond well to the setting, speaks a confident, architectural language based on their purpose and function and allay concerns of the local community*'. The ten design principles are outlined in **Table 3.2**.

Table 3.2: CABE Design Principles

Ten Design Principles	
1. Setting the scene	6. Landscape design
2. Multi-disciplinary teamwork	7. Design approach
3. The bigger picture	8. Materials and detailing
4. Site masterplan	9. Sustainability
5. Landscape and visual impact assessment	10. Visitor centre

3.4.11 Where the Scheme demonstrates compliance with the CABE design principles this is highlighted in this DAS.

3.4.12 CABE design principle 1 Setting the Scene was considered at the outset of the Scheme; therefore, no specific reference has been made within this DAS. In addition, CABE design principle 10 Visitor Centre has not been considered further as it is not relevant to this Scheme.

Technical Guidance Note (TGN) 04/2020: Infrastructure (2020)

3.4.13 TGN 04/20 (Ref 1-11) outlines the roles of landscape professionals in major infrastructure projects, including their ability to help in the collaborative design process by co-ordinating and assimilating the work of other professionals.

'Infrastructure should be sited or aligned to respond positively and elegantly to the context, with mitigation deployed to address ancillary clutter and detracting elements, such as plant or vehicles.

The successful integration of infrastructure projects with the landscape is one of the most important ways of reducing adverse effects. Siting or alignment that uses existing landform and reflects natural slopes can minimise impacts on landform and sensitive landscapes while providing an aesthetic setting within a local context.'

3.4.14 The TGN also directs the landscape professional towards a range of important and/or useful publications and advice, including Design Manual for Roads and Bridges (DMRB).

Technical design standards

3.4.15 The Scheme proposes to upgrade the M3 Junction 9 to both maintain existing connectivity on the road network, whilst providing enhanced capacity, simplified routing and improved facilities for walkers, cyclists and horse-riders. The Scheme would provide new free flow links on the A34 – M3 southbound and M3 northbound to A34.

3.4.16 The Scheme is designed in accordance with the DMRB (Ref 1-12). The DMRB provides a framework of requirements, advice and standards for works relating to motorways and the strategic road network for which National Highways is responsible. Where specific design requirements within the DMRB suite of documents cannot be met (due to site constraints, etc), Departures from Standards will be noted and applied for. Each departure application is assessed and approved in accordance with National Highways procedures, before the design is finalised, prior to incorporation into the works. For each identified departure, the design shall include some form of mitigation to improve safety for the end user and operatives during construction (where possible). A quantified risk assessment in accordance with DMRB Document GG104 also accompanies each departure submission.

4 Design evolution and engagement

4.1 Background

4.1.1 This section sets out the context within which design development has taken place. It identifies the key opportunities and challenges which have influenced the design as well as the role that consultation / stakeholder engagement has played. Comments received from the independent design review panel and how they have been incorporated into the Scheme have also been summarised.

4.1.2 The Scheme is a product of iterative design. National Highways design principle 7 requires the design process to have '*an in-depth understanding of people, place and context*'. From this 'the design of all elements of the road environment' should be 'considered together and integrated into a responsive design'. The Scheme demonstrates an in-depth understanding of those factors which have informed the design rationale. In accordance with design principle 9, the design team has worked collaboratively, and also with stakeholders, to provide an integrated responsive design.

4.2 Key challenges and opportunities

4.2.1 In addition to policy context and design requirements / standards, the overarching design rationale for the Scheme has been driven by:

- Safety and improving user experience.
- South Downs National Park, in terms of seeking to conserve and enhance the natural beauty, wildlife and cultural heritage of the area, and promote access, recreation and understanding of the designation and its special qualities.
- Respect the historic townscape of Winchester.
- Avoid and where necessary minimise harm to the River Itchen SAC / SSSI.
- Balance materials use on site, minimising import and export of earthwork outside of the Application Boundary.
- Improve walking, cycling and horse-riding access.

4.3 Consultation and stakeholder engagement

4.3.1 All consultation and stakeholder engagement undertaken to date together with responses is set out in the **Consultation Report (Document Reference 5.1)**. This section focuses on how engagement and consultation has influenced the design.

4.3.2 The Scheme design has been informed by the following engagement and consultation:

- Early on-going engagement with stakeholders including the South Downs National Park Authority
- Seeking appropriate levels of feedback at each stage during the design process and ensuring that comments received have been taken into account
- Building long-term relationships with stakeholders to better understand their views and needs
- Ensuring appropriate statutory consultation in accordance with requirements of the Planning Act 2008 and associated guidance

4.3.3 National Highways approach to stakeholder engagement, including details of how responses have been considered in the development of the design, is set out in the **Consultation Report (Document Reference 5.1)**. This approach is in accordance with National Highways design principle 9 (Good Road Design is Collaborative), as well as CABE's design principle 2 (multi-disciplinary teamwork).

Statutory and non-statutory engagement

4.3.4 Initial engagement was undertaken in January to February 2018. This presented the Scheme's objectives at the time, the proposals (and rejected options) and environmental design considerations. The consultation was held to gather feedback and identify issues associated with the proposals. Feedback from this non-statutory consultation helped to develop the Preferred Route Announcement (PRA) made in July 2018.

4.3.5 Further consultation was held in July 2019. The purpose of the consultation was to present the Scheme to, and receive feedback from, stakeholders and the local community, focusing on the changes and updates to the design which had developed since the PRA.

4.3.6 This was followed by additional statutory consultation undertaken in summer 2021 owing to the level of change in the Scheme design following the previous statutory consultation. This consultation included production of the Preliminary Environmental Information Report (PEIR). This was prepared to inform stakeholders and the public about the Scheme and its potential environmental effects. It provided further opportunity for feedback from stakeholders and the local community and included changes and updates to the design developed since the consultation undertaken in 2019.

4.3.7 Further information of the consultation process undertaken, feedback received, and the Scheme responses can be found in the **Consultation Report (Document Reference 5.1)**.

Stakeholder engagement

4.3.8 A series of workshops and regular meetings have been held with stakeholders to gather feedback and discuss the Scheme and concerns raised at the 2021 statutory consultation. These have been used to allow design development with stakeholder input to ensure a suitable solution is taken forward for the DCO application. Key engagement is summarised below.

Engagement with South Downs National Park Authority

4.3.9 Following statutory consultation, regular meetings have been held with the South Downs National Park Authority to discuss design matters including topography, soft landscape, drainage, environmental topics such as landscape and visual impact assessment and biodiversity, and construction activities, including location of site compounds, and spoil deposition strategy. Following virtual meetings in August and September and the release of additional design information, an organised accompanied site visit with the South Downs National Park Authority was arranged for October in which the Project team presented the design strategy. This visit focused on the earthwork strategy on the eastern slopes, construction compound location, its size and scale, and the location and design of the attenuation ponds. A workshop focusing solely on the expected impacts, mitigation and management during the construction phase took place in January 2022 and regular meetings have continued through 2022 to keep the authority updated on the Scheme.

Engagement with Hampshire Police

4.3.10 Meetings were held with Hampshire Police Traffic Officers on 2 December 2020 and 19 July 2021 to discuss the proposed Scheme alignments and in particular the proposed speed limits for the Scheme.

Engagement with Winchester City Council

4.3.11 Following statutory consultation, regular meetings have been held with Winchester City Council to discuss walking and cycling provision, environmental topics such as landscape, climate, noise and contamination, construction activities including the location of site compounds, construction working hours and the spoil deposition strategy. A workshop focusing solely on the expected impacts, mitigation and management during the construction phase took place in January 2022. A Scheme update was presented to the Winchester Members Briefing in February 2022.

Engagement with Hampshire County Council

4.3.12 A series of meetings were held with Hampshire County Council to discuss the Scheme in general, in addition to a series of technical meetings and a workshop. This included:

- A traffic modelling meeting to discuss the Cart and Horses Junction and the rationale for this junction being outside of the Scheme

- A joint drainage design strategy meeting with the Environment Agency
- A construction phasing meeting to discuss matters on traffic management and adoption of land and assets and Public Right of Way responsibilities
- A presentation to the Hampshire County Council Councillors in March 2022 to provide a Scheme update.

4.3.13 Further details are provided in Chapter 4 of the **Consultation Report (Document Reference 5.1).**

Engagement with the Environment Agency

4.3.14 Following statutory consultation, regular meetings have been held with the Environment Agency to discuss the drainage design strategy and environmental topics such as flooding and biodiversity and net gain.

Engagement with Natural England

4.3.15 Following statutory consultation, regular email correspondence and meetings have been held with Natural England to discuss the protected species licensing approach, the Habitats Regulations Assessment and the assessment on ecological receptors.

Engagement with Historic England

4.3.16 Following statutory consultation, regular email correspondence and ad hoc meetings have been held with Historic England to discuss the Scheme, its assessment and mitigation.

Engagement with other stakeholders

4.3.17 Relevant engagement with other stakeholders has also occurred about the Scheme design and assessment including with:

- Event held for 8 Parish Councils
- Hampshire & Isle of Wight Wildlife Trust (HIWWT)
- Walking, cycling and horse-riding groups
- Local angling groups

Independent design review

4.3.18 A Highways England Design Review Panel was completed on 30 March 2021. This provided the opportunity for the design team to present the Scheme design as it was at that time prior to the 2021 statutory consultation.

4.3.19 The response from the Design Council, noted the following:

'We commend the design team for bringing the Scheme to design review at this critical stage in its development and recognise the considerable work and effort required to arrive at the current stage of design.

The proposed road layout and traffic management strategy are clearly set to bring major benefits to both the motorway users and local residents alike. A focused engineering approach was required during the long design process that arrived at the optimal road layout. However, we recommend that the team now focus particularly on the most appropriate way to place the engineering into the landscape.

This is a complex site that has many sensitivities, including designated landscapes, with rich biodiversity as well as an array of heritage assets and fine views. The proximity to Twyford Down and its controversial history stands as a challenge to the design team to deliver a more appropriate, respectful and sustainable response to this powerfully spiritual landscape. In addition, from this point on, thinking about climate change should cut across every decision that the design team make'.

4.3.20 In addition, the following statement was made:

'We strongly urge the design team to move away from the mind-set and language of mitigation and instead look for further positive opportunities. We recommend developing a 'Design Narrative' that actively seeks-out such opportunities and illustrates them in a clear and coherent way, metaphorically 'putting the landscape in the driving seat.'

4.3.21 The preparation of this document provides the Design Narrative for the Scheme, (see **Section 5**). The review highlighted a number of topics for further consideration. These are explored further below, and summarised here:

Broader transport and community benefits

4.3.22 Traffic projections suggest the Scheme will produce significant benefit for both the motorway and local users, however the junction could, and should, be a high-quality gateway into one of England's most culturally valuable and ancient cities, that the local people can be proud of. New walking and cycle routes are likely to be supported by the local community, and these should be delivered in the best possible way.

A landscape-led strategy

4.3.23 The Scheme should be design-led, or place-led, and a strategy should be 'landscape-driven' rather than 'engineering-driven', to embed the project into the sensitive surrounding landscape by actively seeking positive design opportunities and outcomes.

Consultation, and user experience

4.3.24 The design team should think of all of the habitats and inhabited places, that are within the sphere of influence of the carriageways, as an integral part of this project, and identify the value of the existing context, the special characteristics, and then consider the highway corridor later, explaining how it beneficially addresses the sensitive context. The design should consider the experience of the driver, and the perception of the observer on foot, bicycle or riding horses.

Designed interventions

4.3.25 The landscape should be a designed feature in its own right, and all interventions are inspired-by and strive to deliver-on the 'Design Narrative'. A detailed 3D understanding of the topography and the proposed structures is required to raise the ambitions of the Scheme and see former challenges as opportunities to make positive and delightful interventions. Opportunity to create exciting new landforms should be explored.

Heritage impact and archaeology

4.3.26 A heritage thread should be explored that celebrates cultural assets. Finding a way to explore and share these investigations would be a great asset to the community.

Landscape use and designations

4.3.27 Environmental stewardship should be explored to realise the viability of the proposals at all stages. Minimising agricultural severance should be balanced with future management. Species selection for proposed landscape elements should consider future threats from climate change and disease.

Walking cycling and horse riding

4.3.28 Connections should be promoted within the landscape, with new routes providing greater connectivity and access to South Downs National Park these linking to existing routes. Appropriate surface material should be utilised based on locality this responding to the character of the route. Noted that dark sections of the road are a positive.

Placemaking

4.3.29 Provide a design narrative which prioritises place making, with the context of the National Park firmly at the front of mind. Give more thought to the design of the various pedestrian underpasses along the route. Strong and positive design of both the structures and the associated landscape. Opportunity to include a sculpture trail, or art trail to add interest to the route and make a link between culture and the environment, and opportunity for enhancement of the circular routes.

4.3.30 In addition, a number of opportunities areas were identified by the Design Review Panel for further review. These included the A34 footbridge, balancing ponds, A34 underpass retaining wall, the PRoW along the Downs, and the gyratory. The Scheme response to these and topics highlighted above is provided in **Section 5** and **6**.

5 Design Narrative

5.1 Background

5.1.1 This section of the DAS sets out the high level principles that have driven the design of the Scheme.

5.1.2 Responding to industry-recognised principles of good design, and through collaboration with consultees and stakeholders (and the wider public), National Highways has developed its design approach into the following high-level design principles:

- Collaborative approach to design
- A landscape led strategy - considering the wider context and respecting the National Park
- Enhancing user experience - transport and community benefits and creating an accessible and connected network
- Placemaking – creating an identity for the Scheme, within a challenging landscape
- Sustainable design

5.1.3 In setting out and working to these high-level design principles, the Scheme has demonstrated compliance with CABE's design principle 7 Design Approach.

5.2 Collaborative approach to design

5.2.1 The proposed Scheme design has been undertaken collaboratively between the design team (Stantec UK Ltd), Volker Fitzpatrick and National Highways. Key design decisions have been discussed and documented as appropriate and meetings / workshops conducted to agree design decisions. Key decisions were subjected to optioneering exercises, whereby all design disciplines (Geotechnical, Bridges, Ecology, Landscape, etc.) inputted into a scoring matrix for options. Each option was also assessed in terms of buildability by Volker Fitzpatrick. This collaborative approach enabled the most viable option to be determined, which formed part of the preliminary design.

5.2.2 Furthermore, consultation undertaken with the South Downs National Park Authority (as documented previously) has informed design development as part of the Scheme's collaborative approach.

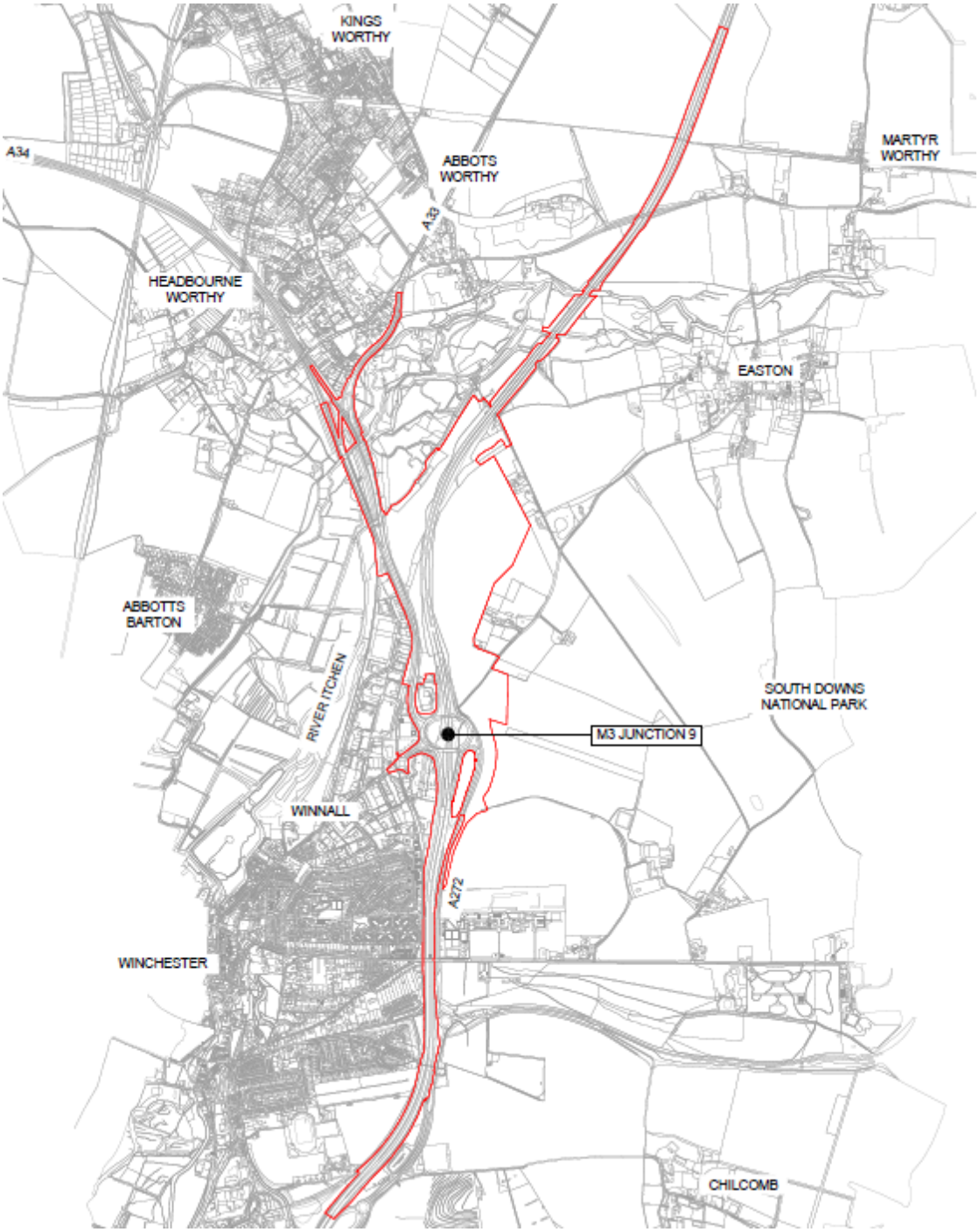
5.2.3 In undertaking a collaborative approach, the Scheme has demonstrated compliance with CABE's design principle 2 (multi-disciplinary teamwork).

5.3 A landscape led strategy

Considering the wider context

5.3.1 The Scheme is located within the planning authority boundaries of Winchester City Council and Hampshire County Council, and the Scheme also lies partially within the jurisdiction of the South Downs National Park Authority. The Application Boundary and surrounding area are shown in **Figure 5.1**.

Figure 5.1 – Application Boundary



5.3.2 The surrounding area is primarily urban to the west of the M3 and primarily rural to the east. There are large concentrations of residential receptors close to the A34 to the north of the Application Boundary (in Headbourne Worthy, Kings Worthy and Abbots Worthy) and close to the M3 to the south of the Application Boundary (on the eastern fringe of Winchester). A small number of isolated farm holdings or rural dwellings lie to the east and south-east of the Application Boundary. There are a small number of schools and education facilities, including St Swithun's School north of the B3404 and east of the M3, Winnall primary school and Stepping Stones pre-school to the south-west of the junction.

5.3.3 Immediately west of the Application Boundary, there is an area of commercial development. This includes Sun Valley Business Park, Tesco, Winnall Industrial Estate and Scylla Industrial Estate. Wykeham Trade Park and National Highway's maintenance depot are located to the north-west of the junction.

5.3.4 A full understanding on the environment including its history, and how people and ecology move through the landscape has led to a design that responds positively to the location, whilst serving local communities, as well as those using the strategic highway network. The principle of avoiding impacts and where not possible minimising these has been applied throughout the development of the Scheme proposals. For example given the wooded context of the highway the Scheme has aimed to retain existing vegetation were reasonably practicable and minimising permanent land take by reducing the Scheme footprint and returning land to agricultural following temporary use. These features form key characteristics of the landscape.

5.3.5 In considering the wider context, the Scheme has demonstrated compliance with CABE's design principles 3 the bigger picture, 6 landscape design, 7 design approach, and 9 sustainability.

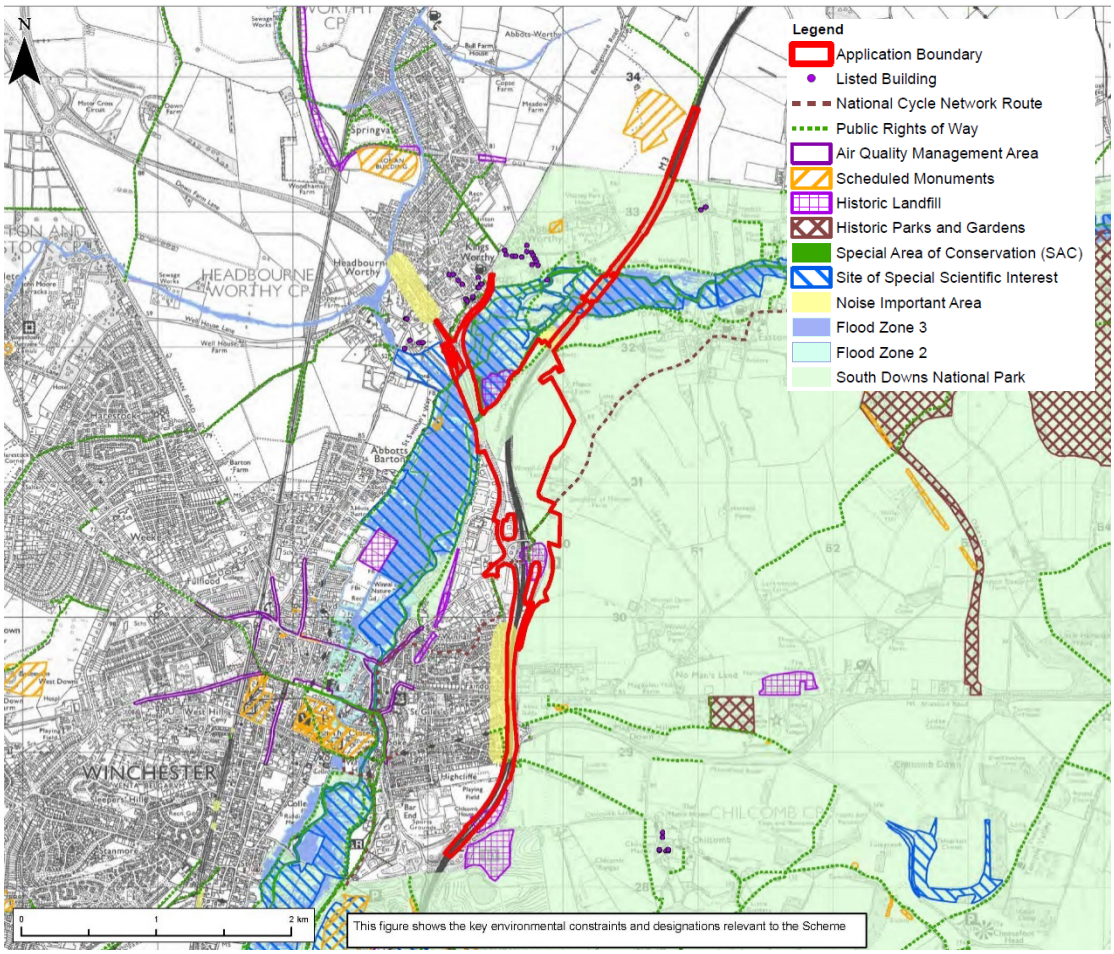
Designated sites

5.3.6 The Scheme constitutes 'major development' within the South Downs National Park. The South Downs National Park is an important designated area within and adjacent to the Application Boundary to the north, east, south and in some areas, the west.

5.3.7 The River Itchen SAC is located (in part) beneath the existing alignment of the existing A34, the A33 and the M3. The River Itchen SAC is designated for its riverine habitats and rare species. The River Itchen is also a SSSI, primarily due to the complex mosaic of habitats found within the riparian zone including the chalk stream and associated fen meadow, flood pasture and swamp habitats which support species such as otter, water vole Arvicola amphibius, and white-clawed crayfish. The proposed surface water drainage attenuation ponds have been carefully positioned to minimise Impacts upon the designated SAC and SSSI sites.

5.3.8 Further designations in the wider area beyond the Application Boundary include St Catherine's Hill SSSI and Winnall Moors Nature Reserve. There are a number of Scheduled Monuments and Listed Buildings adjacent to the Application Boundary. The statutory designated sites and assets are shown on **Figure 5.2**.

Figure 5.2 – Statutory Designations



Respecting the South Downs National Park

5.3.9 The Scheme design has been developed with the presence of the South Downs National Park and its setting in mind. Overall, the Scheme design has been developed to avoid impacts through minimising the footprint and potential for direct impacts within the South Downs National Park. The statutory purposes of National Parks are:

- *'to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks'* and
- *'to promote opportunities for the public understanding and enjoyment of the special qualities of the Parks'.*

5.3.10 The special qualities are defined as:

- Diverse, inspirational landscapes and breath-taking views
- A rich variety of wildlife and habitats including rare and internationally important species
- Tranquil and unspoilt places
- An environment shaped by centuries of farming and embracing new enterprise
- Great opportunities for recreational activities and learning experiences
- Well-conserved historical features and a rich cultural heritage

5.3.11 The Scheme design considers these qualities with the aim to promote understanding of them whilst conserving and enhancing the natural beauty of the place.

5.3.12 The Scheme avoids introduction of tall bridge structures or elevated embankments and instead the Scheme is positioned within cutting with structures and associated headwalls set within the landform at as low an elevation as possible. Views of the Scheme from the designated landscape have been considered with the aim where possible to minimise any adverse effects.

5.3.13 The landscape strategy aims to reinforce and enhance (where appropriate) existing defined key characteristics of the receiving South Downs National Park landscape and its setting with reference to the defined Landscape Character Areas (LCA) (LCA G5: Itchen Valley Sides and LCA A5: East Winchester Downs, and LCA F5: Itchen Floodplain).

5.3.14 The earthworks strategy has evolved to minimise impacts on topography, positively respond to the characteristics of the landscape (including landscape pattern, features and perceived tranquillity) whilst providing a balance to material cut and fill. Sympathetically designed earthworks which reflect the existing landform provide opportunity to utilise site gained chalk material as the basis for new areas of chalk grassland.

5.3.15 The requirement for chalk spoil deposition, generated during construction of the Scheme, on agricultural land within wider areas of the South Downs National Park has been minimised. This is a landscape scale enhancement measure which responds to the objectives of the National Park and positively reinforces and enhances a key characteristic of the South Downs National Park through creation of priority chalk grassland habitat. The Scheme design also minimises agricultural severance to existing land parcels.

5.3.16 The creation of new scrub/woodland on the slopes of the proposed highway embankment / cutting slopes aids visual screening of the Scheme. This

approach strengthens the perception of the large open skies and distant panoramic views focusing views to the open rolling downland landscape and away from the highway network.

5.3.17 The dark night skies of the South Downs National Park have also been considered and proposals have minimised the usage of lighting with this limited to the underpasses, and gantry mounted signage on gantries GADS003, and GADS004 (accordance with Design Manual for Roads and Bridges, CD 365 Portal and cantilever signs/signals gantries).

5.3.18 The walking, cycling and horse-riding facilities around and within the Scheme are to be upgraded and would retain the current provisions and introduce new routes and connections providing greater access to the South Downs National Park from Winchester. The Scheme also promotes further access opportunities to the South Downs National Park including areas of newly created chalk downland. All routes have been designed to allow all footway /cycleway gradients to be no more than 1:20 to comply with Department for Transport (DfT) inclusive mobility impaired users.

5.3.19 **Table 5.1** identifies how the Scheme design provides a solution which positively responds to the special qualities of the South Downs National Park, thus supporting public understanding and enjoyment of the designated landscape.

Table 5.1: Design Response to the Special Qualities of the South Downs National Park

Criteria	Summary of Design Response
Diverse, inspirational landscapes and breath-taking views	The design proposals minimise visibility of the highway (due to position at a low elevation), and proposals for topography and earthworks remodelling on the eastern side of the M3 the Scheme reinforce the existing characteristic of the open downland landscape. This together with woodland planting adjacent to the highway and within the Itchen valley promotes views away from the highway to the surrounding South Downs National Park, and Winchester townscape skyline.
A rich variety of wildlife and habitats including rare and internationally important species	Minimising land take within the South Downs National Park, and minimising impacts upon the designated SAC and SSSI sites, through considered surface water drainage attenuation features. Maximising areas for the creation of chalk grassland on the open downlands, with a combination of species rich grassland with chalk grassland characteristics and woodland / scrubland within the Itchen Valley to reinforce the characteristics of this landscape and

Criteria	Summary of Design Response
	support ecological connectivity. The Scheme proposals achieve a positive biodiversity net gain which will support the variety of wildlife and habitats within the South Downs National Park.
Tranquil and unspoilt places	Maximising retention of trees and vegetation along the Itchen Valley (where tranquillity is most defined in the Application Boundary) and improving the perception of this characteristic through the landform remodelling on the eastern side of the Scheme adjacent to and within the South Downs National Park to provide screening of the highway. Minimising new lighting, this used only when required for safety.
An environment shaped by centuries of farming and embracing new enterprise	Minimising impacts on the most versatile farmland through a reduction in the Application Boundary, and furthermore through returning temporary acquired agricultural land once the Scheme is operational.
Great opportunities for recreational activities and learning experiences	The walking, cycling and horse-riding facilities around and within the Scheme will be retained and upgraded. This includes: ▪ NCN Route 23, with a widened 4m underpass and 3m route either side of the M3 Junction 9 gyratory. ▪ A new minimum 3m wide (increasing to 4m) combined footway and cycleway for the western side of the Scheme is proposed to link the A33 / B3047 Junction to Winnall Industrial Estate situated on Easton Lane. ▪ An additional 3m wide bridleway (with unbound surfacing) is proposed on the eastern side of the Scheme to link Easton Lane with Long Walk for walkers, cyclists and horse-riders. The provision of new routes increases opportunities for recreational experiences with access from Winchester to the South Downs

Criteria	Summary of Design Response
	National Park, whilst the design of these routes provides for an improved user experience.
Well-conserved historical features and a rich cultural heritage	The design respects the setting of historical assets whilst reinforcing relationships with heritage where achievable. This includes promoting views to Winchester from the newly created chalk grassland downland slopes within the South Downs National Park.

5.3.20 In respecting and considering the South Downs National Park, the Scheme has demonstrated compliance with CABE's design principles 3 the bigger picture, 5 landscape and visual impact, 6 landscape design, and 7 design approach.

5.4 Enhancing user experience

Broader transport and community benefits

5.4.1 The Scheme would provide a less congested network through reducing delays at the M3 Junction 9 and on the M3, A33 and A34 links, smoothing the flow of traffic by improving journey time reliability. As described above the Scheme will create an improved network of walking, cycling and horse-riding routes, and access to the South Downs National Park from Winchester.

Creating an accessible and connected network

5.4.2 The design considers the experience of drivers travelling along the highway, and observers on foot, bicycle or riding horses on the walking, cycling and horse-riding routes, including crossings.

5.4.3 The proposed earthwork embankments have been designed to approximately 1 in 3 earthworks profiles. This creates an 'open feel' for road users travelling along the M3, A34, and A33. All proposed carriageway routes (curvatures and gradients) have been designed in accordance with the Design Manual for Roads and Bridges, ensuring appropriate sight lines are provided.

5.4.4 A range of Public Rights of Way (PRoW) are located within and in proximity to the Application Boundary. These include, the South Downs Way, NCN Route 23, the Itchen Way, St Swithun's Way, and other local PRoW's. Walking, cycling and horse-riding facilities within the Scheme are to be upgraded. These routes retaining and improving connection to provide a well-connected network with greater access to the South Downs National Park from Winchester. Provision includes the new walking, cycling and horse-riding route between Long Walk and Easton Lane, and a footway and cycleway for the western side of the Scheme linking the A33 / B3047 Junction to Easton Lane. Given the undulating landform and levels changes a detailed understanding of the topography has

been key to ensure routes are well considered and improve the user experience both with the accessibility and also the visual interest for users travelling along them. All routes have been designed to allow all footway /cycleway gradients to be no more than 1:20 to ensure accessibility for all users.

5.4.5 In creating a connected network, the Scheme has demonstrated compliance with CABE's design principles 3 the bigger picture, and 4 site masterplan.

5.5 Placemaking

Creating an identity for the Scheme, within a challenging landscape

5.5.1 The design is influenced by its environment beyond the extent of the Application Boundary. Collaborative and inclusive design ensures the design fits with strategies at the national, regional and local levels and considers the needs of stakeholders.

5.5.2 The design draws on the character of the existing landscape including the South Downs National Park and its setting, as well as its ecology and heritage. The Scheme lies within two principal Landscape Character Areas, the East Winchester Downs, and the Itchen Valley. Within the South Downs National Park, the Itchen Valley is subdivided into the Itchen Valley Floor and Itchen Valley Sides. For each of the character areas design principles have been established and followed as summarised below:

Itchen Valley Floor

Figure 5.3 – Image of the Itchen Valley Landscape

- Minimise highway elevation and elevated structures within the valley floor, and promote use of cuttings, and underpasses which sit within the lower lying landscape.

- Utilise existing highway bridge structures to minimise impacts on the River Itchen SAC / SSSI, and retain woodland features

- Improve walking, cycling and horse-riding access through dedicated route linking Kings Worthy to Easton Lane, with careful sitting of the proposed (sympathetically designed) River Itchen pedestrian bridge to minimise visual impact, and impact of existing features and designations.

- Retention of existing vegetation with proposed areas of woodland, scrub, and linear planting within the internal islands and periphery of the highway corridor, to replace lost features, strengthen the green infrastructure network and habitat connectivity, and provide visual screening of the infrastructure.

- Opportunity to utilise site gained chalk material / cut chalk slopes as the basis for creation of species rich grassland (with chalk grassland characteristics) on proposed embankment / cutting slopes adjacent to proposed woodland / linear planting elements. In accordance with Highways England policy (MPI 85) the use of low nutrient materials adjacent to the highway estate as part of new infrastructure (to support biodiversity) will be followed.

- Sympathetically designed M3 Junction 9 gyratory to minimise visual intrusion and retain within the valley floor.

Itchen Valley Sides

Figure 5.4 – Image of the Itchen Valley Sides Landscape

- Reinforce existing character through definition of transitional landscape with woodland / scrub woodland planting on the steep / lower slopes of the proposed earthworks, creating a strong woodland edge to M3 corridor which is reflective of Itchen valley sides and open downland characteristics.

- Improve walking, cycling and horse-riding access through a dedicated route linking Kings Worthy to Easton Lane, with careful sitting of the proposed (sympathetically designed) River Itchen pedestrian bridge to minimise visual impact, and impact of existing features and designations.

- Retention of existing vegetation with proposed areas of woodland, scrub, and linear planting within the internal islands and periphery of the highway corridor, to replace lost features, strengthen the green infrastructure network and habitat connectivity, and provide visual screening of the infrastructure.

- Opportunity to utilise site gained chalk material / cut chalk slopes as the basis for creation of species rich grassland (with chalk grassland characteristics) on proposed embankment / cutting slopes adjacent to proposed woodland / linear planting elements. In accordance with Highways England policy (MPI 85) the use of low nutrient materials adjacent to the

highway estate as part of new infrastructure (to support biodiversity) will be followed.

East Winchester Open Downland

Figure 5.5 – Image of the East Winchester Open Downland Landscape

- Maximising use of deposition materials to aid screening adjacent to the highway corridor. Sympathetically designed earthworks to reflect the existing landform wherever possible to support visual screening and integration of the highway corridor into its landscape context.
- Opportunity to utilise site gained chalk material as the basis for creation of chalk grassland.
- Integration of Scheme into open rolling chalk download landscape with woodland on steep slopes through subtle landform creation with open boundaries and reinforcing the open character with chalk grassland creation on the upper slopes.
- Use of false cutting to provide additional visual screening of the M3 from the South Downs National Park.
- Improved accessibility to the South Downs National Park and areas of newly created chalk grassland which positively contribute to the downland landscape character.
- Promoting excellent views through considering placement of site gained materials and location of the proposed bridleway on the eastern slopes to both screen views of the highway and maximise views towards Winchester and the South Downs National Park where possible.
- Promote the large open skies and distant panoramic views through retaining the open characteristics of the open downland, through careful placement of landscape screening woodland features on steep and lower slopes and with sympathetic landform reprofiling.

5.5.3 In creating an identity for the Scheme, the Scheme has demonstrated compliance with CABE's design principles 3 the bigger picture, 6 landscape design, 7 design approach, and 8 materials and detailing.

5.6 Sustainable design

5.6.1 The Scheme seeks to be a multi-functional, and resilient, minimising waste and the use of new material. The proposal maximises use of site gained materials to minimise impacts on import and export, instead using these in a positive way to reinforce character and identity.

5.6.2 Sustainable design is a fundamental consideration of the Scheme. Where appropriate, materials would be locally sourced, reclaimed, recycled, or minimise carbon impact.

5.6.3 The Scheme aims to avoid, and where not possible, minimise impacts on biodiversity, with the commitment of achieving no net loss with potential opportunities for improving biodiversity where possible.

5.6.4 Due to the lifespan of the proposals the Scheme design considers potential change from future Climate Change, including designing in appropriate water attenuation features for extreme events, specifying durable materials, and including a diverse soft landscape species for resilience.

5.6.5 In considering Sustainability as a key aspects and principle for the development of the Scheme, the Scheme has demonstrated compliance with CABE's design principles 9 sustainability.

6 Design Rationale

6.1 Introduction

6.1.1 The improvements proposed as part of the Scheme (**Figure 6.1**) both maintain existing connectivity on the road network, whilst providing enhanced capacity, simplified routing and improved facilities for walkers, cyclists and horse-riders. The Scheme would provide new free flow links on the A34 – M3 southbound and M3 northbound to A34.

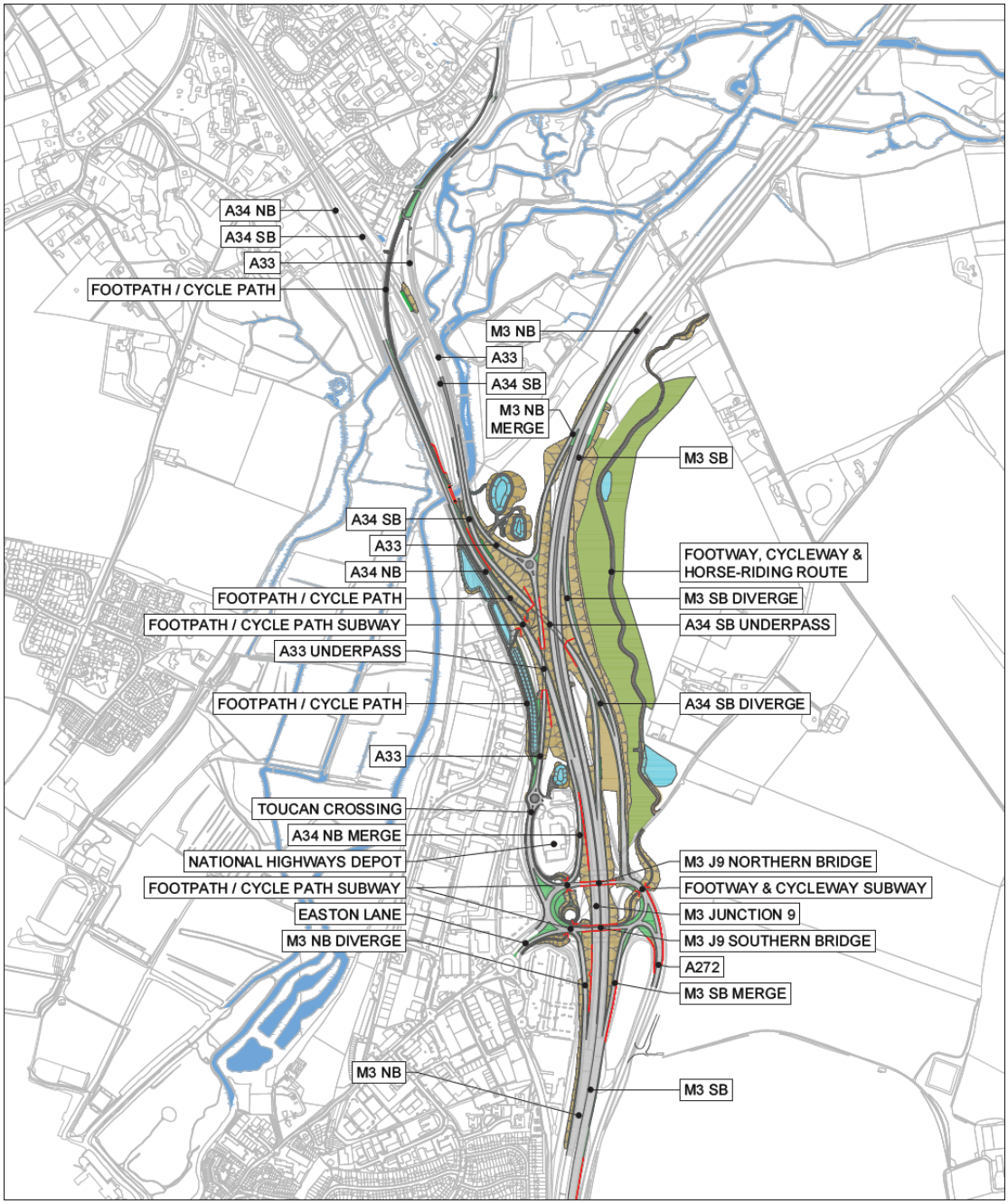
6.1.2 The Application Boundary is approximately 109 hectares (ha). This includes the proposed land required for gantries, signage, temporary construction compound areas, areas for environmental mitigation (including landscaping), areas for drainage requirements (some of which would be temporary) and traffic management.

6.1.3 This section explains how the design has responded to the high-level design principles which have been informed by the needs of the Scheme, feedback received and the constraints of both the site and policy.

6.1.4 It begins with an overview of general principles relevant to the Scheme with the remainder divided into the Scheme sections. The sections are:

- M3 / A34 Northbound
- M3 / A34 Southbound
- A33 Link to Kings Worthy

Figure 6.1 – Scheme layout overview



6.2 Scheme wide design principles

Safety principles

6.2.1 The Scheme would provide an improved junction, with free flowing connectivity between the M3 and the A34, improving safety on the strategic road network. A motorway junction and new link roads, built to current design standards would provide a safer route than the existing junction which is heavily congested and is prone to queuing traffic on the live M3 carriageway. Provision of the junction

improvements would allow strategic traffic to continue on the M3 and A34 without stopping and would allow local traffic to cross the route with reduced queuing due to the removed traffic accessing the M3 Junction 9 roundabout.

6.2.2 Furthermore, the improved walking, cycling and horse-riding accessibility within the Application Boundary would provide dedicated routes, these predominately located away from the carriageway with new formal crossing points including subways and a new Toucan crossing on the A33.

6.2.3 Specific interventions including the use of warm mix asphalt is also being explored for the proposed pavement construction. This offers benefits to Health & Safety, with lower temperatures help to reduce the Health & Safety risks associated with the production and laying of asphalt materials at high temperatures such as burns, exposure to volatile hydrocarbon fumes and the impact of steam on visibility, particularly when wearing safety eyewear. Indeed, fume generation is reduced by around 50% for each 10°C reduction in temperature. Increased use of warm mix asphalts will therefore contribute to causing Zero Harm on the National Highways network.

6.2.4 As set out in National Highways design principle 1, safety is fundamental to good road design and the Scheme demonstrates compliance with this principle.

Sustainable design

6.2.5 The Scheme addresses National Highways design principle 6 (good road design is environmentally sustainable), and 10 (good road design is long lasting).

6.2.6 Sustainability has been integral to the design process, and design measures including the earthworks strategy, drainage strategy, and landscape strategy make the road more sustainable.

6.2.7 The Scheme has been designed with climate resilience in mind and allowances for climate change incorporated. **Chapter 14 (Climate)** of the **ES (Document Reference 6.1)** sets out in detail how the Scheme takes account of the projected impacts of climate change.

6.2.8 The Scheme drainage strategy includes a gravity fed system which removes the need for pumped systems. Furthermore, the strategy ensure water is attenuated and treated prior to discharge to the River Itchen at agreed flow rates, and attenuation features have been located to minimise visual impact with soft landscape provided to enhance biodiversity.

6.2.9 It is anticipated that approximately 400,000m3 of earth will be required to be excavated during the construction phase, and the earthwork strategy includes provision for reuse of all anticipated material within the Application Boundary to facilitate the construction of the development itself or through land reprofiling. The earthwork strategy has been informed by the unique topography of the wider environment to ensure solutions are sympathetic to local character, whilst

maximising benefits, such as visual and noise screening, and for creation of chalk grassland.

6.2.10 The landscape strategy includes the use of native species of local provenance, to reflect the character of the local landscape, however the selected species mix will be as diverse as reasonably practicable to ensure resilience against potential future diseases and climate change whilst providing functional habitat for wildlife present in the local area. Opportunity for maximising biodiversity benefit has also been provided for with the use of scrub planting throughout the Scheme and species rich grasslands (including chalk grassland). These are in accordance with National Highways policy (MPI 85) which whilst supporting biodiversity, minimises maintenance requirements for the highway estate. The **Outline Landscape and Ecological Management Plan (OLEMP)**, within **Appendix 7.6** of the **ES (Document Reference 6.3)** sets out the proposed species lists for the landscape elements proposed.

6.2.11 With sustainability as a focus, material choices have been explored. As noted previously the use of warm mix asphalt for the proposed pavement construction is being considered. This offers benefits to carbon reduction; the lower production temperatures of warm mix asphalts require less energy and reduce the CO_2 emissions associated with asphalt production by up to 15% compared to hot mix asphalts. Therefore, more widespread use of warm mix asphalts will support National Highways to deliver its aim of Net Zero for maintenance and construction by 2040.

6.2.12 Finally, as detailed below, the rights of way strategy promotes access for all and encourages local users to access the network whether via foot, cycle or horse.

Highways design

6.2.13 The Scheme has been designed in accordance with DMRB and where specific design requirements cannot be met, departures from standards have been identified. The Scheme's highway design addresses National Highways design principle 3 (makes roads understandable), 4 (fits in context) and 5 (is restrained).

6.2.14 The design has evolved following review of the horizontal and vertical design. The proposed geometry has been revised to tie in horizontally to existing roads (A34, etc) sooner than previously shown, to reduce the amount of works required. The vertical design levels have also been reviewed to reduce the length and height of proposed retaining structures, all within the existing site constraints

6.2.15 The design has been developed collaboratively with Volker Fitzpatrick to ensure buildability and temporary traffic management operations can be achieved, to provide safety for the operatives and minimise disruption to the motorists during construction. Signage, Vehicle Restraint Systems (VRS) and associated infrastructure have been incorporated into the preliminary design to ensure the

safety principles set out within the DMRB are considered and met (where possible).

6.2.16 The highways design and associated embankments are proposed to utilise site gained materials (where possible) to minimise adverse impacts upon importing material.

6.2.17 Boundary treatment would be provided to demarcate the extent of highways authority ownership. The boundary treatment would likely comprise of timber post and wire fence at a height of up to 1.35m (recognising this as a typical feature found within the South Downs National Park), or a post and four rail fence at a height of up to 1.3m. Where necessary, a post and rail fence would be provided with the attachment of a wire mesh for the purpose of animal management.

6.2.18 The provision of gantries and gantry mounted Variable Message Signage (VMS) would be installed for the safe operation of the Scheme. The number of these has been minimised where possible and siting of them optimised to reduce perception within the wider landscape. In addition, a range of signs and gantries would be required for safe operation of the Scheme.

6.2.19 The majority of the existing carriageway within the Application Boundary consists of a low noise road surfacing. Where carriageway within the Application Boundary is not affected it is intended that the existing road finish would be retained. Where carriageway is to be affected and a new road finish implemented, it would consist of a low noise finish.

6.2.20 Given the context of the Scheme's location with the South Downs National Park, which is sensitive to new lighting arrangements, avoiding and minimising light pollution is a key consideration for the Scheme. 'The carriageways, junction and the slip roads would not be lit'. Lighting would be required within the underpasses and subways due to the length of these facilities (The approaches and exits to underpasses would not be lit), and gantry-mounted signage which would be designed in accordance with the South Downs National Park Authority's *Dark Skies Technical Advice Note*.

Drainage

6.2.21 The Scheme's drainage design addresses National Highways design principle 4 (fits in context) and 6 (is environmentally sustainable).

6.2.22 The existing M3 Junction 9 highway drainage system is predominantly piped, with carriageway run-off captured by channels, gullies, trench drains and ditches, then conveyed to soakaway trenches or soakaways. 80% of the whole M3 Junction 9 scheme area, which all lies to the south of the River Itchen and includes cuttings, drains to soakage features. The remaining 20% of the existing M3 Junction 9 carriageway and cuttings area, which comprises 3.4 ha of A33/A34 carriageway to the north of the River Itchen and immediately south of

the River Itchen, drains to the River Itchen or its immediate floodplain, via highway drainage ditches.

6.2.23 In dealing with surface water run-off, the project has various options. The ideal solution is to have unrestricted discharge so that no water has to be attenuated on site. Unrestricted discharge can be achieved in three ways, via combined sewers, into a watercourse, or infiltration into the ground.

6.2.24 Scheme specific drainage design constraints are that there are no suitable sewers in the area, and the Environment Agency requires that the discharge to the watercourse cannot increase current discharge rates to the River Itchen, therefore we need to hold water in some form of storage. Furthermore, ground infiltration rates are poor and as a result we need to hold water in some form of storage.

6.2.25 The preliminary surface water drainage approach is as follows:

- All new drainage conveys run-off to Extended Detention Basins (EDBs), which infiltrate to ground where the National Highways Water Risk Assessment Tool (HEWRAT) screening and subsequent, relevant assessment of risk, allows.

- Run-off volumes are attenuated in extended detention basins as far as space and acceptable draw-down times allow. Run-off volumes that are unable to drain to ground within a practical time period are discharged to river at the long-term storage rate of 2 l/s/ha.

- It is proposed that the run-off will be treated before being discharged. The use of catchpits, swales and sediment forebays within the EDBs provides this treatment within the process.

6.2.26 The attenuation requirement is based upon the modelling of critical rainfall events of short duration and high intensity, required by DMRB design documents CG 501 ‘Design of highway drainage systems’ and CD 521 ‘Hydraulic design of road edge surface water channels and outlets’.

6.2.27 The design of scheme wide attenuation features is dictated by critical rainfall events that are typically longer duration and lower intensity, required by flood management planning policy, the sustainable drainage systems (SuDS) Manual, CG 501 and CD 532 Vegetated drainage systems for highway runoff. Furthermore, the carriageway edge drainage and the wider SuDS network, each employ different climate change criteria (20% and 40% respectively) in accordance with their respective design codes.

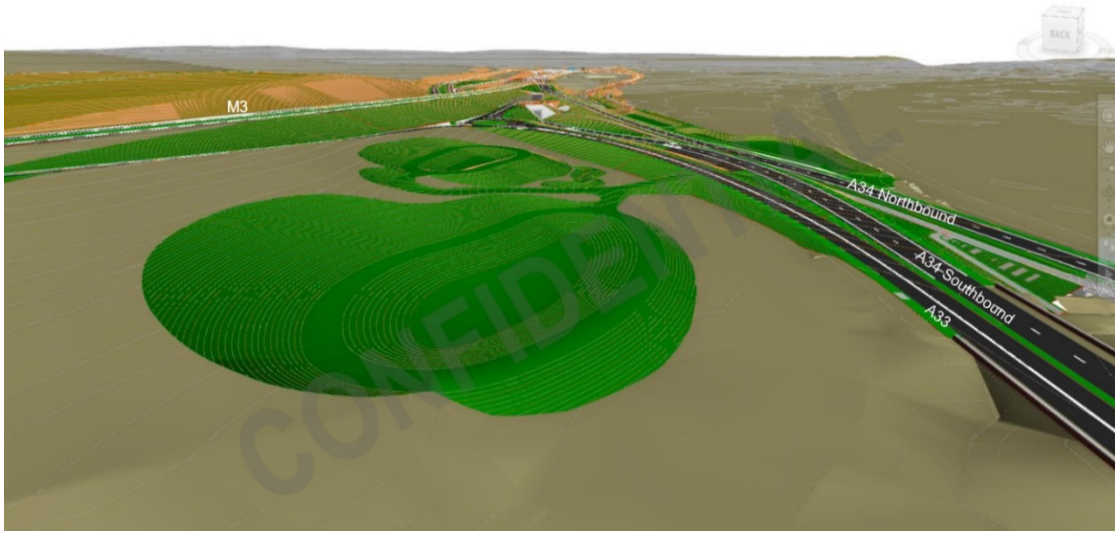
6.2.28 All proposed carriageway drainage for the Scheme has been sensitivity tested for 40% climate change and it has been shown that surface flooding in the 40% climate change condition is not detrimental to the safe operation of the highway. Drainage performance and mitigation measures during exceedance events have also been indicated, ensuring a sustainable system has been designed.

6.2.29 The attenuation ponds are located throughout the Application Boundary, these positioned to optimise for a gravity fed system. The Application Boundary is however very constrained, and the topographic form of the land is high on the east side to low on the west where the River Itchen is located.

6.2.30 On the western side of the M3, there is a requirement to store 7,400m3 to limit the discharge to 2 l/s into the river. The logical place for the basins prior to discharge into the river, of suitable size is on the sloping field to the west of the M3 and north of the A33. To reduce the extent of cut into the hill side the design incorporates filling on the downward side of the basins to create increased storage volume. Screening in the form of planting will be provided to the south and east of the ponds, and the basins will be typically seeded with opportunities for constructed wetlands included in basin 2 which will contain a semi-permanent body of water.

6.2.31 **Figure 6.2** shows EDB 2, which will include 500m^2 of constructed wetland. The green colour identifies the extent of modified landform.

Figure 6.2 – Attenuation Ponds 3d view



6.2.32 In addition, the western side of the M3 also contain further EDB's adjacent to the Winnall industrial estate. The basins will be typically seeded with opportunities for constructed wetlands included in basin 3C located at the south western end of the feature, and closest to the River Itchen. This feature will contain a semi-permanent body of water with the opportunity to include 1000m2 of surface wetland.

6.2.33 On the eastern side existing overland flows from approximately 13.9ha of agricultural land within the South Downs National Park to the east of M3 are captured in existing soakaway trenches against the eastern side of the existing M3 earthworks or piped under the M3 corridor via an existing culvert.

6.2.34 This culvert conveys overland flow from approximately 13.9ha of arable land east of the M3, to the River Itchen floodplain to the west. The existing culvert is considered suitable to retain. However, it is proposed to impound the existing overland catchment within a new EDB (infiltration basin 5) to the east of the M3. The existing culvert will be extended from the upstream and downstream ends to ensure that access is maintained under the M3.

6.2.35 A further EDB is proposed on the eastern slopes of the proposed chalk grassland downland. This is within a natural depression within the existing landform and will accommodate excess surface water runoff from the chalk grassland and surrounding arable landscape allowing this to infiltrate into the ground.

6.2.36 The EDBs on the eastern side of the M3 designed as infiltration features will be typically dry and have therefore been designed to appear as inconspicuous features within the landscape. Landform profiles are reflective of the surrounding topography and the basins will be seeded with a grass seed mix suitable for their function and which positively responds to the surrounding chalk grassland feature.

Rights of Way strategy and mobility

6.2.37 The Scheme's rights of way strategy addresses National Highways design principle 2 (is inclusive), 3 (makes roads understandable), 4 (fits in context), and 6 (is environmentally sustainable).

6.2.38 The walking, cycling and horse-riding facilities around and within the Scheme are to be upgraded and would retain the current provisions and introduce new routes and connections. All routes have been designed to allow all footway /cycleway gradients to be no more than 1:20 to comply with DfT's inclusive mobility impaired users. The range of opportunities and barriers to all forms of movements have been given due consideration in the design of the Scheme.

6.2.39 The use of tactile paving (both blister and corduroy types) is also proposed to cater for the visually impaired, and wayfinding signage will also be provided along the footway/cycleway/bridleway routes as part of the Scheme proposal.

6.2.40 NCN Route 23 would be upgraded. On both sides of the gyratory (east and west), the existing walking and cycling route which links both parts of Easton Lane, would descend to a subway route provided beneath the gyratory roundabout. Existing provision for horse-riders would be improved with a widened 3m route (with 4m wide underpasses), which includes mounting blocks provided either side of the eastern subway to enable rider dismounting for leading horses through to continue the route to the existing bridleway extent (which currently ceases within the existing roundabout). Future provision for horse-riders is allowed for (beyond the existing cessation point within the roundabout) by providing a wider 3m width bridge over the M3, and space for future mounting block provision either side of the western subway which would be sufficient to lead horses through.

6.2.41 A new 3m wide combined footway and cycleway for the western side of the Scheme is proposed to link the A33 / B3047 Junction to Winnall Industrial Estate situated on Easton Lane. The route runs parallel to the west of the A33 with the route to be constructed within the existing verge. A signalised (unlit) Toucan crossing is proposed adjacent to the proposed National Highways depot roundabout, to provide a link to this route through the north-western side of the gyratory roundabout. The route then transitions to utilise the existing A34 northbound and A33 carriageways which are to be abandoned as part of the Scheme. The existing informal link to the existing pRoW would also be upgraded from its connection to the A33.

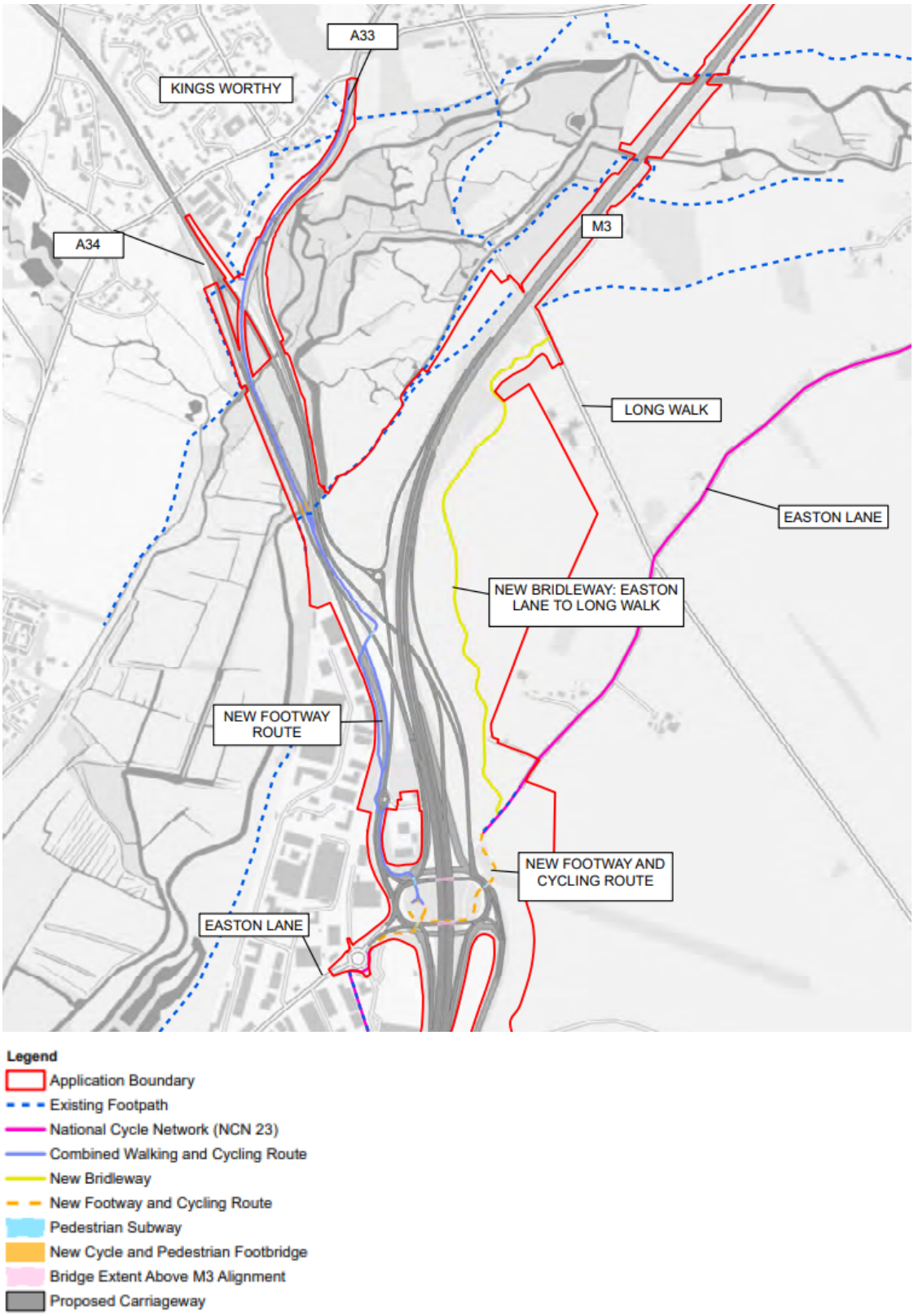
6.2.42 For the first River Itchen crossing (i.e. most northern), the route follows the existing A33 and is accommodated on the existing bridge deck abandoned carriageway. For the second river crossing (i.e. most southern), the Scheme includes a new cycle/footbridge to be constructed across the River Itchen, with the route extending south along the east of the new A34 alignment, crossing under the A34 in a new 4m wide subway which would then traverse around new attenuation basins, then progressing to the existing depot junction and towards NCN Route 23 via a new subway under the northern arm of the gyratory roundabout. The new cycle/footbridge would be approximately 3.5m wide.

6.2.43 Four proposed subways would be required to accommodate existing and improved provision of routes in the area. The two new subways at the gyratory roundabout would cater for existing users of NCN Route 23, one additional subway would link with the western walking and cycling route, while a subway under the A34 northbound catering for the pedestrian/cyclist users of the new route.

6.2.44 The new subways would comprise of in-situ or precast reinforced concrete box structures. In-situ or precast reinforced concrete splayed wing walls are proposed on corners of the new subways. Lengths vary but the longest subway is approximately 28min length with a clear width of 4m with clear site lines to the exit to maximise user comfort and safety. Furthermore, all subways are to be appropriately lit during day time and night time hours.

6.2.45 An additional 3m wide bridleway (with unbound surfacing) is proposed on the eastern side of the Scheme to link Easton Lane with Long Walk for walkers, cyclists and horse-riders. Such a route would provide a circular leisure path for those using the South Downs National Park with a link to the other paths around Long Walk with their links to local villages. The bridleway has been designed to a gradient of no more than 1:20. The route would be an unbound surface (i.e. crushed basalt or similar) to allow for a free draining surface which is suitable for the range of users. A swale would be included adjacent to the path (on the upward side of the landform), to informally collect surface water (following heavy rainfall) to ensure the bridleway remains accessible. The route would provide for a varied visual experience for users accessing the South Downs National Park and connect to the wider rights of way network within improved access via the M3 Junction 9 gyratory.

Figure 6.3 – Existing PRoW and Proposed Walking, Cycling and Horse-riding Routes



6.3 Scheme sections

6.3.1 The following provides a breakdown of the design into sections for ease of reference. The following criteria (as identified in CABE guidance) has been embedded into the design and is summarised in each section. This includes:

- Use, Layout, and Access – explanation and justification for the use of space and structures, their location within the Application Boundary and the way they are set out.
- Amount and Scale – explanation and justification for the amount of development, including dimensions of structures and size of spaces.
- Landscaping and Appearance – explanation and justification for the proposals including purpose and relationship to the surrounding environment. This includes reference to biodiversity measures. An explanation is provided in relation to the appearance of structures and space and the relationship to context.

M3 / A34 Northbound

6.3.2 The Scheme has been designed to tie into the existing M3 northbound and southbound carriageways to the south of the proposed gyratory. In the northbound direction the existing M3 on the approach to Junction 9 consists of four running lanes. The M3 is proposed to be widened to four lanes within the proposed gyratory bowl with two lanes continuing north via the M3 and two lanes north via the A34. The existing signage / road markings on the approach to the junction will be amended to suit and tie-into the proposed arrangement. In the southbound direction the Junction 9 southbound on-slip will comprise of an auxiliary lane merge whereby the proposed alignment on the mainline southbound M3 will tie into the existing three lanes south of the gyratory.

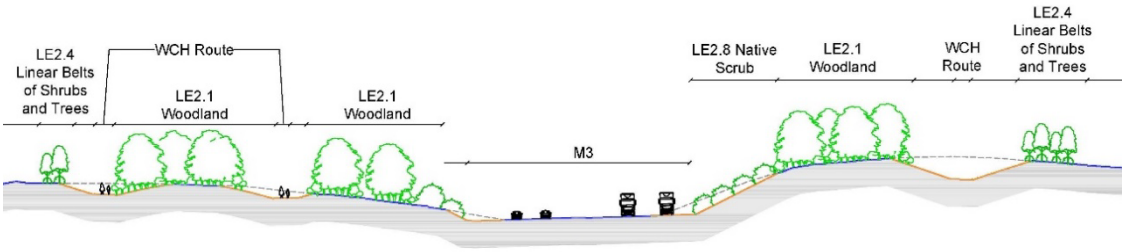
6.3.3 As stated above, the two proposed northbound nearside lanes south of Junction 9 will be signed and line marked for the A34 northbound and the two offside lanes for the M3. Access to the reconfigured junction 9 gyratory will be provided through a reconfigured northbound off-slip.

6.3.4 The roundabout would be replaced with a geographically smaller unsignallised gyratory roundabout, with two new longer span gyratory bridges replacing the existing bridges to provide the road corridor width required for the new configuration.

6.3.5 The two proposed northbound A34 lanes will pass under Junction 9 alongside the two M3 lanes after which they will bifurcate from the M3 to form the new A34 northbound link with the remaining two offside lanes carrying on north as the M3.

6.3.6 Overall, the highway M3 carriageway and northbound A34 lanes here are within cutting, with reinforced concrete retaining walls minimising the physical footprint of the Scheme adjacent to and within the South Downs National Park.

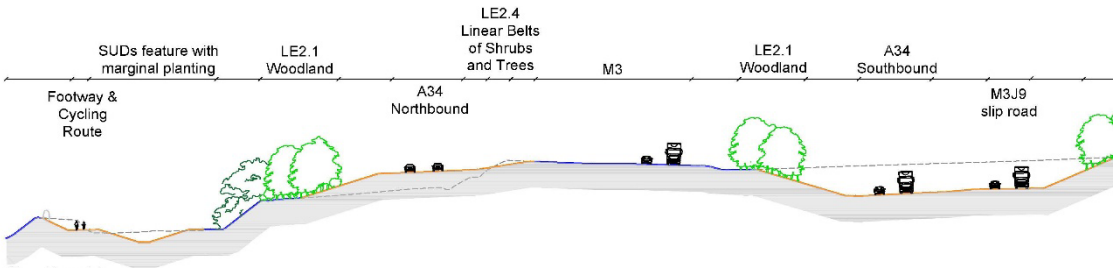
Figure 6.4 – Indicative Section through the M3



6.3.7 The A34 continues north passing over the proposed realigned A33 with the M3 northbound on-slip and then descending to tie into the existing A34 northbound carriageway before it crosses the River Itchen. The proposed A34 northbound underpass structure box structure would comprise a reinforced concrete box structure. Reinforced concrete wing walls will be provided at the north-west and south-west of the structure.

6.3.8 The proposed A34 northbound structure results in the carriageway being slightly elevated from the existing ground level, however the use of retaining walls maximises opportunity for woodland and scrub planting within the internal island to maximise visual screening.

Figure 6.5 – Indicative Section through A34 northbound highway



6.3.9 Beyond the structure the existing northbound A34 diverge link towards the A33 would be abandoned, separating the existing linkage between the two A-roads. Part of the abandoned carriageway would be used for a new walking and cycling route. The layout of the A34 allows two lanes to run continuously as shown in Figures 6.4 and 6.5.

6.3.10 The existing A34 link connecting to the existing M3 junction 9 gyratory would be converted to a two-way road connecting to the A33, linking the reconfigured gyratory roundabout to a new roundabout providing access to the National Highway's maintenance depot.

Figure 6.6 – M3 Junction 9 South and Gyratory – Extract from General Arrangement drawing

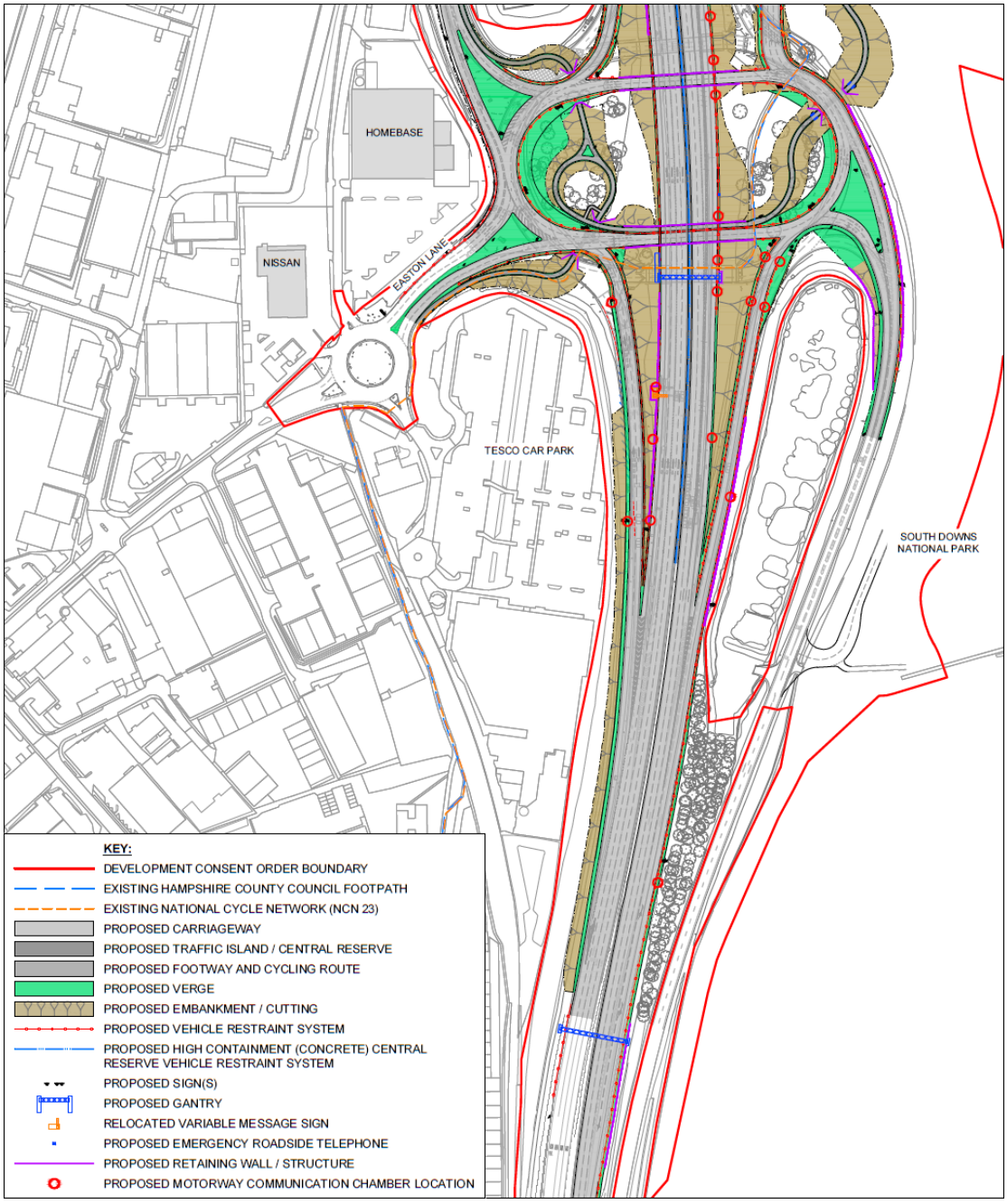


Figure 6.7 – M3 Junction 9 North with A34 Merge – Extract from General Arrangement drawing

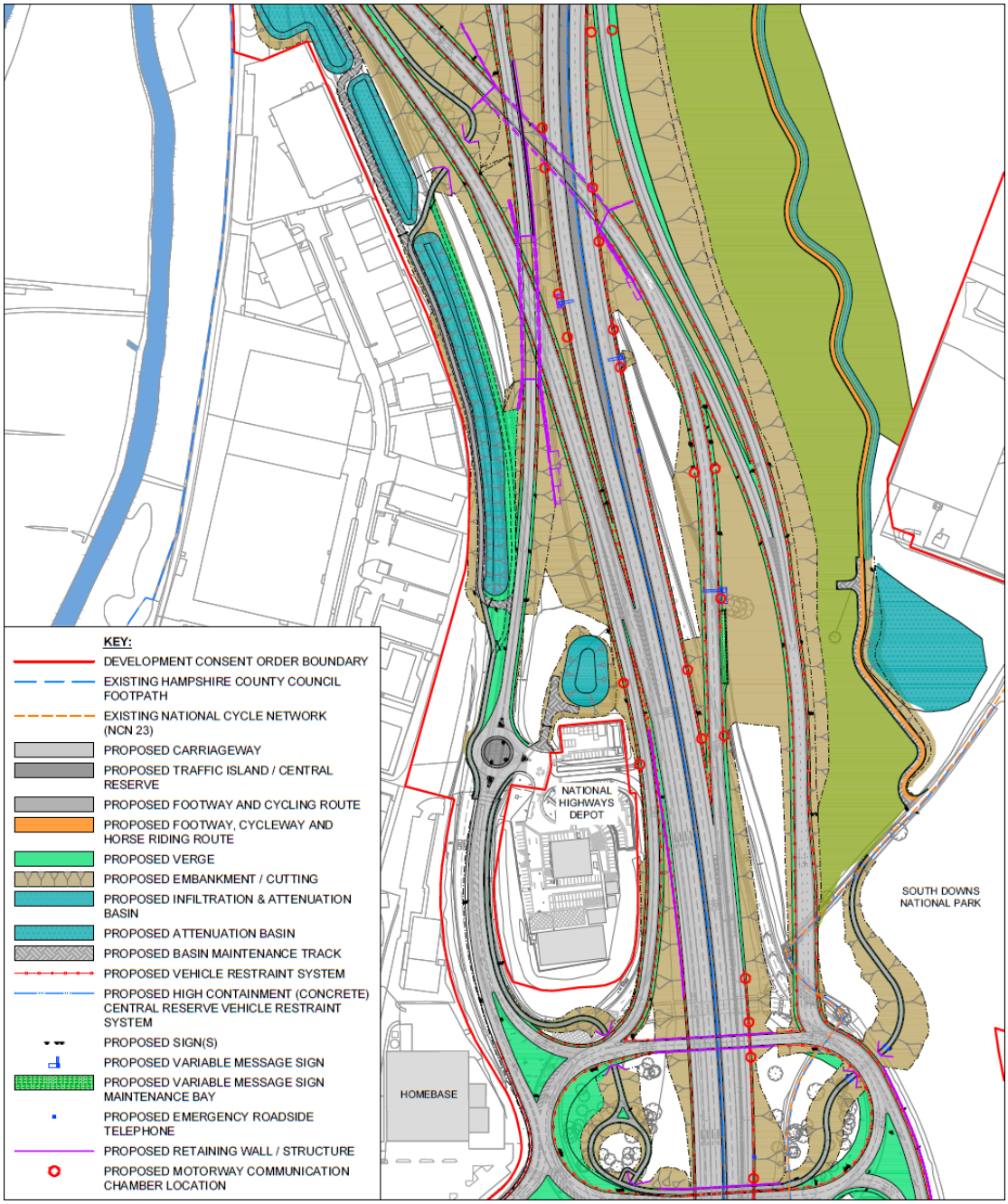
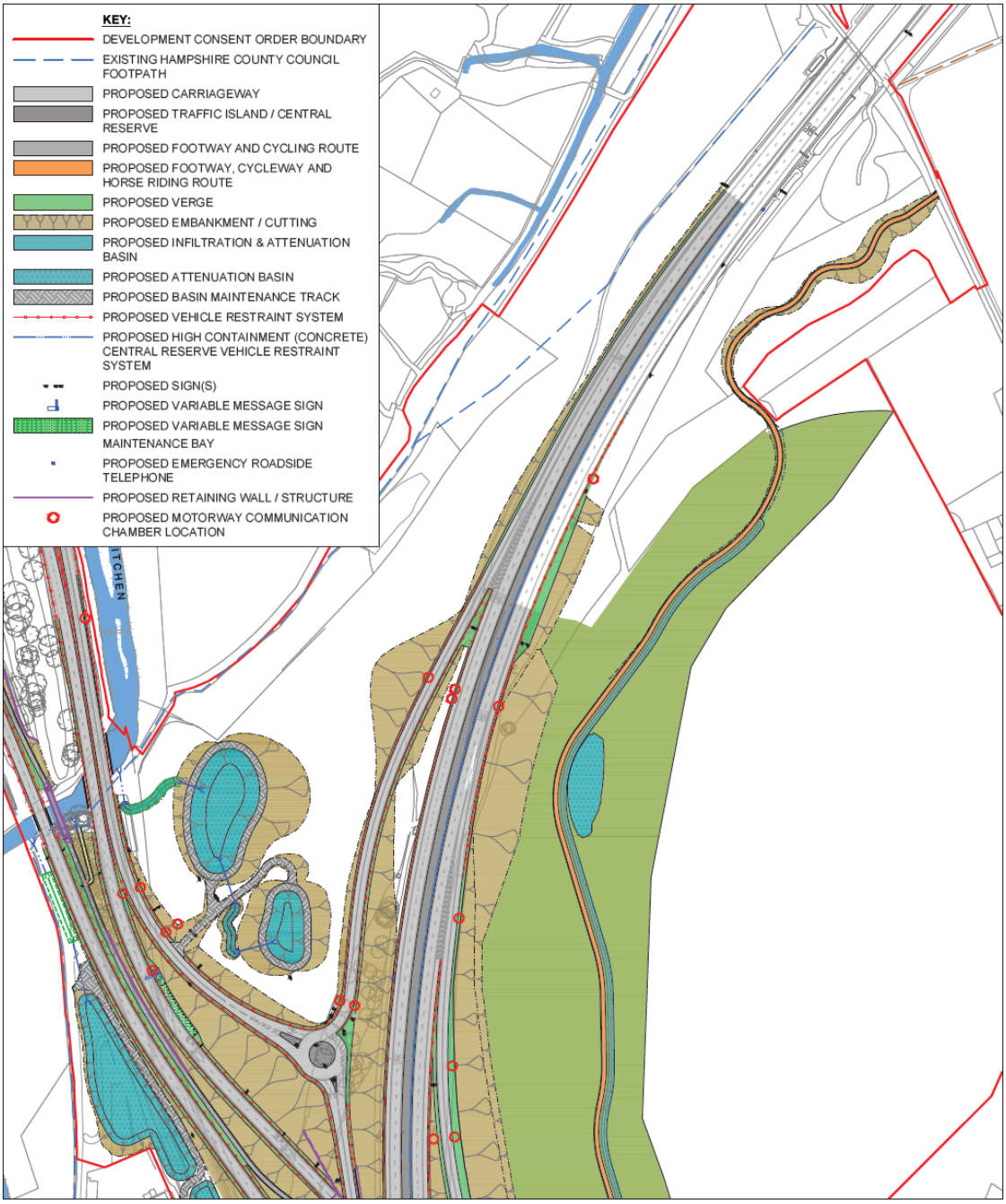


Figure 6.8 – M3 North Arrangement – Extract from General Arrangement drawing



6.3.11 The Scheme includes a new 3m wide combined footway and cycleway for the western side of the Scheme to link the A33 / B3047 junction to Winnall Industrial Estate which is situated on Easton Lane as detailed previously. This would utilise existing sections of carriageway to be abandoned to reduce the need for further full depth construction. The route will include a new 3.5m cycle and footbridge over the River Itchen would be located between the existing Itchen Bridge, and the existing Kingsworthy Bridge. The proposed cycle/footbridge would comprise a single-span (clear span) through truss supported on reinforced concrete abutments founded on piled foundations without the need

for direct or intrusive works within the River Itchen. The position of the route within the river valley and with a combination of proposed earthworks and movement of vehicles away from recreational receptors would lead to a reduce perception of audibility of traffic and reduced visibility of infrastructure thus an increased perception of tranquillity along this new route, positively contributing to the special qualities of the special qualities of the South Downs National Park.

6.3.12 The surfacing material would be constructed from asphalt (or similar material) and offer a more sustainable route for pedestrians and cyclists. A signalised Toucan crossing is also proposed adjacent to the existing National Highways depot to provide connectivity across the proposed realigned A33 carriageway.

6.3.13 The route includes three new subways along the proposed walking, cycling and horse-riding route, at the M3 Junction 9 gyratory, the gyratory subway (north-west), gyratory subway (south-west), and gyratory subway (east), with a further subway (A34 northbound subway) also required. The new subways would comprise in-situ or precast reinforced concrete box structure. In-situ or precast reinforced concrete splayed wing walls are proposed on corners of the new subways. The subways will be lit.

6.3.14 Surface finishes of the concrete are to be detailed at the next stage of design. However, these will look to positively respond to the setting and gateway to the South Downs National Park perception of these features. The intention would be to define a Scheme wide identity which strengthens the sense of place whilst balancing constructability, sustainability and design quality to strengthen a sense of place for users.

M3 / A34 Southbound

6.3.15 The A34 southbound link is proposed to be realigned from its existing alignment after crossing the River Itchen. The realigned A34 Southbound then passes under the M3 carriageway via a new underpass structure. The realigned A34 southbound alignment is proposed within a cutting to reduce the visual impact on the wider South Downs National Park and the surrounding area. The proposed structure would comprise a reinforced concrete buried box. Reinforced concrete wing walls (with vegetated slopes down from A33 link/M3 verge level to the top of the walls and up from the A34 southbound verge level to face of wall) would be provided on all four corners of the structure.

6.3.16 The proposed A34 southbound diverge then diverges with one lane leading to a slip road connecting to the revised junction 9 roundabout gyratory and two lanes proceeding and joining the M3 mainline southbound carriageway under the realigned gyratory. The proposed scheme has been specifically designed to avoid any impacts on the River Itchen floodplain which avoids the requirement for flood compensation and potential increased environmental mitigation.

Figure 6.9 – A34 / A33 North Arrangement – Extract from General Arrangement

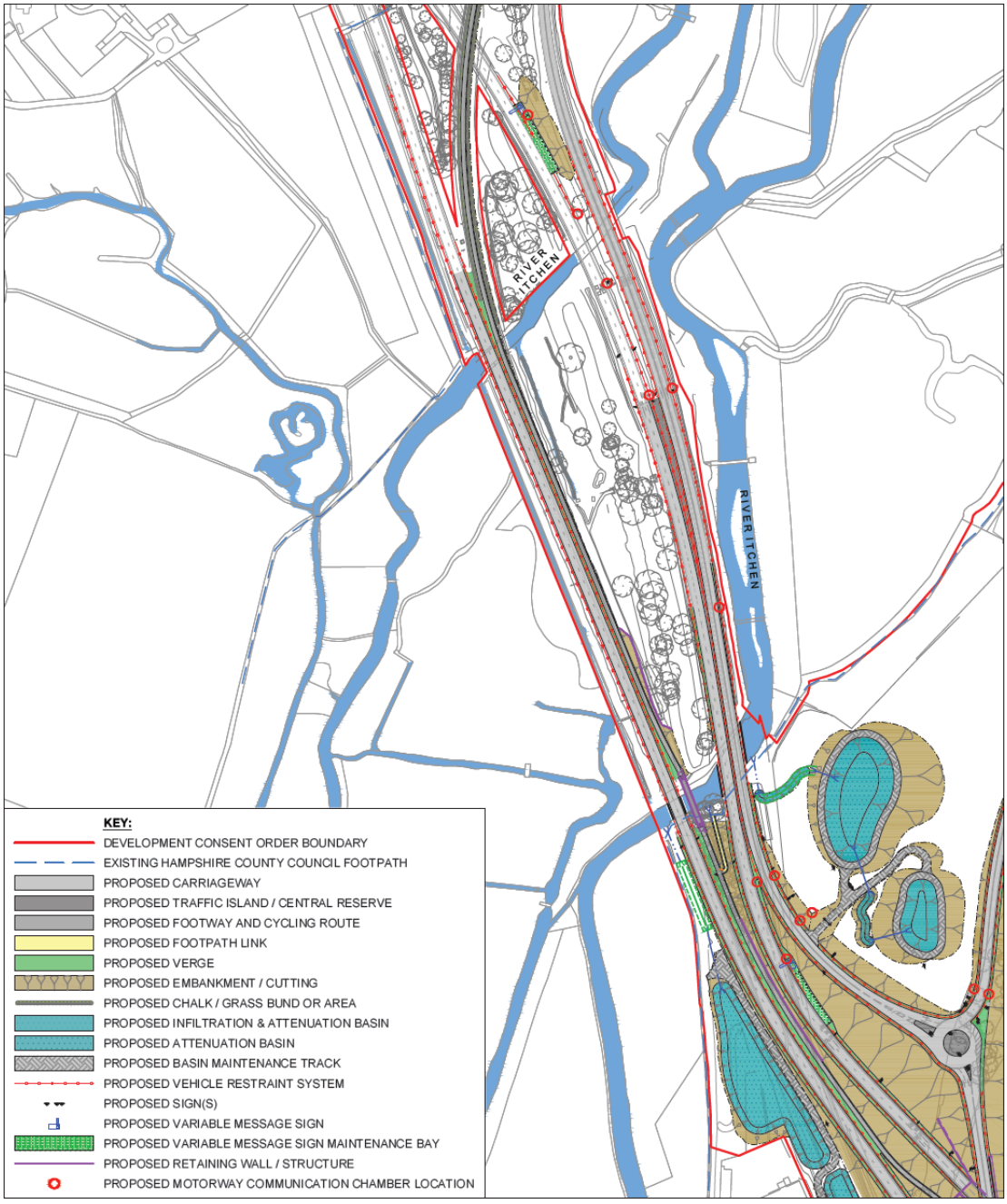
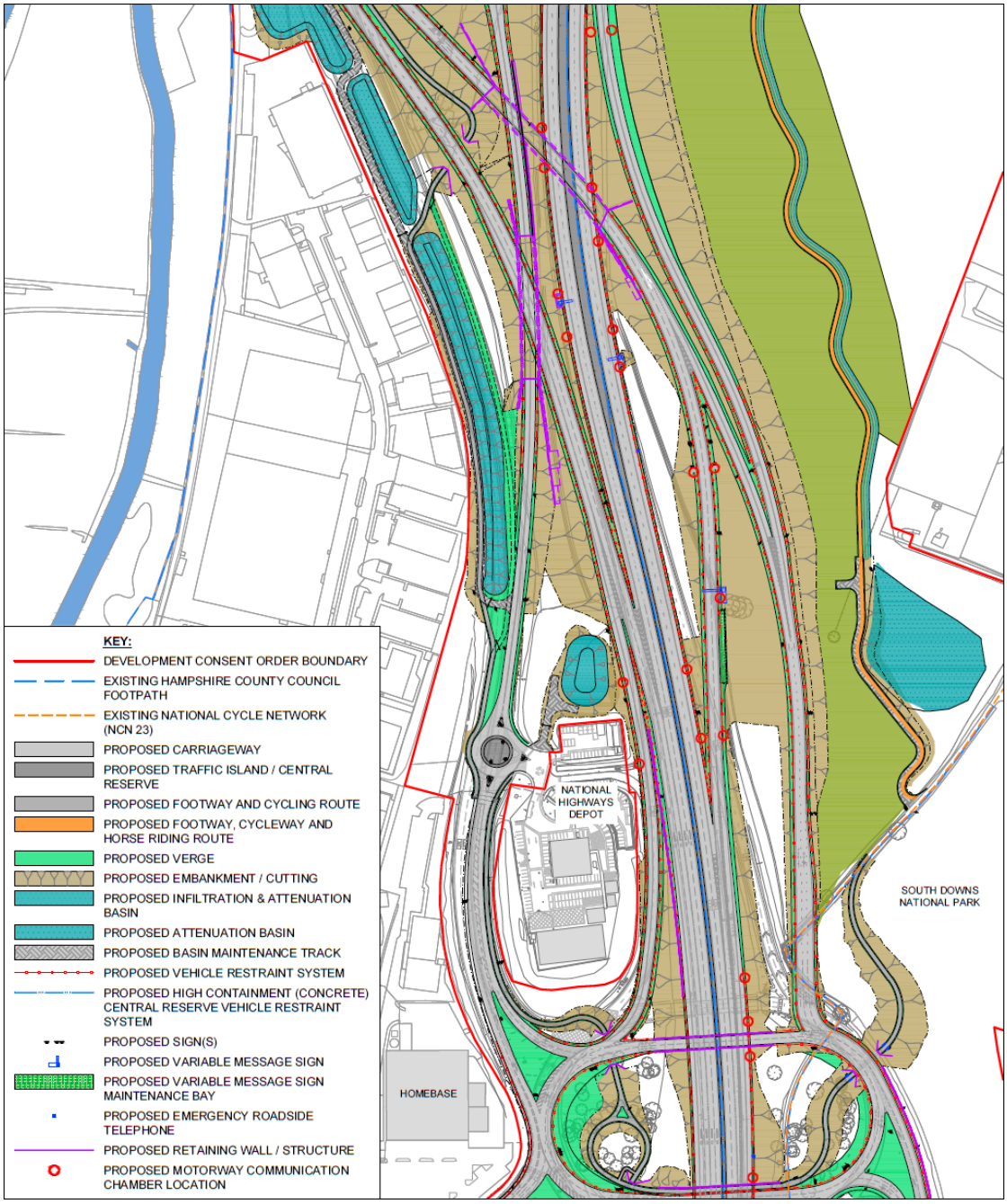


Figure 6.10 – M3 Junction 9 North with A34 Merge – Extract from General Arrangement

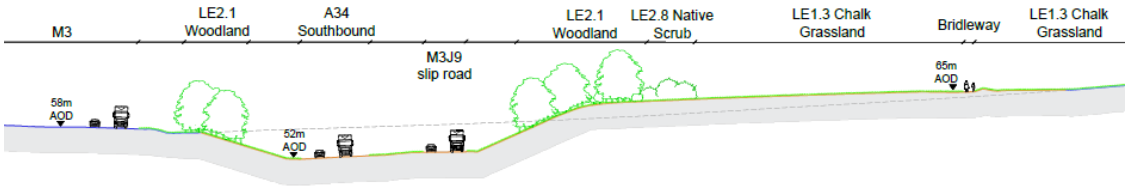


6.3.17 The existing M3 southbound off-slip is to be removed and replaced with a new off-slip located approximately 600 metres upstream. The new southbound M3 off-slip merges with the new link between the A34 and the M3 Junction 9 Gyratory to maintain local access.

6.3.18 The two south-facing slip roads would be realigned to connect to the new M3 Junction 9 gyratory. Both would merge (southbound) and diverge (northbound) directly to the widened M3.

6.3.19 To the east of the highway alignment an area of farmland which is predominately arable will utilise site gained chalk material to produce a ~100m wide landscape of chalk grassland. The material placement has been designed to fit with the natural topography within the South Downs National Park, and when viewed from the surrounding landscape would be viewed as a natural feature. The creation of the chalk grassland which is a priority habitat would create landscape scale enhancement and biodiversity benefits which contribute to the aspirations of the South Downs National Park and the East Winchester Downs LCA.

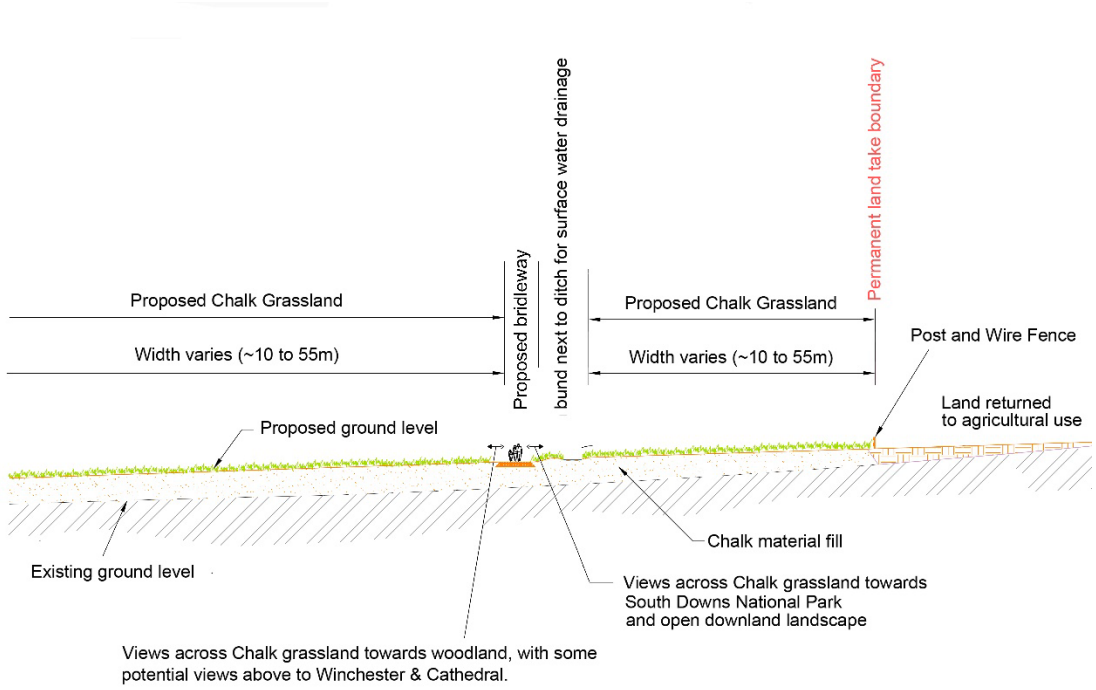
Figure 6.11 – Indicative Section through the A34 southbound and M3 and their relationship to the South Downs National Park / new chalk grassland slopes



6.3.20 This would positively contribute to the special qualities of the South Downs National Park, by providing for a rich variety of wildlife and habitats including rare and internationally important species and positively respond to the aspiration to restore and create additional chalk grassland habitat within the South Downs National Park.

Figure 6.12 – Heath spotted orchid, Dactylorhiza maculata, growing wild in chalk grassland

Figure 6.13 – South Downs National Park eastern slopes indicative section

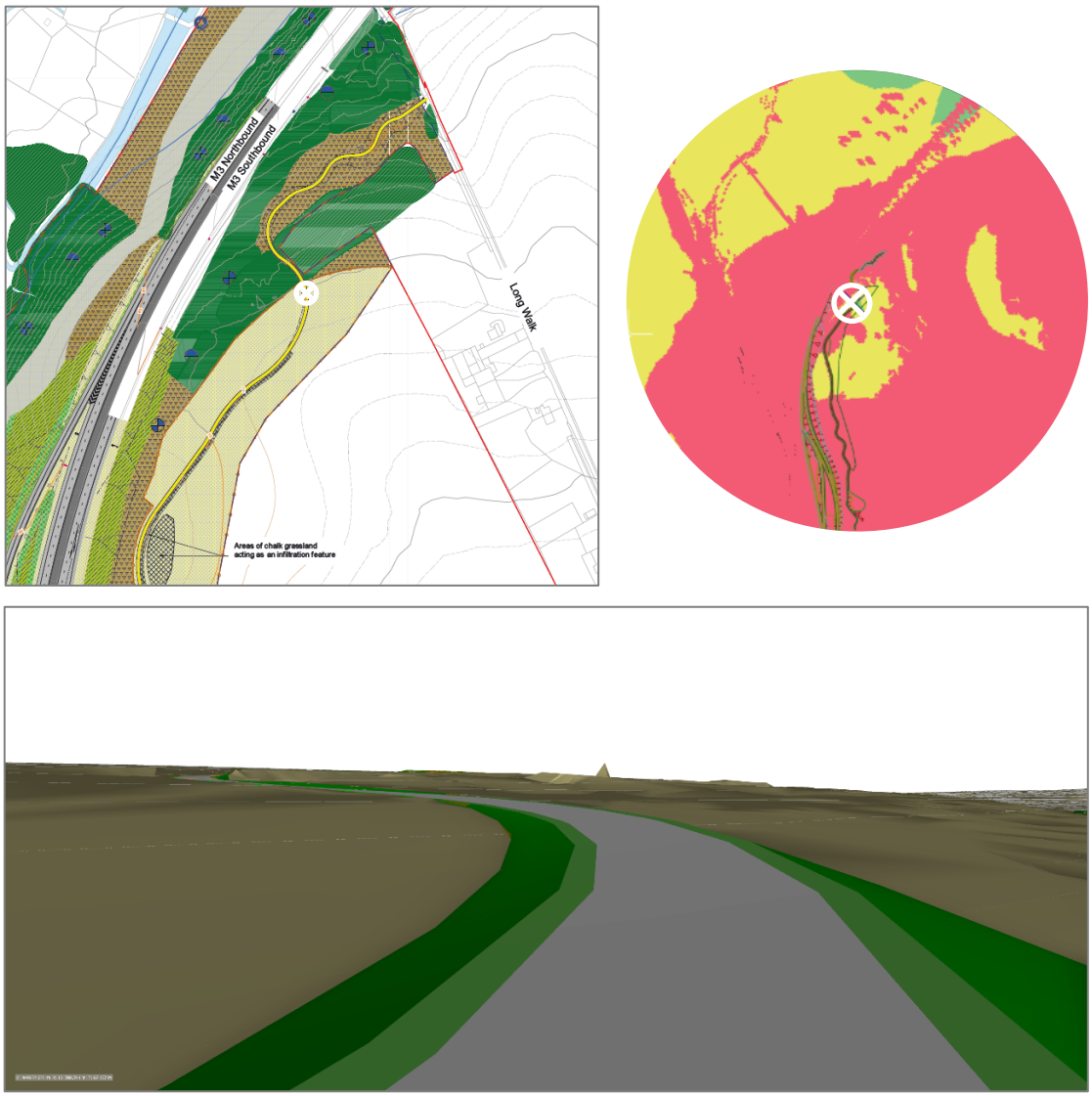


6.3.21 A footway/cycleway/bridleway is proposed within this predominately chalk grassland habitat on the eastern extents of the Scheme. It has been designed as a 1:20 gradient route to promote access for all and its position would provide an attractive opportunity for users to connect between Easton Lane and Long Walk and promotes access to the South Downs National Park.

6.3.22 The proposed earthwork strategy and woodland planting on the valley slopes west of the proposed chalk grassland would also aid visual screening of the M3 corridor from areas of the South Downs National Park.

6.3.23 Overall, it is considered this new route would positively contribute to the special quality of a diverse inspirational landscape with breath taking views, and the qualities of tranquillity within the South Downs National Park, furthermore, allowing increased recreational access to the South Downs National Park from Winchester. A visual study for users travelling along the proposed bridleway has been undertaken and is summarised in **Figures 6.14 to 6.17** identify the visual experience.

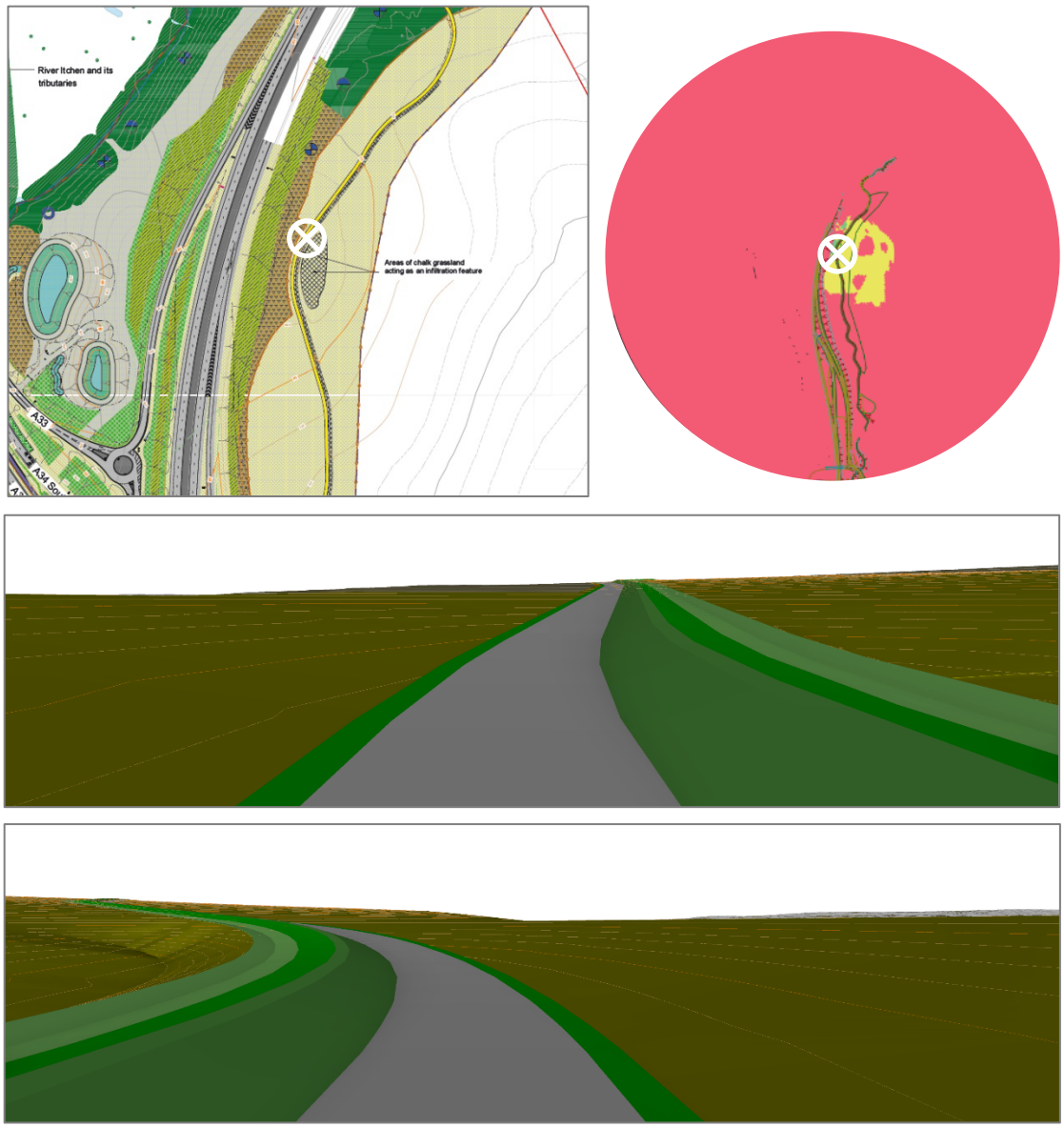
Figure 6.14 – South Downs National Park visual experience study – Location 1 (Bridleway located to north of proposed area of chalk grassland)



- Top left image: location marker in context of the **Environmental Masterplan** (**Figure 2.3** of the **ES (Document Reference 6.2)**)
- Top right image: location marker in context of visibility within wider landscape (red areas identify no visibility, and yellow and green identify areas of theoretical visibility excluding vegetation)
- Bottom image: preliminary visualisation looking south from location marker identifying relationship of bridleway to landform (no vegetation proposals shown).

6.3.24 The analysis identifies that typically visibility from this location would be limited to the immediate landscape, contained by a combination of the landform and proposed landscape mitigation (not shown in the visualisation). Views towards the highway network would be very limited.

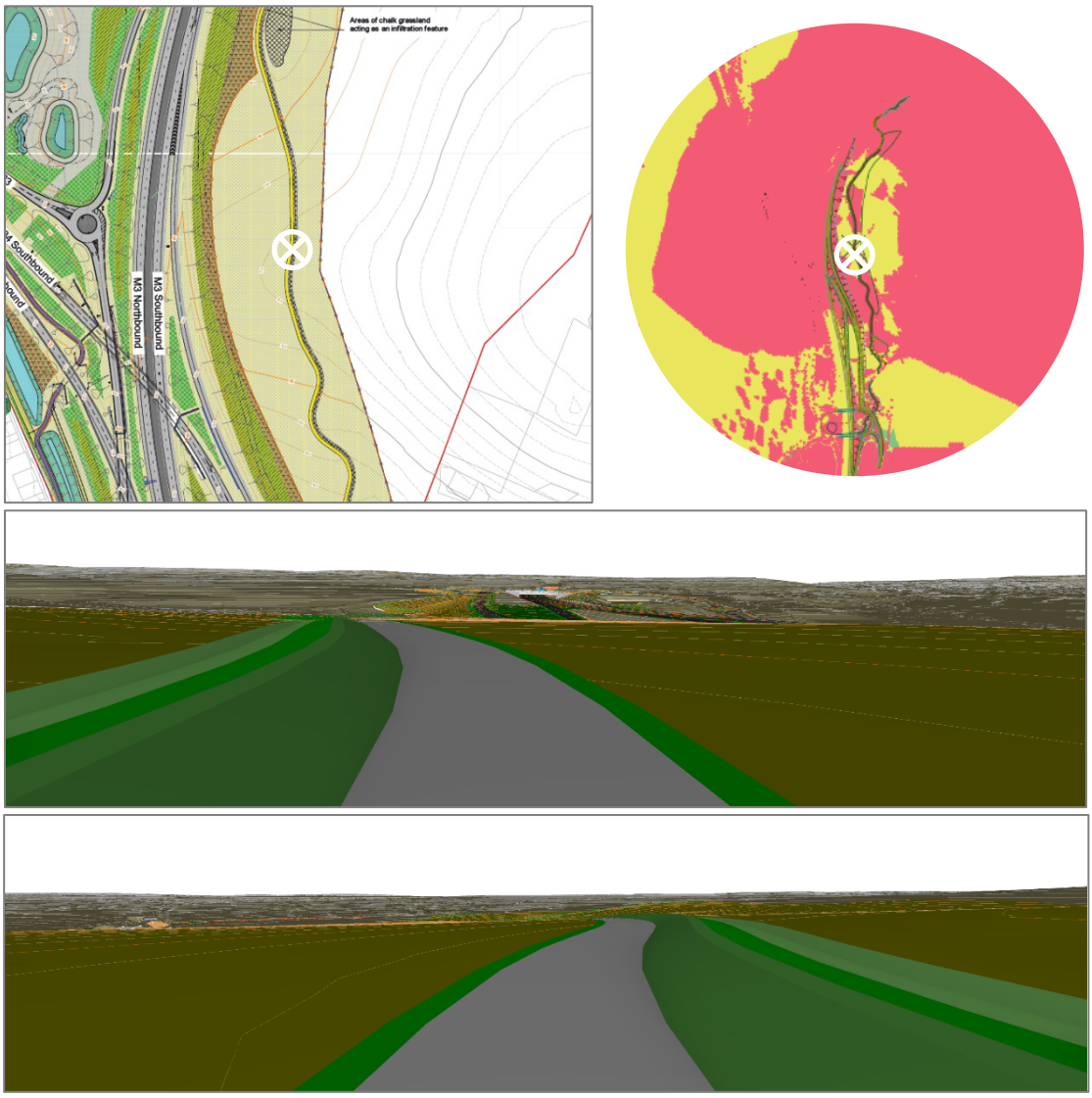
Figure 6.15 – South Downs National Park visual experience study – Location 2 (Bridleway located adjacent to infiltration feature within proposed chalk grassland area)



- Top left image: location marker in context of the **Environmental Masterplan** (**Figure 2.3** of the **ES (Document Reference 6.2)**)
- Top right image: location marker in context of visibility within wider landscape (red areas identify no visibility, and yellow and green identify areas of theoretical visibility excluding vegetation)
- Middle image: preliminary visualisation looking north from location marker identifying relationship of bridleway to landform (no vegetation proposals shown).
- Bottom image: preliminary visualisation looking south from location marker identifying relationship of bridleway to infiltration feature (no vegetation shown).

6.3.25 The analysis identifies contained visibility from this position on the bridleway due to the landform. No visibility of the highway network from this location.

Figure 6.16 – South Downs National Park visual experience study – Location 3 (Bridleway located at elevated position within central area of proposed chalk grassland)



- Top left image: location marker in context of the **Environmental Masterplan** (**Figure 2.3** of the **ES (Document Reference 6.2)**)
- Top right image: location marker in context of visibility within wider landscape (red areas identify no visibility, and yellow and green identify areas of theoretical visibility excluding vegetation)
- Middle image: preliminary visualisation looking south from location marker (elevated position) with mid-range visibility towards the M3 junction 9 (no vegetation proposals shown).
- Bottom image: preliminary visualisation looking north from location marker identifying relationship of bridleway to landform (no vegetation shown).

6.3.26 The analysis identifies expansive theoretical visibility of the surrounding landscape from the bridleway at this elevated location. This includes visibility of the highway network in the mid-range views north and south, however proposed landscape mitigation (vegetation) is not shown in the visualisations which would filter some of these views.

Figure 6.17 – South Downs National Park visual experience study – Location 4 (Bridleway located adjacent to Easton Lane)

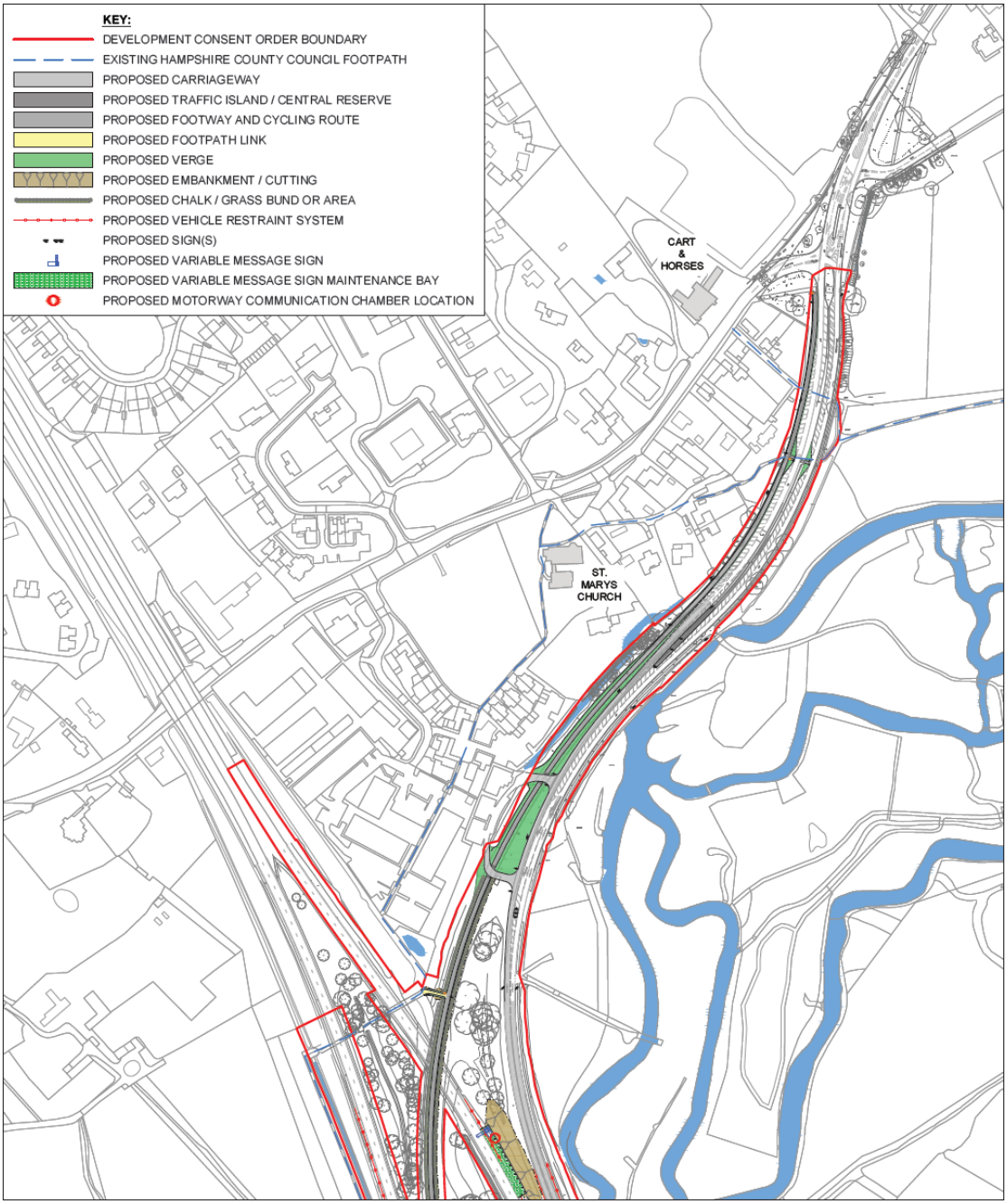
- Top left image: location marker in context of the **Environmental Masterplan** (**Figure 2.3** of the **ES (Document Reference 6.2)**)
- Top right image: location marker in context of visibility within wider landscape (red areas identify no visibility, and yellow and green identify areas of theoretical visibility excluding vegetation)
- Bottom image: preliminary visualisation looking north from location marker identifying relationship of bridleway to attenuation feature and highway (no vegetation proposals shown).

6.3.27 The analysis identifies restricted theoretical visibility of the surrounding landscape from the bridleway at this sunken location adjacent to the proposed attenuation feature. Visibility towards the highway network is limited due to the intervening earthworks and false cutting which continues north to screen visibility of the A34 southbound and M3 J9 slip roads. Proposed landscape mitigation (vegetation) is not shown in the visualisations which would further filter views.

A33 Link to Kings Worthy

6.3.28 The A33 to Basingstoke is to be realigned to become a two-way (bi-directional) layout with a proposed dedicated right turn lane for access to the existing business units. The existing carriageway construction is to be utilised where possible. Retaining walls are required to allow the A33 link to be routed parallel to the M3 northbound. Where possible, vegetated slopes are provided to support landscape integration of the infrastructure.

Figure 6.18 – A33 Tie-in Arrangement – Extract from General Arrangement drawing



7 Conclusion

7.1.1 This DAS demonstrates how the Scheme design complies with the Scheme objectives which have been formulated to address identified problems and take advantage of the opportunities that this Scheme would provide.

7.1.2 The Scheme would reduce delays and the provision of a new M3 Junction 9 gyratory and new link roads, would provide new free flow links on the A34 – M3 southbound and M3 northbound to A34. The Scheme would provide a safer route when compared to the existing highway network. The Scheme would also support economic growth by increasing capacity and reducing delays.

7.1.3 The Scheme constitutes 'Major Development' within a National Park, and therefore strong justification for the project is required. The DAS demonstrates the rationale for the Scheme and the design's sensitive approach to the South Downs National Park, and how it has positively responded to the special qualities of the designation. Of particular note, the Scheme increases opportunities for the public to access and enjoy by positively responding to severance issues caused by the existing M3.

7.1.4 The Scheme will improve walking, cycling and horse-riding provision, having positively responded to feedback received at the 2021 statutory consultation.

7.1.5 A collaborative approach to design has been central to the development of the Scheme. Stakeholder engagement has been summarised in the DAS, and this demonstrates the integral part that this has played in helping shape the preliminary Scheme proposals submitted as part of the DCO. Engagement has included focused consultation with statutory organisations and stakeholders and the wider public, the latest hosted virtually to maximise engagement. The Scheme design was also presented to an independent design review panel.

7.1.6 The Scheme design has responded to the environmental constraints presented by statutory and non-statutory designations and receptors. Assessment of these is detailed within the **ES (Document Reference 6.1)**, and these have contributed to the design narrative as set out in **Section 5** of the DAS. The Scheme proposals are integrated with the sensitive landscape and where necessary appropriate mitigation has been included. In addition, the Scheme results in a number of environmental benefits, including improved habitat connectivity through newly created habitats including chalk grassland creation, and increased accessibility via the new walking, cycling and horse-riding routes.

7.1.7 Overall, the Scheme provides an appropriately balanced design response to the key opportunities and challenges presented by the site and the challenging landscapes through which it travels.

8 References

Ref 1-1 How to submit your application, Advice note six: Preparation and submission of application documents, Version 11, The Planning Inspectorate, August 2022

Ref 1-2 Design and Access Statements: How to Write Read, and Use Them, CABE, 2006.

Ref 1-3 The Road to Good Design, Highways England (now National Highways), 2018.

Ref 1-4 Road Investment Strategy 2: 2020-2025, Department for Transport, 2020.

Ref 1-5 National Highways Delivery Plan 2015-2020, Highways England (now National Highways), 2015

Ref 1-6 National Policy Statement for National Networks, Department for Transport, December 2014

Ref 1-7 National Planning Policy Framework, Department for Levelling Up, Housing and Communities Government, July 2021

Ref 1-8 Winchester District Local Plan, Winchester City Council, 2013

Ref 1-9 South Downs Local Plan, South Downs National Park Authority, 2019

Ref 1-10 A Design-led Approach to Infrastructure, CABE, 2012

Ref 1-11 Technical Guidance Note 04/2020: Infrastructure, Landscape Institute, 2020

Ref 1-12 Design Manual for Roads and Bridges, Highways England, Transport Scotland, Welsh Government, Department for Infrastructure, August 2018

9 Glossary

Abbreviation	Definition
AQMA	Air Quality Management Area
BCR	Benefit-To-Cost Ratio
CABE	Commission for Architecture and the Built Environment
CIHT	Chartered Institute of Highways Transportation
CPRE	Campaign to Protect Rural England
DAS	Design and Access Statement
DCO	Development Consent Order
DMRB	Design Manual for Roads and Bridges
DfT	Department for Transport
EDBs	Extended Detention Basins
ES	Environmental Statement
GI	Green Infrastructure
HE	Historic England
HEWRAT	National Highways Water Risk Assessment Tool
HGV	Heavy Goods Vehicle
IAB	Indicative Application Boundary
ICE	Institute of Civil Engineers
LI	Landscape Institute
LCA	Landscape Character Areas
NCN	National Cycle Network
NPPF	National Planning Policy Framework
NPS NN	National Policy Statement for National Networks
NSIP	Nationally Significant Infrastructure Project
PCF	Project Control Framework
PEIR	Preliminary Environmental Information Report
PRA	Preferred Route Announcement
PRoW	Public Rights of Way
RIBA	the Royal Institute of British Architects
RIS	Road Investment Strategy
SAC	Special Area of Conservation

Abbreviation	Definition
SAR	Scheme Assessment Report
SSSI	Site of Special Scientific interest
SuDS	Sustainable Drainage Systems
WCC	Winchester City Council
VMS	Variable Message Signage
VRS	Vehicle Restraint Systems