Tunbridge Wells Local Plan Examination

Red, Amber, Green (RAG) Assessment

Landscape and Visual: Colt's Hill Bypass

Project Ref: 332410964 | Rev: ISSUE | Date: October 2023

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Document Control Sheet

Project Name: **Tunbridge Wells Local Plan Examination**
Project Ref: **332410964**
Report Title: **Red, Amber Green (RAG) Assessment, Access and Movement**
Doc Ref:
Date: **2 October 2023**

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For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved
-		First Draft	NJ		
-		Issue	NJ		

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Appendices

1 Introduction

1.1 Overview

1.1.1 Tunbridge Wells Borough Council (TWBC) is currently in the process of preparing its new Local Plan. The Local Plan has now been submitted to the Secretary of State for independent examination and the examination process is underway.

1.1.2 Stantec UK Limited (Stantec) has been appointed by TWBC to undertake a Red, Amber, Green (RAG) Assessment in relation to the landscape and visual matters for Colt's Hill Bypass. It is emphasised that this RAG Assessment focuses on matters relating to landscape and visual. Viability is a different matter and will be looked at separately by TWBC and their relevant consultants.

1.1.3 The aim of this RAG assessment will be to analyse and determine the nature and extent of additional evidence that could be provided to the Inspector at Examination. The likelihood of each question being satisfactorily answered will be categorised as red, amber or green depending upon the difficulty/complexity and timescale of providing the additional evidence. The definition of each colour is provided in the following section.

1.2 RAG Assessment Definitions

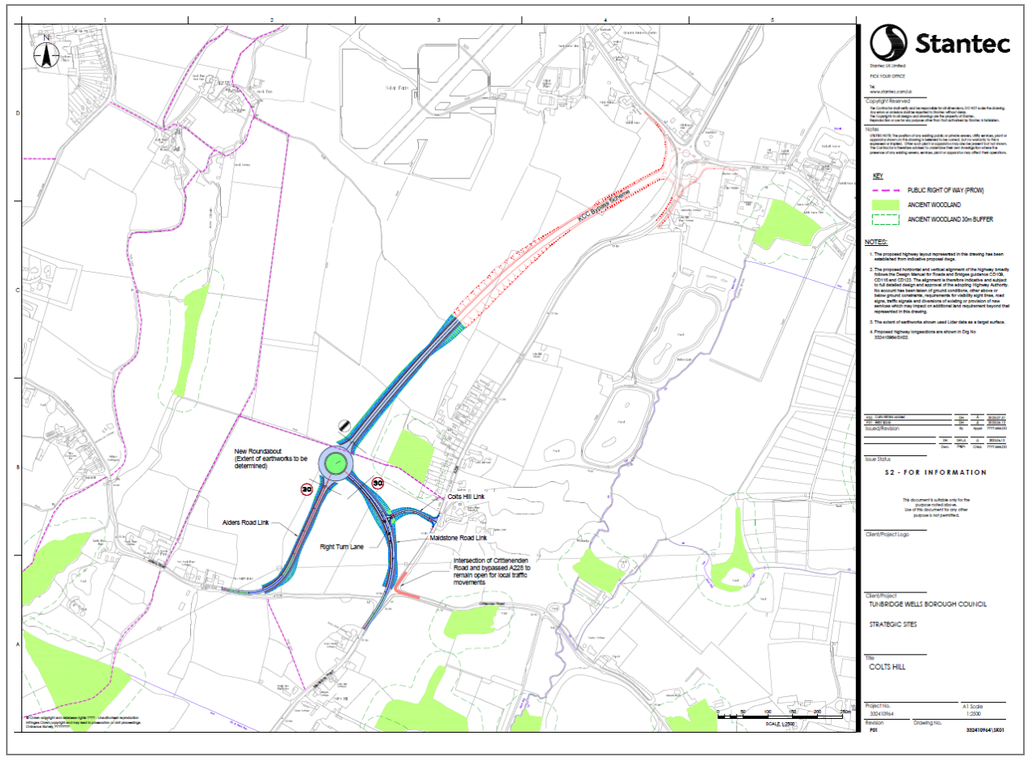
1.2.1 Stantec's RAG risk rating generally aligns with the following criteria:

	This concern is unlikely to pose a significant risk to the progression of the Local Plan Examination. It is believed the concern can be overcome with little additional work, most likely in the form of written evidence by specialists, supported by other documents already in place.
	Without additional evidence, this concern would pose a risk to the progression of the Local Plan Examination. Stantec believe it is likely that the concern can be overcome but it is highly likely that additional evidence would need to be submitted to the Inspector and this may cause some delay and result in additional cost.
	It is likely that significant additional evidence would need to be presented to the Examination to overcome the concern, with no guarantee of success. This concern has the potential to cause significant delay to the progression of the Local Plan Examination and could result in significant changes needing to be made to the Local Plan strategic sites that may result in significant extra cost.

1.3 Colt's Hill Bypass

1.3.1 The proposed sketch scheme that has been considered to inform this RAG Assessment is as the scheme on Stantec plan 332410964\SK01, shown in Figure A.

Figure A: Proposed Scheme Sketch



1.4 Preliminary Zone of Theoretical Visibility Plans

1.4.1 As a desk-based exercise to help determine the extent of potential visual effects of the proposed sketch scheme and the potential for effective mitigation to minimise those effects, preliminary Zone of Theoretical Visibility (ZTV) plans have been prepared.

1.4.2 The preliminary ZTVs are based on a Digital Surface Model (DSM). The DSM comprises 2019 DEFRA Lidar data at a 1m spatial resolution, and provides data on the landform and visual barriers, such as built form and vegetation, within a 5km visual study area. The preliminary ZTV plans were created using ESRI ArcGIS Pro Spatial Analyst (Viewshed Tool) and include adjustments for curvature of the earth and light refraction. The plans illustrate the area of theoretical visibility of features of the proposed scheme, based on observation points that are placed along the lines of the proposed road scheme sketch layout. A viewer height of 1.70m has been assumed.

1.4.3 Figures 1 and 3 demonstrate potential visibility of the scheme at the ground level, without and with assumed mitigation. Figures 2 and 4 illustrate potential visibility of the worst-case scenario of the scheme plus 4.5m to represent high-sided vehicles, without and with assumed mitigation. In reality, visibility of the scheme would be less than that indicated on the plans, due to intervening vegetation and built form that isn't picked up by the 1m spatial resolution DSM data.

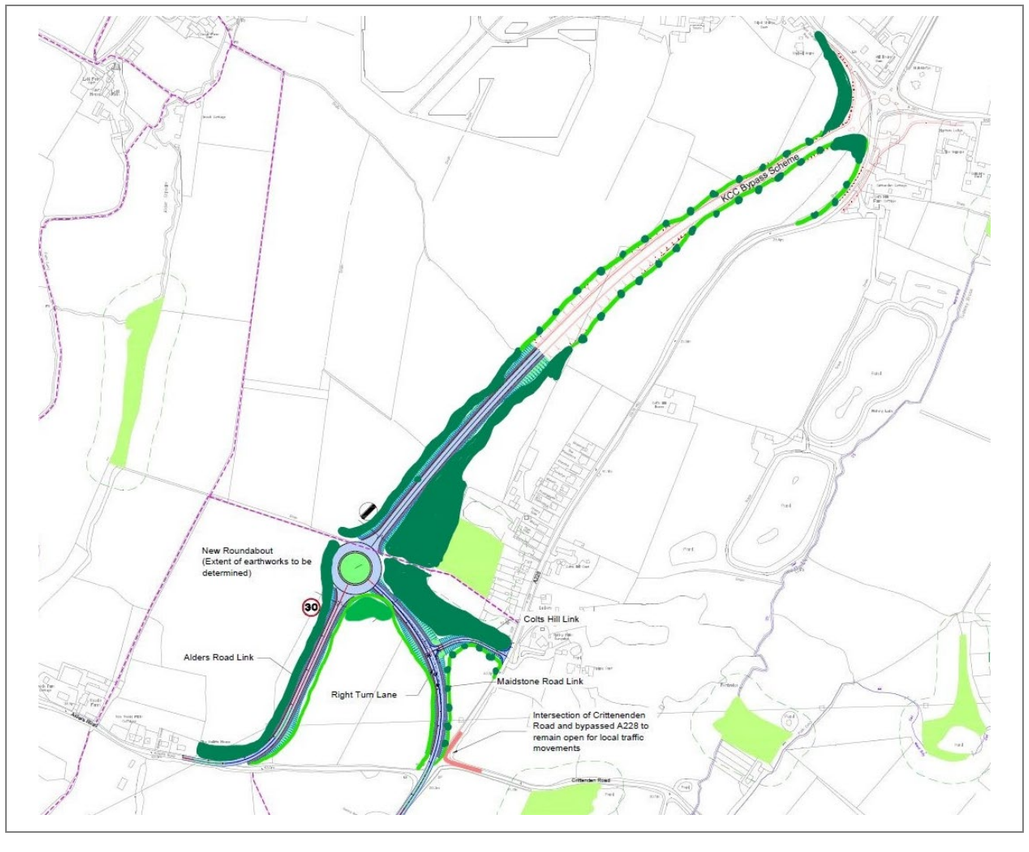
It should be noted that the sketch scheme includes landform cuttings to reduce visual effects of the proposed road.

1.4.4 The preliminary ZTVs are only a tool in this early-stage visual analysis of the potential project. The ZTVs' accuracy is limited to the digital information that it has been based upon and the algorithm used in its calculation.

1.4.5 The assumed mitigation comprises potential landscape planting principles, with the sole aim to reduce visual effects of the proposed sketch scheme; these include woodland structure planting (trees and shrubs) to corners of fields and along the road, linear hedgerows with tree planting, and hedgerow, as shown in Figure B. Limitations of the assumed mitigation include that this is a desk-based, theoretical, exercise and therefore does not take into account constraints to new planting, such as presence of services and utilities, or environmental constraints. It is expected that appropriate environmental mitigation measures would be designed during the detailed design process of the scheme, and that these would include a requirement for mitigation of visual effects. The assumed mitigation set out for the purpose of this RAG assessment is anticipated to be likely to inform those later visual mitigation proposals.

1.4.6 For Figures 2 and 4, the planting mitigation is assumed to have established and matured effectively, at around 15 years after planting, and thus form new visual barriers to the proposed sketch scheme.

Figure B: Assumed Planting Mitigation Sketch for Preliminary ZTV Plans



1.4.7 The findings of the desk-based preliminary ZTV analysis exercise are summarised below:

- Without assumed mitigation (Figures 1 and 2):
  - The proposed sketch scheme would likely result in limited visual effects over a very small part of the High Weald Area of Outstanding Natural Beauty (HWAONB), these being located to the south of the site, ranging from the southeast to southwest, and no more than circa 2.5km from the site.
  - The proposed sketch scheme would likely result in partial visual effects up to 5km from the site, ranging from the northeast to north compass direction, being from south of Parker's Green to west of East Peckham.
  - It is considered that significant visual effects would be likely to be experienced at a distance of up to approximately 1km from the site; this being based on professional experience and indicated by area that the greatest visibility percentages of visibility occur on the ZTVs on Figures 1 and 3, ranging from 90% to 10%.

- With assumed mitigation (Figures 3 and 4)
  - The visibility of the proposed sketch scheme would have reduced, to very limited to just perceptible visual effects over a very small part of the HWAONB; these being located in occasional areas southeast to the southwest of the site, and up to circa 2km from the site.
  - The proposed sketch scheme would likely result in reduced limited and partial visual effects for a small area to the northeast at up to 5km from the site.
  - The worst-case percentage visibility of the scheme would reduce to 20% and 10%.
  - The proposed sketch scheme with assumed mitigation is unlikely to result in significant visual effects, other than from locations immediately adjacent to the scheme.

- It is anticipated that, in reality, the actual visual effects would be less than indicated on the preliminary ZTV plans, due to a greater amount of intervening vegetation being 'on the ground' than is indicated in the 1m spatial resolution DSM data.
- Based on professional experience of other highway infrastructure schemes, visual effects arising from a proposed road, and which are experienced from beyond 2km of that road, are unlikely to be significant in landscape and visual impact assessment / EIA terms.
- The preliminary ZTVs indicate that planting mitigation as part of the proposed scheme has potential to considerably reduce visual effects.

2 Landscape and Visual RAG Assessment

2.1 RAG Assessment

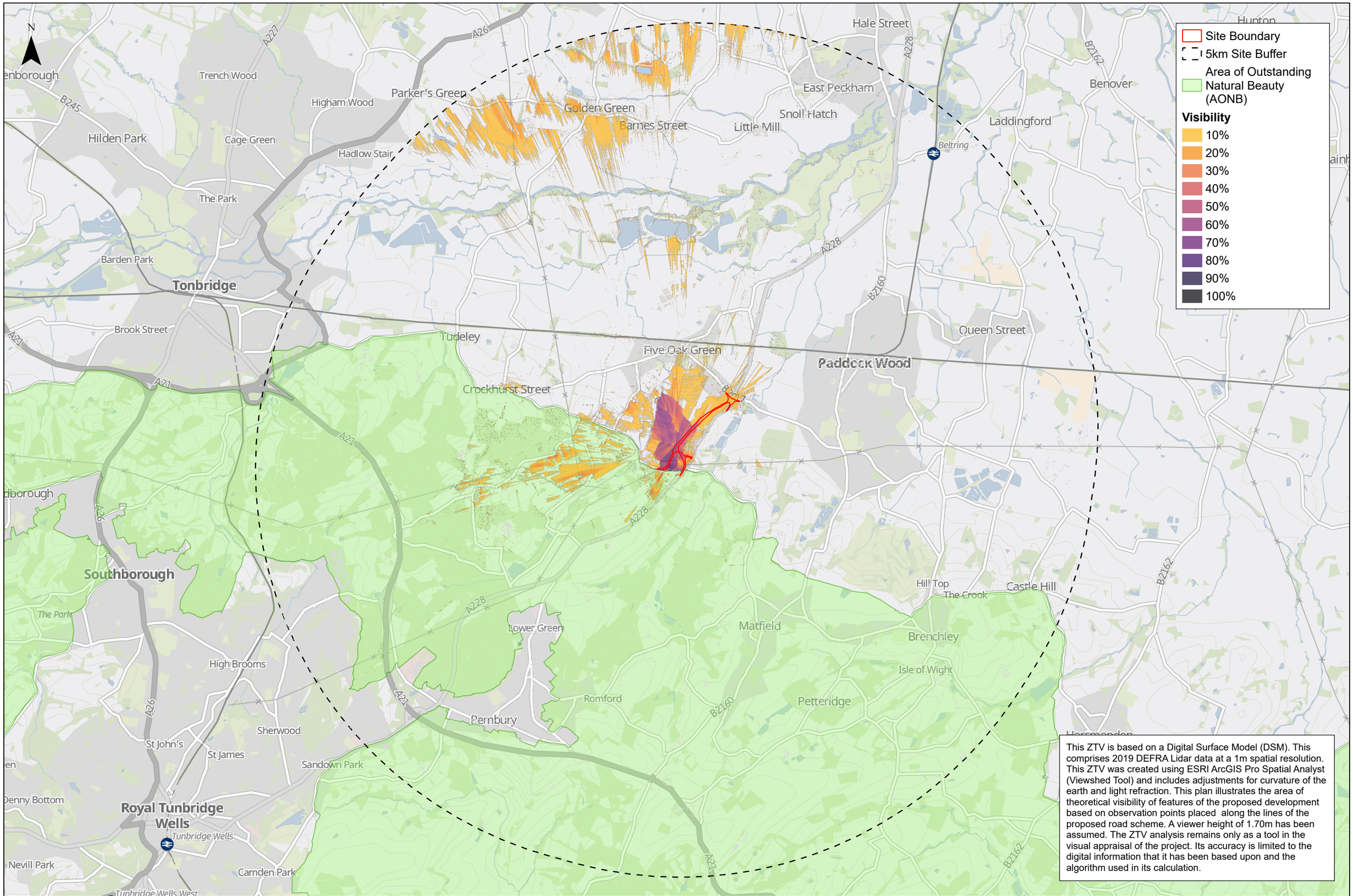
Topic		*Commentary*	*Recommendation/Action*
Landscape and Visual Impact: *Northern Section Colts Hill Bypass*		Key landscape and visual issues are identified below, based on desktop analysis. The landscape and visual RAG assessment in relation to the Colts Hill Bypass allocation as part of the Local Plan Examination, is **amber** for Landscape and Visual Impact, but noting that the proposed Bypass route alignment can be reviewed as noted below. The desktop review has highlighted environmental sensitivities and constraints upon the route for the proposed Colts Hill Bypass and the potential link into Five Oak Green Bypass, and the potential for significant landscape and visual effects which could remain after mitigation. It is therefore recommended that the route alignment / design for the Colts Hill Bypass is reviewed against potential environmental effects, including those upon the setting of the High Weald Area of Outstanding Natural Beauty (HWAONB), and other landscape and visual receptors, to avoid and minimise adverse environmental effects as far as practicable, and which provides maximum opportunity to identify effective mitigation to reduce significant adverse effects. Relevant environmental topics, in addition to landscape and visual, which are recommended for the Environmental Review and to inform the route alignment include: ecology / biodiversity, heritage, arboriculture and hydrology. To inform the review, it is recommended that a Preliminary Landscape and Visual Impact Assessment (LVIA) supported by Concept Environmental Mitigation Design is prepared and which would provide evidence for the selection of the final bypass alignment. **Setting of the High Weald Area of Outstanding Natural Beauty (HWAONB)** (AONB Setting Analysis Report (tunbridgewells.gov.uk)): Alders Road forms the northern boundary of the HWAONB and is to the south of the Site. People who enjoy the visual amenity and views of the HWAONB from its setting are its visual receptors. These visual receptors have a **high visual sensitivity**. There are potential visual impacts upon people living in and working in the AONB's setting, and people visiting the AONB. The HWAONB Setting Report did not specifically consider the potential bypass route. **Mitigation will be required**: for example, consideration of final alignment and evidence that it causes least harm will be required, considering use of cut fill / using false cuttings, potentially wider land take to provide topography tie in, new landscape infrastructure/screening planting, avoidance of tall structures, and provision of landscape planting that is in keeping with local landscape character of the site and the surrounding area. It is anticipated that appropriate mitigation would reduce the residual magnitude of adverse effects, such that significant adverse effects upon the setting of the HWAONB and upon people's views from within a very limited area of the HWAONB would reduce to not significant after mitigation. **Listed Buildings:** Two Listed Buildings are in proximity to the proposed bypass route (closest within c.100m), and the setting of the Listed Buildings would be of **high sensitivity**. There is potential for adverse effects on the setting of the Listed Buildings (note that separate heritage assessment will be required to determine heritage impacts), subject to historic purposes, and visual association and intervisibility with their surrounding landscape. **Mitigation potentially required** e.g. through careful retention of existing trees and provision of new landscape planting appropriate to the heritage setting and local landscape character. Appropriate mitigation is anticipated to reduce magnitude of effects, and there is potential for significant effects on the setting of Listed Buildings, in the long term, to reduce to not significant after mitigation. **Landscape features and ecology**: The field drain watercourse, orchard / remnant orchard, copses, trees and hedgerows would be of **high to medium sensitivity**, as landscape receptors but would also be important features for ecology. It is noted that the proposed alignment shown on 332410964-SK01 P02, avoids direct effects upon	It is recommended that the northern section of the Colts Hill Bypass is reviewed against potential environmental effects, including those upon the setting of the High Weald Area of Outstanding Natural Beauty (HWAONB), and other landscape and visual receptors, to identify any potential adjustments to the route alignment which avoids adverse environmental effects as far as practicable, and which provides maximum opportunity for effective mitigation to reduce significant adverse effects. Relevant environmental topics, in addition to landscape and visual, which are recommended for the Preliminary Environmental Review and to inform the route alignment include: ecology / biodiversity, heritage, arboriculture and hydrology. It is recommended that a Preliminary Landscape and Visual Impact Assessment (LVIA), and a Concept Environmental Mitigation Design are prepared, and which would provide evidence for the selection of the final bypass alignment. Consideration of necessary structures that would be required, should also be part of the Preliminary Environmental Review. It is recommended that TWBC engage with KCC PROW to understand their view on the impact the Colts Hill Bypass may have on the directly affected PROW and surrounding PROW network.

Topic		*Commentary*	*Recommendation/Action*
		Ancient Woodland and the buffer around the Ancient Woodland. As a result of the current alignment, there would be direct landscape and ecological impacts arising upon a field drain watercourse which is shown on the OS mapping, and from losses of trees and hedgerows, including partial loss of orchard, loss of some sections of hedgerows, and loss of areas of field boundary trees and roadside trees, with some effects likely to be significant without mitigation. The current route places the roundabout junction and the bypass route within an area identified as orchard on mapping, though it is unclear from desktop review of aerial photos and Streetview whether this is good quality orchard, remnant orchard or replanted orchard. It should be noted that orchards are priority habitats, and this will be of relevance to ecological impacts and biodiversity net gain. It is anticipated that there would be a significant adverse effect upon landscape features without mitigation. **Mitigation required**: e.g. avoid or minimise loss of orchards through refinement of the design and alignment, and seek to incorporate orchard restoration and replanting potentially within a wider land take area than the site boundary, to mitigate for loss of orchard; minimise loss of watercourses and utilise the field drain as part of sustainable drainage where possible; minimise loss of mature trees and other vegetation and seek to retain as many existing trees as possible; look to tie in bypass connections to existing roads where there are gaps in trees or where there are lower quality trees; potentially wider land take to provide topography tie in; avoid tall structures, utilise cut fill / use false cuttings; improved layout and multifunction of attenuation ponds to achieve degree of fit in the landscape, and tie into replacement planting and habitat creation. Links also to hydrology mitigation, ecology and biodiversity net gain and mitigation. There is potential in the long term for significant landscape and visual effects to reduce to being not significant after appropriate mitigation and a wider land take offers scope for both Biodiversity Net Gain and environmental net gain. **Landscape Character and Historic Landscape Character**: there would be landscape impacts on the local landscape character of the site and adjacent land, including historic landscape, and the change in use would result in significant adverse local landscape character effects. There is also potential for impacts on adjoining landscape character and historic landscape character areas, including landscape character areas of the AONB, but this will be subject to intervisibility. **Mitigation required**: utilise cut fill / use false cuttings, potentially wider land take to provide topography tie in and orchard replanting, improved layout and multifunction of attenuation ponds to achieve degree of fit in the landscape, and provision of landscape planting that is in keeping with local landscape character of the site and adjacent area (e.g. linear tree planting and small corner copses). Appropriate mitigation would be anticipated to reduce magnitude of effects and there is potential for significant landscape and visual effects to reduce to being not significant. **Public Rights of Way (PROW) network**: The current proposed bypass route and roundabout junction cuts across one PROW which runs west from the A428 and connects into the wider PROW network. There are nearby PROWs on rising land to the south in the HWAONB and PROWs along the valley floor. PROWs that would be directly affected by the Bypass would have **medium to high landscape sensitivity**, and people's views from PROWs would be of **high or medium visual sensitivity** dependent on the visual context and visual relationship of the Bypass with the HWAONB in the view. Some landscape and visual effects on PROWs and users of PROWs are likely significant. **Mitigation required**: maintain the PROW routes, diversion of the PROW route where necessary to minimise required crossings over the bypass, and provision of PROW crossings that are sensitively designed to have a degree of fit in the landscape; potentially wider land take to provide topography tie in and avoid tall structures; utilise cut fill / use false cuttings, and provision of landscape planting that is in keeping with local landscape character of the site and adjacent area (e.g. linear tree planting and small corner copses), but maintaining visual links with the AONB as appropriate. Mitigation would be anticipated to reduce magnitude of effects and there is potential for significant landscape and visual effects to reduce to being not significant. Some visual effects upon people's views from PROWs are likely to remain significant and adverse but improvements to the wider PROW network could be made. It is advisable that TWBC engage with the KCC PROW team to understand their judgements on the impact the bypass will have on the directly affected PROW and the surrounding PROW network. **People's views from local roads, dwellings and edge of settlements**: the extent of visibility of the proposed Bypass and thus the level of effect upon people's views from local roads, dwellings and edges of settlements depends on the nature of the landform and intervening vegetation between the Bypass and the visual receptors. It is	

Topic		*Commentary*	*Recommendation/Action*
		not possible to determine that through desktop analysis alone. However, it is anticipated that sensitivity of people's views from local roads, dwellings and edge of settlement would **range from low to high sensitivity**. The bypass connections to existing roads would result in some loss of existing trees and roadside vegetation, and some loss of hedgerows, trees and orchard which would likely open up views in the area immediately around the bypass site. It is anticipated that some visual effects are likely to be significant and adverse. **Mitigation required**: potentially wider land take to provide topography tie in and avoid tall structures; utilise cut fill / use false cuttings; provision of landscape planting that is in keeping with local landscape character of the site and adjacent area (e.g. linear tree planting and small corner copses), to provide screening / replacement screening for people's views, but maintaining visual links with the AONB as appropriate; seek to tie in bypass connections to existing roads where there are gaps in trees or where there are lower quality trees to minimise tree loss and enable maximum possible tree retention. Mitigation is anticipated to reduce the magnitude of visual effects and there is potential in the long term for some significant visual effects upon views from local roads, dwellings and edge of settlement to reduce to being not significant.	

Appendix A Preliminary Zone of Theoretical Visibility Plans

- Figure 1 Proposed Scheme at Ground Level
- Figure 2 Proposed Scheme +4.5m height
- Figure 3 Proposed Scheme at Ground Level with Assumed Mitigation
- Figure 4 Proposed Scheme +4.5m height with Assumed Mitigation



This ZTV is based on a Digital Surface Model (DSM). This comprises 2019 DEFRA Lidar data at a 1m spatial resolution. This ZTV was created using ESRI ArcGIS Pro Spatial Analyst (Viewshed Tool) and includes adjustments for curvature of the earth and light refraction. This plan illustrates the area of theoretical visibility of features of the proposed development based on observation points placed along the lines of the proposed road scheme. A viewer height of 1.70m has been assumed. The ZTV analysis remains only as a tool in the visual appraisal of the project. Its accuracy is limited to the digital information that it has been based upon and the algorithm used in its calculation.

Stantec

Client: Perfect Circle JV Ltd

COLTS HILL BYPASS

Zone of Theoretical Visibility - 1.7m Observer Height

0 2 4 km

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Figure: 001	Rev: A

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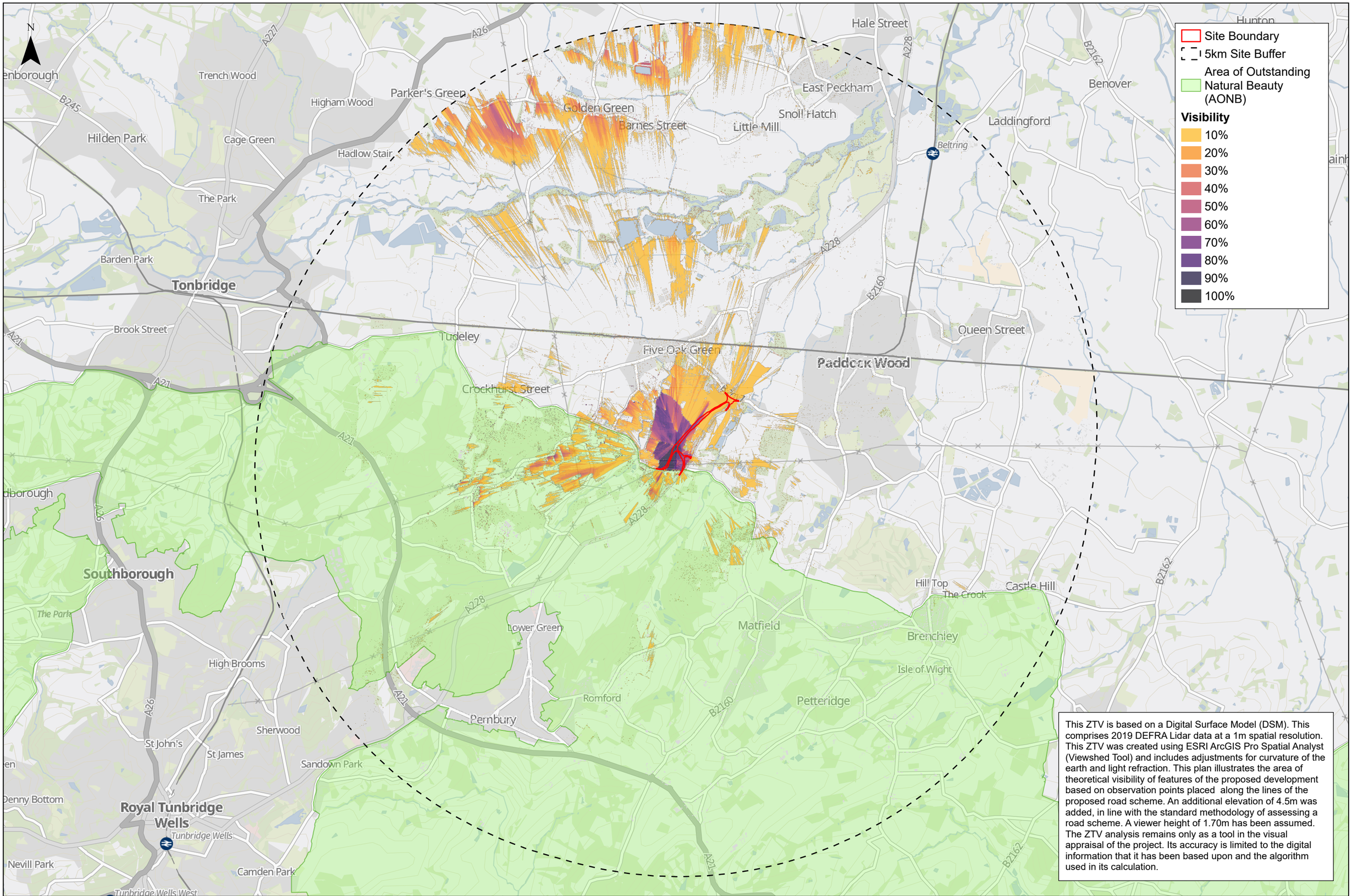

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Stantec

Client: Perfect Circle JV Ltd

COLTS HILL BYPASS

Zone of Theoretical Visibility - 4.5m Additional Bypass Height

0 2 4 km

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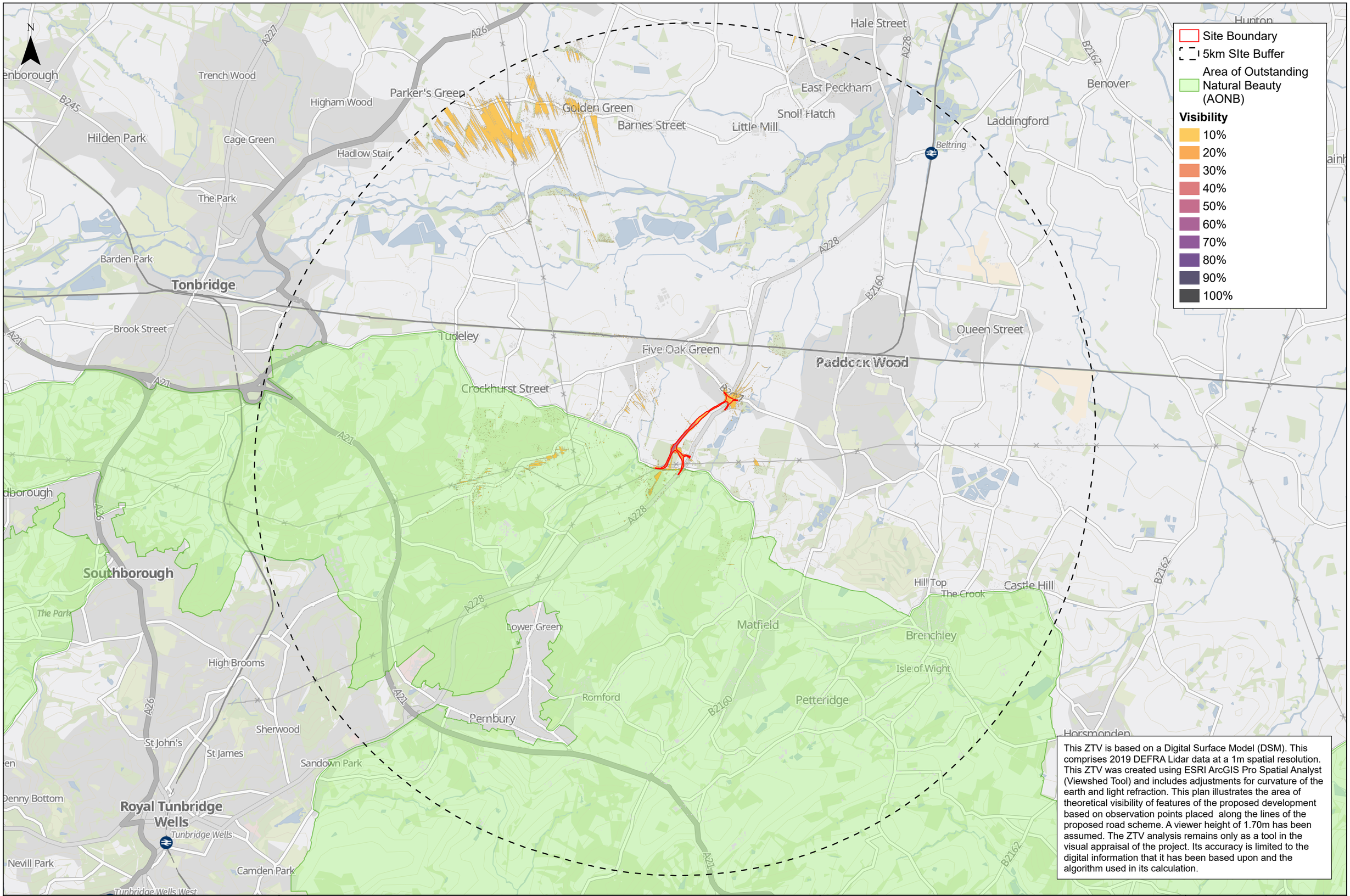

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Client: Perfect Circle JV Ltd

COLTS HILL BYPASS

Zone of Theoretical Visibility - Mitigation

0 2 4 km

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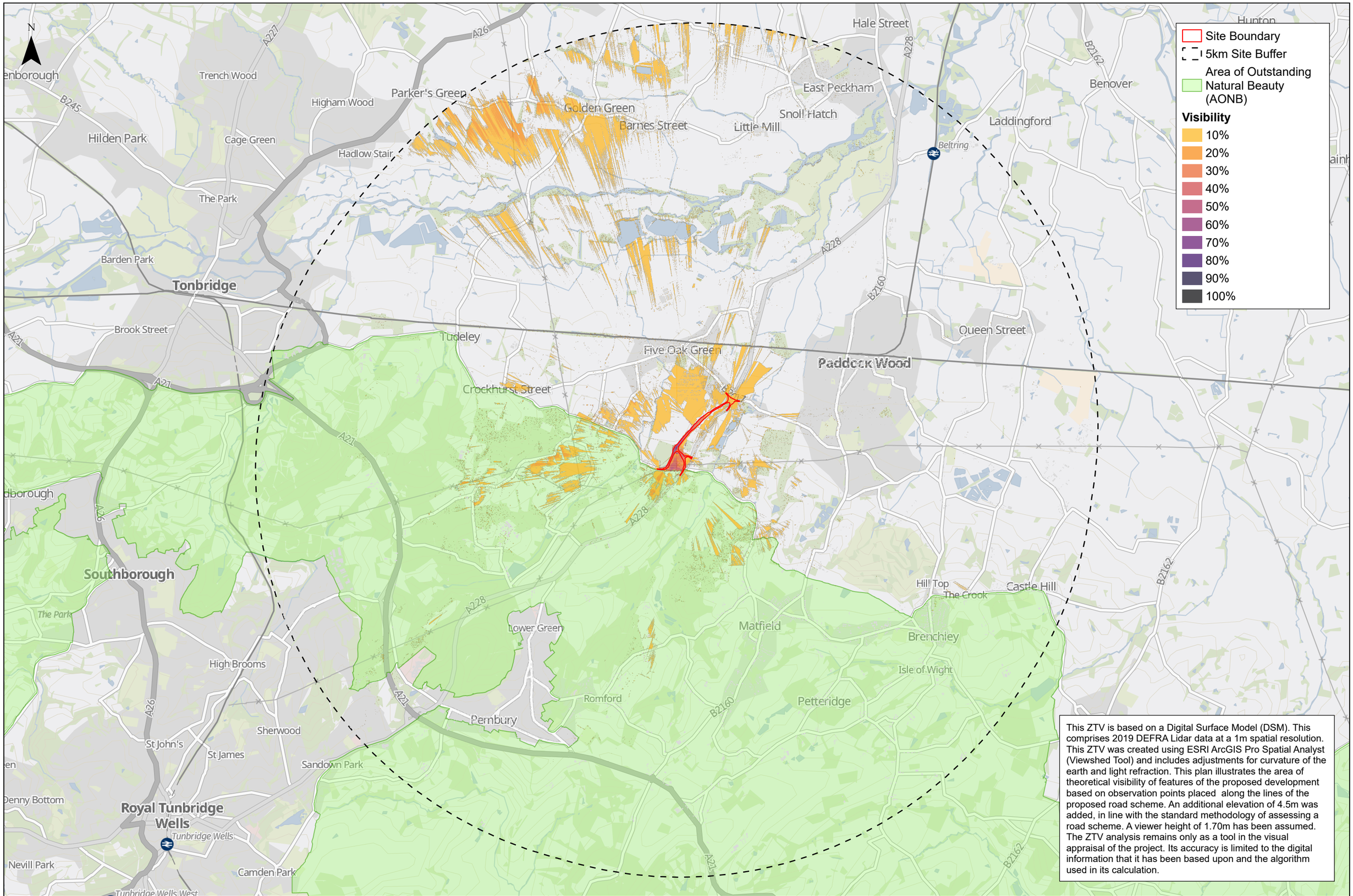

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Client: Perfect Circle JV Ltd

COLTS HILL BYPASS

Zone of Theoretical Visibility - 4.5m Additional Bypass Height & Mitigation

0 2 4 km

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